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INFORMATION SHEET

PRESIDING: Commissioner Duffley, Presiding; Chair Mitchell, and Commissioners Brown-Bland, Clodfelter, Hughes, McKissick, Jr., and Kemerait
PLACE: Raleigh, NC
DATE: Friday, September 1, 2023
TIME: 9:31 a.m. to 10:53 a.m.
DOCKET NO.: E-7, Sub 1134 and E-7 Sub 1276
COMPANY: Duke Energy Carolinas, LLC
DESCRIPTION: In the Matter of Duke Energy Carolinas, LLC Application for Approval to Construct a 402 MW Natural Gas-Fired Combustion Turbine Electric Generating Facility in Lincoln County, and for an Application for Adjustment of Rates and Charges Applicable toElectric Service in North Carolina and for Performance-BasedRegulation

VOLUME NUMBER: 14

APPEARANCES
See attached

WITNESSES
See attached

EXHIBITS

None attached

REPORTED BY: Lisa A. DeGroat	TRANSCRIPT PAGES: 84
TRANSCRIBED BY: Lisa A. DeGroat	PREFILED PAGES 292
DATE FILED: September 8, 2023	TOTAL PAGES 376

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PLACE: Dobbs Building, Raleigh, North Carolina

DATE: Friday, September 1, 2023

TIME: 9:31 a.m. - 10:53 a.m.

DOCKET NO: E-7, Sub 1134 and E-7, Sub 1276

BEFORE: Commissioner Kimberly W. Duffley, Presiding
Chair Charlotte A. Mitchell
Commissioner ToNola D. Brown-Bland
Commissioner Daniel G. Clodfelter
Commissioner Jeffrey A. Hughes
Commissioner Floyd B. McKissick, Jr.
Commissioner Karen M. Kemerait

IN THE MATTER OF:

Duke Energy Carolinas, LLC

Application for Approval to Construct a 402 MW Natural Gas-Fired Combustion Turbine Electric Generating Facility in Lincoln County

and

Application for Adjustment of Rates and Charges Applicable to Electric Service in North Carolina and for Performance-Based Regulation

VOLUME 14

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FOR DUKE ENERGY CAROLINAS, LLC:

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A P P E A R A N C E S (Cont'd.):

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301 South College Street, Suite 3400
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FOR CAROLINA UTILITY CUSTOMERS ASSOCIATION:

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Christopher B. Dodd, Esq.
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A P P E A R A N C E S (Cont'd.):

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Raleigh, North Carolina 27601

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FOR NORTH CAROLINA SUSTAINABLE ENERGY ASSOCIATION:

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Cassie Gavin, Esq., Director of Policy
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A P P E A R A N C E S (Cont'd.):

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434 Fayetteville Street, Suite 2500
Raleigh, North Carolina 27601

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Ben Snowden, Esq., Partner
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FOR THE COMMERCIAL GROUP:

Alan Jenkins, Esq.
Jenkins at Law, LLC
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Marathon, Florida 33050

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A P P E A R A N C E S (Cont'd.):

FOR THE SIERRA CLUB:
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Andrea Bonvecchio, Esq.
Law Offices of F. Bryan Brice, Jr.
130 South Salisbury Street
Raleigh, North Carolina 27601

FOR NORTH CAROLINA JUSTICE CENTER, NORTH CAROLINA HOUSING COALITION, NATURAL RESOURCES DEFENSE COUNCIL, SOUTHERN ALLIANCE FOR CLEAN ENERGY, AND VOTE SOLAR:
David L. Neal, Esq., Senior Attorney
Munashe Magarira, Esq., Staff Attorney
Thomas Gooding, Esq., Associate Attorney
Southern Environmental Law Center
601 West Rosemary Street, Suite 220
Chapel Hill, North Carolina 27516

FOR NC WARN:
Matthew D. Quinn, Esq., Partner
Lewis & Roberts, PLLC
Post Office Box 17529
Raleigh, North Carolina 27619

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A P P E A R A N C E S (Cont'd.):

FOR THE KROGER CO. AND HARRIS TEETER, LLC:

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Jody Kyler Cohn, Esq.

Boehm, Kurtz & Lowry

36 East 7th Street, Suite 1510

Cincinnati, Ohio 45202

Ben Royster, Esq.

Royster & Royster, PLLC

851 Marshall Street

Mount Airy, North Carolina 27030

FOR ANDALE, LLC:

Marcus W. Trathen, Esq.

Brooks Pierce McLendon Humphrey & Leonard, LLP

150 Fayetteville Street, Suite 1700

Raleigh, North Carolina 27601

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A P P E A R A N C E S (Cont'd.)

FOR THE USING AND CONSUMING PUBLIC PURSUANT TO N.C.G.S. § 62-20 AND ON BEHALF OF THE STATE AND ITS CITIZENS PURSUANT TO N.C.G.S. § 114-2(8):

Tirrill Moore, Esq., Assistant Attorney General
Derrick C. Mertz, Esq.,
Special Deputy Attorney General
North Carolina Department of Justice
114 West Edenton Street
Raleigh, North Carolina 27603

FOR THE USING AND CONSUMING PUBLIC:

Lucy E. Edmondson, Esq., Chief Counsel
Robert B. Josey, Esq.
Nadia L. Luhr, Esq.
Anne M. Keyworth, Esq.
William S.F. Freeman, Esq.
William E.H. Creech, Esq.
Thomas Felling, Esq.
Public Staff - North Carolina Utilities Commission
4326 Mail Service Center
Raleigh, North Carolina 27699-4300

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TABLE OF CONTENTS

EXAMINATIONS

	PAGE
CHRISTOPHER C. WALTERS	
Direct Examination by Mr. Freeman.....	13
Prefiled Corrected Direct Testimony ..... and Appendix A of Christopher C. Walters	16
Cross Examination by Mr. Mehta.....	123
Examination by Chair Mitchell.....	131
Examination by Commissioner Hughes.....	145
JEFF THOMAS	PAGE
Direct Examination by Ms. Luhr.....	151
Prefiled Corrected Direct Testimony ..... and Appendix A of Jeff Thomas	154
Prefiled Summary of Direct Testimony ..... of Jeff Thomas	238
Cross Examination by Mr. Trathen.....	240
Cross Examination by Mr. Jirak.....	247
Examination by Commissioner Hughes.....	249
Examination by Commissioner Duffley.....	253
Examination by Mr. Trathen.....	261
Examination by Ms. Luhr.....	262
PANEL OF DAVID M. WILLIAMSON and JEFF THOMAS	PAGE
Direct Examination by Ms. Luhr.....	265

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Prefiled Joint Direct Testimony 268
and Appendices A and B of
David M. Williamson and Jeff Thomas

Prefiled Joint Settlement Testimony 314
and Appendices A and B of
David M. Williamson and Jeff Thomas

Prefiled Summary of Joint Testimony 368
of David M. Williamson and
Jeff Thomas

Cross Examination by Mr. Trathen..... 370

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E X H I B I T S

	IDENTIFIED/ADMITTED
Corrected Public Staff Exhibit CCW-1	122/150
Public Staff Exhibits CCW-2 through CCW-16	122/150
DEC Walters Direct Cross Exhibit 1.....	125/150
Thomas Exhibits 1 through 23 (Confidential - filed under seal)	152/264
Public Staff PIMs Panel Exhibits 1 and 2	367/-

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NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8-28-23 DOCKET NO.: E-7 Sub 1276

ATTORNEY NAME and TITLE: JACK E. JIRAK, DEPUTY GENERAL COUNSEL

FIRM NAME: DUKE ENERGY

ADDRESS: 410 S. WILMINGTON ST.

CITY: RALEIGH STATE: NC ZIP CODE: 27602

APPEARANCE ON BEHALF OF: Duke Energy Carolinas, LLC

APPLICANT: X COMPLAINANT: ___ INTERVENOR: ___

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

_____ **Yes, I have signed the Confidentiality Agreement.**

Email: JACK.JIRAK@DUKE-ENERGY.COM

SIGNATURE: _____

(Signature Required for distribution of CONFIDENTIAL information)

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Jul 17 2023
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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 6/21/2023 DOCKET NO.: E-7 Sub 1276

ATTORNEY NAME and TITLE: Jason Higginbotham
Associate General Counsel

FIRM NAME: Duke Energy

ADDRESS:

CITY: STATE: ZIP CODE:

APPEARANCE ON BEHALF OF: Duke Energy Carolinas LLC

APPLICANT: X COMPLAINANT: ___ INTERVENOR: ___

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

☑ **Yes, I have signed the Confidentiality Agreement.**

Email: jason.higginbotham@duke-energy.com

SIGNATURE:

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8-28-23 DOCKET NO.: E-7 Sub 1276

ATTORNEY NAME and TITLE: JAMES H. JEFFRIES IV, PARTNER

FIRM NAME: MCGUIREWOODS LLP

ADDRESS: 201 N. TRYON STREET, SUITE 3000

CITY: CHARLOTTE STATE: NC ZIP CODE: 28202

APPEARANCE ON BEHALF OF: Duke Energy Carolinas, LLC

APPLICANT: X COMPLAINANT: ___ INTERVENOR: ___

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

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ONLY fill out this portion if you have signed an NDA to receive **CONFIDENTIAL** transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: JJEFFRIES@MCGUIREWOODS.COM

SIGNATURE: _____

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8/23/2023 DOCKET NO.: E-7 Sub 1276

ATTORNEY NAME and TITLE: Andrea R. Kells, Counsel

FIRM NAME: McGuireWoods, LLP

ADDRESS: 501 Fayetteville St. Suite 500

CITY: Raleigh STATE: NC ZIP CODE: 27601

APPEARANCE ON BEHALF OF: Duke Energy Carolinas, LLC

APPLICANT: X COMPLAINANT: ___ INTERVENOR: ___

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

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ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: akells@mcguirewoods.com

SIGNATURE: Andrea R. Kells Digitally signed by Andrea R. Kells Date: 2023.08.23 09:43:52 -04'00'

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: August 28, 2023 **DOCKET NO.:** E-7 Sub 1276

ATTORNEY NAME and TITLE: Kristin M. Athens, Esquire

FIRM NAME: McGuireWoods LLP

ADDRESS: 501 Fayetteville St. Suite 500

CITY: Raleigh **STATE:** NC **ZIP CODE:** _____

APPEARANCE ON BEHALF OF: Duke Energy Carolinas, LLC

APPLICANT: x **COMPLAINANT:** ___ **INTERVENOR:** ___

PROTESTANT: ___ **RESPONDENT:** ___ **DEFENDANT:** ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

x **Yes, I have signed the Confidentiality Agreement.**

Email: kathens@mcguirewoods.com

SIGNATURE: Kristin M. Athens Digitally signed by Kristin M. Athens Date: 2023.08.22 11:24:07 -04'00'

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: August 22, 2023 **DOCKET NO.:** E-7, Sub 1276

ATTORNEY NAME and TITLE: Brandon F. Marzo, Partner

FIRM NAME: Troutman Pepper Hamilton and Sanders LLP

ADDRESS: 600 Peachtree Street NE, Suite 3000

CITY: Atlanta **STATE:** GA **ZIP CODE:** 30308

APPEARANCE ON BEHALF OF: Duke Energy Carolinas, LLC

APPLICANT: X **COMPLAINANT:** ___ **INTERVENOR:** ___

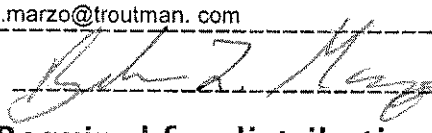
PROTESTANT: ___ **RESPONDENT:** ___ **DEFENDANT:** ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: brandon.marzo@troutman. com

SIGNATURE: 

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NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8/22/23 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: Melissa Oellerich Butler, Associate

FIRM NAME: Troutman Pepper Hamilton Sanders LLP

ADDRESS: 600 Peachtreet St. NE Suite 3000

CITY: Atlanta STATE: GA ZIP CODE: 30308

APPEARANCE ON BEHALF OF: Duke Energy Carolinas, LLC

APPLICANT: X COMPLAINANT: ___ INTERVENOR: ___

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

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ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: melissa.butler2@duke-energy.com

SIGNATURE: Melissa Oellerich Butler Digitally signed by Melissa Oellerich Butler Date: 2023.08.22 09:57:11 -04'00'

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NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8/22/23 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: Joshua Warren Combs, Associate Attorney

FIRM NAME: Troutman Pepper Hamilton Sanders LLP

ADDRESS: 600 Peachtree Street, NE, Suite 3000

CITY: Atlanta STATE: GA ZIP CODE: 30308

APPEARANCE ON BEHALF OF: Duke Energy Carolinas, LLC

APPLICANT: X COMPLAINANT: ___ INTERVENOR: ___

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

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X **Yes, I have signed the Confidentiality Agreement.**

Email: Josh.Combs@troutman.com

SIGNATURE: _____

(Signature Required for distribution of CONFIDENTIAL information)

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NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8/22/2023 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: Kiran H. Mehta, Partner

FIRM NAME: Troutman Pepper Hamilton Sanders LLP

ADDRESS: 301 S. College St., Suite 3400

CITY: Charlotte STATE: NC ZIP CODE: 28202

APPEARANCE ON BEHALF OF: Duke Energy Carolinas, LLC

APPLICANT: X COMPLAINANT: ___ INTERVENOR: ___

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

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ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

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SIGNATURE: [signature]

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NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: August 22, 2023 **DOCKET NO.:** Docket No. E-7, Sub 1276

ATTORNEY NAME and TITLE: Molly McIntosh Jagannathan, Partner

FIRM NAME: Troutman Pepper Hamilton Sanders LLP

ADDRESS: 301 South College Street, Suite 3400

CITY: Charlotte **STATE:** NC **ZIP CODE:** 28202

APPEARANCE ON BEHALF OF: Duke Energy Carolinas, LLC

APPLICANT: X **COMPLAINANT:** ___ **INTERVENOR:** ___

PROTESTANT: ___ **RESPONDENT:** ___ **DEFENDANT:** ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: molly.jagannathan@troutman.com

SIGNATURE: Molly M. Jagannathan

Digitally signed by Molly M. Jagannathan
DN: CN = Molly M. Jagannathan, email = molly.jagannathan@troutman.com, C = US
Date: 2023.08.22 10:14:33 -04'00'

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NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: August 23, 2023 **DOCKET NO.:** E-7, SUB 1276

ATTORNEY NAME and TITLE: MELINDA L. MCGRATH, PARTNER

FIRM NAME: TROUTMAN PEPPER HAMILTON SANDERS LLP

ADDRESS: 301 S. COLLEGE STREET; 34TH FLOOR

CITY: CHARLOTTE **STATE:** NC **ZIP CODE:** 28202

APPEARANCE ON BEHALF OF: DUKE ENERGY CAROLINAS, LLC

APPLICANT: XX **COMPLAINANT:** ___ **INTERVENOR:** ___

PROTESTANT: ___ **RESPONDENT:** ___ **DEFENDANT:** ___

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ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

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SIGNATURE: M McGrath

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NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8-28-23 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: Marcus W. Trathen

FIRM NAME: Brooks Pierce McLendon Humphrey & Leonard, LLP

ADDRESS: 1700 Wells Fargo Capitol Center, 150 Fayetteville St.

CITY: Raleigh STATE: NC ZIP CODE: 27601

APPEARANCE ON BEHALF OF: CUCA

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab and select Docket Search, enter the docket number and click search, select the highlighted docket number and select Documents for a list of all documents filed.

To receive an electronic **CONFIDENTIAL** transcript, please complete the following:

☒ **Yes, I have signed the Confidentiality Agreement.**

Email: mtrathen@brookspierce.com

SIGNATURE: /s/ Marcus Trathen

(Required for distribution of CONFIDENTIAL transcript)

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NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8/23/2023 DOCKET NO.: E-7 Sub 1276

ATTORNEY NAME and TITLE: Matthew B. Tynan

FIRM NAME: Brooks Pierce LLP

ADDRESS: P.O. Box 26000

CITY: Greensboro STATE: NC ZIP CODE: 27420

APPEARANCE ON BEHALF OF: Carolina Utility Customers Association

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: x

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

x **Yes, I have signed the Confidentiality Agreement.**

Email: mtynan@brookspierce.com

SIGNATURE: Matthew B Tynan

(Signature Required for distribution of CONFIDENTIAL information)

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NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8-28-23 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: Christopher B. Dodd

FIRM NAME: Brooks Pierce McLendon Humphrey & Leonard, LLP

ADDRESS: 115 N. 3rd St #301

CITY: Wilmington STATE: NC ZIP CODE: 28401

APPEARANCE ON BEHALF OF: CUCA

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: cdodd@brookspierce.com

SIGNATURE: /s/ Christopher Dodd

(Signature Required for distribution of CONFIDENTIAL information)

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NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: August 22, 2023 **DOCKET NO.:** E-7, Sub 1276; E-7, Sub 1134

ATTORNEY NAME and TITLE: Christina Cress, Partner; Douglas "D.C." Conant, Associate (Bailey & Dixon, LLP)

Chris S. Edwards, Partner (Ward & Smith, LLP)

FIRM NAME: Bailey & Dixon, LLP (CDC & DC); Ward & Smith, LLP (CSE)

ADDRESS: 434 Fayetteville St., Ste. 2500 (Bailey & Dixon); 127 Racine Drive (Ward & Smith)

CITY: Raleigh (B&D); Wilmington (W&S) **STATE:** NC **ZIP CODE:** 27601 (B&D); 28403 (W&S)

APPEARANCE ON BEHALF OF: CIGFUR III, Haywood EMC, Blue Ridge EMC, Piedmont EMC, and Rutherford EMC

APPLICANT: ___ **COMPLAINANT:** ___ **INTERVENOR:** X

PROTESTANT: ___ **RESPONDENT:** ___ **DEFENDANT:** ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: ccress@bdixon.com

SIGNATURE: Christina D. Cress Digitally signed by Christina D. Cress Date: 2023.08.22 13:33:10 -04'00'

(Signature Required for distribution of CONFIDENTIAL information)

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NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8/28/23 DOCKET NO.: E-7 Sub 1276

ATTORNEY NAME and TITLE: Ethan Blumenthal, Regulatory Counsel

FIRM NAME: North Carolina Sustainable Energy Association

ADDRESS: 4800 Six Forks Rd., Suite 300

CITY: Raleigh STATE: NC ZIP CODE: 27609

APPEARANCE ON BEHALF OF: North Carolina Sustainable Energy Association

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

_____ **Yes, I have signed the Confidentiality Agreement.**

Email: ethan@energync.org

SIGNATURE: Ethan Blumenthal Digitally signed by Ethan Blumenthal Date: 2023.08.21 21:17:22 -04'00'

(Signature Required for distribution of CONFIDENTIAL information)

OFFICIAL COPY
Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8-28-23 **DOCKET NO.:** G-7, Sub 1276

ATTORNEY NAME and TITLE: Cassie Gavin, Director of Policy

FIRM NAME: NCSEA

ADDRESS: 4800 Six Forks Rd, Suite 300

CITY: Raleigh **STATE:** NC **ZIP CODE:** 27609

APPEARANCE ON BEHALF OF: NCSEA

APPLICANT: ___ **COMPLAINANT:** ___ **INTERVENOR:** X

PROTESTANT: ___ **RESPONDENT:** ___ **DEFENDANT:** ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive **CONFIDENTIAL** transcripts and/or exhibits:

☐ **Yes, I have signed the Confidentiality Agreement.**

Email: cassie@energync.org

SIGNATURE: /s/ by KJM: Cassie Gavin

(Signature Required for distribution of CONFIDENTIAL information)

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May 26 2023
OFFICIAL COPY
Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8/28/23 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: Ben Snowden, Partner

FIRM NAME: Fox Rothschild LLP

ADDRESS: 434 Fayetteville St., Suite 2800

CITY: Raleigh STATE: NC ZIP CODE: 27601

APPEARANCE ON BEHALF OF: North Carolina League of Municipalities

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: x

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

x **Yes, I have signed the Confidentiality Agreement.**

Email: bsnowden@foxrothschild.com

SIGNATURE: BSnowden Digitally signed by BSnowden Date: 2023.04.27 16:52:04 -04'00'

(Signature Required for distribution of CONFIDENTIAL information)

OFFICIAL COPY

Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8/25/2023 DOCKET NO.: E-7 Sub 1276

ATTORNEY NAME and TITLE:

Alan Jenkins

FIRM NAME: Jenkins at Law, LLC

ADDRESS: 2950 Yellowtail Ave

CITY: Marathon STATE: FL ZIP CODE: 33050

APPEARANCE ON BEHALF OF: The Commercial Group

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: x

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

_____ **Yes, I have signed the Confidentiality Agreement.**

Email: aj@jenkinsatlaw.com

SIGNATURE:

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: August 22, 2023 DOCKET NO.: E-7, SUb 1276

ATTORNEY NAME and TITLE: Catherine Cralle Jones

FIRM NAME: Law Offices of F. Bryan Brice, Jr.

ADDRESS: 130 S. Salisbury Street

CITY: Raleigh STATE: NC ZIP CODE: 27601

APPEARANCE ON BEHALF OF: Sierra Club

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: cathy@attybryanbrice.com

SIGNATURE: Catherine Cralle Jones

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: August 22, 2023 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: Andrea C. Bonvecchio

FIRM NAME: Law Offices of F. Bryan Brice, Jr.

ADDRESS: 130 S. Salisbury Street

CITY: Raleigh STATE: NC ZIP CODE: 27601

APPEARANCE ON BEHALF OF: Sierra Club

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

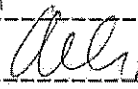
PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: andrea@attybryanbrice.com

SIGNATURE: 

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: August 28, 2023 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: David L. Neal, Senior Attorney

FIRM NAME: Southern Environmental Law Center

ADDRESS: 601 West Rosemary Street, Suite 220

CITY: Chapel Hill STATE: North Carolina ZIP CODE: 27516

APPEARANCE ON BEHALF OF:

North Carolina Justice Center, North Carolina Housing Coalition, Southern Alliance for Clean Energy, Natural Resources Defense Council, and Vote Solar (NCJC, et al.)

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: dneal@selcnc.org

SIGNATURE: 2023.08.23 12:33:09 -04'00'

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 08/28/2023 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: Munaashe Magarira, Staff Attorney

FIRM NAME: Southern Environmental Law Center

ADDRESS: 601 W Rosemary Street, Suite 220

CITY: Chapel Hill STATE: NC ZIP CODE: 27516

APPEARANCE ON BEHALF OF: North Carolina Justice Center, North Carolina Housing Coalition, Natural Resources Defense Council, Southern Alliance for Clean Energy, and Vote Solar

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: x

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

x **Yes, I have signed the Confidentiality Agreement.**

Email: mmagarira@selcnc.org

SIGNATURE: Digitally signed by Munaashe Magarira Date: 2023.08.22 09:28:18 -04'00'

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 05/04/2023 DOCKET NO.: E-2 Sub 1300

ATTORNEY NAME and TITLE: Thomas Gooding, Associate Attorney

FIRM NAME: Southern Environmental Law Center

ADDRESS: 601 W. Rosemary Street, Suite 220

CITY: Chapel Hill STATE: NC ZIP CODE: 27516

APPEARANCE ON BEHALF OF: North Carolina Justice Center, North Carolina Housing Coalition, Natural Resources Defense Council, Southern Alliance for Clean Energy, and Vote Solar

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: tgooding@selcnc.org

SIGNATURE: Thomas Gooding Digitally signed by Thomas Gooding Date: 2023.04.28 12:46:36 -04'00'

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 08/22/2023 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: Matthew D. Quinn, Partner

FIRM NAME: Lewis & Roberts, PLLC

ADDRESS: P. O. Box 17529

CITY: Raleigh STATE: NC ZIP CODE: 27619

APPEARANCE ON BEHALF OF: NC WARN

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

_____ **Yes, I have signed the Confidentiality Agreement.**

Email: _____

SIGNATURE: _____

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8-28-2023 DOCKET NO.: E-7 Sub 1276

ATTORNEY NAME and TITLE: Kurt Boehm

FIRM NAME: Boehm, Kurtz & Lowry

ADDRESS: 36 East Seventh Street, Suite 1510

CITY: Cincinnati STATE: Ohio ZIP CODE: 45202

APPEARANCE ON BEHALF OF: Kroger Co. and Harris Teeter

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

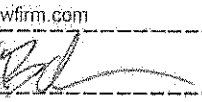
PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X Yes, I have signed the Confidentiality Agreement.

Email: kboehm@bkllawfirm.com

SIGNATURE: 

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: August 25, 2023 DOCKET NO.: E-7 Sub 1276

ATTORNEY NAME and TITLE: Jody Kyler Cohn, Esq.

FIRM NAME: Boehm, Kurtz & Lowry

ADDRESS: 36 East 7th Street, Suite 1510

CITY: Cincinnati STATE: Ohio ZIP CODE: 45202

APPEARANCE ON BEHALF OF: The Kroger Company

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

_____ **Yes, I have signed the Confidentiality Agreement.**

Email: _____

SIGNATURE: _____

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 08/25/2023 DOCKET NO.: E-2 Sub1300

ATTORNEY NAME and TITLE: Benjamin M. Royster, Attorney

FIRM NAME: Royster & Royster PLLC

ADDRESS: 851 Marshall St.

CITY: Mt. Airy STATE: NC ZIP CODE: 27030

APPEARANCE ON BEHALF OF: Kroger Co. and Harris Teeter

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: x

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

_____ **Yes, I have signed the Confidentiality Agreement.**

Email: _____

SIGNATURE: _____

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8-28-23 **DOCKET NO.:** E-7, Sub 1276

ATTORNEY NAME and TITLE: Marcus W. Trathen

FIRM NAME: Brooks Pierce McLendon Humphrey & Leonard, LLP

ADDRESS: 1700 Wells Fargo Capitol Center, 150 Fayetteville St.

CITY: Raleigh **STATE:** NC **ZIP CODE:** 27601

APPEARANCE ON BEHALF OF: Andale, LLC

APPLICANT: ___ **COMPLAINANT:** ___ **INTERVENOR:** X

PROTESTANT: ___ **RESPONDENT:** ___ **DEFENDANT:** ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab and select Docket Search, enter the docket number and click search, select the highlighted docket number and select Documents for a list of all documents filed.

To receive an electronic **CONFIDENTIAL** transcript, please complete the following:

☒ **Yes, I have signed the Confidentiality Agreement.**

Email: mtrathen@brookspierce.com

SIGNATURE: /s/ Marcus Trathen

(Required for distribution of CONFIDENTIAL transcript)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: 8/28/2023 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: Tirrill Moore

Assistant Attorney General

FIRM NAME: North Carolina Attorney General's Office

ADDRESS: 114 West Edenton Street

CITY: Raleigh STATE: NC ZIP CODE: 27602

APPEARANCE ON BEHALF OF: The using and consuming public; the State and its citizens

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: temoore@ncdoj.gov

SIGNATURE:

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION

APPEARANCE SLIP

DATE: August 28, 2023 DOCKET NO.: E-7, Sub 1276

ATTORNEY NAME and TITLE: Derrick C. Mertz, Special Deputy Attorney General;

FIRM NAME: North Carolina Department of Justice

ADDRESS: 114 W. Edenton Steet

CITY: Raleigh STATE: NC ZIP CODE: 27603

APPEARANCE ON BEHALF OF: The using and consuming public pursuant to N.C.G.S. sec. 62-20, and on behalf of the State of North Carolina and its citizens pursuant to N.C.G.S. sec. 114-2(8)

APPLICANT: ___ COMPLAINANT: ___ INTERVENOR: X

PROTESTANT: ___ RESPONDENT: ___ DEFENDANT: ___

Non-confidential transcripts are located on the Commission's website. To view and/or print transcripts, go to https://www.ncuc.net/, hover over the Dockets tab, select Docket Search, enter the docket number, and click search, select the highlighted docket number and select Documents for a list of all documents filed.

ONLY fill out this portion if you have signed an NDA to receive CONFIDENTIAL transcripts and/or exhibits:

X **Yes, I have signed the Confidentiality Agreement.**

Email: dmertz@ncdoj.gov

SIGNATURE: Derrick Mertz Digitally signed by Derrick Mertz Date: 2023.08.23 15:26:03 -04'00'

(Signature Required for distribution of CONFIDENTIAL information)

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Oct 04 2023

NORTH CAROLINA UTILITIES COMMISSION
PUBLIC STAFF - APPEARANCE SLIP

DATE August 28, 2023 DOCKET #: E-7, Sub 1276

PUBLIC STAFF ATTORNEY Lucy E. Edmondson; Robert B. Josey; Nadia L. Luhr; Thomas J. Felling; William E. H. Creech; William S.F. Freeman; Anne M. Keyworth

TO REQUEST A **CONFIDENTIAL** TRANSCRIPT, PLEASE PROVIDE YOUR EMAIL ADDRESS BELOW:

ACCOUNTING

CONSUMER SERVICES

COMMUNICATIONS

ENERGY

ECONOMICS

LEGAL lucy.edmondson@psncuc.nc.gov; robert.josey@psncuc.nc.gov; nadia.luhr@psncuc.nc.gov; thomas.felling@psncuc.nc.gov; zeke.creech@psncuc.nc.gov; william.freeman@psncuc.nc.gov; anne.keyworth@psncuc.nc.gov

TRANSPORTATION

WATER

Non-confidential transcripts are located on the Commission's website. To view and/or print, please access https://www.ncuc.net/.

COUNSEL/MEMBER(s) REQUESTING A **CONFIDENTIAL** TRANSCRIPT WHO HAS SIGNED A CONFIDENTIALITY AGREEMENT WILL NEED TO SIGN BELOW.

/s/ Lucy E. Edmondson

/s/ Robert B. Josey

/s/ Nadia L. Luhr

/s/ Thomas J. Felling

/s/ William E. H. Creech

/s/ William Freeman /s/ Anne M. Keyworth

Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Price to Earnings (P/E) Ratio [1] 22-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)	2005 (20)	2004 (21)	2003 (22)	2002 (23)
1	ALLETE	18.19	16.30	18.10	20.60	18.30	24.70	22.20	23.00	18.60	15.10	17.20	18.60	15.90	14.70	16.00	16.10	13.90	14.80	16.55	17.91	25.21	N/A	N/A
2	Alliant Energy	17.04	17.90	21.40	21.20	21.20	21.20	19.10	20.60	22.30	18.10	16.60	15.30	14.50	14.50	12.50	13.90	13.40	15.10	16.82	12.59	14.00	12.69	19.93
3	Ameren Corp.	16.88	18.60	21.50	21.40	22.20	22.10	18.30	20.60	18.30	17.50	16.70	16.50	13.40	11.90	9.70	9.30	14.20	17.40	19.39	16.72	16.28	13.51	15.78
4	American Electric Power	15.21	15.90	21.10	17.10	19.60	21.40	18.00	19.30	15.20	15.80	15.90	14.50	13.80	11.90	13.40	10.00	13.10	16.30	12.91	13.70	12.42	10.66	12.68
5	Avangrid, Inc.	24.02	19.30	19.60	23.20	23.60	23.10	26.10	27.30	20.50	33.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	18.44	17.30	20.00	20.20	21.20	15.00	24.50	23.40	18.80	17.60	17.30	14.60	19.30	14.10	12.70	11.40	15.00	30.90	15.39	19.45	24.43	13.84	19.27
7	Black Hills	17.78	17.60	18.10	17.70	17.00	21.20	16.80	19.50	22.30	16.10	19.00	18.20	17.10	31.10	18.10	9.90	NMF	15.00	15.77	17.27	17.13	15.95	12.52
8	CenterPoint Energy	16.81	18.90	18.70	26.10	15.90	19.50	37.00	17.90	21.90	18.10	17.00	18.70	14.80	14.60	13.80	11.80	11.30	15.00	10.27	19.06	17.84	6.05	5.59
9	CMS Energy Corp.	18.34	18.70	22.90	23.60	23.30	24.30	20.30	21.30	20.90	18.30	17.30	16.30	15.10	13.60	12.50	13.60	10.90	26.80	22.18	12.60	12.39	N/A	N/A
10	Consol. Edison	16.24	20.40	20.30	17.20	19.00	19.70	17.10	19.80	18.80	15.60	15.90	14.70	15.40	15.10	13.30	12.50	12.30	13.80	15.49	15.13	18.21	14.30	13.28
11	Dominion Resources	18.16	14.30	18.70	19.50	22.60	18.20	17.50	22.20	21.30	22.10	23.00	19.20	18.90	17.30	14.30	12.70	13.80	20.60	15.98	24.89	15.07	15.24	12.05
12	DTE Energy	16.73	17.20	22.40	30.00	16.30	19.90	17.40	18.60	19.00	18.10	14.90	17.90	14.90	13.50	12.30	10.40	14.80	18.30	17.43	13.80	16.04	13.69	11.28
13	Duke Energy	17.25	17.50	19.60	18.90	17.10	17.70	17.00	19.90	21.30	18.20	17.90	17.40	17.50	13.80	12.70	13.30	17.30	16.10	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	17.16	15.90	40.60	29.70	34.90	16.70	N/A	17.20	17.90	14.80	13.00	12.70	9.70	11.80	10.30	9.70	12.40	16.00	12.99	11.74	37.59	6.97	7.78
15	El Paso Electric	17.68	N/A	N/A	N/A	N/A	N/A	26.85	21.78	18.66	18.33	16.38	15.88	14.47	12.60	10.72	10.79	11.89	15.26	16.92	26.72	22.03	18.26	22.99
16	Entergy Corp.	14.25	16.50	21.10	15.00	15.30	16.50	13.80	15.00	10.90	12.50	12.90	13.20	11.20	9.10	11.60	12.00	16.60	19.30	14.28	16.28	15.09	13.77	11.53
17	Eversource Energy	18.49	17.90	20.90	22.20	23.70	22.10	18.70	19.50	18.70	18.10	17.90	16.90	19.90	15.40	13.40	12.00	13.70	18.70	27.07	19.76	20.77	13.35	16.07
18	Evergy, Inc.	19.67	15.70	19.90	16.20	21.70	21.80	22.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	14.50	18.00	19.90	16.60	12.40	14.70	13.30	13.40	12.50	12.60	16.00	13.40	19.10	11.30	11.00	11.50	18.00	18.20	16.53	15.37	12.99	11.77	10.46
20	FirstEnergy Corp.	15.23	15.30	17.00	14.10	15.70	17.10	13.60	11.40	12.70	12.60	13.20	13.10	21.10	22.40	11.70	13.00	15.60	15.60	14.23	16.07	14.13	22.47	12.95
21	Fortis Inc.	19.42	19.80	21.10	21.20	20.60	19.20	17.10	16.80	21.60	18.00	24.30	20.00	20.10	18.80	18.20	16.40	17.50	21.10	17.68	N/A	N/A	N/A	N/A
22	Great Plains Energy	15.52	N/A	N/A	N/A	N/A	N/A	N/A	NMF	17.98	19.37	16.47	14.19	15.53	16.11	12.10	16.03	20.55	16.35	18.30	13.96	12.59	12.23	11.09
23	Hawaiian Elec.	18.19	17.20	18.50	18.20	21.50	21.30	18.90	20.70	13.60	20.40	15.90	16.20	15.80	17.10	18.60	19.80	23.20	21..6	20.33	18.27	19.18	13.76	13.47
24	IDACORP, Inc.	17.33	22.20	21.00	20.80	19.90	22.30	20.50	20.60	19.10	16.20	14.70	13.40	12.40	11.50	11.80	10.20	13.90	18.20	15.07	16.70	15.49	26.51	18.88
25	MGE Energy	20.12	21.70	24.70	25.50	26.40	28.40	25.10	29.40	24.90	20.30	17.20	17.00	17.20	15.80	15.00	15.10	14.20	15.00	15.88	22.40	17.98	17.55	15.96
26	NextEra Energy, Inc.	18.97	24.40	27.80	31.30	28.90	26.80	24.80	21.60	20.70	16.90	17.30	16.60	14.40	11.50	10.80	13.40	14.50	18.90	13.65	17.88	13.65	17.88	13.60
27	NorthWestern Corp	17.12	17.50	17.30	17.40	18.60	19.90	16.80	17.80	17.20	18.40	16.20	16.90	15.70	12.60	12.90	11.50	13.90	21.70	25.95	17.09	N/A	N/A	N/A
28	OGE Energy	15.41	17.50	17.20	14.30	16.20	19.00	16.50	18.30	17.70	17.70	18.30	17.70	15.20	14.40	13.30	10.80	12.40	13.80	13.68	14.95	14.13	11.84	14.12
29	Otter Tail Corp.	20.73	15.70	9.50	12.30	18.30	23.50	22.20	22.10	20.20	18.20	18.80	21.10	21.70	47.50	NMF	31.20	30.10	19.00	17.35	15.40	17.34	17.77	16.01
30	Pinnacle West Capital	16.07	19.90	17.10	14.10	16.70	19.40	17.80	19.30	18.70	16.00	15.90	15.30	14.30	14.60	12.60	13.70	16.10	14.90	13.69	19.24	15.80	13.96	14.43
31	PNM Resources	18.50	18.80	17.40	19.90	19.60	22.20	19.40	20.40	22.40	18.70	18.70	16.10	15.00	14.50	14.00	18.10	N/A	35.60	15.57	17.38	15.02	14.73	15.08
32	Portland General	16.96	18.80	18.20	17.70	16.60	22.30	18.40	20.00	19.10	17.70	15.30	16.90	14.00	12.40	12.00	14.40	16.30	11.90	23.35	N/A	N/A	N/A	N/A
33	PPL Corp.	16.32	18.00	20.00	54.10	13.90	13.30	11.30	17.60	12.80	13.90	14.10	12.80	10.90	10.50	11.90	25.70	17.60	17.30	14.10	15.12	12.51	10.59	11.06
34	Public Serv. Enterprise	14.47	17.80	18.50	16.80	15.70	18.00	16.60	16.30	15.30	14.10	12.60	13.50	12.80	10.40	10.40	10.00	13.60	16.50	17.81	16.74	14.26	10.58	10.00
35	SCANA Corp.	13.96	N/A	N/A	N/A	N/A	N/A	N/A	14.46	16.80	14.67	13.68	14.43	14.80	13.67	12.93	11.63	12.67	14.96	15.42	14.44	13.57	13.05	12.17
36	Sempra Energy	15.65	17.40	16.80	15.40	17.50	22.50	20.40	24.30	24.40	19.70	21.90	19.70	14.90	11.80	12.60	10.10	11.80	14.00	11.50	11.79	8.65	8.96	8.19
37	Southern Co.	16.35	20.30	19.60	18.40	17.90	17.60	15.10	15.50	17.80	15.80	16.00	16.20	17.00	15.80	14.90	13.50	16.10	16.00	16.19	15.92	14.68	14.83	14.63
38	Vectren Corp.	17.05	N/A	N/A	N/A	N/A	N/A	N/A	23.54	19.18	17.92	19.98	20.66	15.02	15.83	15.10	12.89	16.79	15.33	18.92	15.11	17.57	14.80	14.16
39	WEC Energy Group	17.54	18.90	21.90	22.30	24.90	23.50	19.60	20.00	19.90	21.30	17.70	16.50	15.80	14.20	14.00	13.30	14.80	16.50	15.97	14.46	17.51	12.43	10.46
40	Westar Energy	15.58	N/A	N/A	N/A	N/A	N/A	N/A	23.40	21.59	18.45	15.36	14.04	13.43	14.78	12.96	14.95	16.96	14.10	12.18	14.79	17.44	10.78	14.02
41	Xcel Energy Inc.	18.14	21.20	22.20	22.50	23.90	22.30	18.90	20.20	18.50	16.50	15.40	15.00	14.80	14.20	14.10	12.70	13.70	16.70	14.80	15.36	13.65	11.62	40.80
42	Average	17.13	18.23	20.29	20.91	19.95	20.51	19.43	19.85	18.75	17.58	16.77	16.19	15.56	15.30	13.16	13.57	15.27	17.66	16.51	16.56	16.65	13.83	14.31
43	Median	16.26	17.90	19.90	19.70	19.30	21.20	18.55	20.00	18.80	17.81	16.47	16.20	15.02	14.20	12.80	12.70	14.20	16.32	15.92	15.99	15.49	13.69	13.47

Sources:
The current year P/E ratio is based on the forward P/E (price over expected earnings per share). All historical year P/E ratios are based on annual average share price over achieved earnings per share.
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Market Price to Cash Flow (MP/CF) Ratio [1]

Line	Company	22-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)	2005 (20)	2004 (21)	2003 (22)	2002 (23)
1	ALLETE	9.21	7.37	7.56	8.61	8.14	11.38	10.16	10.95	8.26	7.49	8.80	9.15	8.18	7.91	8.04	8.51	9.29	10.30	11.06	11.54	11.46	N/A	N/A
2	Alliant Energy	8.26	9.64	10.43	10.31	10.66	10.74	9.71	13.21	10.67	8.86	8.40	7.52	7.50	7.21	6.59	6.23	7.49	7.92	8.00	5.09	5.52	4.76	5.20
3	Ameren Corp.	7.45	9.01	9.54	9.03	9.63	9.45	7.95	8.38	7.44	6.87	6.95	6.61	5.48	5.02	4.23	4.25	6.35	7.69	8.57	8.57	8.24	6.74	7.96
4	American Electric Power	6.75	8.16	8.67	7.57	8.41	9.34	8.03	8.81	7.57	7.09	7.00	6.57	5.93	5.46	5.54	4.71	5.71	6.84	5.54	6.07	5.50	4.69	5.19
5	Avangrid, Inc.	9.66	8.30	8.69	11.19	9.39	9.11	10.24	10.14	8.56	11.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	7.06	8.69	9.39	8.03	7.80	7.34	10.14	9.35	7.63	6.76	7.30	6.21	6.88	6.40	5.80	4.06	5.12	7.58	5.30	6.58	7.58	5.36	5.90
7	Black Hills	7.96	8.68	8.92	8.84	8.56	10.65	8.83	9.20	9.33	8.06	8.81	8.03	6.04	7.85	6.16	4.25	11.26	7.62	6.92	7.57	6.69	6.89	5.92
8	CenterPoint Energy	5.57	7.72	8.01	7.95	5.94	7.03	8.45	6.97	5.96	5.75	6.25	6.56	5.15	5.39	4.70	4.05	4.29	5.17	3.94	4.70	4.26	2.08	2.16
9	CMS Energy Corp.	6.49	7.76	9.43	9.27	9.87	9.85	8.40	8.75	8.50	7.53	7.13	6.68	6.03	5.41	4.48	3.64	3.45	5.57	4.40	4.04	3.20	2.88	NMF
10	Consol. Edison	8.24	8.24	8.70	7.26	8.35	9.46	8.73	9.64	9.39	7.96	7.89	7.77	8.31	8.15	7.39	6.72	6.89	8.31	8.65	8.59	9.31	7.90	7.64
11	Dominion Resources	9.81	7.48	9.35	11.15	14.59	13.47	10.94	11.35	11.59	11.84	12.27	10.88	9.92	9.45	8.12	6.98	8.27	8.65	7.81	10.09	7.68	7.51	6.53
12	DTE Energy	6.49	1.28	7.96	10.62	7.85	9.67	8.54	9.05	8.64	8.52	6.42	6.65	5.91	5.18	4.69	3.59	4.90	5.73	5.21	5.54	6.00	5.62	5.20
13	Duke Energy	7.63	7.44	7.75	7.89	8.06	7.40	7.65	8.40	8.57	7.95	8.12	8.11	9.53	6.56	6.01	5.96	7.13	7.16	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	6.03	5.93	6.83	7.14	7.57	7.25	13.46	7.05	6.77	5.92	5.68	5.46	4.59	4.22	4.11	3.95	5.63	7.01	5.87	5.61	6.84	2.82	2.96
15	El Paso Electric	5.93	N/A	N/A	N/A	N/A	N/A	9.43	8.54	7.46	6.47	6.33	6.19	5.78	5.16	4.31	3.98	4.95	6.44	6.25	6.67	4.65	3.90	4.39
16	Entergy Corp.	5.81	6.12	7.15	5.61	5.78	6.05	4.92	4.66	4.01	4.11	4.21	4.03	4.23	3.90	4.66	5.68	7.96	9.21	7.16	8.76	7.12	6.84	5.57
17	Eversource Energy	7.58	8.80	9.39	11.41	12.53	11.47	9.16	10.36	10.14	10.12	10.14	8.08	9.30	6.99	4.97	4.61	4.12	6.18	6.02	3.55	3.78	2.85	2.75
18	Evergy, Inc.	7.92	7.68	8.66	7.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	6.04	6.18	7.69	5.08	4.44	5.29	5.05	4.45	4.80	4.70	5.09	4.61	5.54	5.86	5.10	5.98	9.65	9.89	8.62	7.97	6.29	5.71	4.97
20	FirstEnergy Corp.	6.93	8.61	8.93	6.60	9.23	11.09	8.84	4.76	5.12	5.38	7.43	6.15	7.42	7.33	4.49	4.91	7.58	7.89	7.53	6.04	5.15	6.90	5.10
21	Fortis Inc.	8.50	8.96	9.10	9.57	9.50	9.46	7.97	8.23	10.46	7.29	9.25	7.93	8.09	8.38	7.40	6.76	7.58	9.18	7.89	N/A	N/A	N/A	N/A
22	Great Plains Energy	6.89	N/A	N/A	N/A	N/A	N/A	N/A	14.62	8.63	6.66	6.45	5.73	6.09	5.74	4.49	5.06	7.71	7.13	7.68	6.70	6.52	5.92	5.14
23	Hawaiian Elec.	8.05	7.82	7.95	8.23	8.69	9.30	8.34	9.21	7.44	9.25	7.64	8.15	8.05	7.73	7.81	6.95	9.10	7.95	8.47	8.29	8.44	6.12	6.20
24	IDACORP, Inc.	9.02	12.05	12.42	11.84	11.38	12.75	11.72	11.56	10.95	9.37	8.59	7.78	7.05	6.64	6.52	5.31	7.10	8.23	7.73	7.55	7.15	7.27	7.53
25	MGE Energy	11.70	12.68	13.63	N/A	14.90	15.58	15.04	17.33	15.66	12.53	11.42	11.20	10.77	9.48	9.05	8.40	8.42	9.23	9.30	11.73	11.04	10.20	8.09
26	NextEra Energy, Inc.	9.34	13.94	15.17	20.40	15.48	12.33	10.77	11.61	9.24	7.93	7.98	7.60	7.58	5.98	5.33	6.09	7.34	9.02	6.51	6.71	6.71	5.97	5.77
27	NorthWestern Corp	7.92	8.43	8.65	8.83	8.88	9.93	8.19	8.82	8.65	8.99	9.01	7.61	6.85	5.89	5.79	5.05	5.57	8.45	9.39	7.31	8.13	N/A	N/A
28	OGE Energy	7.95	8.11	8.36	7.64	8.38	10.58	9.36	10.52	9.03	9.25	10.65	9.93	7.35	7.48	6.61	5.37	6.43	7.58	7.50	7.04	6.73	5.62	5.39
29	Otter Tail Corp.	9.39	10.66	7.70	8.61	9.99	12.42	11.58	11.09	9.38	9.04	9.45	9.58	8.43	9.04	8.07	8.01	11.65	9.53	8.66	8.18	9.01	8.13	8.33
30	Pinnacle West Capital	6.18	5.78	5.19	6.19	7.49	8.30	7.09	8.73	7.89	6.91	7.03	6.85	6.34	5.80	5.65	3.84	4.19	4.76	4.48	7.48	5.88	4.80	5.21
31	PNM Resources	6.92	7.26	6.95	7.81	7.87	7.92	7.57	7.40	7.64	6.95	7.48	6.47	5.80	4.94	4.58	4.53	7.10	10.67	7.50	7.62	6.84	5.55	5.72
32	Portland General	5.99	6.40	6.65	6.48	6.72	7.65	6.56	7.45	7.12	6.73	5.49	6.06	5.08	4.86	4.13	4.63	4.81	5.34	5.74	N/A	N/A	N/A	N/A
33	PPL Corp.	7.89	8.84	8.82	13.74	7.46	7.99	7.02	10.11	8.37	8.73	7.32	6.59	5.87	5.98	7.46	8.82	9.17	8.90	7.58	7.57	6.49	5.41	5.30
34	Public Serv. Enterprise	7.95	9.66	10.53	11.32	8.22	8.72	9.48	8.67	8.56	6.66	6.48	6.40	6.40	6.03	6.04	6.20	8.46	9.83	8.41	8.59	7.17	6.79	6.24
35	SCANA Corp.	7.09	N/A	N/A	N/A	N/A	N/A	N/A	8.26	9.59	8.33	7.50	7.49	7.40	6.75	6.52	5.88	6.38	7.15	7.03	5.40	6.86	6.59	6.36
36	Sempra Energy	8.47	9.30	9.75	13.23	10.40	12.05	10.10	10.65	10.88	9.99	10.77	9.37	7.26	6.13	6.53	6.07	7.07	8.61	7.22	6.96	5.16	4.85	4.00
37	Southern Co.	8.29	8.72	9.63	8.72	8.34	8.80	7.05	7.49	8.83	8.23	8.42	8.30	8.75	8.22	7.79	7.08	8.18	8.62	8.47	8.41	8.28	8.28	7.83
38	Vectren Corp.	7.08	N/A	N/A	N/A	N/A	N/A	N/A	10.32	8.60	7.82	7.57	6.82	5.79	5.81	5.58	5.24	6.90	6.53	7.37	7.06	7.63	7.27	6.92
39	WEC Energy Group	9.27	10.76	11.81	11.99	13.67	12.88	10.82	11.04	10.95	12.90	10.27	9.58	9.24	8.43	8.15	6.87	7.57	7.84	7.27	6.40	6.27	4.91	4.27
40	Westar Energy	6.91	N/A	N/A	N/A	N/A	N/A	N/A	10.87	10.86	9.05	7.93	7.23	6.71	6.67	5.51	5.32	7.09	6.88	5.81	7.00	6.54	4.24	2.94
41	Xcel Energy Inc.	7.07	8.23	8.62	9.19	10.07	9.44	7.90	8.50	8.10	7.62	7.31	7.00	6.85	6.47	6.28	5.43	5.71	6.51	5.54	5.62	5.31	4.27	5.46
42	Average	7.67	8.35	9.00	9.28	9.26	9.78	9.03	9.41	8.68	8.07	7.90	7.41	7.01	6.56	6.02	5.61	7.01	7.77	7.17	7.18	6.82	5.75	5.58
43	Median	7.50	8.27	8.69	8.72	8.56	9.46	8.78	9.13	8.58	7.94	7.57	7.23	6.85	6.40	5.80	5.37	7.10	7.84	7.44	7.05	6.72	5.66	5.46

Sources:
The current year P/E ratio is based on the forward P/E (price over expected earnings per share). All historical year P/E ratios are based on annual average share price over achieved earnings per share.
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

Note:
[a] Based on the average of the high and low price and the projected Cash Flow per share.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Market Price to Book Value (MP/BV) Ratio [1] 19-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)	2005 (20)
1	ALLETE	1.55	1.27	1.24	1.43	1.39	1.91	1.79	1.78	1.53	1.37	1.42	1.51	1.34	1.35	1.28	1.15	1.55	1.89	2.09	2.22
2	Alliant Energy	1.82	2.00	2.25	2.26	2.30	2.32	2.16	2.38	2.17	1.86	1.86	1.70	1.57	1.46	1.31	1.04	1.33	1.67	1.52	1.33
3	Ameren Corp.	1.60	2.13	2.15	2.13	2.21	2.26	1.95	1.93	1.67	1.46	1.45	1.29	1.18	0.90	0.83	0.78	1.25	1.60	1.62	1.68
4	American Electric Power	1.64	1.71	1.99	1.87	2.09	2.20	1.82	1.88	1.81	1.55	1.54	1.40	1.31	1.23	1.23	1.08	1.48	1.85	1.56	1.57
5	Avangrid, Inc.	0.91	0.81	0.89	1.01	0.97	1.02	1.02	0.93	0.83	0.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.33	1.29	1.33	1.42	1.37	1.54	1.88	1.73	1.57	1.36	1.33	1.25	1.21	1.19	1.07	0.94	1.11	1.29	1.30	1.13
7	Black Hills	1.51	1.40	1.54	1.52	1.55	1.95	1.61	2.06	1.94	1.59	1.79	1.62	1.21	1.14	1.07	0.83	1.22	1.57	1.47	1.63
8	CenterPoint Energy	2.27	1.74	1.99	1.74	1.90	2.21	2.18	2.59	2.73	2.43	2.27	2.30	1.99	1.87	1.96	1.77	2.49	3.13	2.75	3.06
9	CMS Energy Corp.	2.18	2.42	2.71	2.69	3.24	3.28	2.81	2.93	2.72	2.43	2.26	2.09	1.91	1.66	1.48	1.10	1.23	1.82	1.42	1.32
10	Consol. Edison	1.43	1.60	1.55	1.34	1.44	1.59	1.49	1.63	1.58	1.42	1.34	1.38	1.47	1.38	1.22	1.08	1.17	1.47	1.47	1.52
11	Dominion Resources	2.55	1.76	2.34	2.37	2.72	2.18	2.40	2.94	3.15	3.34	3.55	2.97	2.84	2.37	2.01	1.80	2.42	2.69	2.07	2.50
12	DTE Energy	1.67	2.47	2.41	2.82	1.80	2.07	1.91	2.01	1.82	1.65	1.62	1.51	1.35	1.20	1.16	0.89	1.10	1.35	1.29	1.39
13	Duke Energy	1.29	1.53	1.63	1.58	1.47	1.47	1.33	1.41	1.35	1.29	1.28	1.19	1.12	1.11	1.00	0.91	1.06	1.15	N/A	N/A
14	Edison Int'l	1.70	1.84	2.08	1.67	1.62	1.80	1.97	2.17	1.92	1.76	1.68	1.57	1.53	1.24	1.07	1.04	1.56	2.05	1.80	1.93
15	El Paso Electric	1.56	N/A	N/A	N/A	N/A	N/A	1.94	1.87	1.68	1.48	1.52	1.49	1.59	1.64	1.17	0.98	1.33	1.69	1.71	1.76
16	Entergy Corp.	1.75	1.64	1.81	1.75	1.93	2.03	1.74	1.76	1.67	1.40	1.33	1.21	1.31	1.35	1.62	1.66	2.44	2.65	1.89	2.01
17	Eversource Energy	1.55	1.72	1.86	2.00	2.11	1.99	1.68	1.73	1.64	1.53	1.47	1.38	1.28	1.50	1.31	1.12	1.31	1.60	1.22	1.05
18	Evergy, Inc.	1.48	1.43	1.52	1.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	2.08	1.65	1.88	1.37	1.20	1.43	1.31	1.20	1.20	1.14	1.28	1.17	1.46	1.95	2.07	2.57	4.39	4.79	3.89	3.60
20	FirstEnergy Corp.	2.06	2.15	2.37	2.33	2.81	3.39	2.67	3.53	2.37	1.16	1.15	1.28	1.44	1.33	1.36	1.54	2.52	2.23	1.92	1.64
21	Fortis Inc.	1.48	1.46	1.56	1.48	1.47	1.41	1.24	1.41	1.26	1.33	1.35	1.45	1.59	1.59	1.56	1.33	1.48	1.63	1.96	N/A
22	Great Plains Energy	1.21	N/A	N/A	N/A	N/A	N/A	N/A	1.33	1.17	1.12	1.11	1.02	0.96	0.93	0.87	0.80	1.11	1.66	1.77	1.86
23	Hawaiian Elec.	1.69	1.82	1.94	1.81	1.82	2.02	1.76	1.76	1.63	1.71	1.49	1.54	1.62	1.54	1.44	1.16	1.61	1.57	2.01	1.78
24	IDACORP, Inc.	1.52	1.82	1.91	1.88	1.84	2.10	1.96	1.94	1.76	1.54	1.45	1.33	1.19	1.17	1.13	0.92	1.09	1.26	1.37	1.22
25	MGE Energy	2.16	2.44	2.47	N/A	2.54	2.88	2.59	2.88	2.60	2.10	2.10	2.06	1.92	1.75	1.65	1.54	1.62	1.75	1.83	2.09
26	NextEra Energy, Inc.	2.42	3.52	4.07	4.27	3.58	2.75	2.32	2.35	2.30	2.09	2.15	1.93	1.74	1.55	1.49	1.70	2.06	2.34	1.80	1.93
27	NorthWestern Corp	1.44	1.21	1.25	1.43	1.45	1.74	1.48	1.64	1.68	1.60	1.54	1.56	1.42	1.35	1.22	1.07	1.15	1.48	1.65	1.42
28	OGE Energy	1.83	1.68	1.74	1.67	1.86	2.06	1.75	1.82	1.73	1.79	2.22	2.24	1.94	1.90	1.70	1.37	1.52	1.98	1.91	1.80
29	Otter Tail Corp.	1.91	2.29	2.30	2.33	2.04	2.62	2.49	2.33	1.90	1.78	1.90	1.96	1.58	1.35	1.19	1.18	1.71	1.93	1.76	1.74
30	Pinnacle West Capital	1.42	1.42	1.31	1.45	1.63	1.91	1.74	1.91	1.72	1.52	1.44	1.47	1.39	1.25	1.14	0.95	1.00	1.26	1.26	1.25
31	PNM Resources	1.37	1.84	1.81	1.86	1.87	2.28	1.83	1.84	1.56	1.33	1.21	1.09	0.98	0.80	0.69	0.56	0.66	1.23	1.21	1.45
32	Portland General	1.37	1.45	1.58	1.55	1.57	1.84	1.56	1.69	1.56	1.42	1.37	1.28	1.14	1.09	0.94	0.92	1.05	1.32	1.36	N/A
33	PPL Corp.	2.00	1.45	1.44	1.52	1.63	1.86	1.81	2.40	2.46	2.24	1.64	1.55	1.58	1.47	1.61	2.10	3.19	3.05	2.43	2.50
34	Public Serv. Enterprise	1.94	2.10	2.32	2.11	1.70	1.97	1.81	1.68	1.67	1.58	1.57	1.44	1.46	1.59	1.67	1.78	2.58	2.99	2.46	2.45
35	SCANA Corp.	1.51	N/A	N/A	N/A	N/A	N/A	N/A	1.65	1.74	1.47	1.48	1.48	1.48	1.36	1.33	1.20	1.45	1.62	1.64	1.72
36	Sempra Energy	1.80	1.77	1.84	1.64	1.84	2.22	2.06	2.24	2.00	2.17	2.20	1.84	1.53	1.28	1.35	1.32	1.60	1.87	1.70	1.73
37	Southern Co.	2.12	2.38	2.53	2.39	2.20	2.13	1.89	2.07	2.01	1.99	2.02	2.04	2.15	1.99	1.83	1.73	2.12	2.24	2.23	2.35
38	Vectren Corp.	1.83	N/A	N/A	N/A	N/A	N/A	N/A	2.75	2.29	2.11	2.08	1.82	1.57	1.53	1.41	1.34	1.64	1.74	1.77	1.82
39	WEC Energy Group	2.07	2.48	2.57	2.61	2.84	2.62	2.11	2.10	2.09	1.82	2.34	2.21	2.05	1.81	1.65	1.40	1.57	1.77	1.71	1.62
40	Westar Energy	1.37	N/A	N/A	N/A	N/A	N/A	N/A	1.94	1.95	1.49	1.44	1.33	1.26	1.20	1.10	0.93	1.10	1.36	1.30	1.41
41	Xcel Energy Inc.	1.74	2.15	2.22	2.27	2.46	2.34	1.97	2.06	1.88	1.66	1.55	1.50	1.51	1.41	1.32	1.19	1.30	1.53	1.40	1.38
42	Average	1.74	1.83	1.96	1.92	1.96	2.10	1.89	2.01	1.86	1.67	1.69	1.60	1.52	1.43	1.35	1.25	1.63	1.90	1.78	1.80
43	Median	1.71	1.75	1.89	1.75	1.84	2.06	1.86	1.92	1.75	1.57	1.54	1.50	1.47	1.36	1.31	1.15	1.48	1.69	1.71	1.73

Sources:
The current year P/E ratio is based on the forward P/E (price over expected earnings per share). All historical year P/E ratios are based on annual average share price over achieved earnings per share.
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

Notes:

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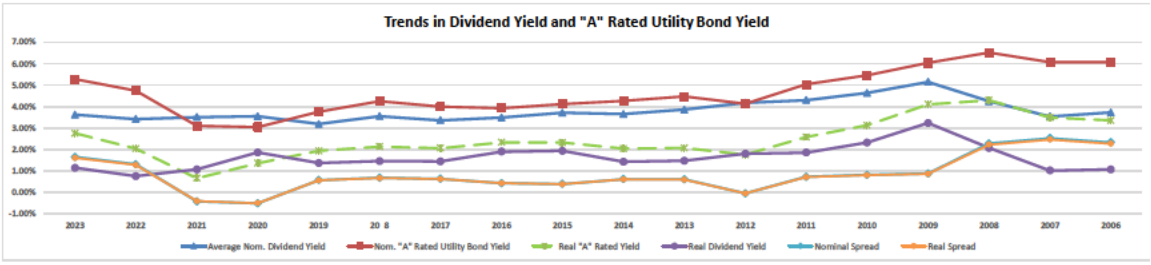
Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Dividend Yield[1] 18 Year Average (1)	2023 [2]e (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	ALLETE	3.99%	4.35%	4.47%	3.88%	4.03%	2.85%	2.99%	2.97%	3.56%	3.97%	3.92%	3.89%	4.49%	4.58%	5.03%	5.79%	4.37%	3.60%	3.16%
2	Alliant Energy	3.60%	3.42%	3.04%	2.97%	2.90%	2.88%	3.20%	3.07%	3.21%	3.60%	3.53%	3.74%	4.07%	4.28%	4.61%	5.73%	4.10%	3.13%	3.32%
3	Ameren Corp.	4.10%	2.94%	2.74%	2.74%	2.57%	2.59%	3.04%	3.12%	3.50%	3.96%	4.02%	4.61%	4.97%	5.28%	5.76%	5.98%	6.21%	4.88%	4.93%
4	American Electric Power	3.95%	3.73%	3.41%	3.61%	3.28%	3.10%	3.60%	3.42%	3.54%	3.80%	3.83%	4.23%	4.58%	4.96%	4.90%	5.50%	4.20%	3.40%	4.06%
5	Avangrid, Inc.	3.81%	4.28%	3.94%	3.53%	3.69%	3.52%	3.49%	3.79%	4.26%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	3.83%	4.37%	4.26%	3.94%	4.03%	3.48%	2.93%	3.14%	3.39%	3.97%	3.99%	4.51%	4.55%	4.54%	4.76%	4.49%	3.39%	2.68%	2.52%
7	Black Hills	3.71%	3.81%	3.44%	3.50%	3.42%	2.74%	3.31%	2.75%	2.87%	3.55%	2.84%	3.19%	4.39%	4.64%	4.79%	6.17%	4.21%	3.40%	3.79%
8	CenterPoint Energy	4.14%	2.62%	2.46%	2.77%	4.38%	2.98%	4.09%	4.79%	4.70%	5.06%	3.94%	3.57%	4.04%	4.27%	5.29%	6.37%	4.98%	3.87%	4.39%
9	CMS Energy Corp.	3.19%	3.20%	2.92%	2.92%	2.65%	2.64%	3.03%	2.88%	2.99%	3.36%	3.59%	3.76%	4.16%	4.25%	3.98%	3.97%	2.69%	1.16%	N/A
10	Consol. Edison	4.28%	3.45%	3.51%	4.10%	3.87%	3.44%	3.68%	3.40%	3.62%	4.12%	4.38%	4.25%	4.07%	4.46%	5.16%	5.99%	5.67%	4.84%	5.04%
11	Dominion Resources	4.03%	4.61%	3.66%	3.38%	4.31%	4.76%	4.72%	3.88%	3.82%	3.66%	3.43%	3.78%	4.06%	4.13%	4.41%	5.20%	3.77%	3.32%	3.60%
12	DTE Energy	3.94%	2.91%	3.17%	3.06%	3.57%	3.07%	3.34%	3.15%	3.34%	3.53%	3.54%	3.84%	4.19%	4.68%	4.75%	6.29%	5.24%	4.36%	4.86%
13	Duke Energy	4.59%	4.11%	3.98%	4.02%	4.35%	4.17%	4.54%	4.15%	4.26%	4.34%	4.26%	4.45%	4.68%	5.21%	5.71%	6.25%	5.16%	4.44%	N/A
14	Edison Int'l	3.36%	4.34%	4.45%	4.39%	4.29%	3.73%	3.84%	2.87%	2.81%	2.83%	2.62%	2.85%	2.97%	3.37%	3.66%	3.95%	2.69%	2.21%	2.58%
15	El Paso Electric	2.74%	N/A	N/A	N/A	N/A	N/A	2.55%	2.49%	2.75%	3.13%	2.97%	2.99%	2.97%	2.11%	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	4.02%	4.14%	3.70%	3.84%	3.55%	3.52%	4.41%	4.49%	4.55%	4.59%	4.47%	5.07%	4.91%	4.85%	4.20%	3.97%	2.92%	2.39%	2.82%
17	Eversource Energy	3.24%	3.39%	3.09%	2.85%	2.63%	2.81%	3.32%	3.14%	3.22%	3.34%	3.40%	3.48%	3.52%	3.23%	3.64%	4.16%	3.25%	2.60%	3.27%
18	Evergy, Inc.	3.80%	4.14%	3.66%	3.59%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	3.73%	3.45%	2.89%	3.17%	3.82%	3.06%	3.32%	3.51%	3.75%	3.88%	3.69%	4.69%	5.73%	4.96%	4.95%	4.26%	2.78%	2.48%	2.83%
20	FirstEnergy Corp.	4.30%	4.00%	3.71%	4.39%	4.17%	3.50%	5.17%	4.62%	4.31%	4.23%	4.26%	4.26%	4.90%	5.23%	5.76%	5.09%	3.21%	3.12%	3.40%
21	Fortis Inc.	3.70%	3.99%	3.82%	3.77%	3.66%	3.60%	4.07%	3.69%	3.80%	3.76%	3.88%	3.84%	3.64%	3.58%	3.80%	4.21%	3.76%	3.01%	2.79%
22	Great Plains Energy	4.52%	N/A	N/A	N/A	N/A	N/A	N/A	3.58%	3.64%	3.76%	3.62%	3.84%	4.08%	4.15%	4.49%	5.03%	6.96%	5.49%	5.60%
23	Hawaiian Elec.	4.37%	3.65%	3.59%	3.44%	3.40%	3.02%	3.54%	3.65%	3.99%	4.05%	4.76%	4.72%	4.70%	5.04%	5.51%	6.89%	5.00%	5.18%	4.59%
24	IDACORP, Inc.	3.15%	3.03%	2.86%	2.89%	2.92%	2.49%	2.61%	2.58%	2.77%	3.06%	3.12%	3.21%	3.28%	3.10%	3.44%	4.46%	3.95%	3.55%	3.39%
25	MGE Energy	3.00%	2.20%	2.15%	N/A	2.10%	1.94%	2.16%	1.95%	2.23%	2.78%	2.78%	2.91%	3.25%	3.63%	3.98%	4.36%	4.24%	4.14%	4.25%
26	NextEra Energy, Inc.	2.87%	2.40%	2.11%	1.90%	2.10%	2.41%	2.68%	2.79%	2.91%	3.01%	3.02%	3.30%	3.65%	3.96%	3.90%	N/A	N/A	N/A	N/A
27	NorthWestern Corp	4.12%	4.47%	4.51%	4.00%	4.02%	3.28%	3.86%	3.52%	3.43%	3.61%	3.30%	3.66%	4.17%	4.51%	4.93%	5.75%	5.38%	4.09%	3.65%
28	OGE Energy	3.82%	4.45%	4.30%	4.81%	4.68%	3.54%	3.98%	3.61%	3.87%	3.51%	2.63%	2.48%	2.94%	3.06%	3.68%	4.96%	4.52%	3.77%	3.99%
29	Otter Tail Corp.	3.85%	2.57%	2.44%	2.81%	3.45%	2.74%	2.92%	3.12%	3.87%	4.33%	4.14%	4.11%	5.21%	5.57%	5.68%	5.38%	3.63%	3.46%	3.92%
30	Pinnacle West Capital	4.51%	4.54%	4.90%	4.44%	3.97%	3.29%	3.55%	3.16%	3.46%	3.88%	4.09%	3.98%	5.32%	4.81%	5.43%	6.76%	6.17%	4.75%	4.67%
31	PNM Resources	3.14%	3.04%	3.04%	2.09%	2.80%	2.45%	2.79%	2.53%	2.69%	2.90%	2.79%	2.99%	2.96%	3.19%	4.09%	4.76%	4.85%	3.36%	3.21%
32	Portland General	3.68%	3.94%	3.63%	3.62%	3.47%	2.85%	3.27%	2.92%	3.06%	3.27%	3.34%	3.67%	4.11%	4.37%	5.20%	5.36%	4.28%	3.34%	2.54%
33	PPL Corp.	4.47%	3.39%	3.23%	5.83%	5.84%	5.24%	5.61%	4.24%	4.25%	4.55%	4.45%	4.81%	5.07%	5.10%	5.12%	4.51%	3.10%	2.69%	3.41%
34	Public Serv. Enterprise	3.74%	3.78%	3.37%	3.37%	3.64%	3.19%	3.49%	3.74%	3.78%	3.81%	3.52%	4.35%	4.55%	4.24%	4.30%	4.30%	3.26%	2.73%	3.47%
35	SCANA Corp.	4.37%	N/A	N/A	N/A	N/A	N/A	N/A	4.03%	3.29%	3.90%	4.05%	4.15%	4.25%	4.78%	4.93%	5.67%	4.52%	4.29%	4.21%
36	Sempra Energy	2.99%	3.15%	2.99%	3.39%	3.24%	2.88%	3.20%	2.92%	2.92%	2.71%	2.61%	3.03%	3.71%	3.65%	3.08%	3.23%	2.62%	2.08%	2.47%
37	Southern Co.	4.58%	4.17%	3.82%	4.17%	4.36%	4.41%	5.27%	4.63%	4.42%	4.78%	4.69%	4.61%	4.29%	4.63%	5.13%	5.52%	4.58%	4.39%	4.52%
38	Vectren Corp.	4.38%	N/A	N/A	N/A	N/A	N/A	N/A	2.79%	3.31%	3.60%	3.62%	4.15%	4.82%	5.06%	5.53%	5.85%	4.79%	4.53%	4.52%
39	WEC Energy Group	3.05%	3.37%	3.08%	3.00%	2.68%	2.81%	3.38%	3.31%	3.35%	3.49%	3.40%	3.49%	3.24%	3.35%	2.97%	3.16%	2.41%	2.14%	2.18%
40	Westar Energy	4.37%	N/A	N/A	N/A	N/A	N/A	N/A	3.00%	2.90%	3.73%	3.88%	4.27%	4.57%	4.84%	5.32%	6.27%	5.22%	4.16%	4.28%
41	Xcel Energy Inc.	3.67%	3.06%	2.90%	2.81%	2.58%	2.75%	3.25%	3.10%	3.33%	3.69%	3.83%	3.86%	3.90%	4.20%	4.54%	5.14%	4.70%	4.05%	4.40%
42	**Average**	**3.82%**	**3.82%**	**3.42%**	**3.62%**	**3.68%**	**3.19%**	**3.68%**	**3.38%**	**3.48%**	**3.72%**	**3.68%**	**3.88%**	**4.18%**	**4.30%**	**4.84%**	**5.18%**	**4.25%**	**3.64%**	**3.73%**
43	Median	3.67%	3.69%	3.43%	3.50%	3.57%	3.06%	3.36%	3.16%	3.45%	3.73%	3.69%	3.84%	4.17%	4.46%	4.78%	5.20%	4.24%	3.46%	3.65%
44	20-Yr Treasury Yields[3]	3.23%	3.89%	3.30%	1.98%	1.35%	2.40%	3.02%	2.65%	2.23%	2.55%	3.07%	3.12%	2.54%	3.62%	4.03%	4.11%	4.36%	4.91%	4.99%
45	20-Yr TIPS[3]	1.05%	1.41%	0.64%	-0.43%	-0.30%	0.60%	0.94%	0.75%	0.66%	0.78%	0.87%	0.75%	0.21%	1.19%	1.73%	2.21%	2.19%	2.36%	2.31%
46	Implied Inflation[b]	2.16%	2.45%	2.64%	2.42%	1.66%	1.79%	2.06%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
47	**Real Dividend Yield[c]**	**1.63%**	**1.16%**	**0.77%**	**1.07%**	**1.88%**	**1.37%**	**1.47%**	**1.44%**	**1.81%**	**1.94%**	**1.43%**	**1.48%**	**1.81%**	**1.88%**	**2.33%**	**3.24%**	**2.07%**	**1.02%**	**1.08%**
	A Rated Utility																			
48	**Nominal "A" Rated Yield[4]**	**4.69%**	**5.28%**	**4.74%**	**3.10%**	**3.06%**	**3.77%**	**4.25%**	**4.00%**	**3.83%**	**4.12%**	**4.28%**	**4.48%**	**4.13%**	**5.04%**	**5.48%**	**6.04%**	**6.63%**	**6.07%**	**6.07%**
49	**Real "A" Rated Yield**	**2.47%**	**2.76%**	**2.06%**	**0.67%**	**1.37%**	**1.94%**	**2.14%**	**2.07%**	**2.34%**	**2.33%**	**2.04%**	**2.08%**	**1.78%**	**2.68%**	**3.13%**	**4.11%**	**4.81%**	**3.49%**	**3.36%**
	Baa Rated Utility																			
50	**Nominal "Baa" Rated Yield**	**6.19%**	**6.68%**	**6.05%**	**3.86%**	**3.44%**	**4.19%**	**4.67%**	**4.38%**	**4.67%**	**5.03%**	**4.80%**	**4.98%**	**4.83%**	**5.67%**	**5.98%**	**7.06%**	**7.25%**	**8.33%**	**8.32%**
51	**Real "Baa" Rated Yield**	**2.97%**	**3.07%**	**2.36%**	**0.91%**	**1.74%**	**2.38%**	**2.66%**	**2.44%**	**3.07%**	**3.22%**	**2.66%**	**2.67%**	**2.44%**	**3.09%**	**3.82%**	**5.11%**	**6.01%**	**3.74%**	**3.60%**
	Spreads (A Rated Utility Bond Stock)																			
52	**Nominal Spread[d]**	**0.88%**	**1.86%**	**1.32%**	**0.41%**	**0.50%**	**0.58%**	**0.89%**	**0.84%**	**0.44%**	**0.40%**	**0.82%**	**0.81%**	**0.06%**	**0.74%**	**0.82%**	**0.88%**	**2.28%**	**2.63%**	**2.34%**
53	**Real Spread[e]**	**0.86%**	**1.82%**	**1.28%**	**0.40%**	**0.49%**	**0.67%**	**0.88%**	**0.82%**	**0.43%**	**0.39%**	**0.81%**	**0.80%**	**0.06%**	**0.72%**	**0.80%**	**0.87%**	**2.23%**	**2.47%**	**2.28%**
	Spreads (Baa Rated Utility Bond Stock)																			
54	**Nominal Spread[b]**	**1.37%**	**1.87%**	**1.83%**	**0.16%**	**0.12%**	**1.00%**	**1.11%**	**1.01%**	**1.18%**	**1.31%**	**1.14%**	**1.12%**	**0.66%**	**1.26%**	**1.32%**	**1.80%**	**3.00%**	**2.78%**	**2.68%**
55	**Real Spread[c]**	**1.34%**	**1.82%**	**1.68%**	**0.16%**	**0.12%**	**0.88%**	**1.09%**	**1.00%**	**1.18%**	**1.29%**	**1.12%**	**1.08%**	**0.83%**	**1.23%**	**1.29%**	**1.87%**	**2.93%**	**2.72%**	**2.62%**
	Spreads (Treasury Bond Stock)																			
56	**Nominal[f]**	**0.69%**	**0.27%**	**0.12%**	**1.64%**	**2.20%**	**0.79%**	**0.64%**	**0.71%**	**1.27%**	**1.17%**	**0.68%**	**0.74%**	**1.63%**	**0.68%**	**0.61%**	**1.06%**	**0.11%**	**1.37%**	**1.28%**
57	**Real[g]**	**0.68%**	**0.28%**	**0.12%**	**1.60%**	**2.17%**	**0.77%**	**0.63%**	**0.70%**	**1.26%**	**1.16%**	**0.67%**	**0.73%**	**1.60%**	**0.67%**	**0.60%**	**1.03%**	**0.11%**	**1.33%**	**1.23%**



Sources

[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

[3] St. Louis Federal Reserve Economic Research, http://research.stlouisfed.org.
www.moodys.com, Bond Yields and Key Indicators, through June 9, 2023.

Notes

[4] Based on the average of the high and low price and the projected Dividends Declared per share, published in the Value Line Investment Survey.

[b] Line 47 (1 + Line 45) / (1 + Line 46) - 1.

[c] Line 48 (1 + Line 43) / (1 +Line 47) - 1.

[d] The spread being measured here is the nominal A-rated utility bond yield over the average nominal utility dividend yield; (Line 49 - Line 43).

[e] The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; Line 50 - Line 48)

[f] The spread being measured here is the nominal 20-Year Treasury yield over the average nominal util ty dividend yield; (Line 45 - Line 43).

[g] The spread being measured here is the real 20-Year TIPS yield over the average real utility dividend yield; Line 48 - Line 46)

Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

		Dividend per Share[1]																		
Line	Company	17-Year Average	2023[2]	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	ALLETE	2.05	2.71	2.60	2.52	2.47	2.35	2.24	2.14	2.08	2.02	1.96	1.90	1.84	1.78	1.76	1.76	1.72	1.64	1.45
2	Alliant Energy	1.12	1.81	1.71	1.61	1.52	1.42	1.34	1.26	1.18	1.10	1.02	0.94	0.90	0.85	0.79	0.75	0.70	0.64	0.58
3	Ameren Corp.	1.95	2.52	2.36	2.20	2.00	1.92	1.85	1.78	1.72	1.66	1.61	1.60	1.60	1.56	1.54	1.54	2.54	2.54	2.54
4	American Electric Power	2.23	3.35	3.17	3.00	2.84	2.71	2.53	2.39	2.27	2.15	2.03	1.95	1.88	1.85	1.71	1.64	1.64	1.58	1.50
5	Avangrid, Inc.	1.75	1.76	1.76	1.76	1.76	1.76	1.74	1.73	1.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.25	1.84	1.76	1.69	1.62	1.55	1.49	1.43	1.37	1.32	1.27	1.22	1.16	1.10	1.00	0.81	0.69	0.60	0.57
7	Black Hills	1.75	2.53	2.41	2.29	2.17	2.05	1.93	1.81	1.68	1.62	1.56	1.52	1.48	1.46	1.44	1.42	1.40	1.37	1.32
8	CenterPoint Energy	0.85	0.77	0.72	0.66	0.90	0.86	1.12	1.35	1.03	0.99	0.95	0.83	0.81	0.79	0.78	0.76	0.73	0.68	0.60
9	CMS Energy Corp.	1.15	1.95	1.84	1.74	1.63	1.53	1.43	1.33	1.24	1.16	1.08	1.02	0.96	0.84	0.66	0.50	0.36	0.20	N/A
10	Consol. Edison	2.66	3.24	3.16	3.10	3.06	2.96	2.86	2.76	2.68	2.60	2.52	2.46	2.42	2.40	2.38	2.36	2.34	2.32	2.30
11	Dominion Resources	2.42	2.67	2.67	2.52	3.45	3.67	3.34	3.04	2.80	2.59	2.40	2.25	2.11	1.97	1.83	1.75	1.58	1.46	1.38
12	DTE Energy	2.93	3.81	3.54	3.88	4.12	3.85	3.59	3.36	3.06	2.84	2.69	2.59	2.42	2.32	2.18	2.12	2.12	2.12	2.08
13	Duke Energy	3.32	4.06	3.98	3.90	3.82	3.75	3.64	3.49	3.36	3.24	3.15	3.09	3.03	2.97	2.91	2.82	2.70	2.58	N/A
14	Edison Int'l	1.85	2.95	2.84	2.69	2.58	2.48	2.43	2.23	1.98	1.73	1.48	1.37	1.31	1.29	1.27	1.25	1.23	1.18	1.10
15	El Paso Electric	1.11	N/A	N/A	N/A	N/A	N/A	1.42	1.32	1.23	1.17	1.11	1.05	0.97	0.66	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	3.38	4.30	4.10	3.86	3.74	3.66	3.58	3.50	3.42	3.34	3.32	3.32	3.32	3.32	3.24	3.00	3.00	2.58	2.16
17	Eversource Energy	1.62	2.70	2.55	2.41	2.27	2.14	2.02	1.90	1.78	1.67	1.57	1.47	1.32	1.10	1.03	0.95	0.83	0.78	0.73
18	Evergy, Inc.	2.35	2.53	2.33	2.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	1.62	1.44	1.35	1.53	1.53	1.45	1.38	1.31	1.26	1.24	1.24	1.46	2.10	2.10	2.10	2.10	2.05	1.82	1.64
20	FirstEnergy Corp.	1.78	1.62	1.56	1.56	1.56	1.53	1.82	1.44	1.44	1.44	1.44	1.65	2.20	2.20	2.20	2.20	2.20	2.05	1.85
21	Fortis Inc.	1.46	2.29	2.17	2.08	1.97	1.86	1.75	1.65	1.55	1.43	1.30	1.25	1.21	1.17	1.12	1.04	1.00	0.82	0.67
22	Great Plains Energy	1.11	N/A	N/A	N/A	N/A	N/A	N/A	1.10	1.06	1.00	0.94	0.88	0.86	0.84	0.83	0.83	1.66	1.66	1.66
23	Hawaiian Elec.	1.27	1.44	1.40	1.36	1.32	1.28	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
24	IDACORP, Inc.	1.94	3.20	3.04	2.88	2.72	2.56	2.40	2.24	2.08	1.92	1.76	1.57	1.37	1.20	1.20	1.20	1.20	1.20	1.20
25	MGE Energy	1.18	1.63	1.59	N/A	1.45	1.38	1.32	1.26	1.21	1.16	1.11	1.07	1.04	1.01	0.99	0.97	0.96	0.94	0.93
26	NextEra Energy, Inc.	0.90	1.87	1.70	1.54	1.40	1.25	1.11	0.98	0.87	0.77	0.73	0.66	0.60	0.55	0.50	0.47	0.45	0.41	0.38
27	NorthWestern Corp	1.84	2.56	2.52	2.48	2.40	2.30	2.20	2.10	2.00	1.92	1.60	1.52	1.48	1.44	1.36	1.34	1.32	1.28	1.24
28	OGE Energy	1.10	1.66	1.64	1.63	1.58	1.51	1.40	1.27	1.16	1.05	0.95	0.85	0.80	0.76	0.73	0.71	0.70	0.68	0.67
29	Otter Tail Corp.	1.31	1.75	1.65	1.56	1.48	1.40	1.34	1.28	1.25	1.23	1.21	1.19	1.19	1.19	1.19	1.19	1.19	1.17	1.15
30	Pinnacle West Capital	2.60	3.48	3.42	3.36	3.23	3.04	2.87	2.70	2.56	2.44	2.33	2.23	2.67	2.10	2.10	2.10	2.10	2.10	2.03
31	PNM Resources	0.89	1.49	1.41	0.98	1.25	1.18	1.09	0.99	0.88	0.80	0.76	0.68	0.58	0.50	0.50	0.50	0.61	0.91	0.86
32	Portland General	1.26	1.88	1.79	1.70	1.59	1.52	1.43	1.34	1.26	1.18	1.12	1.10	1.08	1.06	1.04	1.01	0.97	0.93	0.68
33	PPL Corp.	1.41	0.96	0.88	1.66	1.66	1.65	1.64	1.58	1.52	1.50	1.49	1.47	1.44	1.40	1.40	1.38	1.34	1.22	1.10
34	Public Serv. Enterprise	1.61	2.28	2.16	2.04	1.96	1.88	1.80	1.72	1.64	1.56	1.48	1.44	1.42	1.37	1.37	1.33	1.29	1.17	1.14
35	SCANA Corp.	2.00	N/A	N/A	N/A	N/A	N/A	N/A	2.45	2.30	2.18	2.10	2.03	1.98	1.94	1.90	1.88	1.84	1.76	1.68
36	Sempra Energy	2.83	4.76	4.58	4.40	4.18	3.87	3.58	3.29	3.02	2.80	2.64	2.52	2.40	1.92	1.56	1.56	1.37	1.24	1.20
37	Southern Co.	2.13	2.78	2.70	2.62	2.54	2.46	2.38	2.30	2.22	2.15	2.08	2.01	1.94	1.87	1.80	1.73	1.66	1.60	1.54
38	Vectren Corp.	1.42	N/A	N/A	N/A	N/A	N/A	N/A	1.71	1.62	1.54	1.46	1.43	1.41	1.39	1.37	1.35	1.31	1.27	1.23
39	WEC Energy Group	1.66	3.12	2.91	2.71	2.53	2.36	2.21	2.08	1.98	1.74	1.56	1.45	1.20	1.04	0.80	0.68	0.54	0.50	0.46
40	Westar Energy	1.30	N/A	N/A	N/A	N/A	N/A	N/A	1.60	1.52	1.44	1.40	1.36	1.32	1.28	1.24	1.20	1.16	1.08	0.98
41	Xcel Energy Inc.	1.33	2.08	1.95	1.83	1.72	1.62	1.52	1.44	1.36	1.28	1.20	1.11	1.07	1.03	1.00	0.97	0.94	0.91	0.88
42	**Average**	**1.76**	**2.44**	**2.33**	**2.28**	**2.23**	**2.14**	**2.03**	**1.90**	**1.79**	**1.70**	**1.61**	**1.56**	**1.54**	**1.46**	**1.42**	**1.38**	**1.39**	**1.32**	**1.24**
43	**Industry Average Growth**	**4.07%**	**4.61%**	**2.08%**	**2.47%**	**4.36%**	**5.29%**	**6.91%**	**5.99%**	**5.44%**	**5.35%**	**3.49%**	**1.01%**	**5.77%**	**2.46%**	**3.13%**	**-0.48%**	**4.89%**	**6.45%**	

Sources:

[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
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[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Earnings per Share[1] 17-Year Average (1)	2023[2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	ALLETE	2.97	3.70	3.38	3.23	3.35	3.33	3.38	3.13	3.14	3.38	2.90	2.63	2.58	2.65	2.19	1.89	2.82	3.08	2.77
2	Alliant Energy	1.82	2.85	2.73	2.63	2.47	2.33	2.19	1.99	1.65	1.69	1.74	1.65	1.53	1.38	1.38	0.95	1.27	1.35	1.03
3	Ameren Corp.	2.99	4.35	4.14	3.84	3.50	3.35	3.32	2.77	2.68	2.38	2.40	2.10	2.41	2.47	2.77	2.78	2.88	2.98	2.66
4	American Electric Power	3.68	5.35	5.09	4.96	4.42	4.08	3.90	3.62	4.23	3.59	3.34	3.18	2.98	3.13	2.60	2.97	2.99	2.86	2.86
5	Avangrid, Inc.	1.88	2.10	2.32	1.97	1.88	2.26	1.92	1.67	1.98	0.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.83	2.30	2.12	2.10	1.90	2.97	2.07	1.95	2.15	1.89	1.84	1.85	1.32	1.72	1.65	1.58	1.36	0.72	1.47
7	Black Hills	2.70	3.75	3.97	3.74	3.73	3.53	3.47	3.38	2.63	2.83	2.89	2.61	1.97	1.01	1.66	2.32	0.18	2.68	2.21
8	CenterPoint Energy	1.25	1.65	1.59	0.94	1.29	1.49	0.74	1.57	1.00	1.08	1.42	1.24	1.35	1.27	1.07	1.01	1.30	1.17	1.33
9	CMS Energy Corp.	1.83	3.05	2.84	2.58	2.64	2.39	2.32	2.17	1.98	1.89	1.74	1.66	1.53	1.45	1.33	0.93	1.23	0.64	0.64
10	Consol. Edison	3.90	4.85	4.55	4.74	3.94	4.08	4.55	4.10	3.94	4.05	3.62	3.93	3.86	3.57	3.47	3.14	3.36	3.48	2.95
11	Dominion Resources	2.97	4.00	4.11	3.19	1.82	2.19	3.25	3.53	3.44	3.20	3.05	3.09	2.75	2.76	2.89	2.64	3.04	2.13	2.40
12	DTE Energy	4.53	6.20	5.52	4.10	7.08	6.31	6.17	5.73	4.83	4.44	5.10	3.76	3.88	3.67	3.74	3.24	2.73	2.66	2.45
13	Duke Energy	4.10	5.65	5.27	4.93	3.92	5.07	4.13	4.22	3.71	4.10	4.13	3.98	3.71	4.14	4.02	3.39	3.03	3.60	2.73
14	Edison Int'l	3.23	4.70	1.60	2.00	1.72	3.98	-1.26	4.51	3.94	4.15	4.33	3.78	4.55	3.23	3.35	3.24	3.68	3.32	3.28
15	El Paso Electric	2.02	N/A	N/A	N/A	N/A	N/A	2.07	2.42	2.39	2.03	2.27	2.20	2.26	2.48	2.07	1.50	1.73	1.63	1.27
16	Entergy Corp.	6.08	5.85	5.37	6.87	6.90	6.30	5.88	5.19	6.88	5.81	5.77	4.96	6.02	7.55	6.66	6.30	6.20	5.60	5.36
17	Eversource Energy	2.70	4.35	4.09	3.54	3.55	3.45	3.25	3.11	2.96	2.76	2.58	2.49	1.89	2.22	2.10	1.91	1.86	1.59	0.82
18	Evergy, Inc.	3.58	3.65	3.26	3.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	2.84	2.40	2.26	1.74	2.60	3.01	2.07	2.78	1.80	2.54	2.10	2.31	1.92	3.75	3.87	4.29	4.10	4.03	3.50
20	FirstEnergy Corp.	2.57	2.55	2.41	2.69	1.85	1.84	1.33	2.73	2.10	2.00	0.85	2.97	2.13	1.88	3.25	3.32	4.38	4.22	3.82
21	Fortis Inc.	2.02	2.90	2.78	2.61	2.60	2.68	2.52	2.66	1.89	2.11	1.38	1.63	1.65	1.74	1.62	1.51	1.52	1.29	1.36
22	Great Plains Energy	1.33	N/A	N/A	N/A	N/A	N/A	N/A	-0.06	1.61	1.37	1.57	1.62	1.35	1.25	1.53	1.03	1.16	1.85	1.62
23	Hawaiian Elec.	1.66	2.30	2.20	2.25	1.81	1.99	1.85	1.64	2.29	1.50	1.64	1.62	1.67	1.44	1.21	0.91	1.07	1.11	1.33
24	IDACORP, Inc.	3.73	5.10	5.11	4.85	4.69	4.61	4.49	4.21	3.94	3.87	3.85	3.64	3.37	3.36	2.95	2.64	2.18	1.86	2.35
25	MGE Energy	2.12	3.35	3.07	N/A	2.60	2.51	2.43	2.20	2.18	2.06	2.32	2.16	1.86	1.76	1.67	1.47	1.59	1.51	1.37
26	NextEra Energy, Inc.	1.55	3.15	2.90	1.81	2.10	1.94	1.67	1.63	1.45	1.52	1.40	1.21	1.14	1.21	1.19	0.99	1.02	0.82	0.81
27	NorthWestern Corp	2.72	3.45	3.29	3.60	3.06	3.53	3.40	3.34	3.39	2.90	2.99	2.46	2.26	2.53	2.14	2.02	1.77	1.44	1.31
28	OGE Energy	1.80	2.00	2.25	2.36	2.08	2.24	2.12	1.92	1.69	1.69	1.98	1.94	1.79	1.73	1.50	1.33	1.25	1.32	1.23
29	Otter Tail Corp.	2.08	4.75	6.78	4.23	2.34	2.17	2.06	1.86	1.60	1.56	1.55	1.37	1.05	0.45	0.38	0.71	1.09	1.78	1.69
30	Pinnacle West Capital	3.76	4.15	4.26	5.47	4.87	4.77	4.54	4.43	3.95	3.92	3.58	3.66	3.50	2.99	3.08	2.26	2.12	2.96	3.17
31	PNM Resources	1.57	2.70	2.69	2.27	2.15	2.28	1.66	1.92	1.65	1.64	1.45	1.41	1.31	1.08	0.87	0.58	0.11	0.76	1.72
32	Portland General	2.04	2.70	2.74	2.72	1.72	2.39	2.37	2.29	2.16	2.04	2.18	1.77	1.87	1.95	1.66	1.31	1.39	2.33	1.14
33	PPL Corp.	2.15	1.60	1.41	0.53	2.04	2.37	2.58	2.11	2.79	2.37	2.38	2.38	2.61	2.61	2.29	1.19	2.45	2.63	2.29
34	Public Serv. Enterprise	2.96	3.55	3.47	2.55	3.61	3.90	2.76	2.82	2.83	3.30	2.99	2.45	2.44	3.11	3.07	3.08	2.90	2.59	1.85
35	SCANA Corp.	3.30	N/A	N/A	N/A	N/A	N/A	N/A	4.20	4.16	3.81	3.79	3.39	3.15	2.97	2.98	2.85	2.95	2.74	2.59
36	Sempra Energy	5.21	9.00	9.21	4.01	6.58	5.97	5.48	4.63	4.24	5.23	4.63	4.22	4.35	4.47	4.02	4.78	4.43	4.26	4.23
37	Southern Co.	2.83	3.65	3.61	3.42	3.25	3.17	3.00	3.21	2.83	2.84	2.77	2.70	2.67	2.55	2.36	2.32	2.25	2.28	2.10
38	Vectren Corp.	1.94	N/A	N/A	N/A	N/A	N/A	N/A	2.60	2.55	2.39	2.02	1.66	1.94	1.73	1.64	1.79	1.63	1.83	1.44
39	WEC Energy Group	2.76	4.60	4.46	4.11	3.79	3.58	3.34	3.14	2.96	2.34	2.59	2.51	2.35	2.18	1.92	1.60	1.52	1.42	1.32
40	Westar Energy	1.96	N/A	N/A	N/A	N/A	N/A	N/A	2.27	2.43	2.09	2.35	2.27	2.15	1.79	1.80	1.28	1.31	1.84	1.88
41	Xcel Energy Inc.	2.15	3.35	3.17	2.96	2.79	2.64	2.47	2.30	2.21	2.10	2.03	1.91	1.85	1.72	1.56	1.49	1.46	1.35	1.35
42	**Average**	**2.74**	**3.77**	**3.61**	**3.24**	**3.16**	**3.28**	**2.87**	**2.90**	**2.81**	**2.68**	**2.65**	**2.52**	**2.44**	**2.43**	**2.35**	**2.17**	**2.19**	**2.25**	**2.09**
43	**Industry Average Growth**	**3.61%**	**4.29%**	**11.50%**	**2.47%**	**-3.54%**	**14.00%**	**-0.78%**	**3.26%**	**4.58%**	**1.09%**	**5.23%**	**3.58%**	**0.03%**	**3.76%**	**8.23%**	**-0.89%**	**-2.75%**	**7.36%**	

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Cash Flow / Capital Spending[1] 2019 (1)	2020 (2)	2021 (3)	2022 (4)	2023 (5)	2024[2] (6)	3 - 5 yr[2] Projection (7)
1	ALLETE	0.63x	0.74x	0.80x	2.26x	1.42x	1.47x	1.31x
2	Alliant Energy	0.73x	0 82x	0.97x	0.94x	0.95x	0.99x	1.19x
3	Ameren Corp.	0.79x	0 51x	0.59x	0.72x	0.74x	0.80x	0.94x
4	American Electric Power	0.75x	0.74x	0.69x	0.73x	0.72x	0.82x	1.05x
5	Avangrid, Inc.	0.70x	0 56x	0.62x	0.61x	0.57x	0.59x	0.66x
6	Avista Corp.	0.89x	0 85x	0.87x	0.83x	0.78x	0.84x	1.01x
7	Black Hills	0.51x	0.72x	0.76x	0.85x	0.82x	0.85x	1.05x
8	CenterPoint Energy	0.83x	0 88x	0.62x	0.62x	0.57x	0.57x	0.53x
9	CMS Energy Corp.	0.79x	0 82x	0.77x	0.78x	0.92x	0.86x	0.92x
10	Consol. Edison	0.79x	0 82x	0.89x	0.83x	0.72x	0.82x	0.87x
11	Dominion Resources	0.81x	1 00x	0.89x	0.74x	0.63x	0.64x	0.92x
12	DTE Energy	0.83x	0 67x	0.70x	0.75x	0.82x	0.83x	0.92x
13	Duke Energy	0.78x	0 86x	0.93x	0.81x	0.79x	0.77x	0.87x
14	Edison Int'l	0.69x	0 67x	0.74x	0.67x	0.75x	0.77x	0.83x
15	El Paso Electric	0.96x	1 00x	0.83x	N/A	N/A	N/A	N/A
16	Entergy Corp.	0.79x	0 81x	1.05x	0.98x	0.85x	0.91x	0.96x
17	Eversource Energy	0.78x	0 95x	0.74x	0.72x	0.86x	0.93x	1.08x
18	Evergy, Inc.	1.34x	1 06x	0.96x	0.94x	0.86x	0.89x	0.97x
19	Exelon Corp.	1.18x	1 30x	1.32x	0.96x	0.99x	1.03x	1.07x
20	FirstEnergy Corp.	0.74x	0 96x	0.91x	0.86x	0.80x	0.81x	0.88x
21	Fortis Inc.	0.68x	0 60x	0.74x	0.75x	0.82x	0.80x	0.91x
22	Hawaiian Elec.	1.12x	1.10x	1.42x	1.30x	1.51x	1.49x	1.48x
23	IDACORP, Inc.	1.25x	1 25x	1.16x	0.83x	0.63x	0.58x	0.97x
24	MGE Energy	0.97x	0.73x	0.87x	N/A	1.26x	1.56x	1.33x
25	NextEra Energy, Inc.	0.67x	0 58x	0.69x	0.54x	0.59x	0.63x	0.74x
26	NorthWestern Corp	1.07x	0 98x	0.82x	0.66x	0.75x	0.96x	1.28x
27	OGE Energy	1.26x	1.43x	1.13x	0.99x	0.97x	0.98x	1.32x
28	Otter Tail Corp.	0.80x	0.45x	1.42x	1.45x	1.08x	0.99x	0.96x
29	Pinnacle West Capital	0.98x	0 98x	0.85x	0.78x	0.95x	0.92x	1.03x
30	PNM Resources	0.72x	0 59x	0.51x	0.63x	0.63x	0.75x	0.91x
31	Portland General	0.99x	0.75x	0.97x	1.01x	0.58x	0.82x	0.99x
32	PPL Corp.	0.92x	1 06x	1.12x	1.35x	0.98x	0.90x	0.93x
33	Public Serv. Enterprise	1.07x	1 00x	1.05x	0.82x	0.87x	0.92x	1.07x
34	Sempra Energy	0.66x	0 92x	0.78x	0.92x	0.96x	1.02x	1.27x
35	Southern Co.	0.88x	1 01x	0.93x	0.97x	0.97x	1.02x	1.23x
36	WEC Energy Group	0.91x	0.70x	0.75x	0.87x	0.92x	0.97x	1.15x
37	Xcel Energy Inc.	0.69x	0 99x	0.86x	0.80x	0.92x	0.94x	1.05x
38	Average	0.86x	0 86x	0.88x	0.89x	0.86x	0.90x	1.02x
39	Median	0.80x	0 85x	0.86x	0.83x	0.84x	0.87x	0.98x

Source:
[1] Data for the years 2019 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.
Notes:
Based on the projected Cash Flow per share and Capital Spending per share.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

		Percent Dividends to Book Value [1]																		
Line	Company	18-Year Average (1)	2023 [2/a] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	ALLETE	5.90%	5.52%	5.52%	5.56%	5.61%	5.44%	5.35%	5.29%	5.45%	5.45%	5.59%	5.86%	6.04%	6.18%	6.46%	6.67%	6.78%	6.80%	6.62%
2	Alliant Energy	6.39%	6.82%	6.84%	6.73%	6.68%	6.68%	6.90%	7.32%	6.96%	6.70%	6.56%	6.36%	6.37%	6.26%	6.06%	5.98%	5.48%	5.23%	5.04%
3	Ameren Corp.	6.03%	6.27%	5.88%	5.84%	5.67%	5.87%	5.92%	6.01%	5.86%	5.78%	5.82%	5.93%	5.87%	4.76%	4.79%	4.66%	7.74%	7.84%	7.97%
4	American Electric Power	6.31%	6.37%	6.80%	6.74%	6.86%	6.82%	6.56%	6.43%	6.42%	5.90%	5.91%	5.91%	5.99%	6.10%	6.04%	5.97%	6.23%	6.28%	6.32%
5	Avangrid, Inc.	3.15%	3.49%	3.51%	3.57%	3.58%	3.57%	3.57%	3.54%	3.53%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	5.06%	5.65%	5.65%	5.61%	5.53%	5.37%	5.52%	5.41%	5.33%	5.38%	5.33%	5.65%	5.51%	5.42%	5.07%	4.23%	3.77%	3.44%	3.26%
7	Black Hills	5.33%	5.34%	5.32%	5.32%	5.32%	5.34%	5.31%	5.67%	5.55%	5.66%	5.06%	5.17%	5.31%	5.30%	5.14%	5.10%	5.15%	5.34%	5.58%
8	CenterPoint Energy	9.29%	4.57%	4.90%	4.82%	8.35%	6.59%	8.94%	12.39%	12.82%	12.30%	8.96%	8.23%	8.05%	7.97%	10.36%	11.28%	12.40%	12.12%	12.09%
9	CMS Energy Corp.	6.70%	7.74%	7.89%	7.87%	8.57%	8.66%	8.52%	8.43%	8.14%	8.16%	8.10%	7.86%	7.94%	7.05%	5.90%	4.38%	3.31%	2.11%	0.00%
10	Consol. Edison	5.99%	5.52%	5.42%	5.48%	5.56%	5.46%	5.49%	5.55%	5.72%	5.84%	5.87%	5.88%	5.97%	6.15%	6.27%	6.47%	6.60%	7.12%	7.40%
11	Dominion Resources	10.12%	8.10%	8.54%	8.00%	11.72%	10.39%	11.31%	11.41%	12.04%	12.20%	12.16%	11.24%	11.50%	9.81%	8.86%	9.38%	9.14%	8.95%	7.46%
12	DTE Energy	6.26%	7.20%	7.64%	8.64%	6.43%	6.34%	6.38%	6.34%	6.09%	5.81%	5.72%	5.79%	5.66%	5.60%	5.49%	5.59%	5.76%	5.91%	6.28%
13	Duke Energy	5.47%	6.29%	6.47%	6.34%	6.39%	6.12%	6.04%	5.85%	5.73%	5.61%	5.45%	5.28%	5.22%	5.81%	5.72%	5.66%	5.45%	5.12%	0.00%
14	Edison Int'l	5.63%	7.97%	9.24%	7.36%	6.96%	6.73%	7.56%	6.23%	5.39%	4.97%	4.41%	4.48%	4.54%	4.16%	3.90%	4.12%	4.19%	4.53%	4.65%
15	El Paso Electric	2.94%	N/A	N/A	N/A	5.13%	N/A	4.94%	4.67%	4.62%	4.63%	4.53%	4.46%	4.72%	3.47%	0.00%	0.00%	0.00%	0.00%	0.00%
16	Entergy Corp.	6.72%	6.80%	6.68%	6.72%	6.85%	7.13%	7.65%	7.90%	7.58%	6.44%	5.95%	6.15%	6.42%	6.53%	6.82%	6.59%	7.13%	6.34%	5.34%
17	Eversource Energy	5.04%	5.82%	5.74%	5.69%	5.54%	5.59%	5.57%	5.43%	5.27%	5.12%	4.99%	4.82%	4.49%	4.86%	4.75%	4.66%	4.26%	4.16%	4.00%
18	Evergy, Inc.	5.56%	5.93%	5.57%	5.41%	5.32%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	7.03%	5.71%	5.42%	4.36%	4.62%	4.38%	4.34%	4.23%	4.51%	4.42%	4.72%	5.49%	8.38%	9.68%	10.25%	10.96%	12.21%	11.87%	11.02%
20	FirstEnergy Corp.	8.78%	8.62%	8.78%	10.26%	11.70%	11.86%	13.82%	16.34%	10.21%	4.91%	4.88%	5.44%	7.03%	6.93%	7.85%	7.84%	8.10%	6.96%	6.54%
21	Fortis Inc.	5.42%	5.83%	5.95%	5.59%	5.39%	5.08%	5.03%	5.19%	4.80%	5.00%	5.22%	5.58%	5.81%	5.70%	5.91%	5.60%	5.55%	4.90%	5.47%
22	Great Plains Energy	5.31%	N/A	N/A	N/A	N/A	N/A	N/A	4.78%	4.27%	4.21%	4.02%	3.91%	3.93%	3.84%	3.90%	4.03%	7.76%	9.13%	9.94%
23	Hawaiian Elec.	7.18%	6.64%	6.96%	6.22%	6.17%	6.12%	6.24%	6.43%	6.51%	6.91%	7.10%	7.27%	7.62%	7.77%	7.91%	7.96%	8.08%	8.11%	9.22%
24	IDACORP, Inc.	4.69%	5.53%	5.48%	5.45%	5.36%	5.24%	5.11%	5.02%	4.87%	4.70%	4.53%	4.26%	3.91%	3.62%	3.87%	4.11%	4.32%	4.48%	4.66%
25	MGE Energy	6.11%	5.35%	5.32%	N/A	5.22%	5.59%	5.60%	5.61%	5.79%	5.82%	5.84%	6.01%	6.22%	6.36%	6.56%	6.72%	6.87%	7.24%	7.77%
26	NextEra Energy, Inc.	6.72%	8.42%	8.61%	8.13%	7.51%	6.61%	6.22%	6.55%	6.69%	6.29%	6.49%	6.36%	6.34%	6.12%	5.82%	5.99%	6.30%	6.22%	6.21%
27	NorthWestern Corp	5.81%	5.39%	5.65%	5.73%	5.84%	5.69%	5.70%	5.76%	5.77%	5.78%	5.08%	5.71%	5.90%	6.08%	6.01%	6.13%	6.21%	6.06%	6.00%
28	OGE Energy	6.86%	7.46%	7.47%	8.04%	8.71%	7.28%	6.96%	6.59%	6.70%	6.30%	5.84%	5.56%	5.70%	5.81%	6.24%	6.79%	6.89%	7.47%	7.61%
29	Otter Tail Corp.	7.03%	5.87%	5.61%	6.54%	7.05%	7.19%	7.29%	7.27%	7.34%	7.70%	7.86%	8.07%	8.25%	7.52%	6.77%	6.33%	6.22%	6.67%	6.90%
30	Pinnacle West Capital	6.21%	6.44%	6.40%	6.43%	6.47%	6.29%	6.16%	6.03%	5.93%	5.91%	5.89%	5.84%	7.38%	6.00%	6.20%	6.42%	6.15%	5.98%	5.87%
31	PNM Resources	4.02%	5.59%	5.52%	3.88%	5.23%	5.59%	5.12%	4.67%	4.18%	3.85%	3.37%	3.26%	2.89%	2.55%	2.84%	2.65%	3.20%	4.13%	3.89%
32	Portland General	4.90%	5.71%	5.75%	5.61%	5.45%	5.24%	5.09%	4.94%	4.78%	4.64%	4.56%	4.70%	4.70%	4.78%	4.90%	4.93%	4.48%	4.42%	3.45%
33	PPL Corp.	8.50%	4.92%	4.66%	8.89%	9.55%	9.74%	10.13%	10.18%	10.44%	10.19%	7.28%	7.43%	8.00%	7.48%	8.24%	9.47%	9.89%	8.20%	8.27%
34	Public Serv. Enterprise	7.00%	7.93%	7.82%	7.12%	6.18%	6.28%	6.31%	6.27%	6.31%	6.03%	6.14%	6.28%	6.66%	6.75%	7.20%	7.66%	8.40%	8.15%	8.54%
35	SCANA Corp.	6.44%	N/A	N/A		N/A	N/A	N/A	6.67%	5.74%	5.72%	6.01%	6.14%	6.29%	6.48%	6.54%	6.80%	7.12%	6.94%	6.89%
36	Sempra Energy	5.34%	5.56%	5.49%	5.56%	5.96%	6.39%	6.59%	6.53%	5.83%	5.89%	5.74%	5.60%	5.66%	4.68%	4.16%	4.27%	4.18%	3.89%	4.19%
37	Southern Co.	9.58%	9.93%	9.67%	9.96%	9.59%	9.42%	9.95%	9.59%	8.89%	9.53%	9.48%	9.39%	9.22%	9.22%	9.38%	9.55%	9.74%	9.83%	10.07%
38	Vectren Corp.	7.71%	N/A	N/A	N/A	N/A	N/A	N/A	7.67%	7.60%	7.57%	7.51%	7.55%	7.57%	7.74%	7.78%	7.84%	7.85%	7.86%	7.97%
39	WEC Energy Group	6.42%	8.35%	7.92%	7.83%	7.62%	7.36%	7.12%	6.94%	7.00%	6.35%	7.96%	7.71%	6.65%	6.05%	4.92%	4.42%	3.78%	3.77%	3.72%
40	Westar Energy	5.71%	N/A	N/A	N/A	N/A	N/A	N/A	5.82%	5.66%	5.57%	5.60%	5.70%	5.77%	5.81%	5.84%	5.83%	5.75%	5.64%	5.56%
41	Xcel Energy Inc.	6.19%	6.58%	6.43%	6.38%	6.34%	6.42%	6.39%	6.38%	6.26%	6.13%	5.94%	5.78%	5.88%	5.91%	5.97%	6.09%	6.13%	6.19%	6.16%
42	Average	6.34%	6.42%	6.46%	6.50%	6.65%	6.57%	6.69%	6.73%	6.46%	6.13%	6.09%	6.11%	6.29%	6.11%	6.07%	6.13%	6.37%	6.29%	6.10%
43	Median	6.09%	6.10%	5.92%	6.34%	6.18%	6.29%	6.23%	6.25%	5.85%	5.82%	5.84%	5.84%	5.99%	6.08%	6.01%	5.99%	6.22%	6.22%	6.21%

Sources:

[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

[a] Based on the projected 2022 Dividend Declared per share and Book Value per share,
published in The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Dividends to Earnings Ratio [1] 18-Year Average	2023 [2/a]	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	ALLETE	0.70	0.73	0.77	0.78	0.74	0.71	0.66	0.68	0.66	0.60	0.68	0.72	0.71	0.67	0.80	0.93	0.61	0.53	0.52
2	Alliant Energy	0.61	0.64	0.63	0.61	0.62	0.61	0.61	0.63	0.72	0.65	0.59	0.57	0.59	0.62	0.57	0.79	0.55	0.47	0.56
3	Ameren Corp.	0.66	0.58	0.57	0.57	0.57	0.57	0.56	0.64	0.64	0.70	0.67	0.76	0.66	0.63	0.56	0.55	0.88	0.85	0.95
4	American Electric Power	0.60	0.63	0.62	0.60	0.64	0.66	0.65	0.66	0.54	0.60	0.61	0.61	0.63	0.59	0.66	0.55	0.55	0.55	0.52
5	Avangrid, Inc.	0.88	0.84	0.76	0.89	0.94	0.78	0.91	1.03	0.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	0.68	0.80	0.83	0.80	0.85	0.52	0.72	0.73	0.64	0.70	0.69	0.66	0.88	0.64	0.61	0.51	0.51	0.83	0.39
7	Black Hills	1.06	0.67	0.61	0.61	0.58	0.58	0.56	0.54	0.64	0.57	0.54	0.58	0.75	1.45	0.87	0.61	7.78	0.51	0.60
8	CenterPoint Energy	0.71	0.47	0.45	0.70	0.70	0.58	1.51	0.86	1.03	0.92	0.67	0.67	0.60	0.62	0.73	0.75	0.56	0.58	0.45
9	CMS Energy Corp.	0.57	0.64	0.65	0.67	0.62	0.64	0.62	0.61	0.63	0.61	0.62	0.61	0.63	0.58	0.50	0.54	0.29	0.31	N/A
10	Consol. Edison	0.69	0.67	0.69	0.65	0.78	0.73	0.63	0.67	0.68	0.64	0.70	0.63	0.63	0.67	0.69	0.75	0.70	0.67	0.78
11	Dominion Resources	0.85	0.67	0.65	0.79	1.90	1.68	1.03	0.86	0.81	0.81	0.79	0.73	0.77	0.71	0.63	0.66	0.52	0.69	0.58
12	DTE Energy	0.66	0.61	0.64	0.95	0.58	0.61	0.58	0.59	0.63	0.64	0.53	0.69	0.62	0.63	0.58	0.65	0.78	0.80	0.85
13	Duke Energy	0.80	0.72	0.76	0.79	0.97	0.74	0.88	0.83	0.91	0.79	0.76	0.78	0.82	0.72	0.72	0.83	0.89	0.72	N/A
14	Edison Int'l	0.47	0.63	1.78	1.35	1.50	0.62	- 1.93	0.50	0.50	0.42	0.34	0.36	0.29	0.40	0.38	0.38	0.33	0.35	0.34
15	El Paso Electric	0.50	N/A	N/A	N/A	N/A	N/A	0.68	0.54	0.51	0.57	0.49	0.48	0.43	0.27	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	0.56	0.74	0.76	0.56	0.54	0.58	0.61	0.67	0.50	0.57	0.58	0.67	0.55	0.44	0.49	0.48	0.48	0.46	0.40
17	Eversource Energy	0.60	0.62	0.62	0.68	0.64	0.62	0.62	0.61	0.60	0.61	0.61	0.59	0.70	0.50	0.49	0.50	0.44	0.49	0.88
18	Evergy, Inc.	0.66	0.69	0.71	0.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	0.60	0.60	0.60	0.88	0.59	0.48	0.67	0.47	0.70	0.49	0.59	0.63	1.09	0.56	0.54	0.49	0.50	0.45	0.47
20	FirstEnergy Corp.	0.78	0.64	0.65	0.58	0.84	0.83	1.37	0.53	0.69	0.72	1.69	0.56	1.03	1.17	0.68	0.66	0.50	0.49	0.48
21	Fortis Inc.	0.72	0.79	0.78	0.80	0.76	0.69	0.69	0.62	0.82	0.68	0.94	0.77	0.73	0.67	0.69	0.69	0.66	0.64	0.49
22	Great Plains Energy	- 0.82	N/A	N/A	N/A	N/A	N/A	N/A	-18.33	0.66	0.73	0.60	0.54	0.63	0.67	0.54	0.81	1.43	0.90	1.02
23	Hawaiian Elec.	0.82	0.63	0.64	0.60	0.73	0.64	0.67	0.76	0.54	0.83	0.76	0.77	0.74	0.86	1.02	1.36	1.16	1.12	0.93
24	IDACORP, Inc.	0.51	0.63	0.59	0.59	0.58	0.56	0.53	0.53	0.53	0.50	0.46	0.43	0.41	0.36	0.41	0.45	0.55	0.65	0.51
25	MGE Energy	0.57	0.49	0.52	N/A	0.56	0.55	0.54	0.57	0.56	0.56	0.48	0.50	0.56	0.57	0.60	0.66	0.60	0.62	0.68
26	NextEra Energy, Inc.	0.56	0.59	0.59	0.85	0.67	0.64	0.66	0.60	0.60	0.51	0.52	0.55	0.53	0.45	0.42	0.47	0.44	0.50	0.47
27	NorthWestern Corp	0.69	0.74	0.77	0.69	0.78	0.65	0.65	0.63	0.59	0.66	0.54	0.62	0.65	0.57	0.64	0.66	0.75	0.89	0.95
28	OGE Energy	0.60	0.83	0.73	0.69	0.76	0.67	0.66	0.66	0.68	0.62	0.48	0.44	0.45	0.44	0.49	0.54	0.56	0.52	0.55
29	Otter Tail Corp.	0.99	0.37	0.24	0.37	0.63	0.65	0.65	0.69	0.78	0.79	0.78	0.87	1.13	2.64	3.13	1.68	1.09	0.66	0.68
30	Pinnacle West Capital	0.71	0.84	0.80	0.61	0.66	0.64	0.63	0.61	0.65	0.62	0.65	0.61	0.76	0.70	0.68	0.93	0.99	0.71	0.64
31	PNM Resources	0.85	0.55	0.52	0.43	0.58	0.52	0.65	0.52	0.53	0.49	0.52	0.48	0.44	0.46	0.57	0.86	5.50	1.20	0.50
32	Portland General	0.62	0.70	0.65	0.63	0.92	0.64	0.60	0.59	0.58	0.58	0.51	0.62	0.57	0.54	0.62	0.77	0.70	0.40	0.59
33	PPL Corp.	0.78	0.60	0.62	3.13	0.81	0.70	0.64	0.75	0.54	0.63	0.63	0.62	0.55	0.54	0.61	1.16	0.55	0.46	0.48
34	Public Serv. Enterprise	0.55	0.64	0.62	0.80	0.54	0.48	0.65	0.61	0.58	0.47	0.49	0.59	0.58	0.44	0.45	0.43	0.44	0.45	0.62
35	SCANA Corp.	0.61	N/A	N/A		N/A	N/A	N/A	0.58	0.55	0.57	0.55	0.60	0.63	0.65	0.64	0.66	0.62	0.64	0.65
36	Sempra Energy	0.54	0.53	0.50	1.10	0.64	0.65	0.65	0.71	0.71	0.54	0.57	0.60	0.55	0.43	0.39	0.33	0.31	0.29	0.28
37	Southern Co.	0.75	0.76	0.75	0.77	0.78	0.78	0.79	0.72	0.79	0.76	0.75	0.75	0.73	0.73	0.76	0.75	0.74	0.70	0.73
38	Vectren Corp.	0.75	N/A	N/A	N/A	N/A	N/A	N/A	0.66	0.64	0.64	0.72	0.86	0.72	0.80	0.84	0.75	0.80	0.69	0.85
39	WEC Energy Group	0.56	0.68	0.65	0.66	0.67	0.66	0.66	0.66	0.67	0.74	0.60	0.58	0.51	0.48	0.42	0.42	0.36	0.35	0.35
40	Westar Energy	0.68	N/A	N/A	N/A	N/A	N/A	N/A	0.70	0.63	0.69	0.60	0.60	0.61	0.72	0.69	0.94	0.89	0.59	0.52
41	Xcel Energy Inc.	0.62	0.62	0.62	0.62	0.62	0.61	0.62	0.63	0.62	0.61	0.59	0.58	0.58	0.60	0.64	0.65	0.64	0.67	0.65
42	Average	0.65	0.65	0.68	0.78	0.75	0.66	0.64	0.18	0.65	0.64	0.64	0.62	0.65	0.67	0.68	0.70	0.96	0.62	0.61
43	Median	0.63	0.64	0.64	0.68	0.67	0.64	0.65	0.63	0.64	0.62	0.60	0.61	0.63	0.62	0.62	0.66	0.61	0.60	0.57

Sources:

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[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

Note:

[b] Based on the projected 2022 Dividends Declared per share and Earnings per share,
published in The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	18-Year Average (1)	2023 [2/a] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
		Cash Flow to Capital Spending Ratio [1]																		
1	ALLETE	0.91	1.42	2.12	0.55	0.55	0.63	1.22	1.61	1.32	1.16	0.45	0.67	0.49	0.77	0.63	0.39	0.46	0.65	1.23
2	Alliant Energy	0.82	0.95	0.91	0.95	N/A	N/A	N/A	0.49	N/A	0.81	0.91	1.01	0.57	0.91	0.67	0.39	0.57	1.04	1.27
3	Ameren Corp.	0.86	0.74	0.71	0.62	0.62	0.79	0.80	0.75	0.75	0.75	0.75	0.89	1.07	1.31	1.36	0.81	0.66	0.97	1.21
4	American Electric Power	0.86	0.72	0.81	0.81	0.81	0.75	0.68	0.67	0.85	0.85	0.87	0.91	1.07	1.19	1.24	1.02	0.70	0.77	0.75
5	Avangrid, Inc.	0.70	0.57	0.79	0.56	0.56	0.62	0.85	0.57	0.86	0.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	0.88	0.78	0.73	0.88	0.88	0.92	0.78	0.77	0.84	0.76	0.80	0.86	0.80	0.90	0.99	1.15	0.97	0.73	1.36
7	Black Hills	0.67	0.82	0.86	0.61	0.61	0.53	0.87	1.17	0.71	0.64	0.70	0.74	0.71	0.40	0.41	0.61	0.35	0.76	0.55
8	CenterPoint Energy	0.98	0.57	0.52	0.73	0.73	0.83	0.98	1.22	1.12	0.92	1.20	1.18	1.37	1.12	0.88	0.99	1.16	0.98	1.08
9	CMS Energy Corp.	0.87	0.92	0.82	0.78	0.78	0.79	0.77	0.89	0.81	0.81	0.74	0.82	0.82	1.05	1.13	0.97	1.11	0.55	1.07
10	Consol. Edison	0.82	0.72	0.88	0.83	0.83	0.87	0.82	0.76	0.65	0.76	0.88	0.86	1.01	0.98	0.90	0.75	0.70	0.81	0.74
11	Dominion Resources	0.78	0.63	0.86	0.73	0.73	0.96	1.04	0.81	0.65	0.64	0.63	0.77	0.73	0.79	0.87	0.75	0.83	0.74	0.85
12	DTE Energy	1.27	6.00	0.86	0.74	0.74	0.83	0.84	0.94	0.93	0.84	1.02	0.96	0.93	1.09	1.51	1.50	0.98	1.07	1.03
13	Duke Energy	0.89	0.79	0.87	0.85	0.85	0.80	0.81	0.87	0.82	0.96	1.20	1.09	0.87	0.89	0.78	0.77	0.71	1.09	0.97
14	Edison Int'l	0.74	0.75	0.62	0.55	0.55	0.68	0.34	0.94	0.91	0.80	0.83	0.80	0.76	0.61	0.60	0.79	0.93	0.88	0.93
15	El Paso Electric	0.87	N/A	N/A	0.83	N/A	N/A	0.86	1.04	0.85	0.67	0.69	0.79	0.85	1.03	0.98	0.68	0.78	0.84	1.26
16	Entergy Corp.	0.95	0.85	0.62	0.74	0.74	0.79	0.73	0.76	1.08	1.05	1.19	1.03	0.88	1.15	1.24	1.02	0.93	1.14	1.13
17	Eversource Energy	0.85	0.86	0.89	0.80	0.80	0.75	0.83	0.79	0.87	0.91	0.90	1.13	0.86	0.80	1.05	0.96	0.77	0.68	0.67
18	Evergy, Inc.	0.89	0.86	0.78	1.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	1.21	0.99	0.84	1.09	1.09	1.20	1.05	1.06	0.76	0.82	0.93	1.07	0.98	1.19	1.66	1.66	1.61	1.84	1.86
20	FirstEnergy Corp.	1.00	0.80	0.98	0.83	0.83	0.80	0.76	1.03	0.94	0.93	0.54	0.91	0.85	1.05	1.32	1.22	0.95	1.56	1.75
21	Fortis Inc.	0.69	0.82	0.89	0.65	0.65	0.68	0.72	0.76	0.76	0.65	0.60	0.77	0.72	0.66	0.68	0.63	0.66	0.57	0.63
22	Great Plains Energy	0.79	N/A	N/A		N/A	N/A	N/A	0.78	1.17	0.90	0.79	0.91	0.86	1.03	0.86	0.50	0.35	0.69	0.64
23	Hawaiian Elec.	1.14	1.51	1.56	1.27	1.27	1.08	0.85	0.81	1.37	0.98	1.03	0.92	0.99	1.30	1.50	0.79	0.87	1.15	1.23
24	IDACORP, Inc.	1.09	0.63	1.00	1.33	1.33	1.46	1.42	1.33	1.16	1.15	1.21	1.34	1.24	0.86	0.78	0.96	0.82	0.64	0.89
25	MGE Energy	1.10	1.26	1.12	0.82	0.82	0.97	0.66	1.19	1.44	1.60	1.31	0.96	1.05	1.56	1.57	1.13	0.87	0.59	0.80
26	NextEra Energy, Inc.	0.61	0.59	0.55	0.58	0.58	0.67	0.56	0.53	0.63	0.71	0.77	0.68	0.39	0.58	0.69	0.60	0.63	0.56	0.73
27	NorthWestern Corp	1.00	0.75	0.75	0.84	0.84	1.13	1.23	1.21	1.13	1.01	0.93	0.92	0.88	1.04	0.76	0.88	1.27	1.23	1.29
28	OGE Energy	0.91	0.97	0.87	1.24	1.24	1.27	1.30	0.81	1.00	1.18	1.19	0.69	0.63	0.51	0.69	0.61	0.60	0.79	0.84
29	Otter Tail Corp.	0.92	1.08	2.13	0.48	0.48	0.80	1.49	1.10	0.84	0.74	0.70	0.67	0.85	1.16	1.09	0.56	0.37	0.65	1.44
30	Pinnacle West Capital	0.95	0.95	0.89	0.91	0.91	1.03	1.06	0.76	0.81	0.92	0.97	0.87	0.96	0.91	0.97	1.06	0.86	0.99	1.28
31	PNM Resources	0.70	0.63	0.63	0.72	0.72	0.78	0.82	0.84	0.57	0.57	0.63	0.80	0.87	0.77	0.82	0.70	0.44	0.43	0.89
32	Portland General	0.83	0.58	0.86	0.78	0.78	1.03	1.00	1.07	0.88	0.80	0.47	0.59	1.28	1.25	0.81	0.44	0.77	0.72	0.78
33	PPL Corp.	0.97	0.98	1.05	0.90	0.90	0.98	0.93	0.82	1.00	0.72	0.75	0.69	0.91	1.07	1.11	1.07	1.25	1.13	1.18
34	Public Serv. Enterprise	1.10	0.87	1.05	1.13	1.13	1.08	0.70	0.64	0.61	0.80	1.04	0.93	0.96	1.30	1.23	1.41	1.34	1.64	1.94
35	SCANA Corp.	0.86	N/A	N/A		N/A	N/A	N/A	0.86	0.66	0.83	0.90	0.83	0.77	0.88	0.86	0.76	0.76	0.92	1.26
36	Sempra Energy	0.82	0.96	0.92	0.77	0.77	0.88	0.80	0.67	0.56	0.81	0.74	0.84	0.73	0.72	0.90	1.02	0.87	0.90	0.93
37	Southern Co.	0.90	0.97	0.97	0.99	0.99	0.88	0.83	0.90	0.77	0.88	0.80	0.86	0.93	0.94	0.93	0.78	0.87	0.91	1.00
38	Vectren Corp.	1.00	N/A	N/A		N/A	N/A	N/A	0.82	0.87	0.95	0.98	1.05	1.13	1.20	1.31	0.83	0.82	0.98	1.00
39	WEC Energy Group	0.98	0.92	1.09	0.97	0.97	0.91	0.90	0.92	1.20	0.97	1.37	1.42	1.30	1.02	0.97	0.89	0.61	0.56	0.69
40	Westar Energy	0.72	N/A	N/A		N/A	N/A	N/A	0.91	0.63	0.86	0.70	0.72	0.67	0.71	0.88	0.68	0.36	0.48	1.00
41	Xcel Energy Inc.	0.77	0.92	0.93	0.66	0.66	0.78	0.77	0.84	0.79	0.63	0.68	0.60	0.76	0.83	0.76	0.89	0.75	0.71	0.90
42	Average	0.90	1.00	0.94	0.83	0.82	0.88	0.89	0.89	0.89	0.87	0.87	0.89	0.88	0.96	0.98	0.86	0.80	0.88	1.05
43	Median	0.84	0.85	0.87	0.81	0.79	0.83	0.83	0.84	0.85	0.83	0.83	0.86	0.87	0.98	0.90	0.81	0.78	0.81	1.00

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.
Notes:
[c] Based on the projected Cash Flow per share and Capital Spending per share
published in The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

Price to Earnings (P/E) Ratio [1]

Line	Company	18-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	Atmos Energy	17.53	18.90	19.30	18.80	22.30	23.20	21.70	22.00	20.80	17.50	16.10	15.90	15.90	14.40	13.20	12.50	13.60	15.90	13.52
2	Chesapeake Utilities	19.59	25.40	25.80	25.60	21.60	24.70	22.90	27.80	22.30	19.10	17.70	15.60	14.80	14.20	12.20	14.20	14.20	16.70	17.85
3	New Jersey Resources	17.39	19.40	17.00	17.50	17.70	24.30	15.60	22.40	21.30	16.60	11.70	16.00	16.80	16.80	15.00	14.90	12.30	21.60	16.13
4	NiSource Inc.	22.14	18.10	19.60	18.00	18.70	21.30	19.30	64.40	23.20	37.30	22.70	18.90	17.90	19.40	15.30	14.30	12.10	18.80	19.16
5	Northwest Nat. Gas	20.70	16.70	19.60	19.50	25.00	30.90	26.60	NMF	26.90	23.70	20.70	19.40	21.10	19.00	17.00	15.20	18.10	16.70	15.85
6	ONE Gas Inc.	21.19	19.20	19.90	18.90	21.70	25.30	23.10	23.50	22.70	19.80	17.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	18.60	N/A	N/A	15.10	14.89	28.28	22.64	27.92	21.70	17.95	18.03	18.90	16.94	18.48	16.81	14.96	15.90	17.18	11.86
8	Southwest Gas	17.53	17.70	NMF	14.30	16.80	21.30	20.60	22.20	21.60	19.40	17.90	15.80	15.00	15.70	14.00	12.20	20.30	17.30	15.94
9	Spire Inc.	18.41	15.90	17.50	13.60	51.10	22.80	16.70	19.80	19.60	16.50	19.80	21.30	14.50	13.00	13.70	13.40	14.30	14.20	13.60
10	UGI Corp.	15.37	9.70	14.10	13.90	13.80	23.40	17.80	20.80	19.30	17.70	15.80	15.40	16.40	15.00	10.90	10.30	13.30	15.10	13.97
11	WGL Holdings Inc.	16.71	N/A	N/A	N/A	N/A	N/A	N/A	25.40	20.05	16.99	15.15	18.25	15.27	16.97	15.11	12.58	13.66	15.60	15.46
12	Average	18.58	17.89	19.10	17.52	22.36	24.55	20.69	27.62	21.77	20.23	17.58	17.54	16.46	16.30	14.32	13.45	14.78	16.91	15.33
13	Median	17.78	18.10	19.45	17.75	20.15	23.85	21.15	22.95	21.60	17.95	17.80	17.12	16.15	16.25	14.50	13.80	13.93	16.70	15.66

Market Price to Cash Flow (MP/CF) Ratio [1]

Line	Company	18-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
14	Atmos Energy	9.33	11.36	11.87	10.99	13.11	13.35	12.02	11.99	11.36	9.30	8.79	7.72	7.02	6.87	6.15	5.76	6.48	7.44	6.36
15	Chesapeake Utilities	10.59	13.59	14.21	14.20	12.31	14.17	12.24	13.78	12.06	10.16	9.25	8.12	7.46	7.35	6.36	9.48	7.88	8.58	9.40
16	New Jersey Resources	12.00	12.39	11.55	11.56	11.10	15.98	11.44	14.45	13.94	11.71	8.95	11.29	12.29	12.71	11.32	11.34	9.15	13.76	11.01
17	NiSource Inc.	7.88	7.73	8.13	7.89	7.83	8.81	8.91	12.11	8.56	10.38	10.56	8.71	7.81	6.81	5.09	4.06	4.87	6.69	6.87
18	Northwest Nat. Gas	12.18	7.89	8.76	8.57	10.10	13.13	11.75	59.72	11.57	9.46	8.84	8.61	9.48	9.08	8.94	8.26	8.75	8.54	7.83
19	ONE Gas Inc.	10.35	8.44	9.91	9.32	10.85	12.75	11.85	11.89	11.10	9.19	8.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	South Jersey Inds.	10.57	N/A	N/A	9.26	7.54	12.38	10.72	12.33	10.88	10.70	10.57	11.57	10.95	11.98	10.78	9.57	10.38	11.23	8.32
21	Southwest Gas	7.15	5.83	19.83	6.87	7.05	8.92	9.32	9.10	7.41	6.56	6.35	5.94	5.55	5.60	4.91	3.84	4.89	5.42	5.28
22	Spire Inc.	9.60	7.56	8.34	7.55	14.01	11.27	9.60	10.39	10.32	8.47	12.03	13.76	8.80	8.08	8.12	8.58	8.95	8.46	8.46
23	UGI Corp.	7.91	6.60	7.20	9.56	7.39	12.95	9.01	10.09	9.02	8.47	7.49	6.55	6.30	7.51	6.02	5.74	7.11	7.92	7.48
24	WGL Holdings Inc.	9.17	N/A	N/A	N/A	N/A	N/A	N/A	12.92	11.36	9.59	8.46	9.83	9.03	9.52	8.34	7.17	7.68	8.39	7.81
25	Average	9.65	9.04	11.09	9.58	10.13	12.37	10.69	16.25	10.69	9.45	9.04	9.21	8.47	8.55	7.60	7.38	7.62	8.64	7.88
26	Median	8.75	7.89	9.91	9.29	10.47	12.85	11.08	12.11	11.10	9.46	8.84	8.66	8.31	7.80	7.24	7.71	7.78	8.42	7.82

Market Price to Book Value (MP/BV) Ratio [1]

Line	Company	18-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
27	Atmos Energy	1.59	1.62	1.65	1.59	1.95	2.10	2.03	2.16	2.11	1.72	1.55	1.39	1.28	1.30	1.18	1.05	1.20	1.40	1.34
28	Chesapeake Utilities	2.07	2.42	2.69	2.77	2.27	2.69	2.50	2.51	2.28	2.19	2.12	1.83	1.66	1.61	1.40	1.37	1.64	1.84	1.85
29	New Jersey Resources	2.27	2.35	2.35	2.26	1.90	2.75	2.63	2.70	2.52	2.28	2.13	2.05	2.33	2.31	2.09	2.16	1.92	2.17	2.01
30	NiSource Inc.	1.57	1.95	2.15	1.86	1.95	2.09	1.92	1.96	1.84	1.95	1.94	1.58	1.37	1.15	0.92	0.69	0.94	1.16	1.19
31	Northwest Nat. Gas	1.85	1.39	1.51	1.45	1.98	2.38	2.35	2.41	1.92	1.63	1.59	1.56	1.72	1.70	1.78	1.73	1.96	2.05	1.69
32	ONE Gas Inc.	1.69	1.50	1.73	1.57	1.90	2.20	1.93	1.89	1.67	1.26	1.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
33	South Jersey Inds.	2.05	N/A	N/A	1.54	1.52	2.06	2.11	2.29	1.79	1.77	2.07	2.27	2.21	2.59	2.38	1.95	2.08	2.21	1.93
34	Southwest Gas	1.55	1.22	1.62	1.32	1.49	1.84	1.79	2.13	1.96	1.68	1.68	1.61	1.51	1.43	1.24	0.97	1.20	1.46	1.46
35	Spire Inc.	1.56	1.32	1.43	1.47	1.67	1.78	1.63	1.65	1.64	1.44	1.33	1.34	1.51	1.46	1.39	1.68	1.71	1.66	1.71
36	UGI Corp.	1.99	1.47	1.39	1.64	1.87	2.92	2.30	2.62	2.41	2.29	1.97	1.69	1.45	1.75	1.55	1.66	2.01	2.16	2.21
37	WGL Holdings Inc.	1.81	N/A	N/A	N/A	N/A	N/A	N/A	2.69	2.45	2.15	1.69	1.71	1.66	1.63	1.50	1.45	1.59	1.64	1.59
38	Average	1.81	1.69	1.83	1.75	1.85	2.28	2.12	2.27	2.05	1.85	1.74	1.70	1.67	1.69	1.54	1.47	1.62	1.78	1.70
39	Median	1.68	1.50	1.65	1.58	1.90	2.15	2.07	2.29	1.96	1.77	1.69	1.65	1.58	1.62	1.45	1.56	1.67	1.75	1.70

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, May 26, 2023.
Notes:
[a] Based on the average of the high and low price for year and the projected Cash Flow per share, published in The Value Line Investment Survey.
[b] Based on the average of the high and low price for the year and the projected Book Value per share, published in The Value Line Investment Survey.

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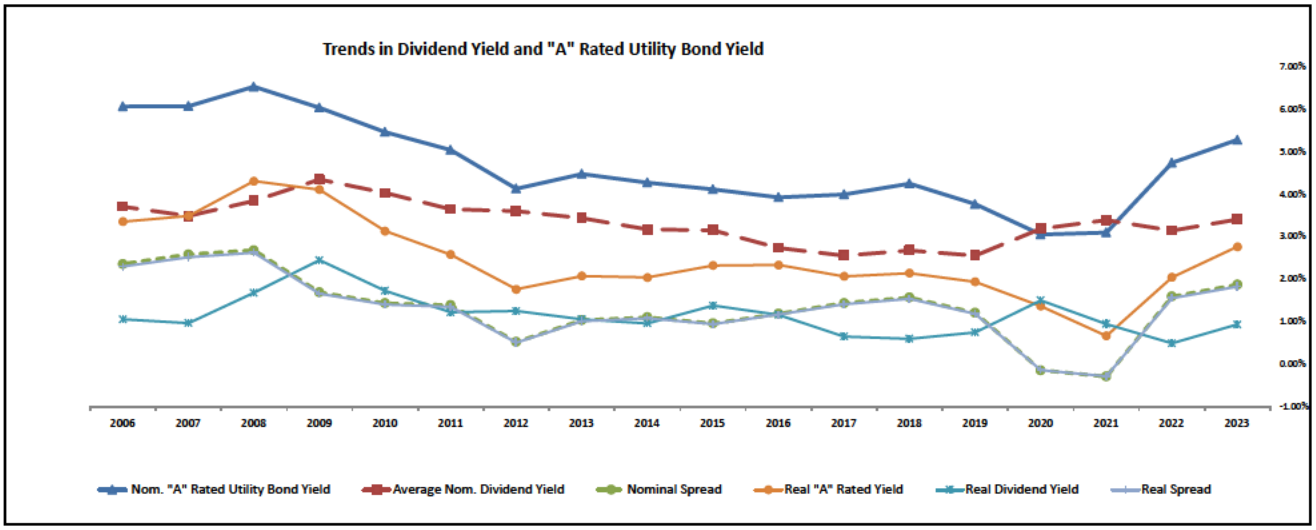
Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

Line	Company	18 Year Average (1)	2023 [2]* (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
									Dividend Yield[1]											
1	Atmos Energy	3.35%	2.61%	2.46%	2.63%	2.19%	2.08%	2.23%	2.27%	2.39%	2.88%	3.11%	3.53%	4.13%	4.19%	4.70%	5.34%	4.78%	4.16%	4.66%
2	Chesapeake Utilities	2.63%	1.83%	1.61%	1.50%	1.86%	1.68%	1.76%	1.69%	1.91%	2.18%	2.44%	2.87%	3.25%	3.36%	3.91%	4.09%	4.10%	3.62%	3.76%
3	New Jersey Resources	3.20%	3.00%	3.25%	3.50%	3.47%	2.50%	2.61%	2.69%	2.86%	3.14%	3.50%	3.71%	3.38%	3.33%	3.69%	3.46%	3.35%	3.02%	3.19%
4	NiSource Inc.	3.94%	3.64%	3.33%	3.60%	3.41%	2.86%	3.10%	2.79%	2.76%	3.53%	2.69%	3.30%	3.84%	4.53%	5.66%	7.64%	5.69%	4.29%	4.21%
5	Northwest Nat. Gas	3.60%	4.02%	3.86%	3.90%	3.33%	2.81%	3.05%	3.02%	3.28%	4.01%	4.14%	4.22%	3.83%	3.85%	3.63%	3.73%	3.27%	3.12%	3.73%
6	ONE Gas Inc.	2.67%	3.30%	3.08%	3.21%	2.70%	2.25%	2.46%	2.37%	2.32%	2.71%	2.28%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	3.48%	N/A	N/A	4.88%	4.76%	3.66%	3.62%	3.20%	3.64%	3.95%	3.40%	3.14%	3.22%	2.81%	3.00%	3.43%	3.08%	2.81%	3.15%
8	Southwest Gas	3.00%	4.07%	3.20%	3.65%	3.28%	2.60%	2.74%	2.46%	2.62%	2.87%	2.72%	2.69%	2.75%	2.78%	3.15%	4.01%	3.19%	2.56%	2.60%
9	Spire Inc.	3.80%	4.07%	3.89%	3.79%	3.38%	2.95%	3.10%	3.09%	3.08%	3.53%	3.78%	3.96%	4.11%	4.31%	4.70%	3.91%	3.94%	4.43%	4.34%
10	UGI Corp.	2.97%	4.12%	3.61%	3.25%	3.56%	2.16%	2.09%	2.01%	2.35%	2.50%	2.61%	3.01%	3.68%	3.30%	3.48%	3.23%	2.85%	2.69%	2.96%
11	WGL Holdings Inc.	3.91%	N/A	N/A	N/A	N/A	N/A	N/A	2.56%	2.94%	3.41%	4.24%	3.94%	3.89%	4.06%	4.37%	4.62%	4.22%	4.19%	4.48%
12	**Average**	**3.34%**	**3.41%**	**3.14%**	**3.39%**	**3.19%**	**2.56%**	**2.68%**	**2.56%**	**2.74%**	**3.16%**	**3.17%**	**3.44%**	**3.61%**	**3.65%**	**4.03%**	**4.35%**	**3.85%**	**3.49%**	**3.71%**
13	Median	3.39%	3.64%	3.25%	3.55%	3.35%	2.55%	2.68%	2.56%	2.76%	3.14%	3.11%	3.42%	3.75%	3.60%	3.80%	3.96%	3.65%	3.37%	3.75%
14	20-Yr Treasury Yields[3]	3.23%	3.89%	3.30%	1.98%	1.35%	2.40%	3.02%	2.65%	2.23%	2.55%	3.07%	3.12%	2.54%	3.62%	4.03%	4.11%	4.36%	4.91%	4.99%
15	20-Yr TIPS[3]	1.05%	1.41%	0.64%	-0.43%	-0.30%	0.60%	0.94%	0.75%	0.66%	0.78%	0.87%	0.75%	0.21%	1.19%	1.73%	2.21%	2.19%	2.36%	2.31%
16	Implied Inflation[b]	2.16%	2.45%	2.64%	2.42%	1.66%	1.79%	2.06%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
17	**Real Dividend Yield[c]**	**1.16%**	**0.94%**	**0.49%**	**0.95%**	**1.51%**	**0.75%**	**0.60%**	**0.65%**	**1.17%**	**1.38%**	**0.96%**	**1.06%**	**1.25%**	**1.22%**	**1.73%**	**2.45%**	**1.68%**	**0.97%**	**1.06%**
	Utility																			
18	**Nominal "A" Rated Yield[4]**	**4.69%**	**5.28%**	**4.74%**	**3.10%**	**3.05%**	**3.77%**	**4.25%**	**4.00%**	**3.93%**	**4.12%**	**4.28%**	**4.48%**	**4.13%**	**5.04%**	**5.46%**	**6.04%**	**6.53%**	**6.07%**	**6.07%**
19	**Real "A" Rated Yield**	**2.47%**	**2.76%**	**2.05%**	**0.67%**	**1.37%**	**1.94%**	**2.14%**	**2.07%**	**2.34%**	**2.33%**	**2.04%**	**2.08%**	**1.76%**	**2.58%**	**3.13%**	**4.11%**	**4.31%**	**3.49%**	**3.36%**
	Spreads (Utility Bond Stock)																			
20	**Nominal[e]**	**1.35%**	**1.87%**	**1.60%**	**0.29%**	**0.14%**	**1.21%**	**1.57%**	**1.44%**	**1.19%**	**0.96%**	**1.11%**	**1.04%**	**0.52%**	**1.39%**	**1.43%**	**1.69%**	**2.68%**	**2.59%**	**2.36%**
21	**Real[g]**	**1.32%**	**1.83%**	**1.56%**	**0.28%**	**0.14%**	**1.19%**	**1.54%**	**1.41%**	**1.17%**	**0.94%**	**1.08%**	**1.01%**	**0.51%**	**1.36%**	**1.40%**	**1.66%**	**2.62%**	**2.52%**	**2.30%**
	Spreads (Treasury Bond Stock)																			
22	**Nominal[f]**	**0.11%**	**0.49%**	**0.16%**	**1.41%**	**1.84%**	**0.15%**	**0.34%**	**0.09%**	**0.52%**	**0.61%**	**0.10%**	**0.32%**	**1.06%**	**0.03%**	**0.00%**	**0.24%**	**0.51%**	**1.42%**	**1.28%**
23	**Real[g]**	**0.11%**	**0.47%**	**0.15%**	**1.38%**	**1.81%**	**0.15%**	**0.34%**	**0.09%**	**0.51%**	**0.60%**	**0.10%**	**0.31%**	**1.04%**	**0.03%**	**0.00%**	**0.23%**	**0.50%**	**1.39%**	**1.25%**



Sources
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, May 26, 2023.
[3] St. Louis Federal Reserve Economic Research, http //research.stlouisfed.org.
www.moodys.com, Bond Yields and Key Indicators, through June 9, 2023.

Notes
* Based on the average of the high and low price for the year and the projected Dividends Declared per share published in the Value Line Investment Survey.
[b] Line 16 (1 + Line 14) / (1 + Line 15) - 1.
[c] Line 17 (1 + Line 12) / (1 +Line 16) - 1.
[e] The spread being measured here is the nominal A-rated uti ity bond yield over the average nominal uti ity dividend yield; (Line 18 - Line 12).
* The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; Line 19 - Line 17)
[f] The spread being measured here is the nominal 20-Year Treasury yield over the average nominal uti ity dividend yield; (Line 14 - Line 12).
[g] The spread being measured here is the real 20-Year TIPS yield over the average real utility dividend yield; Line 15 - Line 17)

Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

		Dividend per Share[1]																				
Line	Company	18-Year Average	2023 [2]	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2018 CAGR	2017 CAGR
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1	Atmos Energy	1.66	2.96	2.72	2.30	1.40	1.38	1.94	1.80	1.68	1.56	1.48	1.40	1.38	1.36	1.34	1.32	1.30	1.28	1.26	2.78%	3.15%
2	Chesapeake Utilities	1.16	2.25	2.03	1.69	1.01	0.96	1.39	1.26	1.19	1.12	1.07	1.01	0.96	0.91	0.87	0.83	0.81	0.78	0.77	3.86%	4.42%
3	New Jersey Resources	0.88	1.56	1.45	1.27	0.81	0.77	1.11	1.04	0.98	0.93	0.86	0.81	0.77	0.72	0.68	0.62	0.56	0.51	0.48	5.32%	6.75%
4	NiSource Inc.	0.90	1.00	0.94	0.84	0.98	0.94	0.78	0.70	0.64	0.83	1.02	0.98	0.94	0.92	0.92	0.92	0.92	0.92	0.92	-1.08%	-2.45%
5	Northwest Nat. Gas	1.76	1.95	1.93	1.91	1.83	1.79	1.89	1.88	1.87	1.86	1.85	1.83	1.79	1.75	1.68	1.60	1.52	1.44	1.39	1.81%	2.45%
6	ONE Gas Inc.	1.78	2.60	2.48	2.16	N/A	N/A	1.84	1.68	1.40	1.20	0.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.16%	11.87%
7	South Jersey Inds.	0.84	N/A	N/A	1.19	0.90	0.83	1.13	1.10	1.06	1.02	0.96	0.90	0.83	0.75	0.68	0.61	0.56	0.51	0.46	5.46%	7.33%
8	Southwest Gas	1.49	2.48	2.48	2.26	1.32	1.18	2.08	1.98	1.80	1.62	1.46	1.32	1.18	1.06	1.00	0.95	0.90	0.86	0.82	6.00%	7.88%
9	Spire Inc.	1.88	2.88	2.74	2.49	1.70	1.66	2.25	2.10	1.96	1.84	1.76	1.70	1.66	1.61	1.57	1.53	1.49	1.45	1.40	2.94%	3.42%
10	UGI Corp.	0.83	1.47	1.41	1.32	0.74	0.71	1.02	0.96	0.93	0.89	0.79	0.74	0.71	0.68	0.60	0.52	0.50	0.48	0.46	5.08%	6.48%
11	WGL Holdings Inc.	1.62	N/A	N/A	N/A	1.66	1.59	N/A	2.02	1.93	1.83	1.72	1.66	1.59	1.55	1.50	1.47	1.41	1.37	1.35	N/A	3.63%
12	**Average**	**1.33**	**2.13**	**2.02**	**1.74**	**1.24**	**1.18**	**1.54**	**1.50**	**1.40**	**1.34**	**1.25**	**1.24**	**1.18**	**1.13**	**1.08**	**1.04**	**1.00**	**0.96**	**0.93**	**3.83%**	**4.99%**
13	**Industry Average Growth**	**5.61%**	**5.34%**	**15.89%**	**41.10%**	**4.67%**	**-23.52%**	**2.76%**	**6.99%**	**5.03%**	**6.50%**	**1.58%**	**4.67%**	**4.35%**	**4.34%**	**4.47%**	**4.20%**	**3.83%**	**3.13%**			

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, May 26, 2023.

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Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

Line	Company	Earnings per Share[1] 18-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	Atmos Energy	3.32	6 00	5 60	5.12	4.72	4 35	4 00	3.60	3.38	3.09	2.96	2.50	2.10	2 26	2.16	1 97	2 00	1.94	2.00
2	Chesapeake Utilities	2.77	4 95	4 97	4.70	4 21	3.72	3.45	2.68	2.86	2.68	2.47	2.26	1 99	1 91	1 82	1.43	1 39	1.29	1.15
3	New Jersey Resources	1.71	2.70	2 50	2.16	2 07	1 96	2.72	1.73	1.61	1.78	2.08	1.37	1 36	1 29	1 23	1 20	1 35	0.78	0.93
4	NiSource Inc.	1.19	1 55	1.47	1 35	1 32	1 31	1 30	0.39	1.00	0.63	1.67	1.57	1 37	1 05	1 06	0 84	1 34	1.14	1.14
5	Northwest Nat. Gas	2.16	2.70	2 54	2 50	2 30	2.19	2 33	-1.94	2.12	1.96	2.16	2.24	2 22	2 39	2.73	2 83	2 57	2.76	2.35
6	ONE Gas Inc.	3.26	4 20	4 08	3 85	3 68	3 51	3 25	3.02	2.65	2.24	2.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	1.36	N/A	N/A	1 65	1 68	1.12	1 38	1.23	1.34	1.44	1.57	1.52	1 52	1.45	1 35	1.19	1.14	1.05	1.23
8	Southwest Gas	2.92	3.15	3.10	3 80	4.14	3 94	3 68	3.62	3.18	2.92	3.01	3.11	2 86	2.43	2 27	1 94	1 39	1.95	1.98
9	Spire Inc.	3.08	4 65	3 95	4 96	1.44	3 52	4 33	3.43	3.24	3.16	2.35	2.02	2.79	2 86	2.43	2 92	2 64	2.31	2.37
10	UGI Corp.	1.98	2 90	2 90	2 96	2 67	2 28	2.74	2.29	2.05	2.01	1.92	1.59	1.17	1 37	1 59	1 57	1 33	1.18	1.10
11	WGL Holdings Inc.	2.56	N/A	N/A	N/A	N/A	N/A	N/A	3.11	3.27	3.16	2.68	2.31	2 68	2 25	2 27	2 53	2.44	2.09	1.94
12	**Average**	**2.38**	**3.64**	**3.46**	**3.31**	**2.82**	**2.79**	**2.92**	**2.11**	**2.43**	**2.28**	**2.27**	**2.05**	**2.01**	**1.93**	**1.89**	**1.84**	**1.76**	**1.65**	**1.62**
13	**Industry Average Growth**	**5.35%**	**5.43%**	**4.59%**	**17.07%**	**1.18%**	**-4.39%**	**38.59%**	**-13.26%**	**6.50%**	**0.54%**	**10.67%**	**2.13%**	**4.13%**	**1.87%**	**2.61%**	**4.79%**	**6.67%**	**1.82%**	

Sources:
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[2] The Value Line Investment Survey, May 26, 2023.

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Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

Line	Company	Cash Flow / Capital Spending[1] 2019 (1)	2020 (2)	2021 (3)	2022 (4)	2023 (5)	2024[2] (6)	3 - 5 yr[2] Projection (5)
1	Atmos Energy	0.53x	0.53x	0.53x	0.54x	0.54x	0.57x	0.69x
2	Chesapeake Utilities	0.66x	0.64x	0.82x	1.23x	0.84x	0.84x	0.94x
3	New Jersey Resources	1.41x	0.65x	0.72x	0.59x	0.68x	0.65x	0.57x
4	NiSource Inc.	0.66x	0.65x	0.69x	0.55x	0.43x	0.59x	0.61x
5	Northwest Nat. Gas	0.77x	0.75x	0.61x	0.60x	0.68x	0.83x	0.83x
6	ONE Gas Inc.	0.78x	0.88x	0.86x	0.74x	0.83x	0.86x	0.99x
7	South Jersey Inds.	0.48x	0.47x	0.49x	N/A	N/A	N/A	N/A
8	Southwest Gas	0.62x	0.53x	0.61x	0.31x	0.84x	0.86x	0.94x
9	Spire Inc.	0.65x	0.65x	0.70x	0.80x	0.71x	0.69x	0.93x
10	UGI Corp.	1.33x	1.54x	1.66x	1.42x	1.33x	1.37x	1.36x
11	Average	0.79x	0.73x	0.77x	0.75x	0.76x	0.81x	0.87x
12	Median	0.66x	0.65x	0.69x	0.60x	0.71x	0.83x	0.93x

Sources:
[1] The Value Line Investment Survey, February 28, 2020.
[2] The Value Line Investment Survey, May 26, 2023.
Notes:
Based on the projected Cash Flow per share and Capital Spending per share.

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Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

Percent Dividends to Book Value [1]

Line	Company	18-Year Average (1)	2023 [2/a] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	Atmos Energy	5.00%	4.22%	4.07%	4.19%	4.26%	4.36%	4.53%	4.90%	5.04%	4.96%	4.81%	4.92%	5.28%	5.44%	5.55%	5.61%	5.75%	5.82%	6.25%
2	Chesapeake Utilities	5.11%	4.42%	4.32%	4.15%	4.23%	4.53%	4.39%	4.23%	4.35%	4.78%	5.18%	5.25%	5.39%	5.42%	5.49%	5.60%	6.71%	6.66%	6.95%
3	New Jersey Resources	7.21%	7.04%	7.63%	7.92%	6.60%	6.85%	6.87%	7.26%	7.21%	7.16%	7.45%	7.60%	7.86%	7.69%	7.72%	7.48%	6.42%	6.54%	6.40%
4	NiSource Inc.	5.76%	7.09%	7.15%	6.69%	6.64%	5.99%	5.96%	5.46%	5.08%	6.89%	5.22%	5.22%	5.25%	5.19%	5.22%	5.25%	5.34%	4.97%	5.02%
5	Northwest Nat. Gas	6.44%	5.58%	5.83%	5.66%	6.57%	6.69%	7.16%	7.27%	6.30%	6.53%	6.58%	6.59%	6.57%	6.55%	6.44%	6.43%	6.41%	6.39%	6.32%
6	ONE Gas Inc.	4.43%	4.93%	5.31%	5.04%	5.14%	4.96%	4.73%	4.48%	3.88%	3.41%	2.44%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	6.99%	N/A	N/A	7.53%	7.21%	7.53%	7.63%	7.34%	6.53%	6.98%	7.04%	7.12%	7.09%	7.26%	7.13%	6.69%	6.40%	6.22%	6.09%
8	Southwest Gas	4.49%	4.96%	5.17%	4.80%	4.87%	4.79%	4.90%	5.25%	5.14%	4.82%	4.57%	4.33%	4.16%	3.98%	3.90%	3.89%	3.83%	3.74%	3.80%
9	Spire Inc.	5.84%	5.39%	5.58%	5.56%	5.63%	5.25%	5.06%	5.09%	5.06%	5.07%	5.04%	5.31%	6.22%	6.30%	6.53%	6.56%	6.74%	7.33%	7.43%
10	UGI Corp.	5.61%	6.05%	5.02%	5.34%	6.65%	6.30%	4.82%	5.28%	5.65%	5.72%	5.14%	5.07%	5.35%	5.77%	5.41%	5.35%	5.72%	5.82%	6.54%
11	WGL Holdings Inc.	6.86%	N/A	N/A	N/A	N/A	N/A	N/A	6.88%	7.21%	7.33%	7.14%	6.73%	6.45%	6.60%	6.57%	6.72%	6.71%	6.88%	7.13%
12	Average	5.81%	5.52%	5.57%	5.69%	5.78%	5.72%	5.60%	5.77%	5.59%	5.78%	5.51%	5.82%	5.96%	6.02%	6.00%	5.96%	6.00%	6.04%	6.19%
13	Median	5.67%	5.39%	5.31%	5.45%	6.10%	5.62%	4.98%	5.28%	5.14%	5.72%	5.18%	5.28%	5.80%	6.03%	5.99%	6.02%	6.41%	6.30%	6.36%

Dividends to Earnings Ratio [1]

Line	Company	18-Year Average (1)	2023 [2/a] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
14	Atmos Energy	0.55	0.49	0.49	0.49	0.49	0.48	0.49	0.50	0.50	0.50	0.50	0.56	0.66	0.60	0.62	0.67	0.65	0.66	0.63
15	Chesapeake Utilities	0.47	0.45	0.41	0.39	0.40	0.42	0.40	0.47	0.42	0.42	0.43	0.45	0.48	0.48	0.48	0.58	0.58	0.61	0.67
16	New Jersey Resources	0.55	0.58	0.58	0.63	0.61	0.61	0.41	0.60	0.61	0.52	0.41	0.59	0.57	0.56	0.55	0.52	0.41	0.65	0.51
17	NiSource Inc.	0.81	0.65	0.64	0.65	0.64	0.61	0.60	1.79	0.64	1.32	0.61	0.62	0.69	0.88	0.87	1.10	0.69	0.81	0.81
18	Northwest Nat. Gas	0.65	0.72	0.76	0.77	0.83	0.87	0.81	- 0.97	0.88	0.95	0.86	0.82	0.81	0.73	0.62	0.57	0.59	0.52	0.59
19	ONE Gas Inc.	0.56	0.62	0.61	0.60	0.59	0.57	0.57	0.56	0.53	0.54	0.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	South Jersey Inds.	0.65	N/A	N/A	0.74	0.71	1.04	0.82	0.89	0.79	0.71	0.61	0.59	0.54	0.52	0.50	0.51	0.49	0.48	0.37
21	Southwest Gas	0.54	0.79	0.80	0.63	0.55	0.55	0.57	0.55	0.57	0.55	0.49	0.42	0.41	0.44	0.44	0.49	0.65	0.44	0.41
22	Spire Inc.	0.68	0.62	0.69	0.52	1.73	0.67	0.52	0.61	0.60	0.58	0.75	0.84	0.59	0.56	0.65	0.52	0.56	0.63	0.59
23	UGI Corp.	0.45	0.51	0.49	0.46	0.49	0.50	0.37	0.42	0.45	0.44	0.41	0.46	0.60	0.50	0.38	0.33	0.38	0.41	0.41
24	WGL Holdings Inc.	0.64	N/A	N/A	N/A	N/A	N/A	N/A	0.65	0.59	0.58	0.64	0.72	0.59	0.69	0.66	0.58	0.58	0.65	0.69
25	Average	0.60	0.60	0.61	0.59	0.70	0.63	0.55	0.55	0.60	0.65	0.56	0.61	0.59	0.59	0.58	0.59	0.56	0.59	0.57
26	Median	0.59	0.62	0.61	0.61	0.60	0.59	0.54	0.56	0.59	0.55	0.50	0.59	0.59	0.56	0.58	0.54	0.58	0.62	0.59

Cash Flow to Capital Spending Ratio [1]

Line	Company	18-Year Average (1)	2023 [2/a] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
27	Atmos Energy	0.65	0.54	0.54	0.58	0.52	0.53	0.55	0.62	0.59	0.60	0.65	0.55	0.59	0.68	0.77	0.78	0.81	0.94	0.82
28	Chesapeake Utilities	0.77	0.84	1.23	0.81	0.78	0.62	0.39	0.50	0.50	0.53	0.71	0.65	0.79	1.12	1.10	1.14	0.83	0.82	0.45
29	New Jersey Resources	1.19	0.68	0.59	0.62	0.71	0.51	0.85	0.70	0.59	0.67	1.79	1.46	1.48	1.51	1.55	1.75	2.11	1.67	2.14
30	NiSource Inc.	0.73	0.43	0.55	0.68	0.66	0.61	0.58	0.41	0.59	0.53	0.56	0.57	0.65	0.75	1.11	1.06	0.94	1.11	1.37
31	Northwest Nat. Gas	0.90	0.68	0.60	0.68	0.66	0.69	0.71	0.14	1.01	1.12	1.15	0.98	1.01	1.33	0.55	1.02	1.35	1.21	1.34
32	ONE Gas Inc.	0.84	0.83	0.74	0.86	0.83	0.89	0.84	0.87	0.92	0.86	0.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
33	South Jersey Inds.	0.82	N/A	N/A	0.55	0.54	0.40	0.73	0.81	0.76	0.50	0.53	0.51	0.58	0.70	0.75	1.01	1.67	1.70	1.40
34	Southwest Gas	0.83	0.84	0.31	0.86	0.69	0.53	0.56	0.68	0.83	0.84	0.99	1.05	0.90	0.82	1.37	1.28	0.85	0.78	0.72
35	Spire Inc.	1.03	0.71	0.80	0.75	0.42	0.44	0.77	0.72	0.96	0.92	0.98	0.78	0.95	1.53	1.61	1.93	1.64	1.42	1.28
36	UGI Corp.	1.46	1.33	1.42	1.32	1.59	1.22	1.64	1.29	1.35	1.48	1.53	1.32	1.52	1.28	1.36	1.52	1.72	1.62	1.69
37	WGL Holdings Inc.	1.02	N/A	N/A	N/A	N/A	N/A	N/A	0.61	0.56	0.60	0.63	0.71	0.93	1.02	1.60	1.60	1.60	1.17	1.18
38	Average	0.93	0.76	0.75	0.77	0.74	0.64	0.76	0.67	0.79	0.79	0.94	0.86	0.94	1.07	1.18	1.31	1.35	1.24	1.24
39	Median	0.75	0.71	0.60	0.72	0.67	0.57	0.72	0.68	0.76	0.67	0.79	0.74	0.92	1.07	1.23	1.21	1.48	1.19	1.31

Sources:
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[2] The Value Line Investment Survey, May 26, 2023.
Notes:
[a] Based on the projected Dividends Declared per share and Book Value per share, published in The Value Line Investment Survey.
[b] Based on the projected Dividends Declared per share and Earnings per share, published in The Value Line Investment Survey.
[c] Based on the projected Cash Flow per share and Capital Spending per share, published in The Value Line Investment Survey.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Price to Earnings (P/E) Ratio [1] 22-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)	2005 (20)	2004 (21)	2003 (22)	2002 (23)
1	ALLETE	18.19	16.30	18.10	20.60	18.30	24.70	22.20	23.00	18.60	15.10	17.20	18.60	15.90	14.70	16.00	16.10	13.90	14.80	16.55	17.91	25.21	N/A	N/A
2	Alliant Energy	17.04	17.90	21.40	21.20	21.20	21.20	19.10	20.60	22.30	18.10	16.60	15.30	14.50	14.50	12.50	13.90	13.40	15.10	16.82	12.59	14.00	12.69	19.93
3	Ameren Corp.	16.88	18.60	21.50	21.40	22.20	22.10	18.30	20.60	18.30	17.50	16.70	16.50	13.40	11.90	9.70	9.30	14.20	17.40	19.39	16.72	16.28	13.51	15.78
4	American Electric Power	15.21	15.90	21.10	17.10	19.60	21.40	18.00	19.30	15.20	15.80	15.90	14.50	13.80	11.90	13.40	10.00	13.10	16.30	12.91	13.70	12.42	10.66	12.68
5	Avangrid, Inc.	24.02	19.30	19.60	23.20	23.60	23.10	26.10	27.30	20.50	33.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	18.44	17.30	20.00	20.20	21.20	15.00	24.50	23.40	18.80	17.60	17.30	14.60	19.30	14.10	12.70	11.40	15.00	30.90	15.39	19.45	24.43	13.84	19.27
7	Black Hills	17.78	17.60	18.10	17.70	17.00	21.20	16.80	19.50	22.30	16.10	19.00	18.20	17.10	31.10	18.10	9.90	NMF	15.00	15.77	17.27	17.13	15.95	12.52
8	CenterPoint Energy	16.81	18.90	18.70	26.10	15.90	19.50	37.00	17.90	21.90	18.10	17.00	18.70	14.80	14.60	13.80	11.80	11.30	15.00	10.27	19.06	17.84	6.05	5.59
9	CMS Energy Corp.	18.34	18.70	22.90	23.60	23.30	24.30	20.30	21.30	20.90	18.30	17.30	16.30	15.10	13.60	12.50	13.60	10.90	26.80	22.18	12.60	12.39	N/A	N/A
10	Consol. Edison	16.24	20.40	20.30	17.20	19.00	19.70	17.10	19.80	18.80	15.60	15.90	14.70	15.40	15.10	13.30	12.50	12.30	13.80	15.49	15.13	18.21	14.30	13.28
11	Dominion Resources	18.16	14.30	18.70	19.50	22.60	18.20	17.50	22.20	21.30	22.10	23.00	19.20	18.90	17.30	14.30	12.70	13.80	20.60	15.98	24.89	15.07	15.24	12.05
12	DTE Energy	16.73	17.20	22.40	30.00	16.30	19.90	17.40	18.60	19.00	18.10	14.90	17.90	14.90	13.50	12.30	10.40	14.80	18.30	17.43	13.80	16.04	13.69	11.28
13	Duke Energy	17.25	17.50	19.60	18.90	17.10	17.70	17.00	19.90	21.30	18.20	17.90	17.40	17.50	13.80	12.70	13.30	17.30	16.10	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	17.16	15.90	40.60	29.70	34.90	16.70	N/A	17.20	17.90	14.80	13.00	12.70	9.70	11.80	10.30	9.70	12.40	16.00	12.99	11.74	37.59	6.97	7.78
15	El Paso Electric	17.68	N/A	N/A	N/A	N/A	N/A	26.85	21.78	18.66	18.33	16.38	15.88	14.47	12.60	10.72	10.79	11.89	15.26	16.92	26.72	22.03	18.26	22.99
16	Entergy Corp.	14.25	16.50	21.10	15.00	15.30	16.50	13.80	15.00	10.90	12.50	12.90	13.20	11.20	9.10	11.60	12.00	16.60	19.30	14.28	16.28	15.09	13.77	11.53
17	Eversource Energy	18.49	17.90	20.90	22.20	23.70	22.10	18.70	19.50	18.70	18.10	17.90	16.90	19.90	15.40	13.40	12.00	13.70	18.70	27.07	19.76	20.77	13.35	16.07
18	Evergy, Inc.	19.67	15.70	19.90	16.20	21.70	21.80	22.70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	14.50	18.00	19.90	16.60	12.40	14.70	13.30	13.40	12.50	12.60	16.00	13.40	19.10	11.30	11.00	11.50	18.00	18.20	16.53	15.37	12.99	11.77	10.46
20	FirstEnergy Corp.	15.23	15.30	17.00	14.10	15.70	17.10	13.60	11.40	12.70	12.60	13.20	13.10	21.10	22.40	11.70	13.00	15.60	15.60	14.23	16.07	14.13	22.47	12.95
21	Fortis Inc.	19.42	19.80	21.10	21.20	20.60	19.20	17.10	16.80	21.60	18.00	24.30	20.00	20.10	18.80	18.20	16.40	17.50	21.10	17.68	N/A	N/A	N/A	N/A
22	Great Plains Energy	15.52	N/A	N/A	N/A	N/A	N/A	N/A	NMF	17.98	19.37	16.47	14.19	15.53	16.11	12.10	16.03	20.55	16.35	18.30	13.96	12.59	12.23	11.09
23	Hawaiian Elec.	18.19	17.20	18.50	18.20	21.50	21.30	18.90	20.70	13.60	20.40	15.90	16.20	15.80	17.10	18.60	19.80	23.20	21..6	20.33	18.27	19.18	13.76	13.47
24	IDACORP, Inc.	17.33	22.20	21.00	20.80	19.90	22.30	20.50	20.60	19.10	16.20	14.70	13.40	12.40	11.50	11.80	10.20	13.90	18.20	15.07	16.70	15.49	26.51	18.88
25	MGE Energy	20.12	21.70	24.70	25.50	26.40	28.40	25.10	29.40	24.90	20.30	17.20	17.00	17.20	15.80	15.00	15.10	14.20	15.00	15.88	22.40	17.98	17.55	15.96
26	NextEra Energy, Inc.	18.97	24.40	27.80	31.30	28.90	26.80	24.80	21.60	20.70	16.90	17.30	16.60	14.40	11.50	10.80	13.40	14.50	18.90	13.65	17.88	13.65	17.88	13.60
27	NorthWestern Corp	17.12	17.50	17.30	17.40	18.60	19.90	16.80	17.80	17.20	18.40	16.20	16.90	15.70	12.60	12.90	11.50	13.90	21.70	25.95	17.09	N/A	N/A	N/A
28	OGE Energy	15.41	17.50	17.20	14.30	16.20	19.00	16.50	18.30	17.70	17.70	18.30	17.70	15.20	14.40	13.30	10.80	12.40	13.80	13.68	14.95	14.13	11.84	14.12
29	Otter Tail Corp.	20.73	15.70	9.50	12.30	18.30	23.50	22.20	22.10	20.20	18.20	18.80	21.10	21.70	47.50	NMF	31.20	30.10	19.00	17.35	15.40	17.34	17.77	16.01
30	Pinnacle West Capital	16.07	19.90	17.10	14.10	16.70	19.40	17.80	19.30	18.70	16.00	15.90	15.30	14.30	14.60	12.60	13.70	16.10	14.90	13.69	19.24	15.80	13.96	14.43
31	PNM Resources	18.50	18.80	17.40	19.90	19.60	22.20	19.40	20.40	22.40	18.70	18.70	16.10	15.00	14.50	14.00	18.10	N/A	35.60	15.57	17.38	15.02	14.73	15.08
32	Portland General	16.96	18.80	18.20	17.70	16.60	22.30	18.40	20.00	19.10	17.70	15.30	16.90	14.00	12.40	12.00	14.40	16.30	11.90	23.35	N/A	N/A	N/A	N/A
33	PPL Corp.	16.32	18.00	20.00	54.10	13.90	13.30	11.30	17.60	12.80	13.90	14.10	12.80	10.90	10.50	11.90	25.70	17.60	17.30	14.10	15.12	12.51	10.59	11.06
34	Public Serv. Enterprise	14.47	17.80	18.50	16.80	15.70	18.00	16.60	16.30	15.30	14.10	12.60	13.50	12.80	10.40	10.40	10.00	13.60	16.50	17.81	16.74	14.26	10.58	10.00
35	SCANA Corp.	13.96	N/A	N/A	N/A	N/A	N/A	N/A	14.46	16.80	14.67	13.68	14.43	14.80	13.67	12.93	11.63	12.67	14.96	15.42	14.44	13.57	13.05	12.17
36	Sempra Energy	15.65	17.40	16.80	15.40	17.50	22.50	20.40	24.30	24.40	19.70	21.90	19.70	14.90	11.80	12.60	10.10	11.80	14.00	11.50	11.79	8.65	8.96	8.19
37	Southern Co.	16.35	20.30	19.60	18.40	17.90	17.60	15.10	15.50	17.80	15.80	16.00	16.20	17.00	15.80	14.90	13.50	16.10	16.00	16.19	15.92	14.68	14.83	14.63
38	Vectren Corp.	17.05	N/A	N/A	N/A	N/A	N/A	N/A	23.54	19.18	17.92	19.98	20.66	15.02	15.83	15.10	12.89	16.79	15.33	18.92	15.11	17.57	14.80	14.16
39	WEC Energy Group	17.54	18.90	21.90	22.30	24.90	23.50	19.60	20.00	19.90	21.30	17.70	16.50	15.80	14.20	14.00	13.30	14.80	16.50	15.97	14.46	17.51	12.43	10.46
40	Westar Energy	15.58	N/A	N/A	N/A	N/A	N/A	N/A	23.40	21.59	18.45	15.36	14.04	13.43	14.78	12.96	14.95	16.96	14.10	12.18	14.79	17.44	10.78	14.02
41	Xcel Energy Inc.	18.14	21.20	22.20	22.50	23.90	22.30	18.90	20.20	18.50	16.50	15.40	15.00	14.80	14.20	14.10	12.70	13.70	16.70	14.80	15.36	13.65	11.62	40.80
42	Average	17.13	18.23	20.29	20.91	19.95	20.51	19.43	19.85	18.75	17.58	16.77	16.19	15.56	15.30	13.16	13.57	15.27	17.66	16.51	16.56	16.65	13.83	14.31
43	Median	16.26	17.90	19.90	19.70	19.30	21.20	18.55	20.00	18.80	17.81	16.47	16.20	15.02	14.20	12.80	12.70	14.20	16.32	15.92	15.99	15.49	13.69	13.47

Sources:
The current year P/E ratio is based on the forward P/E (price over expected earnings per share). All historical year P/E ratios are based on annual average share price over achieved earnings per share.
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Market Price to Cash Flow (MP/CF) Ratio [1]

Line	Company	22-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)	2005 (20)	2004 (21)	2003 (22)	2002 (23)
1	ALLETE	9.21	7.37	7.56	8.61	8.14	11.38	10.16	10.95	8.26	7.49	8.80	9.15	8.18	7.91	8.04	8.51	9.29	10.30	11.06	11.54	11.46	N/A	N/A
2	Alliant Energy	8.26	9.64	10.43	10.31	10.66	10.74	9.71	13.21	10.67	8.86	8.40	7.52	7.50	7.21	6.59	6.23	7.49	7.92	8.00	5.09	5.52	4.76	5.20
3	Ameren Corp.	7.45	9.01	9.54	9.03	9.63	9.45	7.95	8.38	7.44	6.87	6.95	6.61	5.48	5.02	4.23	4.25	6.35	7.69	8.57	8.57	8.24	6.74	7.96
4	American Electric Power	6.75	8.16	8.67	7.57	8.41	9.34	8.03	8.81	7.57	7.09	7.00	6.57	5.93	5.46	5.54	4.71	5.71	6.84	5.54	6.07	5.50	4.69	5.19
5	Avangrid, Inc.	9.66	8.30	8.69	11.19	9.39	9.11	10.24	10.14	8.56	11.30	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	7.06	8.69	9.39	8.03	7.80	7.34	10.14	9.35	7.63	6.76	7.30	6.21	6.88	6.40	5.80	4.06	5.12	7.58	5.30	6.58	7.58	5.36	5.90
7	Black Hills	7.96	8.68	8.92	8.84	8.56	10.65	8.83	9.20	9.33	8.06	8.81	8.03	6.04	7.85	6.16	4.25	11.26	7.62	6.92	7.57	6.69	6.89	5.92
8	CenterPoint Energy	5.57	7.72	8.01	7.95	5.94	7.03	8.45	6.97	5.96	5.75	6.25	6.56	5.15	5.39	4.70	4.05	4.29	5.17	3.94	4.70	4.26	2.08	2.16
9	CMS Energy Corp.	6.49	7.76	9.43	9.27	9.87	9.85	8.40	8.75	8.50	7.53	7.13	6.68	6.03	5.41	4.48	3.64	3.45	5.57	4.40	4.04	3.20	2.88	NMF
10	Consol. Edison	8.24	8.24	8.70	7.26	8.35	9.46	8.73	9.64	9.39	7.96	7.89	7.77	8.31	8.15	7.39	6.72	6.89	8.31	8.65	8.59	9.31	7.90	7.64
11	Dominion Resources	9.81	7.48	9.35	11.15	14.59	13.47	10.94	11.35	11.59	11.84	12.27	10.88	9.92	9.45	8.12	6.98	8.27	8.65	7.81	10.09	7.68	7.51	6.53
12	DTE Energy	6.49	1.28	7.96	10.62	7.85	9.67	8.54	9.05	8.64	8.52	6.42	6.65	5.91	5.18	4.69	3.59	4.90	5.73	5.21	5.54	6.00	5.62	5.20
13	Duke Energy	7.63	7.44	7.75	7.89	8.06	7.40	7.65	8.40	8.57	7.95	8.12	8.11	9.53	6.56	6.01	5.96	7.13	7.16	N/A	N/A	N/A	N/A	N/A
14	Edison Int'l	6.03	5.93	6.83	7.14	7.57	7.25	13.46	7.05	6.77	5.92	5.68	5.46	4.59	4.22	4.11	3.95	5.63	7.01	5.87	5.61	6.84	2.82	2.96
15	El Paso Electric	5.93	N/A	N/A	N/A	N/A	N/A	9.43	8.54	7.46	6.47	6.33	6.19	5.78	5.16	4.31	3.98	4.95	6.44	6.25	6.67	4.65	3.90	4.39
16	Entergy Corp.	5.81	6.12	7.15	5.61	5.78	6.05	4.92	4.66	4.01	4.11	4.21	4.03	4.23	3.90	4.66	5.68	7.96	9.21	7.16	8.76	7.12	6.84	5.57
17	Eversource Energy	7.58	8.80	9.39	11.41	12.53	11.47	9.16	10.36	10.14	10.12	10.14	8.08	9.30	6.99	4.97	4.61	4.12	6.18	6.02	3.55	3.78	2.85	2.75
18	Evergy, Inc.	7.92	7.68	8.66	7.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	6.04	6.18	7.69	5.08	4.44	5.29	5.05	4.45	4.80	4.70	5.09	4.61	5.54	5.86	5.10	5.98	9.65	9.89	8.62	7.97	6.29	5.71	4.97
20	FirstEnergy Corp.	6.93	8.61	8.93	6.60	9.23	11.09	8.84	4.76	5.12	5.38	7.43	6.15	7.42	7.33	4.49	4.91	7.58	7.89	7.53	6.04	5.15	6.90	5.10
21	Fortis Inc.	8.50	8.96	9.10	9.57	9.50	9.46	7.97	8.23	10.46	7.29	9.25	7.93	8.09	8.38	7.40	6.76	7.58	9.18	7.89	N/A	N/A	N/A	N/A
22	Great Plains Energy	6.89	N/A	N/A	N/A	N/A	N/A	N/A	14.62	8.63	6.66	6.45	5.73	6.09	5.74	4.49	5.06	7.71	7.13	7.68	6.70	6.52	5.92	5.14
23	Hawaiian Elec.	8.05	7.82	7.95	8.23	8.69	9.30	8.34	9.21	7.44	9.25	7.64	8.15	8.05	7.73	7.81	6.95	9.10	7.95	8.47	8.29	8.44	6.12	6.20
24	IDACORP, Inc.	9.02	12.05	12.42	11.84	11.38	12.75	11.72	11.56	10.95	9.37	8.59	7.78	7.05	6.64	6.52	5.31	7.10	8.23	7.73	7.55	7.15	7.27	7.53
25	MGE Energy	11.70	12.68	13.63	N/A	14.90	15.58	15.04	17.33	15.66	12.53	11.42	11.20	10.77	9.48	9.05	8.40	8.42	9.23	9.30	11.73	11.04	10.20	8.09
26	NextEra Energy, Inc.	9.34	13.94	15.17	20.40	15.48	12.33	10.77	11.61	9.24	7.93	7.98	7.60	7.58	5.98	5.33	6.09	7.34	9.02	6.51	6.71	6.71	5.97	5.77
27	NorthWestern Corp	7.92	8.43	8.65	8.83	8.88	9.93	8.19	8.82	8.65	8.99	9.01	7.61	6.85	5.89	5.79	5.05	5.57	8.45	9.39	7.31	8.13	N/A	N/A
28	OGE Energy	7.95	8.11	8.36	7.64	8.38	10.58	9.36	10.52	9.03	9.25	10.65	9.93	7.35	7.48	6.61	5.37	6.43	7.58	7.50	7.04	6.73	5.62	5.39
29	Otter Tail Corp.	9.39	10.66	7.70	8.61	9.99	12.42	11.58	11.09	9.38	9.04	9.45	9.58	8.43	9.04	8.07	8.01	11.65	9.53	8.66	8.18	9.01	8.13	8.33
30	Pinnacle West Capital	6.18	5.78	5.19	6.19	7.49	8.30	7.09	8.73	7.89	6.91	7.03	6.85	6.34	5.80	5.65	3.84	4.19	4.76	4.48	7.48	5.88	4.80	5.21
31	PNM Resources	6.92	7.26	6.95	7.81	7.87	7.92	7.57	7.40	7.64	6.95	7.48	6.47	5.80	4.94	4.58	4.53	7.10	10.67	7.50	7.62	6.84	5.55	5.72
32	Portland General	5.99	6.40	6.65	6.48	6.72	7.65	6.56	7.45	7.12	6.73	5.49	6.06	5.08	4.86	4.13	4.63	4.81	5.34	5.74	N/A	N/A	N/A	N/A
33	PPL Corp.	7.89	8.84	8.82	13.74	7.46	7.99	7.02	10.11	8.37	8.73	7.32	6.59	5.87	5.98	7.46	8.82	9.17	8.90	7.58	7.57	6.49	5.41	5.30
34	Public Serv. Enterprise	7.95	9.66	10.53	11.32	8.22	8.72	9.48	8.67	8.56	6.66	6.48	6.40	6.40	6.03	6.04	6.20	8.46	9.83	8.41	8.59	7.17	6.79	6.24
35	SCANA Corp.	7.09	N/A	N/A	N/A	N/A	N/A	N/A	8.26	9.59	8.33	7.50	7.49	7.40	6.75	6.52	5.88	6.38	7.15	7.03	5.40	6.86	6.59	6.36
36	Sempra Energy	8.47	9.30	9.75	13.23	10.40	12.05	10.10	10.65	10.88	9.99	10.77	9.37	7.26	6.13	6.53	6.07	7.07	8.61	7.22	6.96	5.16	4.85	4.00
37	Southern Co.	8.29	8.72	9.63	8.72	8.34	8.80	7.05	7.49	8.83	8.23	8.42	8.30	8.75	8.22	7.79	7.08	8.18	8.62	8.47	8.41	8.28	8.28	7.83
38	Vectren Corp.	7.08	N/A	N/A	N/A	N/A	N/A	N/A	10.32	8.60	7.82	7.57	6.82	5.79	5.81	5.58	5.24	6.90	6.53	7.37	7.06	7.63	7.27	6.92
39	WEC Energy Group	9.27	10.76	11.81	11.99	13.67	12.88	10.82	11.04	10.95	12.90	10.27	9.58	9.24	8.43	8.15	6.87	7.57	7.84	7.27	6.40	6.27	4.91	4.27
40	Westar Energy	6.91	N/A	N/A	N/A	N/A	N/A	N/A	10.87	10.86	9.05	7.93	7.23	6.71	6.67	5.51	5.32	7.09	6.88	5.81	7.00	6.54	4.24	2.94
41	Xcel Energy Inc.	7.07	8.23	8.62	9.19	10.07	9.44	7.90	8.50	8.10	7.62	7.31	7.00	6.85	6.47	6.28	5.43	5.71	6.51	5.54	5.62	5.31	4.27	5.46
42	Average	7.67	8.35	9.00	9.28	9.26	9.78	9.03	9.41	8.68	8.07	7.90	7.41	7.01	6.56	6.02	5.61	7.01	7.77	7.17	7.18	6.82	5.75	5.58
43	Median	7.50	8.27	8.69	8.72	8.56	9.46	8.78	9.13	8.58	7.94	7.57	7.23	6.85	6.40	5.80	5.37	7.10	7.84	7.44	7.05	6.72	5.66	5.46

Sources:
The current year P/E ratio is based on the forward P/E (price over expected earnings per share). All historical year P/E ratios are based on annual average share price over achieved earnings per share.
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

Note:
[a] Based on the average of the high and low price and the projected Cash Flow per share.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Market Price to Book Value (MP/BV) Ratio [1] 19-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)	2005 (20)
1	ALLETE	1.55	1.27	1.24	1.43	1.39	1.91	1.79	1.78	1.53	1.37	1.42	1.51	1.34	1.35	1.28	1.15	1.55	1.89	2.09	2.22
2	Alliant Energy	1.82	2.00	2.25	2.26	2.30	2.32	2.16	2.38	2.17	1.86	1.86	1.70	1.57	1.46	1.31	1.04	1.33	1.67	1.52	1.33
3	Ameren Corp.	1.60	2.13	2.15	2.13	2.21	2.26	1.95	1.93	1.67	1.46	1.45	1.29	1.18	0.90	0.83	0.78	1.25	1.60	1.62	1.68
4	American Electric Power	1.64	1.71	1.99	1.87	2.09	2.20	1.82	1.88	1.81	1.55	1.54	1.40	1.31	1.23	1.23	1.08	1.48	1.85	1.56	1.57
5	Avangrid, Inc.	0.91	0.81	0.89	1.01	0.97	1.02	1.02	0.93	0.83	0.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.33	1.29	1.33	1.42	1.37	1.54	1.88	1.73	1.57	1.36	1.33	1.25	1.21	1.19	1.07	0.94	1.11	1.29	1.30	1.13
7	Black Hills	1.51	1.40	1.54	1.52	1.55	1.95	1.61	2.06	1.94	1.59	1.79	1.62	1.21	1.14	1.07	0.83	1.22	1.57	1.47	1.63
8	CenterPoint Energy	2.27	1.74	1.99	1.74	1.90	2.21	2.18	2.59	2.73	2.43	2.27	2.30	1.99	1.87	1.96	1.77	2.49	3.13	2.75	3.06
9	CMS Energy Corp.	2.18	2.42	2.71	2.69	3.24	3.28	2.81	2.93	2.72	2.43	2.26	2.09	1.91	1.66	1.48	1.10	1.23	1.82	1.42	1.32
10	Consol. Edison	1.43	1.60	1.55	1.34	1.44	1.59	1.49	1.63	1.58	1.42	1.34	1.38	1.47	1.38	1.22	1.08	1.17	1.47	1.47	1.52
11	Dominion Resources	2.55	1.76	2.34	2.37	2.72	2.18	2.40	2.94	3.15	3.34	3.55	2.97	2.84	2.37	2.01	1.80	2.42	2.69	2.07	2.50
12	DTE Energy	1.67	2.47	2.41	2.82	1.80	2.07	1.91	2.01	1.82	1.65	1.62	1.51	1.35	1.20	1.16	0.89	1.10	1.35	1.29	1.39
13	Duke Energy	1.29	1.53	1.63	1.58	1.47	1.47	1.33	1.41	1.35	1.29	1.28	1.19	1.12	1.11	1.00	0.91	1.06	1.15	N/A	N/A
14	Edison Int'l	1.70	1.84	2.08	1.67	1.62	1.80	1.97	2.17	1.92	1.76	1.68	1.57	1.53	1.24	1.07	1.04	1.56	2.05	1.80	1.93
15	El Paso Electric	1.56	N/A	N/A	N/A	N/A	N/A	1.94	1.87	1.68	1.48	1.52	1.49	1.59	1.64	1.17	0.98	1.33	1.69	1.71	1.76
16	Entergy Corp.	1.75	1.64	1.81	1.75	1.93	2.03	1.74	1.76	1.67	1.40	1.33	1.21	1.31	1.35	1.62	1.66	2.44	2.65	1.89	2.01
17	Eversource Energy	1.55	1.72	1.86	2.00	2.11	1.99	1.68	1.73	1.64	1.53	1.47	1.38	1.28	1.50	1.31	1.12	1.31	1.60	1.22	1.05
18	Evergy, Inc.	1.48	1.43	1.52	1.50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	2.08	1.65	1.88	1.37	1.20	1.43	1.31	1.20	1.20	1.14	1.28	1.17	1.46	1.95	2.07	2.57	4.39	4.79	3.89	3.60
20	FirstEnergy Corp.	2.06	2.15	2.37	2.33	2.81	3.39	2.67	3.53	2.37	1.16	1.15	1.28	1.44	1.33	1.36	1.54	2.52	2.23	1.92	1.64
21	Fortis Inc.	1.48	1.46	1.56	1.48	1.47	1.41	1.24	1.41	1.26	1.33	1.35	1.45	1.59	1.59	1.56	1.33	1.48	1.63	1.96	N/A
22	Great Plains Energy	1.21	N/A	N/A	N/A	N/A	N/A	N/A	1.33	1.17	1.12	1.11	1.02	0.96	0.93	0.87	0.80	1.11	1.66	1.77	1.86
23	Hawaiian Elec.	1.69	1.82	1.94	1.81	1.82	2.02	1.76	1.76	1.63	1.71	1.49	1.54	1.62	1.54	1.44	1.16	1.61	1.57	2.01	1.78
24	IDACORP, Inc.	1.52	1.82	1.91	1.88	1.84	2.10	1.96	1.94	1.76	1.54	1.45	1.33	1.19	1.17	1.13	0.92	1.09	1.26	1.37	1.22
25	MGE Energy	2.16	2.44	2.47	N/A	2.54	2.88	2.59	2.88	2.60	2.10	2.10	2.06	1.92	1.75	1.65	1.54	1.62	1.75	1.83	2.09
26	NextEra Energy, Inc.	2.42	3.52	4.07	4.27	3.58	2.75	2.32	2.35	2.30	2.09	2.15	1.93	1.74	1.55	1.49	1.70	2.06	2.34	1.80	1.93
27	NorthWestern Corp	1.44	1.21	1.25	1.43	1.45	1.74	1.48	1.64	1.68	1.60	1.54	1.56	1.42	1.35	1.22	1.07	1.15	1.48	1.65	1.42
28	OGE Energy	1.83	1.68	1.74	1.67	1.86	2.06	1.75	1.82	1.73	1.79	2.22	2.24	1.94	1.90	1.70	1.37	1.52	1.98	1.91	1.80
29	Otter Tail Corp.	1.91	2.29	2.30	2.33	2.04	2.62	2.49	2.33	1.90	1.78	1.90	1.96	1.58	1.35	1.19	1.18	1.71	1.93	1.76	1.74
30	Pinnacle West Capital	1.42	1.42	1.31	1.45	1.63	1.91	1.74	1.91	1.72	1.52	1.44	1.47	1.39	1.25	1.14	0.95	1.00	1.26	1.26	1.25
31	PNM Resources	1.37	1.84	1.81	1.86	1.87	2.28	1.83	1.84	1.56	1.33	1.21	1.09	0.98	0.80	0.69	0.56	0.66	1.23	1.21	1.45
32	Portland General	1.37	1.45	1.58	1.55	1.57	1.84	1.56	1.69	1.56	1.42	1.37	1.28	1.14	1.09	0.94	0.92	1.05	1.32	1.36	N/A
33	PPL Corp.	2.00	1.45	1.44	1.52	1.63	1.86	1.81	2.40	2.46	2.24	1.64	1.55	1.58	1.47	1.61	2.10	3.19	3.05	2.43	2.50
34	Public Serv. Enterprise	1.94	2.10	2.32	2.11	1.70	1.97	1.81	1.68	1.67	1.58	1.57	1.44	1.46	1.59	1.67	1.78	2.58	2.99	2.46	2.45
35	SCANA Corp.	1.51	N/A	N/A	N/A	N/A	N/A	N/A	1.65	1.74	1.47	1.48	1.48	1.48	1.36	1.33	1.20	1.45	1.62	1.64	1.72
36	Sempra Energy	1.80	1.77	1.84	1.64	1.84	2.22	2.06	2.24	2.00	2.17	2.20	1.84	1.53	1.28	1.35	1.32	1.60	1.87	1.70	1.73
37	Southern Co.	2.12	2.38	2.53	2.39	2.20	2.13	1.89	2.07	2.01	1.99	2.02	2.04	2.15	1.99	1.83	1.73	2.12	2.24	2.23	2.35
38	Vectren Corp.	1.83	N/A	N/A	N/A	N/A	N/A	N/A	2.75	2.29	2.11	2.08	1.82	1.57	1.53	1.41	1.34	1.64	1.74	1.77	1.82
39	WEC Energy Group	2.07	2.48	2.57	2.61	2.84	2.62	2.11	2.10	2.09	1.82	2.34	2.21	2.05	1.81	1.65	1.40	1.57	1.77	1.71	1.62
40	Westar Energy	1.37	N/A	N/A	N/A	N/A	N/A	N/A	1.94	1.95	1.49	1.44	1.33	1.26	1.20	1.10	0.93	1.10	1.36	1.30	1.41
41	Xcel Energy Inc.	1.74	2.15	2.22	2.27	2.46	2.34	1.97	2.06	1.88	1.66	1.55	1.50	1.51	1.41	1.32	1.19	1.30	1.53	1.40	1.38
42	Average	1.74	1.83	1.96	1.92	1.96	2.10	1.89	2.01	1.86	1.67	1.69	1.60	1.52	1.43	1.35	1.25	1.63	1.90	1.78	1.80
43	Median	1.71	1.75	1.89	1.75	1.84	2.06	1.86	1.92	1.75	1.57	1.54	1.50	1.47	1.36	1.31	1.15	1.48	1.69	1.71	1.73

Sources:
The current year P/E ratio is based on the forward P/E (price over expected earnings per share). All historical year P/E ratios are based on annual average share price over achieved earnings per share.
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

Notes:

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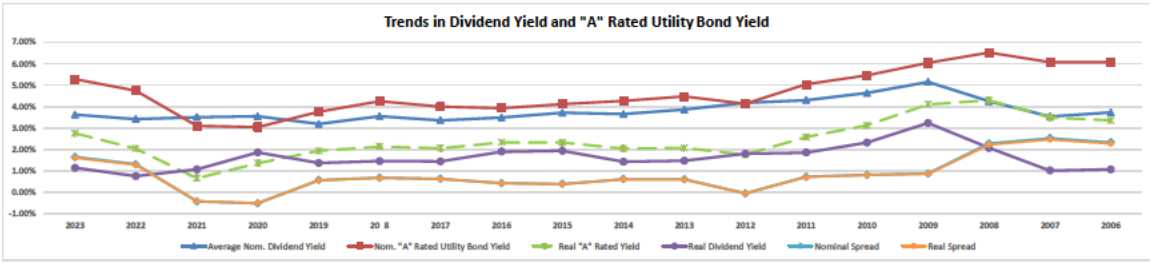
Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Dividend Yield[1] 18 Year Average (1)	2023 [2]e (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	ALLETE	3.99%	4.35%	4.47%	3.88%	4.03%	2.85%	2.99%	2.97%	3.56%	3.97%	3.92%	3.89%	4.49%	4.58%	5.03%	5.79%	4.37%	3.60%	3.16%
2	Alliant Energy	3.60%	3.42%	3.04%	2.97%	2.90%	2.88%	3.20%	3.07%	3.21%	3.60%	3.53%	3.74%	4.07%	4.28%	4.61%	5.73%	4.10%	3.13%	3.32%
3	Ameren Corp.	4.10%	2.94%	2.74%	2.74%	2.57%	2.59%	3.04%	3.12%	3.50%	3.96%	4.02%	4.61%	4.97%	5.28%	5.76%	5.98%	6.21%	4.88%	4.93%
4	American Electric Power	3.95%	3.73%	3.41%	3.61%	3.28%	3.10%	3.60%	3.42%	3.54%	3.80%	3.83%	4.23%	4.58%	4.96%	4.90%	5.50%	4.20%	3.40%	4.06%
5	Avangrid, Inc.	3.81%	4.28%	3.94%	3.53%	3.69%	3.52%	3.49%	3.79%	4.26%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	3.83%	4.37%	4.26%	3.94%	4.03%	3.48%	2.93%	3.14%	3.39%	3.97%	3.99%	4.51%	4.55%	4.54%	4.76%	4.49%	3.39%	2.68%	2.52%
7	Black Hills	3.71%	3.81%	3.44%	3.50%	3.42%	2.74%	3.31%	2.75%	2.87%	3.55%	2.84%	3.19%	4.39%	4.64%	4.79%	6.17%	4.21%	3.40%	3.79%
8	CenterPoint Energy	4.14%	2.62%	2.46%	2.77%	4.38%	2.98%	4.09%	4.79%	4.70%	5.06%	3.94%	3.57%	4.04%	4.27%	5.29%	6.37%	4.98%	3.87%	4.39%
9	CMS Energy Corp.	3.19%	3.20%	2.92%	2.92%	2.65%	2.64%	3.03%	2.88%	2.99%	3.36%	3.59%	3.76%	4.16%	4.25%	3.98%	3.97%	2.69%	1.16%	N/A
10	Consol. Edison	4.28%	3.45%	3.51%	4.10%	3.87%	3.44%	3.68%	3.40%	3.62%	4.12%	4.38%	4.25%	4.07%	4.46%	5.16%	5.99%	5.67%	4.84%	5.04%
11	Dominion Resources	4.03%	4.61%	3.66%	3.38%	4.31%	4.76%	4.72%	3.88%	3.82%	3.66%	3.43%	3.78%	4.06%	4.13%	4.41%	5.20%	3.77%	3.32%	3.60%
12	DTE Energy	3.94%	2.91%	3.17%	3.06%	3.57%	3.07%	3.34%	3.15%	3.34%	3.53%	3.54%	3.84%	4.19%	4.68%	4.75%	6.29%	5.24%	4.36%	4.86%
13	Duke Energy	4.59%	4.11%	3.98%	4.02%	4.35%	4.17%	4.54%	4.15%	4.26%	4.34%	4.26%	4.45%	4.68%	5.21%	5.71%	6.25%	5.16%	4.44%	N/A
14	Edison Int'l	3.36%	4.34%	4.45%	4.39%	4.29%	3.73%	3.84%	2.87%	2.81%	2.83%	2.62%	2.85%	2.97%	3.37%	3.66%	3.95%	2.69%	2.21%	2.58%
15	El Paso Electric	2.74%	N/A	N/A	N/A	N/A	N/A	2.55%	2.49%	2.75%	3.13%	2.97%	2.99%	2.97%	2.11%	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	4.02%	4.14%	3.70%	3.84%	3.55%	3.52%	4.41%	4.49%	4.55%	4.59%	4.47%	5.07%	4.91%	4.85%	4.20%	3.97%	2.92%	2.39%	2.82%
17	Eversource Energy	3.24%	3.39%	3.09%	2.85%	2.63%	2.81%	3.32%	3.14%	3.22%	3.34%	3.40%	3.48%	3.52%	3.23%	3.64%	4.16%	3.25%	2.60%	3.27%
18	Evergy, Inc.	3.80%	4.14%	3.66%	3.59%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	3.73%	3.45%	2.89%	3.17%	3.82%	3.06%	3.32%	3.51%	3.75%	3.88%	3.69%	4.69%	5.73%	4.96%	4.95%	4.26%	2.78%	2.48%	2.83%
20	FirstEnergy Corp.	4.30%	4.00%	3.71%	4.39%	4.17%	3.50%	5.17%	4.62%	4.31%	4.23%	4.26%	4.26%	4.90%	5.23%	5.76%	5.09%	3.21%	3.12%	3.40%
21	Fortis Inc.	3.70%	3.99%	3.82%	3.77%	3.66%	3.60%	4.07%	3.69%	3.80%	3.76%	3.88%	3.84%	3.64%	3.58%	3.80%	4.21%	3.76%	3.01%	2.79%
22	Great Plains Energy	4.52%	N/A	N/A	N/A	N/A	N/A	N/A	3.58%	3.64%	3.76%	3.62%	3.84%	4.08%	4.15%	4.49%	5.03%	6.96%	5.49%	5.60%
23	Hawaiian Elec.	4.37%	3.65%	3.59%	3.44%	3.40%	3.02%	3.54%	3.65%	3.99%	4.05%	4.76%	4.72%	4.70%	5.04%	5.51%	6.89%	5.00%	5.18%	4.59%
24	IDACORP, Inc.	3.15%	3.03%	2.86%	2.89%	2.92%	2.49%	2.61%	2.58%	2.77%	3.06%	3.12%	3.21%	3.28%	3.10%	3.44%	4.46%	3.95%	3.55%	3.39%
25	MGE Energy	3.00%	2.20%	2.15%	N/A	2.10%	1.94%	2.16%	1.95%	2.23%	2.78%	2.78%	2.91%	3.25%	3.63%	3.98%	4.36%	4.24%	4.14%	4.25%
26	NextEra Energy, Inc.	2.87%	2.40%	2.11%	1.90%	2.10%	2.41%	2.68%	2.79%	2.91%	3.01%	3.02%	3.30%	3.65%	3.96%	3.90%	N/A	N/A	N/A	N/A
27	NorthWestern Corp	4.12%	4.47%	4.51%	4.00%	4.02%	3.28%	3.86%	3.52%	3.43%	3.61%	3.30%	3.66%	4.17%	4.51%	4.93%	5.75%	5.38%	4.09%	3.65%
28	OGE Energy	3.82%	4.45%	4.30%	4.81%	4.68%	3.54%	3.98%	3.61%	3.87%	3.51%	2.63%	2.48%	2.94%	3.06%	3.68%	4.96%	4.52%	3.77%	3.99%
29	Otter Tail Corp.	3.85%	2.57%	2.44%	2.81%	3.45%	2.74%	2.92%	3.12%	3.87%	4.33%	4.14%	4.11%	5.21%	5.57%	5.68%	5.38%	3.63%	3.46%	3.92%
30	Pinnacle West Capital	4.51%	4.54%	4.90%	4.44%	3.97%	3.29%	3.55%	3.16%	3.46%	3.88%	4.09%	3.98%	5.32%	4.81%	5.43%	6.76%	6.17%	4.75%	4.67%
31	PNM Resources	3.14%	3.04%	3.04%	2.09%	2.80%	2.45%	2.79%	2.53%	2.69%	2.90%	2.79%	2.99%	2.96%	3.19%	4.09%	4.76%	4.85%	3.36%	3.21%
32	Portland General	3.68%	3.94%	3.63%	3.62%	3.47%	2.85%	3.27%	2.92%	3.06%	3.27%	3.34%	3.67%	4.11%	4.37%	5.20%	5.36%	4.28%	3.34%	2.54%
33	PPL Corp.	4.47%	3.39%	3.23%	5.83%	5.84%	5.24%	5.61%	4.24%	4.25%	4.55%	4.45%	4.81%	5.07%	5.10%	5.12%	4.51%	3.10%	2.69%	3.41%
34	Public Serv. Enterprise	3.74%	3.78%	3.37%	3.37%	3.64%	3.19%	3.49%	3.74%	3.78%	3.81%	3.52%	4.35%	4.55%	4.24%	4.30%	4.30%	3.26%	2.73%	3.47%
35	SCANA Corp.	4.37%	N/A	N/A	N/A	N/A	N/A	N/A	4.03%	3.29%	3.90%	4.05%	4.15%	4.25%	4.78%	4.93%	5.67%	4.52%	4.29%	4.21%
36	Sempra Energy	2.99%	3.15%	2.99%	3.39%	3.24%	2.88%	3.20%	2.92%	2.92%	2.71%	2.61%	3.03%	3.71%	3.65%	3.08%	3.23%	2.62%	2.08%	2.47%
37	Southern Co.	4.58%	4.17%	3.82%	4.17%	4.36%	4.41%	5.27%	4.63%	4.42%	4.78%	4.69%	4.61%	4.29%	4.63%	5.13%	5.52%	4.58%	4.39%	4.52%
38	Vectren Corp.	4.38%	N/A	N/A	N/A	N/A	N/A	N/A	2.79%	3.31%	3.60%	3.62%	4.15%	4.82%	5.06%	5.53%	5.85%	4.79%	4.53%	4.52%
39	WEC Energy Group	3.05%	3.37%	3.08%	3.00%	2.68%	2.81%	3.38%	3.31%	3.35%	3.49%	3.40%	3.49%	3.24%	3.35%	2.97%	3.16%	2.41%	2.14%	2.18%
40	Westar Energy	4.37%	N/A	N/A	N/A	N/A	N/A	N/A	3.00%	2.90%	3.73%	3.88%	4.27%	4.57%	4.84%	5.32%	6.27%	5.22%	4.16%	4.28%
41	Xcel Energy Inc.	3.67%	3.06%	2.90%	2.81%	2.58%	2.75%	3.25%	3.10%	3.33%	3.69%	3.83%	3.86%	3.90%	4.20%	4.54%	5.14%	4.70%	4.05%	4.40%
42	**Average**	**3.82%**	**3.82%**	**3.42%**	**3.62%**	**3.68%**	**3.19%**	**3.68%**	**3.38%**	**3.48%**	**3.72%**	**3.68%**	**3.88%**	**4.18%**	**4.30%**	**4.84%**	**5.18%**	**4.25%**	**3.64%**	**3.73%**
43	Median	3.67%	3.69%	3.43%	3.50%	3.57%	3.06%	3.36%	3.16%	3.45%	3.73%	3.69%	3.84%	4.17%	4.46%	4.78%	5.20%	4.24%	3.46%	3.65%
44	20-Yr Treasury Yields[3]	3.23%	3.89%	3.30%	1.98%	1.35%	2.40%	3.02%	2.65%	2.23%	2.55%	3.07%	3.12%	2.54%	3.62%	4.03%	4.11%	4.36%	4.91%	4.99%
45	20-Yr TIPS[3]	1.05%	1.41%	0.64%	-0.43%	-0.30%	0.60%	0.94%	0.75%	0.66%	0.78%	0.87%	0.75%	0.21%	1.19%	1.73%	2.21%	2.19%	2.36%	2.31%
46	Implied Inflation[b]	2.16%	2.45%	2.64%	2.42%	1.66%	1.79%	2.06%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
47	**Real Dividend Yield[c]**	**1.63%**	**1.16%**	**0.77%**	**1.07%**	**1.88%**	**1.37%**	**1.47%**	**1.44%**	**1.81%**	**1.94%**	**1.43%**	**1.48%**	**1.81%**	**1.88%**	**2.33%**	**3.24%**	**2.07%**	**1.02%**	**1.08%**
	A Rated Utility																			
48	**Nominal "A" Rated Yield[4]**	**4.69%**	**5.28%**	**4.74%**	**3.10%**	**3.06%**	**3.77%**	**4.25%**	**4.00%**	**3.83%**	**4.12%**	**4.28%**	**4.48%**	**4.13%**	**5.04%**	**5.48%**	**6.04%**	**6.63%**	**6.07%**	**6.07%**
49	**Real "A" Rated Yield**	**2.47%**	**2.76%**	**2.06%**	**0.67%**	**1.37%**	**1.94%**	**2.14%**	**2.07%**	**2.34%**	**2.33%**	**2.04%**	**2.08%**	**1.78%**	**2.68%**	**3.13%**	**4.11%**	**4.81%**	**3.49%**	**3.36%**
	Baa Rated Utility																			
50	**Nominal "Baa" Rated Yield**	**6.19%**	**6.68%**	**6.05%**	**3.86%**	**3.44%**	**4.19%**	**4.67%**	**4.38%**	**4.67%**	**5.03%**	**4.80%**	**4.98%**	**4.83%**	**5.67%**	**5.98%**	**7.06%**	**7.25%**	**8.33%**	**8.32%**
51	**Real "Baa" Rated Yield**	**2.97%**	**3.07%**	**2.36%**	**0.91%**	**1.74%**	**2.38%**	**2.66%**	**2.44%**	**3.07%**	**3.22%**	**2.66%**	**2.67%**	**2.44%**	**3.09%**	**3.82%**	**5.11%**	**6.01%**	**3.74%**	**3.60%**
	Spreads (A Rated Utility Bond Stock)																			
52	**Nominal Spread[d]**	**0.88%**	**1.86%**	**1.32%**	**0.41%**	**0.50%**	**0.58%**	**0.89%**	**0.84%**	**0.44%**	**0.40%**	**0.82%**	**0.81%**	**0.06%**	**0.74%**	**0.82%**	**0.88%**	**2.28%**	**2.63%**	**2.34%**
53	**Real Spread[e]**	**0.86%**	**1.82%**	**1.28%**	**0.40%**	**0.49%**	**0.67%**	**0.88%**	**0.82%**	**0.43%**	**0.39%**	**0.81%**	**0.80%**	**0.06%**	**0.72%**	**0.80%**	**0.87%**	**2.23%**	**2.47%**	**2.28%**
	Spreads (Baa Rated Utility Bond Stock)																			
54	**Nominal Spread[b]**	**1.37%**	**1.87%**	**1.83%**	**0.16%**	**0.12%**	**1.00%**	**1.11%**	**1.01%**	**1.18%**	**1.31%**	**1.14%**	**1.12%**	**0.66%**	**1.26%**	**1.32%**	**1.80%**	**3.00%**	**2.78%**	**2.68%**
55	**Real Spread[c]**	**1.34%**	**1.82%**	**1.68%**	**0.16%**	**0.12%**	**0.88%**	**1.09%**	**1.00%**	**1.18%**	**1.29%**	**1.12%**	**1.08%**	**0.83%**	**1.23%**	**1.29%**	**1.87%**	**2.93%**	**2.72%**	**2.62%**
	Spreads (Treasury Bond Stock)																			
56	**Nominal[f]**	**0.69%**	**0.27%**	**0.12%**	**1.64%**	**2.20%**	**0.79%**	**0.64%**	**0.71%**	**1.27%**	**1.17%**	**0.68%**	**0.74%**	**1.63%**	**0.68%**	**0.61%**	**1.06%**	**0.11%**	**1.37%**	**1.28%**
57	**Real[g]**	**0.68%**	**0.28%**	**0.12%**	**1.60%**	**2.17%**	**0.77%**	**0.63%**	**0.70%**	**1.26%**	**1.16%**	**0.67%**	**0.73%**	**1.60%**	**0.67%**	**0.60%**	**1.03%**	**0.11%**	**1.33%**	**1.23%**



Sources

[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

[3] St. Louis Federal Reserve Economic Research, http://research.stlouisfed.org.
www.moodys.com, Bond Yields and Key Indicators, through June 9, 2023.

Notes

[4] Based on the average of the high and low price and the projected Dividends Declared per share, published in the Value Line Investment Survey.

[b] Line 47 (1 + Line 45) / (1 + Line 46) - 1.

[c] Line 48 (1 + Line 43) / (1 +Line 47) - 1.

[d] The spread being measured here is the nominal A-rated utility bond yield over the average nominal utility dividend yield; (Line 49 - Line 43).

[e] The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; Line 50 - Line 48)

[f] The spread being measured here is the nominal 20-Year Treasury yield over the average nominal util ty dividend yield; (Line 45 - Line 43).

[g] The spread being measured here is the real 20-Year TIPS yield over the average real utility dividend yield; Line 48 - Line 46)

Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

		Dividend per Share[1]																		
Line	Company	17-Year Average	2023[2]	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	ALLETE	2.05	2.71	2.60	2.52	2.47	2.35	2.24	2.14	2.08	2.02	1.96	1.90	1.84	1.78	1.76	1.76	1.72	1.64	1.45
2	Alliant Energy	1.12	1.81	1.71	1.61	1.52	1.42	1.34	1.26	1.18	1.10	1.02	0.94	0.90	0.85	0.79	0.75	0.70	0.64	0.58
3	Ameren Corp.	1.95	2.52	2.36	2.20	2.00	1.92	1.85	1.78	1.72	1.66	1.61	1.60	1.60	1.56	1.54	1.54	2.54	2.54	2.54
4	American Electric Power	2.23	3.35	3.17	3.00	2.84	2.71	2.53	2.39	2.27	2.15	2.03	1.95	1.88	1.85	1.71	1.64	1.64	1.58	1.50
5	Avangrid, Inc.	1.75	1.76	1.76	1.76	1.76	1.76	1.74	1.73	1.73	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.25	1.84	1.76	1.69	1.62	1.55	1.49	1.43	1.37	1.32	1.27	1.22	1.16	1.10	1.00	0.81	0.69	0.60	0.57
7	Black Hills	1.75	2.53	2.41	2.29	2.17	2.05	1.93	1.81	1.68	1.62	1.56	1.52	1.48	1.46	1.44	1.42	1.40	1.37	1.32
8	CenterPoint Energy	0.85	0.77	0.72	0.66	0.90	0.86	1.12	1.35	1.03	0.99	0.95	0.83	0.81	0.79	0.78	0.76	0.73	0.68	0.60
9	CMS Energy Corp.	1.15	1.95	1.84	1.74	1.63	1.53	1.43	1.33	1.24	1.16	1.08	1.02	0.96	0.84	0.66	0.50	0.36	0.20	N/A
10	Consol. Edison	2.66	3.24	3.16	3.10	3.06	2.96	2.86	2.76	2.68	2.60	2.52	2.46	2.42	2.40	2.38	2.36	2.34	2.32	2.30
11	Dominion Resources	2.42	2.67	2.67	2.52	3.45	3.67	3.34	3.04	2.80	2.59	2.40	2.25	2.11	1.97	1.83	1.75	1.58	1.46	1.38
12	DTE Energy	2.93	3.81	3.54	3.88	4.12	3.85	3.59	3.36	3.06	2.84	2.69	2.59	2.42	2.32	2.18	2.12	2.12	2.12	2.08
13	Duke Energy	3.32	4.06	3.98	3.90	3.82	3.75	3.64	3.49	3.36	3.24	3.15	3.09	3.03	2.97	2.91	2.82	2.70	2.58	N/A
14	Edison Int'l	1.85	2.95	2.84	2.69	2.58	2.48	2.43	2.23	1.98	1.73	1.48	1.37	1.31	1.29	1.27	1.25	1.23	1.18	1.10
15	El Paso Electric	1.11	N/A	N/A	N/A	N/A	N/A	1.42	1.32	1.23	1.17	1.11	1.05	0.97	0.66	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	3.38	4.30	4.10	3.86	3.74	3.66	3.58	3.50	3.42	3.34	3.32	3.32	3.32	3.32	3.24	3.00	3.00	2.58	2.16
17	Eversource Energy	1.62	2.70	2.55	2.41	2.27	2.14	2.02	1.90	1.78	1.67	1.57	1.47	1.32	1.10	1.03	0.95	0.83	0.78	0.73
18	Evergy, Inc.	2.35	2.53	2.33	2.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	1.62	1.44	1.35	1.53	1.53	1.45	1.38	1.31	1.26	1.24	1.24	1.46	2.10	2.10	2.10	2.10	2.05	1.82	1.64
20	FirstEnergy Corp.	1.78	1.62	1.56	1.56	1.56	1.53	1.82	1.44	1.44	1.44	1.44	1.65	2.20	2.20	2.20	2.20	2.20	2.05	1.85
21	Fortis Inc.	1.46	2.29	2.17	2.08	1.97	1.86	1.75	1.65	1.55	1.43	1.30	1.25	1.21	1.17	1.12	1.04	1.00	0.82	0.67
22	Great Plains Energy	1.11	N/A	N/A	N/A	N/A	N/A	N/A	1.10	1.06	1.00	0.94	0.88	0.86	0.84	0.83	0.83	1.66	1.66	1.66
23	Hawaiian Elec.	1.27	1.44	1.40	1.36	1.32	1.28	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
24	IDACORP, Inc.	1.94	3.20	3.04	2.88	2.72	2.56	2.40	2.24	2.08	1.92	1.76	1.57	1.37	1.20	1.20	1.20	1.20	1.20	1.20
25	MGE Energy	1.18	1.63	1.59	N/A	1.45	1.38	1.32	1.26	1.21	1.16	1.11	1.07	1.04	1.01	0.99	0.97	0.96	0.94	0.93
26	NextEra Energy, Inc.	0.90	1.87	1.70	1.54	1.40	1.25	1.11	0.98	0.87	0.77	0.73	0.66	0.60	0.55	0.50	0.47	0.45	0.41	0.38
27	NorthWestern Corp	1.84	2.56	2.52	2.48	2.40	2.30	2.20	2.10	2.00	1.92	1.60	1.52	1.48	1.44	1.36	1.34	1.32	1.28	1.24
28	OGE Energy	1.10	1.66	1.64	1.63	1.58	1.51	1.40	1.27	1.16	1.05	0.95	0.85	0.80	0.76	0.73	0.71	0.70	0.68	0.67
29	Otter Tail Corp.	1.31	1.75	1.65	1.56	1.48	1.40	1.34	1.28	1.25	1.23	1.21	1.19	1.19	1.19	1.19	1.19	1.19	1.17	1.15
30	Pinnacle West Capital	2.60	3.48	3.42	3.36	3.23	3.04	2.87	2.70	2.56	2.44	2.33	2.23	2.67	2.10	2.10	2.10	2.10	2.10	2.03
31	PNM Resources	0.89	1.49	1.41	0.98	1.25	1.18	1.09	0.99	0.88	0.80	0.76	0.68	0.58	0.50	0.50	0.50	0.61	0.91	0.86
32	Portland General	1.26	1.88	1.79	1.70	1.59	1.52	1.43	1.34	1.26	1.18	1.12	1.10	1.08	1.06	1.04	1.01	0.97	0.93	0.68
33	PPL Corp.	1.41	0.96	0.88	1.66	1.66	1.65	1.64	1.58	1.52	1.50	1.49	1.47	1.44	1.40	1.40	1.38	1.34	1.22	1.10
34	Public Serv. Enterprise	1.61	2.28	2.16	2.04	1.96	1.88	1.80	1.72	1.64	1.56	1.48	1.44	1.42	1.37	1.37	1.33	1.29	1.17	1.14
35	SCANA Corp.	2.00	N/A	N/A	N/A	N/A	N/A	N/A	2.45	2.30	2.18	2.10	2.03	1.98	1.94	1.90	1.88	1.84	1.76	1.68
36	Sempra Energy	2.83	4.76	4.58	4.40	4.18	3.87	3.58	3.29	3.02	2.80	2.64	2.52	2.40	1.92	1.56	1.56	1.37	1.24	1.20
37	Southern Co.	2.13	2.78	2.70	2.62	2.54	2.46	2.38	2.30	2.22	2.15	2.08	2.01	1.94	1.87	1.80	1.73	1.66	1.60	1.54
38	Vectren Corp.	1.42	N/A	N/A	N/A	N/A	N/A	N/A	1.71	1.62	1.54	1.46	1.43	1.41	1.39	1.37	1.35	1.31	1.27	1.23
39	WEC Energy Group	1.66	3.12	2.91	2.71	2.53	2.36	2.21	2.08	1.98	1.74	1.56	1.45	1.20	1.04	0.80	0.68	0.54	0.50	0.46
40	Westar Energy	1.30	N/A	N/A	N/A	N/A	N/A	N/A	1.60	1.52	1.44	1.40	1.36	1.32	1.28	1.24	1.20	1.16	1.08	0.98
41	Xcel Energy Inc.	1.33	2.08	1.95	1.83	1.72	1.62	1.52	1.44	1.36	1.28	1.20	1.11	1.07	1.03	1.00	0.97	0.94	0.91	0.88
42	**Average**	**1.76**	**2.44**	**2.33**	**2.28**	**2.23**	**2.14**	**2.03**	**1.90**	**1.79**	**1.70**	**1.61**	**1.56**	**1.54**	**1.46**	**1.42**	**1.38**	**1.39**	**1.32**	**1.24**
43	**Industry Average Growth**	**4.07%**	**4.61%**	**2.08%**	**2.47%**	**4.36%**	**5.29%**	**6.91%**	**5.99%**	**5.44%**	**5.35%**	**3.49%**	**1.01%**	**5.77%**	**2.46%**	**3.13%**	**-0.48%**	**4.89%**	**6.45%**	

Sources:

[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
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[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Earnings per Share[1] 17-Year Average (1)	2023[2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	ALLETE	2.97	3.70	3.38	3.23	3.35	3.33	3.38	3.13	3.14	3.38	2.90	2.63	2.58	2.65	2.19	1.89	2.82	3.08	2.77
2	Alliant Energy	1.82	2.85	2.73	2.63	2.47	2.33	2.19	1.99	1.65	1.69	1.74	1.65	1.53	1.38	1.38	0.95	1.27	1.35	1.03
3	Ameren Corp.	2.99	4.35	4.14	3.84	3.50	3.35	3.32	2.77	2.68	2.38	2.40	2.10	2.41	2.47	2.77	2.78	2.88	2.98	2.66
4	American Electric Power	3.68	5.35	5.09	4.96	4.42	4.08	3.90	3.62	4.23	3.59	3.34	3.18	2.98	3.13	2.60	2.97	2.99	2.86	2.86
5	Avangrid, Inc.	1.88	2.10	2.32	1.97	1.88	2.26	1.92	1.67	1.98	0.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	1.83	2.30	2.12	2.10	1.90	2.97	2.07	1.95	2.15	1.89	1.84	1.85	1.32	1.72	1.65	1.58	1.36	0.72	1.47
7	Black Hills	2.70	3.75	3.97	3.74	3.73	3.53	3.47	3.38	2.63	2.83	2.89	2.61	1.97	1.01	1.66	2.32	0.18	2.68	2.21
8	CenterPoint Energy	1.25	1.65	1.59	0.94	1.29	1.49	0.74	1.57	1.00	1.08	1.42	1.24	1.35	1.27	1.07	1.01	1.30	1.17	1.33
9	CMS Energy Corp.	1.83	3.05	2.84	2.58	2.64	2.39	2.32	2.17	1.98	1.89	1.74	1.66	1.53	1.45	1.33	0.93	1.23	0.64	0.64
10	Consol. Edison	3.90	4.85	4.55	4.74	3.94	4.08	4.55	4.10	3.94	4.05	3.62	3.93	3.86	3.57	3.47	3.14	3.36	3.48	2.95
11	Dominion Resources	2.97	4.00	4.11	3.19	1.82	2.19	3.25	3.53	3.44	3.20	3.05	3.09	2.75	2.76	2.89	2.64	3.04	2.13	2.40
12	DTE Energy	4.53	6.20	5.52	4.10	7.08	6.31	6.17	5.73	4.83	4.44	5.10	3.76	3.88	3.67	3.74	3.24	2.73	2.66	2.45
13	Duke Energy	4.10	5.65	5.27	4.93	3.92	5.07	4.13	4.22	3.71	4.10	4.13	3.98	3.71	4.14	4.02	3.39	3.03	3.60	2.73
14	Edison Int'l	3.23	4.70	1.60	2.00	1.72	3.98	-1.26	4.51	3.94	4.15	4.33	3.78	4.55	3.23	3.35	3.24	3.68	3.32	3.28
15	El Paso Electric	2.02	N/A	N/A	N/A	N/A	N/A	2.07	2.42	2.39	2.03	2.27	2.20	2.26	2.48	2.07	1.50	1.73	1.63	1.27
16	Entergy Corp.	6.08	5.85	5.37	6.87	6.90	6.30	5.88	5.19	6.88	5.81	5.77	4.96	6.02	7.55	6.66	6.30	6.20	5.60	5.36
17	Eversource Energy	2.70	4.35	4.09	3.54	3.55	3.45	3.25	3.11	2.96	2.76	2.58	2.49	1.89	2.22	2.10	1.91	1.86	1.59	0.82
18	Evergy, Inc.	3.58	3.65	3.26	3.83	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	2.84	2.40	2.26	1.74	2.60	3.01	2.07	2.78	1.80	2.54	2.10	2.31	1.92	3.75	3.87	4.29	4.10	4.03	3.50
20	FirstEnergy Corp.	2.57	2.55	2.41	2.69	1.85	1.84	1.33	2.73	2.10	2.00	0.85	2.97	2.13	1.88	3.25	3.32	4.38	4.22	3.82
21	Fortis Inc.	2.02	2.90	2.78	2.61	2.60	2.68	2.52	2.66	1.89	2.11	1.38	1.63	1.65	1.74	1.62	1.51	1.52	1.29	1.36
22	Great Plains Energy	1.33	N/A	N/A	N/A	N/A	N/A	N/A	-0.06	1.61	1.37	1.57	1.62	1.35	1.25	1.53	1.03	1.16	1.85	1.62
23	Hawaiian Elec.	1.66	2.30	2.20	2.25	1.81	1.99	1.85	1.64	2.29	1.50	1.64	1.62	1.67	1.44	1.21	0.91	1.07	1.11	1.33
24	IDACORP, Inc.	3.73	5.10	5.11	4.85	4.69	4.61	4.49	4.21	3.94	3.87	3.85	3.64	3.37	3.36	2.95	2.64	2.18	1.86	2.35
25	MGE Energy	2.12	3.35	3.07	N/A	2.60	2.51	2.43	2.20	2.18	2.06	2.32	2.16	1.86	1.76	1.67	1.47	1.59	1.51	1.37
26	NextEra Energy, Inc.	1.55	3.15	2.90	1.81	2.10	1.94	1.67	1.63	1.45	1.52	1.40	1.21	1.14	1.21	1.19	0.99	1.02	0.82	0.81
27	NorthWestern Corp	2.72	3.45	3.29	3.60	3.06	3.53	3.40	3.34	3.39	2.90	2.99	2.46	2.26	2.53	2.14	2.02	1.77	1.44	1.31
28	OGE Energy	1.80	2.00	2.25	2.36	2.08	2.24	2.12	1.92	1.69	1.69	1.98	1.94	1.79	1.73	1.50	1.33	1.25	1.32	1.23
29	Otter Tail Corp.	2.08	4.75	6.78	4.23	2.34	2.17	2.06	1.86	1.60	1.56	1.55	1.37	1.05	0.45	0.38	0.71	1.09	1.78	1.69
30	Pinnacle West Capital	3.76	4.15	4.26	5.47	4.87	4.77	4.54	4.43	3.95	3.92	3.58	3.66	3.50	2.99	3.08	2.26	2.12	2.96	3.17
31	PNM Resources	1.57	2.70	2.69	2.27	2.15	2.28	1.66	1.92	1.65	1.64	1.45	1.41	1.31	1.08	0.87	0.58	0.11	0.76	1.72
32	Portland General	2.04	2.70	2.74	2.72	1.72	2.39	2.37	2.29	2.16	2.04	2.18	1.77	1.87	1.95	1.66	1.31	1.39	2.33	1.14
33	PPL Corp.	2.15	1.60	1.41	0.53	2.04	2.37	2.58	2.11	2.79	2.37	2.38	2.38	2.61	2.61	2.29	1.19	2.45	2.63	2.29
34	Public Serv. Enterprise	2.96	3.55	3.47	2.55	3.61	3.90	2.76	2.82	2.83	3.30	2.99	2.45	2.44	3.11	3.07	3.08	2.90	2.59	1.85
35	SCANA Corp.	3.30	N/A	N/A	N/A	N/A	N/A	N/A	4.20	4.16	3.81	3.79	3.39	3.15	2.97	2.98	2.85	2.95	2.74	2.59
36	Sempra Energy	5.21	9.00	9.21	4.01	6.58	5.97	5.48	4.63	4.24	5.23	4.63	4.22	4.35	4.47	4.02	4.78	4.43	4.26	4.23
37	Southern Co.	2.83	3.65	3.61	3.42	3.25	3.17	3.00	3.21	2.83	2.84	2.77	2.70	2.67	2.55	2.36	2.32	2.25	2.28	2.10
38	Vectren Corp.	1.94	N/A	N/A	N/A	N/A	N/A	N/A	2.60	2.55	2.39	2.02	1.66	1.94	1.73	1.64	1.79	1.63	1.83	1.44
39	WEC Energy Group	2.76	4.60	4.46	4.11	3.79	3.58	3.34	3.14	2.96	2.34	2.59	2.51	2.35	2.18	1.92	1.60	1.52	1.42	1.32
40	Westar Energy	1.96	N/A	N/A	N/A	N/A	N/A	N/A	2.27	2.43	2.09	2.35	2.27	2.15	1.79	1.80	1.28	1.31	1.84	1.88
41	Xcel Energy Inc.	2.15	3.35	3.17	2.96	2.79	2.64	2.47	2.30	2.21	2.10	2.03	1.91	1.85	1.72	1.56	1.49	1.46	1.35	1.35
42	**Average**	**2.74**	**3.77**	**3.61**	**3.24**	**3.16**	**3.28**	**2.87**	**2.90**	**2.81**	**2.68**	**2.65**	**2.52**	**2.44**	**2.43**	**2.35**	**2.17**	**2.19**	**2.25**	**2.09**
43	**Industry Average Growth**	**3.61%**	**4.29%**	**11.50%**	**2.47%**	**-3.54%**	**14.00%**	**-0.78%**	**3.26%**	**4.58%**	**1.09%**	**5.23%**	**3.58%**	**0.03%**	**3.76%**	**8.23%**	**-0.89%**	**-2.75%**	**7.36%**	

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Cash Flow / Capital Spending[1] 2019 (1)	2020 (2)	2021 (3)	2022 (4)	2023 (5)	2024[2] (6)	3 - 5 yr[2] Projection (7)
1	ALLETE	0.63x	0.74x	0.80x	2.26x	1.42x	1.47x	1.31x
2	Alliant Energy	0.73x	0 82x	0.97x	0.94x	0.95x	0.99x	1.19x
3	Ameren Corp.	0.79x	0 51x	0.59x	0.72x	0.74x	0.80x	0.94x
4	American Electric Power	0.75x	0.74x	0.69x	0.73x	0.72x	0.82x	1.05x
5	Avangrid, Inc.	0.70x	0 56x	0.62x	0.61x	0.57x	0.59x	0.66x
6	Avista Corp.	0.89x	0 85x	0.87x	0.83x	0.78x	0.84x	1.01x
7	Black Hills	0.51x	0.72x	0.76x	0.85x	0.82x	0.85x	1.05x
8	CenterPoint Energy	0.83x	0 88x	0.62x	0.62x	0.57x	0.57x	0.53x
9	CMS Energy Corp.	0.79x	0 82x	0.77x	0.78x	0.92x	0.86x	0.92x
10	Consol. Edison	0.79x	0 82x	0.89x	0.83x	0.72x	0.82x	0.87x
11	Dominion Resources	0.81x	1 00x	0.89x	0.74x	0.63x	0.64x	0.92x
12	DTE Energy	0.83x	0 67x	0.70x	0.75x	0.82x	0.83x	0.92x
13	Duke Energy	0.78x	0 86x	0.93x	0.81x	0.79x	0.77x	0.87x
14	Edison Int'l	0.69x	0 67x	0.74x	0.67x	0.75x	0.77x	0.83x
15	El Paso Electric	0.96x	1 00x	0.83x	N/A	N/A	N/A	N/A
16	Entergy Corp.	0.79x	0 81x	1.05x	0.98x	0.85x	0.91x	0.96x
17	Eversource Energy	0.78x	0 95x	0.74x	0.72x	0.86x	0.93x	1.08x
18	Evergy, Inc.	1.34x	1 06x	0.96x	0.94x	0.86x	0.89x	0.97x
19	Exelon Corp.	1.18x	1 30x	1.32x	0.96x	0.99x	1.03x	1.07x
20	FirstEnergy Corp.	0.74x	0 96x	0.91x	0.86x	0.80x	0.81x	0.88x
21	Fortis Inc.	0.68x	0 60x	0.74x	0.75x	0.82x	0.80x	0.91x
22	Hawaiian Elec.	1.12x	1.10x	1.42x	1.30x	1.51x	1.49x	1.48x
23	IDACORP, Inc.	1.25x	1 25x	1.16x	0.83x	0.63x	0.58x	0.97x
24	MGE Energy	0.97x	0.73x	0.87x	N/A	1.26x	1.56x	1.33x
25	NextEra Energy, Inc.	0.67x	0 58x	0.69x	0.54x	0.59x	0.63x	0.74x
26	NorthWestern Corp	1.07x	0 98x	0.82x	0.66x	0.75x	0.96x	1.28x
27	OGE Energy	1.26x	1.43x	1.13x	0.99x	0.97x	0.98x	1.32x
28	Otter Tail Corp.	0.80x	0.45x	1.42x	1.45x	1.08x	0.99x	0.96x
29	Pinnacle West Capital	0.98x	0 98x	0.85x	0.78x	0.95x	0.92x	1.03x
30	PNM Resources	0.72x	0 59x	0.51x	0.63x	0.63x	0.75x	0.91x
31	Portland General	0.99x	0.75x	0.97x	1.01x	0.58x	0.82x	0.99x
32	PPL Corp.	0.92x	1 06x	1.12x	1.35x	0.98x	0.90x	0.93x
33	Public Serv. Enterprise	1.07x	1 00x	1.05x	0.82x	0.87x	0.92x	1.07x
34	Sempra Energy	0.66x	0 92x	0.78x	0.92x	0.96x	1.02x	1.27x
35	Southern Co.	0.88x	1 01x	0.93x	0.97x	0.97x	1.02x	1.23x
36	WEC Energy Group	0.91x	0.70x	0.75x	0.87x	0.92x	0.97x	1.15x
37	Xcel Energy Inc.	0.69x	0 99x	0.86x	0.80x	0.92x	0.94x	1.05x
38	Average	0.86x	0 86x	0.88x	0.89x	0.86x	0.90x	1.02x
39	Median	0.80x	0 85x	0.86x	0.83x	0.84x	0.87x	0.98x

Source:
[1] Data for the years 2019 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.
Notes:
Based on the projected Cash Flow per share and Capital Spending per share.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

		Percent Dividends to Book Value [1]																		
Line	Company	18-Year Average (1)	2023 [2/a] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	ALLETE	5.90%	5.52%	5.52%	5.56%	5.61%	5.44%	5.35%	5.29%	5.45%	5.45%	5.59%	5.86%	6.04%	6.18%	6.46%	6.67%	6.78%	6.80%	6.62%
2	Alliant Energy	6.39%	6.82%	6.84%	6.73%	6.68%	6.68%	6.90%	7.32%	6.96%	6.70%	6.56%	6.36%	6.37%	6.26%	6.06%	5.98%	5.48%	5.23%	5.04%
3	Ameren Corp.	6.03%	6.27%	5.88%	5.84%	5.67%	5.87%	5.92%	6.01%	5.86%	5.78%	5.82%	5.93%	5.87%	4.76%	4.79%	4.66%	7.74%	7.84%	7.97%
4	American Electric Power	6.31%	6.37%	6.80%	6.74%	6.86%	6.82%	6.56%	6.43%	6.42%	5.90%	5.91%	5.91%	5.99%	6.10%	6.04%	5.97%	6.23%	6.28%	6.32%
5	Avangrid, Inc.	3.15%	3.49%	3.51%	3.57%	3.58%	3.57%	3.57%	3.54%	3.53%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	5.06%	5.65%	5.65%	5.61%	5.53%	5.37%	5.52%	5.41%	5.33%	5.38%	5.33%	5.65%	5.51%	5.42%	5.07%	4.23%	3.77%	3.44%	3.26%
7	Black Hills	5.33%	5.34%	5.32%	5.32%	5.32%	5.34%	5.31%	5.67%	5.55%	5.66%	5.06%	5.17%	5.31%	5.30%	5.14%	5.10%	5.15%	5.34%	5.58%
8	CenterPoint Energy	9.29%	4.57%	4.90%	4.82%	8.35%	6.59%	8.94%	12.39%	12.82%	12.30%	8.96%	8.23%	8.05%	7.97%	10.36%	11.28%	12.40%	12.12%	12.09%
9	CMS Energy Corp.	6.70%	7.74%	7.89%	7.87%	8.57%	8.66%	8.52%	8.43%	8.14%	8.16%	8.10%	7.86%	7.94%	7.05%	5.90%	4.38%	3.31%	2.11%	0.00%
10	Consol. Edison	5.99%	5.52%	5.42%	5.48%	5.56%	5.46%	5.49%	5.55%	5.72%	5.84%	5.87%	5.88%	5.97%	6.15%	6.27%	6.47%	6.60%	7.12%	7.40%
11	Dominion Resources	10.12%	8.10%	8.54%	8.00%	11.72%	10.39%	11.31%	11.41%	12.04%	12.20%	12.16%	11.24%	11.50%	9.81%	8.86%	9.38%	9.14%	8.95%	7.46%
12	DTE Energy	6.26%	7.20%	7.64%	8.64%	6.43%	6.34%	6.38%	6.34%	6.09%	5.81%	5.72%	5.79%	5.66%	5.60%	5.49%	5.59%	5.76%	5.91%	6.28%
13	Duke Energy	5.47%	6.29%	6.47%	6.34%	6.39%	6.12%	6.04%	5.85%	5.73%	5.61%	5.45%	5.28%	5.22%	5.81%	5.72%	5.66%	5.45%	5.12%	0.00%
14	Edison Int'l	5.63%	7.97%	9.24%	7.36%	6.96%	6.73%	7.56%	6.23%	5.39%	4.97%	4.41%	4.48%	4.54%	4.16%	3.90%	4.12%	4.19%	4.53%	4.65%
15	El Paso Electric	2.94%	N/A	N/A	N/A	5.13%	N/A	4.94%	4.67%	4.62%	4.63%	4.53%	4.46%	4.72%	3.47%	0.00%	0.00%	0.00%	0.00%	0.00%
16	Entergy Corp.	6.72%	6.80%	6.68%	6.72%	6.85%	7.13%	7.65%	7.90%	7.58%	6.44%	5.95%	6.15%	6.42%	6.53%	6.82%	6.59%	7.13%	6.34%	5.34%
17	Eversource Energy	5.04%	5.82%	5.74%	5.69%	5.54%	5.59%	5.57%	5.43%	5.27%	5.12%	4.99%	4.82%	4.49%	4.86%	4.75%	4.66%	4.26%	4.16%	4.00%
18	Evergy, Inc.	5.56%	5.93%	5.57%	5.41%	5.32%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	7.03%	5.71%	5.42%	4.36%	4.62%	4.38%	4.34%	4.23%	4.51%	4.42%	4.72%	5.49%	8.38%	9.68%	10.25%	10.96%	12.21%	11.87%	11.02%
20	FirstEnergy Corp.	8.78%	8.62%	8.78%	10.26%	11.70%	11.86%	13.82%	16.34%	10.21%	4.91%	4.88%	5.44%	7.03%	6.93%	7.85%	7.84%	8.10%	6.96%	6.54%
21	Fortis Inc.	5.42%	5.83%	5.95%	5.59%	5.39%	5.08%	5.03%	5.19%	4.80%	5.00%	5.22%	5.58%	5.81%	5.70%	5.91%	5.60%	5.55%	4.90%	5.47%
22	Great Plains Energy	5.31%	N/A	N/A	N/A	N/A	N/A	N/A	4.78%	4.27%	4.21%	4.02%	3.91%	3.93%	3.84%	3.90%	4.03%	7.76%	9.13%	9.94%
23	Hawaiian Elec.	7.18%	6.64%	6.96%	6.22%	6.17%	6.12%	6.24%	6.43%	6.51%	6.91%	7.10%	7.27%	7.62%	7.77%	7.91%	7.96%	8.08%	8.11%	9.22%
24	IDACORP, Inc.	4.69%	5.53%	5.48%	5.45%	5.36%	5.24%	5.11%	5.02%	4.87%	4.70%	4.53%	4.26%	3.91%	3.62%	3.87%	4.11%	4.32%	4.48%	4.66%
25	MGE Energy	6.11%	5.35%	5.32%	N/A	5.22%	5.59%	5.60%	5.61%	5.79%	5.82%	5.84%	6.01%	6.22%	6.36%	6.56%	6.72%	6.87%	7.24%	7.77%
26	NextEra Energy, Inc.	6.72%	8.42%	8.61%	8.13%	7.51%	6.61%	6.22%	6.55%	6.69%	6.29%	6.49%	6.36%	6.34%	6.12%	5.82%	5.99%	6.30%	6.22%	6.21%
27	NorthWestern Corp	5.81%	5.39%	5.65%	5.73%	5.84%	5.69%	5.70%	5.76%	5.77%	5.78%	5.08%	5.71%	5.90%	6.08%	6.01%	6.13%	6.21%	6.06%	6.00%
28	OGE Energy	6.86%	7.46%	7.47%	8.04%	8.71%	7.28%	6.96%	6.59%	6.70%	6.30%	5.84%	5.56%	5.70%	5.81%	6.24%	6.79%	6.89%	7.47%	7.61%
29	Otter Tail Corp.	7.03%	5.87%	5.61%	6.54%	7.05%	7.19%	7.29%	7.27%	7.34%	7.70%	7.86%	8.07%	8.25%	7.52%	6.77%	6.33%	6.22%	6.67%	6.90%
30	Pinnacle West Capital	6.21%	6.44%	6.40%	6.43%	6.47%	6.29%	6.16%	6.03%	5.93%	5.91%	5.89%	5.84%	7.38%	6.00%	6.20%	6.42%	6.15%	5.98%	5.87%
31	PNM Resources	4.02%	5.59%	5.52%	3.88%	5.23%	5.59%	5.12%	4.67%	4.18%	3.85%	3.37%	3.26%	2.89%	2.55%	2.84%	2.65%	3.20%	4.13%	3.89%
32	Portland General	4.90%	5.71%	5.75%	5.61%	5.45%	5.24%	5.09%	4.94%	4.78%	4.64%	4.56%	4.70%	4.70%	4.78%	4.90%	4.93%	4.48%	4.42%	3.45%
33	PPL Corp.	8.50%	4.92%	4.66%	8.89%	9.55%	9.74%	10.13%	10.18%	10.44%	10.19%	7.28%	7.43%	8.00%	7.48%	8.24%	9.47%	9.89%	8.20%	8.27%
34	Public Serv. Enterprise	7.00%	7.93%	7.82%	7.12%	6.18%	6.28%	6.31%	6.27%	6.31%	6.03%	6.14%	6.28%	6.66%	6.75%	7.20%	7.66%	8.40%	8.15%	8.54%
35	SCANA Corp.	6.44%	N/A	N/A		N/A	N/A	N/A	6.67%	5.74%	5.72%	6.01%	6.14%	6.29%	6.48%	6.54%	6.80%	7.12%	6.94%	6.89%
36	Sempra Energy	5.34%	5.56%	5.49%	5.56%	5.96%	6.39%	6.59%	6.53%	5.83%	5.89%	5.74%	5.60%	5.66%	4.68%	4.16%	4.27%	4.18%	3.89%	4.19%
37	Southern Co.	9.58%	9.93%	9.67%	9.96%	9.59%	9.42%	9.95%	9.59%	8.89%	9.53%	9.48%	9.39%	9.22%	9.22%	9.38%	9.55%	9.74%	9.83%	10.07%
38	Vectren Corp.	7.71%	N/A	N/A	N/A	N/A	N/A	N/A	7.67%	7.60%	7.57%	7.51%	7.55%	7.57%	7.74%	7.78%	7.84%	7.85%	7.86%	7.97%
39	WEC Energy Group	6.42%	8.35%	7.92%	7.83%	7.62%	7.36%	7.12%	6.94%	7.00%	6.35%	7.96%	7.71%	6.65%	6.05%	4.92%	4.42%	3.78%	3.77%	3.72%
40	Westar Energy	5.71%	N/A	N/A	N/A	N/A	N/A	N/A	5.82%	5.66%	5.57%	5.60%	5.70%	5.77%	5.81%	5.84%	5.83%	5.75%	5.64%	5.56%
41	Xcel Energy Inc.	6.19%	6.58%	6.43%	6.38%	6.34%	6.42%	6.39%	6.38%	6.26%	6.13%	5.94%	5.78%	5.88%	5.91%	5.97%	6.09%	6.13%	6.19%	6.16%
42	Average	6.34%	6.42%	6.46%	6.50%	6.65%	6.57%	6.69%	6.73%	6.46%	6.13%	6.09%	6.11%	6.29%	6.11%	6.07%	6.13%	6.37%	6.29%	6.10%
43	Median	6.09%	6.10%	5.92%	6.34%	6.18%	6.29%	6.23%	6.25%	5.85%	5.82%	5.84%	5.84%	5.99%	6.08%	6.01%	5.99%	6.22%	6.22%	6.21%

Sources:

[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.

[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

[a] Based on the projected 2022 Dividend Declared per share and Book Value per share,
published in The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	Dividends to Earnings Ratio [1] 18-Year Average	2023 [2/a]	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	ALLETE	0.70	0.73	0.77	0.78	0.74	0.71	0.66	0.68	0.66	0.60	0.68	0.72	0.71	0.67	0.80	0.93	0.61	0.53	0.52
2	Alliant Energy	0.61	0.64	0.63	0.61	0.62	0.61	0.61	0.63	0.72	0.65	0.59	0.57	0.59	0.62	0.57	0.79	0.55	0.47	0.56
3	Ameren Corp.	0.66	0.58	0.57	0.57	0.57	0.57	0.56	0.64	0.64	0.70	0.67	0.76	0.66	0.63	0.56	0.55	0.88	0.85	0.95
4	American Electric Power	0.60	0.63	0.62	0.60	0.64	0.66	0.65	0.66	0.54	0.60	0.61	0.61	0.63	0.59	0.66	0.55	0.55	0.55	0.52
5	Avangrid, Inc.	0.88	0.84	0.76	0.89	0.94	0.78	0.91	1.03	0.87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	0.68	0.80	0.83	0.80	0.85	0.52	0.72	0.73	0.64	0.70	0.69	0.66	0.88	0.64	0.61	0.51	0.51	0.83	0.39
7	Black Hills	1.06	0.67	0.61	0.61	0.58	0.58	0.56	0.54	0.64	0.57	0.54	0.58	0.75	1.45	0.87	0.61	7.78	0.51	0.60
8	CenterPoint Energy	0.71	0.47	0.45	0.70	0.70	0.58	1.51	0.86	1.03	0.92	0.67	0.67	0.60	0.62	0.73	0.75	0.56	0.58	0.45
9	CMS Energy Corp.	0.57	0.64	0.65	0.67	0.62	0.64	0.62	0.61	0.63	0.61	0.62	0.61	0.63	0.58	0.50	0.54	0.29	0.31	N/A
10	Consol. Edison	0.69	0.67	0.69	0.65	0.78	0.73	0.63	0.67	0.68	0.64	0.70	0.63	0.63	0.67	0.69	0.75	0.70	0.67	0.78
11	Dominion Resources	0.85	0.67	0.65	0.79	1.90	1.68	1.03	0.86	0.81	0.81	0.79	0.73	0.77	0.71	0.63	0.66	0.52	0.69	0.58
12	DTE Energy	0.66	0.61	0.64	0.95	0.58	0.61	0.58	0.59	0.63	0.64	0.53	0.69	0.62	0.63	0.58	0.65	0.78	0.80	0.85
13	Duke Energy	0.80	0.72	0.76	0.79	0.97	0.74	0.88	0.83	0.91	0.79	0.76	0.78	0.82	0.72	0.72	0.83	0.89	0.72	N/A
14	Edison Int'l	0.47	0.63	1.78	1.35	1.50	0.62	- 1.93	0.50	0.50	0.42	0.34	0.36	0.29	0.40	0.38	0.38	0.33	0.35	0.34
15	El Paso Electric	0.50	N/A	N/A	N/A	N/A	N/A	0.68	0.54	0.51	0.57	0.49	0.48	0.43	0.27	N/A	N/A	N/A	N/A	N/A
16	Entergy Corp.	0.56	0.74	0.76	0.56	0.54	0.58	0.61	0.67	0.50	0.57	0.58	0.67	0.55	0.44	0.49	0.48	0.48	0.46	0.40
17	Eversource Energy	0.60	0.62	0.62	0.68	0.64	0.62	0.62	0.61	0.60	0.61	0.61	0.59	0.70	0.50	0.49	0.50	0.44	0.49	0.88
18	Evergy, Inc.	0.66	0.69	0.71	0.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	0.60	0.60	0.60	0.88	0.59	0.48	0.67	0.47	0.70	0.49	0.59	0.63	1.09	0.56	0.54	0.49	0.50	0.45	0.47
20	FirstEnergy Corp.	0.78	0.64	0.65	0.58	0.84	0.83	1.37	0.53	0.69	0.72	1.69	0.56	1.03	1.17	0.68	0.66	0.50	0.49	0.48
21	Fortis Inc.	0.72	0.79	0.78	0.80	0.76	0.69	0.69	0.62	0.82	0.68	0.94	0.77	0.73	0.67	0.69	0.69	0.66	0.64	0.49
22	Great Plains Energy	- 0.82	N/A	N/A	N/A	N/A	N/A	N/A	-18.33	0.66	0.73	0.60	0.54	0.63	0.67	0.54	0.81	1.43	0.90	1.02
23	Hawaiian Elec.	0.82	0.63	0.64	0.60	0.73	0.64	0.67	0.76	0.54	0.83	0.76	0.77	0.74	0.86	1.02	1.36	1.16	1.12	0.93
24	IDACORP, Inc.	0.51	0.63	0.59	0.59	0.58	0.56	0.53	0.53	0.53	0.50	0.46	0.43	0.41	0.36	0.41	0.45	0.55	0.65	0.51
25	MGE Energy	0.57	0.49	0.52	N/A	0.56	0.55	0.54	0.57	0.56	0.56	0.48	0.50	0.56	0.57	0.60	0.66	0.60	0.62	0.68
26	NextEra Energy, Inc.	0.56	0.59	0.59	0.85	0.67	0.64	0.66	0.60	0.60	0.51	0.52	0.55	0.53	0.45	0.42	0.47	0.44	0.50	0.47
27	NorthWestern Corp	0.69	0.74	0.77	0.69	0.78	0.65	0.65	0.63	0.59	0.66	0.54	0.62	0.65	0.57	0.64	0.66	0.75	0.89	0.95
28	OGE Energy	0.60	0.83	0.73	0.69	0.76	0.67	0.66	0.66	0.68	0.62	0.48	0.44	0.45	0.44	0.49	0.54	0.56	0.52	0.55
29	Otter Tail Corp.	0.99	0.37	0.24	0.37	0.63	0.65	0.65	0.69	0.78	0.79	0.78	0.87	1.13	2.64	3.13	1.68	1.09	0.66	0.68
30	Pinnacle West Capital	0.71	0.84	0.80	0.61	0.66	0.64	0.63	0.61	0.65	0.62	0.65	0.61	0.76	0.70	0.68	0.93	0.99	0.71	0.64
31	PNM Resources	0.85	0.55	0.52	0.43	0.58	0.52	0.65	0.52	0.53	0.49	0.52	0.48	0.44	0.46	0.57	0.86	5.50	1.20	0.50
32	Portland General	0.62	0.70	0.65	0.63	0.92	0.64	0.60	0.59	0.58	0.58	0.51	0.62	0.57	0.54	0.62	0.77	0.70	0.40	0.59
33	PPL Corp.	0.78	0.60	0.62	3.13	0.81	0.70	0.64	0.75	0.54	0.63	0.63	0.62	0.55	0.54	0.61	1.16	0.55	0.46	0.48
34	Public Serv. Enterprise	0.55	0.64	0.62	0.80	0.54	0.48	0.65	0.61	0.58	0.47	0.49	0.59	0.58	0.44	0.45	0.43	0.44	0.45	0.62
35	SCANA Corp.	0.61	N/A	N/A		N/A	N/A	N/A	0.58	0.55	0.57	0.55	0.60	0.63	0.65	0.64	0.66	0.62	0.64	0.65
36	Sempra Energy	0.54	0.53	0.50	1.10	0.64	0.65	0.65	0.71	0.71	0.54	0.57	0.60	0.55	0.43	0.39	0.33	0.31	0.29	0.28
37	Southern Co.	0.75	0.76	0.75	0.77	0.78	0.78	0.79	0.72	0.79	0.76	0.75	0.75	0.73	0.73	0.76	0.75	0.74	0.70	0.73
38	Vectren Corp.	0.75	N/A	N/A	N/A	N/A	N/A	N/A	0.66	0.64	0.64	0.72	0.86	0.72	0.80	0.84	0.75	0.80	0.69	0.85
39	WEC Energy Group	0.56	0.68	0.65	0.66	0.67	0.66	0.66	0.66	0.67	0.74	0.60	0.58	0.51	0.48	0.42	0.42	0.36	0.35	0.35
40	Westar Energy	0.68	N/A	N/A	N/A	N/A	N/A	N/A	0.70	0.63	0.69	0.60	0.60	0.61	0.72	0.69	0.94	0.89	0.59	0.52
41	Xcel Energy Inc.	0.62	0.62	0.62	0.62	0.62	0.61	0.62	0.63	0.62	0.61	0.59	0.58	0.58	0.60	0.64	0.65	0.64	0.67	0.65
42	Average	0.65	0.65	0.68	0.78	0.75	0.66	0.64	0.18	0.65	0.64	0.64	0.62	0.65	0.67	0.68	0.70	0.96	0.62	0.61
43	Median	0.63	0.64	0.64	0.68	0.67	0.64	0.65	0.63	0.64	0.62	0.60	0.61	0.63	0.62	0.62	0.66	0.61	0.60	0.57

Sources:

[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
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[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

Note:

[b] Based on the projected 2022 Dividends Declared per share and Earnings per share,
published in The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Electric Utilities
(Valuation Metrics)

Line	Company	18-Year Average (1)	2023 [2/a] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
		Cash Flow to Capital Spending Ratio [1]																		
1	ALLETE	0.91	1.42	2.12	0.55	0.55	0.63	1.22	1.61	1.32	1.16	0.45	0.67	0.49	0.77	0.63	0.39	0.46	0.65	1.23
2	Alliant Energy	0.82	0.95	0.91	0.95	N/A	N/A	N/A	0.49	N/A	0.81	0.91	1.01	0.57	0.91	0.67	0.39	0.57	1.04	1.27
3	Ameren Corp.	0.86	0.74	0.71	0.62	0.62	0.79	0.80	0.75	0.75	0.75	0.75	0.89	1.07	1.31	1.36	0.81	0.66	0.97	1.21
4	American Electric Power	0.86	0.72	0.81	0.81	0.81	0.75	0.68	0.67	0.85	0.85	0.87	0.91	1.07	1.19	1.24	1.02	0.70	0.77	0.75
5	Avangrid, Inc.	0.70	0.57	0.79	0.56	0.56	0.62	0.85	0.57	0.86	0.89	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Avista Corp.	0.88	0.78	0.73	0.88	0.88	0.92	0.78	0.77	0.84	0.76	0.80	0.86	0.80	0.90	0.99	1.15	0.97	0.73	1.36
7	Black Hills	0.67	0.82	0.86	0.61	0.61	0.53	0.87	1.17	0.71	0.64	0.70	0.74	0.71	0.40	0.41	0.61	0.35	0.76	0.55
8	CenterPoint Energy	0.98	0.57	0.52	0.73	0.73	0.83	0.98	1.22	1.12	0.92	1.20	1.18	1.37	1.12	0.88	0.99	1.16	0.98	1.08
9	CMS Energy Corp.	0.87	0.92	0.82	0.78	0.78	0.79	0.77	0.89	0.81	0.81	0.74	0.82	0.82	1.05	1.13	0.97	1.11	0.55	1.07
10	Consol. Edison	0.82	0.72	0.88	0.83	0.83	0.87	0.82	0.76	0.65	0.76	0.88	0.86	1.01	0.98	0.90	0.75	0.70	0.81	0.74
11	Dominion Resources	0.78	0.63	0.86	0.73	0.73	0.96	1.04	0.81	0.65	0.64	0.63	0.77	0.73	0.79	0.87	0.75	0.83	0.74	0.85
12	DTE Energy	1.27	6.00	0.86	0.74	0.74	0.83	0.84	0.94	0.93	0.84	1.02	0.96	0.93	1.09	1.51	1.50	0.98	1.07	1.03
13	Duke Energy	0.89	0.79	0.87	0.85	0.85	0.80	0.81	0.87	0.82	0.96	1.20	1.09	0.87	0.89	0.78	0.77	0.71	1.09	0.97
14	Edison Int'l	0.74	0.75	0.62	0.55	0.55	0.68	0.34	0.94	0.91	0.80	0.83	0.80	0.76	0.61	0.60	0.79	0.93	0.88	0.93
15	El Paso Electric	0.87	N/A	N/A	0.83	N/A	N/A	0.86	1.04	0.85	0.67	0.69	0.79	0.85	1.03	0.98	0.68	0.78	0.84	1.26
16	Entergy Corp.	0.95	0.85	0.62	0.74	0.74	0.79	0.73	0.76	1.08	1.05	1.19	1.03	0.88	1.15	1.24	1.02	0.93	1.14	1.13
17	Eversource Energy	0.85	0.86	0.89	0.80	0.80	0.75	0.83	0.79	0.87	0.91	0.90	1.13	0.86	0.80	1.05	0.96	0.77	0.68	0.67
18	Evergy, Inc.	0.89	0.86	0.78	1.03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	Exelon Corp.	1.21	0.99	0.84	1.09	1.09	1.20	1.05	1.06	0.76	0.82	0.93	1.07	0.98	1.19	1.66	1.66	1.61	1.84	1.86
20	FirstEnergy Corp.	1.00	0.80	0.98	0.83	0.83	0.80	0.76	1.03	0.94	0.93	0.54	0.91	0.85	1.05	1.32	1.22	0.95	1.56	1.75
21	Fortis Inc.	0.69	0.82	0.89	0.65	0.65	0.68	0.72	0.76	0.76	0.65	0.60	0.77	0.72	0.66	0.68	0.63	0.66	0.57	0.63
22	Great Plains Energy	0.79	N/A	N/A		N/A	N/A	N/A	0.78	1.17	0.90	0.79	0.91	0.86	1.03	0.86	0.50	0.35	0.69	0.64
23	Hawaiian Elec.	1.14	1.51	1.56	1.27	1.27	1.08	0.85	0.81	1.37	0.98	1.03	0.92	0.99	1.30	1.50	0.79	0.87	1.15	1.23
24	IDACORP, Inc.	1.09	0.63	1.00	1.33	1.33	1.46	1.42	1.33	1.16	1.15	1.21	1.34	1.24	0.86	0.78	0.96	0.82	0.64	0.89
25	MGE Energy	1.10	1.26	1.12	0.82	0.82	0.97	0.66	1.19	1.44	1.60	1.31	0.96	1.05	1.56	1.57	1.13	0.87	0.59	0.80
26	NextEra Energy, Inc.	0.61	0.59	0.55	0.58	0.58	0.67	0.56	0.53	0.63	0.71	0.77	0.68	0.39	0.58	0.69	0.60	0.63	0.56	0.73
27	NorthWestern Corp	1.00	0.75	0.75	0.84	0.84	1.13	1.23	1.21	1.13	1.01	0.93	0.92	0.88	1.04	0.76	0.88	1.27	1.23	1.29
28	OGE Energy	0.91	0.97	0.87	1.24	1.24	1.27	1.30	0.81	1.00	1.18	1.19	0.69	0.63	0.51	0.69	0.61	0.60	0.79	0.84
29	Otter Tail Corp.	0.92	1.08	2.13	0.48	0.48	0.80	1.49	1.10	0.84	0.74	0.70	0.67	0.85	1.16	1.09	0.56	0.37	0.65	1.44
30	Pinnacle West Capital	0.95	0.95	0.89	0.91	0.91	1.03	1.06	0.76	0.81	0.92	0.97	0.87	0.96	0.91	0.97	1.06	0.86	0.99	1.28
31	PNM Resources	0.70	0.63	0.63	0.72	0.72	0.78	0.82	0.84	0.57	0.57	0.63	0.80	0.87	0.77	0.82	0.70	0.44	0.43	0.89
32	Portland General	0.83	0.58	0.86	0.78	0.78	1.03	1.00	1.07	0.88	0.80	0.47	0.59	1.28	1.25	0.81	0.44	0.77	0.72	0.78
33	PPL Corp.	0.97	0.98	1.05	0.90	0.90	0.98	0.93	0.82	1.00	0.72	0.75	0.69	0.91	1.07	1.11	1.07	1.25	1.13	1.18
34	Public Serv. Enterprise	1.10	0.87	1.05	1.13	1.13	1.08	0.70	0.64	0.61	0.80	1.04	0.93	0.96	1.30	1.23	1.41	1.34	1.64	1.94
35	SCANA Corp.	0.86	N/A	N/A		N/A	N/A	N/A	0.86	0.66	0.83	0.90	0.83	0.77	0.88	0.86	0.76	0.76	0.92	1.26
36	Sempra Energy	0.82	0.96	0.92	0.77	0.77	0.88	0.80	0.67	0.56	0.81	0.74	0.84	0.73	0.72	0.90	1.02	0.87	0.90	0.93
37	Southern Co.	0.90	0.97	0.97	0.99	0.99	0.88	0.83	0.90	0.77	0.88	0.80	0.86	0.93	0.94	0.93	0.78	0.87	0.91	1.00
38	Vectren Corp.	1.00	N/A	N/A		N/A	N/A	N/A	0.82	0.87	0.95	0.98	1.05	1.13	1.20	1.31	0.83	0.82	0.98	1.00
39	WEC Energy Group	0.98	0.92	1.09	0.97	0.97	0.91	0.90	0.92	1.20	0.97	1.37	1.42	1.30	1.02	0.97	0.89	0.61	0.56	0.69
40	Westar Energy	0.72	N/A	N/A		N/A	N/A	N/A	0.91	0.63	0.86	0.70	0.72	0.67	0.71	0.88	0.68	0.36	0.48	1.00
41	Xcel Energy Inc.	0.77	0.92	0.93	0.66	0.66	0.78	0.77	0.84	0.79	0.63	0.68	0.60	0.76	0.83	0.76	0.89	0.75	0.71	0.90
42	Average	0.90	1.00	0.94	0.83	0.82	0.88	0.89	0.89	0.89	0.87	0.87	0.89	0.88	0.96	0.98	0.86	0.80	0.88	1.05
43	Median	0.84	0.85	0.87	0.81	0.79	0.83	0.83	0.84	0.85	0.83	0.83	0.86	0.87	0.98	0.90	0.81	0.78	0.81	1.00

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, April 21, May 12, and June 9, 2023.
Notes:
[c] Based on the projected Cash Flow per share and Capital Spending per share
published in The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

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Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

Price to Earnings (P/E) Ratio [1]

Line	Company	18-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	Atmos Energy	17.53	18.90	19.30	18.80	22.30	23.20	21.70	22.00	20.80	17.50	16.10	15.90	15.90	14.40	13.20	12.50	13.60	15.90	13.52
2	Chesapeake Utilities	19.59	25.40	25.80	25.60	21.60	24.70	22.90	27.80	22.30	19.10	17.70	15.60	14.80	14.20	12.20	14.20	14.20	16.70	17.85
3	New Jersey Resources	17.39	19.40	17.00	17.50	17.70	24.30	15.60	22.40	21.30	16.60	11.70	16.00	16.80	16.80	15.00	14.90	12.30	21.60	16.13
4	NiSource Inc.	22.14	18.10	19.60	18.00	18.70	21.30	19.30	64.40	23.20	37.30	22.70	18.90	17.90	19.40	15.30	14.30	12.10	18.80	19.16
5	Northwest Nat. Gas	20.70	16.70	19.60	19.50	25.00	30.90	26.60	NMF	26.90	23.70	20.70	19.40	21.10	19.00	17.00	15.20	18.10	16.70	15.85
6	ONE Gas Inc.	21.19	19.20	19.90	18.90	21.70	25.30	23.10	23.50	22.70	19.80	17.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	18.60	N/A	N/A	15.10	14.89	28.28	22.64	27.92	21.70	17.95	18.03	18.90	16.94	18.48	16.81	14.96	15.90	17.18	11.86
8	Southwest Gas	17.53	17.70	NMF	14.30	16.80	21.30	20.60	22.20	21.60	19.40	17.90	15.80	15.00	15.70	14.00	12.20	20.30	17.30	15.94
9	Spire Inc.	18.41	15.90	17.50	13.60	51.10	22.80	16.70	19.80	19.60	16.50	19.80	21.30	14.50	13.00	13.70	13.40	14.30	14.20	13.60
10	UGI Corp.	15.37	9.70	14.10	13.90	13.80	23.40	17.80	20.80	19.30	17.70	15.80	15.40	16.40	15.00	10.90	10.30	13.30	15.10	13.97
11	WGL Holdings Inc.	16.71	N/A	N/A	N/A	N/A	N/A	N/A	25.40	20.05	16.99	15.15	18.25	15.27	16.97	15.11	12.58	13.66	15.60	15.46
12	Average	18.58	17.89	19.10	17.52	22.36	24.55	20.69	27.62	21.77	20.23	17.58	17.54	16.46	16.30	14.32	13.45	14.78	16.91	15.33
13	Median	17.78	18.10	19.45	17.75	20.15	23.85	21.15	22.95	21.60	17.95	17.80	17.12	16.15	16.25	14.50	13.80	13.93	16.70	15.66

Market Price to Cash Flow (MP/CF) Ratio [1]

Line	Company	18-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
14	Atmos Energy	9.33	11.36	11.87	10.99	13.11	13.35	12.02	11.99	11.36	9.30	8.79	7.72	7.02	6.87	6.15	5.76	6.48	7.44	6.36
15	Chesapeake Utilities	10.59	13.59	14.21	14.20	12.31	14.17	12.24	13.78	12.06	10.16	9.25	8.12	7.46	7.35	6.36	9.48	7.88	8.58	9.40
16	New Jersey Resources	12.00	12.39	11.55	11.56	11.10	15.98	11.44	14.45	13.94	11.71	8.95	11.29	12.29	12.71	11.32	11.34	9.15	13.76	11.01
17	NiSource Inc.	7.88	7.73	8.13	7.89	7.83	8.81	8.91	12.11	8.56	10.38	10.56	8.71	7.81	6.81	5.09	4.06	4.87	6.69	6.87
18	Northwest Nat. Gas	12.18	7.89	8.76	8.57	10.10	13.13	11.75	59.72	11.57	9.46	8.84	8.61	9.48	9.08	8.94	8.26	8.75	8.54	7.83
19	ONE Gas Inc.	10.35	8.44	9.91	9.32	10.85	12.75	11.85	11.89	11.10	9.19	8.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	South Jersey Inds.	10.57	N/A	N/A	9.26	7.54	12.38	10.72	12.33	10.88	10.70	10.57	11.57	10.95	11.98	10.78	9.57	10.38	11.23	8.32
21	Southwest Gas	7.15	5.83	19.83	6.87	7.05	8.92	9.32	9.10	7.41	6.56	6.35	5.94	5.55	5.60	4.91	3.84	4.89	5.42	5.28
22	Spire Inc.	9.60	7.56	8.34	7.55	14.01	11.27	9.60	10.39	10.32	8.47	12.03	13.76	8.80	8.08	8.12	8.58	8.95	8.46	8.46
23	UGI Corp.	7.91	6.60	7.20	9.56	7.39	12.95	9.01	10.09	9.02	8.47	7.49	6.55	6.30	7.51	6.02	5.74	7.11	7.92	7.48
24	WGL Holdings Inc.	9.17	N/A	N/A	N/A	N/A	N/A	N/A	12.92	11.36	9.59	8.46	9.83	9.03	9.52	8.34	7.17	7.68	8.39	7.81
25	Average	9.65	9.04	11.09	9.58	10.13	12.37	10.69	16.25	10.69	9.45	9.04	9.21	8.47	8.55	7.60	7.38	7.62	8.64	7.88
26	Median	8.75	7.89	9.91	9.29	10.47	12.85	11.08	12.11	11.10	9.46	8.84	8.66	8.31	7.80	7.24	7.71	7.78	8.42	7.82

Market Price to Book Value (MP/BV) Ratio [1]

Line	Company	18-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
27	Atmos Energy	1.59	1.62	1.65	1.59	1.95	2.10	2.03	2.16	2.11	1.72	1.55	1.39	1.28	1.30	1.18	1.05	1.20	1.40	1.34
28	Chesapeake Utilities	2.07	2.42	2.69	2.77	2.27	2.69	2.50	2.51	2.28	2.19	2.12	1.83	1.66	1.61	1.40	1.37	1.64	1.84	1.85
29	New Jersey Resources	2.27	2.35	2.35	2.26	1.90	2.75	2.63	2.70	2.52	2.28	2.13	2.05	2.33	2.31	2.09	2.16	1.92	2.17	2.01
30	NiSource Inc.	1.57	1.95	2.15	1.86	1.95	2.09	1.92	1.96	1.84	1.95	1.94	1.58	1.37	1.15	0.92	0.69	0.94	1.16	1.19
31	Northwest Nat. Gas	1.85	1.39	1.51	1.45	1.98	2.38	2.35	2.41	1.92	1.63	1.59	1.56	1.72	1.70	1.78	1.73	1.96	2.05	1.69
32	ONE Gas Inc.	1.69	1.50	1.73	1.57	1.90	2.20	1.93	1.89	1.67	1.26	1.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
33	South Jersey Inds.	2.05	N/A	N/A	1.54	1.52	2.06	2.11	2.29	1.79	1.77	2.07	2.27	2.21	2.59	2.38	1.95	2.08	2.21	1.93
34	Southwest Gas	1.55	1.22	1.62	1.32	1.49	1.84	1.79	2.13	1.96	1.68	1.68	1.61	1.51	1.43	1.24	0.97	1.20	1.46	1.46
35	Spire Inc.	1.56	1.32	1.43	1.47	1.67	1.78	1.63	1.65	1.64	1.44	1.33	1.34	1.51	1.46	1.39	1.68	1.71	1.66	1.71
36	UGI Corp.	1.99	1.47	1.39	1.64	1.87	2.92	2.30	2.62	2.41	2.29	1.97	1.69	1.45	1.75	1.55	1.66	2.01	2.16	2.21
37	WGL Holdings Inc.	1.81	N/A	N/A	N/A	N/A	N/A	N/A	2.69	2.45	2.15	1.69	1.71	1.66	1.63	1.50	1.45	1.59	1.64	1.59
38	Average	1.81	1.69	1.83	1.75	1.85	2.28	2.12	2.27	2.05	1.85	1.74	1.70	1.67	1.69	1.54	1.47	1.62	1.78	1.70
39	Median	1.68	1.50	1.65	1.58	1.90	2.15	2.07	2.29	1.96	1.77	1.69	1.65	1.58	1.62	1.45	1.56	1.67	1.75	1.70

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, May 26, 2023.
Notes:
[a] Based on the average of the high and low price for year and the projected Cash Flow per share, published in The Value Line Investment Survey.
[b] Based on the average of the high and low price for the year and the projected Book Value per share, published in The Value Line Investment Survey.

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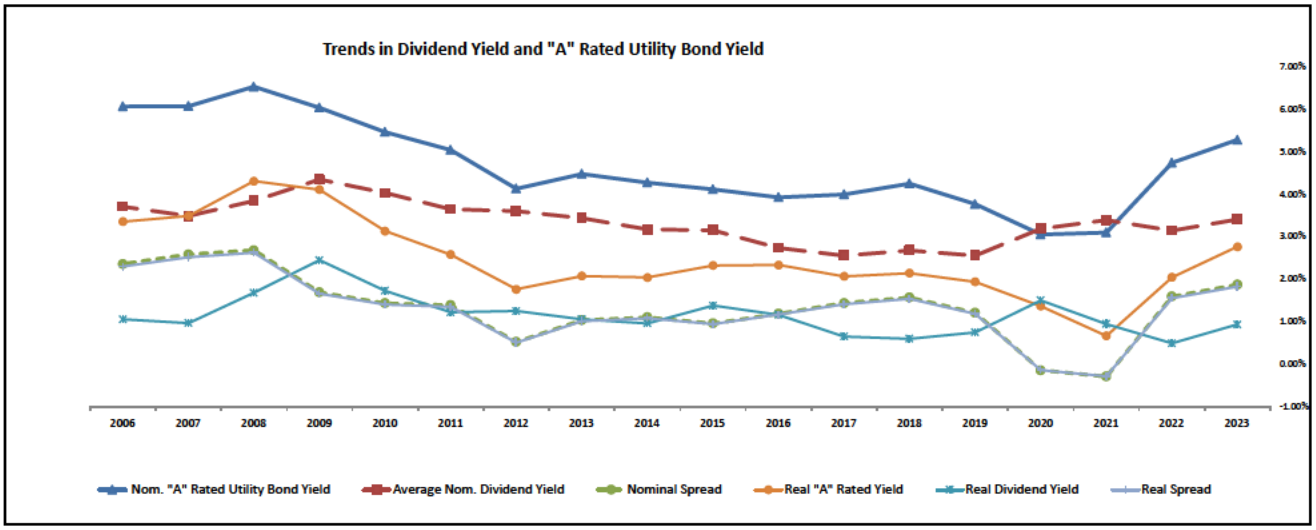
Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

Line	Company	18 Year Average (1)	2023 [2]* (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
									Dividend Yield[1]											
1	Atmos Energy	3.35%	2.61%	2.46%	2.63%	2.19%	2.08%	2.23%	2.27%	2.39%	2.88%	3.11%	3.53%	4.13%	4.19%	4.70%	5.34%	4.78%	4.16%	4.66%
2	Chesapeake Utilities	2.63%	1.83%	1.61%	1.50%	1.86%	1.68%	1.76%	1.69%	1.91%	2.18%	2.44%	2.87%	3.25%	3.36%	3.91%	4.09%	4.10%	3.62%	3.76%
3	New Jersey Resources	3.20%	3.00%	3.25%	3.50%	3.47%	2.50%	2.61%	2.69%	2.86%	3.14%	3.50%	3.71%	3.38%	3.33%	3.69%	3.46%	3.35%	3.02%	3.19%
4	NiSource Inc.	3.94%	3.64%	3.33%	3.60%	3.41%	2.86%	3.10%	2.79%	2.76%	3.53%	2.69%	3.30%	3.84%	4.53%	5.66%	7.64%	5.69%	4.29%	4.21%
5	Northwest Nat. Gas	3.60%	4.02%	3.86%	3.90%	3.33%	2.81%	3.05%	3.02%	3.28%	4.01%	4.14%	4.22%	3.83%	3.85%	3.63%	3.73%	3.27%	3.12%	3.73%
6	ONE Gas Inc.	2.67%	3.30%	3.08%	3.21%	2.70%	2.25%	2.46%	2.37%	2.32%	2.71%	2.28%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	3.48%	N/A	N/A	4.88%	4.76%	3.66%	3.62%	3.20%	3.64%	3.95%	3.40%	3.14%	3.22%	2.81%	3.00%	3.43%	3.08%	2.81%	3.15%
8	Southwest Gas	3.00%	4.07%	3.20%	3.65%	3.28%	2.60%	2.74%	2.46%	2.62%	2.87%	2.72%	2.69%	2.75%	2.78%	3.15%	4.01%	3.19%	2.56%	2.60%
9	Spire Inc.	3.80%	4.07%	3.89%	3.79%	3.38%	2.95%	3.10%	3.09%	3.08%	3.53%	3.78%	3.96%	4.11%	4.31%	4.70%	3.91%	3.94%	4.43%	4.34%
10	UGI Corp.	2.97%	4.12%	3.61%	3.25%	3.56%	2.16%	2.09%	2.01%	2.35%	2.50%	2.61%	3.01%	3.68%	3.30%	3.48%	3.23%	2.85%	2.69%	2.96%
11	WGL Holdings Inc.	3.91%	N/A	N/A	N/A	N/A	N/A	N/A	2.56%	2.94%	3.41%	4.24%	3.94%	3.89%	4.06%	4.37%	4.62%	4.22%	4.19%	4.48%
12	**Average**	**3.34%**	**3.41%**	**3.14%**	**3.39%**	**3.19%**	**2.56%**	**2.68%**	**2.56%**	**2.74%**	**3.16%**	**3.17%**	**3.44%**	**3.61%**	**3.65%**	**4.03%**	**4.35%**	**3.85%**	**3.49%**	**3.71%**
13	Median	3.39%	3.64%	3.25%	3.55%	3.35%	2.55%	2.68%	2.56%	2.76%	3.14%	3.11%	3.42%	3.75%	3.60%	3.80%	3.96%	3.65%	3.37%	3.75%
14	20-Yr Treasury Yields[3]	3.23%	3.89%	3.30%	1.98%	1.35%	2.40%	3.02%	2.65%	2.23%	2.55%	3.07%	3.12%	2.54%	3.62%	4.03%	4.11%	4.36%	4.91%	4.99%
15	20-Yr TIPS[3]	1.05%	1.41%	0.64%	-0.43%	-0.30%	0.60%	0.94%	0.75%	0.66%	0.78%	0.87%	0.75%	0.21%	1.19%	1.73%	2.21%	2.19%	2.36%	2.31%
16	Implied Inflation[b]	2.16%	2.45%	2.64%	2.42%	1.66%	1.79%	2.06%	1.89%	1.56%	1.75%	2.19%	2.35%	2.33%	2.40%	2.26%	1.85%	2.13%	2.49%	2.62%
17	**Real Dividend Yield[c]**	**1.16%**	**0.94%**	**0.49%**	**0.95%**	**1.51%**	**0.75%**	**0.60%**	**0.65%**	**1.17%**	**1.38%**	**0.96%**	**1.06%**	**1.25%**	**1.22%**	**1.73%**	**2.45%**	**1.68%**	**0.97%**	**1.06%**
	Utility																			
18	**Nominal "A" Rated Yield[4]**	**4.69%**	**5.28%**	**4.74%**	**3.10%**	**3.05%**	**3.77%**	**4.25%**	**4.00%**	**3.93%**	**4.12%**	**4.28%**	**4.48%**	**4.13%**	**5.04%**	**5.46%**	**6.04%**	**6.53%**	**6.07%**	**6.07%**
19	**Real "A" Rated Yield**	**2.47%**	**2.76%**	**2.05%**	**0.67%**	**1.37%**	**1.94%**	**2.14%**	**2.07%**	**2.34%**	**2.33%**	**2.04%**	**2.08%**	**1.76%**	**2.58%**	**3.13%**	**4.11%**	**4.31%**	**3.49%**	**3.36%**
	Spreads (Utility Bond Stock)																			
20	**Nominal[e]**	**1.35%**	**1.87%**	**1.60%**	**0.29%**	**0.14%**	**1.21%**	**1.57%**	**1.44%**	**1.19%**	**0.96%**	**1.11%**	**1.04%**	**0.52%**	**1.39%**	**1.43%**	**1.69%**	**2.68%**	**2.59%**	**2.36%**
21	**Real[g]**	**1.32%**	**1.83%**	**1.56%**	**0.28%**	**0.14%**	**1.19%**	**1.54%**	**1.41%**	**1.17%**	**0.94%**	**1.08%**	**1.01%**	**0.51%**	**1.36%**	**1.40%**	**1.66%**	**2.62%**	**2.52%**	**2.30%**
	Spreads (Treasury Bond Stock)																			
22	**Nominal[f]**	**0.11%**	**0.49%**	**0.16%**	**1.41%**	**1.84%**	**0.15%**	**0.34%**	**0.09%**	**0.52%**	**0.61%**	**0.10%**	**0.32%**	**1.06%**	**0.03%**	**0.00%**	**0.24%**	**0.51%**	**1.42%**	**1.28%**
23	**Real[g]**	**0.11%**	**0.47%**	**0.15%**	**1.38%**	**1.81%**	**0.15%**	**0.34%**	**0.09%**	**0.51%**	**0.60%**	**0.10%**	**0.31%**	**1.04%**	**0.03%**	**0.00%**	**0.23%**	**0.50%**	**1.39%**	**1.25%**



Sources
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, May 26, 2023.
[3] St. Louis Federal Reserve Economic Research, http //research.stlouisfed.org.
www.moodys.com, Bond Yields and Key Indicators, through June 9, 2023.

Notes
* Based on the average of the high and low price for the year and the projected Dividends Declared per share published in the Value Line Investment Survey.
[b] Line 16 (1 + Line 14) / (1 + Line 15) - 1.
[c] Line 17 (1 + Line 12) / (1 +Line 16) - 1.
[e] The spread being measured here is the nominal A-rated uti ity bond yield over the average nominal uti ity dividend yield; (Line 18 - Line 12).
* The spread being measured here is the real A-rated utility bond yield over the average real utility dividend yield; Line 19 - Line 17)
[f] The spread being measured here is the nominal 20-Year Treasury yield over the average nominal uti ity dividend yield; (Line 14 - Line 12).
[g] The spread being measured here is the real 20-Year TIPS yield over the average real utility dividend yield; Line 15 - Line 17)

Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

		Dividend per Share[1]																				
Line	Company	18-Year Average	2023 [2]	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2018 CAGR	2017 CAGR
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1	Atmos Energy	1.66	2.96	2.72	2.30	1.40	1.38	1.94	1.80	1.68	1.56	1.48	1.40	1.38	1.36	1.34	1.32	1.30	1.28	1.26	2.78%	3.15%
2	Chesapeake Utilities	1.16	2.25	2.03	1.69	1.01	0.96	1.39	1.26	1.19	1.12	1.07	1.01	0.96	0.91	0.87	0.83	0.81	0.78	0.77	3.86%	4.42%
3	New Jersey Resources	0.88	1.56	1.45	1.27	0.81	0.77	1.11	1.04	0.98	0.93	0.86	0.81	0.77	0.72	0.68	0.62	0.56	0.51	0.48	5.32%	6.75%
4	NiSource Inc.	0.90	1.00	0.94	0.84	0.98	0.94	0.78	0.70	0.64	0.83	1.02	0.98	0.94	0.92	0.92	0.92	0.92	0.92	0.92	-1.08%	-2.45%
5	Northwest Nat. Gas	1.76	1.95	1.93	1.91	1.83	1.79	1.89	1.88	1.87	1.86	1.85	1.83	1.79	1.75	1.68	1.60	1.52	1.44	1.39	1.81%	2.45%
6	ONE Gas Inc.	1.78	2.60	2.48	2.16	N/A	N/A	1.84	1.68	1.40	1.20	0.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.16%	11.87%
7	South Jersey Inds.	0.84	N/A	N/A	1.19	0.90	0.83	1.13	1.10	1.06	1.02	0.96	0.90	0.83	0.75	0.68	0.61	0.56	0.51	0.46	5.46%	7.33%
8	Southwest Gas	1.49	2.48	2.48	2.26	1.32	1.18	2.08	1.98	1.80	1.62	1.46	1.32	1.18	1.06	1.00	0.95	0.90	0.86	0.82	6.00%	7.88%
9	Spire Inc.	1.88	2.88	2.74	2.49	1.70	1.66	2.25	2.10	1.96	1.84	1.76	1.70	1.66	1.61	1.57	1.53	1.49	1.45	1.40	2.94%	3.42%
10	UGI Corp.	0.83	1.47	1.41	1.32	0.74	0.71	1.02	0.96	0.93	0.89	0.79	0.74	0.71	0.68	0.60	0.52	0.50	0.48	0.46	5.08%	6.48%
11	WGL Holdings Inc.	1.62	N/A	N/A	N/A	1.66	1.59	N/A	2.02	1.93	1.83	1.72	1.66	1.59	1.55	1.50	1.47	1.41	1.37	1.35	N/A	3.63%
12	**Average**	**1.33**	**2.13**	**2.02**	**1.74**	**1.24**	**1.18**	**1.54**	**1.50**	**1.40**	**1.34**	**1.25**	**1.24**	**1.18**	**1.13**	**1.08**	**1.04**	**1.00**	**0.96**	**0.93**	**3.83%**	**4.99%**
13	**Industry Average Growth**	**5.61%**	**5.34%**	**15.89%**	**41.10%**	**4.67%**	**-23.52%**	**2.76%**	**6.99%**	**5.03%**	**6.50%**	**1.58%**	**4.67%**	**4.35%**	**4.34%**	**4.47%**	**4.20%**	**3.83%**	**3.13%**			

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[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
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[2] The Value Line Investment Survey, May 26, 2023.

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Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

Line	Company	Earnings per Share[1] 18-Year Average (1)	2023 [2] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	Atmos Energy	3.32	6 00	5 60	5.12	4.72	4 35	4 00	3.60	3.38	3.09	2.96	2.50	2.10	2 26	2.16	1 97	2 00	1.94	2.00
2	Chesapeake Utilities	2.77	4 95	4 97	4.70	4 21	3.72	3.45	2.68	2.86	2.68	2.47	2.26	1 99	1 91	1 82	1.43	1 39	1.29	1.15
3	New Jersey Resources	1.71	2.70	2 50	2.16	2 07	1 96	2.72	1.73	1.61	1.78	2.08	1.37	1 36	1 29	1 23	1 20	1 35	0.78	0.93
4	NiSource Inc.	1.19	1 55	1.47	1 35	1 32	1 31	1 30	0.39	1.00	0.63	1.67	1.57	1 37	1 05	1 06	0 84	1 34	1.14	1.14
5	Northwest Nat. Gas	2.16	2.70	2 54	2 50	2 30	2.19	2 33	-1.94	2.12	1.96	2.16	2.24	2 22	2 39	2.73	2 83	2 57	2.76	2.35
6	ONE Gas Inc.	3.26	4 20	4 08	3 85	3 68	3 51	3 25	3.02	2.65	2.24	2.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	1.36	N/A	N/A	1 65	1 68	1.12	1 38	1.23	1.34	1.44	1.57	1.52	1 52	1.45	1 35	1.19	1.14	1.05	1.23
8	Southwest Gas	2.92	3.15	3.10	3 80	4.14	3 94	3 68	3.62	3.18	2.92	3.01	3.11	2 86	2.43	2 27	1 94	1 39	1.95	1.98
9	Spire Inc.	3.08	4 65	3 95	4 96	1.44	3 52	4 33	3.43	3.24	3.16	2.35	2.02	2.79	2 86	2.43	2 92	2 64	2.31	2.37
10	UGI Corp.	1.98	2 90	2 90	2 96	2 67	2 28	2.74	2.29	2.05	2.01	1.92	1.59	1.17	1 37	1 59	1 57	1 33	1.18	1.10
11	WGL Holdings Inc.	2.56	N/A	N/A	N/A	N/A	N/A	N/A	3.11	3.27	3.16	2.68	2.31	2 68	2 25	2 27	2 53	2.44	2.09	1.94
12	**Average**	**2.38**	**3.64**	**3.46**	**3.31**	**2.82**	**2.79**	**2.92**	**2.11**	**2.43**	**2.28**	**2.27**	**2.05**	**2.01**	**1.93**	**1.89**	**1.84**	**1.76**	**1.65**	**1.62**
13	**Industry Average Growth**	**5.35%**	**5.43%**	**4.59%**	**17.07%**	**1.18%**	**-4.39%**	**38.59%**	**-13.26%**	**6.50%**	**0.54%**	**10.67%**	**2.13%**	**4.13%**	**1.87%**	**2.61%**	**4.79%**	**6.67%**	**1.82%**	

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
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[2] The Value Line Investment Survey, May 26, 2023.

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Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

Line	Company	Cash Flow / Capital Spending[1] 2019 (1)	2020 (2)	2021 (3)	2022 (4)	2023 (5)	2024[2] (6)	3 - 5 yr[2] Projection (5)
1	Atmos Energy	0.53x	0.53x	0.53x	0.54x	0.54x	0.57x	0.69x
2	Chesapeake Utilities	0.66x	0.64x	0.82x	1.23x	0.84x	0.84x	0.94x
3	New Jersey Resources	1.41x	0.65x	0.72x	0.59x	0.68x	0.65x	0.57x
4	NiSource Inc.	0.66x	0.65x	0.69x	0.55x	0.43x	0.59x	0.61x
5	Northwest Nat. Gas	0.77x	0.75x	0.61x	0.60x	0.68x	0.83x	0.83x
6	ONE Gas Inc.	0.78x	0.88x	0.86x	0.74x	0.83x	0.86x	0.99x
7	South Jersey Inds.	0.48x	0.47x	0.49x	N/A	N/A	N/A	N/A
8	Southwest Gas	0.62x	0.53x	0.61x	0.31x	0.84x	0.86x	0.94x
9	Spire Inc.	0.65x	0.65x	0.70x	0.80x	0.71x	0.69x	0.93x
10	UGI Corp.	1.33x	1.54x	1.66x	1.42x	1.33x	1.37x	1.36x
11	Average	0.79x	0.73x	0.77x	0.75x	0.76x	0.81x	0.87x
12	Median	0.66x	0.65x	0.69x	0.60x	0.71x	0.83x	0.93x

Sources:
[1] The Value Line Investment Survey, February 28, 2020.
[2] The Value Line Investment Survey, May 26, 2023.
Notes:
Based on the projected Cash Flow per share and Capital Spending per share.

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Duke Energy Carolinas, LLC

Natural Gas Utilities
(Valuation Metrics)

Percent Dividends to Book Value [1]

Line	Company	18-Year Average (1)	2023 [2/a] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
1	Atmos Energy	5.00%	4.22%	4.07%	4.19%	4.26%	4.36%	4.53%	4.90%	5.04%	4.96%	4.81%	4.92%	5.28%	5.44%	5.55%	5.61%	5.75%	5.82%	6.25%
2	Chesapeake Utilities	5.11%	4.42%	4.32%	4.15%	4.23%	4.53%	4.39%	4.23%	4.35%	4.78%	5.18%	5.25%	5.39%	5.42%	5.49%	5.60%	6.71%	6.66%	6.95%
3	New Jersey Resources	7.21%	7.04%	7.63%	7.92%	6.60%	6.85%	6.87%	7.26%	7.21%	7.16%	7.45%	7.60%	7.86%	7.69%	7.72%	7.48%	6.42%	6.54%	6.40%
4	NiSource Inc.	5.76%	7.09%	7.15%	6.69%	6.64%	5.99%	5.96%	5.46%	5.08%	6.89%	5.22%	5.22%	5.25%	5.19%	5.22%	5.25%	5.34%	4.97%	5.02%
5	Northwest Nat. Gas	6.44%	5.58%	5.83%	5.66%	6.57%	6.69%	7.16%	7.27%	6.30%	6.53%	6.58%	6.59%	6.57%	6.55%	6.44%	6.43%	6.41%	6.39%	6.32%
6	ONE Gas Inc.	4.43%	4.93%	5.31%	5.04%	5.14%	4.96%	4.73%	4.48%	3.88%	3.41%	2.44%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	South Jersey Inds.	6.99%	N/A	N/A	7.53%	7.21%	7.53%	7.63%	7.34%	6.53%	6.98%	7.04%	7.12%	7.09%	7.26%	7.13%	6.69%	6.40%	6.22%	6.09%
8	Southwest Gas	4.49%	4.96%	5.17%	4.80%	4.87%	4.79%	4.90%	5.25%	5.14%	4.82%	4.57%	4.33%	4.16%	3.98%	3.90%	3.89%	3.83%	3.74%	3.80%
9	Spire Inc.	5.84%	5.39%	5.58%	5.56%	5.63%	5.25%	5.06%	5.09%	5.06%	5.07%	5.04%	5.31%	6.22%	6.30%	6.53%	6.56%	6.74%	7.33%	7.43%
10	UGI Corp.	5.61%	6.05%	5.02%	5.34%	6.65%	6.30%	4.82%	5.28%	5.65%	5.72%	5.14%	5.07%	5.35%	5.77%	5.41%	5.35%	5.72%	5.82%	6.54%
11	WGL Holdings Inc.	6.86%	N/A	N/A	N/A	N/A	N/A	N/A	6.88%	7.21%	7.33%	7.14%	6.73%	6.45%	6.60%	6.57%	6.72%	6.71%	6.88%	7.13%
12	Average	5.81%	5.52%	5.57%	5.69%	5.78%	5.72%	5.60%	5.77%	5.59%	5.78%	5.51%	5.82%	5.96%	6.02%	6.00%	5.96%	6.00%	6.04%	6.19%
13	Median	5.67%	5.39%	5.31%	5.45%	6.10%	5.62%	4.98%	5.28%	5.14%	5.72%	5.18%	5.28%	5.80%	6.03%	5.99%	6.02%	6.41%	6.30%	6.36%

Dividends to Earnings Ratio [1]

Line	Company	18-Year Average (1)	2023 [2/a] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
14	Atmos Energy	0.55	0.49	0.49	0.49	0.49	0.48	0.49	0.50	0.50	0.50	0.50	0.56	0.66	0.60	0.62	0.67	0.65	0.66	0.63
15	Chesapeake Utilities	0.47	0.45	0.41	0.39	0.40	0.42	0.40	0.47	0.42	0.42	0.43	0.45	0.48	0.48	0.48	0.58	0.58	0.61	0.67
16	New Jersey Resources	0.55	0.58	0.58	0.63	0.61	0.61	0.41	0.60	0.61	0.52	0.41	0.59	0.57	0.56	0.55	0.52	0.41	0.65	0.51
17	NiSource Inc.	0.81	0.65	0.64	0.65	0.64	0.61	0.60	1.79	0.64	1.32	0.61	0.62	0.69	0.88	0.87	1.10	0.69	0.81	0.81
18	Northwest Nat. Gas	0.65	0.72	0.76	0.77	0.83	0.87	0.81	- 0.97	0.88	0.95	0.86	0.82	0.81	0.73	0.62	0.57	0.59	0.52	0.59
19	ONE Gas Inc.	0.56	0.62	0.61	0.60	0.59	0.57	0.57	0.56	0.53	0.54	0.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	South Jersey Inds.	0.65	N/A	N/A	0.74	0.71	1.04	0.82	0.89	0.79	0.71	0.61	0.59	0.54	0.52	0.50	0.51	0.49	0.48	0.37
21	Southwest Gas	0.54	0.79	0.80	0.63	0.55	0.55	0.57	0.55	0.57	0.55	0.49	0.42	0.41	0.44	0.44	0.49	0.65	0.44	0.41
22	Spire Inc.	0.68	0.62	0.69	0.52	1.73	0.67	0.52	0.61	0.60	0.58	0.75	0.84	0.59	0.56	0.65	0.52	0.56	0.63	0.59
23	UGI Corp.	0.45	0.51	0.49	0.46	0.49	0.50	0.37	0.42	0.45	0.44	0.41	0.46	0.60	0.50	0.38	0.33	0.38	0.41	0.41
24	WGL Holdings Inc.	0.64	N/A	N/A	N/A	N/A	N/A	N/A	0.65	0.59	0.58	0.64	0.72	0.59	0.69	0.66	0.58	0.58	0.65	0.69
25	Average	0.60	0.60	0.61	0.59	0.70	0.63	0.55	0.55	0.60	0.65	0.56	0.61	0.59	0.59	0.58	0.59	0.56	0.59	0.57
26	Median	0.59	0.62	0.61	0.61	0.60	0.59	0.54	0.56	0.59	0.55	0.50	0.59	0.59	0.56	0.58	0.54	0.58	0.62	0.59

Cash Flow to Capital Spending Ratio [1]

Line	Company	18-Year Average (1)	2023 [2/a] (2)	2022 (3)	2021 (4)	2020 (5)	2019 (6)	2018 (7)	2017 (8)	2016 (9)	2015 (10)	2014 (11)	2013 (12)	2012 (13)	2011 (14)	2010 (15)	2009 (16)	2008 (17)	2007 (18)	2006 (19)
27	Atmos Energy	0.65	0.54	0.54	0.58	0.52	0.53	0.55	0.62	0.59	0.60	0.65	0.55	0.59	0.68	0.77	0.78	0.81	0.94	0.82
28	Chesapeake Utilities	0.77	0.84	1.23	0.81	0.78	0.62	0.39	0.50	0.50	0.53	0.71	0.65	0.79	1.12	1.10	1.14	0.83	0.82	0.45
29	New Jersey Resources	1.19	0.68	0.59	0.62	0.71	0.51	0.85	0.70	0.59	0.67	1.79	1.46	1.48	1.51	1.55	1.75	2.11	1.67	2.14
30	NiSource Inc.	0.73	0.43	0.55	0.68	0.66	0.61	0.58	0.41	0.59	0.53	0.56	0.57	0.65	0.75	1.11	1.06	0.94	1.11	1.37
31	Northwest Nat. Gas	0.90	0.68	0.60	0.68	0.66	0.69	0.71	0.14	1.01	1.12	1.15	0.98	1.01	1.33	0.55	1.02	1.35	1.21	1.34
32	ONE Gas Inc.	0.84	0.83	0.74	0.86	0.83	0.89	0.84	0.87	0.92	0.86	0.79	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
33	South Jersey Inds.	0.82	N/A	N/A	0.55	0.54	0.40	0.73	0.81	0.76	0.50	0.53	0.51	0.58	0.70	0.75	1.01	1.67	1.70	1.40
34	Southwest Gas	0.83	0.84	0.31	0.86	0.69	0.53	0.56	0.68	0.83	0.84	0.99	1.05	0.90	0.82	1.37	1.28	0.85	0.78	0.72
35	Spire Inc.	1.03	0.71	0.80	0.75	0.42	0.44	0.77	0.72	0.96	0.92	0.98	0.78	0.95	1.53	1.61	1.93	1.64	1.42	1.28
36	UGI Corp.	1.46	1.33	1.42	1.32	1.59	1.22	1.64	1.29	1.35	1.48	1.53	1.32	1.52	1.28	1.36	1.52	1.72	1.62	1.69
37	WGL Holdings Inc.	1.02	N/A	N/A	N/A	N/A	N/A	N/A	0.61	0.56	0.60	0.63	0.71	0.93	1.02	1.60	1.60	1.60	1.17	1.18
38	Average	0.93	0.76	0.75	0.77	0.74	0.64	0.76	0.67	0.79	0.79	0.94	0.86	0.94	1.07	1.18	1.31	1.35	1.24	1.24
39	Median	0.75	0.71	0.60	0.72	0.67	0.57	0.72	0.68	0.76	0.67	0.79	0.74	0.92	1.07	1.23	1.21	1.48	1.19	1.31

Sources:
[1] Data for years 2019 and prior were retreived from the Value Line Investment Survey Investment Analyzer Software, downloaded on June 18, 2021.
Data for the years 2020 - 2022 was retrieved from Value Line Investment Surveys.
[2] The Value Line Investment Survey, May 26, 2023.
Notes:
[a] Based on the projected Dividends Declared per share and Book Value per share, published in The Value Line Investment Survey.
[b] Based on the projected Dividends Declared per share and Earnings per share, published in The Value Line Investment Survey.
[c] Based on the projected Cash Flow per share and Capital Spending per share, published in The Value Line Investment Survey.

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Proxy Group

Line	Company	Credit Ratings[1] S&P (1)	Credit Ratings[1] Moody's (2)	Common Equity Ratios MI[1] (3)	Common Equity Ratios Value Line[2] (4)
1	Alliant Energy Corporation	A-	Baa2	43.1%	47.1%
2	American Electric Power Company, Inc.	A-	Baa2	37.5%	41.7%
3	Ameren Corporation	BBB+	Baa1	41.4%	43.3%
4	Avista Corporation	BBB	Baa2	45.3%	52.5%
5	Black Hills Corporation	BBB+	Baa2	37.5%	40.3%
6	CenterPoint Energy, Inc.	BBB+	Baa2	33.7%	34.5%
7	CMS Energy Corporation	BBB+	Baa2	32.5%	34.2%
8	Dominion Energy, Inc.	BBB+	Baa2	36.5%	38.5%
9	DTE Energy Company	BBB+	Baa2	32.3%	37.5%
10	Edison International	BBB	Baa2	29.4%	33.2%
11	Entergy Corporation	BBB+	Baa2	29.6%	31.7%
12	Evergy, Inc.	A-	Baa2	45.0%	49.9%
13	Eversource Energy	A-	Baa1	41.6%	45.3%
14	FirstEnergy Corp.	BBB-	Ba1	26.4%	28.1%
15	IDACORP, Inc.	BBB	Baa2	57.1%	57.2%
16	NorthWestern Corporation	BBB	Baa2	47.8%	47.8%
17	OGE Energy Corp.	BBB+	Baa1	44.7%	47.4%
18	Otter Tail Corporation	BBB	Baa2	53.1%	57.4%
19	Portland General Electric Company	BBB+	A3	42.9%	43.2%
20	Sempra Energy	BBB+	Baa2	47.5%	53.3%
21	Southern Company	BBB+	Baa2	31.7%	35.6%
22	WEC Energy Group, Inc.	A-	Baa1	40.8%	44.6%
23	Xcel Energy Inc.	A-	Baa1	38.6%	41.8%
24	**Average**	**BBB+**	**Baa2**	**39.8%**	**42.9%**
25	**Median**			**40.8%**	**43.2%**
26	**Duke Energy Carolinas, LLC[3,4]**	**BBB+**	**A2**		**53.0%**

Sources:

Note: If credit rating/common equity ratio unavailable for utility, subsidary data used.

[1] S&P Global Market Intelligence, Downloaded on June 9, 2023.

[2] *The Value Line Investment Survey*, April 21, May 12, and June 9, 2023.

[3] S&P Global Market Intelligence, Downloaded on June 9, 2023.

[4] Morin Direct, page 4.

Duke Energy Carolinas, LLC

Consensus Analysts' Growth Rates

Line	Company	Zacks Estimated Growth %[1] (1)	Zacks Number of Estimates (2)	MI Estimated Growth %[2] (3)	MI Number of Estimates (4)	Yahoo! Finance Estimated Growth %[3] (5)	Yahoo! Finance Number of Estimates (6)	Average of Growth Rates (7)
1	Alliant Energy Corporation	6.43%	N/A	6.19%	5	6.10%	N/A	6.24%
2	American Electric Power Company, Inc.	5.73%	N/A	5.91%	8	5.35%	N/A	5.66%
3	Ameren Corporation	6.97%	N/A	7.32%	6	6.90%	N/A	7.06%
4	Avista Corporation	6.35%	N/A	5.26%	4	6.30%	N/A	5.97%
5	Black Hills Corporation	2.20%	N/A	4.43%	3	5.40%	N/A	4.01%
6	CenterPoint Energy, Inc.	7.41%	N/A	6.95%	6	- 1.07%	N/A	7.18%
7	CMS Energy Corporation	7.50%	N/A	7.76%	5	7.50%	N/A	7.59%
8	Dominion Energy, Inc.	20.00%	N/A	0.34%	4	9.00%	N/A	9.78%
9	DTE Energy Company	6.00%	N/A	5.80%	6	7.40%	N/A	6.40%
10	Edison International	3.83%	N/A	5.75%	8	5.93%	N/A	5.17%
11	Entergy Corporation	5.69%	N/A	6.78%	5	6.60%	N/A	6.36%
12	Evergy, Inc.	5.20%	N/A	5.30%	4	2.67%	N/A	4.39%
13	Eversource Energy	6.34%	N/A	6.45%	7	6.70%	N/A	6.50%
14	FirstEnergy Corp.	6.45%	N/A	3.04%	4	0.55%	N/A	3.35%
15	IDACORP, Inc.	3.68%	N/A	4.64%	4	3.70%	N/A	4.01%
16	NorthWestern Corporation	6.76%	N/A	4.81%	6	4.50%	N/A	5.36%
17	OGE Energy Corp.	17.89%	N/A	1.03%	4	-12.34%	N/A	9.46%
18	Otter Tail Corporation	N/A	N/A	6.75%	2	9.00%	N/A	7.88%
19	Portland General Electric Company	5.79%	N/A	6.16%	5	4.18%	N/A	5.38%
20	Sempra Energy	4.80%	N/A	5.43%	6	4.14%	N/A	4.79%
21	Southern Company	4.00%	N/A	5.80%	5	7.30%	N/A	5.70%
22	WEC Energy Group, Inc.	5.76%	N/A	6.27%	5	5.50%	N/A	5.84%
23	Xcel Energy Inc.	6.30%	N/A	5.97%	6	6.10%	N/A	6.12%
24	**Average**	**6.87%**	**N/A**	**5.40%**	**5**	**5.75%**	**N/A**	**6.09%**
25	**Median**							**5.97%**

Sources:
[1] Zacks, http://www.zacks.com/, downloaded on June 9, 2023.
[2] S&P Global Market Intelligence, https://platform.mi.spglobal.com, downloaded on June 9, 2023.
[3] Yahoo! Finance, http://www.finance.yahoo.com/, downloaded on June 9, 2023.

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Duke Energy Carolinas, LLC

Constant Growth DCF Model
(Consensus Analysts' Growth Rates)

Line	Company	13-Week AVG Stock Price[1] (1)	Analysts' Growth[2] (2)	Annualized Dividend[3] (3)	Adjusted Yield (4)	Constant Growth DCF (5)
1	Alliant Energy Corporation	$53.36	6.24%	$1.81	3.60%	9.84%
2	American Electric Power Company, Inc.	$89.61	5.66%	$3.32	3.91%	9.58%
3	Ameren Corporation	$86.02	7.06%	$2.52	3.14%	10.20%
4	Avista Corporation	$42.70	5.97%	$1.84	4.57%	10.54%
5	Black Hills Corporation	$63.40	4.01%	$2.50	4.10%	8.11%
6	CenterPoint Energy, Inc.	$29.44	7.18%	$0.76	2.77%	9.95%
7	CMS Energy Corporation	$60.48	7.59%	$1.95	3.47%	11.06%
8	Dominion Energy, Inc.	$54.72	9.78%	$2.67	5.36%	15.14%
9	DTE Energy Company	$110.30	6.40%	$3.81	3.68%	10.08%
10	Edison International	$70.18	5.17%	$2.95	4.42%	9.60%
11	Entergy Corporation	$104.66	6.36%	$4.28	4.35%	10.71%
12	Evergy, Inc.	$60.49	4.39%	$2.45	4.23%	8.62%
13	Eversource Energy	$75.56	6.50%	$2.70	3.81%	10.30%
14	FirstEnergy Corp.	$39.25	3.35%	$1.56	4.11%	7.45%
15	IDACORP, Inc.	$107.82	4.01%	$3.16	3.05%	7.06%
16	NorthWestern Corporation	$58.04	5.36%	$2.56	4.65%	10.00%
17	OGE Energy Corp.	$36.73	9.46%	$1.64	4.89%	14.35%
18	Otter Tail Corporation	$73.41	7.88%	$1.75	2.57%	10.45%
19	Portland General Electric Company	$49.34	5.38%	$1.81	3.87%	9.24%
20	Sempra Energy	$149.95	4.79%	$4.76	3.33%	8.12%
21	Southern Company	$70.92	5.70%	$2.80	4.17%	9.87%
22	WEC Energy Group, Inc.	$93.10	5.84%	$3.12	3.55%	9.39%
23	Xcel Energy Inc.	$67.35	6.12%	$2.08	3.28%	9.40%
24	**Average**	**$71.60**	**6.09%**	**$2.56**	**3.86%**	**9.96%**
25	**Median**					**9.87%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on June 9, 2023.
[2] Exhibit CCW-3
[3] *The Value Line Investment Survey* , April 21, May 12, and June 9, 2023.

Duke Energy Carolinas, LLC

Constant Growth DCF Model
(Value Line Growth Rates)

	Company Name	Annualized Dividend[1] (1)	13-Week AVG Stock Price[2] (2)	Yield[3] (3)	Historical Growth Rates[1] EPS 10-Yr (4)	DPS 10-Yr (5)	BPS 10-Yr (6)	EPS 5-Yr (7)	DPS 5-Yr (8)	BPS 5-Yr (9)	Historical Growth DCF Results EPS 10-Yr (10)	DPS 10-Yr (11)	BPS 10-Yr (12)	EPS 5-Yr (13)	DPS 5-Yr (14)	BPS 5-Yr (15)
1	Alliant Energy Corporation	1.81	$53.36	3.39%	6.00%	6.50%	6.00%	8.00%	6.50%	7.00%	9.60%	10.11%	9.60%	11.66%	10.11%	10.63%
2	American Electric Power Company, Inc.	3.32	$89.61	3.70%	5.00%	5.00%	3.50%	4.00%	5.00%	3.50%	8.89%	8.89%	7.33%	7.85%	8.89%	7.33%
3	Ameren Corporation	2.52	$86.02	2.93%	3.50%	3.00%	1.50%	7.00%	4.00%	4.50%	6.53%	6.02%	4.47%	10.13%	7.05%	7.56%
4	Avista Corporation	1.84	$42.70	4.31%	2.50%	4.50%	4.00%	0.50%	4.00%	3.50%	6.92%	9.00%	8.48%	4.83%	8.48%	7.96%
5	Black Hills Corporation	2.50	$63.40	3.94%	9.50%	4.50%	4.50%	5.50%	6.00%	7.50%	13.82%	8.62%	8.62%	9.66%	10.18%	11.74%
6	CenterPoint Energy, Inc.	0.76	$29.44	2.58%	0.50%	-0.50%	3.50%	1.00%	-7.50%	8.00%	3.09%	NMF	6.17%	3.61%	NMF	10.79%
7	CMS Energy Corporation	1.95	$60.48	3.23%	6.50%	8.00%	6.00%	6.00%	7.00%	7.50%	9.94%	11.49%	9.42%	9.42%	10.45%	10.97%
8	Dominion Energy, Inc.	2.67	$54.72	4.88%	3.00%	4.00%	4.50%	2.50%	0.50%	5.50%	8.03%	9.07%	9.60%	7.50%	5.40%	10.65%
9	DTE Energy Company	3.81	$110.30	3.45%	4.00%	5.50%	3.00%	2.50%	5.50%	1.50%	7.59%	9.14%	6.56%	6.04%	9.14%	5.01%
10	Edison International	2.95	$70.18	4.21%	-7.00%	7.50%	1.00%	-16.00%	6.50%	-0.50%	NMF	12.02%	5.25%	NMF	10.98%	NMF
11	Entergy Corporation	4.28	$104.66	4.09%	-0.50%	1.50%	1.50%	1.50%	2.50%	4.00%	NMF	5.65%	5.65%	5.65%	6.69%	8.25%
12	Evergy, Inc.	2.45	$60.49	4.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.05%	4.05%	4.05%	4.05%	4.05%	4.05%
13	Eversource Energy	2.70	$75.56	3.57%	6.50%	7.50%	5.50%	5.50%	6.00%	4.50%	10.31%	11.34%	9.27%	9.27%	9.79%	8.23%
14	FirstEnergy Corp.	1.56	$39.25	3.97%	0.00%	-3.50%	-6.50%	-1.50%	1.50%	-2.50%	3.97%	NMF	NMF	NMF	5.53%	NMF
15	IDACORP, Inc.	3.16	$107.82	2.93%	4.00%	8.50%	5.00%	4.00%	6.50%	4.50%	7.05%	11.68%	8.08%	7.05%	9.62%	7.56%
16	NorthWestern Corporation	2.56	$58.04	4.41%	3.50%	5.50%	6.00%	1.00%	4.00%	4.50%	8.07%	10.15%	10.68%	5.45%	8.59%	9.11%
17	OGE Energy Corp.	1.64	$36.73	4.46%	3.00%	7.50%	4.00%	4.50%	6.50%	1.50%	7.60%	12.30%	8.64%	9.17%	11.25%	6.03%
18	Otter Tail Corporation	1.75	$73.41	2.38%	18.00%	2.50%	3.50%	14.50%	4.00%	6.00%	20.81%	4.94%	5.97%	17.23%	6.48%	8.53%
19	Portland General Electric Company	1.81	$49.34	3.67%	4.00%	5.00%	3.00%	5.00%	6.00%	3.00%	7.82%	8.85%	6.78%	8.85%	9.89%	6.78%
20	Sempra Energy	4.76	$149.95	3.17%	7.00%	8.50%	7.00%	12.00%	7.50%	9.00%	10.40%	11.94%	10.40%	15.56%	10.91%	12.46%
21	Southern Company	2.80	$70.92	3.95%	3.00%	3.50%	3.00%	3.00%	3.50%	2.50%	7.07%	7.59%	7.07%	7.07%	7.59%	6.55%
22	WEC Energy Group, Inc.	3.12	$93.10	3.35%	6.50%	10.00%	7.00%	7.00%	6.50%	3.50%	10.07%	13.69%	10.59%	10.59%	10.07%	6.97%
23	Xcel Energy Inc.	2.08	$67.35	3.09%	5.50%	6.00%	5.00%	6.00%	6.00%	5.50%	8.76%	9.27%	8.24%	9.27%	9.27%	8.76%
	Average			3.64%	4.09%	4.80%	3.54%	3.63%	4.26%	4.09%	8.59%	9.33%	7.77%	8.57%	8.66%	8.38%
	Median			3.67%	4.00%	5.00%	4.00%	4.00%	5.50%	4.50%	8.03%	9.14%	8.16%	8.85%	9.21%	8.23%

Sources:

[1] *The Value Line Investment Survey*, April 21, May 12, and June 9, 2023.

[2] S&P Global Market Intelligence, Downloaded on February 10, 2023.

[3] Formula: Annualized Dividend/Stock Price.

NMF = not meaningful

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Duke Energy Carolinas, LLC

Payout Ratios

Line	Company	Dividends Per Share		Earnings Per Share		Payout Ratio	
		2021	Projected	2021	Projected	2021	Projected
		(1)	(2)	(3)	(4)	(5)	(6)
1	Alliant Energy Corporation	$1.61	$2.29	$2.63	$3.80	61.22%	60.26%
2	American Electric Power Company, Inc.	$3.00	$4.16	$4.96	$6.80	60.48%	61.18%
3	Ameren Corporation	$2.20	$3.30	$3.84	$5.50	57.29%	60.00%
4	Avista Corporation	$1.69	$2.15	$2.10	$3.00	80.48%	71.67%
5	Black Hills Corporation	$2.29	$3.07	$3.74	$5.25	61.23%	58.48%
6	CenterPoint Energy, Inc.	$0.66	$0.95	$0.94	$1.95	70.21%	48.72%
7	CMS Energy Corporation	$1.74	$2.30	$2.58	$3.75	67.44%	61.33%
8	Dominion Energy, Inc.	$2.52	$3.18	$3.86	$5.00	65.28%	63.60%
9	DTE Energy Company	$3.88	$4.65	$4.10	$8.30	94.63%	56.02%
10	Edison International	$2.69	$3.65	$2.00	$6.45	134.50%	56.59%
11	Entergy Corporation	$3.86	$5.00	$6.87	$6.50	56.19%	76.92%
12	Evergy, Inc.	$2.18	$3.05	$3.83	$4.85	56.92%	62.89%
13	Eversource Energy	$2.41	$3.48	$3.86	$5.60	62.44%	62.14%
14	FirstEnergy Corp.	$1.56	$2.05	$2.60	$3.10	60.00%	66.13%
15	IDACORP, Inc.	$2.88	$4.15	$4.85	$6.30	59.38%	65.87%
16	NorthWestern Corporation	$2.48	$2.76	$3.50	$4.15	70.86%	66.51%
17	OGE Energy Corp.	$1.63	$1.85	$2.36	$3.15	69.07%	58.73%
18	Otter Tail Corporation	$1.56	$2.20	$4.23	$3.65	36.88%	60.27%
19	Portland General Electric Company	$1.70	$2.36	$2.72	$3.65	62.50%	64.66%
20	Sempra Energy	$4.40	$6.10	$8.43	$12.00	52.19%	50.83%
21	Southern Company	$2.62	$3.10	$3.42	$5.15	76.61%	60.19%
22	WEC Energy Group, Inc.	$2.71	$3.80	$4.11	$5.90	65.94%	64.41%
23	Xcel Energy Inc.	$1.83	$2.66	$2.96	$4.25	61.82%	62.59%
24	**Average**	**$2.35**	**$3.14**	**$3.67**	**$5.13**	**67.11%**	**61.74%**

Source:
The Value Line Investment Survey, April 21, May 12, and June 9, 2023.

Duke Energy Carolinas, LLC

Sustainable Growth Rate

Line	Company	3 to 5 Year Projections: Dividends Per Share (1)	Earnings Per Share (2)	Book Value Per Share (3)	Book Value Growth (4)	ROE (5)	Adjustment Factor (6)	Adjusted ROE (7)	Payout Ratio (8)	Retention Rate (9)	Internal Growth Rate (10)	Sustainable Growth Rate (11)
1	Alliant Energy Corporation	$2.29	$3.80	$31.90	4.92%	11.91%	1.02	12.20%	60.26%	39.74%	4.85%	5.38%
2	American Electric Power Company, Inc.	$4.16	$6.80	$62.55	5.84%	10.87%	1.03	11.18%	61.18%	38.82%	4.34%	5.82%
3	Ameren Corporation	$3.30	$5.50	$55.00	6.53%	10.00%	1.03	10.32%	60.00%	40.00%	4.13%	6.30%
4	Avista Corporation	$2.15	$3.00	$36.75	3.36%	8.16%	1.02	8.30%	71.67%	28.33%	2.35%	3.57%
5	Black Hills Corporation	$3.07	$5.25	$59.70	5.60%	8.79%	1.03	9.03%	58.48%	41.52%	3.75%	4.60%
6	CenterPoint Energy, Inc.	$0.95	$1.95	$19.50	6.06%	10.00%	1.03	10.29%	48.72%	51.28%	5.28%	5.43%
7	CMS Energy Corporation	$2.30	$3.75	$26.00	2.74%	14.42%	1.01	14.62%	61.33%	38.67%	5.65%	6.66%
8	Dominion Energy, Inc.	$3.18	$5.00	$42.15	4.97%	11.86%	1.02	12.15%	63.60%	36.40%	4.42%	5.31%
9	DTE Energy Company	$4.65	$8.30	$60.75	5.16%	13.66%	1.03	14.01%	56.02%	43.98%	6.16%	7.65%
10	Edison International	$3.65	$6.45	$48.50	4.82%	13.30%	1.02	13.61%	56.59%	43.41%	5.91%	6.29%
11	Entergy Corporation	$5.00	$6.50	$73.90	4.30%	8.80%	1.02	8.98%	76.92%	23.08%	2.07%	3.83%
12	Evergy, Inc.	$3.05	$4.85	$47.50	2.77%	10.21%	1.01	10.35%	62.89%	37.11%	3.84%	3.87%
13	Eversource Energy	$3.48	$5.60	$55.50	4.59%	10.09%	1.02	10.32%	62.14%	37.86%	3.91%	4.49%
14	FirstEnergy Corp.	$2.05	$3.10	$23.25	7.33%	13.33%	1.04	13.80%	66.13%	33.87%	4.68%	5.35%
15	IDACORP, Inc.	$4.15	$6.30	$67.00	4.04%	9.40%	1.02	9.59%	65.87%	34.13%	3.27%	4.11%
16	NorthWestern Corporation	$2.76	$4.15	$52.30	3.21%	7.93%	1.02	8.06%	66.51%	33.49%	2.70%	3.49%
17	OGE Energy Corp.	$1.85	$3.15	$26.00	4.24%	12.12%	1.02	12.37%	58.73%	41.27%	5.10%	5.11%
18	Otter Tail Corporation	$2.20	$3.65	$34.25	6.22%	10.66%	1.03	10.98%	60.27%	39.73%	4.36%	5.15%
19	Portland General Electric Company	$2.36	$3.65	$38.70	4.17%	9.43%	1.02	9.62%	64.66%	35.34%	3.40%	4.59%
20	Sempra Energy	$6.10	$12.00	$105.55	4.91%	11.37%	1.02	11.64%	50.83%	49.17%	5.72%	5.72%
21	Southern Company	$3.10	$5.15	$32.25	4.16%	15.97%	1.02	16.29%	60.19%	39.81%	6.49%	6.81%
22	WEC Energy Group, Inc.	$3.80	$5.90	$42.00	3.28%	14.05%	1.02	14.27%	64.41%	35.59%	5.08%	5.08%
23	Xcel Energy Inc.	$2.66	$4.25	$38.25	4.90%	11.11%	1.02	11.38%	62.59%	37.41%	4.26%	4.91%
24	**Average**	**$3.14**	**$5.13**	**$46.92**	**4.70%**	**11.19%**	**1.02**	**11.45%**	**61.74%**	**38.26%**	**4.42%**	**5.20%**
25	**Median**											**5.15%**

Sources and Notes:
Cols. (1), (2) and (3): *The Value Line Investment Survey* , April 21, May 12, and June 9, 2023.
Col. (4): [Col. (3) / Page 2 Col. (2)] ^ (1/number of years projected) - 1.
Col. (5): Col. (2) / Col. (3).
Col. (6): [2 * (1 + Col. (4))] / (2 + Col. (4)).
Col. (7): Col. (6) * Col. (5).
Col. (8): Col. (1) / Col. (2).
Col. (9): 1 - Col. (8).
Col. (10): Col. (9) * Col. (7).
Col. (11): Col. (10) + Page 2 Col. (9).

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Duke Energy Carolinas, LLC

Sustainable Growth Rate

Line	Company	13-Week Average Stock Price[1]	2021 Book Value Per Share[2]	Market to Book Ratio	Common Shares Outstanding (in Millions)[2] 2021	Common Shares Outstanding (in Millions)[2] 3-5 Years	Growth	S Factor[3]	V Factor[4]	S * V
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Alliant Energy Corporation	$53.36	$23.91	2.23	250.47	257.00	0.43%	0.96%	55.19%	0.53%
2	American Electric Power Company, Inc.	$89.61	$44.49	2.01	504.21	550.00	1.46%	2.94%	50.35%	1.48%
3	Ameren Corporation	$86.02	$37.64	2.29	257.70	285.00	1.69%	3.87%	56.24%	2.18%
4	Avista Corporation	$42.70	$30.14	1.42	71.50	85.00	2.92%	4.14%	29.41%	1.22%
5	Black Hills Corporation	$63.40	$43.05	1.47	64.74	72.00	1.79%	2.63%	32.10%	0.84%
6	CenterPoint Energy, Inc.	$29.44	$13.70	2.15	628.92	634.00	0.13%	0.29%	53.46%	0.15%
7	CMS Energy Corporation	$60.48	$22.11	2.74	289.76	300.00	0.58%	1.59%	63.44%	1.01%
8	Dominion Energy, Inc.	$54.72	$31.51	1.74	810.00	870.00	1.20%	2.08%	42.42%	0.88%
9	DTE Energy Company	$110.30	$44.93	2.45	193.75	206.00	1.03%	2.52%	59.27%	1.49%
10	Edison International	$70.18	$36.57	1.92	380.38	390.00	0.42%	0.80%	47.89%	0.38%
11	Entergy Corporation	$104.66	$57.42	1.82	202.65	230.00	2.13%	3.89%	45.13%	1.75%
12	Evergy, Inc.	$60.49	$40.32	1.50	229.30	230.00	0.05%	0.08%	33.35%	0.03%
13	Eversource Energy	$75.56	$42.39	1.78	344.40	360.00	0.74%	1.32%	43.90%	0.58%
14	FirstEnergy Corp.	$39.25	$15.21	2.58	570.26	585.00	0.43%	1.10%	61.25%	0.67%
15	IDACORP, Inc.	$107.82	$52.82	2.04	50.52	53.00	0.80%	1.64%	51.01%	0.84%
16	NorthWestern Corporation	$58.04	$43.28	1.34	54.06	62.00	2.31%	3.10%	25.43%	0.79%
17	OGE Energy Corp.	$36.73	$20.27	1.81	200.10	200.20	0.01%	0.02%	44.82%	0.01%
18	Otter Tail Corporation	$73.41	$23.84	3.08	41.55	42.50	0.38%	1.16%	67.52%	0.78%
19	Portland General Electric Company	$49.34	$30.28	1.63	89.41	100.00	1.88%	3.07%	38.63%	1.19%
20	Sempra Energy	$149.95	$79.17	1.89	316.92	300.00	- 0.91%	- 1.72%	47.20%	- 0.81%
21	Southern Company	$70.92	$26.30	2.70	1,060.00	1,070.00	0.19%	0.51%	62.91%	0.32%
22	WEC Energy Group, Inc.	$93.10	$34.60	2.69	315.43	315.43	0.00%	0.00%	62.84%	0.00%
23	Xcel Energy Inc.	$67.35	$28.70	2.35	544.03	560.00	0.48%	1.13%	57.38%	0.65%
	Average	**$71.60**	**$35.77**	**2.07**	**324.79**	**337.27**	**0.88%**	**1.61%**	**49.18%**	**0.74%**

Sources and Notes:
[1] S&P Global Market Intelligence, Downloaded on June 9, 2023.
[2] *The Value Line Investment Survey*, April 21, May 12, and June 9, 2023.
[3] Expected Growth in the Number of Shares, Column (3) * Column (6).
[4] Expected Profit of Stock Investment, [1 - 1 / Column (3)].

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Constant Growth DCF Model
(Sustainable Growth Rate)

Line	Company	13-Week AVG Stock Price[1] (1)	Sustainable Growth[2] (2)	Annualized Dividend[3] (3)	Adjusted Yield (4)	Constant Growth DCF (5)
1	Alliant Energy Corporation	$53.36	5.38%	$1.81	3.57%	8.95%
2	American Electric Power Company, Inc.	$89.61	5.82%	$3.32	3.92%	9.74%
3	Ameren Corporation	$86.02	6.30%	$2.52	3.11%	9.42%
4	Avista Corporation	$42.70	3.57%	$1.84	4.46%	8.03%
5	Black Hills Corporation	$63.40	4.60%	$2.50	4.12%	8.72%
6	CenterPoint Energy, Inc.	$29.44	5.43%	$0.76	2.72%	8.15%
7	CMS Energy Corporation	$60.48	6.66%	$1.95	3.44%	10.10%
8	Dominion Energy, Inc.	$54.72	5.31%	$2.67	5.14%	10.44%
9	DTE Energy Company	$110.30	7.65%	$3.81	3.72%	11.37%
10	Edison International	$70.18	6.29%	$2.95	4.47%	10.76%
11	Entergy Corporation	$104.66	3.83%	$4.28	4.25%	8.07%
12	Evergy, Inc.	$60.49	3.87%	$2.45	4.21%	8.07%
13	Eversource Energy	$75.56	4.49%	$2.70	3.73%	8.22%
14	FirstEnergy Corp.	$39.25	5.35%	$1.56	4.19%	9.54%
15	IDACORP, Inc.	$107.82	4.11%	$3.16	3.05%	7.16%
16	NorthWestern Corporation	$58.04	3.49%	$2.56	4.56%	8.05%
17	OGE Energy Corp.	$36.73	5.11%	$1.64	4.69%	9.80%
18	Otter Tail Corporation	$73.41	5.15%	$1.75	2.51%	7.65%
19	Portland General Electric Company	$49.34	4.59%	$1.81	3.84%	8.42%
20	Sempra Energy	$149.95	5.72%	$4.76	3.36%	9.08%
21	Southern Company	$70.92	6.81%	$2.80	4.22%	11.02%
22	WEC Energy Group, Inc.	$93.10	5.08%	$3.12	3.52%	8.60%
23	Xcel Energy Inc.	$67.35	4.91%	$2.08	3.24%	8.15%
24	**Average**	**$71.60**	**5.20%**	**$2.56**	**3.83%**	**9.02%**
25	**Median**					**8.72%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on June 9, 2023.
[2] Exhibit CCW-6, page 1.
[3] *The Value Line Investment Survey*, April 21, May 12, and June 9, 2023.

Duke Energy Carolinas, LLC

Multi-Stage Growth DCF Model

Line	Company	13-Week AVG Stock Price[1] (1)	Annualized Dividend[2] (2)	First Stage Growth[3] (3)	Second Stage Growth Year 6 (4)	Year 7 (5)	Year 8 (6)	Year 9 (7)	Year 10 (8)	Third Stage Growth[4] (9)	Multi-Stage Growth DCF (10)
1	Alliant Energy Corporation	$53.36	$1.81	6.24%	5.92%	5.59%	5.27%	4.95%	4.62%	4.30%	8.30%
2	American Electric Power Company, Inc.	$89.61	$3.32	5.66%	5.44%	5.21%	4.98%	4.75%	4.53%	4.30%	8.51%
3	Ameren Corporation	$86.02	$2.52	7.06%	6.60%	6.14%	5.68%	5.22%	4.76%	4.30%	7.94%
4	Avista Corporation	$42.70	$1.84	5.97%	5.69%	5.41%	5.14%	4.86%	4.58%	4.30%	9.28%
5	Black Hills Corporation	$63.40	$2.50	4.01%	4.06%	4.11%	4.16%	4.20%	4.25%	4.30%	8.34%
6	CenterPoint Energy, Inc.	$29.44	$0.76	7.18%	6.70%	6.22%	5.74%	5.26%	4.78%	4.30%	7.54%
7	CMS Energy Corporation	$60.48	$1.95	7.59%	7.04%	6.49%	5.94%	5.40%	4.85%	4.30%	8.44%
8	Dominion Energy, Inc.	$54.72	$2.67	9.78%	8.87%	7.95%	7.04%	6.13%	5.21%	4.30%	11.29%
9	DTE Energy Company	$110.30	$3.81	6.40%	6.05%	5.70%	5.35%	5.00%	4.65%	4.30%	8.41%
10	Edison International	$70.18	$2.95	5.17%	5.03%	4.88%	4.74%	4.59%	4.45%	4.30%	8.93%
11	Entergy Corporation	$104.66	$4.28	6.36%	6.01%	5.67%	5.33%	4.99%	4.64%	4.30%	9.14%
12	Evergy, Inc.	$60.49	$2.45	4.39%	4.37%	4.36%	4.34%	4.33%	4.31%	4.30%	8.55%
13	Eversource Energy	$75.56	$2.70	6.50%	6.13%	5.76%	5.40%	5.03%	4.67%	4.30%	8.58%
14	FirstEnergy Corp.	$39.25	$1.56	3.35%	3.50%	3.66%	3.82%	3.98%	4.14%	4.30%	8.20%
15	IDACORP, Inc.	$107.82	$3.16	4.01%	4.06%	4.11%	4.15%	4.20%	4.25%	4.30%	7.29%
16	NorthWestern Corporation	$58.04	$2.56	5.36%	5.18%	5.00%	4.83%	4.65%	4.48%	4.30%	9.21%
17	OGE Energy Corp.	$36.73	$1.64	9.46%	8.60%	7.74%	6.88%	6.02%	5.16%	4.30%	10.61%
18	Otter Tail Corporation	$73.41	$1.75	7.88%	7.28%	6.68%	6.09%	5.49%	4.90%	4.30%	7.42%
19	Portland General Electric Company	$49.34	$1.81	5.38%	5.20%	5.02%	4.84%	4.66%	4.48%	4.30%	8.39%
20	Sempra Energy	$149.95	$4.76	4.79%	4.71%	4.63%	4.55%	4.46%	4.38%	4.30%	7.71%
21	Southern Company	$70.92	$2.80	5.70%	5.47%	5.23%	5.00%	4.77%	4.53%	4.30%	8.79%
22	WEC Energy Group, Inc.	$93.10	$3.12	5.84%	5.59%	5.33%	5.07%	4.81%	4.56%	4.30%	8.15%
23	Xcel Energy Inc.	$67.35	$2.08	6.12%	5.82%	5.51%	5.21%	4.91%	4.60%	4.30%	7.92%
24	**Average**	**$71.60**	**$2.56**	**6.09%**	**5.80%**	**5.50%**	**5.20%**	**4.90%**	**4.60%**	**4.30%**	**8.56%**
25	**Median**										**8.41%**

Sources:
[1] S&P Global Market Intelligence, Downloaded on June 9, 2023.
[2] *The Value Line Investment Survey*, April 21, May 12, and June 9, 2023.
[3] Exhibit CCW-3
[4] *Blue Chip Financial Forecasts June 1, 2023, at page 14.*

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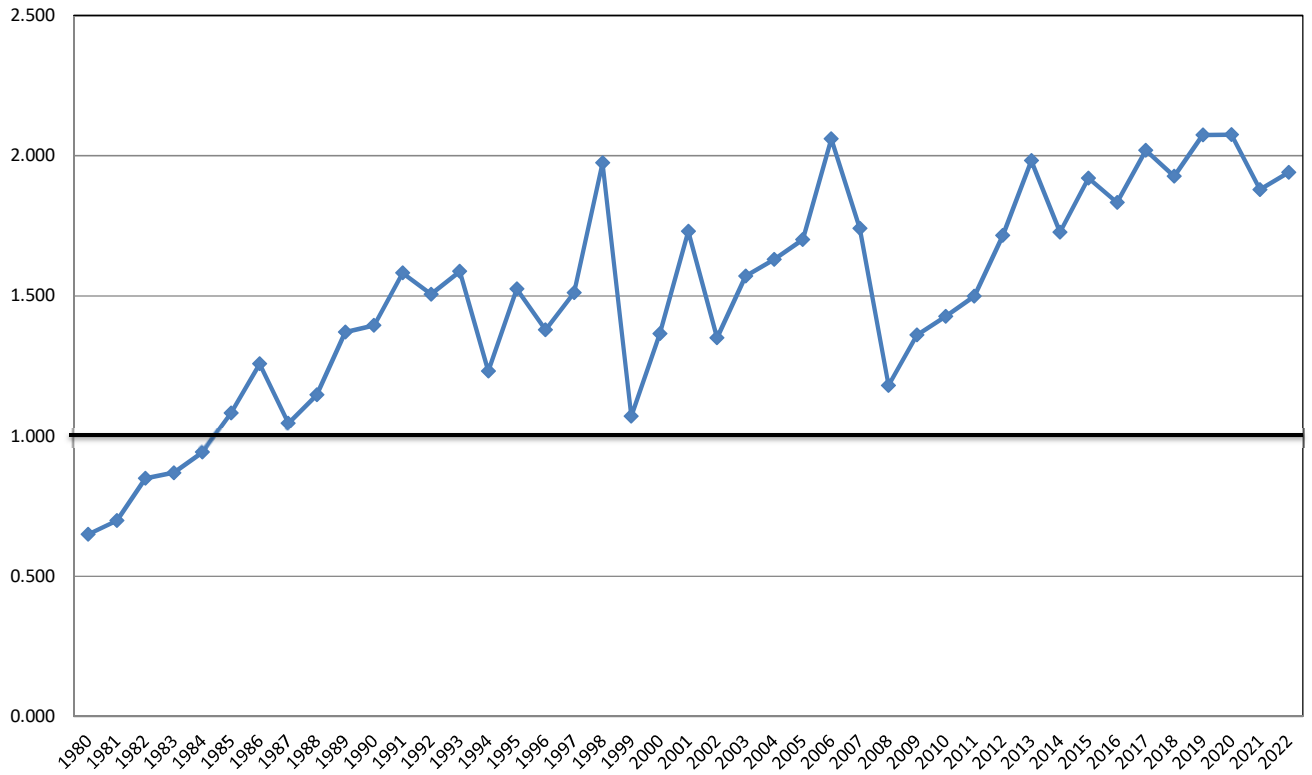
Common Stock Market/Book Ratio



Source:
1980 - 2000: Mergent Public Utility Manual.
2001 - 2015: AUS Utility Reports, multiple dates.
2016 - 2021: Value Line Investment Survey, multiple dates.
* Value Line Investment Survey Reports, April 21, May 12, May 26, and June 9, 2023.

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Equity Risk Premium - Treasury Bond

Line	Year	Authorized Electric Returns[1] (1)	30 yr. Treasury Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
1	1986	13.93%	7.80%	6.13%		
2	1987	12.99%	8.58%	4.41%		
3	1988	12.79%	8.96%	3.83%		
4	1989	12.97%	8.45%	4.52%		
5	1990	12.70%	8.61%	4.09%	4.60%	
6	1991	12.55%	8.14%	4.41%	4.25%	
7	1992	12.09%	7.67%	4.42%	4.26%	
8	1993	11.41%	6.60%	4.81%	4.45%	
9	1994	11.34%	7.37%	3.97%	4.34%	
10	1995	11.55%	6.88%	4.67%	4.46%	4.53%
11	1996	11.39%	6.70%	4.69%	4.51%	4.38%
12	1997	11.40%	6.61%	4.79%	4.59%	4.42%
13	1998	11.66%	5.58%	6.08%	4.84%	4.65%
14	1999	10.77%	5.87%	4.90%	5.03%	4.68%
15	2000	11.43%	5.94%	5.49%	5.19%	4.82%
16	2001	11.09%	5.49%	5.60%	5.37%	4.94%
17	2002	11.16%	5.43%	5.73%	5.56%	5.07%
18	2003	10.97%	4.96%	6.01%	5.55%	5.19%
19	2004	10.75%	5.05%	5.70%	5.71%	5.37%
20	2005	10.54%	4.65%	5.89%	5.79%	5.49%
21	2006	10.34%	4.87%	5.47%	5.76%	5.57%
22	2007	10.31%	4.83%	5.48%	5.71%	5.64%
23	2008	10.37%	4.28%	6.09%	5.73%	5.64%
24	2009	10.52%	4.07%	6.45%	5.88%	5.79%
25	2010	10.29%	4.25%	6.04%	5.90%	5.85%
26	2011	10.19%	3.91%	6.28%	6.07%	5.91%
27	2012	10.01%	2.92%	7.09%	6.39%	6.05%
28	2013	9.81%	3.45%	6.36%	6.44%	6.09%
29	2014	9.75%	3.34%	6.41%	6.44%	6.16%
30	2015	9.60%	2.84%	6.76%	6.58%	6.24%
31	2016	9.60%	2.60%	7.00%	6.72%	6.40%
32	2017	9.68%	2.90%	6.79%	6.66%	6.53%
33	2018	9.55%	3.11%	6.44%	6.68%	6.56%
34	2019	9.64%	2.58%	7.06%	6.81%	6.62%
35	2020	9.39%	1.56%	7.83%	7.02%	6.80%
36	2021	9.39%	2.05%	7.34%	7.09%	6.91%
37	2022	9.52%	3.12%	6.41%	7.01%	6.84%
38	2023 [3]	9.71%	3.75%	5.96%	6.92%	6.80%
39	**Average**	**10.87%**	**5.15%**	**5.72%**	**5.71%**	**5.72%**
40	**Minimum**				**4.25%**	**4.38%**
41	**Maximum**				**7.09%**	**6.91%**

Sources:
[1] *Regulatory Research Associates, Inc*., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3.
S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January - March 2023 April 26, 2023 at page 3.
2006 - 2023 Authorized Returns exclude limited issue rider cases.
[2] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
The yields from 2002 to 2005 represent the 20-Year Treasury yields obtained from the Federal Reserve Bank
[3] Data represents January - March, 2023.

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Equity Risk Premium - Utility Bond

Line	Year	Authorized Electric Returns[1] (1)	Average "A" Rated Utility Bond Yield[2] (2)	Indicated Risk Premium (3)	Rolling 5 - Year Average (4)	Rolling 10 - Year Average (5)
1	1986	13.93%	9.58%	4.35%		
2	1987	12.99%	10.10%	2.89%		
3	1988	12.79%	10.49%	2.30%		
4	1989	12.97%	9.77%	3.20%		
5	1990	12.70%	9.86%	2.84%	3.12%	
6	1991	12.55%	9.36%	3.19%	2.88%	
7	1992	12.09%	8.69%	3.40%	2.99%	
8	1993	11.41%	7.59%	3.82%	3.29%	
9	1994	11.34%	8.31%	3.03%	3.26%	
10	1995	11.55%	7.89%	3.66%	3.42%	3.27%
11	1996	11.39%	7.75%	3.64%	3.51%	3.20%
12	1997	11.40%	7.60%	3.80%	3.59%	3.29%
13	1998	11.66%	7.04%	4.62%	3.75%	3.52%
14	1999	10.77%	7.62%	3.15%	3.77%	3.52%
15	2000	11.43%	8.24%	3.19%	3.68%	3.55%
16	2001	11.09%	7.76%	3.33%	3.62%	3.56%
17	2002	11.16%	7.37%	3.79%	3.61%	3.60%
18	2003	10.97%	6.58%	4.39%	3.57%	3.66%
19	2004	10.75%	6.16%	4.59%	3.86%	3.82%
20	2005	10.54%	5.65%	4.89%	4.20%	3.94%
21	2006	10.34%	6.07%	4.27%	4.39%	4.00%
22	2007	10.31%	6.07%	4.24%	4.48%	4.04%
23	2008	10.37%	6.53%	3.84%	4.37%	3.97%
24	2009	10.52%	6.04%	4.48%	4.34%	4.10%
25	2010	10.29%	5.47%	4.82%	4.33%	4.26%
26	2011	10.19%	5.04%	5.15%	4.51%	4.45%
27	2012	10.01%	4.13%	5.88%	4.83%	4.66%
28	2013	9.81%	4.48%	5.33%	5.13%	4.75%
29	2014	9.75%	4.28%	5.47%	5.33%	4.84%
30	2015	9.60%	4.12%	5.48%	5.46%	4.90%
31	2016	9.60%	3.93%	5.67%	5.57%	5.04%
32	2017	9.68%	4.00%	5.68%	5.53%	5.18%
33	2018	9.55%	4.25%	5.30%	5.52%	5.33%
34	2019	9.64%	3.77%	5.87%	5.60%	5.47%
35	2020	9.39%	3.05%	6.34%	5.77%	5.62%
36	2021	9.39%	3.10%	6.29%	5.90%	5.73%
37	2022	9.52%	4.72%	4.80%	5.72%	5.62%
38	2023 [3]	9.71%	5.27%	4.44%	5.55%	5.53%
37	**Average**	**10.87%**	**6.52%**	**4.35%**	**4.37%**	**4.36%**
39	**Minimum**				**2.88%**	**3.20%**
40	**Maximum**				**5.90%**	**5.73%**

Sources:
[1] *Regulatory Research Associates, Inc*., Regulatory Focus, Major Rate Case Decisions, Jan. 1997 p. 5, and Jan. 2011 p. 3.
S&P Global Market Intelligence, RRA Regulatory Focus, Major Rate Case Decisions, January - March 2023
April 26, 2023 at page 3.
2006 - 2023 Authorized Returns exclude limited issue rider cases.
[2] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
The yields from 2002 to 2005 represent the 20-Year Treasury yields obtained from the Federal Reserve Bank
[3] Data represents January - March, 2023.

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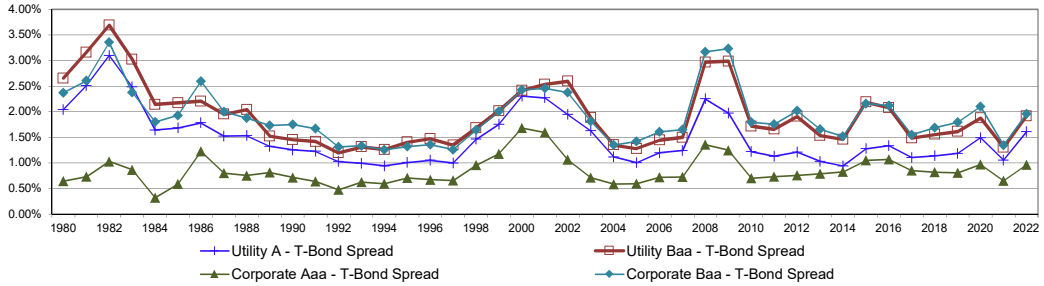
Duke Energy Carolinas, LLC

Bond Yield Spreads

Line	Year	T-Bond Yield[1] (1)	Public Utility Bond A[2] (2)	Public Utility Bond Baa[2] (3)	Public Utility Bond A-T-Bond Spread (4)	Public Utility Bond Baa-T-Bond Spread (5)	Corporate Bond Aaa[3] (6)	Corporate Bond Baa[3] (7)	Corporate Bond Aaa-T-Bond Spread (8)	Corporate Bond Baa-T-Bond Spread (9)	Utility to Corporate Baa Spread (10)	Utility to Corporate A-Aaa Spread (11)
1	1980	11.30%	13.34%	13.95%	2.04%	2.65%	11.94%	13.67%	0.64%	2.37%	0.28%	1.40%
2	1981	13.44%	15.95%	16.60%	2.51%	3.16%	14.17%	16.04%	0.73%	2.60%	0.56%	1.78%
3	1982	12.76%	15.86%	16.45%	3.10%	3.69%	13.79%	16.11%	1.03%	3.35%	0.34%	2.07%
4	1983	11.18%	13.66%	14.20%	2.48%	3.02%	12.04%	13.55%	0.86%	2.38%	0.65%	1.62%
5	1984	12.39%	14.03%	14.53%	1.64%	2.14%	12.71%	14.19%	0.32%	1.80%	0.34%	1.32%
6	1985	10.79%	12.47%	12.96%	1.68%	2.17%	11.37%	12.72%	0.58%	1.93%	0.24%	1.10%
7	1986	7.80%	9.58%	10.00%	1.78%	2.20%	9.02%	10.39%	1.22%	2.59%	-0.39%	0.56%
8	1987	8.58%	10.10%	10.53%	1.52%	1.95%	9.38%	10.58%	0.80%	2.00%	-0.05%	0.72%
9	1988	8.96%	10.49%	11.00%	1.53%	2.04%	9.71%	10.83%	0.75%	1.87%	0.17%	0.78%
10	1989	8.45%	9.77%	9.97%	1.32%	1.52%	9.26%	10.18%	0.81%	1.73%	-0.21%	0.51%
11	1990	8.61%	9.86%	10.06%	1.25%	1.45%	9.32%	10.36%	0.71%	1.75%	-0.30%	0.54%
12	1991	8.14%	9.36%	9.55%	1.22%	1.41%	8.77%	9.80%	0.63%	1.67%	-0.25%	0.59%
13	1992	7.67%	8.69%	8.86%	1.02%	1.19%	8.14%	8.98%	0.47%	1.31%	-0.12%	0.55%
14	1993	6.60%	7.59%	7.91%	0.99%	1.31%	7.22%	7.93%	0.62%	1.33%	-0.02%	0.37%
15	1994	7.37%	8.31%	8.63%	0.94%	1.26%	7.96%	8.62%	0.59%	1.25%	0.01%	0.35%
16	1995	6.88%	7.89%	8.29%	1.01%	1.41%	7.59%	8.20%	0.71%	1.32%	0.09%	0.30%
17	1996	6.70%	7.75%	8.17%	1.05%	1.47%	7.37%	8.05%	0.67%	1.35%	0.12%	0.38%
18	1997	6.61%	7.60%	7.95%	0.99%	1.34%	7.26%	7.86%	0.66%	1.26%	0.09%	0.34%
19	1998	5.58%	7.04%	7.26%	1.46%	1.68%	6.53%	7.22%	0.95%	1.64%	0.04%	0.51%
20	1999	5.87%	7.62%	7.88%	1.75%	2.01%	7.04%	7.87%	1.18%	2.01%	0.01%	0.58%
21	2000	5.94%	8.24%	8.36%	2.30%	2.42%	7.62%	8.36%	1.68%	2.42%	-0.01%	0.62%
22	2001	5.49%	7.76%	8.03%	2.27%	2.54%	7.08%	7.95%	1.59%	2.45%	0.08%	0.68%
23	2002	5.43%	7.37%	8.02%	1.94%	2.59%	6.49%	7.80%	1.06%	2.37%	0.22%	0.88%
24	2003	4.96%	6.58%	6.84%	1.62%	1.89%	5.67%	6.77%	0.71%	1.81%	0.08%	0.91%
25	2004	5.05%	6.16%	6.40%	1.11%	1.35%	5.63%	6.39%	0.58%	1.35%	0.00%	0.53%
26	2005	4.65%	5.65%	5.93%	1.00%	1.28%	5.24%	6.06%	0.59%	1.42%	-0.14%	0.41%
27	2006	4.87%	6.07%	6.32%	1.20%	1.44%	5.59%	6.48%	0.71%	1.61%	-0.16%	0.48%
28	2007	4.83%	6.07%	6.33%	1.24%	1.50%	5.56%	6.48%	0.72%	1.65%	-0.15%	0.52%
29	2008	4.28%	6.53%	7.25%	2.25%	2.97%	5.63%	7.45%	1.35%	3.17%	-0.20%	0.90%
30	2009	4.07%	6.04%	7.06%	1.97%	2.99%	5.31%	7.30%	1.24%	3.23%	-0.24%	0.73%
31	2010	4.25%	5.47%	5.96%	1.22%	1.71%	4.95%	6.04%	0.70%	1.79%	-0.08%	0.52%
32	2011	3.91%	5.04%	5.57%	1.13%	1.66%	4.64%	5.67%	0.73%	1.76%	-0.10%	0.40%
33	2012	2.92%	4.13%	4.83%	1.21%	1.90%	3.67%	4.94%	0.75%	2.02%	-0.11%	0.46%
34	2013	3.45%	4.48%	4.98%	1.03%	1.53%	4.24%	5.10%	0.79%	1.65%	-0.12%	0.24%
35	2014	3.34%	4.28%	4.80%	0.94%	1.46%	4.16%	4.86%	0.82%	1.52%	-0.06%	0.12%
36	2015	2.84%	4.12%	5.03%	1.27%	2.19%	3.89%	5.00%	1.05%	2.16%	0.03%	0.23%
37	2016	2.60%	3.93%	4.67%	1.33%	2.08%	3.66%	4.71%	1.07%	2.12%	-0.04%	0.27%
38	2017	2.90%	4.00%	4.38%	1.10%	1.48%	3.74%	4.44%	0.85%	1.55%	-0.06%	0.26%
39	2018	3.11%	4.25%	4.67%	1.14%	1.56%	3.93%	4.80%	0.82%	1.69%	-0.13%	0.32%
40	2019	2.58%	3.77%	4.19%	1.18%	1.61%	3.39%	4.38%	0.81%	1.79%	-0.18%	0.38%
41	2020	1.56%	3.05%	3.44%	1.49%	1.87%	2.53%	3.66%	0.96%	2.10%	-0.22%	0.53%
42	2021	2.05%	3.10%	3.36%	1.05%	1.30%	2.70%	3.39%	0.65%	1.34%	-0.04%	0.40%
43	2022[4]	3.12%	4.72%	5.03%	1.61%	1.91%	4.08%	5.07%	0.96%	1.96%	-0.04%	0.65%
44	**Average**	**6.14%**	**7.62%**	**8.05%**	**1.49%**	**1.91%**	**6.98%**	**8.05%**	**0.84%**	**1.92%**	**0.00%**	**0.65%**

Yield Spreads
Treasury Vs. Corporate & Treasury Vs. Utility



Sources:
[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
[2] The utility yields for the period 1980-2000 were obtained from Mergent Public Utility Manual, Mergent Weekly News Reports, 2003.
The utility yields for the period 2001-2009 were obtained from the Mergent Bond Record.
The utility yields for the period 2010-2022 were obtained from http://credittrends.moodys.com/.
[3] The corporate yields for the period 1980-2009 were obtained from the St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/.
The corporate yields from 2010-2022 were obtained from http://credittrends.moodys.com/.
[4] Data represents January - December, 2022

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Duke Energy Carolinas, LLC

13-Week Treasury and Utility Bond Yields

Line	Date	Treasury Bond Yield[1] (1)	"A" Rated Utility Bond Yield[2] (2)	"Baa" Rated Utility Bond Yield[2] (3)
1	06/09/23	3.89%	5.40%	5.77%
2	06/02/23	3.88%	5.39%	5.77%
3	05/26/23	3.96%	5.50%	5.86%
4	05/19/23	3.95%	5.49%	5.83%
5	05/12/23	3.78%	5.26%	5.61%
6	05/05/23	3.76%	5.24%	5.57%
7	04/28/23	3.67%	5.11%	5.45%
8	04/21/23	3.78%	5.21%	5.54%
9	04/14/23	3.74%	5.16%	5.49%
10	04/07/23	3.61%	5.01%	5.34%
11	03/31/23	3.67%	5.21%	5.52%
12	03/24/23	3.64%	5.29%	5.59%
13	03/17/23	3.60%	5.27%	5.55%
14	**Average**	**3.76%**	**5.27%**	**5.61%**
15	**Spread To Treasury**		**1.51%**	**1.85%**

Sources:

[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.

[2] http://credittrends.moodys.com/.

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Duke Energy Carolinas, LLC

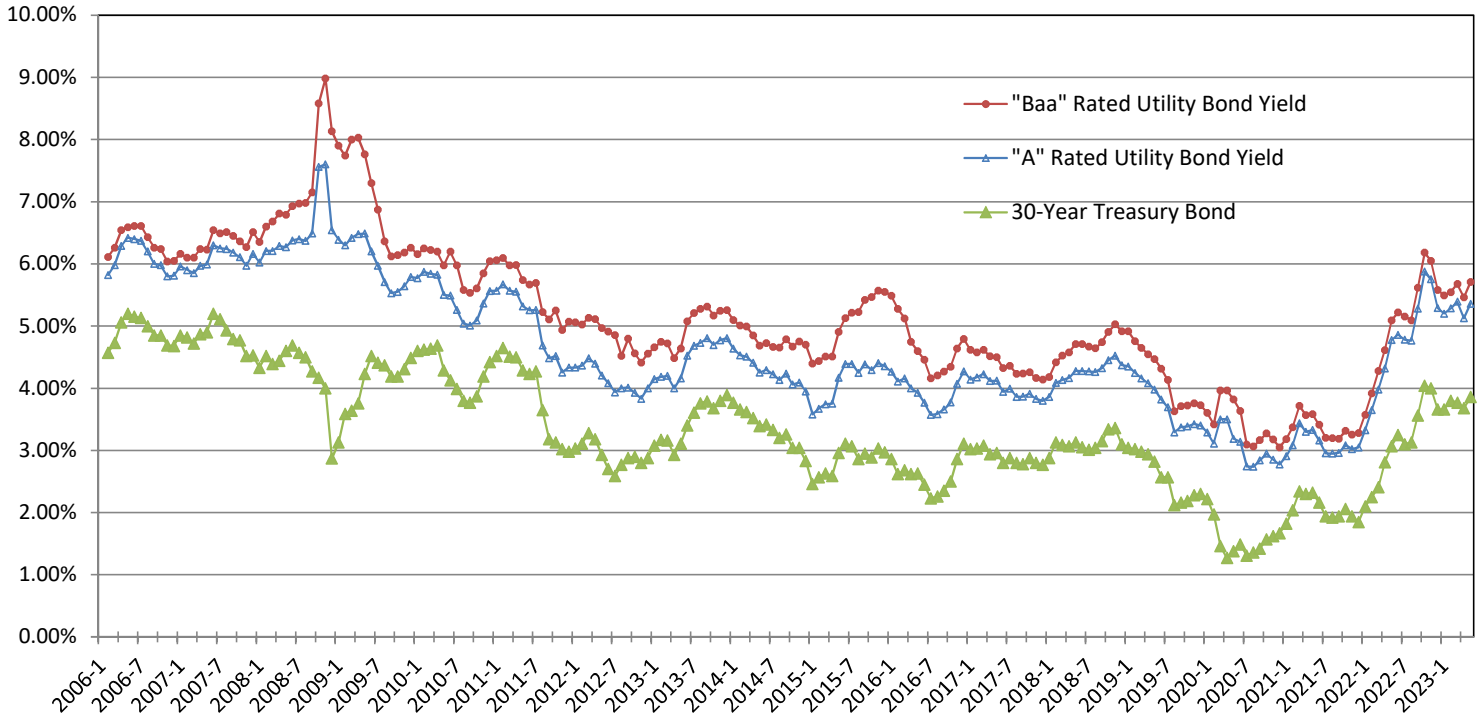
26-Week Treasury and Utility Bond Yields

Line	Date	Treasury Bond Yield[1] (1)	"A" Rated Utility Bond Yield[2] (2)	"Baa" Rated Utility Bond Yield[2] (3)
1	06/09/23	3.89%	5.40%	5.77%
2	06/02/23	3.88%	5.39%	5.77%
3	05/26/23	3.96%	5.50%	5.86%
4	05/19/23	3.95%	5.49%	5.83%
5	05/12/23	3.78%	5.26%	5.61%
6	05/05/23	3.76%	5.24%	5.57%
7	04/28/23	3.67%	5.11%	5.45%
8	04/21/23	3.78%	5.21%	5.54%
9	04/14/23	3.74%	5.16%	5.49%
10	04/07/23	3.61%	5.01%	5.34%
11	03/31/23	3.67%	5.21%	5.52%
12	03/24/23	3.64%	5.29%	5.59%
13	03/17/23	3.60%	5.27%	5.55%
14	03/10/23	3.70%	5.34%	5.61%
15	03/03/23	3.90%	5.45%	5.72%
16	02/24/23	3.93%	5.49%	5.74%
17	02/17/23	3.88%	5.39%	5.65%
18	02/10/23	3.83%	5.27%	5.54%
19	02/03/23	3.63%	5.08%	5.34%
20	01/27/23	3.64%	5.11%	5.39%
21	01/20/23	3.66%	5.16%	5.46%
22	01/13/23	3.61%	5.15%	5.44%
23	01/06/23	3.67%	5.28%	5.59%
24	12/30/22	3.97%	5.53%	5.83%
25	12/23/22	3.82%	5.42%	5.72%
26	12/16/22	3.53%	5.15%	5.43%
27	**Average**	**3.76%**	**5.28%**	**5.59%**
28	**Spread To Treasury**		**1.52%**	**1.83%**

Sources:
[1] St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org.
[2] http://credittrends.moodys.com/.

Duke Energy Carolinas, LLC

Trends in Bond Yields



Sources:
Mergent Bond Record.
www.moodys.com, Bond Yields and Key Indicators.
St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

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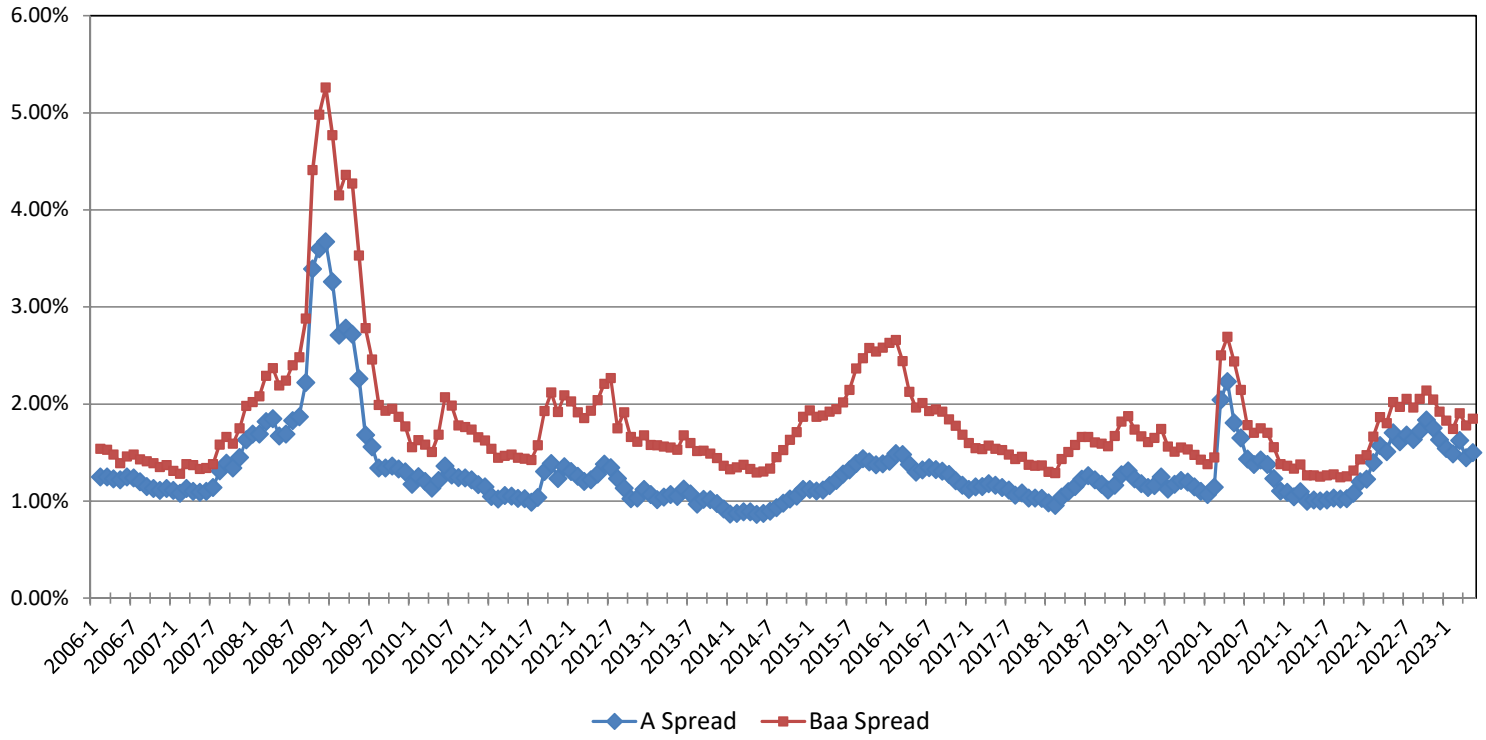
Yield Spread Between Utility Bonds and 30-Year Treasury Bonds



Sources:
Mergent Bond Record.
www.moodys.com, Bond Yields and Key Indicators.
St. Louis Federal Reserve: Economic Research, http://research.stlouisfed.org/

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Duke Energy Carolinas, LLC

Beta

Line	Company	Beta[1]	S&P Global Market Intelligence Beta[2]
1	Alliant Energy Corporation	0.85	0.81
2	American Electric Power Company, Inc.	0.75	0.77
3	Ameren Corporation	0.85	0.77
4	Avista Corporation	0.90	0.76
5	Black Hills Corporation	0.95	0.89
6	CenterPoint Energy, Inc.	1.10	0.94
7	CMS Energy Corporation	0.80	0.77
8	Dominion Energy, Inc.	0.85	0.71
9	DTE Energy Company	0.95	0.83
10	Edison International	0.95	0.86
11	Entergy Corporation	0.90	0.86
12	Evergy, Inc.	0.90	0.80
13	Eversource Energy	0.90	0.81
14	FirstEnergy Corp.	0.85	0.80
15	IDACORP, Inc.	0.80	0.79
16	NorthWestern Corporation	0.90	0.87
17	OGE Energy Corp.	1.00	0.99
18	Otter Tail Corporation	0.85	0.85
19	Portland General Electric Company	0.85	0.78
20	Sempra Energy	0.95	0.84
21	Southern Company	0.90	0.82
22	WEC Energy Group, Inc.	0.80	0.76
23	Xcel Energy Inc.	0.80	0.77
24	**Average**	**0.88**	**0.82**
25	**Median**	**0.90**	**0.81**
26	**Historical Beta[3]**	**0.76**	

Source:
[1] *The Value Line Investment Survey,* April 21, May 12, and June 9, 2023.
[2] S&P Global Market Intelligence, betas for the period 6/9/2018 - 6/9/2023.
[3] Exhibit CCW-14, page 2.

Duke Energy Carolinas, LLC

Historical Betas
(Electric Utilities)

Line	Company	Average	4Q22	3Q22	2Q22	1Q22	4Q21	3Q21	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20	4Q19	3Q19	2Q19	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16	2Q16	1Q16	4Q15	3Q15	2Q15	1Q15	4Q14	3Q14
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
1	Alliant Energy Corporation	0.75	0.85	0.85	0.80	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.80	0.55	0.60	0.60	0.60	0.65	0.60	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80
2	American Electric Power Company, Inc.	0.67	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.50	0.55	0.55	0.55	0.55	0.55	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
3	Ameren Corporation	0.71	0.85	0.85	0.80	0.80	0.80	0.85	0.80	0.80	0.85	0.80	0.80	0.50	0.55	0.55	0.60	0.60	0.55	0.60	0.65	0.65	0.70	0.65	0.65	0.70	0.65	0.70	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
4	Avista Corporation	0.78	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.95	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.70	0.70	0.75	0.75	0.70	0.70	0.70	0.70	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.75
5	Black Hills Corporation	0.89	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.65	0.70	0.70	0.75	0.80	0.75	0.80	0.85	0.90	0.90	0.90	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.95	0.95	0.95	0.90	0.90	0.85
6	CenterPoint Energy, Inc.	0.93	1.10	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.10	1.15	0.70	0.80	0.80	0.80	0.80	0.85	0.85	0.90	0.85	0.90	0.90	0.85	0.85	0.85	0.80	0.85	0.85	0.85	0.80	0.80	0.80	0.75	0.75
7	CMS Energy Corporation	0.69	0.80	0.80	0.75	0.80	0.80	0.80	0.80	0.75	0.80	0.80	0.80	0.50	0.50	0.55	0.55	0.55	0.55	0.55	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.75	0.75	0.70	0.75	0.75	0.70	0.75
8	Dominion Energy, Inc.	0.70	0.80	0.80	0.80	0.85	0.85	0.85	0.85	0.80	0.80	0.80	0.80	0.50	0.55	0.55	0.55	0.55	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.70	0.65	0.70	0.70	0.70	0.78	0.70	0.70	0.70	0.70	0.70
9	DTE Energy Company	0.75	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.50	0.55	0.55	0.55	0.55	0.55	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.75	0.75	0.75	0.75	0.75	0.75	0.75
10	Edison International	0.74	0.95	0.95	0.95	0.95	1.00	0.95	0.95	0.95	0.90	0.90	0.55	0.55	0.60	0.60	0.60	0.55	0.60	0.60	0.60	0.65	0.65	0.60	0.60	0.65	0.65	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.75
11	Entergy Corporation	0.75	0.95	0.95	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.65	0.70	0.70	0.70	0.70
12	Evergy, Inc.	0.95	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.05	NMF	NMF	NMF	NMF	NMF	NMF	NMF	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13	Eversource Energy	0.75	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.55	0.55	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
14	FirstEnergy Corp.	0.72	0.85	0.85	0.80	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.60	0.65	0.60	0.65	0.65	0.60	0.60	0.65	0.70	0.70	0.65	0.65	0.65	0.65	0.65	0.70	0.65	0.70	0.65	0.70	0.70	0.70	0.70
15	IDACORP, Inc.	0.73	0.80	0.80	0.80	0.80	0.85	0.85	0.80	0.80	0.80	0.80	0.50	0.55	0.55	0.60	0.60	0.55	0.60	0.65	0.70	0.70	0.70	0.70	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
16	NorthWestern Corporation	0.74	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.55	0.60	0.60	0.60	0.60	0.55	0.60	0.65	0.65	0.70	0.70	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.70	0.70	0.70	0.70
17	OGE Energy Corp.	0.94	1.00	1.00	1.00	1.05	1.05	1.05	1.05	1.05	1.10	1.05	1.05	0.70	0.75	0.80	0.80	0.85	0.85	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.85
18	Otter Tail Corporation	0.84	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.85	0.85	0.85	0.85	0.70	0.70	0.65	0.70	0.70	0.75	0.80	0.85	0.85	0.90	0.90	0.90	0.85	0.85	0.85	0.80	0.85	0.85	0.85	0.90	0.90	0.90	0.95
19	Portland General Electric Company	0.75	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.85	0.85	0.85	0.55	0.55	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.70	0.70	0.70	0.70	0.70	0.70	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.75
20	Sempra Energy	0.82	0.95	0.95	0.95	0.95	1.00	N/A	0.95	1.00	0.95	0.95	0.65	0.70	0.75	0.75	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.85	0.80	0.80	0.80	0.80	0.75	0.75	0.75
21	Southern Company	0.67	0.95	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.90	0.90	0.90	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.55	0.65	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.60	0.60	0.55	0.60	0.55	0.55	0.60
22	WEC Energy Group, Inc.	0.66	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.45	0.50	0.50	0.50	0.55	0.50	0.55	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.70	0.70	0.70	0.70	0.65	0.65	0.65
23	Xcel Energy Inc.	0.65	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.75	0.45	0.50	0.50	0.50	0.50	0.50	0.55	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.70	0.65
24	**Average**	0.76	0.89	0.89	0.88	0.90	0.91	0.91	0.90	0.90	0.89	0.89	0.78	0.57	0.60	0.61	0.62	0.62	0.63	0.66	0.70	0.71	0.71	0.70	0.70	0.71	0.70	0.72	0.75	0.76	0.77	0.75	0.76	0.75	0.75	0.75

Source: Value Line Software Analyzer

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Duke Energy Carolinas, LLC

CAPM Return

Line	Description	Kroll Normalized[2] MRP (1)	Risk Premium[3] Derived MRP (2)	Average FERC S&P 500 DCF[4] Derived MRP (3)
	Current Beta			
1	Risk-Free Rate[1,2]	3.89%	3.70%	3.70%
2	Market Risk Premium	5.50%	7.80%	7.60%
3	Beta[6]	0.88	0.88	0.88
4	**CAPM**	**8.76%**	**10.60%**	**10.42%**
	Historical Beta			
5	Risk-Free Rate[1,2]	3.89%	3.70%	3.70%
6	Market Risk Premium	5.50%	7.80%	7.60%
7	Beta[6]	0.76	0.76	0.76
8	**CAPM**	**8.10%**	**9.66%**	**9.51%**
	Current S&P Global Market Intelligence Beta			
9	Risk-Free Rate[1,2]	3.89%	3.70%	3.70%
10	Market Risk Premium	5.50%	7.80%	7.60%
11	Beta[6]	0.82	0.82	0.82
12	**CAPM**	**8.40%**	**10.10%**	**9.93%**

Sources:

[1] *Kroll Recommended U.S. Equity Risk Premium and Corresponding Risk-Free Rates to be Used in Computing Cost of Capital: January 2008 - Present,* October 18, 2022.

[2] *Blue Chip Financial Forecasts,* June 1, 2023 at 2.

[3] *Kroll 2023 SBBI Yearbook*, page 138.

[4] S&P 500 1-Step DCF through June 9, 2023 for Dividend Paying Companies.

[5] S&P 500 1-Step DCF through June 9, 2023 for all Companies.

[6] Exhibit CCW-14, page 1.

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Development of the Market Risk Premium

Line	Description	MRP	
	Risk Premium Based Method:		
1	Lg. Co. Stock Real Market Return	8.90%	[1]
2	Projected Consumer Price Index	2.40%	[2]
3	Expected Market Return	11.51%	
4	Risk-Free Rate	3.70%	[2]
5	Market Risk Premium	**7.80%**	
	FERC S&P 500 (Dividend Companies) 1-Step DCF Based Method:		
6	S&P 500 Growth	8.70%	[3]
7	Index Dividend Yield	1.90%	[3]
8	Adjusted Yield	1.98%	
9	Expected Market Return	10.68%	
10	Risk-Free Rate	3.70%	[2]
11	Market Risk Premium	**7.00%**	
	FERC S&P 500 (All Companies) 1-Step DCF Based Method:		
12	Short-Term S&P 500 Growth	10.40%	[4]
13	Index Dividend Yield	1.40%	[4]
14	Adjusted Yield	1.47%	
15	Expected Market Return	11.87%	
16	Risk-Free Rate	3.70%	[2]
17	Market Risk Premium	**8.20%**	
18	Average DCF Based MRP	**7.60%**	

Sources & Note:

[1] *Kroll 2023 SBBI Yearbook,* page 138.

[2] *Blue Chip Financial Forecast June 1, 2023.*

[3] S&P 500 1-Step DCF through June 9, 2023 for Dividend Paying Companies.

[4] S&P 500 1-Step DCF through June 9, 2023 for all Companies.

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Financial Integrity Analysis
$ Thousands

Line	Description	Base Year	Cumulative MYRP Y1	Cumulative MYRP Y2	Cumulative MYRP Y3	Reference
1	Jurisdictional Rate Base	$ 18,594,058	$ 19,398,439	$ 20,692,835	$ 21,780,219	Public Staff Exhibits
2	Weighted Cost of Debt	2.17%	2.17%	2.17%	2.17%	Walters Workpapers
3	Pre-Tax WACC	8.52%	8.52%	8.52%	8.52%	Walters Workpapers
4	EBIT	$ 1,583,757	$ 1,652,270	$ 1,762,521	$ 1,855,140	Ln. 1 x Ln. 3
5	Depreciation & Amortization	$ 1,157,230	$ 1,186,280	$ 1,226,590	$ 1,268,716	Public Staff Exhibits
6	S&P D&A Adjustment	$ 193,964	$ 193,964	$ 193,964	$ 193,964	S&P CreditStats Direct
7	S&P Interest Expense Adjustment	$ 159,247	$ 159,247	$ 159,247	$ 159,247	S&P CreditStats Direct
8	Adjusted EBITDA	$ 3,094,198	$ 3,191,762	$ 3,342,322	$ 3,477,067	
9	Interest Paid	$ (404,309)	$ (421,800)	$ (449,945)	$ (473,589)	Ln. 2 x Ln. 1
10	S&P Cash Interest Adjustment	$ (36,561)	$ (36,561)	$ (36,561)	$ (36,561)	S&P CreditStats Direct
11	Income Taxes	$ (271,026)	$ (283,035)	$ (302,120)	$ (316,135)	Public Staff Exhibits
12	Adjusted Jurisdictional FFO	$ 2,382,302	$ 2,450,365	$ 2,553,696	$ 2,650,782	Sum of Ln. 8:11
13	Debt	$ 8,925,148	$ 9,311,251	$ 9,932,561	$ 10,454,505	48% x Ln. 1
14	S&P Debt Adjustments	$ 2,172,485	$ 2,172,485	$ 2,172,485	$ 2,172,485	S&P CreditStats Direct
15	Jurisdictional Adjusted Debt	$ 11,097,633	$ 11,483,736	$ 12,105,046	$ 12,626,990	Sum of Ln. 13:14
16	Debt-to-EBITDA	**3.6x**	**3.6x**	**3.6x**	**3.6x**	Ln. 15 / Ln. 8
17	FFO-to-Debt	**21.5%**	**21.3%**	**21.1%**	**21.0%**	Ln. 12 / Ln. 15

I/A

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Exhibit No.:	
Issue:	Rate of Return
Witness:	Christopher C. Walters, CFA
Type of Exhibit:	Rebuttal Testimony
Sponsoring Party:	Missouri Industrial Energy Consumers
Case No.:	ER-2019-0335
Date Testimony Prepared:	January 21, 2020

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service.	))))))	**Case No. ER-2019-0335**

Rebuttal Testimony of

Christopher C. Walters, CFA

On behalf of

Missouri Industrial Energy Consumers

January 21, 2020

BRUBAKER & ASSOCIATES, INC.

Project 10842

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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service.	)	**Case No. ER-2019-0335**

STATE OF MISSOURI)
) **SS**
COUNTY OF ST. LOUIS)

Affidavit of Christopher C. Walters

Christopher C. Walters, being first duly sworn, on his oath states:

1. My name is Christopher C. Walters. I am a consultant with Brubaker & Associates, Inc., having its principal place of business at 16690 Swingley Ridge Road, Suite 140, Chesterfield, Missouri 63017. We have been retained by the Missouri Industrial Energy Consumers in this proceeding on their behalf.

2. Attached hereto and made a part hereof for all purposes is my rebuttal testimony which was prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2019-0335.

3. I hereby swear and affirm that the testimony is true and correct and that it shows the matters and things that it purports to show.

Christopher C. Walters

Subscribed and sworn to before me this 21st day of January, 2020.

Notary Public

MARIA E. DECKER
Notary Public - Notary Seal
STATE OF MISSOURI
St. Louis City
My Commission Expires: May 5, 2021
Commission # 13706793

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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service.	))))))	**Case No. ER-2019-0335**

Table of Contents to the Rebuttal Testimony of Christopher C. Walters

Page

I. INTRODUCTION 1

II. SUMMARY 2

III. RESPONSE TO AMEREN MISSOURI WITNESS MR. ROBERT HEVERT 2

III.A. Summary of the Response to Mr. Hevert 2

III.B. Initial Comments 5

III.C. Mr. Hevert's Constant Growth DCF 8

III.D. Mr. Hevert's CAPM Studies 9

III.E. Mr. Hevert's ECAPM Studies 15

III.F. Mr. Hevert's Bond Yield Plus ("BYP") Risk Premium 18

III.G. Additional Factors 23

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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service.	))))))	**Case No. ER-2019-0335**

Rebuttal Testimony of Christopher C. Walters

I. INTRODUCTION

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Christopher C. Walters. My business address is 16690 Swingley Ridge Road, Suite 140, Chesterfield, MO 63017.

Q ARE YOU THE SAME CHRISTOPHER C. WALTERS THAT FILED DIRECT TESTIMONY ON BEHALF OF MISSOURI INDUSTRIAL ENERGY CONSUMERS ("MIEC")?

A Yes, I am.

Q WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A My rebuttal testimony will address my concerns with the direct testimony, analyses, and return on equity ("ROE") recommendations offered by Ameren Missouri witness Mr. Robert B. Hevert.

My silence with respect to any position taken by Ameren Missouri, Staff or any other party in direct testimony in this proceeding should not be interpreted as an endorsement of that position.

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II. SUMMARY

Q PLEASE SUMMARIZE YOUR REBUTTAL TESTIMONY.

A In Section III of this testimony, I will respond to the testimony, analyses, and recommendations offered by Ameren Missouri witness Mr. Hevert. Mr. Hevert recommends a cost of equity of 9.95%. I show that his estimates are overstated and do not represent an accurate estimate of the current market cost of equity for the Company.

III. RESPONSE TO AMEREN MISSOURI WITNESS MR. ROBERT HEVERT

III.A. Summary of the Response to Mr. Hevert

Q WHAT RATE OF RETURN ON COMMON EQUITY IS AMEREN MISSOURI REQUESTING IN THIS PROCEEDING?

A Ameren Missouri is requesting a return on common equity of 9.95%, which is within Mr. Hevert's recommended range of 9.80% to 10.60%.[1]

Q IN YOUR OPINION, ARE MR. HEVERT'S ROE ESTIMATES REASONABLE?

A No. Mr. Hevert's estimated ROE is substantially overstated and should be rejected by the Commission. Mr. Hevert's analyses produce excessive results for various reasons, including the following:

1. Mr. Hevert's recommended ROE is not reflective of the changes in the cost of capital that have taken place since Ameren Missouri's most recently awarded ROE of 9.53%.

2. His constant growth DCF results based on the high growth rates are unsustainable and therefore unreasonable;

3. His CAPM is based on inflated market risk premiums.

[1] Hevert Direct at 2.

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4. His ECAPM shares the same flaws as his traditional CAPM, as well as incorrectly relies on an adjusted beta.

5. His Bond Yield Plus Risk Premium studies are based on inflated utility equity risk premiums.

Q PLEASE SUMMARIZE MR. HEVERT'S ROE ESTIMATES.

A Mr. Hevert's ROE estimates are summarized in Table 1 below. In Column 2, I show the results with prudent and sound adjustments to correct the flaws referenced above. With such adjustments to his DCF, CAPM, and Risk Premium return estimates, Mr. Hevert's own studies show that my recommended ROE of 9.20% for Ameren Missouri is reasonable.

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TABLE 1

Hevert's Return on Equity Estimates

Description	Mean[1] (1)	Adjusted[2] (2)
Constant Growth DCF		
30-Day Average	8.89%	8.89%
90-Day Average	8.96%	8.96%
180-Day Average	9.08%	9.08%
Average Constant Growth DCF	8.98%	8.98%
CAPM Results (Bloomberg Beta)		
Current 30-Yr Treasury (BB – 2.85%)	8.18%	9.13%
Current 30-Yr Treasury (*VL* – 2.85%)	8.68%	9.13%
Near-Term Projected 30-Yr Treasury (BB – 3.03%)	8.36%	9.13%
Near-Term Projected 30-Yr Treasury (VL – 3.03%)	8.86%	9.13%
CAPM Results (*Value Line* Beta)		
Current 30-Yr Treasury (BB – 2.85%)	9.35%	9.13%
Current 30-Yr Treasury (*VL* – 2.85%)	9.97%	9.13%
Near-Term Projected 30-Yr Treasury (BB – 3.03%)	9.53%	9.13%
Near-Term Projected 30-Yr Treasury (VL – 3.03%)	10.14%	9.13%
ECAPM Results (Bloomberg Beta)		
Current 30-Yr Treasury (BB – 2.85%)	9.60%	Reject
Current 30-Yr Treasury (*VL* – 2.85%)	10.24%	Reject
Near-Term Projected 30-Yr Treasury (BB – 3.03%)	9.78%	Reject
Near-Term Projected 30-Yr Treasury (VL – 3.03%)	10.42%	Reject
ECAPM Results (*Value Line* Beta)		
Current 30-Yr Treasury (BB – 2.85%)	10.47%	Reject
Current 30-Yr Treasury (*VL* – 2.85%)	11.20%	Reject
Near-Term Projected 30-Yr Treasury (BB – 3.03%)	10.65%	Reject
Near-Term Projected 30-Yr Treasury (VL – 3.03%)	11.38%	Reject
Risk Premium		
Current 30-Yr Treasury (2.85%)	9.91%	9.49%
Near-Term Projected 30-Yr Treasury (3.03%)	9.92%	9.49%
Long-Term Projected 30-Yr Treasury (3.70%)	10.06%	Reject
Range	9.8% to 10.6%	8.8% to 9.5%
Recommended ROE	9.95%	9.2%

Sources: Direct Testimony of Robert Hevert at 18-19.

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III.B. Initial Comments

Q DO YOU HAVE ANY INITIAL COMMENTS REGARDING MR. HEVERT'S RECOMMENDATIONS IN THIS CASE?

A Yes. Mr. Hevert's recommended range of 9.8% to 10.6% and his recommended ROE of 9.95% are at odds with observable changes in the cost of capital since Ameren's last ROE of 9.53% was awarded in Case No. ER-2014-0258. As shown in Table 2, I compare the 13-week average 30-Year Treasury yields, A-rated and Baa-rated utility bond yields for the periods ending July 3, 2014 and April 29, 2015[2] to the same average yields for the 13-week period ending January 10, 2020.

TABLE 2

Changes in Interest Rates Since ER-2014-0258

Date	Treasury Yield	A-Rated Utility Yield	Baa-Rated Utility Yield
13-Week Avg as of:			
7/3/2014	3.42%	4.30%	4.73%
4/29/2015	2.76%	3.91%	4.66%
1/10/2020	2.28%	3.40%	3.73%
Difference from:			
7/3/2014	**-1.14%**	**-0.90%**	**-1.00%**
4/29/2015	**-0.48%**	**-0.51%**	**-0.93%**

Relative to July 3, 2014 and April 29, 2015, Treasury yields have fallen between 0.48% and 1.14%. Similarly, utility bond yields have fallen between 0.51% and 1.00%.

[2]These dates mark the beginning and the end of Ameren Missouri's last fully litigated rate case, ER-2014-0258.

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Q HAVE THERE BEEN SIMILAR CHANGES IN PROJECTED INTEREST RATES?

A Yes. As shown in Table 3, I have provided the consensus projected 30-year Treasury yields published in the July 2014, April 2015, and January 2020 issues of *Blue Chip Financial Forecasts*. In similar fashion to the yields identified above in Table 2, projected Treasury yields experienced a significant decline of 1.10% to 1.80%.

TABLE 3

Changes in Projected Interest Rate Since ER-2014-0258

	Blue Chip Financial Forecasts		
Description	**Jan 2020**	**Apr 2015**	**Jul 2014**
Projected Yield	2.60%	3.70%	4.40%
Change		-1.10%	-1.80%

Q CAN YOU DESCRIBE WHAT HAS HAPPENED TO AUTHORIZED ROES OVER THE SAME TIME PERIOD?

A Yes. The average authorized ROE for vertically integrated electric utilities was 9.87% for the period of July 2014 through April 2015. The average authorized ROE for vertically integrated electric utilities was 9.73% in 2019. This represents a decline of 0.14%. It should be noted that in December 2019, the California Public Utilities Commission issued an order in the consolidated General Cost of Capital proceeding that established ROEs for the State's major energy utility companies such as Southern California Edison Company, Pacific Gas and Electric Company, and San Diego Gas & Electric Company. These three utilities were awarded ROEs of 10.3%, 10.25%, and 10.2%, respectively. While the 2019 average of 9.73% includes these three ROEs, it would be reasonable to exclude them given the wildfire crisis and the Chapter 11

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Bankruptcy filing by Pacific Gas and Electric Company's parent company, PG&E. The 2019 average of 9.73 also includes a December 2019 authorized ROE of 10.5% for Georgia Power Company. Georgia Power Company was significantly impacted by the bankruptcy filing of Westinghouse, the primary contractor for constructing its Vogtle nuclear units, in the midst of the project. S&P has placed Georgia Power Company on a negative outlook for its exposure and project execution risk. S&P states as follows:

> The negative outlook on GPC mirrors S&P Global Ratings' negative outlook on parent Southern Co., which reflects the company's construction and project execution risks mainly stemming from the company's cost estimate assumptions, potential change to the project's scope, missed productivity targets, and the potential inability to attract skilled workers, all of which could result in material cost overruns. In addition, longer-term regulatory risks are likely to persist at least until the Vogtle units 3 and 4 nuclear power plants are completed on schedule and placed into base rates.[3]

Removing these four ROEs from the observations in 2019 would lower the average from 9.73% to 9.62%. This would represent a decrease in the authorized ROE for vertically integrated electric utilities of 0.25%.

Q WHAT SHOULD THE COMMISSION TAKEAWAY FROM THESE COMPARISONS OF BOND YIELDS AND AUTHORIZED ROES SINCE ER-2014-0258?

A The clear takeaway is that under no circumstance has there been an increase in the cost of capital since Ameren Missouri's ROE was last established in Case No. ER-2014-0258 at 9.53%. Mr. Hevert's recommended ROE of 9.95% represents an increase of 0.42%. Mr. Hevert's proposed increase in the ROE is unsupported, and at odds with the clear observed changes in the cost of capital described above.

[3]S&P Global Ratings, "Ratings Direct – Summary: Georgia Power Co.," October 12, 2018 at 3.

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III.C. Mr. Hevert's Constant Growth DCF

Q PLEASE DESCRIBE MR. HEVERT'S CONSTANT GROWTH DCF RETURN ESTIMATES.

A Mr. Hevert's constant growth DCF returns are developed on his Schedule RBH-D1. His constant growth DCF models are based on consensus growth rates published by Zacks and First Call, and individual growth rate projections made by *Value Line*.

He relied on dividend yield calculations based on average stock prices over three different time periods: 30-day, 90-day, and 180-day ending May 31, 2019 – all reflecting one-half year dividend growth adjustments.

Q ARE THE CONSTANT GROWTH DCF RESULTS PRODUCED BY MR. HEVERT REASONABLE?

A Mr. Hevert's constant growth DCF mean results generally support a ROE no higher than 9.0%. However, Mr. Hevert relies on the highest growth rate estimates to support an unreasonably high ROE. Mr. Hevert's "high ROE" results are based on the highest growth rate for each company provided by each of his sources. The average of his "high" growth rates is 6.51%, and are as high as 10.00%. The average growth rate of 6.51% is approximately 240 basis points higher than the expected growth of 4.1% for the US economy.

As I described in detail in my Direct testimony, it is unreasonable to expect a company to outgrow the economy in which it sells goods and services in perpetuity, which happens to be the time period assumed in the constant growth DCF model. A growth rate of 10.0% is more than 2.4x the expected growth rate of 4.1%. Should the Commission give weight to any of Mr. Hevert's DCF analyses, it should be those that

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rely on his mean ROE results. Under no circumstances should the Commission give weight to Mr. Hevert's DCF results based on the highest growth rate estimates.

III.D. Mr. Hevert's CAPM Studies

Q PLEASE DESCRIBE MR. HEVERT'S CAPM ANALYSIS.

A As I indicated in my Direct testimony, the CAPM is based upon the theory that the market required rate of return for a security is equal to the risk-free rate, plus a risk premium associated with the specific security. The risk premium associated with the specific security is expressed mathematically as:

Bi x (Rm - Rf) where:

Bi = Beta - Measure of the risk for stock
Rm = Expected return for the market portfolio
Rf = Risk-free rate

Mr. Hevert develops his CAPM on his Schedule RBH-D4. He relies on two different beta coefficients of 0.484 and 0.591 from Bloomberg and Value Line, respectively, market risk premium estimates of 11.0% and 12.04% from Bloomberg and Value Line, respectively, as well as a current 30-year Treasury yield of 2.85% and a projected 30-year Treasury yield of 3.03%. Mr. Hevert's traditional CAPM estimates range from 8.18% to 10.14%.

Q PLEASE DESCRIBE THE MAIN ISSUES YOU HAVE WITH MR. HEVERT'S CAPM STUDY.

A I have two primary issues with Mr. Hevert's CAPM study. First, I believe the market risk premiums he used in all of his CAPM studies are overstated because they do not reflect a reasonable estimate of the expected return on the market while relying on unsustainable growth rates. My second concern, specifically with the market risk

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premium used in Mr. Hevert's CAPM return estimates using a projected risk-free rate, is that he does not measure the market risk premium in relationship to the projected risk-free rate. Rather, all his market risk premium estimates are based on his current risk-free rate estimate of 2.85%. This causes a significant mismatch in the market risk premium estimates used in Mr. Hevert's CAPM analyses that are based on a projected risk-free rate.

Q PLEASE DESCRIBE MR. HEVERT'S MARKET RISK PREMIUMS.

A Mr. Hevert derived his two market risk premiums by conducting a DCF analysis for the market. He calculates the DCF-derived expected return on the market using data from Bloomberg and data from *Value Line*. Mr. Hevert's market risk premiums of 11.00% (Bloomberg) and 12.04% (*Value Line*) are based on constant growth DCF returns of 13.85% and 14.90%, respectively, less the current 30-year Treasury bond yield of 2.85%.

Q WHAT ISSUES DO YOU HAVE WITH MR. HEVERT'S DCF-DERIVED MARKET RISK PREMIUM ESTIMATES?

A Mr. Hevert's DCF-derived market risk premiums are based on market returns of approximately 13.85% and 14.90%. These expected market returns are predicated on growth rates of approximately 11.79% and 12.75% and a market-weighted expected dividend yield of approximately 2.06% and 2.15%, respectively. As discussed in my Direct testimony with respect to my own DCF model, the constant growth DCF model requires a long-term sustainable growth rate. Mr. Hevert's market growth rates of approximately 11.79% and 12.75% are far too high to be a rational outlook for sustainable long-term market growth.

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As an initial matter, Mr. Hevert's growth rates are more than 2.8x the expected long-term growth rate of the US economy. In fact, Mr. Hevert's DCF-based expected return on the market using Bloomberg data includes individual company growth rates as high as 83.89% (National Oilwell Varco, Inc.). To put a growth rate of 83.89% into perspective, it would take less than 13 years for this company's reported market capitalization of $8.0 billion to exceed to the most recently reported GDP of the United States of $21.54 trillion, and just under 14 years to outgrow the US economy assuming the economy grew at 4.1% year over year. In other words, assuming the long-term growth rate of 4.1%, US GDP would reach a nominal level of $37.8 trillion in 2033. Assuming a growth rate of 83.89% for National Oilwell Varco as Mr. Hevert has done, its market capitalization will reach $40.7 trillion in 2033, exceeding the US GDP by $2.9 trillion. This is simply an impossible outcome, rendering Mr. Hevert's assumptions unreasonable and economically and financially unfeasible.

From another perspective, 293 of the growth rates provided by Bloomberg, and relied on by Mr. Hevert, exceed 8.2%, or 2x the projected growth of the US economy. As pointed out in my example above, it simply is not reasonable to believe individual companies, and as a result the overall market, can sustain growth rates as high as Mr. Hevert has assumed.

As a result of these unreasonably high long-term market growth rate estimates, Mr. Hevert's market DCF returns used within his CAPM analysis are inflated and not reliable. Consequently, Mr. Hevert's 11.00% and 12.04% market risk premiums should be given no weight in estimating the Company's CAPM-based cost of common equity.

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Q IN YOUR OPINION, ARE MR. HEVERT'S DCF-DERIVED EXPECTED RETURNS ON THE MARKET SUSTAINABLE ESTIMATES?

A No. Mr. Hevert's DCF-derived market return estimates of 13.85% and 14.90% are not sustainable, therefore, unreasonable. In fact, I have compared the market's achieved compound returns over rolling 5, 10, 20, and 50 year periods for the period of 1926 through 2018. In Table 4, I summarize the comparison of Mr. Hevert's average expected return of 14.38%[4] to the observed returns for each of those rolling periods. As shown on Table 4, of the 89 observed rolling 5-year averages, 56 (or 62.9%) of them were less than Mr. Hevert's average expected market returns 14.38%. This comparison is more revealing as the rolling-averages for longer periods are observed. It should be noted that Mr. Hevert's projected returns on the market exceed all of the 44 observed rolling 50-years averages.

TABLE 4

Observed Geometric Total Returns on the Market Compared to Mr. Hevert's Expected Market Return of 14.38%

	Rolling Period Compound Returns				Total
	5-Year	10-Year	20-Year	50-Year	93-Year
Rolling periods observed	89	84	74	44	1
Rolling periods w/ returns less than 14.38%	56	59	59	44	1
Percent of periods less than 14.38%	62.9%	70.2%	79.7%	100.0%	100.0%

[4](13.85% + 14.90%) ÷ 2 = 14.38%.

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Q HOW DO YOUR EXPECTED RETURNS ON THE MARKET COMPARE TO THESE SAME ROLLING AVERAGE PERIODS?

A As Shown on Table 5, I have compared my average expected return on the market of 11.45%[5] to the same rolling periods of 5, 10, 20, 50, years. On a rolling 5-year basis, my average expected return on the market of 11.45%, or higher, occurred 49.4% of the time. Importantly, my average expected market return of 11.45%, or higher, occurred 50% of the time relative to the achieved returns on a rolling 20-year basis. For these reasons, it is clear that Mr. Hevert's expected returns on the market are unsustainable, excessive, and inconsistent with achieved returns on the market. As a result, Mr. Hevert's expected returns on the market should be rejected.

TABLE 5

Observed Geometric Total Returns on the Market Compared to Mr. Walters' Expected Market Return of 11.45%

	Rolling Period Compound Returns				Total
	5-Year	10-Year	20-Year	50-Year	93-Year
Rolling periods observed	89	84	74	44	1
Rolling periods w/ returns less than 11.45%	45	48	37	29	1
Percent of periods less than 11.45%	**50.6%**	**57.1%**	**50.0%**	**65.9%**	100.0%

[5](12.81% + 10.57% + 10.98%) ÷ 3 = 11.45%.

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Q PLEASE EXPLAIN WHY YOU BELIEVE MR. HEVERT CALCULATED HIS MARKET RISK PREMIUM ESTIMATES IN ERROR, CAUSING A MISMATCH BETWEEN THE MARKET RISK PREMIUM AND THE RISK-FREE RATE.

A He measures the market risk premium based on his DCF return on the market less his current risk-free rate estimate of 2.85%,[6] and then relies on the market risk premiums of 11.00% and 12.04% as risk premium estimates used in his CAPM study on his Schedule RBH-D4. The error in his calculation is that the market risk premium that corresponds with a risk-free rate of 2.85% should not be the same as the market risk premium that corresponds with a risk-free rate of 3.03% as he uses on his Schedule RBH-D4. Rather, the market risk premium that corresponds with a risk-free rate of 3.03% should be the difference between his market return estimate of 13.85% (Bloomberg) and 3.03%, or 10.82%, and his market return estimate of 14.90% (Value Line) less his 3.03% risk-free rate, or 11.87%. In other words, Columns 3 and 4 of lines "Near-Term Projected 30-Year Treasury" of Mr. Hevert's Schedule RBH-D4 are overstated. Overstating the market risk premium in his CAPM study where he uses a projected Treasury bond yield produces a flawed and erroneous result that overstates a fair CAPM return estimate for Ameren Missouri in this proceeding.

Q CAN MR. HEVERT'S CAPM ANALYSIS BE CORRECTED?

A Yes. Even using his unsustainable expected returns on the market of 13.85% and 14.90%, had Mr. Hevert correctly calculated the market risk premium to correspond with the his projected risk-free rate, his near-term projected CAPM results would produce an average CAPM return of 8.52% using Bloomberg's beta coefficient, and an

[6]Schedule RBH-D2.

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average CAPM return estimate of 9.73% using the Value Line beta coefficient. The midpoint of these two corrected estimates is 9.13%, which is consistent with my recommended range.

III.E. Mr. Hevert's ECAPM Studies

Q PLEASE DESCRIBE MR. HEVERT'S ECAPM ANALYSIS.

A Mr. Hevert relies on empirical tests of the traditional CAPM model to modify it in such a way to attempt to *correct* the original CAPM for some deficiencies inherent in the original model. Empirical tests show that the expected return line, or security market line, predicted by the CAPM are not as steep as the model would have us believe. In other words, the traditional CAPM understates the expected return for securities with betas less than 1, and overstates the expected return for securities with betas greater than 1. In order to correct for this empirical finding, Mr. Hevert modifies the traditional CAPM model as follows:

$$R_i = R_f + 0.75 \times B_i \times (R_m - R_f) + 0.25 \times B_m \times (R_m - R_f)$$ where:

R_i = Required return for stock i
R_f = Risk-free rate
R_m = Expected return for the market portfolio
B_m = Beta of the market
B_i = Beta - Measure of the risk for stock

Q WHAT ISSUES DO YOU TAKE WITH MR. HEVERT'S ECAPM ANALYSIS?

A Mr. Hevert's ECAPM suffers from the same flaws identified in my response to his traditional CAPM above. In addition to those material defects, Mr. Hevert's ECAPM analysis is further flawed by his use of an adjusted beta as published by *Value Line*. For example, the impact of Mr. Hevert's ECAPM adjustments increases his adjusted

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Value Line beta estimate of 0.591 to 0.69.[7] The weighting adjustments of 0.25 and 0.75 employed by Mr. Hevert is mathematically the same as adjusting beta since the inputs are all multiplicative as shown in the formula above.

Further, Mr. Hevert's reliance on an adjusted beta in his ECAPM study is inconsistent with the academic research that I am aware of.[8] The end result of using adjusted betas in the ECAPM is essentially an expected return line that has been flattened by two adjustments. In other words, the vertical intercept has been raised twice and the security market line has been flattened twice: once through the adjustments *Value Line* made to the raw beta, and again when weighting the risk-adjusted market risk premium as Mr. Hevert has done. In addition to the many adjustments employed by Mr. Hevert, he further increases the intercept and flattens the security market line by using projected long-term Treasury yields.

The use of an adjusted beta has the effect of increasing CAPM return estimates for companies with betas less than 1, and decreasing the CAPM return estimates for companies with betas greater than 1, similar to other adjustments within the CAPM such as adjusted betas and long-term Treasury bond yields. I have modeled the expected return line resulting from the application of the various forms of the CAPM/ECAPM in Figure 1.

[7] 75% x 0.591 + 25% x 1 = 0.69.

[8] *See* Black, Fischer, "Beta and Return," *The Journal of Portfolio Management,* Fall 1993, 8-18; and Black, Fischer, Michael C. Jensen and Myron Scholes, "The Capital Asset Pricing Model: Some Empirical Tests," 1972.

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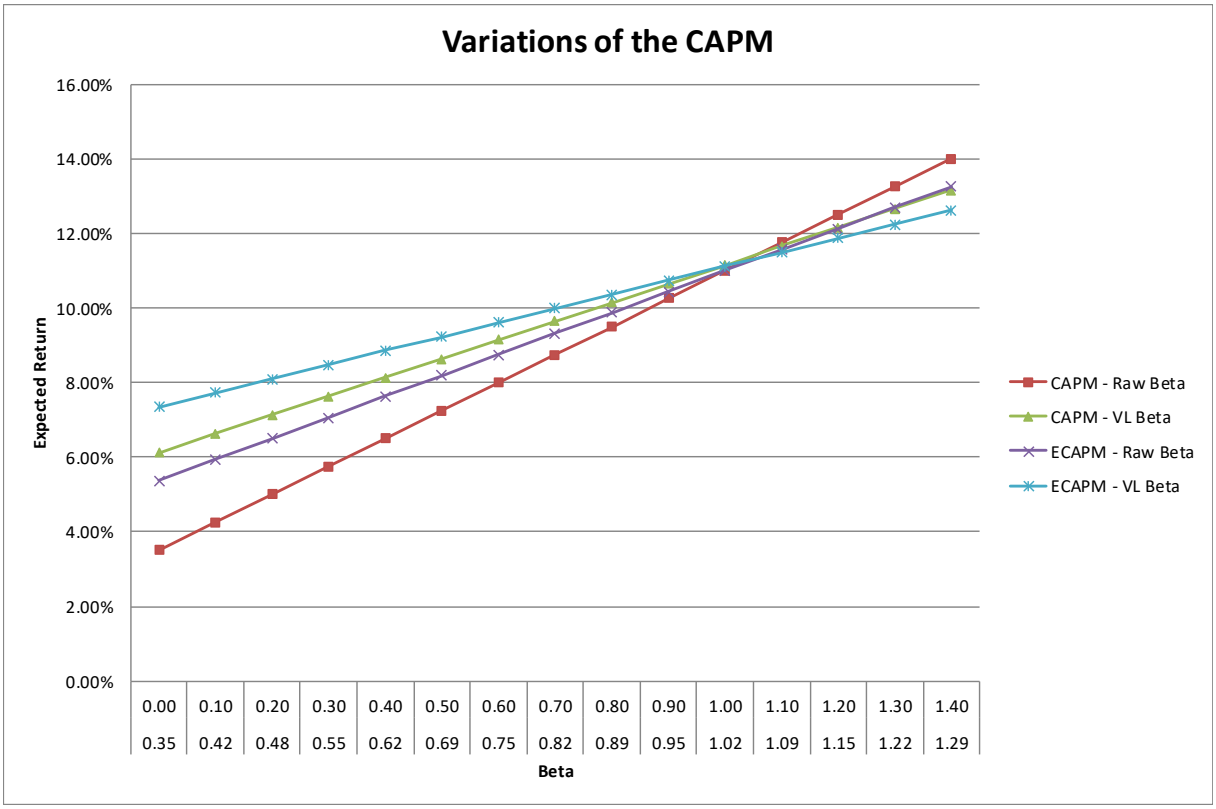
FIGURE 1



Along the horizontal axis in Figure 1, I have provided the raw unadjusted beta (top row) and the corresponding adjusted *Value Line* beta (bottom row). *As* shown in Figure 1, the CAPM using a *Value Line* beta compared to the CAPM using an unadjusted beta shows that the *Value Line* beta raises the intercept point and flattens the slope of the security market line. As shown in the figure above, the two variations with the most similar slope are the CAPM with the *Value Line* beta, and the ECAPM with a raw beta. This evidence shows that the ECAPM adjustment has a very similar impact on the expected return line as a *Value Line* beta. Another observation that can be made from the figure above is the magnifying effect that the ECAPM using a *Value Line* beta has on raising the vertical intercept and flattening the slope relative to all other variations. There is simply no legitimate basis to use an adjusted beta within an

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ECAPM because it unjustifiably alters the security market line and materially inflates a CAPM return for a company with a beta less than 1, such as utility stocks.

The premise of the ECAPM is to raise the intercept (i.e., the required return for a risk-free asset), and flatten the slope of the security market line. As I have explained, and shown above, the use of adjusted betas do just that. In addition to adjusted betas, the use of higher projected interest rates as the input for the risk-free rate also accomplish this. However, Mr. Hevert's ECAPM model relying on a projected interest rate further exacerbates the flattening of the security market line and raising of the intercept because he calculates his market risk premium estimates using the current, lower yield on the 30-year Treasury bond.

For these reasons, Mr. Hevert's ECAPM has completely departed from what the actual ECAPM is and should be rejected in its entirety.

III.F. Mr. Hevert's Bond Yield Plus ("BYP") Risk Premium

Q PLEASE DESCRIBE MR. HEVERT'S BYP RISK PREMIUM METHODOLOGY.

A As shown on his Schedule RBH-D5, Mr. Hevert constructs a risk premium ROE estimate based on the premise that equity risk premiums are inversely related to interest rates. He estimates that the average electric equity risk premiums are 4.68% over the period January 1980 through May 23, 2019. Then he applies a regression formula to the current, near-term, and long-term projected 30-year Treasury bond yields of 2.85%, 3.03%, and 3.70% to produce electric equity risk premiums of 7.05%, 6.89%, and 6.36%, respectively. Adding these equity risk premiums to the corresponding Treasury yields produces cost of equity estimates of 9.91%, 9.92%, and 10.06%, respectively.

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Q IS MR. HEVERT'S BYP RISK PREMIUM METHODOLOGY REASONABLE?

A No. Mr. Hevert's risk premium analysis is flawed for a couple reasons. First, his reliance on a long-term projected interest rate of 3.7% is significantly above any recent projection, or current level, and should be disregarded. A projected interest rate of no higher than 2.6% should be used. Second, the predictive strength of Mr. Hevert's regression model weakens in the post-recession time period. Third, Mr. Hevert's regression model significantly overestimates the cost of equity when looking at what ROE levels were being awarded at current and near-term projected interest rates.

Q DO YOU BELIEVE THE RELATIONSHIP SHOWN IN MR. HEVERT'S REGRESSION ANALYSIS IS APPLICABLE TO THE CURRENT CAPITAL MARKET ENVIRONMENT?

A No. The strength of a relationship between the dependent variable (risk premium) and the independent variable (nominal interest rates) in a regression analysis is best explained in the R-squared value. The R-squared value measures how much explanatory power changes in the independent variable has on changes in the dependent variable. A higher value indicates a stronger relationship.

As shown on Mr. Hevert's Schedule RBH-D5, the R-squared value is 74.25% when measuring the time period from January 1980 through May 2019. However, as shown below in Figure 2, when only measuring the relationship between the risk premium and interest rates over the 2010 through May 2019 post-recession time-period, the R-squared measure declines to 41.89%. A declining R-squared indicates a weakening of the statistical predictability produced from his regression analysis. For these reasons, Mr. Hevert's belief that equity risk premiums can be gauged by only changes in interest rates is simply not supported by his own regression analysis.

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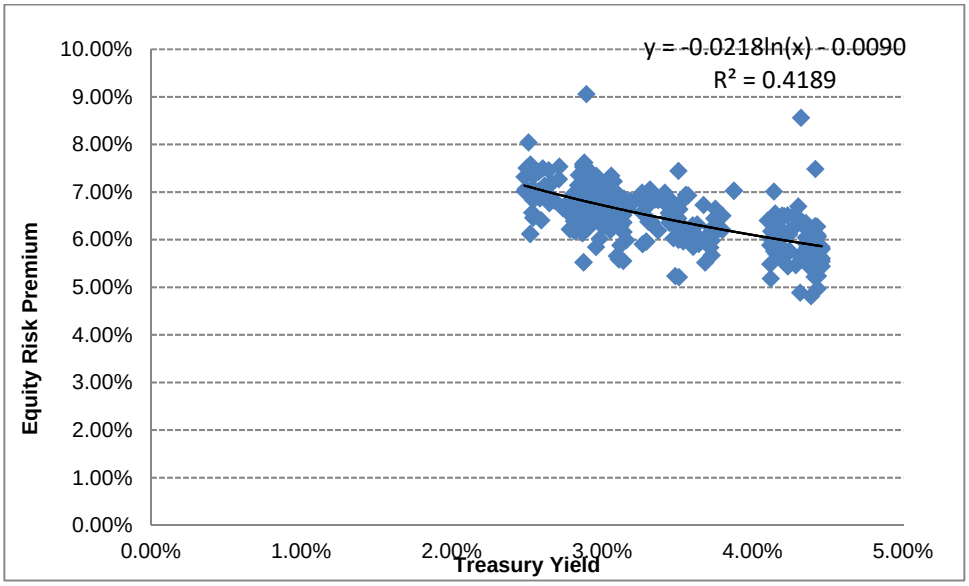
FIGURE 2



Q IS THERE REASON TO BELIEVE MR. HEVERT'S MODEL PRODUCES INACCURATE ESTIMATES OF THE COST OF EQUITY?

A Yes. A quick review of the underlying data in Mr. Hevert's regression analysis shows that his model produces inaccurate estimates for the cost of equity at various levels of interest rates. For example, Mr. Hevert's model predicts that the cost of equity at an interest rate level of 2.85%, is 9.91%. However, when we look at the ROEs that were authorized during periods when interest rates were near 2.85%, they were much lower than 9.91%. In order to get a large enough sample, I measured the average and median authorized ROE for each instance the interest rate was within 10 basis points of 2.85%, or between 2.75% and 2.95%. There were 111 observed ROEs that occurred within that range of interest rates. The average authorized ROE that occurred when interest rates were between 2.75% and 2.95% was 9.74% and the median authorized ROE was 9.71%. Similarly, 70 ROEs were authorized during periods when interest

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rates were within the range of 2.93% to 3.13%. The average and median of those 70 observations are 9.68% and 9.73%, respectively.

These results are consistent with the significant decline in his model's predictive power in the post-recession era since 2010. For these reasons, Mr. Hevert's risk premium analysis should be rejected.

Q WHAT WOULD MR. HEVERT'S MODEL ESTIMATE THE COST OF EQUITY TO BE WITH A PROJECTED INTEREST RATE OF 2.6%?

A Mr. Hevert's model would estimate the cost of equity to be 9.90%.

Q IS AN ROE OF 9.90% CONSISTENT WITH WHAT ROES WERE BEING AUTHORIZED DURING PERIODS WHEN INTEREST RATES WERE NEAR 2.6%?

A No. Similar to the analysis described above, when looking at what ROEs were being awarded during periods when interest rates were between 2.5% and 2.7%, we can see that the average and median ROE was 9.6% and 9.61% respectively.

Q CAN MR. HEVERT'S BYP RISK PREMIUM ANALYSIS BE REVISED TO REFLECT CURRENT PROJECTIONS OF TREASURY YIELDS?

A Yes. Adding an equity risk premium of 6.77%, as described at page 40 of my Direct testimony, to a more recent near-term projection for the 30-year Treasury yield of 2.60%, produces a risk premium result of 9.37%. Similarly, giving some consideration to the 9.6%/9.61% ROE, produces a corrected risk premium range of 9.37% to 9.61%, with a midpoint of 9.49%. This is consistent with my recommended risk premium estimate and recommended range.

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Q DID MR. HEVERT PERFORM AN ALTERNATIVE RISK PREMIUM ANALYSIS?

A Yes. Mr. Hevert performed an alternative risk premium analysis based on a multiple regression model where he included the credit spread of Moody's Baa-rated utility bond yields, as well as the level of the Cboe Options Exchange ("CBOE") Volatility Index ("VIX")[9] as additional independent variables in addition to the level of 30-year Treasury yields to estimate an equity risk premium. To estimate the equity risk premium, Mr. Hevert applied his multiple regression formula to his three levels of interest rates, the yield spread of Baa-rated utility bond yield of 4.49% less each of his three Treasury yields, and the 30 day trading average level of the VIX of 15.67. This method produced equity risk premiums of 6.85%, 6.69%, and 6.15% that correspond with his Treasury yields of 2.85%, 3.03%, and 3.70%, respectively. These Treasury yields and equity risk premiums produce ROE estimates of 9.71%, 9.72%, and 9.85% as shown on his Schedule RBH-D7.

Q DO YOU HAVE ANY CONCERNS WITH HIS ALTERNATIVE RISK PREMIUM ANALYSIS?

A Yes. Mr. Hevert's alternative analysis suffers from the same breakdown in explanatory power in the post-recession era since 2010. As shown on his Schedule RBH-D7, the Adjusted R-square is 70.24% for the period January 1980 through May 23, 2019. When only looking at the observations since 2010, the Adjusted R-square declines to 44.19%. In addition, his continued use of a projected Treasury yield of 3.7% is unreasonable as I explained above. For these reasons, Mr. Hevert's alternative analysis should be rejected as well.

[9]As Mr. Hevert explains at page 32 of his Direct testimony, the VIX is a market-based measure of expected volatility.

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Q WHAT WOULD HIS MODEL ESTIMATE THE COST OF EQUITY TO BE IF UPDATED INTEREST RATES, CREDIT SPREADS, AND VIX LEVELS WERE USED?

A While I do not accept his alternative risk premium model as a reasonable method for estimating the cost of equity for the reasons I explained above, updating his model for current data produces results that are significantly below the 9.80% low end of his recommended range and 9.95% recommended ROE. For the period ending January 10, 2020, the 13-week average Treasury yield was 2.28%, the 13-week average Baa-rated utility yield was 3.73% (which produces a credit spread of 3.73% - 2.28% = 1.45%), and the 13-week average level of the VIX was 12.85. Using this more recent data produces an ROE of 9.62%. Using the near-term projected Treasury yield of 2.6%, the 13-week average Baa-rated utility yield was 3.73% (which produces a credit spread of 3.73% - 2.60% = 1.13%), and the 13-week average level of the VIX of 12.85, would produce an ROE of 9.59%.

III.G. Additional Factors

Q DID MR. HEVERT CONSIDER ADDITIONAL RISKS UNIQUE TO AMEREN MISSOURI AS SUPPORT FOR HIS RECOMMENDATION?

A Mr. Hevert identifies what he believes are additional factors that should be taken into consideration in assessing Ameren Missouri's risk profile and cost of equity: (1) Ameren Missouri's regulatory environment; (2) the Company's declining usage per residential customer, and (3) dilution to its operating income.[10]

[10]Hevert Direct at 42.

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Q PLEASE RESPOND.

A In short, Mr. Hevert has cherry-picked these additional factors, or risks, potentially faced by Ameren Missouri without considering other unique risks faced by the proxy group companies and their operating utility subsidiaries. Mr. Hevert's concerns can be addressed in at least two ways.

First, to the extent ratings agencies deemed these particular risks detrimental, Ameren Missouri's ratings would have taken them into consideration. As I discussed in my Direct testimony, and show on my Schedule CCW-3 to that testimony, Ameren Missouri's ratings are identical to those of the proxy group. S&P and other credit rating agencies go through great detail in assessing a utility's business risk and financial risk in order to evaluate their assessment of its total investment risk. This total investment risk assessment of Ameren Missouri, in comparison to a proxy group, is fully considered in the market's perception of Ameren Missouri's risk, and therefore the proxy group fully captures the investment risk of Ameren Missouri.

In addition, financial theory generally, and the CAPM specifically, is predicated on the idea that investors should only be compensated for taking on market risk, i.e., beta, whereas specific business risk can and will be diversified away. Mr. Hevert recognizes this, and admits as much on page 17 of his Direct testimony. Mr. Hevert's attempt to compensate investors for a single business risk is contrary to his own testimony, and violates the underpinnings of the CAPM, a model which Mr. Hevert relies on heavily to support his recommended range. For these reasons, Mr. Hevert's concerns and additional factors should be disregarded.

Q DOES THAT CONCLUDE YOUR REBUTTAL TESTIMONY?

A Yes, it does.

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I/A

Duke Energy Carolinas
Response to
NC Public Staff Data Request
Data Request No. NCPS 22

Docket No. E-7, Sub 1276

Date of Request: **March 16, 2023**
Date of Response: **March 27, 2023**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

Confidential Responses are provided pursuant to Confidentiality Agreement

The attached response to NC Public Staff Data Request No. 22-9, was provided to me by the following individual(s): Brian Neiheisel, CW-Professional, and was provided to NC Public Staff under my supervision.

Jack Jirak
Deputy General Counsel
Duke Energy Carolinas

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Oct 04 2023

North Carolina Public Staff
Data Request No. 22
DEC Docket No. E-7, Sub 1276
Item No. 22-9
Page 1 of 1

Request:

9. For the Company's existing solar facilities for which cost recovery was approved in Docket Nos. E-7, Subs 1146 and 1214 (Monroe, Mocksville, and Woodleaf), please provide the following information.
   a. An update on the status of the monetization of the state and federal tax credits for each facility. If the federal and state tax credits have not been fully monetized, please explain what proportion has been monetized for each facility, and when DEC expects to fully monetize these tax credits.
   b. For each of these solar facilities, please provide the in-service date, the total capital cost of the project, and the total capital cost eligible for the federal and state tax credits.

Response:

Duke Energy Corporation and its subsidiaries have not utilized any of the federal solar tax credits generated by the Monroe, Mocksville, or Woodleaf projects. These facilities did not qualify for state investment tax credits. Federal tax credits related to these projects represent certain types of general business credits. Section 38 of the Internal Revenue Code provides for the allowance and limitations of general business credits against tax liability as well as the ordering rules for utilization of general business credits. The ordering rules under Section 38 do not allow for any prioritization of certain federal tax credits from one member of a federal consolidated group over another member's credits.

Please see attached excel file, PS DR 22-9b.

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DOCKET NO. E-7, Sub 1276

THOMAS CONFIDENTIAL EXHIBIT 2

THOMAS CONFIDENTIAL EXHIBIT 3

THOMAS CONFIDENTIAL EXHIBIT 4

THOMAS CONFIDENTIAL EXHIBIT 5

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Oct 04 2023

Duke Energy Carolinas, LLC
Docket No. E-7, Sub 1276
Public Staff Data Request No. 1
Date Requested: January 19, 2023
Date Due: As soon as possible after filing

Public Staff Legal Contacts: **Nadia Luhr**
Phone #: (919) 733-0977
Email: nadia.luhr@psncuc.nc.gov

Robert Josey
Phone #: (919) 733-0973
Email: robert.josey@psncuc.nc.gov

Topic: Instructions for responses to interrogatories, requests for production of documents, and other data requests (collectively, "Data Requests"), definitions, Data Requests from other parties, privilege logs, testimony, and exhibits in native format

8. Please identify and provide copies of all documents and workpapers (including all related Excel files with working formulas and links intact) supporting and/or underlying all testimony, exhibits (including initial, revised, additional, supplemental, updated, rebuttal, etc.) filed by the Company in this proceeding. Please consider this request ongoing.

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DOCKET NO. E-7, Sub 1276

THOMAS CONFIDENTIAL EXHIBIT 7

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Remove projects from MYRP that meet either of the two below categories:
1.Projects in the direct filing that had no documentation and which as of the supplemental filing have only provided Power Plan summaries.
2.New projects in supplemental filing which have only provided Power Plan summaries.

				Filed May 2023 - Total Project Amount (System)									DOCUMENTATION		
Walsh Supp Dr 1 L ne No.	MYRP Project Name	MYRP Project Description & Scope	Reason for the MYRP Project	Project Forecasted In Service Date	Projected In-Service Costs	Projected Annual Net O&M	Projected Installation O&M	Plant	Funding Project	Fuel	Year	Direct	Supplemental (Documents)	Recommend Removal (docs)
23	Great Falls Replace Headworks Rake and Racks	Replace the aging trask rake at the Great Falls Headwork and replace with a new system that runs off EAL. Project would be to remove existing equipment and track and to install a new track and rake. Major damage has also been found to the trash racks and all ten require replacement. Dredging in front of the headworks will be required to ensure racks are fully uncovered for replacement.	Replace the old intake trash rake system which has had several repairs to cracked welds and hydraulic leaks. New trash racks will be installed (10 locations) along with correcting the grating on top of the racks	Oct-25	$ 3 637 288	$ -	$ -	Great Fa ls	GF000039	Hydro	2025	No Data	No Data	Yes
26	FERC Cowans Ford Stumpy Creek Access Area	FERC Stumpy Creek Access Area	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Dec-24	$ 2 161 877	$ -	$ -	Cowans Ford	CF001208	Hydro	2024	No Data	No Data	Yes
31	FERC Lookout Shoals Upper Access Area	Upper Lookout Shoals Access Area Construction	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Sep-25	$ 2 806 995	$ -	$ -	Lookout Shoals	LK001205	Hydro	2025	No Data	No Data	Yes
32	Lookout Shoals Replace Jr Generator Headgate	This headgate replacement is for the junior generators.	The main generator head gates were replaced in the 90's with steel and concrete construction while the junior generator headgate was not. To ensure continued reliability for the junior generators (min-flow unit) the original construction head gate needs to be replaced.	May-25	$ 1 113 554	$ -	$ -	Lookout Shoals	LK000029	Hydro	2025	No Data	No Data	Yes
36	Fishing Creek U2 Replace Turbine Gate Casing	Replace turbine gate casing. Includes bottom ring head cover wicket gates arms links pins operating ring servo motors and associated equipment. All bushings and wear pads to be greaseless.	Foreign material damage to the distributor system and age of equipment (particularly the cast iron head cover) warrant replacement of turbine gate casing components.	Jul-26	$ 6 774 346	$ -	$ -	Fishing Creek	FC020024	Hydro	2026	No Data	No Data	Yes
37	Fishing Creek U3 Headgate Replacement	Headgate Replacement Unit 3	FERC dam safety requirements include ensuring head gate and pressure boundary integrity with emergency closure capability. Scope is to replace aged 1910's vintage head gates to maintain station functionality.	Dec-25	$ 2 501 207	$ -	$ -	Fishing Creek	FC030009	Hydro	2025	No Data	No Data	Yes
38	FERC Great Falls Pedestrian Bridge	FERC Lower Great Falls Reservoir Canoe/Kayak Launch pedestrian bridge	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Sep-25	$ 4 688 763	$ -	$ -	Great Fa ls	GF000058	Hydro	2025	No Data	No Data	Yes
40	Jocassee Replace 9070 Controls	Replace Jocassee Station/Unit Control Systems	The existing GE 9070 Controls hardware is obsolete and no longer manufactured by GE. Replacement parts are becoming harder to obtain and could cause down time in the future.	Nov-26	$ 2 500 665	$ -	$ -	Jocassee	JO001239	Hydro	2026	No Data	No Data	Yes
42	FERC Bridgewater Fonta Flora Access Area	Bridgewater Fonta Flora Access Area	Lake access and public infrastructore projects are included in the FERC Catawba Relicensing Requirement	Dec-25	$ 3 786 845	$ -	$ -	Bridgewater	BW001210	Hydro	2025	No Data	No Data	Yes
43	Jocassee DFSP Ramp Replacement	The boat ramps at the Main Entrance and the V llas have fallen into disrepair and need to be replaced	The boat ramps at the main entrance and villas have fallen into disrepair and need to be replaced in oder to maintian public access to Lake Jocassee	Dec-25	$ 1 743 125	$ -	$ -	Jocassee	JO000204	Hydro	2025	No Data	No Data	Yes
44	FERC Moutain Island Riverbend Access Area	Riverbend Access Area	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Dec-25	$5 120 861	$ -	$ -	Mountain Island	MI001205	Hydro	2025	No Data	No Data	Yes
49	FERC Wateree Taylor Creek Bank Fishing	FERC Taylor Creek Bank Fishing	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Dec-25	$1 158 721	$ -	$ -	Wateree	WA001206	Hydro	2025	No Data	No Data	Yes
50	FERC Linv lle Canoe Kayak Access Area	FERC LinvilleCanoe / Kayak Access Area	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Jun-26	$1 388 199	$ -	$ -	Linville	BW001212	Hydro	2026	No Data	No Data	Yes
51	FERC Thorpe Hydro Trout Crk Pipeline Coatings	FERC issue coatings of Thorpe pipeline at the Trout Creek crossing	Replace coating on main pipeline around the Trout Creek crossing to prevent corrosion and maintain pipeline integrity.	Jul-26	$1 650 747	$ -	$ -	Thorpe	TH000011	Hydro	2026	No Data	No Data	Yes
52	Fishing Creek U4 Headgate Replacement	Headgate Replacement Unit 4	FERC dam safety requirements include ensuring head gate and pressure boundary integrity with emergency closure capability. Scope is to replace aged 1910's vintage head gates to maintain station functionality.	Aug-26	$1 865 580	$ -	$ -	Fishing Creek	FC040010	Hydro	2026	No Data	No Data	Yes
53	Fishing Creek U5 Headgate Replacement	Headgate Replacement Unit 5	FERC dam safety requirements include ensuring head gate and pressure boundary integrity with emergency closure capability. Scope is to replace aged 1910's vintage head gates to maintain station functionality.	Aug-26	$1 865 580	$ -	$ -	Fishing Creek	FC050008	Hydro	2026	No Data	No Data	Yes
58	FERC Bridgewater Pocket Park At Dam LI Loop	Install Parking Picnic Facilities Overlooks Bank Fishing Trail as part of FERC Catawba Relicensing Requirement	Lake access and public infrastructore projects are included in the FERC Catawba Relicensing Requirement	Dec-26	$2 405 361	$ -	$ -	Bridgewater	BW001211	Hydro	2026	No Data	No Data	Yes
59	Fishing Creek U3 Replace Wear Rings	Replace Fishing Ck U3 Wear Rings	Replacing worn turbine wear rings will maintain unit efficiency.	Dec-26	$1 135 678	$ -	$ -	Fishing Creek	FC031204	Hydro	2026	No Data	No Data	Yes
60	Jocassee Warehouse Replace Siding Roof	Jocassee Whse Replace siding & roof	Existing Jocassee warehouse roof and siding are degraded and need of replacement.	Dec-26	$1 298 164	$ -	$ -	Jocassee	JO000151	Hydro	2026	No Data	No Data	Yes

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Remove projects from MYRP that meet either of the two below categories:
1.Projects in the direct filing that had no documentation and which as of the supplemental filing have only provided Power Plan summaries.
2.New projects in supplemental filing which have only provided Power Plan summaries.

				Filed May 2023 - Total Project Amount (System)								DOCUMENTATION		
Welsh Supp Dr 1 L ne No.	MYRP Project Name	MYRP Project Description & Scope	Reason for the MYRP Project	Project Forecasted In Service Date	Projected In-Service Costs	Projected Annual Net O&M	Projected Installation O&M	Plant	Funding Project	Fuel	Year	Direct	Supplemental (Documents)	Recommend Removal (docs)
90	FERC Mountain Island Dam Seismic	FERC has required that a l licensees/owners of dams evaluate the seismic stability of each of their dams utilizing newer criteria. Mountain Island (MI) preliminary analysis indicates that an adequate factor of safety does not exist.	Upgrades to Mt. Island dam to meet new FERC seismic and flood event requirements.	Feb-26	$85 382 811	$ -	$ -	Mountain Island	MI000028	Hydro	2026	Charter Funding Memo but no cost estimates developed nor any support provided		No
100	Tennessee Creek Wolf Creek Replace Intake Hoist	Replace Wolf Creek Hydro Intake Hoist	Intake hoist is original equipment and at the end of its life. The building housing the hoist and cables is deteriorated and poses a safety hazard.	Dec-26	$1 670 400	$ -	$ -	Tennessee Creek	TC000309	Hydro	2026	NEW	Power Plan Only	Yes
104	FERC Bridgewater YANCEY ROAD ACCESS AREA	Gravel parking lot and non-motorized boat launch Bridgewater Hydro.	Required per FERC Catawba River relicensing	Dec-25	$1 860 073	$ -	$ -	Bridgewater	BW000044	Hydro	2025	NEW	Power Plan Only	Yes
105	Cedar Creek Floodgate Refurbishment	Capital Refurb of Cedar Creek Hydro Floodgates	The Cedar Creek floodgates are deteriorated and need to be refurbished to maintain operability. If a structural event were to occur with the floodgate consequences could include uncontrolled release of lake water or Cedar Creek would not be able to pass water when necessary either condition leading to a significant event.	Dec-25	$2 220 830	$ -	$ -	Cedar Creek	CC001718	Hydro	2025	NEW	Power Plan Only	Yes
108	Bear Creek Generator Rewind	Rewind Bear Creek Hydro Generator	New generator winding will accommodate unit uprate from new turbine runner	Sep-25	$2 721 618	$ -	$ -	Bear Creek	BE000065	Hydro	2025	NEW	Power Plan Only	Yes
111	Cowans Ford Ramsey Creek Boat Ramp Replace	Replace Ramsey Creek Access Boat Ramps	Ramsey Creek Boat Ramps have fallen into disrepair and need to be replaced	Apr-25	$1 444 620	$ -	$ -	Cowans Ford	CF000161	Hydro	2025	NEW	Power Plan Only	Yes
115	Lookout Shoals Service Water PVC Replacement	Replace PVC piping and valves within the station service water system with SS pipe and metal valves	Aging PVC pipe and valves installed during Hydrovision are in need of replacement.	Dec-24	$1 063 021	$ -	$ -	Lookout Shoals	LK000056	Hydro	2024	NEW	Power Plan Only	Yes
117	Wylie Service Water PVC Replacement	Replace PVC piping and valves within the station service water system with SS pipe and metal valves	Aging PVC pipe and valves installed during Hydrovision are in need of replacement.	Aug-24	$1 193 965	$ -	$ -	Wylie	WY000081	Hydro	2024	NEW	Power Plan Only	Yes
119	Wateree Service Water PVC Replacement	Replace PVC piping and valves within the station service water system with SS pipe and metal valves	Aging PVC pipe and valves installed during Hydrovision are in need of replacement.	Mar-24	$1 143 996	$ -	$ -	Wateree	WA000972	Hydro	2024	NEW	Power Plan Only	Yes
	TOTALS				$ 148,304,888	$ -	$ -							

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Duke Energy Mountain Island Embankment Seismic Stability Improvement Project

Opportunity / Threat Statement:
The Federal Energy Regulatory Commission (FERC) has required that all licensees/owners of dams evaluate the seismic stability of each of their dams utilizing newer criteria. Mountain Island (MI) preliminary analysis indicates that an adequate factor of safety does not exist. Therefore, it is mandatory for Duke to develop a proposed stability improvement that results in an acceptable factor safety. The Mountain Island project is a regulatory mandate and is not elective.

Objective(s):
Engage contract engineering resources to develop conceptual solutions to establish an acceptable factor of safety under seismic conditions. Obtain FERC acceptance.

Scope:
1. Engage internal and external resources required for scope of work to meet the objectives including:
    a. Review FERC correspondence related to the 2009 submittal.
    b. Perform initial environmental and permitting studies.
    c. Develop site topographic drawings
    d. Perform stability analyses using FERC prescribed design earthquake ground motion(s).
    e. Develop conceptual design.
2. Submit analyses and conceptual design to FERC and obtain approval.

Key Deliverables & Milestones	Due Date (Tentative Dates/Planning Only)
INITIATE GATE – Approval	Waived
COMMIT GATE - Approval	March 2019
BUILD GATE – Approval	April 2019
Award Primary Earthwork Contract	April 2019
Mobilize to Site	May 2019
Final Completion	July 2021

Comments:
- A counterweight stability berm is the basis of all solutions to obtain acceptable seismic stability factors of safety for semi-hydraulic fill embankments. (Essentially accomplishes IDENTIFY and SELECT GATES.)
- This approval will authorize funds needed to perform initial stability analysis based on the latest requirements and develop an acceptable conceptual design for FERC review/approval.

Project Rank TBD

Funding Limit [$1.5M]

Existing 0107 Budget

Approved By: MR Duley

Date Approved: 6-22-15

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Mountain Island Narrative Summary

Mountain Island Dam seismic stability will be improved to meet the latest mandatory FERC requirements.

The concept of a downstream counterweight stability berm developed and used on previous stability projects will be applied to Mountain Island.

The scope of this charter is to perform the initial environmental and permitting studies, perform stability analyses, develop conceptual design, and obtain regulatory (FERC) approval.

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DOCKET NO. E-7, Sub 1276

THOMAS CONFIDENTIAL EXHIBIT 10

THOMAS CONFIDENTIAL EXHIBIT 11

Funding Project Justification - MI001215

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IRR

Evaluator - 213: 35.86%

NPV

$1,360,216.00

BCR

Evaluator - 213: 1.88

Payback (years)

2.23

Basis of Cost Estimate

Evaluator - 213: Material and labor costs are based on estimate from Hydro controls personnel.

Benefit Assumptions

Evaluator - 213: If an existing UCC should become inoperable, it would take at least 90 days to procure the new hardware and install working 7 - 10 hour days. Estimated 100k for material expidition and also for overtime/labor (copied from CC001222.

Years of Service

Evaluator - 213: 20

Benefit Season

Annual

Heat Rate Indicator

Evaluator - 213: No

Tax Depreciation Method

1 - 20 Year MACRS

Base Year from Estimate

Evaluator - 213: 2022

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			Economic Benefits		Unit Performance Benefits								
Year	Capital Investment	O&M Investment	Fixed O&M Savings	Avoided Capital	Summer Net MW	EAF %	Heat Rate	Variable O&M	Fuel Cost	SO2 Benefit		NOx Benefit		B
Base Year					62	33.08%	0	4.11	0	Combustion Removal Emission	0 0 0	Combustion Removal Emission	0 0 0	Combusti Remova Emissio
2024	$1,021,387	$0	$11,935	$0	0.0	1.47%	0.0	$0.00	$0.00		0.0		0.0	
2025	$1,090,466	$0	$21,865	$0	0.0	2.70%	0.0	$0.00	$0.00		0.0		0.0	
2026	$0	$0	$53,413	$0	0.0	6.59%	0.0	$0.00	$0.00		0.0		0.0	
2027	$0	$0	$108,512	$0	0.0	13.38%	0.0	$0.00	$0.00		0.0		0.0	
2028	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2029	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2030	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2031	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2032	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2033	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2034	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2035	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2036	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2037	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2038	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2039	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2040	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2041	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2042	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2043	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2044	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	
2045	$0	$0	$0	$0	0.0	0.00%	0.0	$0.00	$0.00		0.0		0.0	

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Duke Energy Carolinas
Response to
NC Public Staff Data Request
Data Request No. NCPS 205

Docket No. E-7, Sub 1276

Date of Request: **June 21, 2023**
Date of Response: **July 3, 2023**

☐ **CONFIDENTIAL**

☒ **NOT CONFIDENTIAL**

Confidential Responses are provided pursuant to Confidentiality Agreement

The attached response to NC Public Staff Data Request No. 205-1, was provided to me by the following individual(s): Trudy H. Morris, Generation and Regulatory Strategy Director, was provided to NC Public Staff under my supervision.

Jack Jirak
Deputy General Counsel
Duke Energy Carolinas

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Oct 04 2023

North Carolina Public Staff
Data Request No. 205
DEC Docket No. E-7, Sub 1276
Item No. 205-1
Page 1 of 2

Request:

1. DEC's response to PSDR 128-18(e) and (f) indicated that two MYRP projects had either been shifted beyond the MYRP period or had portions of the project closed to plant in the base case. Are there any other MYRP projects included in Walsh Supplemental Exhibit 2 that have similarly: (1) had their start or in-service dates shifted outside of the MYRP period; or (2) had portions of the project placed in service during the base year? For each such project, please provide the following information:

    a. The MYRP funding project.
    b. The revised start and in-service date.
    c. All associated Project IDs, including the amount and in-service date of each individual project ID.

Response:

See attached file "DEC NC DR 205-1.xlsx". As identified in the response to PSDR 128-18e, the Fishing Creek project (FC020024) has moved outside the MYRP period. This project will be removed in the third supplemental update revenue requirement.

In addition to the Jocassee project identified in the response to PSDR 128-18f (JO001249), in response to this PSDR 205-1, the Company has identified two other hydro projects that need to have the amounts in the MYRP adjusted. These are the Bad Creek U4 MW Uprate (BA040005) and the FERC Fishing Creek Floodgate Life Extension Phase II (FC003677) noted on the attachment PSDR 205-1 for this set.

The projects submitted for the RRE MYRP are funding projects whose eligibility was determined based on the funding project's expected in-service date. Project estimates, approvals, forecasts, etc. are tracked at the funding project level. When a funding project progresses to the point that money will be spent, a charging project is then created and associated with the funding project. The charging project is where the expenditures for the funding project are tracked. Most funding projects have a single charging project, and they share the same in-service date. Though not typical, there are instances where a large funding project may have multiple charging projects. This is done when the overall span of work has discreet individual sub-projects that can be performed and placed into service independently of each other. In the case of a funding project with multiple charging projects, the funding project shares its in-service date with the last open charging project.

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North Carolina Public Staff
Data Request No. 205
DEC Docket No. E-7, Sub 1276
Item No. 205-1
Page 2 of 2

The Jocassee, Bad Creek, and Fishing Creek Floodgate projects had multiple charging projects associated with them and have been identified as having had time windows that spanned across the base rate case and MYRP period. Some of the charging projects were found to have been placed into service during the base year period even though the parent funding project's in-service date fell within the MYRP period. A portion of the total estimate of the parent funding project therefore was incorrectly included in the MYRP estimate since a partial amount occurred in the base period.

Upon this discovery, a review all other RRE MYRP funding projects was performed to determine if there were any other occurrences; none were identified. The adjustments for the three projects that were identified will be included in the third supplemental filing.

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Duke Energy Carolinas
Docket No. E-7 Sub 1276
DEC PS DR 205-1

(1) - The following MYRP projects have had their In-service dates shifted outside of the MYRP window since the supplemental update:

Funding Project		Original In-Service Estimate	New In-Service Estimate	Public Staff Notes
FC020024	Fishing Creek U2 Replace Turbine Gate Casing	7/1/2026	7/31/2029	
			$ 6,774,346	<- Remove from MYRP

(2) - These MYRP funding projects have a portion of their charging projects in the base year:

MYRP Funding Project		Placed In-Service	Amount in Base Rate Case	Public Staff Notes
BA040005	Bad Creek U4 MW Uprate		**$31,528,994**	<- MRYP Request
CP	CBA04BRKR	5/15/2021	$2,901,199	
			$28,627,795	<- Revised MYRP Request
			$2,901,199	<- Remove from MYRP
FC003677	FERC Fishing Creek Floodgate Life Exten Ph II		**$15,840,428**	<- MRYP Request
CP	CFCGATE14	1/31/2023	$447,720	
CP	CFCGATE15	1/31/2023	$323,288	
CP	CFCGATE21	1/31/2023	$3,291,594	
			$11,777,827	<- Revised MYRP Request
			$4,062,601	<- Remove from MYRP
JO001249	Jocassee Exterior Life Extension		**$19,503,649**	<- MRYP Request
CP	CJOGDOMCS	12/1/2021	$816,134	
CP	CJOGENBLG	9/7/2022	$255,202	
CP	CJOINTACS	9/30/2022	$3,555,945	
CP	CJOINTAME	12/9/2021	$2,320,682	
CP	CJOINTBCS	9/17/2021	$3,750,692	
CP	CJOINTBME	12/4/2020	$2,839,482	
CP	CJOSPILC2	5/14/2019	$1,145,198	
CP	CJOSPILCS	12/19/2018	$1,382,631	
CP	CJOSPILME	12/15/2019	$79,054	
CP	CJOTLRGCS	11/23/2022	$1,271,784	
			$2,086,846	<- Revised MYRP Request
			$17,416,803	<- Remove from MYRP

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U.S. Department of Energy Grid Deployment Office Guidance on Implementing Section 242 of the Energy Policy Act of 2005

March 2023

General Announcement

This Guidance incorporates updates to clarify the existing definition of a qualified hydroelectric facility and applies to applications for payment for energy generated and sold in Calendar Years 2021 and 2022. Changes have also been made to the application submission process.

I. Purpose and Scope

(a) This Guidance describes the application process and the information necessary for the Secretary of Energy to make incentive payments to owners and authorized operators of qualified hydroelectric facilities pursuant to section 242 of the Energy Policy Act of 2005, Pub. L. No. 109-58, as amended ("section 242").

(b) The Secretary may make incentive payments, subject to the availability of appropriations, for electric energy generated and sold by a qualified hydroelectric facility during the incentive period, to the owner or authorized operator of such a facility. Incentive payments may only be made upon receipt by the Secretary of an incentive payment application that demonstrates that the applicant is eligible to receive such payment and satisfies the other requirements as deemed necessary.

(c) Any determinations under section 242 with regard to an incentive payment are not subject to the provisions of 10 C.F.R. Part 600, and any incentive payment in connection with section 242 shall be considered a benefit.

(d) This guidance may be revised in a future rulemaking.

II. Authority

Congress established a program under section 242 to support the expansion of hydropower energy development at existing dams and conduits through an incentive payment procedure. See 42 U.S.C. § 15881, as amended. Congress amended section 242 through Section 3005 of the Energy Act of 2020 (Pub. L. No.116-260) and revised the term "qualified hydroelectric facility," among other changes. Congress further amended section 242 through the Section 40331 of the Infrastructure Investment and Jobs Act (Pub. L. No. 117-58) and revised the term "existing dam or conduit," among other changes.

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III. Definitions

Added means to install a turbine or other generating device where none existed before. In addition, "added" can mean to repair or replace an existing turbine or other electricity generating device that has been offline because of disrepair or dismantling for at least five consecutive years immediately prior to October 1, 2005, and is subsequently repaired or replaced on or after October 1, 2005, and on or before September 30, 2027.

An area in which there is inadequate electric service means a geographic area that lacks access to an interconnected electric grid; is subject to frequent electric outages, based on common reliability metrics; or where the cost of electricity is significantly above the typical residential electricity cost.

Calendar year means a period beginning on January 1 and ending on December 31.

Common reliability metrics means metrics including but are not limited to the System Average Interruption Frequency Index, that are used to quantify the frequency of outages.

Conduit means any tunnel, canal, pipeline, aqueduct, flume, ditch, or similar manmade water conveyance that is operated for the distribution of water for agricultural, municipal, or industrial consumption and not primarily for the generation of electricity. *See* 16 U.S.C. § 823a(a)(3)(A).

Dam means any structure for impounding water, including any diversion structure that is designed to obstruct all or substantially all of the flow of a natural body of water.

DOE means the U.S. Department of Energy.

Electric grid, as used in this Guidance, means the interconnected and contiguous high voltage transmission network where robust transmission assets connect to regionally or nationally interconnected transmission system. In the continental United States, the electric grid consists of three regional transmission systems: the Eastern Interconnect, the Western Interconnect, and the Texas Interconnect.

Eligibility Window means the period of 22 fiscal years for which a hydroelectric facility must be placed in operation in order to apply for an incentive payment for electric energy generated and sold by that facility. This period began on October 1, 2005, and concludes on September 30, 2027.

Eligible Applicant means the owner or authorized operator of the qualified hydroelectric facility who applies for incentive payments for net electric energy generated by and sold from its operation during the eligibility window.

Existing dam or conduit means any powered or non-powered dam or conduit completed before the date of enactment of the Infrastructure Investment and Jobs Act on November 15, 2021, which does not require any construction or enlargement of impoundment or

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Oct 04 2023

diversion structures (other than repair or reconstruction) in connection with the installation of a turbine or other generating device. A temporary increase in dam height that does not expand reservoir topographic area and is for purposes of flood control, hydroelectric generation efficiency improvement, and/or health and safety improvements is allowable and does not render a hydroelectric generation facility ineligible for the hydroelectric production incentive. However, an increase in dam height, expansion of reservoir topographic area or expansion of a previously existing conduit cross-section, other than generator penstocks associated with a new generator, after November 15, 2021, would render a hydroelectric generation facility ineligible for the hydroelectric production incentive.

FERC means the Federal Energy Regulatory Commission.

First eligible for payment means the first fiscal year, after August 8, 2005, that a hydroelectric generation facility generates hydroelectric energy for sale.

Fiscal year means the period beginning October 1 and ending on September 30.

Hydroelectric energy means energy generated from a water-powered turbine or other generating device, including marine energy or hydrokinetic devices, and sold by a hydroelectric generation facility.

Incentive payment means the payment which a qualified hydroelectric facility owner or authorized operator may receive upon successfully proving eligibility and is based on the eligible kWhs produced by the hydroelectric generation facility and the statutory incentive rate. Incentive payment shall not exceed the statutory limit established in 42 U.S.C. 15881(e)(1) per applicant per calendar year and shall be adjusted should total appropriations for incentive program be insufficient to make full payments on all eligible production to all successful applicants.

Incentive Payment Application means an application for an incentive payment for electric energy generated and sold in a specified calendar year that is submitted during the application period. Applications for incentive payments must be properly completed and submitted to DOE each year by the deadline for application submissions announced by DOE in the Federal Register annually.

Incentive Period means a period of 10 consecutive years that begins with the first fiscal year hydroelectric energy was generated and sold by a qualified hydroelectric facility, regardless of funding appropriated for section 242 or an application submitted by the applicant. Receipt of an incentive payment by an eligible applicant is limited to this 10-year period.

Major Event Days (MED) means days in which major events occurred such as hurricanes, wildfires, or severe storms.

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Oct 04 2023

Net electric energy means the metered kilowatt-hours (kWh) generated and sold, and excludes electric energy used within the hydroelectric facility to power equipment such as pumps, motors, controls, lighting, heating, cooling, and other systems needed to operate the facility.

Not-for-profit electric cooperative means a cooperative association that is legally obligated to operate on a not-for-profit basis and is organized under the laws of any State for the purpose of providing electric service to its members.

Qualified hydroelectric facility is a hydroelectric generation facility that:
(a) is located in a State or in U.S. jurisdictional waters;
(b) has a water-powered turbine or other generating device (including conventional or new and innovative technologies capable of continuous operation);
(c) is owned or solely operated by a non-Federal entity;
(d) began producing hydroelectric energy (either through added generation capability, excluding maintenance, or through the incorporation of new equipment, refurbished equipment, or both) for sale on or after October 1, 2005; and
(e) that either:

(1) is at an existing dam or conduit that was completed before November 15, 2021; or,

(2)
(i) has a generating capacity of not more than 20 megawatts;
(ii) for which the non-Federal entity has received a construction authorization from the Federal Energy Regulatory Commission, if applicable; and
(iii) that is constructed in an area in which there is inadequate electric service.

Qualified kilowatt-hours (kWh) means the number of kWh identified by DOE to receive payment, as calculated based on the criteria set forth in 42 U.S.C. 15881(e) and discussed in Section VIII.

Sale means a transfer of currency between two unrelated parties in exchange for delivered electrical current. Not-for-profit electric cooperatives and municipal utilities shall be considered unrelated to their members for purposes of incentive payments.

Secretary means the Secretary of the U.S. Department of Energy or such officers or employees of the U.S. Department of Energy as designated by the Secretary of the U.S. Department of Energy.

Significant Changes means changes consisting of the incorporation of new equipment, refurbished equipment, or both at an existing hydroelectric generation facility. Significant changes may include, but are not limited to, the addition or installation of the mechanical equipment installed to enable the capture of kinetic energy from moving

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Oct 04 2023

water, such as equipment used to transfer that energy; addition or installation of the electric generator driven by the energy transfer; and addition or installation of control equipment to manage the entire facility for safe and reliable electricity output. Other changes to existing facilities and equipment, such as maintenance that replaces damaged or worn equipment or causes incremental increases in energy output from facilities, do not qualify for payment.

State means the District of Columbia, Puerto Rico, and any of the States, Commonwealths, territories, and possessions of the United States.

System Average Interruption Frequency Index (*SAIFI*) is a common reliability metric used by electric power utilities and reported to U.S. Energy Information Administration (EIA) that measures the frequency of interruptions experienced by a utility in a one-year period.

IV. Who May Apply?

Any owner or authorized operator of a hydroelectric generation facility may apply for incentive payments for net electric energy generated by and sold from its operation during the eligibility window.

V. What is a Qualified Hydroelectric Facility?

To qualify for an incentive payment, an eligible applicant must demonstrate that its hydroelectric facility meets all of the following criteria of a qualified hydroelectric facility:

(a) Is located in a State or in U.S. jurisdictional waters.

(b) Has a water-powered turbine or other generating device (including conventional or new and innovative technologies capable of continuous operation).

(c) Is owned by a non-Federal entity and operated by a non-Federal entity. The owner or authorized operator must be applying on behalf of:

(1) A FERC-jurisdictional hydroelectric facility, as the holder of a license or exemption issued by FERC for the operation of such hydroelectric facility; or

(2) A non-FERC-jurisdictional hydroelectric facility, as the holder of the exclusive rights to the beneficial use of the hydroelectric facility, including legal title.

(d) Began producing hydroelectric energy for sale on or after October 1, 2005, either through added generation capability, or at a facility where operations began prior to October 1, 2005, so long as the facility had been offline because of disrepair or dismantling for at least five consecutive years prior and underwent significant changes.

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Oct 04 2023

(e) Has either:

(1) Added generation capability to an existing dam or conduit (as defined above), and began operation between October 1, 2005 and September 30, 2027. Or;

(2) A generating capacity of not more than 20 megawatts, must be a non-Federal entity which received a construction authorization from FERC, if applicable, and is constructed in an area in which there is inadequate electric service. To be considered an area in which there is inadequate electric service, the facility must demonstrate one of the following:

(i) A lack of access to the electric grid, as demonstrated by a lack of connection to a regional or national interconnected transmission system, such as the Eastern Interconnect, the Western Interconnect, or the Texas Interconnect;

(ii) A significantly high frequency of electric outages, as demonstrated by a reported annual common reliability metric, including but not limited to SAIFI without MED, that is in the highest 10% of total annual reported outages;

(iii) A significantly high cost of electricity, as demonstrated by a reported annual average price of retail residential electricity that is in the highest 10% of total annual reported average retail residential electricity price.

VI. Eligibility Window and Incentive Period

(a) Electrical power produced from a hydroelectric generation facility placed in operation on or after October 1, 2005, and on or before September 30, 2027, is eligible for consideration of incentive payments.

(b) The period for payment under this program ends with fiscal year 2036.

(c) Subject to the availability of appropriated funds, a hydroelectric generation facility may receive payments for a period of 10 consecutive fiscal years. Such period shall begin with the first fiscal year in which the facility began producing hydroelectric energy for sale. Any year in which a hydroelectric generation facility does not operate partially or fully will be considered an eligible year if the facility could potentially operate during in the 10-year period starting with the first fiscal year in which the generator began operating a hydroelectric generation facility and the authorized operator sold the resulting electric energy, regardless of whether funds were appropriated in a given year for an incentive payment.

Example 1. A hydroelectric generation facility that began producing hydroelectric energy for sale on September 30, 2027, and continued to produce and sell hydroelectric energy through September 30, 2036, would be eligible to apply for incentive payments, subject to future appropriations, for fiscal year 2027 through the end of fiscal year 2036 but not beyond that time period.

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Oct 04 2023

Example 2. A hydroelectric generation facility that began producing hydroelectric energy for sale on October 1, 2006, and continued to produce and sell hydroelectric energy for 10 consecutive years would be eligible to apply for incentive payments through the end of fiscal year 2016 but not beyond that time period.

Example 3. A hydroelectric generation facility that began producing hydroelectric energy for sale on October 1, 2010, stopped producing hydroelectric energy for sale on September 30, 2012, and again began producing hydroelectric energy for sale on September 30, 2015, would be eligible to apply for incentive payments through the end of fiscal year 2020 but not beyond that time period.

Example 4. A hydroelectric generation facility that began producing hydroelectric energy for sale on June 1, 2020, and continued to produce and sell hydroelectric energy for 10 consecutive years would be eligible to apply for incentive payments through the end of fiscal year 2029 but not beyond that time period.

Example 5. A hydroelectric generation facility that has a generating capacity of not more than 20 MW, has a FERC construction authorization, and is not connected to a regional or national interconnected transmission network, such as the Eastern Interconnect, the Western Interconnect, or the Texas Interconnect would be eligible to apply for an incentive payment.

Example 6. A hydroelectric generation facility that has a generating capacity of not more than 20 MW, has a FERC construction authorization, and reported an annual SAIFI metric without MED of 2.5 outages during calendar year 20XX. According to EIA's most recent data, 90% of utilities reported having an annual SAIFI metric without MED of 2.3 outages or less. This facility would be eligible to apply for an incentive payment for Calendar Year 20XX.

Example 7. A hydroelectric generation facility that has a generating capacity of not more than 20 MW, has a FERC construction authorization, and reported an average cost of electricity of 20 cents/kWh from their utility in calendar year 20XX. According to EIA's most recent data, 90% of utilities reported having an average retail residential electricity cost of 19 cents/kWh or less. This facility would be eligible to apply for an incentive payment for Calendar Year 20XX.

VII. Application Requirements

(a) When and How to Apply

(1) An application for an incentive payment for electric energy generated and sold in a calendar year must be filed during the application period defined by DOE in the *Federal Register* for a given year of incentive payments in which DOE will announce the schedule for accepting application and will establish a deadline for application submissions.

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Oct 04 2023

(2) Applicants must report all net electric energy production from hydroelectric generation facilities for the calendar year stated in the application period.

(3) Failure to file an application by the DOE-established deadline for any eligible year for payment for energy generated in the preceding year shall disqualify the owner or authorized operator from eligibility for any incentive payment for energy generated and sold from a hydroelectric generation facility in that calendar year.

(4) Applications for incentive payments must be properly completed and submitted to DOE each year.

(i) Each application must include all of the information set forth in section VII(b). DOE will not consider previously submitted application materials. Applicants are required to submit new applications each year.

(ii) Applications that refer to previous application materials or statements in lieu of submitting current information will not be considered. Receipt of payment in any calendar year does not guarantee payment or automatically qualify an applicant in any subsequent year.

(iii) DOE will not assume that any incentive recipient intends to apply in a subsequent year. DOE will accept applications and make payments to qualified hydroelectric facilities in years when appropriations are available for this purpose.

(b) An application for an incentive payment must include:

(1) The name of the hydroelectric generation facility or other official designation;

(2) The name, mailing address, telephone number, and email address of a point of contact to respond to questions or requests for additional information, and notification of eligibility determination;

(3) The location and physical address of the hydroelectric generation facility including nine-digit zip code;

(4) A description of the type of generation source for the facility;

(5) A FERC jurisdiction determination under Section 23(b)(1) of the Federal Power Act, 16 U.S.C. 817, to include a license, or declaratory order, Declaration of Intention, or a Petition for Declaratory Order, depending on the circumstances of the facility;

(6) Documentation of FERC construction authorization, if applicable, for operating the specific facility;

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Oct 04 2023

(7) A clear statement of how the applicant hydroelectric generation facility satisfies the required eligibility criteria described in this Guidance, including the criteria required of a qualified hydroelectric facility as set forth in Section V;

(8) A statement documenting the generation capacity of the hydroelectric generation facility;

(9) A detailed description of the new hydroelectric generation facility, including, but not limited to: the state of the site before construction, a listing of the equipment that has been installed (whether the equipment is new or refurbished), and the type of turbine or other generating device that has been installed;

(10) If the application is for new hydropower capability at an already existing hydroelectric generation facility, the date and circumstances the old hydroelectric generation facility went off-line;

(11) Details on how the hydroelectric energy generated from the new unit(s) is metered. This can include, but is not limited to: location of the meter, the meter manufacturer, industry standards the meter meets, independent verification of meter data, requirements for metering under power purchase agreements, interconnection tariffs, or other mandates;

(12) If the application is for a hydroelectric facility located in an area in which there is inadequate electric service, a detailed description of the lack of access to an electric grid; a detailed description of electric outages compared to other customers within the same State, based on common reliability metrics; or a detailed explanation of the cost of electricity in the geographic area served by the applicant compared the typical residential electricity cost of other customers within the same State.

To demonstrate a significantly high frequency of electric outages, facilities may find their utility's reported SAIFI metric without MED through EIA's most recent Annual Electric Power Industry Reports, https://www.eia.gov/electricity/data/eia861/, downloading the original zip file, and reviewing the "Reliability_202X" spreadsheet. If a facility's utility does not have reported SAIFI metrics and the facility wishes to be considered as having a significantly high frequency of electric outages, the facility operator must contact their utility to obtain their SAIFI without MED metric;

To demonstrate a significantly high cost of electricity, facilities may find their utility's yearly reported average cost of retail residential electricity through EIA's most recent Electric Sales, Revenue, and Average Price report https://www.eia.gov/electricity/sales_revenue_price/ and referencing Table T6 "Residential Sector";

(13) The total amount of electric energy for the calendar year in which payment is requested;

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Oct 04 2023

(14) A statement, invoice, or bill of sale for the annual and monthly metered net hydroelectric energy generated and sold during the application period and a table summarizing monthly invoice amounts defined by DOE in the Federal Register notice for a given calendar year of incentive payments by the hydroelectric generation facility, measured in kWh, for which an incentive payment is requested;

(15) A copy of an invoice, statement, or bill of sale that provides the date of the first sale of electricity from the hydroelectric generation facility;

(16) A tax identification number of the hydroelectric generation facility;

(17) The creation or update of a Federal System for Award Management (SAM) account is required and confirmed with the assignment of a Unique Entity Identifier (UEI) number created in SAM.gov;

(18) A statement agreeing to retain records for a period of three (3) years which substantiate the annual and monthly metered number of kWh generated and sold and to provide access to or copies of, such records, for possible audit within 30 days of a written request by DOE;

(19) A statement indicating that the applicant is the owner of the hydroelectric generation facility or is the authorized operator of the hydroelectric generation facility and has the written consent of an authorized executive official of the generator owner to file an application;

(20) A statement from the owner or authorized operator indicating what the incentive has been used for in previous years and, if awarded, what the incentive will be used for in the upcoming year. Note: The response will not affect the eligibility decision or the amount of the incentive to be received;

(21) A signature from an authorized executive official of the owner or operator claiming the payment; and

(22) A statement signed by an authorized executive official certifying that the information contained in the application is accurate.

VIII. Calculation Payments and Documenting Eligible Production

(a) Payment Calculation --

(1) Incentive payments shall be calculated as follows: the amount of eligible kWhs produced by the hydroelectric generation facility is multiplied by the statutory incentive rate of $0.018/kWh, which is adjusted as required by 42 U.S.C. § 15881(e)(2).

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Oct 04 2023

(2) A payment to a qualified hydroelectric facility shall not exceed the statutory limit established in 42 U.S.C. 15881(e)(1) per applicant per calendar year.

(3) Should total appropriations for the incentive program be insufficient to make full payments on all eligible production to all successful applicants, payments shall be adjusted using the following calculation:

$$\frac{\text{Total appropriations for the 242 program in a given calendar year}}{\text{Total dollar amount for all qualified kWhs}} \text{ x Statutory rate, as adjusted for inflation} = \$/\text{kWh rate}$$

(b) Documenting Eligible Production

(1) The net electric energy generated and sold (kWh) by the owner or authorized operator of a hydroelectric generation facility must be measured by a metering device sensor that:

(i) Meets generally accepted industry standards;

(ii) Is maintained in proper working order according to the instructions of its manufacturer; and

(iii) Is calibrated according to generally accepted industry standards.

(2) If a hydroelectric generation facility's eligible production is not specifically metered or is metered in a manner different from the requirements listed previously, an applicant must submit a reasonable, reliable, alternative method to document eligible production. Alternative methodologies must be reviewed, confirmed, and documented by a third party with valid and relevant industry experience and credentials and be submitted to DOE in accordance with section VII(b), Application Requirements, of this Guidance. DOE reserves the right to determine whether the alternative methodology sufficiently identifies the new electric energy generated to qualify under this program.

IX. Procedures for Processing Applications

(a) Processing applications:

(1) Applications and notifications to the Department shall be submitted to the Hydroelectric Production Incentive Program through the Clean Energy Infrastructure Funding Opportunity Exchange, following the instructions provided in the annual Federal Register notice opening the application period.

(2) Following submission of an application, DOE will review and consider the completeness of the application data and may request supplementary information relating to the application. When DOE has been satisfied that sufficient information has been reported, the application will be reviewed for eligibility consistent with this Guidance.

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Oct 04 2023

(3) Applicants must respond to any request for supplemental information relating to their application in a reasonable period of time. Delays exceeding 10 business days in response to a request for information shall constitute the basis for classifying a hydroelectric generation facility as ineligible.

(4) DOE may require the applicant to conduct at its own expense and submit an independent audit, or DOE may conduct an audit, to verify the number of kWh claimed to have been generated and sold by the hydroelectric generation facility and for which an incentive payment has been requested or made.

(5) DOE will determine the extent to which appropriated funds are available to be obligated under this program. Upon evaluating each application and any other relevant information, DOE shall further determine:

(i) Eligibility of the applicant for receipt of an incentive payment, based on the criteria for eligibility specified in this Guidance;

(ii) The number of kWh to be used in calculating a potential incentive payment, based on the net electric energy generated and sold from a hydroelectric generation facility during the application calendar year; and

(iii) The adjusted payment rate, as determined in accordance with the calculation set forth in Section VIII of this Guidance.

(b) Notice of decision:

(1) DOE shall issue a written notice of the determination to each applicant and for each hydroelectric generation facility with the following content:

(i) Disapproving or approving the application as eligible for payment in whole or in part; and

(ii) Setting forth the applicant's amount of qualifed kWhs for the incentive payment.

(2) If the application does not meet the requirements of this program or if some of the kWhs claimed in the application are disallowed as ineligible for payment, DOE shall issue a written notice denying the application in whole or in part with an explanation of the basis for denial.

X. Duration of Payments

Subject to the availability of appropriated funds, no incentive payment may be made under section 242 to any qualified hydroelectric facility after the expiration of the period of 32 fiscal years beginning with the first full fiscal year occurring after August 8, 2005, and no

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Oct 04 2023

payment may be made to any such qualified hydroelectric facility after a payment has been made with respect to such facility for a period of 10 consecutive fiscal years.

XI. Administrative Appeals

(a) In order to exhaust administrative remedies, an applicant who receives a notice denying an application in whole or in part, must file an appeal with the DOE Office of Hearings and Appeals, 1000 Independence Avenue, S.W., Washington, D.C. 20585, in accordance with the procedures set forth below and in accordance with the procedural regulations codified at 10 C.F.R. Part 1003.

(b) If an applicant does not file an appeal in accordance with these requirements, the determination of DOE shall become final. If an applicant files an appeal on a timely basis in accordance with these requirements, the decision and order of the Office of Hearings and Appeals shall be final. If the Office of Hearings and Appeals orders an incentive payment, the Director of the Office of Hearings and Appeals shall send a copy of such order to the DOE Finance Office with a directive to make the required payment.

(c) The appeal shall contain:

(1) a concise statement of the ground(s) upon which the applicant contests the written notice of DOE;

(2) a copy of the DOE notice;

(3) contact information (i.e., name, telephone number, mailing and e-mail addresses) for a representative able to respond to questions and provide information relevant to the appeal; and

(4) any data, documentation, or other relevant information supporting a showing by the appellant that the denial of eligibility or disallowance of payment, either in whole or in part, is arbitrary and capricious.

(d) The appeal, including attachments, should be electronically filed with the Office of Hearings and Appeals (OHA), U.S. Department of Energy, at: OHA.filings@hq.doe.gov. Upon filing, OHA will confirm receipt of the appeal and assign the appeal a case number.

(e)The following matters are not subject to appeal:

(1) the denial of an application on the basis of untimeliness and

(2) a proportional award of an incentive payment based upon DOE's determination that insufficient appropriated funds are available to make payments on all eligible production to all qualified applicants.

(f) The appeal process shall proceed as follows:

(1) An appeal under these procedures must be filed within ten (10) days of an applicant receiving the determination by DOE denying eligibility or a claim for payment, in whole or in part.

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Oct 04 2023

(2) In evaluating an appeal, OHA may require the submission of additional information by the appellant regarding any statement, data, documentation, or other information included in an appeal. OHA may also solicit and accept submissions of relevant information from other sources, including DOE, provided that the appellant is afforded an opportunity to respond to all such submissions. OHA may, on its own initiative, convene a conference or hearing if, in its discretion, it considers that such conference or hearing will advance its evaluation of the appeal. OHA will determine the scope and format of any conference or hearing convened under these procedures, as well as the parties allowed to participate.

(3) OHA may issue an order summarily dismissing an appeal if: (a) the appeal is not filed in a timely manner, unless good cause is shown; (b) the appeal is defective on its face; (c) the appellant fails to provide additional information requested by OHA within the time specified by OHA; or (d) for any other reason that the appeal would be subject to dismissal under the OHA procedural regulations codified at 10 C.F.R. Part 1003.

(4) OHA will provide DOE with the opportunity to submit a written response to an appeal within a period of time specified by OHA. OHA will provide the appellant with a copy of DOE's response and allow the appellant to submit a reply within a period of time specified by OHA.

(5) Within thirty (30) days of receiving all required information, including additional information requested by OHA subsequent to the submission of the appeal, OHA shall issue a written decision granting or denying the appeal, in whole or in part. The decision shall include a written statement setting forth the relevant facts and basis for the determination. Upon issuance, OHA shall serve an electronic version of the decision upon the appellant and the DOE Office of Energy Efficiency and Renewable Energy. The decision will also be published on the OHA website: http://www.energy.gov/oha. The decision of OHA shall constitute the final agency action and the appellant's final right of administrative review under the Hydroelectric Incentive Program.

(6) All expenses incurred by the appellant in pursuing any appeal before OHA shall be borne exclusively by the appellant.

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Oct 04 2023

U.S. Department of Energy Grid Deployment Office Guidance on Implementing Section 40332 of the Infrastructure Investment and Jobs Act of 2021: Hydroelectric Efficiency Improvement Incentives

March 22, 2023

I. Purpose, Scope, and Authority
II. List of Definitions
III. Who may apply and what is an eligible hydroelectric facility?
IV. How will DOE allocate funding for eligible capital improvement projects?
V. At what stage in the development process would a capital improvement project be eligible to apply for an incentive payment?
VI. What are the general application requirements?
VII. What is the timing of incentive payments?
VIII. What are the procedures for processing applications?
IX. FAQ
X. Funding Restrictions
XI. Administrative Appeals
XII. Appendix

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Oct 04 2023

I. Purpose, Scope, and Authority

This Guidance, prepared by the Department of Energy (DOE) Grid Deployment Office's (GDO) Hydroelectric Incentives Program, describes the application process and the information necessary for the Secretary of Energy to make incentive payments to owners and authorized operators of hydroelectric facilities at existing dams pursuant to Section 243 of the Energy Policy Act of 2005 (EPAct 2005), Hydroelectric Efficiency Improvement Incentives, as amended by Section 40332 of the Infrastructure Investment and Jobs Act of 2021 (IIJA)[1]. Section 243 of EPAct 2005 requires the Secretary to make incentive payments to the owner or authorized operator of a hydroelectric facility at an existing dam, subject to the availability of appropriations,[2] for capital improvements directly related to improving facility efficiency by at least three percent.[3] DOE will issue incentive payments upon receipt of an application that demonstrates that the applicant is eligible to receive such payment and satisfies the other requirements as deemed necessary.

Section 243 sets various limitations for the payments available for hydroelectric efficiency improvement incentives that include:

(1) incentive payments shall not exceed 30% of the costs of the applicable capital improvement(s);
(2) not more than 1 incentive payment may be made to a single eligible hydroelectric facility per fiscal year; and
(3) the amount of the incentive payment shall not exceed $5,000,000.[4]

Any determinations made under Section 243 with regard to an incentive payment are not subject to the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 C.F.R. Parts 200 and 910, nor the Financial Assistance Rules, 10 C.F.R. Part 600. Any incentive payment in connection with Section 243 shall be considered a benefit.

As part of this Guidance, DOE may allocate up to 25% of the funding for Small projects. Projects under 10 megawatts (MW) represent over 75% of the nation's hydropower fleet. Many of these projects are owned by small businesses, municipal entities, nonprofit organizations, and/or Indian Tribes. Small hydropower projects owned by small businesses, municipal entities, nonprofit organizations and/or Indian Tribes often have fewer financial resources than larger hydropower facilities or hydropower facilities owned by larger corporations and are more likely to decommission hydropower projects because of the economic uncertainties associated with the relicensing and maintenance of these facilities.[5] As a result, projects to maintain and enhance hydropower at these facilities often face financial barriers relative to larger hydropower facilities and may need additional time or support. In recognition of this challenge, DOE may set aside up to 25% of the funding under this Guidance for Small projects, defined as hydropower projects that have a nameplate capacity of less than 10 MW and owned

[1] Pub. L. No. 117-58. 42 U.S.C. § 15882
[2] Section 40332 of the Infrastructure and Jobs Act of 2021 appropriated $75,000,000 until expended for EPAct 2005 Section 243: Hydroelectric Efficiency Improvement Incentives.
[3] 42 U.S.C. § 15882(a)
[4] 42 U.S.C. 15882(b)
[5] A 2022 hydropower industry owners survey found that 71.4% municipal owned electric utilities and 25% of rural cooperative electric utilities were actively considering decommissioning existing hydropower facilities. Ear to the River Final Report, available at: https://info.kleinschmidtgroup.com/eartotheriver-results.

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Oct 04 2023

by small businesses, municipal entities, nonprofit organizations, electric cooperatives, and/or Indian Tribes.

In keeping with the Administration's goals, and as a federal agency whose mission includes strengthening our Nation's energy prosperity, DOE seeks eligible projects that not only contribute to the country's energy technology and climate goals, but also promote the following goals: (1) create good paying, high quality, local jobs; (2) advance diversity, equity, inclusion, and accessibility for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality, (3) support meaningful community and labor engagement; and (4) contribute to the goal that 40% of the overall benefits from certain federal investments flow to disadvantaged communities (the Justice40 Initiative).[6]

DOE intends to expend all available funds for eligible projects under this Guidance through at least one solicitation. In the event of oversubscription, meaning the amount of incentives requested in eligible applications exceeds the appropriated funding, DOE will maximize the positive impacts of funding to the U.S. hydropower fleet by prioritizing funding based on a ranking of applications by their total facility efficiency improvement, as described in Sections VI and VIII of this guidance.

This guidance may be revised in the future or codified through rulemaking.

II. List of Definitions

The following terms apply exclusively to GDO's Hydroelectric Efficiency Improvement Incentives:

Application period means the period identified by DOE in the Federal Register notice that announces the schedule for accepting applications and the deadline for submissions.

Calendar year means a period beginning on January 1 and ending on December 31.

Capital improvement project means the construction, addition, improvement, modification, replacement, rearrangement, reinstallation, renovation, or alteration of tangible assets, such as real property, buildings, equipment, and intellectual property (including software) used in hydroelectric operations that have a useful life of more than one year, which are capitalized in accordance with generally accepted accounting principles.

Dam means any structure for impounding or diverting water, as defined by 18 C.F.R. § 12.3(b)(6).

Disadvantaged communities refers to communities as defined by the U.S. Department of Energy pursuant to E.O. 14008, the Office of Management and Budget's Interim Justice40 Implementation Guidance M-21-28, and Addendum M-23-09. DOE recognizes disadvantaged communities as defined and identified by the Climate and Economic Justice Screening Tool | U.S. Climate Resilience Tool.[7]

[6] The Justice40 initiative, created by Executive Order 14008, establishes a goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities..
[7] See Department of Energy General Guidance for Justice40 Implementation, at 5-8, available at https://www.energy.gov/sites/default/files/2022-07/Final%20DOE%20Justice40%20General%20Guidance%20072522.pdf.

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Oct 04 2023

DOE means the U.S. Department of Energy.

Electric Cooperative means a cooperatively owned-electric utility.

Electric Utility means a person or federal or state agency that sells electric energy.

Exemption from Licensing means a small hydroelectric power project or a small conduit hydroelectric facility as defined by 18 C.F.R. § 4.30.

FERC means the Federal Energy Regulatory Commission.

Fiscal year means the period beginning October 1 and ending on September 30.

Gross head means the difference between the upstream headrace water level and tailrace water level for reaction turbines and the difference between the upstream headrace water level and the centerline of the machine or nozzle for impulse turbines.

Hydroelectric Facility includes the hydroelectric units, water conveyances, and other appurtenances associated with an impoundment or diversion created by one or more existing dams, including but not limited to conduit hydropower facilities.

Hydroelectric Unit means a hydroelectric turbine and its associated generator and control equipment required to produce electricity.

Incentive payment means the payment which an eligible hydroelectric facility owner or authorized operator may receive, subject to Congressional appropriations, upon successfully proving eligibility. Incentive payment shall not exceed the statutory limit established in 42 U.S.C. § 15882(b) per hydroelectric facility per fiscal year and may be adjusted if appropriated funds are insufficient to make full payments to all eligible hydroelectric facilities.

Incentive Payment Application means an application for an incentive payment for an eligible hydroelectric facility that is submitted during the application period. Applications for incentive payments must be properly completed and submitted to DOE by the deadline for application submissions announced by DOE in the Federal Register.

Indian Tribe means any Indian Tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians as defined in 25 U.S.C. § 5304(e).

Measured power production means measurement of power production performed at the point of common coupling that meets or exceed C12.20-2010 Class 0.2 accuracy.

Municipality means a city, county, irrigation district, drainage district, or other political subdivision or agency of a state competent under the laws thereof to carry on the business of developing, transmitting, utilizing, or distributing power.

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Oct 04 2023

Net head is the head of water available at the point of entry to the turbine. This is equal to the gross head minus losses in the water conveyance system.

Nonprofit organization means a tax-exempt organization or enterprise that does not operate for profits for its owners.

Secretary means the Secretary of the U.S. Department of Energy, or such officers or employees of the U.S. Department of Energy as designated by the Secretary of the U.S. Department of Energy.

Small Business means (1) a business organized for profit, with a place of business located in the United States, (2) that is more than 50% owned and controlled by one or more individuals who are citizens or permanent resident aliens of the United States, or by other small business concerns that are each more than 50% owned and controlled by one or more individuals who are citizens or permanent resident aliens of the United States; and (3) has no more than 500 employees, including affiliates.

Small project means an eligible hydroelectric facility with a nameplate capacity of 10MW or less that is owned or operated by a small business, Indian Tribe, a municipality, nonprofit organization, or electric cooperative.

Stamped documents means documents that have been certified by an appropriately licensed professional engineer.

State means the District of Columbia, Puerto Rico, and any of the States, Commonwealths, territories, and possessions of the United States.

Theoretical power means the maximum hydropower power output with 100% efficiency.

III. Who may apply and what is an eligible Hydroelectric Facility?

The owner or authorized operator of a hydroelectric facility at an existing dam may apply for an incentive payment. In order to be eligible for a hydroelectric efficiency improvement incentive payment under Section 243, the following qualifications must be met:

(1) The hydroelectric facility at the dam must have been placed in service before November 15, 2021.
(2) The hydroelectric facility must be operable at the time an application is submitted. Non-operable facilities are not eligible for a payment.
(3) The capital improvement(s) are made:
    a. On the hydroelectric facility side of the point of interconnection or common coupling with the electric utility, or
    b. In a facility that remotely controls hydroelectric facility operations.
(4) The capital improvement(s) must increase the efficiency of the hydroelectric facility by at least 3%.

IV. How will DOE allocate funding for eligible capital improvement projects?

(a) If adequate funds are available, DOE will fund all eligible capital improvement projects at the limits set forth in Section 243 (30% of total project costs not to exceed $5,000,000 per facility per fiscal year). In addition, DOE may allocate funding as follows:

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(1) Up to 25% of the appropriated funds may be allocated for Small projects, as defined in Section II and
(2) The remaining appropriated funds may be made available to eligible hydroelectric facilities that do not meet the criteria described for Small projects.

(b) In the event of oversubscription. DOE will allocate appropriated funding according to the procedures outlined below in Section VIII of this Guidance.

V. At what stage in the development process would a capital improvement project be eligible to apply for an incentive payment?

To be eligible to apply for a hydroelectric efficiency improvement incentive payment, a capital improvement project at an eligible hydroelectric facility must have applied for or already received all Federal, State, and/or Tribal authorizations and have initiated, requested, or completed any required federal environmental review processes under the National Environmental Policy Act of 1969 (NEPA).[8] Where authorizations and/or NEPA processes have not yet concluded, any awards would be conditioned upon successful completion of permitting and/or NEPA processes, as detailed in Section VII. For projects determined by DOE to need additional NEPA review, the recipient must be prepared to support DOE in the completion of NEPA review process (e.g., biological evaluations, reviews under the National Historic Preservation Act, environmental assessments) prior to receiving an incentive payment. The recipient may be required to prepare the records and the costs to prepare the necessary records may be included as part of the project costs.

An eligible capital improvement project at an eligible hydroelectric facility may apply for an incentive payment for any materials procured or other costs incurred toward this project after November 15, 2021.

VI. What are the general application requirements?

DOE will evaluate each application to determine whether the project meets the criteria included in this Guidance, including (1) whether the facility meets the definition of an eligible hydroelectric facility as defined in Section III, and (2) whether the improvement is an eligible capital improvement as defined in Section II.

This section describes the specific data and information DOE needs to determine eligibility to receive an incentive payment. To qualify, the applicant must demonstrate an increase of at least three percent in the efficiency improvement percentage for the hydroelectric facility where the capital improvement(s) were made or are to be made. For projects that receive an incentive payment, additional documentation, if noted below, may be required prior to DOE making a final payment, including the collection of metrics and/or other data related to funding from IIJA. Capital improvement projects completed prior to application submittal must provide all documentation required for DOE to make a final payment, as described in this section, at the time of application.

(a) When and how to apply

[8] 42 U.S.C. § 4321, et seq.

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(1) DOE will announce a schedule and deadline for accepting applications in a Federal Register notice. Application(s) for an incentive payment must be filed during the application period defined by DOE in the notice.
(2) Failure to file an application by the DOE-established deadline shall disqualify the owner or authorized operator from eligibility for an incentive payment during that application period. Applications filed outside of the application period will not be accepted.
(3) Each application must include all the information set forth in this section (as applicable). To expedite application review and processing, it is recommended that all submitted materials are named or internally labelled such that it is clear which application requirement(s) each piece of information is intended to address. See "Suggested File Structure" table in the Appendix to this guidance. Use of the "Suggested File Structure" table is voluntary. Applicants are required to submit new application material with each application period.

(b) An application for an incentive payment must include:

(1) The name of the hydroelectric facility or other official designation;
(2) The name, mailing address, telephone number, and email address of a point of contact to respond to questions or requests for additional information, and notification of eligibility determination;
(3) The name of the owner of the hydroelectric facility;
(4) The location and physical address of the hydroelectric facility including nine-digit zip code;
(5) If applicable, a clear statement noting the application is requesting funding as a Small project as defined in Section II of the guidance:
    a. Applications submitted for Small projects must include documentation confirming eligibility as a small business, Indian Tribe, municipality, or electric cooperative, as defined above in Section II;
(6) A description of the hydroelectric facility, including:
    a. Proof of authorization to operate, as demonstrated by FERC license, exemption, or qualifying conduit determination letter, or any of the following:
        i. a lease of power privilege granted by the Bureau of Reclamation,
        ii. Congressional authorization, or
        iii. other federal or state documentation;
    b. The year the facility began commercial operation;
    c. The number of hydroelectric units that are part of the facility and the nameplate capacity of each hydroelectric unit;
    d. The operating range of each hydroelectric unit, including the range of hydraulic head seen at the turbine, in feet, and flow rates, in cubic feet per second;
    e. Annual generation data, as shown on invoices from the electric utility, from the last five years of facility operation to enable DOE to understand baseline generation at the facility. If five years of generation data are unavailable or, if invoices from the electric utility are unavailable, include all available generation data from the time period and a statement explaining why less than five years of data are available;
(7) Documentation relating to the existing conditions and the capital improvement(s) at the hydroelectric facility, including:

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Oct 04 2023

a. A detailed written narrative describing the capital improvement project at the hydroelectric facility and the expected efficiency improvement(s) including:
    i. Investment justification of efficiency improvement(s). If multiple capital improvements are included in an application, provide an estimate or the known efficiency improvement attributable to each particular capital improvement with justification for the investment;
    ii. Stamped documentation including calculations, spreadsheets, mathematical models, or other appropriate techniques that quantitatively demonstrate the efficiency improvement in the hydroelectric facility due to the capital improvement(s).
    iii. Where applicable, provide supporting manufacturer documentation of the expected efficiency increase;
b. In lieu of the Section VI(b)(7)(a)(ii) requirement above, the applicant may use the following method to calculate the efficiency improvement for the hydroelectric facility due to the capital improvement(s). If efficiency is or will be improved at more than one hydroelectric unit, perform the calculations below separately for each unit to calculate the combined efficiency at the facility. Spreadsheets tools with examples are available on the GDO Hydroelectric Incentive Program website. Use of the spreadsheets is strictly voluntary. Applicants may modify the spreadsheet to meet their requirements:
    i. For each hydroelectric unit, provide time series data for a minimum of one and up to five prior years, reported hourly, daily, or monthly (preferably hourly), recording:
        1. average flow in either cubic feet per second (cfs) or cubic meters per second (cms);
        2. gross operating head in feet (ft) or meters (m);
        3. net operating head in feet (ft) or meters (m), and
        4. total kilowatt-hours (kWh) or megawatt-hours (MWh) of measured / recorded power production;
    ii. Calculate the theoretical power production for the time series data at each hydroelectric unit by using one of the two following power equations:
        1. P (kWh) = Q*H/11.81, where Q=Flow in cubic feet per second (cfs) and H=Net Head in feet (ft), or
        2. P (kWh) = 9.81*Q*H, where Q=Flow in cubic meters per second (cms) and H=Net Head in meters (m);
    iii. Add the time series historical power production data for the hydroelectric unit(s) to calculate total power production;
    iv. Add the theoretical power production data for the hydroelectric unit(s) to calculate the total theoretical power production;
    v. For each unit, divide the total power production by the total theoretical power production and multiply the result by 100 to calculate the pre-capital improvement hydroelectric facility efficiency;
    vi. For each unit, use the historical head and flow data to estimate the post-capital improvement power generation using manufacturer's efficiency data per model tests or other resources;

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Oct 04 2023

c. If applicable, documentation demonstrating that the capital improvement(s) will increase efficiency or generation at the hydroelectric facility beyond its original design specifications. If oversubscription occurs and applications are prioritized in order to maximize positive benefits, as described in Section VIII(a)(5), applications that have demonstrated an increase in efficiency or generation at the hydroelectric facility beyond original design specifications will be awarded a bonus point;
d. A project work plan describing the current status of the capital improvement project, the expected remaining steps in planning, developing or constructing the project and the Community Benefits Plan in Section VI(b)13;
e. A written narrative describing and, where possible, identifying potential areas of risk in the project work plan or other sources of risk associated with the capital improvement (e.g., project completion schedule, procuring materials and equipment, deployment of new technologies);
f. A project timeline summarizing the major steps/milestones described in the capital improvement project work plan;
g. A monitoring plan that will document the effectiveness of the capital improvement project;
h. If the capital improvement includes the installation of advanced controls, include an associated cybersecurity plan;
i. A project budget summarizing:
    i. The total cost of the capital improvement(s);
    ii. The major cost categories of the capital improvement(s);
    iii. The total amount of funding requested, and;
    iv. Any other federal funding sources used to support the project;
j. A detailed, itemized list of expected or actual capital costs for the capital improvement and documentation of the stated costs including but not limited to, as applicable, price estimates, vendor quotes, statements, invoices, or bills of sale for the capital improvement being applied for;
k. As applicable, documentation from FERC or other applicable federal agencies demonstrating permitting is underway or authorization has been granted to implement the capital improvement(s);
l. Documentation from FERC or other applicable federal agencies demonstrating compliance or engagement in processes associated with gaining compliance with the National Environmental Policy Act of 1969 (NEPA),[9] or a request for a DOE NEPA determination as described in Section V;
m. If applicable, documentation demonstrating compliance or engagement in processes associated with gaining compliance with Section 106 of the National Historic Preservation Act of 1966, as described in Section V;
n. With respect to the funding restrictions outlined in Section X of this Guidance:
    i. A statement on whether the Build America, Buy America requirements apply to the project and the impact, if any, this requirement may have on the project's budget;

[9] 42 U.S.C. § 4321, et seq.

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Oct 04 2023

ii. If an applicant is seeking a waiver of the Build America, Buy America requirements, a written waiver request that includes all of the information outlined in Section X (A) of this Guidance;

o. Acknowledgment that the applicant will comply with all of the Davis-Bacon Act requirements as outlined in Section X (B) of this Guidance;

p. If the project affects Indian Tribes, evidence to support that the project does not disturb, desecrate, or otherwise impair the integrity of a sacred site or Tribal Cultural Property of an Indian Tribe. Supporting documentation from an Indian Tribe potentially impacted by the capital improvement project is encouraged.

(8) A summary or abstract document and a summary slide of the proposed capital and efficiency improvement(s) that is available for public release;

(9) A tax identification number of the hydroelectric facility;

(10) The creation or update of a Federal System for Award Management (SAM) account is required and confirmed with the assignment of a Unique Entity Identifier (UEI) number created in SAM.gov;

(11) A statement indicating that the applicant is the owner of the hydroelectric facility or is the authorized operator of the hydroelectric facility and has the written consent of an authorized executive official of the hydroelectric facility owner to file an application; and

(12) A statement signed by an authorized executive official certifying that the information contained in the application is accurate.

(13) A Community Benefits Plan that demonstrates the applicant's approach to ensuring the capital improvement advances the following four goals: 1) community and labor engagement; 2) investing in the American workforce 3) advancing diversity, equity, inclusion, and accessibility (DEIA); and 4) contributing to the Justice40 Initiative. The Community Benefits Plan should be no more than 12 pages.

a. Community and Labor Engagement: The Community Benefits Plan must set forth the applicant's prior actions and future plans to engage with an inclusive collection of local stakeholders, including labor unions, local government, Tribal government, and community-based organizations that support or work with disadvantaged communities. By facilitating community input and social buy-in and strengthening accountability, such agreements may substantially reduce or eliminate certain risks associated with the capital improvement(s). Community and labor engagement should lay the groundwork for a Community Benefits Agreement. The Community Benefits Plan should illustrate project viability and social risk mitigation through the delivery of high-quality jobs, minimal environmental impact, and allocation of project benefits to disadvantaged communities. Applicants may provide letters of commitment from representative organizations reflecting substantive feedback on the applicant's approach to community benefits including the American workforce; DEIA; and the Justice40 Initiative detailed below. Community and labor engagement should ideally lay the groundwork for the eventual negotiation of Workforce and Community Agreements, which could take the form of one or more kinds of negotiated agreements with communities, labor unions, or, ideally, both. Examples include, registered apprenticeship programs, labor-management training partnerships, quality pre-apprenticeship programs, card check neutrality, and local and targeted hiring goals.

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b. Workforce Continuity and Good Jobs Plan: In the Workforce Continuity and Good Jobs Plan, please describe specific efforts to ensure a well-trained and skilled workforce will be available and engaged to complete the capital improvement(s). A Project Labor Agreement may provide sufficient detail on skill requirements and provide assurances of skilled worker availability. Unless already included in Project Labor Agreement, applicants should provide sufficient detail on the following:
    i. How the applicant will ensure ready access to a sufficient supply of appropriately skilled labor to ensure high-quality construction of the capital improvement(s), including a description of any required professional certifications and/or training (in-house, apprenticeship, etc.);
    ii. How the applicant will minimize risks of labor disputes and disruptions that would jeopardize the timeliness and cost-effectiveness of the construction of the capital improvement(s);
    iii. How the applicant will provide a safe and healthy workplace that trains on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces, and avoids delays and costs associated with workplace illnesses, injuries, and fatalities, including descriptions of safety training, certification, and/or licensure requirements for all relevant workers (e.g., OSHA 10, OSHA 30);
    iv. How the construction of the capital improvement(s) prioritizes local hires, or an explanation of unfeasibility;
    v. Records to substantiate the information in items i-iii;
    vi. Labor Engagement: Project planning should include engagement with appropriate building and construction trades unions. Provide description of engagement and any agreements with the relevant construction trade unions plans to address skill certifications, use of registered apprentices, dispute resolution, project stabilization, and other conditions.

c. Diversity, equity, inclusion, and accessibility (DEIA) Plan: The Community Benefits Plan must include a section describing how DEIA objectives will be incorporated into the capital improvement(s). The section should detail how the applicant will partner with underrepresented businesses, educational institutions, and training organizations that serve workers who face barriers to accessing quality jobs, and/or other project partners to help address DEIA. The following is a non-exhaustive list of potential DEIA actions that could be included in a DEIA Plan. This list is offered to provide guidance to applicants and is not intended to be comprehensive or mandatory. Note that the DEIA Plan is required separate and apart from a Justice40 Implementation Plan because the DEIA Plan is primarily internally focused on the capital improvement(s) workforce while the Justice40 Implementation Plan is primarily externally focused on the communities impacted by the hydroelectric facility's operations.
    i. Commitment to contract with Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, and Veteran Owned Businesses;
    ii. To fill open positions created by the capital improvement(s), applicant partnered with workforce training organizations serving under-represented

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Oct 04 2023

communities and those facing systemic barriers to quality employment such as those with disabilities, returning citizens, opportunity youth, and veterans.

d. Justice40 Initiative: Applicants must provide an overview of benefits to disadvantaged communities that the capital improvement(s) can deliver, supported by measurable milestones. Specifically, the Justice40 Initiative section must include:
    i. Identification of applicable disadvantaged communities to which the anticipated project benefits will flow;
    ii. Identification of applicable benefits that are quantifiable, measurable, and trackable, including, at a minimum, a discussion of the relevance of each of the eight DOE Justice40 Initiative benefits outlined below;
        1. Benefits include (but are not limited to) measurable direct or indirect investments or positive project outcomes that achieve or contribute to the following in disadvantaged communities: (1) a decrease in energy burden; (2) a decrease in environmental exposure and burdens; (3) an increase in access to low-cost capital; (4) an increase in high quality job creation, the clean energy job pipeline, and job training for individuals; (5) increases in clean energy enterprise creation and contracting (e.g., minority-owned or disadvantaged business enterprises); (6) increases in energy democracy, including community ownership; (7) increased parity in clean energy technology access and adoption; and (8) an increase in energy resilience. In addition, applicants should also discuss how the capital improvement will maximize all of the benefits listed in #4 above;
        2. A description of how and when anticipated benefits are expected to flow to disadvantaged communities. For example, will the benefits be provided directly within the disadvantaged community or communities identified in the Justice40 Initiative section, or are the benefits expected to flow in another way? Further, will the benefits flow during project development or after project completion, and how will the applicant report benefits delivered?
        3. A discussion of anticipated negative and cumulative environmental impacts on disadvantaged communities. Are there anticipated negative or positive environmental impacts associated with the proposed capital improvement(s), and how will the applicant mitigate any negative impacts? Within the context of cumulative impacts created by the capital improvement, applicants should use Environmental Protection Agency EJSCREEN tool to quantitatively discuss existing environmental impacts in the project area;

(c) Final Payment Documentation Requirements:

Prior to disbursing a final incentive payment, DOE must receive proof of completion of the project and evidence documenting the improvement. For projects completed prior to application submission, these materials must be included in the application. The following information must be provided:

(1) Statement of final completion and owner's acceptance of the work;

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Oct 04 2023

(2) Stamped documents demonstrating the efficiency improvement(s) estimated in Section VI(b)(7) was measured and proven in the field through an independent performance test such as directed by ASME PTC 18, IEC 60041 or another relevant and equivalent standard;
(3) Any other post-project proof of improvement related to the project determined by DOE; and
(4) Paid invoices that demonstrate project costs as requested in Section VI(b)(7)(i).

VII. What is the timing of incentive payments?

Upon a DOE determination that the hydroelectric facility and capital improvement(s) meet eligibility requirements, DOE will make a payment to eligible applicants, subject to available funds. For eligible improvements that have not reached completion, including where permitting and/or NEPA or NHPA processes have not completed, DOE will send written notice approving or disapproving the application as eligible for an incentive payment as described in Section VIII and will set milestones for completion of the capital improvement(s) based upon a review of the milestones requested in Section VI(b)(7)(f) and conditioned upon successful completion of permitting and/or NEPA or NHPA processes, if applicable. Depending on the amount of time required to complete the capital improvement(s), DOE may, at their sole discretion, require progress reports or other periodic documentation from applicants, such as metrics or data related to funding from IIJA. Applicants may request time extensions to the milestones set by DOE. DOE will review requests for time extensions and may approve or deny requests for time extensions at their sole discretion. Once DOE determines the capital improvement(s) are complete and the hydroelectric facility efficiency was improved by at least 3%, as per documentation required under Section VI of this Guidance, DOE will make a payment to the applicant not to exceed the statutory limit of 30% of total project costs not to exceed $5,000,000.

VIII. What are the procedures for processing applications?

(a) Processing Applications

(1) GDO will open the application period by publishing a notice in the Federal Register, which will define the application period and direct applicants where to the Guidance. Applications are to be submitted to the GDO's Hydroelectric Incentives Program following the instructions provided in the Federal Register notice.
(2) Following submission of an application, DOE will review and consider the completeness of the application data and may request supplementary information relating to the application. When DOE has been satisfied that sufficient information has been reported, the application will be reviewed for eligibility consistent with this Guidance. Applications with significant deficiencies may be determined to be incomplete and may be required to re-submit and will receive a new time stamp.
(3) Applicants must respond to any request for supplemental information relating to their application in a reasonable period of time. Delays exceeding 10 business days in response to a request for information shall constitute the basis for classifying a hydroelectric facility as ineligible.
(4) DOE may require the applicant to conduct at its own expense and submit an independent audit, or DOE may conduct an audit, to verify the capital improvement has been made by the hydroelectric facility and for which an incentive payment has been requested or made.
(5) In the event of oversubscription, eligible applications will be prioritized to maximize benefits. Projects will be organized by Small projects (as defined in Section II) and remaining eligible

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hydroelectric facilities and prioritization will occur based on a ranking of applications by their efficiency improvement percentage, rounded to three significant digits to the right of the decimal point. Applications demonstrating the capital improvement(s) increased the hydroelectric facility's efficiency or generation beyond original design specifications will be awarded a bonus of 1% to their efficiency improvement percentage. Applications with the same total efficiency improvement percentage, after any bonuses are awarded, will be ranked by nameplate capacity with larger facilities taking priority over smaller facilities. Funds will be awarded starting with the applications with the highest scores and proceeding until all remaining funds available in the application period are exhausted.

(6) DOE shall issue written notice of the determination to each applicant and for each hydroelectric facility with the following content:
   a. Disapproving or approving the application as eligible for an incentive payment; and
   b. Setting forth the applicant's incentive payment amount and the timing of the payments.

(7) If the application does not meet the requirements of this Guidance or if some portion of the capital improvement claimed in the application is disallowed as ineligible for payment, DOE shall issue a written notice denying the application in whole or in part with an explanation of the basis for denial.

IX. FAQ

1) When is the deadline to apply?
   a) DOE will announce a schedule and deadline for accepting applications in a Federal Register notice. See Section VIII(a)(1).

2) What types of hydropower facilities are eligible?
   a) Hydroelectric facilities at existing dams that were been placed in service before November 15, 2021 are eligible to apply for a payment.
   b) The hydroelectric facility must be operable at the time an application is submitted. Non-operable facilities are not eligible for a payment.
   c) Dams are defined as any structure for impounding or diverting water, meaning a broad range of conventional and conduit hydroelectric projects that are connected to dams or diversions are eligible to apply for a payment as long as they meet the other criteria noted above.

3) What are the eligibility criteria for the incentives?
   a) Capital improvement(s) (defined in Section II) that increase the efficiency of a hydroelectric facility by at least 3% are eligible for an incentive payment.
   b) The capital improvement(s) must be made on the hydroelectric facility side of the point of interconnection or common coupling with the electric utility, or in a facility that remotely controls hydroelectric facility operations (Section III).
   c) Capital improvement(s) at an eligible hydroelectric facility must have already received all Federal, State, and/or Tribal authorizations and completed any required federal environmental review processes under the National Environmental Policy Act of 1969 (Section V).
   d) Only materials procured or other costs incurred after November 15, 2021 for capital improvement(s) at an eligible hydroelectric facility are eligible for incentive payments (Section V).

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e) Example 1: a capital improvement that improved the efficiency of one unit by at least 3%, while other units in a facility were unchanged, would be eligible for an incentive payment as long as the other criteria noted above were met.
f) Example 2: a capital improvement that reduces the losses in the water conveyance system resulting in a efficiency gain of at least 3% due to increase in net head would be eligible for an incentive payment as long as the other criteria noted above were met.
g) Example 3: a capital improvement that reduces the losses in the water conveyance system resulting in an efficiency gain of 2% due to increase in related net head and an increase of 1.5% efficiency due to improved trash racks and intake structure resulting in total efficiency improvement of 3.5% would be eligible for an incentive payment as long as the other criteria noted above were met.

4) I have already started making modifications that I think would qualify under this Guidance. Are capital improvements made prior to November 15, 2021 eligible?
   a) No. Only materials procured or other costs incurred after November 15, 2021 for capital improvement(s) at an eligible hydroelectric facility are eligible for incentive payments (Section V).

5) My company owns multiple hydroelectric facilities. Is there a limit on how many applications I can file? Can I file one for each facility?
   a) There is no limit to the number of facilities for which applications can be filed by a single owner. All eligible capital improvements at a single facility should be included in one application. Only one incentive payment can be made to a single eligible hydroelectric facility per fiscal year.

6) If it takes longer than expected to complete the capital improvements would a time extension be granted? What if NEPA review takes longer than expected?
   a) Applicants may request time extensions to any milestones set by DOE. DOE will review requests for time extensions and may approve or deny requests for time extensions at their sole discretion (Section VII).

7) Can FERC documentation be used in lieu of requested components in the application process?
   a) FERC documentation may be submitted as part of an application provided the documentation succinctly addresses specific application requirements in Section VI. All applications will be reviewed for completeness (Section VIII(a)(2)).

8) What documentation may be requested during potential periodic progress reports?
   a) Periodic progress reports may be requested or required of applicants (see Section VII). Documentation or reporting requests could include but are not limited to:
      i) Summaries of work or completed tasks;
      ii) Summaries of expenditures (labor and materials) with invoices;
      iii) Documentation related to previous, current, and/or potential delays;
      iv) Photos;
      v) Metrics or other data related to funding from IIJA.

9) Will there be an appeal process for denied applications?
   a) An appeal process is available for denied applications (see Section XI).

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10) Can you provide more detail about what will happen in the event of oversubscription?
    a) If Small projects are oversubscribed but funding is available for projects that do not meet the Small project criteria, the eligible Small projects that were not awarded an incentive will be reviewed for funding along with the eligible applications that do not meet the Small project criteria.
    b) If oversubscription occurs for projects that do not meet the Small project criteria, any funding remaining for Small projects will be used to fund the projects that do not meet the Small project criteria.

11) Can I apply for incentive funds under both Section 243 and Section 247?
    a) Yes, however, the statutory limitations of 30% of project costs up to $5 million apply for each incentive payment under either Section 243 or Section 247.

12) Do for-profit entities, such as investor-owned utilities, have to comply with the Buy America requirements detailed in Section X(a)?
    a) No. The requirements only apply to a State, local government, territory, Indian Tribe, Institution of Higher Education, or nonprofit organization.

13) Do projects that were completed prior to the application period have to have complied with the Buy America and Davis Bacon requirements detailed in Section X?
    a) Yes. Applicants may request a waiver from Buy America requirements. See Section X for details on how to seek a waiver. Waivers are not possible for Davis Bacon requirements.

14) Can other enterprise plans or investments be used to meet the Community Benefits Plan requirements listed in Section VI(b)(13)?
    a) Applicants may reference or include existing plans or investments as part of an application. However, it is likely that applicants will need to bolster their existing plans or investment to meet the objectives of the Community Benefits Plan. The application must describe how the proposed project will meet the four goals detailed in Section VI(b)(13): 1) community and labor engagement; 2) investing in the American workforce 3) advancing diversity, equity, inclusion, and accessibility (DEIA); and 4) contributing to the Justice40 Initiative.

X. Funding Restrictions

All applicants are subject to the following requirements.

(a) **Build America, Buy America Requirements:**

The Build America, Buy America Act (Buy America) requires:

- All iron, steel, and manufactured products used in the project must be produced in the United States; and
- All construction materials used in the project must be manufactured in the United States.

In general, whether a given project must apply this requirement is dependent on several factors, such as the recipient's entity type, whether the work involves "infrastructure," as that term is defined in Section 70914 of the IIJA, based in part on whether the infrastructure in question is publicly owned or serves a

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public function. For Section 243 specifically, all projects are considered "infrastructure" within the Buy America provision of the IIJA, based on implementation guidance from the Office of Management and Budget (OMB) issued on April 18, 2022.

Moreover, based on the OMB guidance, the Buy America requirements of the IIJA do not apply to DOE projects in which the recipient is a for-profit entity; the requirements only apply to projects whose recipient is a State, local government, territory, Indian Tribe, Institution of Higher Education, or nonprofit organization.

- Each recipient of a Section 243 incentive payment must agree (1) to fulfill the commitments regarding the procurement of U.S.-produced products, and (2) to fulfill the commitments made in its application regarding the procurement of other key component metals and manufactured products domestically that are deemed available in sufficient and reasonably available quantities or of a satisfactory quality at the time of award negotiation. Applicants may seek waivers of these requirements in very limited circumstances and for good cause shown.

For purposes of the Buy America requirements, based both on the statute and OMB Guidance Document dated April 18, 2022, the following definitions apply:

Construction materials includes an article, material, or supply—other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that is or consists primarily of:

- non-ferrous metals;
- plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
- glass (including optic glass);
- lumber; or
- drywall.

Infrastructure includes, at a minimum, the structures, facilities, and equipment for, in the United States, roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities; broadband infrastructure; and buildings and real property. Infrastructure includes facilities that generate, transport, and distribute energy.

Moreover, according to the OMB guidance document:

When determining if a program has infrastructure expenditures, Federal agencies should interpret the term "infrastructure" broadly and consider the definition provided above as illustrative and not exhaustive. When determining if a particular construction project of a type not listed in the definition above constitutes "infrastructure," agencies should consider whether the project will serve a public function, including whether the project is publicly owned and operated, privately operated on behalf of the public, or is a place of public accommodation, as opposed to a project that is privately owned and not open to the public. Projects with the former qualities have greater indicia of infrastructure, while projects with the latter quality have fewer. Projects consisting solely of the purchase, construction, or

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improvement of a private home for personal use, for example, would not constitute an infrastructure project.

DOE, not the applicant, will have the final say as to whether a given project includes infrastructure, as defined herein. Accordingly, in cases where the "public" nature of the infrastructure is unclear, but the other relevant criteria are met DOE strongly recommends that applicants complete their full application with the assumption that Buy America requirements will apply to the proposed project.

Project means the construction, alteration, maintenance, or repair of infrastructure in the United States.

In accordance with Section 70914 of the IIJA, none of the project funds may be used for a project for infrastructure unless:

(1) all iron and steel used in the project are produced in the United States--this means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States;
(2) all manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation; and
(3) all construction materials are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States.

The Buy America requirements only apply to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor does the Buy America requirements apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project but are not an integral part of the structure or permanently affixed to the infrastructure project.

These requirements must flow down to all sub-awards, all contracts, subcontracts and purchase orders for work performed under the proposed project, except where the prime recipient is a for-profit entity. Based on guidance from the Office of Management and Budget (OMB), the Buy America requirements of the IIJA do not apply to DOE projects in which the recipient is a for-profit entity; the requirements only apply to projects whose recipient is a State, local government, Indian Tribe, Institution of Higher Education, or nonprofit organization.

For additional information related to the application and implementation of these Buy America requirements, please see OMB Memorandum M-22-11, issued April 18, 2022: https://www.whitehouse.gov/wp-content/uploads/2022/04/M-22-11.pdf

Waivers

In limited circumstances, DOE may waive the application of the Buy America requirements where DOE determines that:

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(1) applying the Buy America requirements would be inconsistent with the public interest;
(2) the types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality; or
(3) the inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25 percent.

If an applicant or recipient is seeking a waiver of the Buy America requirements, it may submit a waiver request with its application or after it has been notified of its selection. A waiver request must include:

- A detailed justification for the use of "non-domestic" iron, steel, manufactured products, or construction materials to include an explanation as to how the non-domestic item(s) is essential to the project
- A certification that the applicant or recipient made a good faith effort to solicit bids for domestic products supported by terms included in requests for proposals, contracts, and nonproprietary communications with potential suppliers;
- Applicant/Recipient name and Unique Entity Identifier (UEI)
- Total estimated project cost, DOE and cost-share amounts
- Project description and location (to the extent known)
- List and description of iron or steel item(s), manufactured goods, and construction material(s) the applicant or recipient seeks to waive from Domestic Content Procurement Preference requirement, including name, cost, country(ies) of origin (if known), and relevant PSC and NAICS code for each.
- Waiver justification including due diligence performed (e.g., market research, industry outreach) by the applicant or recipient
- Anticipated impact if no waiver is issued

DOE may require additional information before considering the waiver request.

Waiver requests are subject to public comment periods of no less than 15 days and must be reviewed by the Made in America Office. There may be instances where an award qualifies, in whole or in part, for an existing waiver described at DOE Buy America Requirement Waiver Requests | Department of Energy.

DOE's decision concerning a waiver request is not appealable.

(b) **Davis-Bacon Act Requirements**

Section 243 Incentive payments will be funded under Division D of the Bipartisan Infrastructure Law. Accordingly, per Section 41101 of that law, all laborers and mechanics employed by the recipient, contractors or subcontractors in the performance of construction, alteration, or repair work funded in whole or in part under Section 243 shall be paid wages at rates not less than those prevailing on similar projects in the locality, as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code commonly referred to as the "Davis-Bacon Act" (DBA).

Applicants shall provide written assurance acknowledging the DBA requirements above, and confirming that the laborers and mechanics performing construction, alteration, or repair work on projects funded in whole or in part by awards made under Section 243 are paid or will be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by subchapter IV of Chapter 31 of Title 40, United States Code (Davis-Bacon Act).

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Applicants acknowledge that they will comply with all of the Davis-Bacon Act requirements, including but not limited to:

(1) ensuring that the wage determination(s) and appropriate Davis-Bacon clauses and requirements are flowed down to and incorporated into any applicable subcontracts or subrecipient awards.
(2) ensuring that if wage determination(s) and appropriate Davis-Bacon clauses and requirements are improperly omitted from contracts and subrecipient awards, the applicable wage determination(s) and clauses are retroactively incorporated to the start of performance.
(3) being responsible for compliance by any subcontractor or subrecipient with the Davis-Bacon labor standards.
(4) receiving and reviewing certified weekly payrolls submitted by all subcontractors and subrecipients for accuracy and to identify potential compliance issues.
(5) maintaining original certified weekly payrolls for 3 years after the completion of the project and must make those payrolls available to the DOE or the United States Department of Labor (DOL) upon request, as required by 29 CFR 5.6(a)(2).
(6) conducting payroll and job-site reviews for construction work, including interviews with employees, with such frequency as may be necessary to assure compliance by its subcontractors and subrecipients and as requested or directed by the DOE.
(7) cooperating with any authorized representative of the DOL in their inspection of records, interviews with employees, and other actions undertaken as part of a DOL investigation.
(8) posting in a prominent and accessible place the wage determination(s) and DOL Publication: WH-1321, Notice to Employees Working on Federal or Federally Assisted Construction Projects.
(9) notifying the Grid Deployment Office's Hydroelectric Incentive Program Section 243 of all labor standards issues, including all complaints regarding incorrect payment of prevailing wages and/or fringe benefits, received from the recipient, subrecipient, contractor, or subcontractor employees; significant labor standards violations, as defined in 29 CFR 5.7; disputes concerning labor standards pursuant to 29 CFR Parts 4, 6, and 8 and as defined in FAR 52.222-14; disputed labor standards determinations; DOL investigations; or legal or judicial proceedings related to the labor standards under a contract, a subcontract, or subrecipient award.
(10) preparing and submitting to the Contracting Officer, the Office of Management and Budget Control Number 1910-5165, Davis Bacon Semi-Annual Labor Compliance Report, by April 21 and October 21 of each year. Form submittal will be administered through the iBenefits system (https://doeibenefits2.energy.gov), its successor system, or other manner of compliance as directed by the Contracting Officer.

Recipients of funding under Section 243 will also be required to undergo Davis-Bacon Act compliance training and to maintain competency in Davis-Bacon Act compliance. The DOL offers free Prevailing Wage Seminars several times a year that meet this requirement, at https://www.dol.gov/agencies/whd/government-contracts/construction/seminars/events.

For additional guidance on how to comply with the Davis-Bacon provisions and clauses, see https://www.dol.gov/agencies/whd/government-contracts/construction, and https://www.dol.gov/agencies/whd/government-contracts/protections-for-workers-in-construction.

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Oct 04 2023

DOE anticipates contracting with a third party for a Davis-Bacon Act electronic payroll compliance software application. Recipients of funding under this FOA must ensure the timely electronic submission of weekly certified payrolls through this software as part of its compliance with the Davis-Bacon Act unless a waiver is granted to a particular contractor or subcontractor because they are unable or limited in their ability to use or access. Applicants should indicate if a waiver will be sought.

(c) **National Environmental Policy Act (NEPA) Requirements**

DOE's decision whether and how to distribute federal funds under this incentive Guidance is subject to NEPA (42 U.S.C. § 4321, et seq.). NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the potential environmental impacts of their proposed actions. For additional background on NEPA, please see DOE's NEPA website, at https://www.energy.gov/nepa.

While NEPA compliance is a federal agency responsibility and the ultimate decisions remain with the federal agency, all recipients selected for an incentive payment will be required to assist in the timely and effective completion of the NEPA process in the manner most pertinent to their project. If DOE determines certain records must be prepared to complete the NEPA review process (e.g., biological evaluations or environmental assessments), the recipient may be required to prepare the records and the costs to prepare the necessary records may be included as part of the project costs.

(d) **Other Requirements**

All federally assisted construction contracts exceeding $10,000 annually will be subject to the requirements of Executive Order 11246, as amended, Equal Employment Opportunity:

- Recipients and their contractors and subcontractors are prohibited from discriminating in employment decisions on the basis of race, color, religion, sex, sexual orientation, gender identity or national origin.
- Recipients and their contractors and subcontractors s are required to take affirmative action to ensure that equal opportunity is provided in all aspects of their employment. This includes flowing down the appropriate language to all subrecipients, contractors and subcontractors.
- Recipients and their contractors and subcontractors are prohibited from taking adverse employment actions against applicants and employees for asking about, discussing, or sharing information about their pay or, under certain circumstances, the pay of their co-workers.

The Department of Labor's (DOL) Office of Federal Contractor Compliance Programs (OFCCP) uses a neutral process to schedule contractors for compliance evaluations. OFCCP's Technical Assistance Guide should be consulted to gain an understanding of the requirements and possible actions the recipients, subrecipients, contractors and subcontractors must take.

XI. Administrative Appeals

(a) Application denials, in whole or in part, may be appealable to the DOE Office of Hearings and Appeals, 1000 Independence Avenue, S.W., Washington, D.C. 20585, in accordance with the procedures set forth below and in accordance with the procedural regulations codified at 10 C.F.R. Part 1003.

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(b) If an applicant does not file an appeal in accordance with these requirements, the determination of DOE shall become final. If an applicant files an appeal on a timely basis in accordance with these requirements, the decision and order of the Office of Hearings and Appeals shall be final. If the Office of Hearings and Appeals determines that payment is required, the Director of the Office of Hearings and Appeals shall remand the application to the Grid Deployment Office to pay the incentive.

(c) The appeal shall contain:

1. a concise statement of the ground(s) upon which the applicant contests the written notice of DOE;
2. a copy of the DOE notice denying the application;
3. contact information (i.e., name, telephone number, mailing and e-mail addresses) for a representative able to respond to questions and provide information relevant to the appeal; and
4. any data, documentation, or other relevant information supporting a showing by the appellant that the denial of eligibility or disallowance of payment, either in whole or in part, is arbitrary and capricious.

(d) The appeal, including attachments, should be electronically filed with the Office of Hearings and Appeals (OHA), U.S. Department of Energy, at: OHA.filings@hq.doe.gov. Upon filing, OHA will confirm receipt of the appeal and assign the appeal a case number.

(e) The following matters are not subject to appeal:

1. the denial of an application on the basis of untimeliness;
2. a denial of an incentive payment based upon DOE's determination that insufficient appropriated funds are available to make payments to all eligible applicants;
3. Decision concerning a waiver request with respect to Build America, Buy America requirements.

(f) The appeal process shall proceed as follows:

1. An appeal under these procedures must be filed within ten (10) days of an applicant receiving the determination by DOE denying eligibility or a claim for payment, in whole or in part.
2. In evaluating an appeal, OHA may require the submission of additional information by the appellant regarding any statement, data, documentation, or other information included in an appeal. OHA may also solicit and accept submissions of relevant information from other sources, including DOE, provided that the appellant is afforded an opportunity to respond to all such submissions. OHA may, on its own initiative, convene a conference or hearing if, in its discretion, it considers that such conference or hearing will advance its evaluation of the appeal. OHA will determine the scope and format of any conference or hearing convened under these procedures, as well as the parties allowed to participate.
3. OHA may issue an order summarily dismissing an appeal if: (a) the appeal is not filed in a timely manner, unless good cause is shown; (b) the appeal is defective on its face; (c) the appellant fails to provide additional information requested by OHA within the time specified by OHA; or (d) for any other reason that the appeal would be subject to dismissal under the OHA procedural regulations codified at 10 C.F.R. Part 1003.

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Oct 04 2023

4. OHA will provide DOE with the opportunity to submit a written response to an appeal within a period of time specified by OHA. OHA will provide the appellant with a copy of DOE's response and allow the appellant to submit a reply within a period of time specified by OHA.
5. Within thirty (30) days of receiving all required information, including additional information requested by OHA subsequent to the submission of the appeal, OHA shall issue a written decision granting or denying the appeal, in whole or in part. The decision shall include a written statement setting forth the relevant facts and basis for the determination. Upon issuance, OHA shall serve an electronic version of the decision upon the appellant and the DOE Grid Deployment Office. The decision will also be published on the OHA website: http://www.energy.gov/oha. The decision of OHA shall constitute the final agency action and the appellant's final right of administrative review under the Grid Deployment Office's Hydroelectric Incentive Program.
6. All expenses incurred by the appellant in pursuing any appeal before OHA shall be borne exclusively by the appellant.

XII. Appendix

To expedite application review and processing, it is recommended that all submitted materials are named and/or internally labelled such that it is clear which application requirement(s) each piece of information is intended to address. The information below provides a suggested approach to this process for applicants. Use of this suggested approach is voluntary.

It is recommended all submitted file names begin with an Identifier as shown in the table below. The Identifier should consist of a single word that describes the hydroelectric facility. For example, an applicant could combine the name of the hydroelectric facility with its location into one word.

Some application requirements have been grouped together into single files. These files are signified by color coded rows as shown in the table below. For example, the "Name of the hydroelectric facility or other official designation" and the "Name, mailing address, telephone number, and email address of a point of contact" can be submitted in a single file named "Identifier_General_Information." When multiple application requirements are submitted within in a single file, it is recommended that the applicant label each component's location within the file.

Application Requirement	Suggested File Format	Page Limit	Suggested File Name	Location reference in Guidance
Name of the hydroelectric facility or other official designation	PDF	n/a	Identifier_General_Information	VI. (b) (1)
Name, mailing address, telephone number, and email				VI. (b) (2)

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Oct 04 2023

address of a point of contact				
Name of the owner of the hydroelectric facility	PDF	n/a	Identifier_General_Information	VI. (b) (3)
Location and physical address of the hydroelectric facility				VI. (b) (4)
Year the facility began commercial operation				VI. (b) (6) b.
Number of hydroelectric units that are part of the facility and the nameplate capacity of each hydroelectric unit				VI. (b) (6) c.
Operating range of each hydroelectric unit				VI. (b) (6) d.
Statement on whether the Build America, Buy America requirements apply to the project and the impact				VI. (b) (7) n.
Acknowledgment that the applicant will comply with all of the Davis-Bacon Act requirements as outlined in Section X (B) of this Guidance				VI. (b) (7) o.
Tax identification number				VI. (b) (9)
Unique Entity Identifier (UEI) number created in SAM.gov				VI. (b) (10)
Statement noting the application is	PDF	n/a	Identifier_Small_Project_Statement	VI. (b) (5)

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Oct 04 2023

requesting funding as a small project				
Proof of authorization to operate	PDF	n/a	Identifier_Authorization_To_Operate	VI. (b) (6) a.
Annual generation data	PDF or MS Excel	n/a	Identifier_Generation_Data	VI. (b) (6) e.
Investment justification of efficiency improvement(s)	PDF & MS Excel for any calculations	n/a	Identifier_Narrative	VI. (b) (7) a. i.
Stamped documentation that quantitatively demonstrate the efficiency improvement in the hydroelectric facility due to the capital improvement(s)	PDF & MS Excel	n/a	Identifier_Stamped_Documentation	VI. (b) (7) a. ii. Or VI. (b) (7) b.
Supporting manufacturer documentation	PDF	n/a	Identifier_Manufacturer_ Documentation	VI. (b) (7) a. iii.
Documentation demonstrating that the capital improvement(s) will increase efficiency or generation at the hydroelectric facility beyond original specifications	PDF or MS Excel for any calculation	n/a	Identifier_Efficiency_Beyond_ Documentation	VI. (b) (7) c.
Project work plan	PDF	n/a	Identifier_Project_Plan	VI. (b) (7) d.
Written narrative describing and, where possible, identifying potential areas of risk in the project work plan or other sources of risk associated with the capital improvement				VI. (b) (7) e.

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Oct 04 2023

Project timeline	PDF	n/a	Identifier_Project_Plan	VI. (b) (7) f.
Monitoring plan				VI. (b) (7) g.
Cybersecurity plan	PDF	n/a	Identifier_Cybersecurity_Plan	VI. (b) (7) h.
Project budget	MS Excel	n/a	Identifier_Project_Budget_And_Costs	VI. (b) (7) i.
Itemized list of expected or actual capital costs for the capital improvement and documentation of the stated costs				VI. (b) (7) j.
Documentation from FERC or other applicable federal agencies demonstrating authorization to implement the capital improvement(s)	PDF	n/a	Identifier_Authorization_And_ Compliance	VI. (b) (7) k.
Documentation from FERC or other applicable federal agencies demonstrating compliance with the National Environmental Policy Act of 1969 (NEPA)				VI. (b) (7) l.
Documentation demonstrating compliance with Section 106 of the National Historic Preservation Act of 1966				VI. (b) (7) m.
Summary or abstract document for public release	PDF	1	Identifier_Abstract	VI. (b) (8)
Summary slide of the proposed capital	MS PowerPoint	1	Identifier_Slide	VI. (b) (8)

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Oct 04 2023

and efficiency improvement(s)				
Statement indicating that the applicant is the owner or authorized operator of the hydroelectric facility	PDF	n/a	Identifier_Owner_Statement	VI. (b) (11)
Statement signed by an authorized executive official certifying application's accuracy	PDF	n/a	Identifier_Executive_Authorization	VI. (b) (12)
Community Benefits Plan	PDF	12	Identifier_Community_Benefits_Plan	VI. (b) (13)

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Oct 04 2023

June 13, 2023 - Modifications 0001-0007

Application Guidance for the Maintaining and Enhancing Hydroelectricity Incentives – Section 247 of the Energy Policy Act of 2005 (EPAct 2005)

June 13, 2023

On May 8, 2023, the U.S. Department of Energy (DOE) released application guidance and opened the 2023 application period. The application guidance described the application process and the information necessary for the Secretary of Energy to make incentive payments to owners and authorized operators of qualified hydroelectric facilities pursuant to Section 247 of the Energy Policy Act of 2005 (EPAct 2005), Maintaining and Enhancing Hydroelectricity Incentives, as amended by Section 40333 of the Infrastructure Investment and Jobs Act of 2021 (IIJA), Pub. L. No. 117-58.

Since the May 8 release, DOE has made seven modifications to the guidance (see below). Most notably, DOE has clarified the timeline for the start and completion of projects. Specifically, the application guidance now states that projects should be started and completed within 3 years after projects are selected for an incentive payment.

Dates: DOE will accept Letters of Intent (LOI) for a 45-day period starting May 8, 2023, through 5:00 p.m. ET, June 22, 2023.
Full applications will be accepted for a 105-day application period starting June 23, 2023, through 5:00 p.m. ET, October 6, 2023.

To be eligible to file a full application, prospective applicants must first file a Letter of Intent. Failure to file an LOI or application by the DOE-established deadline for the LOI phase or full application phase shall disqualify the owner or authorized operator from eligibility for an incentive payment in that application period.

Addresses: Interested parties are to submit the Letter of Intent and full application electronically to the Clean Energy Infrastructure Funding Opportunity eXCHANGE, located at https://infrastructure-exchange.energy.gov/.
The guidance is available via the Grid Deployment Office website https://www.energy.gov/gdo/section-247-maintaining-and-enhancing-hydroelectricity-incentives.

For Further Information Contact: Questions may be addressed to Ms. Luciana Ciocci, U.S. Department of Energy, Grid Deployment Office, 1000 Independence Ave., S.W., Washington, D.C., 20585, or by email

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Oct 04 2023

at hydroelectricincentives@hq.doe.gov. Electronic communications are recommended for correspondence.

Modifications

All modifications to the application guidance document are [HIGHLIGHTED] in the body of the document.

Mod. No.	Date	Description of Modification
0001	6/13/2023	1. Updated the definition of Application period.
0002	6/13/2023	2. Clarified general application requirements.
0003	6/13/2023	3. Updated link to the Community Benefits Plan Objectives Summary.
0004	6/13/2023	4. Corrected Fair Dam Score to reflect the Category 2: Dam Safety table.
0005	6/13/2023	5. Clarified timeline for project start and completion
0006	6/13/2023	6. Clarified procedures for processing applications.
0007	6/13/2023	7. Addition of FAQ related to project start and completion.

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Oct 04 2023

U.S. Department of Energy Grid Deployment Office Guidance on Implementing Section 40333 of the Infrastructure Investment and Jobs Act of 2021: Maintaining and Enhancing Hydroelectricity Incentives

June 13, 2023

Contents

I. Purpose and Scope 1
II. Authority 2
III. List of Definitions 2
IV. Who may apply? 7
V. What is a qualified hydroelectric facility? 7
VI. How will DOE allocate funding for eligible capital improvement projects? 7
VII. At what stage in the development process would a capital improvement project be eligible to apply for an incentive payment? 7
VIII. What are the general application requirements? 8
IX. What types of capital improvement projects qualify for incentive payments and what information does DOE need to determine whether a project is eligible? 14
Category 1: Improving Grid Resiliency 15
Category 2: Improving Dam Safety 18
Category 3: Environmental Improvements 21
X. What is the timing of incentive payments? 24
XI. What are the procedures for processing applications? 25
XII. FAQ 26
XIII. Funding Restrictions 28
XIV. Administrative Appeals 34
XV. Appendix: Recommended Application Documentation Naming Convention 37
Documentation required for all applications 37
Documentation required for each subcategory 39

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Oct 04 2023

I. Purpose and Scope

This Guidance, prepared by the U.S. Department of Energy (DOE) Grid Deployment Office's (GDO) Hydroelectric Incentives Program, describes the application process and the information necessary for the Secretary of Energy to make incentive payments to owners and authorized operators of qualified hydroelectric facilities pursuant to Section 247 of the Energy Policy Act of 2005 (EPAct 2005), Maintaining and Enhancing Hydroelectricity Incentives, as amended by Section 40333 of the Infrastructure Investment and Jobs Act of 2021 (IIJA), Pub. L. No. 117-58.[1]

The provision requires the Secretary to make incentive payments to the owner or authorized operator of a qualified hydroelectric facility, subject to the availability of appropriations, for capital improvements directly related to improving grid resilience (including the addition of energy storage such as reservoir capacity, pumped storage hydropower, and batteries) and dam safety and related to environmental improvements. Incentive payments may only be made upon receipt by the Secretary of an incentive payment application that demonstrates that the applicant is eligible to receive such payment and satisfies the other requirements as deemed necessary.

Limitations for the incentive payments include:

(1) Incentive payments shall not exceed 30% of the costs of the applicable capital improvement(s).

(2) Not more than one incentive payment may be made to a single qualified hydroelectric facility in any fiscal year, the amount of which shall not exceed $5,000,000.

All developments within an individual Federal Energy Regulatory Commission (FERC)-licensed hydroelectric project will be treated as a single hydroelectric facility and may receive one incentive payment subject to the above limitations per fiscal year.

Any determinations made under EPAct 2005 Section 247 with regard to an incentive payment are not subject to the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, 2 C.F.R. Parts 200 and 910, or to the Financial Assistance Rules, 10 C.F.R. Part 600. Any incentive payment in connection with Section 247 shall be considered a benefit.

As part of this Guidance, DOE intends to allocate up to 25% of the funding for Small projects, defined as hydropower projects that have a nameplate capacity of less than 10 MW and are owned by small businesses, municipal entities (including electric cooperatives), nonprofit organizations or Indian Tribes. Small hydropower projects owned by small businesses, municipal entities, nonprofit organizations, and/or Indian Tribes often have fewer financial resources than larger hydropower facilities or hydropower facilities owned by larger corporations and are more likely to decommission hydropower projects because of economic uncertainties associated with relicensing and maintenance of these facilities.[2] As a result, projects to maintain and enhance hydropower at these smaller facilities often face financial barriers relative to larger hydropower facilities and may need additional time or support. In

[1] Section 40333 of the Infrastructure and Jobs Act of 2021 appropriated $553,600,000 until expended for EPAct 2005 Section 247: Maintaining and Enhancing Hydroelectricity Incentives.
[2] A 2022 hydropower industry owners survey found that 71.4% municipal owned electric utilities and 25% of rural cooperative electric utilities were actively considering decommissioning existing hydropower facilities. Ear to the River Final Report, available at: https://info.kleinschmidtgroup.com/eartotheriver-results.

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Oct 04 2023

recognition of this challenge, DOE intends to set aside up to 25% of the funding under this Guidance for Small projects.

In keeping with the administration's goals, and as a federal agency whose mission includes strengthening our nation's energy prosperity, DOE seeks eligible projects that not only contribute to the country's energy technology and climate goals but also promote the following goals: (1) create good-paying, high-quality, local jobs; (2) advance diversity, equity, inclusion, and accessibility for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality; (3) support meaningful community and labor engagement; and (4) contribute to the goal that 40% of the overall benefits from certain federal investments flow to disadvantaged communities (the Justice40 Initiative).[3]

DOE intends to expend all available funds for eligible projects through at least one solicitation. In the event of oversubscription, meaning the amount of incentives requested in eligible applications exceeds the funding appropriated, DOE will maximize the positive impacts of funding to the U.S. hydropower fleet by prioritizing funding based on specific project criteria, as described in Sections VIII, IX, and XI of this Guidance.

This Guidance may be revised in the future or codified through rulemaking.

II. Authority

Through the IIJA, Congress amended EPAct 2005 and established Section 247 to incentivize owners or operators of qualified hydroelectric facilities to make capital improvements related to improving grid resiliency and dam safety and related to environmental improvements.[4]

III. List of Definitions

The following terms apply exclusively to GDO's Maintaining and Enhancing Hydroelectricity Incentives:

Ancillary services refer to the six services called out in FERC Order 888,[5] black-start capabilities, and those referenced in FERC's more recent staff paper, Docket No. AD21-10-000.[6] The six Order 888 services are: (1) Scheduling, System Control, and Dispatch Service; (2) Reactive Supply and Voltage Control Service; (3) Regulation (Regulation Service) and Frequency Response Service; (4) Energy Imbalance Service; (5) Operating Reserve–Spinning Reserve Service (Spinning Reserve Service); and (6) Operating Reserve–Supplemental Reserve Service (Supplemental Reserve Service). The new services in the staff paper are flexibility and ramping products, which are designed to help manage the changing system needs and reduce out-of-market actions by operators associated with integrating increased amounts of variable renewable energy. Each of these services is defined in more detail below.

[3] The Justice40 initiative, created by Executive Order 14008, establishes a goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities.
[4] 42 U.S.C. § 15883; Pub. L. No. 117-58, § 40333.
[5] Available at: https://www.ferc.gov/industries-data/electric/industry-activities/open-access-transmission-tariff-oatt-reform/history-oatt-reform/order-no-888
[6] Available at: https://www.ferc.gov/sites/default/files/2021-09/20210907-4002_Energy%20and%20Ancillary%20Services%20Markets_2021_0.pdf

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Oct 04 2023

Application period means the period announced by DOE during which DOE will accept full applications.

Appurtenant structures are ancillary features of a dam such as inlet and outlet works, spillways, tunnels, or power plants.

Black-start capability means the capability of generating units to start without an outside electrical supply or the demonstrated ability of a generating unit to automatically remain operating at reduced levels when disconnected from the grid.

Calendar year means a period beginning January 1 and ending December 31.

Capital improvement project means the construction, addition, improvement, modification, replacement, rearrangement, reinstallation, renovation, or alteration of tangible assets, such as real property, buildings (facilities), equipment, and intellectual property (including software) used in hydroelectric operations that have a useful life of more than one year, which are capitalized in accordance with generally accepted accounting principles, and as further outlined below.

Common reliability metrics means metrics that are used to quantify the frequency of outages, including but not limited to the System Average Interruption Frequency Index.

Dam safety condition classification is used by the National Inventory of Dams for the Dam Condition Assessment. These terms are defined by the Bureau of Reclamation and categorize the condition of a dam as one of the following:

- Satisfactory – No existing or potential dam safety deficiencies are recognized. Safe performance is expected under all anticipated conditions.
- Fair – No existing dam safety deficiencies are recognized for normal loading conditions. Infrequent hydrologic or seismic events would probably result in a dam safety deficiency.
- Poor – A potential dam safety deficiency is clearly recognized for normal loading conditions. Immediate actions to resolve the deficiency are recommended; reservoir restrictions may be necessary until resolution of the problem.
- Unsatisfactory – A dam safety deficiency exists for normal loading conditions. Immediate remedial action is required for resolution of the problem.

Disadvantaged communities refer to communities as defined by the DOE pursuant to E.O. 14008, the Office of Management and Budget's Interim Justice40 Implementation Guidance M-21-28, and Addendum M-23-09. DOE recognizes disadvantaged communities as defined and identified by the Climate and Economic Justice Screening Tool | U.S. Climate Resilience Tool.

DOE means the U.S. Department of Energy.

Electric cooperative means a cooperatively owned electric utility.

Electric grid means an interconnected and contiguous network where robust transmission and generation assets are connected to a regional distribution system for the purpose of delivering electricity from producers to consumers. It consists of power stations, electrical substations, transmission, and power distribution assets.

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Oct 04 2023

Electric utility means a person or federal or state agency that sells electric energy.

Energy Imbalance Service: Energy Imbalance Service is provided when a difference occurs between the scheduled and actual delivery of energy to a load located within a control area over a single hour. The transmission provider must offer this service when the transmission service is used to serve load within its control area.

Erosion repairs are repairs performed for locations where the surfaces (banks, streambeds, embankments, or other surfaces) are worn away by floods, waves, wind, or any other natural processes.

Exemption from licensing means a small hydroelectric power project or a small conduit hydroelectric facility as defined by 18 C.F.R. § 4.30.

FERC means the Federal Energy Regulatory Commission.

FERC-licensed project boundary means those lands necessary for operation and maintenance of the project and for other project purposes, such as recreation, shoreline control, or protection of environmental resources in accordance with 18 C.F.R. § 4.41(h)(2) (Exhibit G).

Firm capacity refers to capacity that is available under a specified time of adverse condition. This capacity can be provided by generation or storage (e.g., reservoir capacity, battery storage, or pumped storage hydropower). Note that firm capacity needs and its definition typically vary by region, generation type, and, in the case of storage, duration.

Fiscal year means the period beginning October 1 and ending September 30.

Flexibility reserves supply energy in real-time operation to help satisfy variable renewable energy-related energy imbalance and ramping requirements. Product names vary by region and include but may not be limited to Up-Ramp Capability, Down-Ramp Capability, Flexible Ramping Reserves, Up Ramp and Down Ramp, and Short-Term Reserves.

Future hydrologic conditions are potential variations in the magnitude, duration, timing, frequency, or rate of change of natural water flow.

Hazard potential means the possible adverse incremental consequences that result from the release of water or stored contents due to failure of the dam or misoperation of the dam or appurtenances.

Hazard potential classification is the Federal Emergency Management Agency (FEMA) and Interagency Committee on Dam Safety (ICODS) system adopted in 2004 that categorizes dams according to the degree of adverse incremental consequences of a failure or misoperation of a dam. The hazard potential classification does not reflect in any way on the current condition of the dam (e.g., safety, structural integrity, flood routing capacity). FEMA defines low, significant, and high hazard dams, which are defined below. The California Natural Resources Agency Division of Safety of Dams creates an "extremely high" classification. This Guidance uses both of these hazard potential classification systems, including:

- Extremely High – Generally identifies dams expected to cause an inundation area with a population of 1,000 or more persons, or the inundation of facilities or infrastructure which poses a significant threat to public safety.

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Oct 04 2023

- High – Failure or misoperation will probably cause loss of human life.
- Significant – Failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, or disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.
- Low – Results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property. Ensure acceptable performance under all loading conditions.

Incentive payment means the payment that a qualified hydroelectric facility owner or authorized operator may receive, subject to congressional appropriations, upon successfully proving eligibility under this Guidance. Incentive payment shall not exceed the statutory limit established in 42 U.S.C. § 15883 per qualified hydroelectric facility per calendar year and may be adjusted if appropriated funds are insufficient to make full payments to all qualified hydroelectric facilities.

Incentive payment application means an application for an incentive payment for a qualified hydroelectric facility that is submitted during the application period. Applications for incentive payments must be properly completed and submitted to DOE by the deadline for application submissions announced by DOE.

Indian Tribe means any Indian Tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians as defined in 25 U.S.C. § 5304(e).

Inundation area is the area that would be affected by flooding from an uncontrolled release of a dam's reservoir.

Nonprofit organization means a tax-exempt organization or enterprise that does not operate for profits for its owners.

Municipality means a city, county, irrigation district, drainage district, or other political subdivision or agency of a state competent under the laws thereof to carry on the business of developing, transmitting, utilizing, or distributing power.

Operating Reserve–Spinning Reserve Service (Spinning Reserve Service) is needed to serve load immediately in the event of a system contingency. Spinning Reserve Service may be provided by generating units that are on-line and loaded at less than maximum output and by non-generation resources capable of providing this service. The transmission provider must offer this service when the transmission service is used to serve load within its control area.

Operating Reserve–Supplemental Reserve Service (Supplemental Reserve Service) is needed to serve load in the event of a system contingency; however, it is not available immediately to serve load but rather within a short period of time. Supplemental Reserve Service may be provided by generating units that are on-line but unloaded, by quick-start generation, or by interruptible load or other non-generation

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Oct 04 2023

resources capable of providing this service. The transmission provider must offer this service when the transmission service is used to serve load within its control area.

Reactive Supply and Voltage Control Service: In order to maintain transmission voltages on the transmission provider's transmission facilities within acceptable limits, generation facilities and non-generation resources capable of providing this service that are under the control of the control area operator are operated to produce (or absorb) reactive power.

Regulation (Regulation Service) and Frequency Response Service is necessary to provide for the continuous balancing of resources (generation and interchange) with load and for maintaining scheduled interconnection frequency at 60 cycles per second (60 Hz). Regulation and Frequency Response Service is accomplished by committing on-line generation for which the output is raised or lowered (predominantly through the use of automatic generating control equipment) and by other non-generation resources capable of providing this service as necessary to follow the moment-by-moment changes in load.

Reliability assessment is an independent evaluation and reporting of the overall reliability, adequacy, and associated risks that could negatively impact the grid operation. Examples are the North American Electric Reliability Corporation's (NERC's) summer, winter, and long-term reliability assessments.

Scheduling, System Control, and Dispatch Service is required to schedule the movement of power through, out of, within, or into a control area. This service can be provided only by the operator of the control area in which the transmission facilities used for transmission service are located.

Secretary means the Secretary of the U.S. Department of Energy, or such officers or employees of the U.S. Department of Energy as designated by the Secretary of the U.S. Department of Energy.

Seepage means the infiltration and internal movement of water through a dam, a dam's foundation, or a reservoir area, including abutments.

Small business means (1) a business organized for profit, with a place of business located in the United States (2) that is more than 50% owned and controlled by one or more individuals who are citizens or permanent resident aliens of the United States, or by other small-business concerns that are each more than 50% owned and controlled by one or more individuals who are citizens or permanent resident aliens of the United States and (3) has no more than 500 employees, including affiliates.

Small project means a qualified hydroelectric facility with a nameplate capacity of 10 MW or less that is owned or operated by a small business, Indian Tribe, municipality, nonprofit organization, or electric cooperative.

Species of conservation concern means species that (1) are designated as federally threatened or endangered by the Endangered Species Act per 16 U.S.C. § 1531 et seq.; (2) have a NatureServe Conservation Status of S1 (Critically Imperiled), S2 (Imperiled), or S3 (Vulnerable); (3) are included as a species of concern in a comprehensive plan applicable to the hydropower facility where the improvement will occur; or (4) are culturally significant to Indian Tribes.

Stamped documents means documents that have been certified by an appropriately licensed professional engineer.

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Oct 04 2023

State means the District of Columbia, Puerto Rico, and any of the states, commonwealths, territories, and possessions of the United States.

Watershed means the geographical area drained by a river or river system or a portion thereof.

Watershed-scale benefits means benefits from a capital improvement that extend beyond a hydroelectric facility's boundary to achieve broad, positive impacts to more than a single reach, stream, or river.

IV. Who may apply?

An owner or authorized operator of an existing facility that is licensed or has received an exemption from licensing from FERC pursuant to the Federal Power Act (16 U.S.C. 791a et seq.) or is a hydroelectric project constructed, operated, or maintained pursuant to a permit or valid existing right-of-way granted prior to June 10, 1920, or a license granted pursuant to the Federal Power Act prior to November 15, 2021, may apply for incentive payments for maintaining and enhancing its facility.

V. What is a qualified hydroelectric facility?

A qualified hydroelectric facility:

(a) Is licensed by FERC or is a hydroelectric project constructed, operated, or maintained pursuant to a permit or valid existing right-of-way granted prior to June 10, 1920, or a license granted pursuant to the Federal Power Act (16 U.S.C. 791a et seq.), or has a FERC-issued exemption;

(b) Was placed into service before November 15, 2021; and

(c) Is in compliance with all applicable Federal, State, and Tribal requirements, or would be brought into compliance with all applicable Federal, State, and Tribal requirements as a result of the capital improvements carried out using an incentive payment under this section.

VI. How will DOE allocate funding for eligible capital improvement projects?

(a) If adequate appropriated funds are available, DOE will fund all qualified capital improvement projects at the limits set forth in Section 247 (30% of total project costs, not to exceed $5,000,000). In addition, DOE may allocate funding as follows:

(1) Up to 25% of the appropriated funds may be allocated for Small projects, as defined in Section III; and

(2) The remaining appropriated funds may be made available to eligible qualified hydroelectric facilities that do not meet the criteria described for Small projects.

(b) In the event that the incentive program is oversubscribed, DOE will allocate appropriated funding according to the procedures outlined in Section XI (a)(6) of this Guidance.

VII. At what stage in the development process would a capital improvement project be eligible to apply for an incentive payment?

An owner or authorized operator of a qualified hydropower project is eligible to apply for an incentive payment after they have applied for (or the have already received) all Federal, State, and/or Tribal authorizations including but not limited to the National Environmental Policy Act of 1969 (NEPA) and

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Oct 04 2023

National Historic Preservation Act of 1966 (NHPA). Where authorizations have not yet been obtained, any awards would be conditioned upon successful completion of permitting. If the FERC process results in modifications of the proposed capital improvement that significantly change the outcomes or benefits described in the application, recipients may be required to submit a revised application subject to further review and/or denial or reduction of payment. If this situation results in unallocated funds, funding may be distributed to the highest ranked unfunded project within the same subcategory or reserved for a future funding solicitation.

For projects determined by DOE to need additional NEPA review, the recipient must be prepared to support DOE in the completion of the NEPA review process (e.g., biological evaluations, reviews under the National Historic Preservation Act, environmental assessments) prior to receiving an incentive payment). The recipient may be required to prepare the records, and the costs to prepare the necessary records may be included as part of the project costs.

An eligible capital improvement project at a qualified hydroelectric facility may apply for an incentive payment for any materials procured or other costs incurred toward this project after November 15, 2021.

VIII. What are the general application requirements?

(a) When and how to apply:

(1) To be eligible to file a full application, prospective applicants must first file a Letter of Intent (LOI). The LOI must include the following information:

(i) The name of the hydroelectric facility or other official designation.

(ii) The name, mailing address, telephone number, and email address of a point of contact.

(iii) A short (less than 200 words) description of the capital improvement project.

(iv) If applicable, a clear statement noting the application is requesting funding as a Small project as defined in Section III of the Guidance.

(v) A clear statement designating one category for which the applicant seeks funding for the capital improvement project (i.e., improving grid resiliency, improving dam safety, or environmental improvements).

(vi) Documentation relating to the capital improvement project, including:

a. A description of the current status of the capital improvement project and the expected remaining steps in planning, developing, or constructing the project.

b. If the capital improvement project is not complete, the current status of FERC authorization for the project, including status of any filed applications and associated NEPA compliance.

(vii) Expected or actual total capital costs for the capital improvement and the amount of requested incentive payment.

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Oct 04 2023

(2) DOE will accept Letters of Intent for a 45-day window/period. Full applications will be accepted throughout a 105-day application window/period. Interested parties are to submit the Letter of Intent electronically to the Clean Energy Infrastructure Funding Opportunity eXCHANGE, located at https://infrastructure-exchange.energy.gov/. Questions may be addressed to Ms. Luciana Ciocci, U.S. Department of Energy, Grid Deployment Office, 1000 Independence Ave., S.W., Washington, D.C., 20585, or by email at hydroelectricincentives@hq.doe.gov. Electronic communications are recommended for correspondence.

(3) Applicants may file one or more applications during the application period, but total funding per hydroelectric facility may not exceed $5,000,000. Capital improvements that occur across multiple categories or subcategories, for grid resiliency or environmental improvements as detailed in Section VIII(b)(7), must be filed in separate applications, even if the improvements occur at the same facility.

(4) Failure to file an LOI by the DOE-established deadline for the LOI phase or by the established deadline for a full application shall disqualify the owner or authorized operator from eligibility for an incentive payment in that application period.

(5) Applications for incentive payments must be properly completed and submitted to DOE before the close of the application period. Applications filed outside of the application period will not be accepted.

(i) Each application must include all of the information set forth in Section VIII(b) and IX (as applicable). Applicants are required to submit new application materials with each application period.

(b) A full application for an incentive payment must include:

(1) The name of the hydroelectric facility or other official designation.

(2) The name, mailing address, telephone number, and email address of a point of contact to respond to questions or requests for additional information, and for notification of eligibility determination.

(3) The name of the owner of the hydroelectric generation facility.

(4) The location and physical address of the hydroelectric generation facility, including nine-digit ZIP code.

(5) A description of the hydroelectric generation facility, including FERC license or exemption type and docket number and the year the facility began commercial operation.

(6) If applicable, a clear statement noting the application is requesting funding as a Small project as defined in Section III of the Guidance.

Applications submitted for Small projects must include documentation confirming eligibility as a small business, Indian Tribe, municipality, or electric cooperative, as defined in Section III.

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Oct 04 2023

(7) A clear statement designating one category for which the applicant seeks funding for the capital improvement project (i.e., improving grid resiliency, improving dam safety, or environmental improvements), as well as a subcategory (if within improving grid resiliency or environment improvements), for which the applicant seeks funding, as described in Section IX of this Guidance. The statement must include a written narrative documenting how the capital improvement(s) are consistent with the designated category and subcategory.

(8) Documentation relating to the existing conditions and the capital improvement at the hydroelectric generation facility, including:

(i) A detailed, written narrative describing the capital improvement project at the hydroelectric generation facility, the need or rationale for the project, and the expected outcomes or benefits of the project

(ii) If the hydroelectric facility is not in compliance with all applicable Federal, State, and/or Tribal requirements, include a short narrative explaining why the facility is out of compliance and provide the following additional information:

a. Documentation from the appropriate Federal, State, and/or Tribal entity confirming the noncompliance

b. Description for how the capital improvement is expected to bring the facility back into compliance

c. Documentation from the appropriate Federal, State, and/or Tribal entity that the capital improvement, when implemented, will bring the facility into compliance. A project work plan describing the current status of the capital improvement project and the expected remaining steps in planning, developing, or constructing the project.

(iii) A written narrative describing and, where possible, identifying potential areas of risk in the project work plan or other sources of risk associated with the capital improvement (e.g., project completion schedule, procuring materials and equipment, deployment of new technologies).

(iv) A project timeline summarizing the major steps/milestones described in the capital improvement project work plan and Community Benefits Plan in Section VIII(b)(13).

(v) Any monitoring plans, required through the FERC regulatory process or otherwise, that will document the effectiveness of the capital improvement project.

(vi) A project budget summarizing:

a. The total cost of the capital of the capital improvement(s);

b. The major cost categories of the capital improvement(s);

c. The total amount of incentive payment requested; and

d. Any other federal funding sources used to support the project.

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Oct 04 2023

(vii) A detailed itemized list of expected or actual capital costs for the capital improvement and documentation of the stated costs including but not limited to, as applicable, price estimates, vendor quotes, statements, invoices, or bills of sale for the capital improvement being applied for.

(viii) If applicable, documentation of FERC authorization of the capital improvement project, or if an amendment to the license is required, proof that a final application for authorization has been filed with FERC.

(ix) If applicable, a request for a DOE NEPA determination as described in Section VII.

(x) If applicable, documentation demonstrating compliance with Section 106 of the National Historic Preservation Act of 1966 has been completed or is currently ongoing as described in Section VII.

(xi) If the project affects Indian Tribes, evidence to support that the project does not disturb, desecrate, or otherwise impair the integrity of a sacred site or Tribal cultural property of an Indian Tribe. Supporting documentation from an Indian Tribe potentially impacted by the capital improvement project is encouraged.

(xii) All information or documentation required in Section IX of this Guidance for the category and subcategory designated in Section VIII(b)(7).

(xiii) With respect to the funding restrictions outlined in Section XIII of this Guidance:

a. A statement on whether Build America, Buy America requirements apply to the project and the impact, if any, this requirement may have on the project's budget. If an applicant is seeking a waiver of the Build America, Buy America requirements, a written waiver request that includes all of the information outlined in Section XIII(a) of this Guidance.

b. Acknowledgment that the applicant will comply with all of the Davis-Bacon Act requirements as outlined in Section XIII(b) of this Guidance.

(9) A tax identification number of the hydroelectric generation facility.

(10) The creation or update of a Federal System for Award Management (SAM) account is required and confirmed with the assignment of a Unique Entity Identifier (UEI) number created in SAM.gov.

(11) A statement indicating that the applicant is the owner of the hydroelectric generation facility or is the authorized operator of the hydroelectric generation facility and has the written consent of an authorized executive official of the facility owner to file an application.

(12) A statement signed by an authorized executive official certifying that the information contained in the application is accurate.

(13) A Community Benefits Plan that demonstrates the applicant's approach to ensuring the capital improvement advances the following four goals: (1) community and labor engagement; (2) investing in the American workforce; (3) advancing diversity, equity, inclusion, and accessibility (DEIA); and (4) contributing to the Justice40 Initiative. The

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Oct 04 2023

Community Benefits Plan should be no more than 12 pages. Refer to the Community Benefits Plan Objectives Summary for additional information regarding the Community Benefits Plan.

(i) Community and Labor Engagement: The Community Benefits Plan must set forth the applicant's prior actions and future plans to engage with an inclusive collection of local stakeholders, including labor unions, local government, Tribal government, and community-based organizations that support or work with disadvantaged communities. By facilitating community input and social buy-in and strengthening accountability, such agreements may substantially reduce or eliminate certain risks associated with the capital improvement(s). Community and labor engagement should lay the groundwork for a Community Benefits Agreement. The Community Benefits Plan should illustrate project viability and social risk mitigation through the delivery of high-quality jobs, minimal environmental impact, and allocation of project benefits to disadvantaged communities. Applicants may provide letters of commitment from representative organizations reflecting substantive feedback on the applicant's approach to community benefits including the American workforce, DEIA, and the Justice40 Initiative detailed below. Community and labor engagement should ideally lay the groundwork for the eventual negotiation of Workforce and Community Agreements, which could take the form of one or more kinds of negotiated agreements with communities, labor unions, or, ideally, both. Examples include registered apprenticeship programs, labor-management training partnerships, quality pre-apprenticeship programs, card check neutrality, and local and targeted hiring goals.

(ii) Workforce Continuity and Good Jobs Plan: In the Workforce Continuity and Good Jobs Plan, please describe specific efforts to ensure a well-trained and skilled workforce will be available and engaged to complete the capital improvement(s). A Project Labor Agreement may provide sufficient detail on skill requirements and provide assurances of skilled worker availability. Unless already included in Project Labor Agreement, applicants should provide sufficient detail on the following:

a. How the applicant will ensure ready access to a sufficient supply of appropriately skilled labor to ensure high-quality construction of the capital improvement(s), including a description of any required professional certifications and/or training (in-house, apprenticeship, etc.).

b. How the applicant will minimize risks of labor disputes and disruptions that would jeopardize the timeliness and cost-effectiveness of the construction of the capital improvement(s).

c. How the applicant will provide a safe and healthy workplace that trains on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces, and avoids delays and costs associated with workplace illnesses, injuries, and fatalities, including descriptions of safety training, certification, and/or licensure requirements for all relevant workers (e.g., OSHA 10, OSHA 30).

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Oct 04 2023

d. How the construction of the capital improvement(s) prioritizes local hires, or an explanation of infeasibility.

e. Records to substantiate the information in items a–c.

f. Labor engagement: Project planning should include engagement with appropriate building and construction trades unions. Provide description of engagement and any agreements with the relevant construction trade unions plans to address skill certifications, use of registered apprentices, dispute resolution, project stabilization, and other conditions.

(iii) Diversity, Equity, Inclusion, and Accessibility (DEIA) Plan: The Community Benefits Plan must include a section describing how DEIA objectives will be incorporated into the capital improvement(s). The section should detail how the applicant will partner with underrepresented businesses, educational institutions, and training organizations that serve workers who face barriers to accessing quality jobs, and/or other project partners to help address DEIA. The following is a non-exhaustive list of potential DEIA actions that could be included in a DEIA Plan. This list is offered to provide guidance to applicants and is not intended to be comprehensive or mandatory. Note that the DEIA Plan is required separate and apart from a Justice40 Implementation Plan because the DEIA Plan is primarily internally focused on the capital improvement(s) workforce while the Justice40 Implementation Plan is primarily externally focused on the communities impacted by the hydroelectric generation facility's operations.

a. Commitment to contract with Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, and Veteran Owned Businesses.

b. To fill open positions created by the capital improvement(s), applicant partnered with workforce training organizations serving underrepresented communities and those facing systemic barriers to quality employment such as those with disabilities, returning citizens, opportunity youth, and veterans.

(iv) Justice40 Initiative: Applicants must provide an overview of benefits to disadvantaged communities that the capital improvement(s) can deliver, supported by measurable milestones. Specifically, the Justice40 Initiative section must include:

a. Identification of applicable disadvantaged communities to which the anticipated project benefits will flow.

b. Identification of applicable benefits that are quantifiable, measurable, and trackable, including, at a minimum, a discussion of the relevance of each of the eight DOE Justice40 Initiative benefits outlined below:

1. Benefits include (but are not limited to) measurable direct or indirect investments or positive project outcomes that achieve or contribute to the following in disadvantaged communities: (1) a decrease in energy burden; (2) a decrease in environmental exposure and burdens; (3) an increase in access to low-cost capital; (4) an increase in high-quality job creation, the

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Oct 04 2023

clean energy job pipeline, and job training for individuals; (5) increases in clean energy enterprise creation and contracting (e.g., minority-owned or disadvantaged business enterprises); (6) increases in energy democracy, including community ownership; (7) increased parity in clean energy technology access and adoption; and (8) an increase in energy resilience. In addition, applicants should also discuss how the capital improvement will maximize all of the benefits listed in (4) of this paragraph.

2. A description of how and when anticipated benefits are expected to flow to disadvantaged communities. For example, will the benefits be provided directly within the disadvantaged community or communities identified in the Justice40 Initiative section, or are the benefits expected to flow in another way? Further, will the benefits flow during project development or after project completion, and how will the applicant report benefits delivered?

3. A discussion of anticipated negative and cumulative environmental impacts on disadvantaged communities. Are there anticipated negative or positive environmental impacts associated with the proposed project, and how will the applicant mitigate any negative impacts? Within the context of cumulative impacts created by the capital improvement, applicants should use Environmental Protection Agency EJSCREEN tool to quantitatively discuss existing environmental impacts in the project area.

IX. What types of capital improvement projects qualify for incentive payments and what information does DOE need to determine whether a project is eligible?

DOE will evaluate each application to determine whether the project meets the criteria included in this Guidance, including (1) whether the facility meets the definition of a qualified hydroelectric facility (Section V) and (2) whether the improvement is an eligible capital improvement as defined in this section.

This section describes the type of capital improvement projects that may qualify for incentive payments as well as the specific data and information DOE needs to determine whether the project is eligible to receive payment. In addition, this section describes how the materials submitted in the application will meet the project-specific criteria used to prioritize projects in the event the program is oversubscribed.

To qualify, the applicant must demonstrate that the capital improvement project has a reasonable nexus to the operations and/or environmental impacts of the facilities in the FERC-licensed project boundary (e.g., project structures or controls) or defined boundary pursuant to a permit or valid existing right-of-way granted prior to June 10, 1920.

In accordance with EPAct 2005 Section 247, DOE will provide incentive payments for qualifying capital improvement projects that directly relate to these categories:

- Category 1: Improving grid resiliency.

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Oct 04 2023

- Category 2: Improving dam safety to ensure acceptable performance under all loading conditions (including static, hydrologic, and seismic conditions).
- Category 3: Environmental improvements.

EPAct 2005 Section 247 divides each of these qualifying categories into subcategories. This section reiterates these statutory subcategories and describes the documentation required to be provided in an application related to each category and/or subcategory, as applicable. For projects that are awarded an incentive, additional documentation noted below may be required prior to final payment. Capital improvement projects completed prior to application submittal must provide documentation required to make a final payment, as described in this section, at the time of application.

Category 1: Improving Grid Resiliency

(a) Subcategories: EPAct 2005 Section 247 identifies subcategories for capital improvement projects that directly relate to the category of improving grid resiliency to include:

(1) Adapting more quickly to changing grid conditions.

(2) Providing ancillary services (including black-start capabilities, voltage support, and spinning reserves).

(3) Integrating other variable sources of electricity generation.

(4) Managing accumulated reservoir sediments.

Capital improvement projects applying in the improving grid resiliency category must directly address one of the subcategories listed in the language above. In addition, projects within this category must also select a subcategory as specified in Section VIII(b)(7).

(b) Application documentation requirements:

In addition to the application requirements included in Section VIII of this Guidance, applications that propose capital improvement projects that improve grid resiliency must provide the following documentation, as applicable:

(1) For any capital improvement project being performed to meet requirements, stamped drawings and/or calculation sheets or a detailed project report that summarizes the deficiency and demonstrates how the improvement will address it.

(2) For capital improvement projects intended to meet Subcategories 1, 2, or 3 of improving grid resiliency:

(i) Stamped drawings, calculation sheets, or other appropriate documentation that clearly describes current conditions, the approach, and the expected or quantified outcome made through the capital improvement project.

(3) For capital improvement projects intended to meet Subcategory 4 (managing accumulated reservoir sediments) of improving grid resiliency:

(i) Describe the approach and demonstrate how the approach will help manage accumulated reservoir sediments.

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Oct 04 2023

(c) Project prioritization in the event of oversubscription:

In the event the program is oversubscribed, project prioritization will occur based on criteria specific to the category and subcategory selected in the application submission, as applicable. DOE will use the documentation submitted with the application to determine a score. Scoring is weighted toward maximizing operational flexibility, firm capacity, and ancillary services, and provides alternatives to reservoir dredging. The tables below and the following paragraphs explain the project evaluation criteria and the scoring process. In the event of a tie score between two capital improvement projects, projects will be ranked by nameplate capacity from highest to lowest.

Subcategories 1(a)1 and 1(a)3: Adapting more quickly to changing grid conditions or integrating other sources of electricity generation			Points	Total Possible Points
Operating Range (MW)	0%–5% over baseline		1	4
	5.01%–10% over baseline		2	
	10.01%–15% over baseline		3	
	>15% over baseline		4	
Flexibility (MW/min, start/stops per day)	Ramp rates (MW/min)	0%–5% over baseline	1	4
		5.01%–10% over baseline	2	
		10.01%–15% over baseline	3	
		>15% over baseline	4	
	Start/stops (per day, over baseline)		2	2
	Automation and advanced controls		2	2
Firm Capacity, including generation and energy storage (MW, MWh)	0%–5% over baseline		1	4
	5.01%–10% over baseline		2	
	10.01%–15% over baseline		3	
	>15% over baseline		4	
Grid Reliability	Addresses grid reliability needs		4	4
			Total Possible Points	20

Subcategory 1(a)2: Providing ancillary services	No	Yes	Total Possible Points
Adds or increases one service	0	2	2
Adds or increases two services	0	4	6
Adds or increases three services	0	6	12
Adds or increases four services	0	8	20

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Oct 04 2023

Total Possible Points	**20**

Subcategory 1(a)4: Managing accumulated reservoir sediments	No	Yes	Total Possible Points
Increases facility's reservoir storage capacity	0	4	4
Decreases the level of reservoir sediment at the intake	0	4	4
Provides an alternative to dredging	0	6	6
Improves downstream habitat	0	6	6
Total Possible Points			**20**

Each application submission requires supporting documentation as described in Sections VIII(b) and IX(1)(b) that are used in scoring within each subcategory. The documentation provided will be used by DOE to determine independent subcategory scores by summing the individual scores of the four criteria in each subcategory. The maximum score possible in each subcategory is **20 points**. Scores across the four subcategories in the Grid Resiliency category will be ranked.

Applications under Subcategories 1(a)1 and 1(a)3 will receive 1 point if the capital improvement increases the facility's operating range up to 5%, 2 points if the increase is between 5% and 10%, 3 points if the increase is between 10% and 15%, and 4 points if the increase is over 15%.

Applications under Subcategories 1(a)1 and 1(a)3 will receive 1 point if the capital improvement increases the facility's ramp rate up to 5%, 2 points if the increase is between 5% and 10%, 3 points if the increase is between 10% and 15%, and 4 points if the increase is over 15%. Note that firm capacity projects can include capacity upgrades and the addition of energy storage (e.g., reservoir capacity, pumped storage hydropower, or batteries).

Applications under Subcategories 1(a)1 and 1(a)3 will receive 2 points if the capital improvement increases the number of start/stops cycles that are permitted each day.

Applications under Subcategories 1(a)1 and 1(a)3 will receive 2 points if the capital improvement adds remote automation and advanced controls capabilities (i.e., adds the capability for the plant to accept and respond to remote set points).

Applications under Subcategories 1(a)1 and 1(a)3 will receive 1 point if the capital improvement increases the facility's firm capacity capability up to 5%, 2 points if the increase is between 5% and 10%, 3 points if the increase is between 10% and 15%, and 4 points if the increase is over 15%.

Applications under Subcategories 1(a)1 and 1(a)3 will receive 4 points if the capital improvement addresses reliability assessment needs as identified by a third party (e.g., NERC summer, winter, or long-term assessment).

Applications under Subcategory 1(a)2 will receive 2 points if the capital improvement adds or increases one ancillary service.

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Oct 04 2023

Applications under Subcategory 1(a)2 will receive 6 points if the capital improvement adds or increases two ancillary services.

Applications under Subcategory 1(a)2 will receive 12 points if the capital improvement adds or increases three ancillary services.

Applications under Subcategory 1(a)2 will receive 20 points if the capital improvement adds or increases four or more ancillary services.

Applications under Subcategory 1(a)4 will receive 4 points if the capital improvement increases the facility's storage capacity.

Applications under Subcategory 1(a)4 will receive 4 points if the capital improvement decreases the level of reservoir sediment at the intake.

Applications under Subcategory 1(a)4 will receive 6 points if the capital improvement provides an alternative to dredging.

Applications under Subcategory 1(a)4 will receive 6 points if the capital improvement improves downstream habitat.

(d) Final payment documentation requirements:

Prior to disbursing a final incentive payment, DOE must receive proof of completion of the project and evidence documenting the improvement. For projects completed prior to application submission, these materials must be included in the application. The following information must be provided:

(1) Statement of final completion and owner's acceptance of the work.

(2) Documentation, including supporting data or evidence to support completion of the project.

(3) Any other post-project proof of improvement related to the project determined by DOE.

(4) Paid invoices that demonstrate project costs as requested in Section VIII(b)(8)(vii).

Category 2: Improving Dam Safety

(a) Subcategories:

EPAct 2005 Section 247 identifies subcategories for capital improvement projects that improve dam safety to ensure acceptable performance under all loading conditions (including static, hydrologic, and seismic conditions) to include:

(1) The maintenance or upgrade of spillways or other appurtenant structures.

(2) Dam stability improvements, including erosion repair and enhanced seepage controls.

(3) Upgrades or replacements of floodgates or natural infrastructure restoration or protection to improve flood risk reduction.

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Applications for improving dam safety incentive payments must directly address one or more of the subcategories listed in the language above.

(b) Application documentation requirements:

In addition to the application requirements included in Section VIII of this Guidance, applications that propose capital improvement projects that improve dam safety must provide the following documentation, as applicable:

(1) Current FEMA hazard potential classification.

(2) Current dam safety condition classification.

(3) Documentation of state- or FERC-identified dam safety issues, including but not limited to state or FERC inspection reports.

(4) Dam Inundation Map with overlayed population (residences or centers)—applies to high or extremely high hazard classifications only.

(5) If applicable, narrative and supporting evidence (such as hydrologic and hydraulic modeling) describing how the capital improvement increases resiliency to future hydrologic conditions.

(6) Photographic or modeling evidence, of the dam safety risk/fault addressed by the capital improvement project, prior to project construction.

(7) If applicable, a description of how completion of the dam safety improvement will result in the facility meeting dam safety requirements.

(c) Project prioritization in the event of oversubscription:

In the event the program is oversubscribed, project prioritization will occur based on criteria specific to the category and subcategory selected in the application submission, as applicable. DOE will use the documentation submitted with the application to determine a score. Scoring is weighted toward high-hazard dams in poor or unsatisfactory condition to minimize threats to public safety. The table below and the following paragraph explains the project evaluation criteria and the scoring process for the dam safety category. In the event of a tie score between two capital improvement projects, projects will be ranked by nameplate capacity from highest to lowest.

Category 2: Dam Safety					**Total Possible Points**
Dam Safety Condition Classification	Satisfactory	Fair	Poor	Unsatisfactory	
	0	2	4	6	6
Hazard Potential Classification	Low Hazard	Significant Hazard	High Hazard	Extremely High Hazard	
	0	2	4	6	6
Project increases resiliency to	No	Yes			

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future hydrologic conditions	0	2		2
			Total Possible Points	**14**

Unlike other categories, the scoring noted above is not specific to a particular dam safety subcategory and is consistent for all dam safety applications.

Each application submission requires supporting documentation as described in Section VIII(b) and Section IX(2)(b) that are used in scoring: hazard potential classification, dam safety condition classification, and, if applicable, a narrative explaining how the capital improvement increases resiliency to future hydrologic conditions with supporting evidence/documentation. These three documents will determine three independent scores, which will be added together for the total application score. The maximum score possible in this category is **14 points**.

The hazard potential classification of the dam will identify the first score where a low-hazard dam scores 0 points, a significant-hazard dam scores 2 points, a high-hazard dam scores 4 points, and an extremely high-hazard dam scores 6 points.

The dam safety condition classification of the dam will identify the second score where a satisfactory dam scores 0 points, a fair dam scores 2 points, a poor dam scores 4 points, and an unsatisfactory dam scores 6 points.

Lastly, if the capital improvement increases the resiliency to future hydrologic conditions, it will score 2 points. If not, it will score 0 points. Improvements that increase resiliency to future hydrologic conditions are given points because such improvements may reduce the risks associated with not preparing for changes in hydrologic conditions.

(d) Final payment documentation requirements:

Prior to disbursing a final incentive payment, DOE must receive proof of completion of the project and evidence documenting the improvement. For projects completed prior to application submission, these materials must be included in the application. The following information must be provided:

(1) Statement of final completion and owner's acceptance of the work.

(2) Photographic or modeling evidence of dam safety risk/fault addressed by capital improvement project after project completion.

(3) Any post-project proof of improvement related to the project determined by DOE, for example:

(i) Updated dam inspection report.

(ii) Any reports produced by monitoring equipment to support evidence.

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(4) Documentation from FERC and/or other authorities, as applicable, stating that the project meets dam safety requirements after completion of the dam safety capital improvement project.

(5) Any other post-project proof of improvement related to the project determined by DOE.

(6) Paid invoices that demonstrate project costs as requested in Section VIII(b)(8)(vii).

Category 3: Environmental Improvements

(a) Subcategories:

EPAct 2005 Section 247 identifies the subcategories for capital improvement projects that directly relate to environmental improvements to include:

(1) Adding or improving safe and effective fish passage, including new or upgraded turbine technology, fish ladders, fishways, and all other associated technology, equipment, or other fish passage technology to a qualified hydroelectric facility.

(2) Improving the quality of the water retained or released by a qualified hydroelectric facility.

(3) Promoting downstream sediment transport processes and habitat maintenance.

(4) Improving recreational access to the project vicinity including roads, trails, boat ingress and egress, flows to improve recreation, and infrastructure that improves river recreation opportunities.

Applications for environmental improvement incentive payments must directly address one of the subcategories listed in the language above. In addition, applications in this category must also select a subcategory as specified in Section VIII(b)(7).

(b) Application documentation requirements:

In addition to the application requirements included in Section VIII of this Guidance, applications that propose capital improvement projects for environmental improvements must provide the following documentation, as applicable:

(1) Any relevant data or studies that provide support for the project.

(2) Evidence of consultation and/or engagement, completed or intended, with federal, state, or Tribal natural resource agencies.

(3) Any FERC license conditions that will be satisfied by the capital investment.

(4) If applicable, evidence to support project benefits to species of conservation concern and/or culturally significant species.

(5) If applicable, evidence to support watershed-scale project benefits.

(6) If applicable, evidence that recreational improvement(s) provide benefits to a disadvantaged community:

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(i) Applicants should use the Climate and Economic Justice Screening Tool (CEJST) to identify disadvantaged communities and submit a statement that identifies both the benefit and the benefited community.

(ii) Benefits may fall under the eight Justice40 Program policy priorities as established by DOE, pursuant to the direction provided by Executive Order 14008 as referenced in Section VIII(13)(iv)(b)(1).

(7) If applicable, evidence that demonstrates the improvements create public recreational opportunities in the vicinity of the facility *beyond those otherwise required* by resource agencies or the facility's FERC license, exemption, or other authorization.

(8) If applicable, a description of how the environmental improvement will allow the facility to meet its environmental requirements.

(c) Project prioritization in the event of oversubscription:

In the event the program is oversubscribed, project prioritization will occur based on criteria specific to the category and subcategory selected in the application submission, as applicable. DOE will use the documentation submitted with the application to determine a score. To maximize environmental benefits, scoring is weighted toward new fish passage, new improvements to water quality, improving downstream aquatic habitat, and new recreational access. Applications for capital improvements in the first three subcategories that create benefits for species of conservation concern or of cultural significance to Indian Tribes, or that create watershed-scale benefits receive a higher point weighting to reflect the importance of such improvements. Applications in the recreation subcategory that create benefits for disadvantaged communities identified by the CEJST or that create recreational access beyond agency requirements also receive a higher point weighting to reflect the additional value of the capital improvements. The tables below and the following paragraphs explain the project evaluation criteria and the scoring process for the Environmental Improvements category. In the event of a tie score between two capital improvement projects, projects will be ranked by nameplate capacity from highest to lowest.

Subcategory 3(a)1: Fish Passage	No	Yes	Total Possible Points
Improves existing fish passage and protection	0	1	1
Creates new fish passage and protection	0	2	2
Benefits species of conservation concern and/or culturally significant species	0	4	4
Provides watershed-scale benefits	0	4	4
		Total Possible Points	11

Subcategory 3(a)2: Water Quality	No	Yes	Total Possible Points
Improves existing water quality infrastructure	0	1	1
Creates new water quality infrastructure	0	2	2
Benefits species of conservation concern and/or culturally significant species	0	4	4
Provides watershed-scale benefits	0	4	4

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Total Possible Points	**11**

Subcategory 3(a)3: Sediment Transport and Habitat Maintenance	No	Yes	Total Possible Points
Improves existing sediment transport and habitat maintenance	0	1	1
Creates new sediment transport and habitat maintenance	0	2	2
Benefits species of conservation concern and/or culturally significant species	0	4	4
Provides watershed-scale benefits	0	4	4
Total Possible Points			**11**

Subcategory 3(a)4: Recreation	No	Yes	Total Possible Points
Improves existing recreational access	0	1	1
Creates new recreational access	0	2	2
Benefits a disadvantaged community	0	4	4
Creates public recreational opportunities beyond those otherwise required by resource agencies or the facility's FERC license, exemption, water quality certificate, or other authorization	0	4	4
Total Possible Points			**11**

Each application submission requires supporting documentation as described in Section VIII(b) and Section IX(3)(b) that are used in scoring within each subcategory. The documentation provided will be used by DOE to determine independent subcategory scores by summing the individual scores of the four criteria in each subcategory. The maximum score possible in each subcategory is **11 points**. Scores across the four subcategories in the Environmental Improvements category will be ranked.

Applications will receive 1 point if the capital improvement improves existing infrastructure or recreation access (e.g., through repair or alteration of existing structures or equipment).

Applications will receive 2 points if the capital improvement creates new infrastructure or recreation access (e.g., through the construction or installation of new structures, equipment or recreational access, or the full replacement of previously existing structure, equipment, or recreational access).

Applications under Subcategories 3(a)1, 3(a)2, and 3(a)3 will receive 4 points if the capital improvement provides benefits to species of conservation concern and/or culturally significant species.

Applications under Subcategories 3(a)1, 3(a)2, and 3(a)3 will receive 4 points if the capital improvement provides watershed-scale benefits.

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Applications under Subcategory 3(a)4 will receive 4 points if the capital improvement benefits a disadvantaged community.

Applications under subcategory 3(a)4 will receive 4 points if the capital improvement creates recreational opportunities beyond those otherwise required by resource agencies or the facility's FERC license, exemption, or other authorization.

(d) Final payment documentation requirements:

Prior to disbursing a final incentive payment, DOE must receive proof of completion of the project and evidence documenting the improvement. For projects completed prior to application submission, these materials must be included in the application. The following information must be provided:

(1) Statement of final completion and owner's acceptance of the work.

(2) Documentation, including supporting data or evidence to support completion of the project.

(3) If applicable, documentation from FERC and/or other authorities, as applicable, stating that the project meets environmental requirements after completion of the capital improvement project.

(4) Any other post-project proof of improvement related to the project determined by DOE.

(5) Paid invoices that demonstrate project costs as requested in Section VIII(b)(8)(vii).

X. What is the timing of incentive payments?

Upon a DOE determination that the facility and capital improvement meet eligibility requirements, DOE will make up to two separate payments to eligible applicants, subject to available funds. For eligible projects that have not reached completion, DOE will make an initial incentive payment, upon project approval, of a predetermined amount, determined on a case-by-case basis, not to exceed one-third of the total incentive payment for the capital improvement project.

DOE, in consultation with FERC, if applicable, may set milestones for completion of the capital improvement(s) based on a review of the milestones requested in Section VIII. These milestones should be established to ensure that the proposed capital improvements are carried out in a way that maximizes the effectiveness of available Government funding within an adequate and reasonable period of time. Therefore, projects should be started and completed within 3 years after projects are selected for an incentive payment, unless DOE makes a written determination and finding that a longer project period is necessary for the success of the project. DOE will work with an incentive selectee with respect to any extenuating circumstances and/or the project milestones submitted with the application to establish an agreed upon timeline for project commencement and completion. Depending on the amount of time required to complete the capital improvement(s), DOE may, at their sole discretion, require progress reports or other periodic documentation from applicants, including the collection of metrics and/or other data related to funding from IIJA. Applicants may request time extensions to the milestones set by DOE. DOE will review requests for time extensions and may approve or deny requests for time extensions at their sole discretion.

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Oct 04 2023

Thereafter, once DOE determines the capital improvement project is complete per documentation as required under Section IX of this Guidance and the project is in compliance with all Federal, State, and Tribal requirements, including all permitting and environmental review(s) required under NEPA, DOE will make a second and final payment to the applicant totaling the remainder of the incentive payment, which cannot exceed the statutory limit of 30% of total project costs. For eligible, approved projects that are complete at the time of application, the total incentive amount may be disbursed in one payment.

XI. What are the procedures for processing applications?

(a) Processing Applications

(1) GDO will open the application period, define the application period, and direct applicants to this application guidance by publishing notice on the Maintaining and Enhancing webpage at https://www.energy.gov/gdo/section-247-maintaining-and-enhancing-hydroelectricity-incentives. DOE may also post a notice in the Federal Register. Applications are to be submitted to the GDO's Hydroelectric Incentives Program following the instructions included in the application guidance.

(2) Following submission of an application, DOE will review and consider the completeness of the application materials and may request supplementary information relating to the application. When DOE is satisfied that sufficient information has been reported, the application will be reviewed for eligibility consistent with this Guidance. Applications with significant deficiencies may be determined to be incomplete and applicants may be required to resubmit. Resubmitted applications will receive a new time stamp.

(3) Applicants must respond to any request for supplemental information relating to their application in a reasonable period of time. Delays exceeding 10 business days in response to a request for information shall constitute the basis for classifying a hydroelectric facility as ineligible.

(4) DOE may require the applicant to conduct and submit, at its own expense, an independent audit, or DOE may conduct an audit, to verify the capital improvement has been made by the hydroelectric facility and for which an incentive payment has been requested or made.

(5) In the event of oversubscription, DOE will determine the extent to which funds are available to be obligated under each of the three qualifying capital improvement project categories, as outlined in Section IX of this Guidance, for the application period. Upon completion of evaluating each application and any other relevant information for eligibility, DOE will then:

(i) Organize applications by category within Small projects (as defined in Section III) and within remaining eligible qualified hydroelectric facilities by qualifying capital improvement project category (grid resiliency, dam safety, and environmental).

(ii) Each qualifying capital improvement project within mall projects and remaining eligible qualified hydroelectric facilities will be scored and ranked highest to lowest based on the criteria provided in Section IX of this Guidance.

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(iii) DOE will initially select the highest ranked project for funding under each qualifying capital improvement project category in the following order: (1) improving grid resiliency, (2) environmental improvements, and (3) improving dam safety projects.

(iv) After the initial selection of three qualifying projects in (iii), DOE will then select the next highest-scoring project in each qualifying capital improvement project category in the following order: (1) improving dam safety, (2) environmental improvements, (3) improving grid resiliency.

(v) The selection process will continue according to the procedures in (iii) and (iv) above until all the allocated funds within the application period are exhausted. Applications within the same qualifying capital improvement project category with the same score will be ranked by nameplate capacity, with larger facilities taking priority over smaller facilities.

(vi) In the event that one category of projects has been completely funded, projects in the remaining two categories will continue to be selected in the order described in (iii) and (iv) until all remaining funds available in the application period are exhausted.

(6) DOE shall issue written notice of the determination to each applicant and for each hydroelectric facility with the following content:

(i) Disapproving or approving the application as eligible for an incentive payment.

(ii) Setting forth the applicant's incentive payment amount and the timing of the payments.

(7) If the application does not meet the requirements of this program or if some portion of the capital improvement claimed in the application is disallowed as ineligible for payment, DOE shall issue a written notice denying the application in whole or in part with an explanation of the basis for denial.

XII. FAQ

When is the deadline to apply?

An LOI must be submitted by 5 p.m. ET, on the 45th day following the release of the solicitation. Thereafter, full applications will be accepted for a 105-day application period.

Do I need to submit an LOI in order to be eligible to submit a full application?

Yes. Only projects that submit LOIs within the designated LOI period, will be eligible to submit a full application.

Will DOE determine my application's eligibility based on my LOI?

No. Eligibility will be determined by review of a full application. DOE will not respond to submitted LOIs.

What types of hydroelectric facilities are eligible?

In order to be eligible, a facility must meet the definition of a "qualified hydroelectric facility," which means the facility:

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(a) Is licensed by FERC or is a hydroelectric project constructed, operated, or maintained pursuant to a permit or valid existing right-of-way granted prior to June 10, 1920, or a license granted pursuant to the Federal Power Act (16 U.S.C. 791a et seq.), or has a FERC-issued exemption.

(b) Was placed into service before November 15, 2021.

(c) Is in compliance with all applicable Federal, State, and Tribal requirements, or would be brought into compliance with all applicable Federal, State, and Tribal requirements as a result of the capital improvements carried out using an incentive payment under this section.

I have already started making modifications that I think would qualify under this Guidance. Are capital improvements made prior to November 15, 2021, eligible?

No. Only materials procured or other costs incurred after November 15, 2021, are eligible for incentive payments.

Are multiple developments within a single FERC-licensed hydroelectric project treated as individual hydroelectric facilities and each eligible for an incentive payment of 30% of project costs up to $5 million per fiscal year?

Developments within an individual FERC-licensed hydroelectric project will be treated as a single hydroelectric facility and only one incentive payment may be made to each hydroelectric facility per fiscal year.

My company owns multiple hydroelectric facilities. Is there a limit on how many applications I can file? Can I file one for each facility?

There is no limit to the number of facilities for which applications can be filed by a single owner. Applications for capital improvements across different categories (i.e., grid resiliency, dam safety, and environmental improvements) must be filed in separate applications. However, developments within an individual FERC-licensed hydroelectric project will be treated as a single hydroelectric facility and only one incentive payment may be made to each hydroelectric facility per fiscal year.

If it takes longer than expected to complete the capital improvement would a time extension be granted? What if NEPA review takes longer than expected?

Projects should be started and completed within 3 years after projects are selected for an incentive payment, unless DOE makes a written determination and finding that a longer project period is necessary for the success of the project. Applicants may request time extensions to any milestones set by DOE. DOE will review requests for time extensions and may approve or deny requests for time extensions at their sole discretion.

What documentation may be requested during potential periodic progress reports?

Periodic progress reports may be requested or required of applicants. Documentation or reporting requests could include but are not limited to:

1. Summaries of work or completed tasks.

2. Summaries of expenditures (labor and materials) with invoices.

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3. Documentation related to previous, current, and/or potential delays.
4. Photos.
5. Metrics or other data related to funding from IIJA.

Will there be an appeal process for denied applications?

Yes. An appeal process is available for applications deemed ineligible (see Section XIV).

Can DOE provide more detail about what will happen in the event of oversubscription?

If the Small projects are oversubscribed but funding is available for projects that do not meet the Small project criteria, the eligible Small projects that were not awarded an incentive payment will be reviewed for funding along with the eligible applications that do not meet the Small project criteria.

If oversubscription occurs for projects that do not meet the Small project criteria, any unused funding remaining for Small projects will be used to fund those projects.

Can I apply for an incentive payments under both EPAct 2005 Section 243 and Section 247?

Yes. However, the statutory limitations of 30% of project costs up to $5 million apply for each incentive payment under either Section 243 or Section 247.

Do for-profit entities, such as investor-owned utilities, have to comply with the Buy America requirements detailed in Section XIII?

No. The requirements of Buy America only apply to state, local government, territory, Indian Tribe, institutions of higher education, and nonprofit organizations.

Must projects that were completed prior to the application period have to comply with Buy America and Davis-Bacon Act requirements discussed in Section XIII?

Yes. However, applicants may request a waiver from Buy America requirements (See Section XIII). Waivers are not available for Davis-Bacon Act requirements.

Can other enterprise plans or investments be used to meet the Community Benefits Plan requirements listed in the general application requirements, in section VIII?

Applicants may reference or include existing plans or investments as part of an application. However, applicants will likely need to bolster their existing plans or investments to meet the objectives of the Community Benefits Plan. The application must describe how the proposed project will meet the four goals detailed in Section XIII(b)(13), which include: (1) community and labor engagement; (2) investing in the American workforce; (3) advancing diversity, equity, inclusion, and accessibility; and (4) contributing to the Justice40 Initiative.

XIII. Funding Restrictions

All applicants are subject to the following requirements.

(a) Build America, Buy America Requirements:

The Build America, Buy America Act (Buy America) requirements include:

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- All iron, steel, and manufactured products used in the project must be produced in the United States.
- All construction materials used in the project must be manufactured in the United States.

In general, whether a given project must apply this requirement is dependent on several factors, such as the recipient's entity type, whether the work involves "infrastructure," as that term is defined in Section 70914 of the IIJA, based in part on whether the infrastructure in question is publicly owned or serves a public function. For Section 247 specifically, all projects are considered "infrastructure" within the Buy America provision of the IIJA, based on implementation guidance from the Office of Management and Budget (OMB) issued on April 18, 2022.[7]

Moreover, based on the OMB guidance, the Buy America requirements of the IIJA do not apply to DOE projects in which the recipient is a for-profit entity; the requirements only apply to projects whose recipient is a "non-federal entity," e.g., a state, local government, territory, Indian Tribe, institution of higher education, or nonprofit organization.

- Each recipient of a Section 247 incentive payment must agree (1) to fulfill the commitments regarding the procurement of U.S.-produced products, and (2) to fulfill the commitments made in its application regarding the procurement of other key component metals and manufactured products domestically that are deemed available in sufficient and reasonably available quantities or of a satisfactory quality at the time of award negotiation. Applicants may seek waivers of these requirements in very limited circumstances and for good cause shown.

For purposes of the Buy America requirements, based both on the statute and OMB Guidance Document dated April 18, 2022, the following definitions apply:

Construction materials includes an article, material, or supply, other than an item of primarily iron or steel; a manufactured product; cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives that are or consist primarily of:

- Nonferrous metals
- Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables)
- Glass (including optic glass)
- Lumber
- Drywall.

Infrastructure includes, at a minimum, the structures, facilities, and equipment for, in the United States, roads, highways, and bridges; public transportation; dams, ports, harbors, and other maritime facilities; intercity passenger and freight railroads; freight and intermodal facilities; airports; water systems, including drinking water and wastewater systems; electrical transmission facilities and systems; utilities;

[7] M-22-11 Initial Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure (April 18, 2022) (17 Pages, 521 KB)

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Oct 04 2023

broadband infrastructure; and buildings and real property. Infrastructure includes facilities that generate, transport, and distribute energy.

Moreover, according to the OMB guidance document:

When determining if a program has infrastructure expenditures, federal agencies should interpret the term "infrastructure" broadly and consider the definition provided above as illustrative and not exhaustive. When determining if a particular construction project of a type not listed in the definition above constitutes "infrastructure," agencies should consider whether the project will serve a public function, including whether the project is publicly owned and operated, privately operated on behalf of the public, or is a place of public accommodation, as opposed to a project that is privately owned and not open to the public. Projects with the former qualities have greater indicia of infrastructure, while projects with the latter quality have fewer. Projects consisting solely of the purchase, construction, or improvement of a private home for personal use, for example, would not constitute an infrastructure project.

DOE, not the applicant, will have the final say as to whether a given project includes infrastructure, as defined herein. Accordingly, in cases where the "public" nature of the infrastructure is unclear, but the other relevant criteria are met, DOE strongly recommends that applicants complete their full application with the assumption that Buy America requirements will apply to the proposed project.

Project means the construction, alteration, maintenance, or repair of infrastructure in the United States.

In accordance with Section 70914 of the IIJA, none of the project funds may be used for a project for infrastructure unless:

> (1) All iron and steel used in the project are produced in the United States—this means all manufacturing processes, from the initial melting stage through the application of coatings, occurred in the United States.
>
> (2) All manufactured products used in the project are produced in the United States—this means the manufactured product was manufactured in the United States, and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard for determining the minimum amount of domestic content of the manufactured product has been established under applicable law or regulation.
>
> (3) All construction materials are manufactured in the United States—this means that all manufacturing processes for the construction material occurred in the United States.

The Buy America requirements only apply to articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. As such, the requirements do not apply to tools, equipment, and supplies, such as temporary scaffolding, brought to the construction site and removed at or before the completion of the infrastructure project. Nor do the Buy America requirements apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished infrastructure project but are not an integral part of the structure or permanently affixed to the infrastructure project.

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These requirements must flow down to all subawards and all contracts, subcontracts, and purchase orders for work performed under the proposed project, except where the prime recipient is a for-profit entity. Based on OMB guidance, the Buy America requirements of the IIJA do not apply to DOE projects in which the recipient is a for-profit entity; the requirements only apply to projects whose recipient is a state, local government, Indian Tribe, institution of higher education, or nonprofit organization.

For additional information related to the application and implementation of these Buy America requirements, please see OMB Memorandum M-22-11, issued April 18, 2022: https://www.whitehouse.gov/wp-content/uploads/2022/04/M-22-11.pdf.

Waivers

In limited circumstances, DOE may waive the application of the Buy America requirements where DOE determines that:

(1) Applying the Buy America requirements would be inconsistent with the public interest.

(2) The types of iron, steel, manufactured products, or construction materials are not produced in the United States in sufficient and reasonably available quantities or of a satisfactory quality.

(3) The inclusion of iron, steel, manufactured products, or construction materials produced in the United States will increase the cost of the overall project by more than 25%.

If an applicant or recipient is seeking a waiver of the Buy America requirements, it may submit a waiver request with its application or after it has been notified of its selection. A waiver request must include:

- A detailed justification for the use of "non-domestic" iron, steel, manufactured products, or construction materials to include an explanation as to how the non-domestic item(s) is essential to the project.
- A certification that the applicant or recipient made a good faith effort to solicit bids for domestic products supported by terms included in requests for proposals, contracts, and nonproprietary communications with potential suppliers.
- Applicant/Recipient name and Unique Entity Identifier (UEI).
- Total estimated project cost, DOE and cost-share amounts.
- Project description and location (to the extent known).
- List and description of iron or steel item(s), manufactured goods, and construction material(s) the applicant or recipient seeks to waive from Domestic Content Procurement Preference requirement, including name, cost, country(ies) of origin (if known), and relevant PSC and NAICS code for each.
- Waiver justification including due diligence performed (e.g., market research, industry outreach) by the applicant or recipient.
- Anticipated impact if no waiver is issued.

DOE may require additional information before considering the waiver request.

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Waiver requests are subject to public comment periods of no less than 15 days and must be reviewed by the Made in America Office. There may be instances where an award qualifies, in whole or in part, for an existing waiver described at DOE Buy America Requirement Waiver Requests | Department of Energy.

DOE's decision concerning a waiver request is not appealable.

(b) Davis-Bacon Act Requirements

Section 247 Incentive payments will be funded under Division D of the Bipartisan Infrastructure Law. Accordingly, per Section 41101 of that law, all laborers and mechanics employed by the recipient, contractors, or subcontractors in the performance of construction, alteration, or repair work funded in whole or in part under Section 247 shall be paid wages at rates not less than those prevailing on similar projects in the locality, as determined by the Secretary of Labor in accordance with Subchapter IV of Chapter 31 of Title 40, United States Code commonly referred to as the "Davis-Bacon Act" (DBA).

Applicants shall provide written assurance acknowledging the DBA requirements above, and confirming that the laborers and mechanics performing construction, alteration, or repair work on projects funded in whole or in part by awards made under Section 247 are paid or will be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by Subchapter IV of Chapter 31 of Title 40, United States Code (Davis-Bacon Act).

Applicants acknowledge that they will comply with all the Davis-Bacon Act requirements, including but not limited to:

(1) Ensuring that the wage determination(s) and appropriate Davis-Bacon clauses and requirements are flowed down to and incorporated into any applicable subcontracts or subrecipient awards.

(2) Ensuring that if wage determination(s) and appropriate Davis-Bacon clauses and requirements are improperly omitted from contracts and subrecipient awards, the applicable wage determination(s) and clauses are retroactively incorporated to the start of performance.

(3) Being responsible for compliance by any subcontractor or subrecipient with the Davis-Bacon labor standards.

(4) Receiving and reviewing certified weekly payrolls submitted by all subcontractors and subrecipients for accuracy and to identify potential compliance issues.

(5) Maintaining original certified weekly payrolls for 3 years after the completion of the project and must make those payrolls available to the DOE or the U.S. Department of Labor (DOL) upon request, as required by 29 CFR 5.6(a)(2).

(6) Conducting payroll and job-site reviews for construction work, including interviews with employees, with such frequency as may be necessary to assure compliance by its subcontractors and subrecipients and as requested or directed by the DOE.

(7) Cooperating with any authorized representative of the DOL in their inspection of records, interviews with employees, and other actions undertaken as part of a DOL investigation.

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Oct 04 2023

(8) Posting in a prominent and accessible place the wage determination(s) and DOL Publication: WH-1321, Notice to Employees Working on Federal or Federally Assisted Construction Projects.

(9) Notifying the Section 247 program of all labor standards issues, including all complaints regarding incorrect payment of prevailing wages and/or fringe benefits, received from the recipient, subrecipient, contractor, or subcontractor employees; significant labor standards violations, as defined in 29 CFR 5.7; disputes concerning labor standards pursuant to 29 CFR Parts 4, 6, and 8 and as defined in FAR 52.222-14; disputed labor standards determinations; DOL investigations; or legal or judicial proceedings related to the labor standards under a contract, a subcontract, or subrecipient award.

(10) Preparing and submitting to the Contracting Officer, OMB Control Number 1910-5165, Davis Bacon Semi-Annual Labor Compliance Report, by April 21 and October 21 of each year. Form submittal will be administered through the iBenefits system (https://doeibenefits2.energy.gov), its successor system, or other manner of compliance as directed by the Contracting Officer.

Recipients of funding under Section 247 will also be required to undergo Davis-Bacon Act compliance training and to maintain competency in Davis-Bacon Act compliance. The DOL offers free Prevailing Wage Seminars several times a year that meet this requirement, at https://www.dol.gov/agencies/whd/government-contracts/construction/seminars/events.

For additional guidance on how to comply with the Davis-Bacon provisions and clauses, see https://www.dol.gov/agencies/whd/government-contracts/construction and https://www.dol.gov/agencies/whd/government-contracts/protections-for-workers-in-construction.

DOE anticipates contracting with a third party for a Davis-Bacon Act electronic payroll compliance software application. Recipients of funding under this FOA must ensure the timely electronic submission of weekly certified payrolls through this software as part of its compliance with the Davis-Bacon Act unless a waiver is granted to a particular contractor or subcontractor because they are unable or limited in their ability to use or access. Applicants should indicate if a waiver will be sought.

(c) National Environmental Policy Act (NEPA) Requirements

DOE's decision whether and how to distribute federal funds under this incentive program is subject to NEPA (42 U.S.C. § 4321, et seq.). NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the potential environmental impacts of their proposed actions. For additional background on NEPA, please see DOE's NEPA website at https://www.energy.gov/nepa.

While NEPA compliance is a federal agency responsibility and the ultimate decisions remain with the federal agency, all recipients selected for an incentive payment will be required to assist in the timely and effective completion of the NEPA process in the manner most pertinent to their project. If DOE determines certain records must be prepared to complete the NEPA review process (e.g., biological evaluations or environmental assessments), the recipient may be required to prepare the records and the costs to prepare the necessary records may be included as part of the project costs.

(d) Other Requirements

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Oct 04 2023

All federally assisted construction contracts exceeding $10,000 annually will be subject to the requirements of Executive Order 11246, as amended, Equal Employment Opportunity:

- Recipients and their contractors and subcontractors are prohibited from discriminating in employment decisions on the basis of race, color, religion, sex, sexual orientation, gender identity or national origin.
- Recipients and their contractors and subcontractors s are required to take affirmative action to ensure that equal opportunity is provided in all aspects of their employment. This includes flowing down the appropriate language to all subrecipients, contractors, and subcontractors.
- Recipients and their contractors and subcontractors are prohibited from taking adverse employment actions against applicants and employees for asking about, discussing, or sharing information about their pay or, under certain circumstances, the pay of their co-workers.

The Department of Labor's (DOL) Office of Federal Contractor Compliance Programs (OFCCP) uses a neutral process to schedule contractors for compliance evaluations. OFCCP's Technical Assistance Guide should be consulted to gain an understanding of the requirements and possible actions the recipients, subrecipients, contractors, and subcontractors must take.

XIV. Administrative Appeals

(a) Application denials, in whole or in part, may be appealable to the DOE Office of Hearings and Appeals, 1000 Independence Avenue, S.W., Washington, D.C. 20585, in accordance with the procedures set forth below and in accordance with the procedural regulations codified at 10 C.F.R. Part 1003.

(b) If an applicant does not file an appeal in accordance with these requirements, the determination of DOE shall become final. If an applicant files an appeal on a timely basis in accordance with these requirements, the decision and order of the Office of Hearings and Appeals shall be final. If the Office of Hearings and Appeals determines that payment is required, the Director of the Office of Hearings and Appeals shall remand the application to the Grid Deployment Office to pay the incentive.

(c) The appeal shall contain:

(1) A concise statement of the ground(s) upon which the applicant contests the written notice of DOE.

(2) A copy of the DOE notice denying the application.

(3) Contact information (i.e., name, telephone number, mailing and e-mail addresses) for a representative able to respond to questions and provide information relevant to the appeal.

(4) Any data, documentation, or other relevant information supporting a showing by the appellant that the denial of eligibility or disallowance of payment, either in whole or in part, is arbitrary and capricious.

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Oct 04 2023

(d) The appeal, including attachments, should be electronically filed with the Office of Hearings and Appeals (OHA), U.S. Department of Energy, at: OHA.filings@hq.doe.gov. Upon filing, OHA will confirm receipt of the appeal and assign the appeal a case number.

(e) The following matters are not subject to appeal:

(1) The denial of an application on the basis of untimeliness.

(2) A denial of an incentive payment based upon DOE's determination that insufficient appropriated funds are available to make payments to all qualified applicants.

(3) Decision concerning a waiver request with respect to Build America, Buy America requirements.

(f) The appeal process shall proceed as follows:

(1) An appeal under these procedures must be filed within ten (10) days of an applicant receiving the determination by DOE denying eligibility or a claim for payment, in whole or in part.

(2) In evaluating an appeal, OHA may require the submission of additional information by the appellant regarding any statement, data, documentation, or other information included in an appeal. OHA may also solicit and accept submissions of relevant information from other sources, including DOE, provided that the appellant is afforded an opportunity to respond to all such submissions. OHA may, on its own initiative, convene a conference or hearing if, in its discretion, it considers that such conference or hearing will advance its evaluation of the appeal. OHA will determine the scope and format of any conference or hearing convened under these procedures, as well as the parties allowed to participate.

(3) OHA may issue an order summarily dismissing an appeal if: (a) the appeal is not filed in a timely manner, unless good cause is shown; (b) the appeal is defective on its face; (c) the appellant fails to provide additional information requested by OHA within the time specified by OHA; or (d) for any other reason that the appeal would be subject to dismissal under the OHA procedural regulations codified at 10 C.F.R. Part 1003.

(4) OHA will provide DOE with the opportunity to submit a written response to an appeal within a period of time specified by OHA. OHA will provide the appellant with a copy of DOE's response and allow the appellant to submit a reply within a period of time specified by OHA.

(5) Within thirty (30) days of receiving all required information, including additional information requested by OHA subsequent to the submission of the appeal, OHA shall issue a written decision granting or denying the appeal, in whole or in part. The decision shall include a written statement setting forth the relevant facts and basis for the determination. Upon issuance, OHA shall serve an electronic version of the decision upon the appellant and the DOE Grid Deployment Office. The decision will also be published on the OHA website: http://www.energy.gov/oha. The decision of OHA shall constitute the final agency action and the appellant's final right of administrative review under the Grid Deployment Office's Hydroelectric Production Incentive Program.

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Oct 04 2023

(6) All expenses incurred by the appellant in pursuing any appeal before OHA shall be borne exclusively by the appellant.

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Oct 04 2023

XV. Appendix: Recommended Application Documentation Naming Convention

Documentation required for all applications

Application Requirement	Suggested File Format	Page Limit	Suggested Filename	Location Reference in Guidance
Name of the hydroelectric facility or other official designation	PDF	n/a	Identifier_General_Information	VIII. (b) (1)
Name, mailing address, telephone number, and email address of a point of contact				VIII. (b) (2)
Name of the owner of the hydroelectric facility				VIII. (b) (3)
Location and physical address of the hydroelectric facility				VIII. (b) (4)
A tax identification number of the hydroelectric generation facility				VIII. (b) (9)
Federal System for Award Management (SAM) account				VIII. (b) (10)
A description of the hydroelectric generation facility, including FERC license or exemption	PDF	n/a	Identifier_Authorization_And_Compliance	VIII. (b) (5)
If applicable, a clear statement noting the application is requesting funding as a Small project as defined in Section III of the Guidance	PDF	n/a	Identifier_Small_Project_Statement	VIII. (b) (6)
A clear statement designating one category for which the applicant seeks funding for the capital improvement project	PDF	n/a	Identifier_Category_Designation	VIII. (b) (7)
Documentation relating to the existing conditions and the capital improvement	PDF	n/a	Identifier_Project_Plan	VIII. (b) (8)

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Oct 04 2023

at the hydroelectric generation facility				
A statement indicating that the applicant is the owner of the hydroelectric generation facility or is the authorized operator	PDF	n/a	Identifier_Owner_Statement	VIII. (b) (11)
A statement signed by an authorized executive official certifying that the information contained in the application is accurate	PDF	n/a	Identifier_Executive_Authorization	VIII. (b) (12)
A Community Benefits Plan	PDF	n/a	Identifier_Community_Benefits_Plan	VIII. (b) (13)

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Oct 04 2023

Documentation required for each subcategory

Category 1: Improving Grid Resiliency			
Documents for Category 1 Applications			
Application Requirement	**Suggested File Format**	**Suggested Filename**	**Location in Guidance**
For projects being performed to meet requirements, stamped drawings and/or calculation sheets **OR** a detailed project report that summarizes that summarize the deficiency and demonstrates how the improvement will address it	PDF & MS Excel	If stamped drawings are submitted to substantiate claims, please use: Identifier_Stamped_Documentation Alternatively, if a detailed project report is submitted, please use: Identifier_Project_Report	IX. Category 1 (b) (1)
Documents for Category 1 Subcategory 1, 2, or 3 Applications			
For projects intended to meet Subcategories 1, 2, or 3 of improving grid resiliency: stamped drawings, calculation sheets, or other appropriate documentation that clearly describes current conditions, the approach, and the expected or quantified outcome made through the capital improvement project	PDF & MS Excel	Identifier_Stamped_Documentation	IX. Category 1 (b) (2) (i)
Documents for Category 1 Subcategory 4 Applications			
For capital improvement projects intended to meet Subcategory 4 (managing accumulated reservoir sediments) of improving grid resiliency: approach description	PDF	Identifier_Approach_Description	IX. Category 1 (b) (3) (i)
Documentation Required for Final Incentive Payment			
Statement of final completion and owner's acceptance of the work	PDF	Grid_Final_Statement	IX. Category 1 (d) (1)
Documentation, including supporting data or evidence to support completion of the project	Various	Grid_Completion	IX. Category 1 (d) (2)
Any other post-project proof of improvement related to the project determined by DOE	Various	Grid_Additional_Evidence	IX. Category 1 (d) (3)
Paid invoices that demonstrate project costs as requested in Section VIII(b)(8)(vii)	MS Excel or PDF	Grid_Paid_Invoice	IX. Category 1 (d) (4)

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Oct 04 2023

Category 2: Improving Dam Safety			
Application Requirement	**Suggested File Format**	**Suggested Filename**	**Location in Guidance**
Current FEMA hazard potential classification	PDF	DamSafety_Hazard_Classification	IX. Category 2 (b) (1)
Current dam safety condition classification	PDF	DamSafety_Condition_Classification	IX. Category 2 (b) (2)
Documentation of state- or FERC-identified dam safety issues, including but not limited to state or FERC inspection reports	PDF	DamSafety_Issues_Identification	IX. Category 2 (b) (3)
Dam Inundation Map with overlayed population (residence or centers)—applies to high- or extremely high-hazard classifications only	PDF	DamSafety_Inundation_Map	IX. Category 2 (b) (4)
If applicable, narrative and supporting evidence (such as hydrologic and hydraulic modeling) describing how the capital improvement increases resiliency to future hydrologic conditions	PDF	DamSafety_Hydrologic_Description	IX. Category 2 (b) (5)
Photographic or modeling evidence, of the dam safety risk/fault addressed by the capital improvement project, prior to project construction	PDF	DamSafety_Visual_Evidence_Prior	IX. Category 2 (b) (6)
If applicable, a description of how the dam safety improvement will allow the facility to meet its requirements	PDF	DamSafety_Compliance_Description	IX. Category 2 (b) (7)
Documentation Required for Final Incentive Payment			
Statement of final completion and owner's acceptance of the work	PDF	DamSafety_Final_Statement	IX. Category 2 (d) (1)
Photographic or modeling evidence of dam safety risk/fault addressed by capital improvement project after project completion	PDF	DamSafety_Visual_Evidence_Final	IX. Category 2 (d) (2)
Any post-project proof of improvement related to the project determined by DOE	Various	DamSafety_Completion	IX. Category 2 (d) (3)
If applicable, documentation from FERC and/or other authorities, as applicable, stating that the project meets dam safety requirements after completion of the dam safety capital improvement project	PDF	DamSafety_Compliance_Evidence	IX. Category 2 (d) (4)
Any other post-project proof of improvement related to the project determined by DOE	Various	DamSafety_Additional_Evidence	IX. Category 2 (d) (5)
Paid invoices that demonstrate project costs as requested in Section VIII(b)(8)(vii)	MS Excel or PDF	DamSafety_Paid_Invoice	IX. Category 2 (d) (6)

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Oct 04 2023

Category 3: Environmental Improvements			
Application Requirement	**Suggested File Format**	**Suggested Filename**	**Location in Guidance**
Any relevant data or studies that provide support for the project	PDF	Environmental_Supporting_Data	IX. Category 3 (b) (1)
Evidence of consultation and/or engagement, completed or intended, with federal, state, or Tribal natural resource agencies	PDF	Environmental_Benefits_Consultation	IX. Category 3 (b) (2)
Any FERC license conditions that will be satisfied by the capital investment	PDF	Environmental_FERC_Conditions	IX. Category 3 (b) (3)
If applicable, evidence to support project benefits to species of conservation concern and/or culturally significant species	PDF	Environmental_Conservation_Evidence	IX. Category 3 (b) (4)
If applicable, evidence to support watershed-scale project benefits	PDF	Environmental_Watershed_Benefits	IX. Category 3 (b) (5)
If applicable, evidence that recreational improvement(s) provide benefits to a disadvantaged community	PDF or JPG (exported image from CEJST)	Environmental_Disadvantaged_Benefits	IX. Category 3 (b) (6)
If applicable, evidence that demonstrates the improvements creates public recreational opportunities in the vicinity of the facility *beyond those otherwise required* by resource agencies or the facility's FERC license, exemption, or other authorization	PDF	Environmental_Recreational_Benefits	IX. Category 3 (b) (7)
If applicable, a description of how the environmental improvement will allow the facility to meet its requirements	PDF	Environmental_Compliance_Description	IX. Category 3 (b) (8)
Documentation Required for Final Incentive Payment			
Statement of final completion and owner's acceptance of the work	PDF	Environmental_Final_Statement	IX. Category 3 (d) (1)
Documentation, including supporting data or evidence to support completion of the project	Various	Environmental_Completion	IX. Category 3 (d) (2)
If applicable, documentation from FERC and/or other authorities, as applicable, stating that the project meets its environmental requirements after completion of the capital improvement project	PDF	Environmental_Compliance_Evidence	IX. Category 3 (d) (3)
Any other post-project proof of improvement related to the project determined by DOE	Various	Environmental_Additional_Evidence	IX. Category 3 (d) (4)
Paid invoices that demonstrate project costs as requested in Section VIII(b)(8)(vii)	MS Excel or PDF	Environmental_Paid_Invoice	IX. Category 3 (d) (5)
Statement of final completion and owner's acceptance of the work	PDF	Environmental_Final_Statement	IX. Category 3 (d) (1)

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Oct 04 2023

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Public Staff Line No.	Walsh Supp Ex 1	MYRP Project Name	MYRP Project Description & Scope	Reason for the MYRP Project	Project Forecasted In-Service Date	Projected In-Service Costs	Projected Annual Net O&M	Projected Installation O&M	Plant	Funding Project	FERC License	IIJA Program	Max Incentive ($M)	Imputed Incentive ($M)
1	17	Bad Creek U4 MW Uprate	Upgrade of runner, generator, step-up transformers, and iso-phase bus cooling system.	Unit will increase generator capacity by 80MW and pump capacity by 65MW. This increased capacity can work as additional storage to accommodate solar generation.	Feb-24	$ 31,528,994	$ -	$ -	Bad Creek	BA040005	Bad Creek	Section 40332 Efficiency Improvements *and* Section 40331 Production Incentives	$5.0	$5.0
2	20	FERC WA Flood Management	Spillway Modifications for Flood Management at Wateree Hydro in Accordance with Catawba Wateree License	Renewed Catawba Wateree FERC License mandates additional 10,000 cfs water passage capability through the Wateree dam/powerhouse. Additional 10,000 CFS of flow will reduce the amount of residential flooding on Lake Wateree during high rain events will provide capability to better prepare for storm inflows by proactively passing more water through the Wateree plant.	Feb-24	$ 28,865,723	$ -	$ -	Wateree	WA001213	Catawba-Wateree	Section 40333 - Section 243 - Dam Safety	$5.0	$4.0
3	22	FERC Fishing Creek Floodgate Life Exten Ph II	This scope of work is for turn-key services to procure, fabricate, remove and install new and existing equipment for eleven (11) floodgates.	FERC license was recently renewed for the next 40 years at this facility. Existing equipment has been in service for over 100 years. Relacing aging floodgates will maintain unit reliability for the remaining operational life.	Jul-25	$ 15,840,428	$ -	$ -	Fishing Creek	FC003677	Catawba-Wateree	Section 40333 - Section 243 - Dam Safety	$4.8	$2.3
4	26	FERC Cowans Ford Stumpy Creek Access Area	FERC Stumpy Creek Access Area	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Dec-24	$ 2,161,877	$ -	$ -	Cowans Ford	CF001208	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$0.6	$0.0
5	31	FERC Lookout Shoals Upper Access Area	Upper Lookout Shoals Access Area Construction	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Sep-25	$ 2,806,995	$ -	$ -	Lookout Shoals	LK001205	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$0.8	$0.0
6	37	Fishing Creek U3 Headgate Replacement	Headgate Replacement Unit 3	FERC dam safety requirements include ensuring head gate and pressure boundary integrity, with emergency closure capability. Scope is to replace aged 1910's vintage head gates to maintain station functionality.	Dec-25	$ 2,501,207	$ -	$ -	Fishing Creek	FC030009	Catawba-Wateree	Section 40333 - Section 243 - Dam Safety	$0.8	$0.0
7	38	FERC Great Falls Pedestrian Bridge	FERC Lower Great Falls Reservoir Canoe/Kayak Launch pedestrian bridge	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Sep-25	$ 4,688,763	$ -	$ -	Great Falls	GF000058	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$1.4	$0.0
8	42	FERC Bridgewater Fonta Flora Access Area	Bridgewater Fonta Flora Access Area	Lake access and public infrastructore projects are included in the FERC Catawba Relicensing Requirement	Dec-25	$ 3,786,845	$ -	$ -	Bridgewater	BW001210	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$1.1	$0.0
9	43	Jocassee DFSP Ramp Replacement	The boat ramps at the Main Entrance and the Villas have fallen into disrepair and need to be replaced	The boat ramps at the main entrance and villas have fallen into disrepair and need to be replaced in oder to maintian public access to Lake Jocassee	Dec-25	$ 1,743,125	$ -	$ -	Jocassee	JO000204	Keowee-Toxaway	Section 40333 - Section 247 - Environmental Improvement	$0.5	$0.5
10	44	FERC Mountain Island Riverbend Access Area	Riverbend Access Area	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Dec-25	$5,120,861	$ -	$ -	Mountain Island	MI001205	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$1.5	$0.0
11	45	FERC Oxford Spillway Piers Bulkhead	Concrete repairs to ensure infrastructure life is extended.	Spillway and bulkhead concrete is cracking and spalling due to age. Restore degraded concrete elements to original plant configuration to maintain reliability for remainder of 40-yr FERC license renewal.	Jun-25	$ 32,303,359	$ -	$ -	Oxford	OX000006	Catawba-Wateree	Section 40333 - Section 243 - Dam Safety	$5.0	$2.4
12	47	FERC Oxford Gate Guides for Floodgates	Floodgate guide replacement (First 10') for 10 floodgates.	Existing floodgates guides are collapsing and binding the gates. Installing new gate guides will maintain reliable operation for the renewed 40-year FERC license.	Mar-26	$ 6,716,860	$ -	$ -	Oxford	OX000050	Catawba-Wateree	Section 40333 - Section 243 - Dam Safety	$2.0	$1.3
13	48	Thorpe Hydro Generator Replacement	Replace Thorp Hydro Turbine Impeller and Generator Assembly	Turbine/Generator unit was installed in 1941. Turbine bearing operates at high temperature and experiences leaks. Bearing replacement is not feasible due to age and design. Generator rotor is experiencing cracking with increased frequency of repairs and risk of forced outage. New turbine/generator assembly will provide increased output of 3-5 MW.	Dec-25	$ 15,437,920	$ -	$ -	Thorpe	TH000068	West Fork Tuckasegee	Section 40332 Efficiency Improvements *and* Section 40331 Production Incentives	$4.6	$4.6
14	49	FERC Wateree Taylor Creek Bank Fishing	FERC Taylor Creek Bank Fishing	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Dec-25	$1,158,721	$ -	$ -	Wateree	WA001206	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$0.3	$0.0
15	50	FERC Linville Canoe Kayak Access Area	FERC LinvilleCanoe / Kayak Access Area	Lake access and public infrastructure projects are included in the FERC Catawba Relicensing Requirement	Jun-26	$1,388,199	$ -	$ -	Linville	BW001212	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$0.4	$0.0
16	52	Fishing Creek U4 Headgate Replacement	Headgate Replacement Unit 4	FERC dam safety requirements include ensuring head gate and pressure boundary integrity, with emergency closure capability. Scope is to replace aged 1910's vintage head gates to maintain station functionality.	Aug-26	$1,865,580	$ -	$ -	Fishing Creek	FC040010	Catawba-Wateree	Section 40333 - Section 243 - Dam Safety	$0.6	$0.0
17	53	Fishing Creek U5 Headgate Replacement	Headgate Replacement Unit 5	FERC dam safety requirements include ensuring head gate and pressure boundary integrity, with emergency closure capability. Scope is to replace aged 1910's vintage head gates to maintain station functionality.	Aug-26	$1,865,580	$ -	$ -	Fishing Creek	FC050008	Catawba-Wateree	Section 40333 - Section 243 - Dam Safety	$0.6	$0.0

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					Filed May 2023 - Total Project Amount (System)									
Public Staff Line No.	Walsh Supp Ex 1	MYRP Project Name	MYRP Project Description & Scope	Reason for the MYRP Project	Project Forecasted In-Service Date	Projected In-Service Costs	Projected Annual Net O&M	Projected Installation O&M	Plant	Funding Project	FERC License	IIJA Program	Max Incentive ($M)	Imputed Incentive ($M)
18	58	FERC Bridgewater Pocket Park At Dam LJ Loop	Install Parking, Picnic Facilities, Overlooks, Bank Fishing Trail as part of FERC Catawba Relicensing Requirement	Lake access and public infrastructore projects are included in the FERC Catawba Relicensing Requirement	Dec-26	$2,405,361	$ -	$ -	Bridgewater	BW001211	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$0.7	$0.0
19	223	FERC Cedar Cliff Dam IDF Spillway&Gate House	Capacity of the auxiliary spillway at Cedar Creek will be increased along with the installation of a fuse gate system that will allow increasing amounts of water to pass without overtopping the dam.	FERC has required that all licensees/owners of dams evaluate the ability of each of their dams to withstand and/or safety pass significant inflows from newer postulated extreme weather events (rainfall). Preliminary studies of Cedar Cliff Dam indicate insufficient means to manage inflows incrementally (spillways) as well as maximum possible flood (inflow Design Flood or IIDF).	Jun-24	$ 50,899,728	$ -	$ -	Cedar Cliff	CE000012	East Fork Tuckasegee	Section 40333 - Section 243 - Dam Safety	$5.0	$5.0
20	90	FERC Mountain Island Dam Seismic	FERC has required that all licensees/owners of dams evaluate the seismic stability of each of their dams utilizing newer criteria. Mountain Island (MI) preliminary analysis indicates that an adequate factor of safety does not exist.	Upgrades to Mt. Island dam to meet new FERC seismic and flood event requirements.	Feb-26	$ 85,382,811	$ -	$ -	Mountain Island	MI000028	Catawba-Wateree	Section 40333 - Section 243 - Dam Safety	$5.0	$3.2
21	99	FERC Lookout Shoals Seismic Net Proj	Upgrade Lookout Shoals Dam Stability based on latest FERC requirements	The Federal Energy Regulatory Commission (FERC) has required that all licensees/owners of dams evaluate the seismic stability of each of their dams utilizing newer criteria. Lookout Shoal's preliminary analysis indicates that an adequate factor of safety does not exist. Therefore, it is mandatory for Duke Energy to develop a proposed stability improvement that results in an acceptable factor of safety.	Nov-23	$ 60,602,062	$ -	$ -	Lookout Shoals	LK001200	Catawba-Wateree	Section 40333 - Section 243 - Dam Safety	$5.0	$5.0
22	103	Cedar Creek Stumpy Pond Access Area Upgrades	Capital improvements for public boater access to the Cedar Creek reservoir. Stumpy Pond will be the main take out for the Dearborn Diversion Project.	Required per FERC Catawba River relicensing	Apr-26	$ 2,440,439	$ -	$ -	Cedar Creek	CC001748	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$0.7	$0.5
23	104	FERC Bridgewater YANCEY ROAD ACCESS AREA	Gravel parking lot and non-motorized boat launch, Bridgewater Hydro.	Required per FERC Catawba River relicensing	Dec-25	$1,860,073	$ -	$ -	Bridgewater	BW000044	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$0.6	$0.0
24	105	Cedar Creek Floodgate Refurbishment	Capital Refurb of Cedar Creek Hydro Floodgates	The Cedar Creek floodgates are deteriorated and need to be refurbished to maintain operability. If a structural event were to occur with the floodgate, consequences could include uncontrolled release of lake water or Cedar Creek would not be able to pass water when necessary, either condition leading to a significant event.	Dec-25	$2,220,830	$ -	$ -	Cedar Creek	CC001718	Catawba-Wateree	Section 40333 - Section 243 - Dam Safety	$0.7	$0.0
25	107	FERC Lower Great Fals IReserve CanKay Launch	Install Canoe/Kayak Launch at Lower Great Falls Reservoir	Required per FERC Catawba River relicensing	Sep-25	$ 1,594,440	$ -	$ -	Great Falls	GF001211	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$0.5	$0.2
26	108	Bear Creek Generator Rewind	Rewind Bear Creek Hydro Generator	New generator winding will accommodate unit uprate from new turbine runner	Sep-25	$2,721,618	$ -	$ -	Bear Creek	BE000065	East Fork Tuckasegee	Section 40332 Efficiency Improvements and Section 40331 Production Incentives	$0.8	$0.8
27	111	Cowans Ford Ramsey Creek Boat Ramp Replace	Replace Ramsey Creek Access Boat Ramps	Ramsey Creek Boat Ramps have fallen into disrepair and need to be replaced	Apr-25	$1,444,620	$ -	$ -	Cowans Ford	CF000161	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$0.4	$0.0
28	112	FERC Queens Creek PMF Wall Raise Dam Crest	Raise Dam Crest at Queens Creek Hydro	Meet FERC requirements for Probable Maximum Flood (PMF) event	Apr-25	$ 1,691,451	$ -	$ -	Queens Creek	QC000021	Queens Creek	Section 40333 - Section 243 - Dam Safety	$0.5	$0.5
29	113	Bad Creek Tie Back Wall Anchor System	Install new anchor system for tieback wall at Bad Creek Hydro	Existing tie back wall is moving due to soil nail anchors not being in stable ground.	Mar-25	$ 3,545,335	$ -	$ -	Bad Creek	BA003109	Bad Creek	Section 40333 - Section 243 - Dam Safety	$1.1	$1.1
30	120	FERC Ninety Nine Island PICKHILL RECONFIGURATION	Reconfigure the Pickhill Access Area boat ramp	The Pickhill Access Area boat ramp continues to be overrun with silt, making the ramp unusable. Potential violation of FERC operating license if not kept in usable condition.	Mar-24	$ 1,450,335	$ -	$ -	99 Islands	NN000046	Ninety-Nine Islands	Section 40333 - Section 247 - Environmental Improvement	$0.4	$0.4
31	121	FERC Cowans Ford Beattys Ford Swim Area	Construct Beatty's Ford Access/Swim Area	Required per FERC Catawba River relicensing	Feb-24	$ 4,297,668	$ -	$ -	Cowans Ford	CF001215	Catawba-Wateree	Section 40333 - Section 247 - Environmental Improvement	$1.3	$1.0

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DUKE ENERGY®

IIJA Prioritization Framework

North Carolina Public Staff Discussion

September 9, 2022

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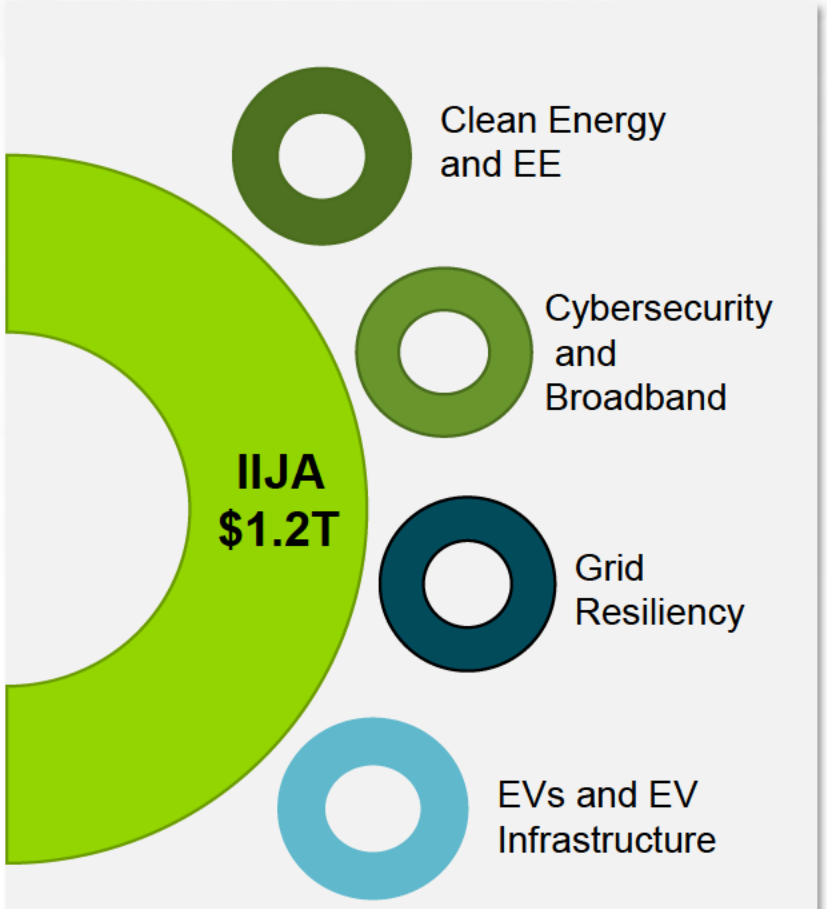
Executive Summary

Duke IIJA Overall Strategy



Grant Prioritization

Tier 1 – Pursue

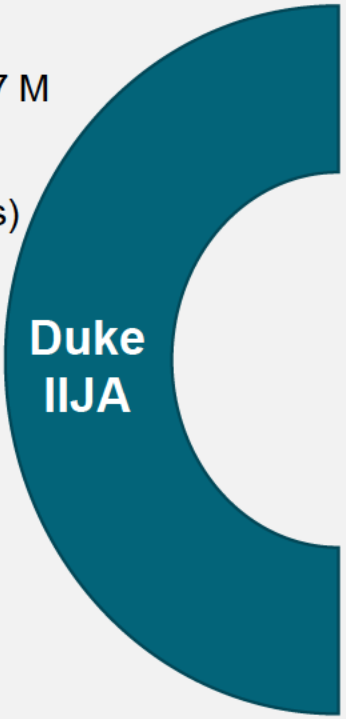
- Clean Energy and EE – $16,227 M (9 grants)
- Cybersecurity – $475M (3 grants)
- Grid Resiliency – $9,355M (5 grants)

Tier 2 – Monitor

$168,211M (58 grants)

Tier 3 – Do not Pursue

$75,986M (41 grants)



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Prioritization Process Overview

IIJA Grants Prioritization

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Duke IIJA Approach

The Infrastructure Investment and Jobs Act (IIJA) includes provisions to encourage and fund investment in:

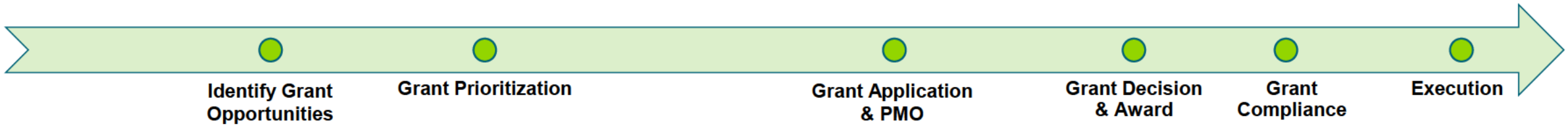
- Clean Energy and Energy Efficiency
- Cybersecurity and Broadband
- Grid Resiliency
- EVs and EV Infrastructure

Guidehouse worked with Duke Energy to prioritize funding opportunities.

This list is evolving as new information becomes available.

Each grant was evaluated for value, competitiveness, and risk.

GRANT LIFECYCLE



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Grant Lifecycle and Approach

Phase I | Grant Planning

Phase II | Grant Writing & Submittal

Phase III | Grant Award & Execution

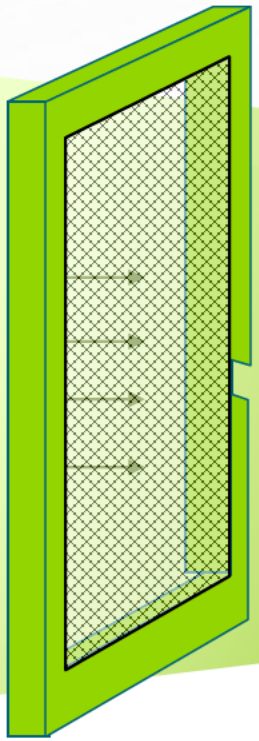
Review IIJA Grants

Grant Prioritization

- Strategic Fit – Stage Gate
- Customer Value
- Stakeholder
- Likelihood of Success
- Execution Capability

Operational Framework

Grant Proposal Plan



Notice of Funding Opportunity

Project-level Preparation

Grant Submittal

Grant Award & Execution

Grant Compliance

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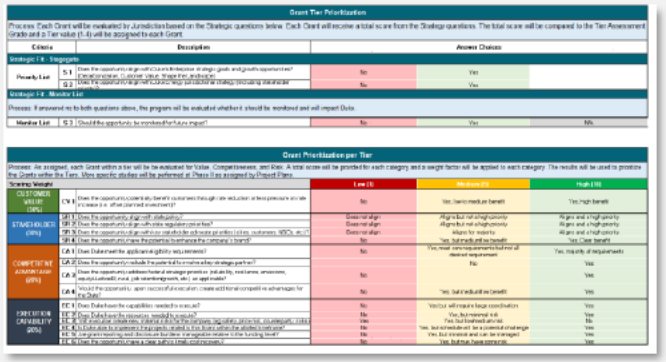
Grant Prioritization Framework

Each grant was scored using the Prioritization Framework by jurisdiction and assigned to Tiers:

- **Tier 1** (High Priority)
- **Tier 2** (Monitor)
- **Tier 3** (Do Not Pursue)

Strategic questions were defined ▶ **Grants were scored and prioritized** ▶ **Grants were classified by Tier based on results**



Grant Tier Prioritization

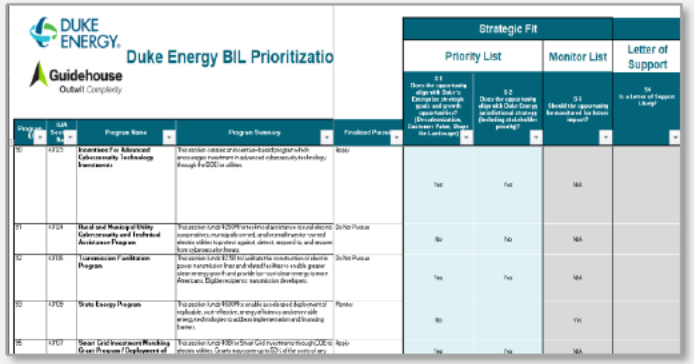
Process: Each Grant will be evaluated by Jurisdiction based on the Strategic questions below. Each Grant will receive a total score from the Strategic questions. The total score will be compared to the Tier Assessment Grade and a Tier value (1-4) will be assigned to each Grant.

Criteria		Description	Answer Choices		
Strategic Fit - Stoggarts					
Priority List	S.1	Does the opportunity align with Duke's Enterprise strategic goals and growth opportunities? (Decarbonization, customer value, Stoggarts, landscape)	No	Yes	
	S.2	Does the opportunity align with Duke's Regulated Strategy (increasing stakeholder [illegible])	No	Yes	
Strategic Fit - Monitor List					
Process: If answered no to both questions above, the program will be evaluated whether it should be monitored and will impact Duke.					
Monitor List	S.3	Should the opportunity be monitored for future impact?	No	Yes	N/A

Grant Prioritization per Tier

Process: As assigned, each Grant within a tier will be be evaluated for Value, Competitiveness, and Risk. A total score will be provided for each category and a weight factor will be applied to each category. The results will be used to prioritize the Grants within the Tiers. More specific studies will be performed at Phase II as assigned by Project Plans.

Scoring Weight			Low (1)	Medium (2)	High (3)
CUSTOMER VALUE (25%)	CV.1	Does the opportunity potentially benefit customers through rate reduction or less pressure on rate increase (i.e. other planned investment)?	No	Yes, [illegible] benefit	Yes, high benefit
STAKEHOLDER (25%)	SH.1	Does the opportunity align with [illegible]?	Does not align	Aligns but not a high priority	Aligns and a high priority
	SH.2	Does the opportunity align with [illegible]	Does not align	Aligns but not a high priority	Aligns and a high priority
	SH.3	Does the opportunity align with [illegible]	Does not align	Aligns for [illegible]	Aligns and a high priority
	SH.4	Does the opportunity share the [illegible]	No	Yes, [illegible] benefit	Yes, Clear benefit
COMPETITIVE ADVANTAGE (25%)	CA.1	Does Duke meet the applicable eligibility requirements?	No	Yes, most [illegible] requirements but [illegible]	Yes, majority of requirements
	CA.2	Does the opportunity include the potential for innovative policy/ strategic partner?	No	No	Yes
	CA.3	Does the opportunity address federal strategic priorities (reliability, resilience, emissions, equity/Justice40 metric, job creation/growth, etc.) as applicable?	No	No	Yes
	CA.4	Would the opportunity, upon successful execution, create additional competitive advantages for the State?	No	Yes, but [illegible] benefit	Yes
EXECUTION CAPABILITY (25%)	EC.1	Does Duke have the capabilities needed to execute?	No	Yes but will require [illegible] coordination	Yes
	EC.2	Does Duke have the resources needed to execute?	No	Yes, but minimal risk	Yes
	EC.3	Did executive stakeholders, internal and/or the company regulatory, provide, counterparts, collaborators support?	No	Yes, but [illegible] risk	Yes
	EC.4	Is Duke able to implement the projects related to this Grant within the allotted timeframe?	No	Yes, but scheduled will be a potential challenge	Yes
	EC.5	Are grant reporting and decision authorities navigable relative to the funding level?	No	Yes, but timelines and can be managed	Yes
	EC.6	Does the opportunity create a clear path to [illegible] commitments?	No	Yes, but must have [illegible]	Yes



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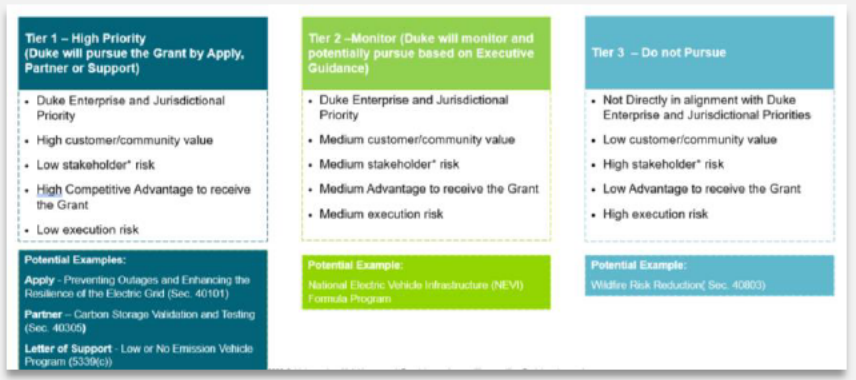
Duke Energy BIL Prioritizatio

					Strategic Fit			
					Priority List		Monitor List	Letter of Support
Program Name	Program Summary	Finalized Plans	S.1 Does the opportunity align with Duke's Enterprise strategic goals and growth opportunities? (Decarbonization, Customer Value, Shape the Landscape)	S.2 Does the opportunity align with Duke Energy operational strategy (including stakeholder priority)?	S.3 Should the opportunity be monitored for future impact?	S.4 Is a Letter of Support Likely?
Incentives For Advanced Cybersecurity Technology Investments	[illegible]	Apply	Yes	Yes	NA	
Rural and Municipal Utility Cybersecurity and Technical Assistance Program	[illegible]	Do Not Pursue	No	No	NA	
Transmission Facilitation Program	[illegible]	Do Not Pursue	Yes	Yes	NA	
State Energy Program	[illegible]	Partial	No		Yes	
Smart Grid Investment Matching Grant Program (Deployment of	[illegible]	Apply	Yes	Yes	NA	



Tier 1 – High Priority (Duke will pursue the Grant by Apply, Partner or Support)

- Duke Enterprise and Jurisdictional Priority
- High customer/community value
- Low stakeholder* risk
- High Competitive Advantage to receive the Grant
- Low execution risk

Potential Examples:

Apply - Preventing Outages and Enhancing the Resilience of the Electric Grid (Sec. 40101)

Partner – Carbon Storage Validation and Testing (Sec. 40305)

Letter of Support - Low or No Emission Vehicle Program (5339(c))

Tier 2 –Monitor (Duke will monitor and potentially pursue based on Executive Guidance)

- Duke Enterprise and Jurisdictional Priority
- Medium customer/community value
- Medium stakeholder* risk
- Medium Advantage to receive the Grant
- Medium execution risk

Potential Example:

National Electric Vehicle Infrastructure (NEVI) Formula Program

Tier 3 – Do not Pursue

- Not Directly in alignment with Duke Enterprise and Jurisdictional Priorities
- Low customer/community value
- High stakeholder* risk
- Low Advantage to receive the Grant
- High execution risk

Potential Example:

Wildfire Risk Reduction(Sec. 40803)

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Strategic Questions Were Defined

The following questions were used to prioritize grants:

Grant Prioritization per Tier					
Process: As assigned, each Grant within a tier will be evaluated for Value, Competitiveness, and Risk. A total score will be provided for each category and a weight factor will be applied to each category. The results will be used to prioritize the Grants within the Tiers. More specific studies will be performed at Phase II as assigned by Project Plans.					
Scoring Weight			**Low (1)**	**Medium (5)**	**High (10)**
CUSTOMER VALUE (30%)	**CV 1**	Does the opportunity potentially benefit customers through rate reduction or less pressure on rate increase (ex: offset planned investment)?	No	Yes, low to medium benefit	Yes, high benefit
STAKEHOLDER (30%)	**SR 1**	Does the opportunity align with state policy?	Does not align	Aligns but not a high priority	Aligns and a high priority
	SR 2	Does the opportunity align with state regulatory priorities?	Does not align	Aligns but not a high priority	Aligns and a high priority
	SR 3	Does the opportunity align with key stakeholder advocate priorities (cities, customers, NGOs, etc.)?	Does not align	Aligns for majority	Aligns and a high priority
	SR 4	Does the opportunity have the potential to enhance the company's brand?	No	Yes, but medium/low benefit	Yes, Clear benefit
LIKELIHOOD OF SUCCESS (20%)	**CA 1**	Does Duke meet the applicant eligibility requirements?	No	Yes, meet core requirements but not all desired requirement	Yes, majority of requirements
	CA 2	Does the opportunity include the potential to involve a key strategic partner?		No	Yes
	CA 3	Does the opportunity address federal strategic priorities (reliability, resilience, emissions, equity/Justice40, rural, job retention/growth, etc.) as applicable?	No		Yes
	CA 4	Would the opportunity, upon successful execution, create additional benefits for the State?	No	Yes, but medium/low benefit	Yes
EXECUTION CAPABILITY (20%)	**EC 1**	Does Duke have the capabilities needed to execute?	No	Yes, but will require large coordination	Yes
	EC 2	Does Duke have the resources needed to execute?	No	Yes, but minimal risk	Yes
	EC 3	Will execution create new, material risks for the company (e.g. safety, price risk, counterparty, risks in other jurisdictions, etc.)?	Yes	Yes, but low/medium risk	No
	EC 4	Is Duke able to implement the projects related to this Grant within the allotted timeframe?	No	Yes, but schedule will be a potential challenge	Yes
	EC 5	Are grant reporting and disclosure burdens manageable relative to the funding level?	No	Yes, but minimal and can be managed	Yes

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Duke Energy IIJA Tier Definitions

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Tier 1 – High Priority (Duke will pursue the Grant by Apply, Partner or Support)

- Duke Enterprise and jurisdictional priority
- High customer/community value
- High stakeholder* priority
- High competitive advantage to receive the grant
- Low execution risk

Potential Examples:

Apply - Preventing Outages and Enhancing the Resilience of the Electric Grid (Sec. 40101)

Partner – Carbon Storage Validation and Testing (Sec. 40305)

Letter of Support - Low or No Emission Vehicle Program (5339(c))

Tier 2 –Monitor (Duke will monitor and potentially pursue based on executive guidance)

- Duke Enterprise and jurisdictional priority
- Medium customer/community value
- Medium stakeholder* priority
- Medium advantage to receive the grant
- Medium execution risk

Potential Example:

National Electric Vehicle Infrastructure (NEVI) Formula Program

Tier 3 – Do not Pursue

- Not directly in alignment with Duke Enterprise and jurisdictional priorities
- Low customer/community value
- Low stakeholder* priority
- Low advantage to receive the grant
- High execution risk

Potential Example:

Wildfire Risk Reduction (Sec. 40803)

* Stakeholder: Regulators, state & local policymakers, key partners including technology providers, universities and NGOs, and other organization of influence.

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North Carolina Jurisdiction

IIJA Grants Prioritization

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North Carolina Tier 1 (Apply, Partner, Letter of Support)

IIJA Section #	IIJA Grant Program	Grant Program Summary	Federal Agency	Total Program Amount ($M)	Type of Pursuit
40107	Smart Grid Investment Matching Grant Program / Deployment of Technologies to Enhance Grid Flexibility	This section funds $3B for Smart Grid investments through DOE to electric utilities. Grants may cover up to 50% of the costs of any investments.	Department of Energy	3,000.0 M	Apply
40101	Preventing Outages and Enhancing the Resilience of the Electric Grid	This section funds $5B for grid resiliency through DOE to utilities and state governments. States are required to match 15% of funding and most other entities are required to match 100%.	Department of Energy	5,000.0 M	Apply
41001	Energy Storage Demonstration Projects / Energy Storage Demonstration Pilot Grant Program	This section funds $355M for 3 energy storage demonstration projects under the Energy Storage Demonstration Project through the Department of Energy to utilities, State and Tribal governments, higher education systems, and private energy storage companies.	Department of Energy	355.0 M	Apply
40331	Hydroelectric Production Incentives	This section funds $125M for electricity production incentives by hydroelectric facilities through DOE to utilities.	Department of Energy	125.0 M	Apply
40332	Hydroelectric Efficiency Improvement Incentives	This section funds $75M for capital improvements which increase efficiency at hydroelectric facilities through owners and operators of hydroelectric facilities to utilities. Payments can cover up to 10% of the cost of the improvement with a max of $750k per facility.	Owners or operators of hydroelectric facilities at existing dams	75.0 M	Apply
40333	Maintaining and Enhancing Hydroelectricity Incentives	This section funds $553.6M for capital improvements which improve grid resiliency and dam safety at hydroelectric facilities through DOE to utilities. Payments can cover up to 30% of the costs of improvements, with a max amount of $5M per facility.	Department of Energy	553.60 M	Apply
40103	Energy Improvement in Rural and Remote Areas	This section funds $1B for rural energy reliability through State governments to multiple recipients at the lower government levels.	Department of Energy	1,000.0 M	Partner
71101	Clean School Bus Program	This section funds $5B for the purchase of clean school buses through the EPA to multiple recipients at lower government levels, contractors, and nonprofits.	Environmental Protection Agency	5,000.0 M	Letter of Support
30018	Grants for Buses and Bus Facilities Program	This section funds $1.1B for purchasing buses and constructing bus-related facilities through FTA to multiple recipients at lower government levels. The Federal share of any project costs should not exceed 80%.	Federal Transit Administration	1,100.0 M	Letter of Support
Division J	Low or No Emission (Bus) Grants	This section funds $5.25B for zero or low emission transits purchases through the FTA to state, tribal and local government. The Federal share is not to exceed 85% of the total transit bus cost. The federal share in the cost of leasing or acquiring low- or no-emission bus-related equipment and facilities is 90% of the net project cost.	Federal Transit Administration	5,250.0 M	Letter of Support
40541	Energy Efficiency and Renewables Energy for Public Schools	This section funds $500M to provide competitive grants to make energy efficiency, renewable energy, and alternative fueled vehicle upgrades and improvements at public schools.	Department of Energy	500.0 M	Letter of Support

Type of Pursuit Apply | Partner | Letter of Support

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Questions?

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Enterprise

IIJA Grants Prioritization

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Enterprise Tier 1 (Apply, Partner, Letter of Support)

IIJA Section #	IIJA Grant Program	Grant Program Summary	Federal Agency	Total Program Amount ($M)	Type of Pursuit
40123	Incentives For Advanced Cybersecurity Technology Investments	This section creates an incentive-based program which encourages investment in advanced cybersecurity technology through the DOE for utilities.	Department of Energy	Rate Incentives	Apply
40314	Regional Clean Hydrogen Hubs	This section funds $8B for supporting the development of at least four regional clean hydrogen hubs (est. $2B per hub) through the Department of Energy to applicants including utilities; at least one hub will demonstrate end-use of clean hydrogen in the electric power generation sector.	Department of Energy	8,000.0 M	Partner
40125	Cybersecurity for Energy Delivery Systems (CEDS) R&D Program	This section funds $250M for the development of advanced cybersecurity technologies for the energy industry through DOE to State governments and utilities.	Department of Energy	250.0 M	Partner
40125	Energy Sector Operational Support for Cyber Resilience Program	This section funds $50M for enhancing cybersecurity emergency response capabilities through DOE to State governments and utilities.	Department of Energy	50.0 M	Partner
71101	Clean School Bus Program	This section funds $5B for the purchase of clean school buses through the EPA to multiple recipients at lower government levels, contractors, and nonprofits.	Environmental Protection Agency	5,000.0 M	Letter of Support
30018	Grants for Buses and Bus Facilities Program	This section funds $1.1B for purchasing buses and constructing bus-related facilities through FTA to multiple recipients at lower government levels. The Federal share of any project costs should not exceed 80%.	Federal Transit Administration	1,100.0 M	Letter of Support
30018	Low or No Emission (Bus) Grants	This section funds $5.25B for zero or low emission transits purchases through the FTA to state, tribal and local government. The Federal share is not to exceed 85% of the total transit bus cost. The federal share in the cost of leasing or acquiring low- or no-emission bus-related equipment and facilities is 90% of the net project cost.	Federal Transit Administration	5,250.0 M	Letter of Support
40541	Energy Efficiency and Renewables Energy for Public Schools	This section funds $500M to provide competitive grants to make energy efficiency, renewable energy, and alternative fueled vehicle upgrades and improvements at public schools.	Department of Energy	500.0 M	Letter of Support

Type of Pursuit Apply | Partner | Letter of Support

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Do Not Pursue All Jurisdictions

BIL Grants Prioritization

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‘Do Not Pursue’ grant programs are not strategically or economically aligned with Duke priorities (1/3)

BIL Program (gray indicates indirect grant)	Topic	Rationale	Total program amount ($M)
State of Good Repair Grants (30016)	Transportation Infrastructure	No strategic alignment—replacing rail rolling stock	21,640
Local and regional project assistance (21202)	Conservation, Transportation Infrastructure	No strategic alignment—surface transportation infrastructure projects	7,500
National Highway Freight Program (11114)	Transportation Infrastructure	No strategic alignment—National Highway Freight Network improvements	7,150
Airport Terminal Program (Division J)	Transportation Infrastructure	No strategic alignment—projects to address aging airport infrastructure	5,000
Federal Aviation Administration facilities and equipment (Division J)	Transportation Infrastructure	No strategic alignment—electrical power system in relation to air traffic control facilities	5,000
Consolidated Rail Infrastructure and Safety Improvements (22103)	Transportation Infrastructure	No strategic alignment—projects that improve the safety, efficiency, and reliability of intercity rail	5,000
Orphaned well site plugging, remediation, and restoration (40601)	Conservation, Oil & Gas	Not eligible—applies only to orphaned wells	4,675
Abandoned hardrock mine reclamation (40704)	Conservation, Mines	Not eligible—applies only to hardrock mining	3,369
Metropolitan Planning Policy (11104)	Transportation Infrastructure	No strategic alignment—metropolitan area transportation plans	3,000
Carbon Dioxide Transportation Infrastructure Finance And Innovation (40304)	CCUS, Transportation Infrastructure	No economic alignment—loan program, utilities not directly eligible	2,300
PROTECT Program (11405)	Transportation Infrastructure	No strategic alignment—resilience improvements for transportation	2,100
Active Transportation Infrastructure Investment Program (11529)	Transportation Infrastructure	No strategic alignment—safe and connected walking and bicycling infrastructure	1,400
National Culvert Removal, Replacement, and Restoration Grant Program (21203)	Conservation	No strategic alignment—improvements for fish passage	1,000
Ferry service for rural communities (71103)	Transportation Infrastructure	No strategic alignment—ferry service in rural areas	1,000

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‘Do Not Pursue’ grant programs are not strategically or economically aligned with Duke priorities (2/3)

BIL Program (gray indicates indirect grant)	Topic	Rationale	Total program amount ($M)
Mineral Security Projects (41003)	Mines	No strategic alignment—geologic/ geophysical/ engineering data, rare earth meal mining R&D	600
Ecosystem Restoration: Financial assistance to facilities that purchase & process byproducts (40804)	Conservation	No strategic alignment—loans for wood-processing facilities	400
Ecosystem Restoration: Voluntary ecosystem restoration projects (40804)	Conservation	No strategic alignment—ecosystem restoration	400
Construction of Ferry Boats and Ferry Terminal Facilities Program (Division J)	Transportation Infrastructure	No strategic alignment—funding for ferry facilities	342
Ecosystem Restoration: Ecological health restoration contracts (40804)	Conservation	Not eligible—contracts to restore ecological health of Federal land	300
Emergency Watershed Protection Program (Division J)	Conservation	No strategic alignment—repair damages to waterways and watersheds	300
Forest Service Legacy Road And Trail Remediation Program (40801)	Conservation, Transportation Infrastructure	No strategic alignment—passages for fish, National Forest System road maintenance	250
Rural and Municipal Utility Cybersecurity and Technical Assistance Program (40124)	Cybersecurity	Not eligible—for rural electric coops, munis, small IOUs	250
Ecosystem Restoration: Restoration projects on Federal land (40804)	Conservation	No strategic alignment—restoration projects on Federal land	200
Ecosystem Restoration: Invasive species detection, prevention, and eradication (40804)	Conservation	No strategic alignment—detecting, preventing, and eradicating invasive species	200
Ecosystem Restoration: Restore native vegetation & mitigate environmental hazards on mined land (40804)	Conservation	No strategic alignment—restoring native vegetation	200
Ecosystem Restoration: National revegetation effort (40804)	Conservation	No strategic alignment—revegetation including seed strategy	200
Delta Regional Authority (Division J)	Economic Development	Not eligible—funding for Delta counties not served by Duke	150
Future of industry program and industrial research and assessment centers (40521)	Manufacturing R&D	No economic alignment—limited funding for higher education-based industrial research & assessment	150

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‘Do Not Pursue’ grant programs are not strategically or economically aligned with Duke priorities (3/3)

BIL Program (gray indicates indirect grant)	Topic	Rationale	Total program amount ($M)
Watershed Rehabilitation Program (Division J)	Conservation	Not eligible—Secretary of Agriculture spend plan	118
Direct air capture technologies prize competitions – commercial (41005)	CCUS	No economic alignment—limited funding, likely highly competitive	100
Ecosystem Restoration: Restore, prepare, or adapt recreation sites on Federal land (40804)	Conservation	No strategic alignment—restoring, preparing, or adapting recreation sites	100
Ecosystem Restoration: Restore water quality or fish passage (40804)	Conservation	No strategic alignment—collaborative-based, landscape-scale restoration program	80
Sport Fish Restoration Program and Recreational Boating Safety Program (28001)	Conservation	No strategic alignment—relating to fish restoration, boating vessels	64
Advanced Drinking Water Technology Grant Program (50112)		Not eligible—for owners and operators of public water systems	50
Ecosystem Restoration: Rental programs for temporary water crossing structures (40804)	Conservation, Transportation Infrastructure	No strategic alignment—temporary water crossing structures to minimize stream bed disturbance	50
Battery Processing and Manufacturing: State and local programs (40207)	Energy Storage	No strategic alignment—establish or enhance battery collection, recycling, and reprocessing	50
Hazardous Materials Training Grants (26001)	Hazmat Safety	No strategic alignment—training to respond to accidents and incidents involving hazardous material	25
Community Safety Grants (26001)	Hazmat Safety	No strategic alignment—training for hazardous material and hazmat employees	20
Direct air capture technologies prize competitions – precommercial (41005)	CCUS	No economic alignment—limited funding, likely highly competitive	15
Pumped Storage Hydropower Wind and Solar Integration and System Reliability Initiative (40334)	Energy Storage	No economic alignment—limited funding	10

Legend CCUS · Conservation · Mines · Oil & Gas · Transportation Infrastructure

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Duke Energy Carolinas
Response to
NC Public Staff Data Request
Data Request No. NCPS 164

Docket No. E-7, Sub 1276

Date of Request: **June 7, 2023**
Date of Response: **June 19, 2023**

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The attached response to NC Public Staff Data Request No. 164-3, was provided to me by the following individual(s): Jacqueline Walker, Lead Planning and Regulatory Support Specialist, was provided to NC Public Staff under my supervision.

Jack Jirak
Deputy General Counsel
Duke Energy Carolinas

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Oct 04 2023

North Carolina Public Staff
Data Request No. 164
DEC Docket No. E-7, Sub 1276
Item No. 164-3
Page 1 of 5

Request:

3. Guyton Supplemental Exhibit 5 describes the NextGen GIS. Please respond to the following questions.
    a. Please provide the vendor and name of the existing GIS software used and evidence from the vendor that it is reaching obsolescence (press release, customer communication, project documentation, etc.).
    b. Please provide a description of the extent of the "limited vendor support." This response should, at a minimum, explain how long the vendor will continue to support the product, what commitments the vendor has made to the Company, and a description of the limitations on software patches and infrastructure upgrades.
    c. In the Schedule provided (04000156 DEE EAM NextGen GIS Current P6 Schedule - 03.31.2023), please explain what each of the seven "Release Milestones" on lines 219-225 consist of, and how they will be implemented.
    d. Please provide an estimate of the annual amount of O&M associated with maintaining the Company's existing GIS system in each of the last 5 years (2017 through 2022, inclusive).
    e. Please provide support for the $186,268 of incremental O&M associated with this project.
        i. Are the licenses with AWS expected to be O&M or capital? Please explain.
        ii. Guyton Supplemental Exhibit 5 at 3 lists a variety of benefits that would appear to reduce O&M costs under the Affordability title. Please explain whether these were included in the calculation of incremental O&M.
    f. Please provide the calculations that convert the Enterprise Cost Estimate provided in "4000156 Next Gen GIS_Class 3_Commit-Build 1 Gate_FINAL with WBS costs" to the $30,609,263 in-service cost in Guyton Supplemental Exhibit 3. This response should also indicate whether the Company utilized the "Min," "Most Likely," or "Max" Enterprise cost estimate as the basis.
    g. Please provide the calculations supporting the Contingency amount of $6,252,963 used in Abernathy Supplemental Exhibit 4, Workpaper 5, line 1296.
    h. On the 'Misc. & IER Notes' tab of the Enterprise Cost Estimate spreadsheet, rows 45 – 53, a breakdown of costs between Duke Energy electric jurisdictions is provided. Please explain how the 26.83% allocation to DEC-NC was determined.

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Oct 04 2023

North Carolina Public Staff
Data Request No. 164
DEC Docket No. E-7, Sub 1276
Item No. 164-3
Page 2 of 5

i. Regarding the existing GIS system, which Duke Energy Corporation entities (affiliates and subsidiaries, regulated or unregulated) currently utilize the system?
    i. Provide the annual utilization rate as a percentage of time for each affiliate/subsidiary for each of the last 5 years.
    ii. Provide the allocation of costs (capital and O&M) for the existing GIS system to DEC System and DEC NC retail.
        1. Identify where these costs are booked and where the allocated amounts appear in cost of service for this case.

j. Please confirm this is an enterprise wide NextGen GIS system. If this is not enterprise wide, please identify the specific Duke Energy Corporation entities (affiliates and subsidiaries, regulated or unregulated) that will be utilizing the NextGen GIS system and how entities not identified will be prevented from utilizing the system.
    i. The project charter, project schedule, and risk register refer to "MW Gas" and other gas entities. Please explain what "MW Gas" is and which Duke Energy Corporate natural gas entities will be utilizing the NextGen GIS system. Please also explain why it does not appear as if natural gas entities were allocated any costs.
    ii. Will any unregulated affiliates or subsidiaries be utilizing the enterprise GIS system? If so, why were they not allocated costs?
    iii. Please provide a revised cost allocation calculation that includes (1) natural gas entities and (2) other non-electric entities that will utilize the NextGen GIS system. The allocation methodology between entities should roughly approximate actual usage or potential usage.

k. Are there any expenses associated with this project included in the test year expenses? If so, please identify the specific amounts, FERC accounts, and whether or not these costs were removed in a pro forma adjustment. If they were not removed, please explain why.
    i. On the 'Misc. & IER Notes' tab of the Enterprise Cost Estimate spreadsheet, the October 10, 2022 meeting notes state that there are $292,000 of incurred costs which "is sunk cost and is already reflected in the TPO as O&M." Please explain this note and the $292k of incurred costs.

l. The Enterprise Cost Estimate 'Misc & IER Notes' tab describes benchmarking of several companies. Please provide all details of these benchmarking efforts, and any meeting notes, documents, whitepapers, or other communications describing these benchmarking efforts.

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Oct 04 2023

North Carolina Public Staff
Data Request No. 164
DEC Docket No. E-7, Sub 1276
Item No. 164-3
Page 3 of 5

Response:

3.a. The current platform used is Smallworld Office Suite 4.3 by General Electric (GE). The current support contract ends Dec 31, 2023 at which point the company expects to move to a time and materials approach with GE until the new system is deployed.

3.b. The current contract provides limited support through January 2024. During this time period, Duke cannot receive enhancements or patches. Support is limited to break-fixes of the current version of the system.

3.c. The releases on lines 219-225 of the schedule provided (04000156 DEE EAM NextGen GIS Current P6 Schedule - 03.31.2023) represent draft releases of the new GIS platform. The company is currently planning and designing the system, and these draft release dates will be updated in early 2024. The draft releases are the following:
R1 = Minimum Viable Product (MVP) Innovation environment deployed
R2 = Midwest Gas MVP deployed
R3 = Duke Energy Florida MVP deployed
R4 = Duke Energy Carolinas MVP deployed
R5 = Duke Energy Progress MVP deployed
R6 = Duke Energy Ohio, Kentucky, Indiana MVP deployed
R7 = Final commissioning of enterprise system, with all regions stabilized

3.d. The costs associated with the current system, for the past two years (2021 and 2022) are estimated and included in attachment "DEC PSDR 164-3 Attachment.docx". These costs are for the enterprise system. The support labor for 2017 through 2020 is unknown and not reflected in the table.

Year	2017	2018	2019	2020	2021	2022
Annual Total	$ 983,200	$ 983,200	$ 983,200	$ 983,200	$ 2,300,842	$ 2,399,861
GE Smallworld - Annual fee	$ 983,200	$ 983,200	$ 983,200	$ 983,200	$ 983,200	$ 983,200
Labor - Maintenance / Break Fix	unknown	unknown	unknown	unknown	$ 1,317,642	$ 1,416,661

3.e. The $186,268 represents the DEC portion (32%) of the estimated enterprise-wide ongoing costs of $582,088 associated with the new system. These estimated costs are comprised of anticipated new software licenses and maintenance fees.

3.e.i. The AWS costs are expected to be 15% O&M and 85% Capital per our current enterprise agreement.

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3.e.ii. There were no O&M benefits included in the calculation of ongoing or incremental costs.

3.f. The $30,609,263 represents 32.00% of the Capital costs, and 35.14% of AFUDC of the total estimate. The estimate amount is the “most likely” amount, where the “min” is -10% and the “max” is +20% of the most likely, which is $103,190,201.

3.g. The Contingency amount of $6,252,963 used in Abernathy Supplemental Exhibit 4, Workpaper 5, line 1296 represents 32% of the total contingency for the project estimate.

3.h. The 26.83% allocation to DEC-NC was determined utilizing percentage of customers for DEC-NC as part of the enterprise total customer count.

3.i. The current system is utilized by Duke Energy Carolinas, Duke Energy Progress, Duke Energy Florida, Duke Energy Indiana, and Duke Energy Ohio & Kentucky.

3.i.i. The company does not track annual utilization rate as a percentage of time for each affiliate/subsidiary.

3.i.ii. The allocation of the current system costs can be found in attachment “DEC PSDR 164-3 Attachment.docx”. This represents 32% for DEC System.

Year	2017	2018	2019	2020	2021	2022
DEC System	$ 314,624	$ 314,624	$ 314,624	$ 314,624	$ 736,269	$ 739,140

3.i.ii.1. These costs are booked to enterprise projects that are allocated across all regions.

3.j. The system is an enterprise-wide system and will be utilized by Duke Energy Carolinas, Duke Energy Progress, Duke Energy Florida, Duke Energy Indiana, and Duke Energy Ohio & Kentucky (includes Gas for Ohio and Kentucky)

3.j.i. MW Gas is an abbreviation for Midwest Gas and refers to the Natural Gas Business Unit in the two states of Ohio and Kentucky. Costs are being allocated to Midwest Gas.

3.j.ii. No unregulated entities or affiliates will be utilizing the system.

3.j.iii. The cost allocation for the total project is shown in attachment “DEC PSDR 164-3 Attachment.docx”. The allocation percentages are provided and represent customer count as a percentage.

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CD and Gas Breakdown by Customers	Cost (%)	AFUDC (%)
EAMC - DE Carolinas (Electric) - 32%	32.00%	35.14%
EAMP - DE Progress (Electric) - 19%	19.00%	22.14%
EAMF - DE Florida (Electric) - 22%	22.00%	0.00%
EAMI - DE Indiana (Electric) - 10%	10.00%	13.14%
EAMK - DE Kentucky (Electric) - 2%	2.00%	5.14%
EAKG - DE Kentucky (Gas) - 1%	1.00%	4.14%
EAMO - DE Ohio (Electric) - 9%	9.00%	12.14%
EAOG - DE Ohio (Gas) - 5%	5.00%	8.14%
	100.00%	100.00%

Jurisdiction	Category	2022	2023	2024	2025	2026	2027	Total
DEC	CAP	$ -	$ 6,498,586	$ 7,558,435	$ 10,370,539	$ 4,407,880	$ -	$ 28,835,440
	O&M	$ 166,811	$ 525,314	$ 706,441	$ 799,597	$ 375,625	$ -	$ 2,573,788
	AFUDC	$ -	$ 187,573	$ 585,066	$ 997,283	$ -	$ -	$ 1,769,922
	Total	$ 166,811	$ 7,211,473	$ 8,849,942	$ 12,167,419	$ 4,783,505	$ -	$ 33,179,150
DEP	CAP	$ -	$ 3,858,535	$ 4,487,821	$ 6,157,508	$ 2,617,179	$ -	$ 17,121,042
	O&M	$ 99,044	$ 311,905	$ 419,449	$ 474,761	$ 223,027	$ -	$ 1,528,187
	AFUDC	$ -	$ 118,186	$ 368,639	$ 628,370	$ -	$ -	$ 1,115,195
	Total	$ 99,044	$ 4,288,627	$ 5,275,909	$ 7,260,638	$ 2,840,206	$ -	$ 19,764,424
DEF	CAP	$ -	$ 4,467,778	$ 5,196,424	$ 7,129,746	$ 3,030,417	$ -	$ 19,824,365
	O&M	$ 114,683	$ 361,154	$ 485,678	$ 549,723	$ 258,242	$ -	$ 1,769,479
	AFUDC	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total	$ 114,683	$ 4,828,931	$ 5,682,102	$ 7,679,469	$ 3,288,659	$ -	$ 21,593,844
DEI	CAP	$ -	$ 2,030,808	$ 2,362,011	$ 3,240,794	$ 1,377,462	$ -	$ 9,011,075
	O&M	$ 52,129	$ 164,161	$ 220,763	$ 249,874	$ 117,383	$ -	$ 804,309
	AFUDC	$ -	$ 70,149	$ 218,805	$ 372,968	$ -	$ -	$ 661,922
	Total	$ 52,129	$ 2,265,118	$ 2,801,579	$ 3,863,635	$ 1,494,845	$ -	$ 10,477,306
DEK	CAP	$ -	$ 406,162	$ 472,402	$ 648,159	$ 275,492	$ -	$ 1,802,215
	O&M	$ 10,426	$ 32,832	$ 44,153	$ 49,975	$ 23,477	$ -	$ 160,862
	AFUDC	$ -	$ 27,450	$ 85,619	$ 145,944	$ -	$ -	$ 259,013
	Total	$ 10,426	$ 466,443	$ 602,174	$ 844,077	$ 298,969	$ -	$ 2,222,090
DEK (Gas)	CAP	$ -	$ 203,081	$ 236,201	$ 324,079	$ 137,746	$ -	$ 901,107
	O&M	$ 5,213	$ 16,416	$ 22,076	$ 24,987	$ 11,738	$ -	$ 80,431
	AFUDC	$ -	$ 22,112	$ 68,971	$ 117,566	$ -	$ -	$ 208,649
	Total	$ 5,213	$ 241,609	$ 327,249	$ 466,633	$ 149,485	$ -	$ 1,190,188
DEO	CAP	$ -	$ 1,827,727	$ 2,125,810	$ 2,916,714	$ 1,239,716	$ -	$ 8,109,967
	O&M	$ 46,916	$ 147,745	$ 198,686	$ 224,887	$ 105,644	$ -	$ 723,878
	AFUDC	$ -	$ 64,812	$ 202,157	$ 344,590	$ -	$ -	$ 611,559
	Total	$ 46,916	$ 2,040,284	$ 2,526,653	$ 3,486,190	$ 1,345,361	$ -	$ 9,445,404
DEO (Gas)	CAP	$ -	$ 1,015,404	$ 1,181,005	$ 1,620,397	$ 688,731	$ -	$ 4,505,537
	O&M	$ 26,064	$ 82,080	$ 110,381	$ 124,937	$ 58,691	$ -	$ 402,154
	AFUDC	$ -	$ 43,462	$ 135,564	$ 231,078	$ -	$ -	$ 410,104
	Total	$ 26,064	$ 1,140,946	$ 1,426,951	$ 1,976,412	$ 747,423	$ -	$ 5,317,796
Total	CAP	$ -	$ 20,308,081	$ 23,620,109	$ 32,407,935	$ 13,774,624	$ -	$ 90,110,749
	O&M	$ 521,286	$ 1,641,607	$ 2,207,627	$ 2,498,740	$ 1,173,827	$ -	$ 8,043,087
	AFUDC	$ -	$ 533,744	$ 1,664,822	$ 2,837,798	$ -	$ -	$ 5,036,364
	Total	$ 521,286	$ 22,483,432	$ 27,492,559	$ 37,744,473	$ 14,948,452	$ -	$ 103,190,200

3.k. There were no costs included in the test year expenses.

3.k.i. The $292,000 of O&M costs are associated with planning activities, such as conducting RFP and performing cost and schedule estimation, typical of all efforts in their early stages, which was managed by an internal Duke team referred to as “TPO”.

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3.l. As part of the RFP process, the company spoke with other utility companies to understand level of effort, timing, and implementation experiences with the same platform.

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Duke Energy Carolinas
Response to
NC Public Staff Data Request
Data Request No. NCPS 170

Docket No. E-7, Sub 1276

Date of Request: **June 8, 2023**
Date of Response: **June 19, 2023**

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The attached response to NC Public Staff Data Request No. 170-3, was provided to me by the following individual(s): Jacqueline Walker, Lead Planning and Regulatory Support Specialist, was provided to NC Public Staff under my supervision.

Jack Jirak
Deputy General Counsel
Duke Energy Carolinas

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North Carolina Public Staff
Data Request No. 170
DEC Docket No. E-7, Sub 1276
Item No. 170-3
Page 1 of 1

Request:

3. How does DEC currently communicate between substations and along the routes planned for MCT in the MYRP?

Response:

DEC currently communicates with substations along the routes planned for MCT fiber using 3rd party fiber, leased circuits, or high capacity wireless technology. Please see details in attachment "PSDR 170 DEC MYRP Supp Mission Critical Transport (fiber).pdf" where unreliable leased circuits impacting protective relaying will be resolved with selected fiber builds

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PROJECT INFORMATION AND IDENTIFIERS				Question 3	Question 3, 4c	Question 4c-i	Question 4c-i
MYRP Project Name	Location/Task Name	Estimate miles	build type	3. How does DEC currently communicate between substations and along the routes planned for MCT in the MYRP?	DOES project : (1) replacing a leased circuit; (2) increasing capacity; or (3) improving security or reliability (or some combination of all three or some other category).	# of leased circuits to be replaced	estimated leased cost
Mission Critical Transport Additions - Year 2	Oakboro Tie to Morning Tie (Goose Creek 230kV (2M80) 32.5 Miles	32.5	OPGW	Oakboro Tie to Morningstar Tie is one build in a series of builds which will extend, or diversify, service to a wide breadth of sites. No "new" sites will be picked up along this segment. Oakboro Tie and Morningstar Tie are both tie points to Duke's existing fiber network.	The Oakboro Tie to Morningstar Tie fiber build will help diversify systems in the South Charlotte area, will allow Duke Energy to move off of 3rd Party fibers in the Charlotte area and will help form the backbone of a new high-bandwidth, fiber optic network which will serve sites in the South Charlotte, Monroe, Lancaster, Great Falls, Newport and Fort Mill areas.	N/A	N/A
Mission Critical Transport Additions - Year 2	Morningstar Tie to Newport Tie (Sandy Ridge 230kV (2N51) 15.6 Miles	15.6	OPGW	This is the NC portion of 33.4 mile fiber build between Morningstar Tie and Newport Tie. This is one build in a series of builds which will extend, or diversify, service to a wide breadth of sites. No "new" sites are directly tied to this build. However, future fiber segments will tie-in to this path. Morningstar Tie and Newport Tie are both tie points to Duke Energy's existing fiber network.	The Morningstar Tie to Newport Tie fiber build will help diversify systems in the South Charlotte area, will allow Duke to move off of 3rd Party fibers in the Charlotte area and will help form the backbone of a new high-bandwidth, fiber optic network which will serve sites in the South Charlotte, Monroe, Lancaster, Great Falls, Newport and Fort Mill areas.	N/A	N/A
Mission Critical Transport Additions - Year 3	Roughedge Tie to Monroe Solar (Underground) 3.4 Miles	3.4	underground	Monroe Solar to Roughedge Tie is one build in a series of builds which will extend high-speed, on-net, fiber communications to Monroe Solar. Services to Monroe Solar are leased today.	Extending on-net communications to Monroe Solar will replace highly unreliable leased circuits.	13	78000
Mission Critical Transport Additions - Year 3	Oakboro Tie to Monroe Main (Rocky River 100kV) 20.1 Miles	20.1	OPGW	Oakboro Tie to Monroe Main is one build in a series of builds which will extend, or diversify, service to a wide breadth of sites. This included Monroe Main which is served via a third party carrier today.	Extending on-net communications to Monroe Main will replace highly unreliable leased circuits. However, this build will also help form the backbone of a new high-bandwidth, fiber optic network which will serve sites in the South Charlotte, Monroe, Lancaster, Great Falls, Newport and Fort Mill areas.	4	24000
Mission Critical Transport Additions - Year 3	Rural Hall Tie to Shattalon Sw Sta (Shattalon 100kV (1R3305) 5.3 Miles	5.3	OPGW	Rural Hall Tie to Shattalon Sw Sta is one build in a series of builds which will extend high-speed, on-net, fiber communications to Shattalon Sw Sta. Services to Shattalon are leased today or provided via power line carrier (PLC). Rural Hall Tie is an existing Duke fiber hub and will serve as one of the anchor points for this series of builds.	Extending on-net communications to Shattalon Sw Sta will replace existing leased circuits and will allow Transmission to upgrade the current protective relay scheme associated with this station.	2	12000
Mission Critical Transport Additions - Year 3	Lewisville Ops Cnt to Shattalon Sw Sta (Underground) 12 Miles	12	underground	Lewisville Ops Cnt to Shattalon Sw Sta is one build in a series of builds which will extend high-speed, on-net, fiber communications to Lewisville Ops. Lewisville Ops is served via a linear microwave chain today.	Extending fiber to Lewisville Ops Cnt will replace the existing microwave path feeding this site. This will provide additional bandwidth and greater reliability.	N/A	N/A
Mission Critical Transport Additions - Year 1	Pacolet Tie to Morris Sw Sta	18.8	OPGW	Pacolet Tie to Morris Sw Sta is one build in a series of builds which will extend, or diversify, service to a wide breadth of sites. Midway Sw Sta and Morris Sw Sta are two sites associated with this segment. Both of these stations are served via leased circuits today.	The Pacolet Tie to Morris Sw Sta fiber build will replace existing leased circuits at Midway Sw Sta and Morris Sw Sta. However, this build is also part of a larger effort which will extend high-speed fiber to a wide swath of Duke Energy's service territory in the Newberry / Greenwood / Anderson areas of South Carolina.	2	12000
Mission Critical Transport Additions - Year 1	Morris Sw Sta to Newberry Mn	29	OPGW	Morris Sw Sta to Newberry Main is one build in a series of builds which will extend, or diversify, service to a wide breadth of sites. Newberry Main is one site associated with this segment. This station is served via a linear microwave chain today.	The Morris Sw Sta to Newberry Main fiber build will replace the existing microwave at Newberry Main. However, this build is also part of a larger effort which will extend high-speed fiber to a wide swath of Duke Energy's service territory in the Newberry / Greenwood / Anderson areas of South Carolina.	N/A	N/A

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PROJECT INFORMATION AND IDENTIFIERS				Question 3	Question 3, 4c	Question 4c-i	Question 4c-i
MYRP Project Name	Location/Task Name	Estimate miles	build type	3. How does DEC currently communicate between substations and along the routes planned for MCT in the MYRP?	**DOES project : (1) replacing a leased circuit; (2) increasing capacity; or (3) improving security or reliability (or some combination of all three or some other category).**	**# of leased circuits to be replaced**	**estimated leased cost**
Mission Critical Transport Additions - Year 1	Parr Sw Sta to Bush River Tie	17.6	OPGW	Parr Sw Sta to Bush River Tie is one build in a series of builds which will tie an existing fiber hub at Newport Tie to a future fiber hub at Bush River Tie. No "new" sites will be picked up along this segment.	The Parr Sw Sta to Bush River Tie fiber build will help form the backbone of a new high-bandwidth, fiber optic network between Newport Tie and Bush River Tie which will provide service in the future to sites in the Chester and Newberry areas of South Carolina.	N/A	N/A
Mission Critical Transport Additions - Year 1	Creto Tie to Bush River Tie	23.2	OPGW	Creto Tie to Bush River Tie is one build in a series of builds which will extend, or diversify, service to a wide breadth of sites. Creto Tie and Bush River Tie are two of the sites associated with this segment. Buzzard Roost is another. Bush River and Buzzard Roost are both served via long microwave chains. Services at Creto Tie are currently leased.	The Creto Tie to Bush River Tie fiber build will help facilitate the replacement of the existing microwave at Bush River Tie and Buzzard Roost. It will also allow Creto Tie to be brought on-net. However, this build is also part of a larger effort which will extend high-speed fiber to a wide swath of Duke Energy's service territory in the Newberry / Greenwood / Anderson areas of South Carolina.	N/A	N/A
Mission Critical Transport Additions - Year 1	Bush River Tie to Newberry Mn	3.4	underground	Bush River Tie to Newberry Main is one build in a series of builds which will extend, or diversify, services to a wide breadth of sites. Bush River Tie and Newberry Main are two of the sites associated with this segment. Both of these stations are served via linear microwave chains today.	The Bush River to Newberry Main fiber build will help facilitate the replacement of the existing microwave at both of these stations. However, this build is also part of a larger effort which will extend high-speed fiber to a wide swath of Duke Energy's service territory in the Newberry / Greenwood / Anderson areas of South Carolina.	N/A	N/A
Mission Critical Transport Additions - Year 1	Coronaca Tie to Creto Tie	10.3	underground	Coronaca Tie to Creto Tie is one build in s series of builds which will extend, or diversify, services to a wide breadth of sites. This segment will include Coronaca Tie, Fuji Photo Film, Ascend Performance Materials and Creto Tie. Services to these sites are currently provided by a combination of leased circuits and Cambium microwave links.	The Coronaca Tie to Creto Tie fiber build will allow problematic leased protective relay circuits associated with Coronaca Tie, Fuji Photo Film, Ascend Performance Materials and Creto Tie to be replaced with on-net communications. Leased circuits or Cambium microwave links for SCADA communications will also be migrated to a highly reliable fiber optic system.	5	30000
Mission Critical Transport Additions - Year 2	Hodges Tie to Greenwood Ops Cnt	9.6	underground	Hodges Tie to Greenwood Ops Cnt is one build in a series of builds which will extend, or diversify, services to a wide variety of sites. This segment will extend high-speed, on-net, fiber communications to Greenwood Ops Cnt. Greenwood Ops is served via a linear microwave chain today.	Extending fiber to Greenwood Ops Cnt will replace the existing microwave path feeding this site. This will provide additional bandwidth and greater reliability. However, this build is also part of a larger effort which will extend high-speed fiber to a wide swath of Duke Energy's service territory in the Newberry / Greenwood / Anderson areas of South Carolina.	N/A	N/A
Mission Critical Transport Additions - Year 2	Greenwood Ops Cnt to Greenwood Tie	7.2	underground	Greenwood Ops Cnt to Greenwood Tie is one build in a series of builds which will extend, or diversify, services to a wide variety of sites. This segment will extend high-speed, on-net, fiber communications to Greenwood Tie. Services to Greenwood Tie are currently provided by a combination of leased and Cambium PMP links.	Extending on-net communications to Greenwood Tie will replace existing leased circuits at this site. However, this build is also part of a larger effort which will extend high-speed fiber to a wide swath of Duke Energy's service territory in the Newberry / Greenwood / Anderson areas of South Carolina.	3	18000
Mission Critical Transport Additions - Year 2	Greenwood Tie to Clark Hill Tie	0.6	underground	Greenwood Tie to Clark Hill Tie is one build in a series of builds which will extend, or diversity, services to a wide variety of sites. This segment will extend high-speed, on-net, fiber communications to Clark Hill Tie. Services to Clark Hill Tie are currently provided by a combination of leased and Cambium PMP links.	Extending on-net communications between Greenwood Tie and Clark Hill Tie will replace problematic leased protective relay circuits at these sites.	5	30000

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PROJECT INFORMATION AND IDENTIFIERS				Question 3	Question 3, 4c	Question 4c-i	Question 4c-i
MYRP Project Name	Location/Task Name	Estimate miles	build type	3. How does DEC currently communicate between substations and along the routes planned for MCT in the MYRP?	DOES project : (1) replacing a leased circuit; (2) increasing capacity; or (3) improving security or reliability (or some combination of all three or some other category).	# of leased circuits to be replaced	estimated leased cost
Mission Critical Transport Additions - Year 2	Greenwood Tie to Creto Tie	8.9	underground	Greenwood Tie to Creto Tie is one build in a series of builds which will extend, or diversify, services to a wide variety of sites. This segment will close the gap between Greenwood Tie and Creto Tie. Both of these sites have leased connections today. However, a Cambium PMP link provides SCADA communications to Greenwood Tie.	Extending on-net communications between Greenwood Tie and Creto Tie will help facilitate the replacement of problematic leased circuits at these sites. However, this build is also part of a larger effort needed to extend high-speed fiber to a wide swath of Duke Energy's service territory in the Newberry / Greenwood / Anderson areas of South Carolina.	N/A	N/A
Mission Critical Transport Additions - Year 2	Morningstar Tie to Newport Tie (Sandy Ridge 230kV (2N51) 19 Miles	19	OPGW	This is the SC portion of 33.4 mile fiber build between Morningstar Tie and Newport Tie. This is one build in a series of builds which will extend, or diversify, service to a wide breadth of sites. No "new" sites are directly tied to this build. However, future fiber segments will tie-in to this path. Morningstar Tie and Newport Tie are both tie points to Duke Energy's existing fiber network.	The Morningstar Tie to Newport Tie fiber build will help diversify systems in the South Charlotte area, will allow Duke to move off of 3rd Party fibers in the Charlotte area and will help form the backbone of a new high-bandwidth, fiber optic network which will serve sites in the South Charlotte, Monroe, Lancaster, Great Falls, Newport and Fort Mill areas.	N/A	N/A
Mission Critical Transport Additions - Year 2	Stallings Rd to New Matthews Ops Cnt (Underground) 3.3 Miles	3.3	underground	Stallings Road to the new Matthews Ops Cnt is one build in a series of builds needed to diversify systems in the Matthews area. This build will also support the relocation of the Matthews Ops Cnt to its new location off of Radiator Rd.	This build is needed to provide service to the new Matthews Ops Cnt. This build, in conjunction with others, will also diversify sites in the Matthews / Indian Trail area.	N/A	N/A
Mission Critical Transport Additions - Year 2	New Matthews Ops Cnt to Indian Trail PNG (Underground) 2.5 Miles	2.5	underground	The Matthews Ops Cnt (New) to Indian Trail PNG build is one build in a series of builds needed to diversify systems in the Matthews area. This build will also support the relocation of the Matthews Ops Cnt to its new location off of Radiator Rd.	This build is needed to provide diversity to the new Matthews Ops Cnt. This build, in conjunction with others, will also diversify additional sites in the Matthews / Indian Trail area.	N/A	N/A
Mission Critical Transport Additions - Year 2	Matthews / Indian Trail Diversity (Underground) 2.8 Miles	2.8	underground	This 2.8 mile build between the Indian Trail PNG facility and existing fiber on Unionville Indian Trail Road will diversify sites in the Matthews / Indian Trail area No new facilities are being picked up along this segment.	This build will help diversify a number of sites in the Matthews / Indian Trail area. Sites involved include Morningstar Tie, Matthews Ops and Indian Trail PNG RC (which also houses the backup gas operations facility).	N/A	N/A
Mission Critical Transport Additions - Year 3	Lancaster Main to Great Falls Sw Sta (Fishing Creek 100kV)	13	OPGW	Lancaster Main to Great Falls Sw Sta is one build in a series of builds which will extend, or diversify, service to a wide breadth of sites. This included Lancaster Main which is served via a third party carrier today. Great Falls is served via a linear microwave chain.	Extending on-net communications to Lancaster Main will replace highly unreliable leased circuits. However, this build will also help form the backbone of a new high-bandwidth, fiber optic network which will serve sites in the South Charlotte, Monroe, Lancaster, Great Falls, Newport and Fort Mill areas.	2	12000

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PROJECT INFORMATION AND IDENTIFIERS				Question 3	Question 3, 4c	Question 4c-i	Question 4c-i
MYRP Project Name	Location/Task Name	Estimate miles	build type	3. How does DEC currently communicate between substations and along the routes planned for MCT in the MYRP?	**DOES project : (1) replacing a leased circuit; (2) increasing capacity; or (3) improving security or reliability (or some combination of all three or some other category).**	**# of leased circuits to be replaced**	**estimated leased cost**
Mission Critical Transport Additions - Year 2	Winecoff Tie to Harrisburg Tie (Underground) 15.6 Miles	15.6	underground	Winecoff Tie and Harrisburg Tie are major fiber hub locations. This build will link those two sites and will pick up Concord Main in the process. A build needed to serve the Albemarle area will also tie into this route in the future. Winecoff Tie and Harrisburg Tie and both tie points to Duke's existing fiber network. Concord Main is currently served via a Cambium PMP link. Relaying for Concord Main is provided via power line carrier (PLC).	Extending on-net communications to Concord Main will replace the existing Cambium PMP link and will allow Transmission to upgrade the current protective relay scheme associated with this station. This build will also facilitate a future fiber build needed to serve the Albemarle area.	N/A	N/A
Mission Critical Transport Additions - Year 2	Duncan Ops to BMW MFG Corp (Underground) 2.3 Miles	2.25	underground	Duncan Ops to BMW MFG Corp is one build in a series of builds which will support the protective relaying needs of BMW MFG Corp, Cane Creek Tie and E. Greenville Tie. This segment will extend high-speed, on-net, fiber communications to BMW MFG Corp. Services to BMW are currently leased. Duncan Ops is an existing Duke fiber site and will serve as one of the anchor points for this series of builds.	Extending on-net communications to BMW MFG Corp will replace problematic, leased, protective relay circuits. This build is part of a larger effort which will also extend high-speed fiber to Cane Creek Tie and E. Greenville Tie to support the protective relaying needs of those sites.	5	30000
Mission Critical Transport Additions - Year 2	BMW MFG Corp to Greer Retail (Underground) 4.5 Miles	4.5	underground	BWM MFG Corp to Greer Retail is one build in a series of builds which will support the protective relaying needs of BMW MFG Corp, Cane Creek Tie and E. Greenville Tie. No "new" sites will be picked up along this segment.	This build is part of a larger effort which will extend high-speed fiber to BMW MFG Corp, Cane Creek Tie and E. Greenville Tie for protective relaying.	N/A	N/A
Mission Critical Transport Additions - Year 2	Greer Retail to Cane Creek Tie (Victor 100kV) 1.7 Miles	1.7	OPGW	Greer Retail to Cane Creek Tie is one build in a series of builds which will support the protective relaying needs of BMW MFG Corp, Cane Creek Tie and E. Greenville Tie. This segment will extend high-speed, on-net, fiber communications to Cane Creek Tie. Services at Cane Creek are currently provided via a linear microwave chain.	Extending high-speed fiber connectivity to Cane Creek Tie will replace the current linear microwave. However, this build is part of a larger effort which will also extend high-speed fiber to BMW MFG Corp and E. Greenville Tie to support the protective relaying needs of those sites.	N/A	N/A
Mission Critical Transport Additions - Year 2	Cane Creek Tie to E. Greenville Tie (Wade 100kV) 3.5 Miles	3.5	OPGW	Cane Creek Tie to E. Greenville Tie is one build in a series of builds which will support the protective relaying needs of BMW MFG Corp, Cane Creek Tie and E. Greenville Tie. This segment will extend high-speed, on-net, fiber communications to E. Greenville Tie. Services at E. Greenville are currently provided via a linear microwave chain	Extending high-speed fiber connectivity to E. Greenville Tie will replace the current linear microwave. However, this build is part of a larger effort which will also extend high-speed fiber to BMW MFG Corp and Cane Creek Tie to support the protective relaying needs of those sites.	N/A	N/A
Mission Critical Transport Additions - Year 2	E. Greenville Tie to N. Greenville Tie (Underground) 8 Miles	8	underground	E. Greenville Tie to N. Greenville Tie is one build in a series of builds which will support the protective relaying needs of BMW MFG Corp, Cane Creek Tie and E. Greenville Tie. No "new" sites will be picked up along this segment. N. Greenville Tie is an existing Duke fiber hub and will serve as one of the anchor points for this series of builds	This build is part of a larger effort which will extend high-speed fiber to BMW MFG Corp, Cane Creek Tie and E. Greenville Tie for protective relaying.	N/A	N/A
Mission Critical Transport Additions - Year 3	Newport Tie to Bowater Sw Sta (Neelys Creek 100kV)	21.1	OPGW	Newport Tie to Bowater Sw Sta is one build in a series of builds which will extend, or diversify, service to a wide breadth of sites. This included Bowater Sw Sta which is served via a third party carrier today. Newport Tie is an existing Duke fiber hub and will serve as one of the anchor points for this series of builds. Walker Tie, currently served by a third party carrier, will also be brought on-net as part of this build.	Extending on-net communications to Bowater Sw Sta and Walker Tie will replace existing leased circuits. However, this build will also help form the backbone of a new high-bandwidth, fiber optic network which will serve sites in the South Charlotte, Monroe, Lancaster, Great Falls, Newport and Fort Mill areas.	1	6000
Mission Critical Transport Additions - Year 3	Bowater Sw Sta to Frances Tap (Landsford 100kV)	10.5	OPGW	Bowater Sw Sta to Frances Tap is one build in a series of builds which will extend, or diversify, service to a wide breadth of sites. No "new" sites will be picked up along this segment.	This build will help form the backbone of a new high-bandwidth, fiber optic network which will serve sites in the South Charlotte, Monroe, Lancaster, Great Falls, Newport and Fort Mill areas.	N/A	N/A
Mission Critical Transport Additions - Year 3	Frances Tap to Great Falls Sw Sta (Landsford 100kV)	9	OPGW	Frances Tap to Great Falls is one build in a series of builds which will extend, or diversify, service to a wide breadth of sites. Great Falls, which is currently served via a linear microwave chain, is one of those sites.	This build will help form the backbone of a new high-bandwidth, fiber optic network which will serve sites in the South Charlotte, Monroe, Lancaster, Great Falls, Newport and Fort Mill areas.	N/A	N/A

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PROJECT INFORMATION AND IDENTIFIERS				Question 3	Question 3, 4c	Question 4c-i	Question 4c-i
MYRP Project Name	Location/Task Name	Estimate miles	build type	3. How does DEC currently communicate between substations and along the routes planned for MCT in the MYRP?	DOES project : (1) replacing a leased circuit; (2) increasing capacity; or (3) improving security or reliability (or some combination of all three or some other category).	# of leased circuits to be replaced	estimated leased cost
Mission Critical Transport Additions - Year 3	Newton Tap to Maiden Creek Solar (UG)	8.6	underground	Newton Tap to Maiden Creek Solar is an 8.6 mile build which will diversify Maiden Creek Solar and Aunt Hill Retail. Those two sites are currently being brought on-net through a separate effort. The Newton Tap to Maiden Creek Solar build will also bring Newton Tie on-net. Services to this site are currently leased.	This build will provide diversity to Maiden Creek Solar and Aunt Hill Retail and will bring high-speed fiber connectivity to Newton Tie.	N/A	N/A
Mission Critical Transport Additions - Year 3	Stamey Tie to Wilkes Tie (UG)	39.9	underground	The Stamey Tie to Wilkes Tie fiber build will diversify existing stations in the N. Wilkesboro area and will allow Duke Energy to provide service to Taylorsville Tie and N. Wilkesboro Ops Cnt in the process. Services to these two sites are currently leased. Stamey Tie and Wilkes Tie are served via on-net fiber today.	This build will provide diversity to Wilkes Tie, Antioch Tie and Mitchell River Tie and will bring high-speed fiber connectivity to Taylorsville Tie and N. Wilkesboro Ops Cnt.	N/A	N/A
Mission Critical Transport Additions - Year 3	Beckerdite Tie to Lewisville Ops Cnt (UG)	17	underground	Beckerdite Tie to Lewisville Ops Cnt is one build in a series of builds which will extend high-speed, on-net, fiber communications to Lewisville Ops. Lewisville Ops is served via a linear microwave chain today. Beckerdite Tie is an existing Duke fiber hub and will serve as one of the anchor points for this series of builds.	Extending fiber to Lewisville Ops Cnt will replace the existing microwave path feeding this site. Diverse fiber paths to Lewisville Ops will provide additional bandwidth and greater reliability.	N/A	N/A
Mission Critical Transport Additions - Year 1	Lee CC to Central Tie (22.4 miles OPGW)	17.88	OPGW	Lee CC to Central Tie is one build in a series of builds which will extend high-speed, on-net, fiber communications to the Lee CC Campus and surrounding area. Lee is currently served via a linear microwave chain. Central Tie is an existing Duke fiber site and will serve as one of the anchor points for this series of builds. Piercetown Sw Sta, currently served by a third party carrier, will also be brought on-net as part of this build.	Extending high-speed fiber connectivity to Lee CC will replace the current linear microwave system feeding this campus. This will provide additional bandwidth and greater reliability. However, this build is also part of a larger effort which will extend high-speed fiber to a wide swath of Duke Energy's service territory in the Newberry / Greenwood / Anderson areas of South Carolina.	N/A	N/A
Mission Critical Transport Additions - Year 1	McDowell Tie to Fairview Tie (23.8 miles OPGW)	25.27	OPGW	McDowell Tie to Faiview Tie is one build in a series of builds which will extend high-speed, on-net, fiber communications to McDowell Tie. Services to this site are currently provided by a linear microwave chain. Fairview Tie is an existing Duke fiber site and will serve as one of the anchor points for this series of builds.	Extending high-speed fiber connectivity to McDowell Tie will replace the current linear microwave system feeding this site. This will provide additional bandwidth and greater reliability. However, this build will also help diversify sites in the Cliffside / Spindale area.	N/A	N/A
Mission Critical Transport Additions - Year 1	Central Tie to Anderson Tie (23.2 miles OPGW)	21.96	OPGW	Central Tie to Anderson Tie is one build in a series of builds which will extend, or diversify, service to a wide variety of sites in the Anderson, SC area. Central Tie is an existing Duke fiber site and will serve as one of the anchor points for this series of builds. Anderson Tie is currently served via a linear microwave chain.	Extending high-speed fiber connectivity to Anderson Tie will replace the current linear microwave system feeding this site. This will provide additional bandwidth and greater reliability. However, this build is also part of a larger effort which will extend high-speed fiber to a wide swath of Duke Energy sites in the Anderson / Belton / Sandy Springs areas of South Carolina.	N/A	N/A
Mission Critical Transport Additions - Year 1	Anderson Tie to Hodges Tie (25.7 miles OPGW)	23.6	OPGW	Anderson Tie to Hodges Tie is one build in a series of builds which will extend, or diversify, services to a wide breadth of sites. Anderson Tie and Hodges Tie are two of the sites associated with this segment. Both of these stations are served via linear microwave chains today.	The Anderson Tie to Hodges Tie fiber build will help facilitate the replacement of the existing microwave at both of these stations. However, this build is also part of a larger effort which will extend high-speed fiber to a wide swath of Duke Energy's service territory in the Newberry / Greenwood / Anderson areas of South Carolina.	N/A	N/A

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Duke Energy Carolinas
Response to
NC Public Staff Data Request
Data Request No. NCPS 111

Docket No. E-7, Sub 1276

Date of Request: **May 5, 2023**
Date of Response: **May 16, 2023**

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Confidential Responses are provided pursuant to Confidentiality Agreement

The attached response to NC Public Staff Data Request No. 111-2, was provided to me by the following individual(s): Anne Kamau, Senior Financial Analyst, and was provided to NC Public Staff under my supervision.

Jack Jirak
Deputy General Counsel
Duke Energy Carolinas

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North Carolina Public Staff
Data Request No. 111
DEC Docket No. E-7, Sub 1276
Item No. 111-2
Page 1 of 2

Request:

2. In its Final Order in Docket No. E-7, Sub 1214 (Sub 1214 Order), the Commission accepted the Second Agreement and Stipulation between Duke Energy Carolinas, LLC, and the Public Staff (Second Settlement) as it relates to the treatment of GIP deferral. Please respond to the following questions:

    a. What cost categories does DEC consider to be "overhead or administrative and general costs"? Please provide all FERC account and sub-account numbers for these cost categories. If DEC has not defined these, please explain why not.
    b. Please explain how DEC has removed overhead, administrative, and general costs from its GIP deferral request, and provide supporting worksheets and an overall summary of the total costs that were removed from the deferral request pursuant to the Commission's Order. If DEC did not remove any costs, please explain why not.
    c. According to the Second Settlement, "GIP deferral would not include overhead or administrative and general costs, but the capitalized project costs may include a reasonable allocation of management and supervision costs." Please provide the total amount of these reasonable management and supervision costs included in each capitalized project by month from June 2020 through December 2022.

Response:

a)
DEC has not defined overhead or administrative and general costs differently in the accounting for the GIP deferral as compared to its normal accounting policies and practices. The FERC Uniform System of Accounts provides that FERC accounts 920 through 935 are for Administrative and General Expenses. Costs in certain of those accounts are included in allocation pools that are indirectly added to capital projects to reflect supervision, management, and back-office support of the capital program. Similarly, certain cost categories for benefits, taxes, corporate services and other "overhead" has been allocated to capital projects and deferrable O&M costs in accordance with DEC's accounting policies and as described in DEC's Cost Allocation Manual (CAM) which has been previously provided.

b)
No costs have been removed from the projects that have been identified as part of the GIP deferral program. All costs have been included in the deferral per DEC's accounting

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Oct 04 2023

North Carolina Public Staff
Data Request No. 111
DEC Docket No. E-7, Sub 1276
Item No. 111-2
Page 2 of 2

policies and allocation methodology as explained in the Cost Allocation Manual (CAM) which has previously been provided to NC Public Staff.

c)
Detail breakdown of all costs can be found in files PSDR DEC 111-6 Detail.xlsx and PSDR DEC 111-6 O&M.xlsx

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Duke Energy Carolinas
Response to
NC Public Staff Data Request
Data Request No. NCPS 191

Docket No. E-7, Sub 1276

Date of Request: **June 15, 2023**
Date of Response: **June 29, 2023**

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The attached response to NC Public Staff Data Request No. 191-2, was provided to me by the following individual(s): Anne Kamau, Senior Financial Analyst, was provided to NC Public Staff under my supervision.

Jack Jirak
Deputy General Counsel
Duke Energy Carolinas

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Oct 04 2023

North Carolina Public Staff
Data Request No. 191
DEC Docket No. E-7, Sub 1276
Item No. 191-2
Page 1 of 1

Request:

2. The Public Staff's understanding of the Company's response to PSDR 111-2 is that the Company did not remove any overhead or administrative and general costs, in direct contradiction of the specific quoted language in the Second Agreement and Stipulation between DEC and the Public Staff from the 2019 General Rate Case. Please confirm this understanding is correct.

Response:

DEC did not remove any overhead, administrative & general costs from the grid improvement program. All costs associated with a project were included in the filing.

An explanation as to why all costs were included in the filing was provided on data request 111-2.

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Duke Energy Carolinas
Response to
NC Public Staff Data Request
Data Request No. NCPS 23

Docket No. E-7, Sub 1276

Date of Request: **March 17, 2023**
Date of Response: **March 27, 2023**

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The attached response to NC Public Staff Data Request No. 23-3, was provided to me by the following individual(s): Joanna Cormier, Director Carolinas, Forecasting and Planning, and was provided to NC Public Staff under my supervision.

Jack Jirak
Deputy General Counsel
Duke Energy Carolinas

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Oct 04 2023

North Carolina Public Staff
Data Request No. 23
DEC Docket No. E-7, Sub 1276
Item No. 23-3
Page 1 of 1

Request:

3. For each business group/jurisdiction (distribution, transmission, nuclear, hydro, etc.) please provide the projected CapEx spend by month for June 1, 2023 through January 1, 2027.

Response:

Please see the attached "DEC DR 3 & 4 Support" for this detail.

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Duke Energy Carolinas
Response to
NC Public Staff Data Request
Data Request No. NCPS 23

Docket No. E-7, Sub 1276

Date of Request: **March 17, 2023**
Date of Response: **March 27, 2023**

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The attached response to NC Public Staff Data Request No. 23-4, was provided to me by the following individual(s): Joanna Cormier, Director Carolinas, Forecasting and Planning, and was provided to NC Public Staff under my supervision.

Jack Jirak
Deputy General Counsel
Duke Energy Carolinas

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North Carolina Public Staff
Data Request No. 23
DEC Docket No. E-7, Sub 1276
Item No. 23-4
Page 1 of 1

Request:

4. Please provide the expected/budgeted non-MYRP capital spend amount for each business group/jurisdiction (distribution, transmission, nuclear, hydro, etc.) by month from June,1 2023 through January 1, 2027.

Response:

Please see the attached "DEC DR 23 3 & 4" for this detail.

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Response to PSDR 23 - 3&4
Docket No. E-7, Sub 1276

Duke Energy Progress	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
MYRP Capex*							
Nuclear & RRE	12	12	14	49	13	14	54
Transmission	24	24	44	25	27	31	31
Distribution	60	57	57	60	62	58	60
Other**	0	2	2	2	2	2	2
Total MYRP Capex	96	95	118	136	104	105	148
Non-MYRP Capex							
Nuclear & RRE	2	31	33	8	36	52	12
Transmission	20	21	22	21	20	19	16
Distribution	92	96	92	88	79	77	89
Other**	28	23	23	22	20	17	18
Total Non-MYRP Capex	143	170	169	139	154	164	134
Total Capex***							
Nuclear & RRE	14	43	47	57	48	66	66
Transmission	44	45	66	45	46	50	47
Distribution	152	153	149	148	141	134	149
Other**	28	25	25	24	21	18	19
Total Capex	239	266	287	275	258	268	282

*Only includes capex spend for the 3 year MYRP proposed in this rate case. Any spend for future MYRP
**The category "Other" includes all capital spend other than Nuclear, RRE, Transmission and Distribution.
***Does not foot due to rounding

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Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25
18	19	18	20	21	18	14	14	18	59	20	40	15
37	38	51	45	34	33	42	40	40	64	43	32	41
72	59	62	61	60	59	62	60	58	55	66	63	61
3	3	3	6	6	6	8	8	8	13	13	13	23
130	118	134	131	121	116	127	121	124	191	141	148	140
24	23	35	36	36	26	25	22	26	34	39	25	37
16	12	15	11	11	9	10	11	12	12	10	9	13
65	63	71	74	74	74	80	79	75	66	62	74	74
22	20	21	20	18	20	20	20	21	23	21	21	33
127	118	142	141	139	129	134	131	134	135	132	129	156
43	43	54	56	57	44	39	36	44	93	59	65	52
53	50	66	56	45	42	52	50	53	75	52	41	54
137	122	133	135	134	133	142	139	132	121	128	138	135
24	22	24	25	24	26	27	28	29	36	34	34	56
257	236	276	272	260	245	261	253	258	326	273	277	296

periods (after the initial 3 years) is included in the Non-MYRP category.

This would include spend such as new generation for solar, battery, and hydro, IT, security, customer connect, etc. Ongoing

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Oct 04 2023

Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26
15	15	15	15	15	15	15	15	15	15	15	18	19
41	41	41	41	41	41	41	41	41	41	41	22	22
61	61	61	61	61	61	61	61	61	61	61	35	35
23	23	23	23	23	23	23	23	23	23	23	20	20
140	140	140	140	140	140	140	140	140	140	140	94	95
37	37	37	37	37	37	37	37	37	37	37	37	37
13	13	13	13	13	13	13	13	13	13	13	20	20
74	74	74	74	74	74	74	74	74	74	74	102	102
33	33	33	33	33	33	33	33	33	33	33	61	61
156	156	156	156	156	156	156	156	156	156	156	221	221
52	52	52	52	52	52	52	52	52	52	52	55	56
54	54	54	54	54	54	54	54	54	54	54	42	42
135	135	135	135	135	135	135	135	135	135	135	137	137
56	56	56	56	56	56	56	56	56	56	56	81	81
296	296	296	296	296	296	296	296	296	296	296	315	316

g maintenance capital related to new generation assets is included in the "Nuclear & RRE" category as the RRE function take

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Mar-26	Apr-26	May-26	Jun-26	Jul-26	Aug-26	Sep-26	Oct-26	Nov-26	Dec-26
19	19	19	19	19	19	19	19	19	19
22	22	22	22	22	22	22	22	22	22
35	35	35	35	35	35	35	35	35	35
20	20	20	1	1	1	1	1	1	1
95	95	95	77	77	77	77	77	77	77
37	37	37	37	37	37	37	37	37	37
20	20	20	20	20	20	20	20	20	20
102	102	102	102	102	102	102	102	102	102
61	61	61	61	61	61	61	61	61	61
221	221	221	221	221	221	221	221	221	221
56	56	56	56	56	56	56	56	56	56
42	42	42	42	42	42	42	42	42	42
137	137	137	137	137	137	137	137	137	137
81	81	81	62	62	62	62	62	62	62
316	316	316	298	298	298	298	298	298	298

s over ongoing maintenace of the sites after being built.