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October 29, 2020

VIA ELECTRONIC FILING

Ms. Kimberley A. Campbell, Chief Clerk
North Carolina Utilities Commission
Dobbs Building
430 North Salisbury Street
Raleigh, North Carolina 27603

Re: DEC and DEP Late-Filed Exhibit No. 20
Docket No. E-7, Sub 1214
Docket No. E-2, Sub 1219

Dear Ms. Campbell:

Per the request of the North Carolina Utilities Commission, enclosed for filing on behalf of Duke Energy Carolinas, LLC and Duke Energy Progress, LLC in the above-referenced proceedings is Late-Filed Exhibit No. 20.

Please do not hesitate to contact me should you have any questions. Thank you for your assistance with this matter.

Very truly yours,

/s/Mary Lynne Grigg

MLG:kma

Enclosures

Duke Energy Carolinas, LLC
Duke Energy Progress, LLC
Late-Filed Exhibit No. 20
Docket No. E-7, Sub 1214
Docket No. E-2, Sub 1219

Request: Any plant decommissioning studies supporting Duke Energy Carolinas, LLC's ("DEC") or Duke Energy Progress, LLC's ("DEP") depreciation studies or cost of removal calculations that were included in the evidentiary record in DEC's 2013 rate case, Docket No. E-7, Sub 1026, or in DEP's 2011 rate case, Docket No. E-2, Sub 1023.

Response: There was not a plant decommissioning study performed in relation to the depreciation study filed in DEC's 2013 rate case, Docket No. E-7, Sub 1026. There were two plant decommissioning studies performed to support the dismantlement component included in the net salvage estimates for generation facilities used in the depreciation study considered in DEP's 2011 rate case, Docket No. E-2, Sub 1023. The studies were distinguished by whether they covered "Near-Term Units to be Decommissioned" or "Future Units to be decommissioned." The decommissioning studies were referenced in the direct testimony of Danny Wiles for the DEP rate case; however, the studies were not filed with his testimony. The decommissioning studies were provided through discovery in Docket No. E-2, Sub 1023. The Decommissioning Cost Study Near-Term Units to be Decommissioned was previously admitted as AGO-Kerin Cross Exhibit 1 in Docket E-2, Sub 1142 and was also identified as AGO Potential Cross Exhibit 48 in Docket No. E-2, Sub 1219. Copies of the studies are attached to this late filed exhibit.

Report on the

Decommissioning Cost Study
Near-Term Units to be Decommissioned

Progress Energy Carolinas

Project No. 62009

January 2012

January 27, 2012

Mr. Issa Zarzar
Manager – Plant Decommissioning Projects
Progress Energy, Inc.
410 South Wilmington Street
Raleigh, North Carolina 27601

Re: Decommissioning Cost Study
BMcD Project No. 62009

Dear Mr. Zarzar:

Burns & McDonnell (BMcD) is pleased to submit this Decommissioning Cost Study prepared on behalf of Progress Energy Carolinas (Progress).

BMcD was retained by Progress to conduct a Decommissioning Cost Study (Study) for power generation assets in North Carolina and South Carolina, excluding nuclear units. The assets include natural gas, fuel oil, hydro-electric, and coal-fired generating facilities. Individuals from BMcD visited each of the Plants covered by the Study in July of 2011, along with a representative from LVI Services (LVI), a demolition contractor who is serving as a sub-consultant to BMcD on the Study. The purpose of the Study was to review the facilities and to make a recommendation to Progress regarding the total cost to decommission the facilities at the end of their useful lives.

The attached report presents the results of the Study, along with the cost estimates for decommissioning each of the facilities. The included costs are presented in 2011 dollars.

If you need any additional information, please contact me at (816) 822-4239 or jkopp@burnsmcd.com. It is a pleasure to be of service to Progress in this matter.

Sincerely,

Jeff Kopp, PE
Project Manager

cc: Vic Ranalletta, PE - BMcD
Jeff Pope, PE - BMcD
Michael Marcheschi - LVI

Decommissioning Cost Study

prepared for

Progress Energy Carolinas
Raleigh, North Carolina

January 2012

Project No. 62009

prepared by

Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri

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LIST OF APPENDICES

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EXECUTIVE SUMMARY

ES.0 EXECUTIVE SUMMARY

ES.1 INTRODUCTION

Burns & McDonnell (BMcD) was retained by Progress Energy Carolinas (Progress) to conduct a Decommissioning Cost Study (Study) for power generation assets (Plants) in North Carolina and South Carolina, excluding nuclear units. The assets include natural gas, fuel oil, hydro-electric, and coal-fired generating facilities. Individuals from BMcD visited each of the Plants covered by the Study in July of 2011, along with a representative from LVI Services (LVI), a demolition contractor who is serving as a sub-consultant to BMcD on the Study. The purpose of the Study was to review the facilities and to make a recommendation to Progress regarding the total cost to decommission the facilities at the end of their useful lives.

The decommissioning costs were developed using the information provided by Progress, in-house data available to BMcD, and information supplied by LVI. Quantity take-offs were performed for major plant facilities and equipment based on observations from the site visits and review of drawings provided for each Plant. Decommissioning activities were determined and labor hours were estimated to complete each decommissioning activity. Current market pricing for labor rates and unit pricing were then developed for each task, and these rates were applied to the estimated quantities for the Plants to determine the total cost of decommissioning.

ES.2 RESULTS

BMcD has prepared estimates in current dollars (2011$) for the decommissioning of the Plants. These costs are summarized in Table ES-1. When Progress determines that the Plants should be retired, the above grade equipment and steel structures are assumed to have sufficient scrap value to a salvage contractor to offset a portion of the decommissioning costs. Progress will incur costs in the demolition and restoration of the sites less the salvage value of equipment and bulk steel.

Table ES-1: Decommissioning Cost Summary

Asset	Decommissioning Costs	Credits	Net Project Cost
Cape Fear	$62,571,000	($11,608,000)	$50,963,000
Lee	$76,963,000	($9,410,000)	$67,553,000
Sutton	$53,465,000	($10,070,000)	$43,395,000
Weatherspoon	$26,806,000	($4,806,000)	$22,000,000

The total project costs presented above include the costs to return the sites to an industrial condition suitable for reuse for development of an industrial facility. Included are the costs to dismantle the power generating equipment owned by Progress as well as the costs to dismantle the Progress owned balance of plant facilities and environmental site restoration activities.

ES.3 STATEMENT OF LIMITATIONS

In preparation of this decommissioning study, BMcD has relied upon information provided by Progress Energy. BMcD acknowledges that it has requested the information from Progress Energy that it deemed necessary to complete this study. While we have no reason to believe that the information provided to us, and upon which we have relied, is inaccurate or incomplete in any material respect, we have not independently verified such information and cannot guarantee its accuracy or completeness.

Engineer's estimates and projections of decommissioning costs are based on Engineer's experience, qualifications and judgment. Since Engineer has no control over weather, cost and availability of labor, material and equipment, labor productivity, construction contractors' procedures and methods, and other factors, Engineer does not guarantee the accuracy of its estimates and projections.

Engineer's estimates do not include allowances for unforeseen environmental liabilities associated with unexpected environmental contamination due to events not considered part of normal operations, such as fuel tank ruptures, oil spills, etc. Estimates also do not include allowances for environmental remediation associated with changes in classification of hazardous materials.

* * * * *

SECTION 1

INTRODUCTION

1.0 INTRODUCTION

1.1 BACKGROUND

Burns & McDonnell (BMcD) was retained by Progress Energy Carolinas (Progress) to conduct a Decommissioning Cost Study (Study) for power generation assets (Plants) in North Carolina and South Carolina, excluding nuclear units. The assets include natural gas, fuel oil, hydro-electric, and coal-fired generating facilities. Individuals from BMcD visited each of the Plants covered by the Study in July of 2011, along with a representative from LVI Services (LVI), a demolition contractor who is serving as a sub-consultant to BMcD on the Study. The purpose of the Study was to review the facilities and to make a recommendation to Progress regarding the total cost to decommission the facilities at the end of their useful lives.

The decommissioning costs were developed using the information provided by Progress, in-house data available to BMcD, and information supplied by LVI. Quantity take-offs were performed for major plant facilities and equipment based on observations from the site visits and review of drawings provided for each Plant. Decommissioning activities were determined and labor hours were estimated to complete each decommissioning activity. Current market pricing for labor rates and unit pricing were then developed for each task, and these rates were applied to the estimated quantities for the Plants to determine the total cost of decommissioning.

1.2 STUDY METHODOLOGY

The site decommissioning costs were developed using information provided by Progress, information developed by LVI, and in-house data BMcD has collected from previous project experience. BMcD estimated quantities for equipment based on a visual inspection of the facilities, review of engineering drawings, BMcD's in house database of plant equipment quantities, along with LVI and BMcD's professional judgment. This resulted in an estimate of quantities for the tasks required to be performed for each decommissioning effort. Current market pricing for labor rates, equipment, and unit pricing were then developed for each task. The unit pricing was developed for each site based on the labor rates, equipment costs, and disposal costs specific to the area in which the work is to be performed. These rates were applied to the quantities for the Plants to determine the total cost of decommissioning for each site.

The decommissioning costs include the cost to return the site to an industrial condition, suitable for reuse for development of an industrial facility. Included are the costs to decommission all of the assets owned by Progress at the site, including power generating equipment and balance of plant facilities

1.3 SITE VISITS

Representatives from BMcD and LVI visited the sites. The site visit consisted of a tour of the Facility with Plant personnel to review the equipment installed at the site. Tours were conducted by Plant personnel.

Mr. Paul Desai, from Progress Energy, served as the Progress representative throughout the site visits, along with plant personnel at each of the sites.

The following BMcD representatives comprised the site visit team:

- Mr. Jeff Kopp, Project Manager
- Mr. Vic Ranalletta, Lead Engineer
- Mr. Jeff Pope, Lead Environmental

In addition, Mr. Jeff Grubich, Environmental Specialist, filled in for Mr. Jeff Pope on several of the site visits. The site visits were performed on the following dates.

Table 1-1: Site Visit Dates

Asset	Site Visit Date
Cape Fear	July 18, 2011
Lee	July 20, 2011
Sutton	July 21, 2011
Weatherspoon	July 21, 2011

* * * * *

SECTION 2

PLANT DESCRIPTIONS

2.0 PLANT DESCRIPTIONS

2.1 CAPE FEAR

The Cape Fear site is located southwest of Raleigh, in Moncure, North Carolina. The plant includes four coal fired stoker units that are no longer in operation, as well as two units currently operating at a total capacity of approximately 316 MW. Units 1 through 4 do not include electrostatic precipitators, but Units 5 and 6 include electrostatic precipitators. None of the units include SCR systems or FGD systems. The four coal units that were taken out of service were repowered with combustion turbines and heat recovery steam generators. The combustion turbines include bypass stacks so they can be run in simple cycle mode. The plant site also includes active ash ponds and several inactive ash ponds.

2.2 LEE

The Lee plant is located in Goldsboro, North Carolina. The facility includes three coal-fired units rated at a total capacity of 397 megawatts. The units include electrostatic precipitators, but do not include SCR systems or FGD systems. The plant site includes a cooling lake and several ash ponds. In addition to the coal-fired units, the plant includes three Westinghouse 251 IC combustion turbines and one Westinghouse 191 IC combustion turbine, all operating in simple cycle mode.

2.3 SUTTON

The Sutton plant is located near the city of Wilmington, North Carolina. The facility consists of three coal-fired units totaling 604 megawatts. The units include electrostatic precipitators, but do not include SCR systems or FGD systems. The plant also includes two Westinghouse 191 IC combustion turbines and one Westinghouse 301 combustion turbine, all operating in simple cycle mode. The plant site includes a cooling lake and ash ponds.

2.4 WEATHERSPOON

The Weatherspoon plant is located in Lumberton, North Carolina. The facility consists of three coal-fired units totaling 171 megawatts. The units include electrostatic precipitators, but do not include SCR systems or FGD systems. The plant also includes four Pratt & Whitney combustion turbines, all operating in simple cycle mode. The plant site includes a cooling lake and an ash pond.

* * * * *

SECTION 3

DECOMMISSIONING COSTS

3.0 DECOMMISSIONING COSTS

BMcD has prepared decommissioning cost estimates for the Plants. When Progress determines that each site should be retired, the above grade equipment and steel structures are assumed to have sufficient scrap value to a salvage contractor to offset a portion of the site decommissioning costs. However, Progress will incur costs of decommissioning of the Plants and restoration of the site to the extent that those costs exceed the salvage value of equipment and bulk steel.

The decommissioning costs include the cost to return the site to an industrial condition, suitable for reuse for development of an industrial facility. Included are the costs to dismantle all of the assets owned by Progress at the site, including power generating equipment and balance of plant facilities, as well as environmental site restoration activities.

For purposes of this study, BMcD and LVI have assumed that each site will be decommissioned as a single project, allowing the most cost effective demolition methods to be utilized. A summary of several of the means and methods that could be employed is summarized in the following paragraphs; however, means and methods will not be dictated to the contractor by BMcD. It will be the contractor's responsibility to determine means and methods that result in safely decommissioning the Plants at the lowest possible cost.

Asbestos remediation would take place prior to commencement of any other demolition activities. Abatement would need to be performed in compliance with all state and federal regulations, including, but not limited to requirements for sealing off work areas and maintaining negative pressure throughout the removal process. Final clearances and approvals would need to be achieved prior to performing further demolition activities.

High grade assets would then be removed from the site, to the extent possible. This would include items such as transformers, transformer coils, circuit breakers, electrical wire, condenser plates and tubes, and heater tubes. High grade assets include precious alloys such as copper, aluminum-brass tubes, stainless steel tubes, and other high value metals occurring in plant systems. High grade asset removal would occur up-front in the schedule, to reduce the potential for vandalism, to increase cash flow, and for separation of recyclable materials, in order to increase scrap recovery. Methods of removal vary with the location and nature of the asset. Small transformers, small equipment, and wire would likely be removed

and shipped as-is for processing at a scrap yard. Large transformers, combustion turbines, steam turbines, and condensers would likely require some on-site disassembly prior to being shipped to a scrap yard.

Construction and Demolition (C&D) waste includes items such as non-asbestos insulation, roofing, wood, drywall, plastics, and other non-metallic materials. C&D waste would typically be segregated from scrap and concrete to avoid cross-contaminating of waste streams or recycle streams. C&D demolition crews could remove these materials with equipment such as excavators equipped with material handling attachments, skid steers, etc. This material would be consolidated and loaded into bulk containers for disposal.

In general, boilers and HRSGs could be felled and cut into manageable sized pieces on the ground. First the structures around the boilers would need to be removed using excavators equipped with shears and grapples. Stairs, grating, elevators, and other high structures would be removed using an “ultra high reach” excavator, equipped with shears. Following removal of these structures, the boilers or HRSGs would be felled, using explosive blasts. The boilers would then be dismantled using equipment such as excavators equipped with shears and grapples, and the scrap metal loaded onto trailers for recycling.

After the surrounding structures and ductwork have been removed, the stacks would be imploded, using controlled blasts. Following implosion the stack liners and concrete would be reduced in size to allow for handling and removal.

Balance of plant structures and foundations would likely be demolished using excavators equipped with hydraulic shears, hydraulic grapples, and impact breakers, along with workers utilizing open flame cutting torches. Steel components would be separated, reduced in size, and loaded onto trailers for recycling. Concrete would be broken into manageable sized pieces and stockpiled for crushing on-site. Concrete pieces would ultimately be loaded in a hopper and fed through a crusher to be sized for on-site disposal.

3.1 GENERAL DECOMMISSIONING ASSUMPTIONS FOR ALL SITES

The following assumptions were made as the basis of all of the cost estimates.

1. The estimates are inclusive of all cost necessary to properly dismantle and decommission all sites to a marketable or usable condition. For purposes of this study and the included cost estimates, the facilities will be restored to a condition suitable for industrial use.

2. All facilities will be decommissioned to zero generating output. Existing utilities will remain in place for use by the contractor for the duration of the demolition activities.
3. All work will take place in the most cost efficient method.
4. Labor costs are based on a regular 40 hour workweek without overtime.
5. It is assumed that all the power stations will be dismantled after all units at a single site are taken out of service, allowing dismantlement of entire sites at once.
6. Soil testing and any other on-site testing has not been conducted for this study.
7. Transmission switchyards and substations within the boundaries of the plant are not part of the demolition scope. Switchyards that are associated with the facilities only and are not part of the transmission system are included for demolition. For purposes of this study, the division between generation assets and transmission assets is at the high side of the generator step-up transformers.
8. The costs for relocation of transmission lines, or other transmission assets, are specifically excluded from the decommissioning cost estimates. Any costs necessary to support on-going operations of adjacent or newly proposed units will be allocated to the operating costs of the units not being decommissioned.
9. Step up transformers, auxiliary transformers, and spare transformers are included for demolition and scrap in all estimates.
10. Abatement of asbestos will precede any other work. After final air quality clearances have been reached, demolition can proceed.
11. All demolition and abatement activities, including removal of asbestos, will be done in accordance with any and all applicable Federal, State and Local laws, rules and regulations.
12. Progress Energy will remove or consume all burnable coal, fuel oil and chemicals prior to commencement of demolition activities.
13. If any PCB contaminated oil is encountered, it will be removed and disposed of properly. Estimated quantities of PCB contaminated oil were developed for each site based on data provided by Progress Energy.
14. Hazardous material abatement is included for all sites as necessary, including asbestos, mercury, and PCBs. Lead paint coated materials will be handled by certified personnel as necessary, but will not be removed prior to demolition.
15. No environmental costs have been included to address cleanup of contaminated soils, hazardous materials, or other conditions present on-site having a negative environmental impact, other than those specifically listed in these assumptions. No allowances are included for unforeseen environmental remediation activities.

16. Handling and disposal of hazardous material will be performed in compliance with the approved methods of Progress Energy Environmental Services Department.
17. Refractory brick on the coal fired boilers is handled and disposed of as hazardous waste, due to the likelihood of the presence of arsenic contamination.
18. Existing ash ponds will be pumped dry, filled with inert debris, capped with 40 mil geo-membrane, geo-net drainage layer, 18 inches of soil, and vegetated cover.
19. Stormwater ponds will be pumped dry, filled with inert debris, capped with 40 mil geo-membrane, geo-net drainage layer, 18 inches of soil, and vegetated cover.
20. Cooling lakes will remain as-is, with the exception of the Weatherspoon site. The Weatherspoon cooling lake will require dredging of ash from an area of the pond prior to being abandoned.
21. Site areas will be graded to achieve suitable site drainage to natural drainage patterns, but grading will be minimized to the extent possible.
22. All above grade structures will be demolished. All below grade structures, including foundations, will be abandoned in-place unless deemed hazardous by Progress Energy or otherwise stated in the assumptions as being demolished.
23. All roads, paving, crushed rock surfacing, and rail lines will be abandoned in place, and be available for reuse.
24. Existing basements will be used to bury non-hazardous debris. Concrete in trenches and basements will be perforated to create drainage. Non-hazardous debris, such as concrete and brick, will be crushed and used as clean fill on-site once the capacity of all existing basements has been exceeded. All inert debris is disposed on-site, with the exception of the hydro-electric plants. Costs for offsite disposal are included for materials not classified as inert debris, and for all debris at the hydro-electric plants.
25. Major equipment, structural steel, combustion turbines, generators, inlet filters, exhaust stacks, transformers, electrical equipment, cabling, wiring, pump skids, above ground piping, and equipment enclosures for the above equipment are sold for scrap and removed from the Plant site by the demolition contractor. All other demolished materials are considered debris.
26. Except for the circulating water lines, underground piping will be abandoned in place. Circulating water system pipes will be capped, have the tops broken out, and backfilled with on-site soil.
27. Sewers, catch basins and ducts will be filled and sealed on the upstream side. Horizontal runs will be abandoned in place after being closed.

28. Costs are included to clean out the fuel oil tanks and lines. Costs have also been included to remove one foot of soil directly below each of the fuel oil tanks to account for the potential for this soil to be contaminated during normal operations.
29. Disturbed site areas will be seeded after they are graded to provide a suitable ground cover to prevent soil erosion.
30. Spare Parts inventories have been provided to BMcD by Progress Energy. It is assumed that spare parts having potential reuse will be transferred to other Progress Energy sites or sold on the secondary market prior to commencing dismantlement. For purposes of this study, BMcD has assumed that any spare parts, tools, inventory, or equipment in the buildings will be salvaged or sold for scrap, the value of which has been accounted for in the estimates.
31. Rolling stock, including rail cars, dozers, plant vehicles, etc. is assumed to be removed by Progress Energy prior to decommissioning.
32. Valuation and sale of land and all replacement generation costs are excluded from this scope.
33. For purposes of this study, it is assumed that none of the equipment will have a salvage value in excess of the scrap value of the materials in the equipment at the time of the decommissioning study. The decommissioning cost estimate is based on the end of useful life of each facility. All equipment, steel, copper, and other metals will be sold as scrap. Credits for salvage value are based on scrap value alone. Resale of equipment and materials is not included.
34. The scope of the costs included in this Study is limited to the decommissioning activities that will occur at the end of useful life of the facilities. Additional on-going costs may be required, including, but not limited to groundwater monitoring associated with ash pond closure and/or other environmental monitoring activities. These costs are excluded from the cost estimates provided in this Study.
35. Contingency is included in the cost estimate to cover expenses that are unknown at the time the estimate is prepared, but can reasonably be anticipated to be expended on the project. When preparing a cost estimate, there is always some uncertainty as to the precision of the quantities in the estimate, how work will be performed, and what work conditions will be like when the project is executed. Uncertainties are greater in a demolition project than in a construction project due to the nature of the drawings used for quantity takeoffs and the likelihood of encountering unknown conditions, such as hazardous materials, or environmental contamination. Other unknown conditions that could impact the costs include, but are not limited to, changing market conditions and weather delays. These uncertainties will impact the actual costs of the project relative to the estimated cost. The estimator is aware of these unknowns when preparing the cost estimate and

includes contingency to cover these costs. A 20% contingency was included on the direct costs in the estimates prepared as part of this study to cover unknowns.

36. Scrap value of steel is included at $320 per gross-ton.
37. Scrap value of copper is included at $2.89 per pound.
38. The current scrap metal values utilized in this study are on the higher end of the range relative to historical scrap metal pricing.
39. Pricing for all estimates is in 2011 dollars.
40. Market conditions may result in cost variations at the time of contract execution.

3.2 SITE SPECIFIC DECOMMISSIONING ASSUMPTIONS

3.2.1 Cape Fear

The following assumptions were made specific to the Cape Fear plant.

1. Boilers 1 – 6 and steam turbines 1 & 2 have had all asbestos abated, with the exception of the masonry boiler walls, which still remain. It is assumed that this masonry material contains asbestos and is contaminated with arsenic. All of this material will be handled as hazardous and will be disposed of in an approved hazardous waste landfill.
2. Boilers 7 & 8 and steam turbines 3 & 4 have had all asbestos abated.
3. Boilers 9 & 10 and associated steam turbines have been assumed to have had approximately 0% of the asbestos removed from the boilers, 0% of asbestos removed from the steam turbines, and 0% of asbestos removed from the critical piping. The cost of removal and disposal of the remaining asbestos is included in the cost estimates.
4. Unit 1 – 6 coal bunkers have been previously removed.
5. Unit 1 – 6 stacks have been previously removed.
6. The remaining concrete stacks are assumed to contain asbestos
7. The combustion turbines and HRSGs are assumed to contain asbestos insulation
8. In areas where fuel oil tanks have leaked, the affected areas will be excavated down 5 feet below the existing ground surface level. This soil will be hauled off and disposed of in an appropriately licensed landfill. For purposes of this study, this depth of removal from the surface was selected as an assumed average depth of removal for the contaminated areas. The actual contamination depth may be shallower or deeper in some areas, but for purposes of this study, this average removal depth was assumed. During final decommissioning activities, soil sampling will be performed if needed, to verify removal of contaminated material.

9. In areas where fuel oil pipes have leaked, a trench will be excavated 5 feet wide by 10 feet below the existing ground surface level. This soil will be hauled off and disposed of in an appropriately licensed landfill. For purposes of this study, this depth and of removal from the surface and width of removal was selected as an assumed average area of contamination surrounding the fuel oil lines. The actual area of contamination may be smaller or larger in some areas, but for purposes of this study, this average removal area was assumed. During final decommissioning activities, soil sampling will be performed if needed, to verify removal of contaminated material.
10. The discharge canal will be filled in by grading the berms around the site into the canal.
11. The older ash ponds that are no longer in use have not been capped. The cost of capping these ponds is included in the decommissioning costs.
12. Transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. PCB testing results were provided to BMcD by Progress Energy. All recent tests indicate that PCB levels are below 50 ppm. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 5 ppm and 50 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

3.2.2 Lee

The following assumptions were made specific to the Lee plant.

1. Estimated asbestos quantities were provided to BMcD by Progress Energy for transite paneling, boiler insulation, duct work, galbestos, and piping insulation. These quantities were applied to the estimates on a per unit basis, and the removal and disposal costs are included in the decommissioning estimate.
2. The cooling lake will remain as-is. The discharge canal will be filled in.
3. Transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. PCB testing results were provided to BMcD by Progress Energy. All recent tests indicate that PCB levels are below 50 ppm. For purposes of this study, it will be assumed that PCB levels of the transformer oils are between 5 ppm and 50 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained

PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

3.2.3 Sutton

The following assumptions were made specific to the Sutton plant.

1. Unit 1 - has been assumed to have had approximately 30% of the asbestos removed from the boilers, 30% of asbestos removed from the steam turbines, and 30% of asbestos removed from the critical piping. The cost of removal and disposal of the remaining asbestos is included in the cost estimates.
2. Unit 2 - has been assumed to have had 70% of the asbestos removed from the boilers, 30% of asbestos removed from the steam turbines, and 30% of asbestos removed from the critical piping. The cost of removal and disposal of the remaining asbestos is included in the cost estimates.
3. Unit 3 - has been assumed to have had approximately 100% of the asbestos removed from the boilers, 30% of asbestos removed from the steam turbines, and 30% of asbestos removed from the critical piping. The cost of removal and disposal of the remaining asbestos is included in the cost estimates.
4. The stacks are assumed to contain asbestos
5. The combustion turbines are assumed to contain asbestos insulation
6. The cooling lake will remain as-is.
7. An old asbestos burial pit has been capped with asphalt. It will be abandoned as-is.
8. Transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. PCB testing results were provided to BMcD by Progress Energy. All recent tests indicate that PCB levels are below 50 ppm. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 5 ppm and 50 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

3.2.4 Weatherspoon

The following assumptions were made specific to the Weatherspoon plant.

1. Asbestos quantities were provided to BMcD by Progress.

2. The cooling lake will require dredging of ash from a one-acre area approximately six feet thick ash prior to abandoning the lake.
3. In areas where fuel oil tanks have leaked, the affected areas will be excavated down 5 feet below the existing ground surface level. This soil will be hauled off and disposed of in an appropriately licensed landfill. For purposes of this study, this depth of removal from the surface was selected as an assumed average depth of removal for the contaminated areas. The actual contamination depth may be shallower or deeper in some areas, but for purposes of this study, this average removal depth was assumed. During final decommissioning activities, soil sampling will be performed if needed, to verify removal of contaminated material.
4. In areas where fuel oil pipes have leaked, a trench will be excavated 5 feet wide by 10 feet below the existing ground surface level. This soil will be hauled off and disposed of in an appropriately licensed landfill. For purposes of this study, this depth and of removal from the surface and width of removal was selected as an assumed average area of contamination surrounding the fuel oil lines. The actual area of contamination may be smaller or larger in some areas, but for purposes of this study, this average removal area was assumed. During final decommissioning activities, soil sampling will be performed if needed, to verify removal of contaminated material.
5. Transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. PCB testing results were provided to BMcD by Progress Energy. All recent tests indicate that PCB levels are below 50 ppm. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 5 ppm and 50 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

3.3 RESULTS

BMcD has prepared estimates in current dollars (2011$) for the decommissioning of the Plants. These costs are summarized in Table 3-1. A breakdown of the decommissioning costs can be found in Appendix A.

Table 3-1: Decommissioning Cost Summary

Asset	Decommissioning Costs	Credits	Net Project Cost
Cape Fear	$62,571,000	($11,608,000)	$50,963,000
Lee	$76,963,000	($9,410,000)	$67,553,000
Sutton	$53,465,000	($10,070,000)	$43,395,000
Weatherspoon	$26,806,000	($4,806,000)	$22,000,000

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SECTION 4

LIMITATIONS

4.0 LIMITATIONS

In preparation of this decommissioning study, BMcD has relied upon information provided by Progress Energy. BMcD acknowledges that it has requested the information from Progress Energy that it deemed necessary to complete this study. While we have no reason to believe that the information provided to us, and upon which we have relied, is inaccurate or incomplete in any material respect, we have not independently verified such information and cannot guarantee its accuracy or completeness.

Engineer's estimates and projections of decommissioning costs are based on Engineer's experience, qualifications and judgment. Since Engineer has no control over weather, cost and availability of labor, material and equipment, labor productivity, construction contractors' procedures and methods, and other factors, Engineer does not guarantee the accuracy of its estimates and projections.

Engineer's estimates do not include allowances for unforeseen environmental liabilities associated with unexpected environmental contamination due to events not considered part of normal operations, such as fuel tank ruptures, oil spills, etc. Estimates also do not include allowances for environmental remediation associated with changes in classification of hazardous materials.

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APPENDIX A

DECOMMISSOINING COST BREAKDOWNS

Table A-1
Cape Fear Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Cape Fear Plant						
Unit 1 (Boilers 1 - 3)						
Asbestos Removal	$ -	$ -	$ -	$ 196,000	$ 196,000	$ -
Boiler	$ 184,000	$ 296,000	$ -	$ -	$ 480,000	$ -
Steam Turbine & Building	$ 130,000	$ 120,000	$ -	$ -	$ 250,000	$ -
GSU & Foundation	$ 16,000	$ 24,000	$ -	$ -	$ 40,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 2,253,000	$ -	$ 2,253,000	$ -
Debris	$ -	$ -	$ 50,000	$ -	$ 50,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,258,000)
Subtotal	**$ 330,000**	**$ 440,000**	**$ 2,303,000**	**$ 204,000**	**$ 3,277,000**	**$ (1,258,000)**
Unit 2 (Boilers 4 - 6)						
Asbestos Removal	$ -	$ -	$ -	$ 198,000	$ 198,000	$ -
Boiler	$ 188,000	$ 299,000	$ -	$ -	$ 487,000	$ -
Steam Turbine & Building	$ 15,000	$ 138,000	$ -	$ -	$ 153,000	$ -
GSU & Foundation	$ 18,000	$ 24,000	$ -	$ -	$ 42,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 2,276,000	$ -	$ 2,276,000	$ -
Debris	$ -	$ -	$ 50,000	$ -	$ 50,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,334,000)
Subtotal	**$ 221,000**	**$ 461,000**	**$ 2,326,000**	**$ 206,000**	**$ 3,214,000**	**$ (1,334,000)**
Unit 3 (Boiler 7)						
Asbestos Removal	$ -	$ -	$ -	$ 66,000	$ 66,000	$ -
Boiler	$ 229,000	$ 232,000	$ -	$ -	$ 461,000	$ -
Steam Turbine & Building	$ 186,000	$ 172,000	$ -	$ -	$ 358,000	$ -
GSU & Foundation	$ 21,000	$ 30,000	$ -	$ -	$ 51,000	$ -
Hazardous Materials Disposal (Refractory)	$ 1,000	$ 1,000	$ -	$ -	$ 2,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,772,000	$ -	$ 1,772,000	$ -
Debris	$ -	$ -	$ 101,000	$ -	$ 101,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,513,000)
Subtotal	**$ 437,000**	**$ 435,000**	**$ 1,873,000**	**$ 66,000**	**$ 2,811,000**	**$ (1,513,000)**
Unit 4 (Boiler 8)						
Asbestos Removal	$ -	$ -	$ -	$ 73,000	$ 73,000	$ -
Boiler	$ 229,000	$ 232,000	$ -	$ -	$ 461,000	$ -
Steam Turbine & Building	$ 186,000	$ 172,000	$ -	$ -	$ 358,000	$ -
GSU & Foundation	$ 21,000	$ 30,000	$ -	$ -	$ 51,000	$ -
Hazardous Materials Disposal (Refractory)	$ 1,000	$ 1,000	$ -	$ -	$ 2,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,653,000	$ -	$ 1,653,000	$ -
Debris	$ -	$ -	$ 101,000	$ -	$ 101,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,511,000)
Subtotal	**$ 437,000**	**$ 435,000**	**$ 1,754,000**	**$ 73,000**	**$ 2,699,000**	**$ (1,511,000)**
Unit 5 (Boiler 9)						
Asbestos Removal	$ -	$ -	$ -	$ 866,000	$ 866,000	$ -
Boiler	$ 874,000	$ 796,000	$ -	$ -	$ 1,670,000	$ -
Steam Turbine & Building	$ 669,000	$ 620,000	$ -	$ -	$ 1,289,000	$ -
Precipitator	$ 75,000	$ 80,000	$ -	$ -	$ 155,000	$ -
Stack	$ 223,000	$ 480,000	$ -	$ -	$ 703,000	$ -
GSU & Foundation	$ 37,000	$ 53,000	$ -	$ -	$ 90,000	$ -
Hazardous Materials Disposal (Refractory)	$ 2,000	$ 3,000	$ -	$ -	$ 5,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,088,000	$ -	$ 1,088,000	$ -
Debris	$ -	$ -	$ 278,000	$ -	$ 278,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (2,435,000)
Subtotal	**$ 1,880,000**	**$ 2,032,000**	**$ 1,366,000**	**$ 866,000**	**$ 6,144,000**	**$ (2,435,000)**
Unit 6 (Boiler 10)						
Asbestos Removal	$ -	$ -	$ -	$ 734,000	$ 734,000	$ -
Boiler	$ 699,000	$ 657,000	$ -	$ -	$ 1,356,000	$ -
Steam Turbine & Building	$ 539,000	$ 49,000	$ -	$ -	$ 588,000	$ -
Precipitator	$ 70,000	$ 66,000	$ -	$ -	$ 136,000	$ -
Stack	$ 223,000	$ 480,000	$ -	$ -	$ 703,000	$ -
GSU & Foundation	$ 41,000	$ 59,000	$ -	$ -	$ 100,000	$ -
Hazardous Materials Disposal (Refractory)	$ 2,000	$ 2,000	$ -	$ -	$ 4,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 593,000	$ -	$ 593,000	$ -
Debris	$ -	$ -	$ 219,000	$ -	$ 219,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (2,707,000)
Subtotal	**$ 1,574,000**	**$ 1,313,000**	**$ 812,000**	**$ 734,000**	**$ 4,433,000**	**$ (2,707,000)**
Material Handling Facilities						
Demolition	$ 99,000	$ 110,000	$ -	$ -	$ 209,000	$ -
Coal Storage Area Restoration	$ -	$ -	$ -	$ 988,000	$ 988,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Debris	$ -	$ -	$ 25,000	$ -	$ 25,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (31,000)
Subtotal	**$ 99,000**	**$ 110,000**	**$ 26,000**	**$ 988,000**	**$ 1,223,000**	**$ (31,000)**

Combined Cycle Unit 1												
Turbines & Foundations	$	107,000	$	80,000	$	-	$	-	$	187,000	$	-
GSUs	$	13,000	$	10,000	$	-	$	-	$	23,000	$	-
Onsite Crush Conrete and Disposal	$	5,000	$	-	$	-	$	-	$	5,000	$	-
Debris	$	1,000	$	-	$	-	$	-	$	1,000	$	-
Scrap	$	-	$	-	$	-	$	-	$	-	$	(239,000)
Subtotal	**$**	**126,000**	**$**	**90,000**	**$**	**-**	**$**	**-**	**$**	**216,000**	**$**	**(239,000)**
Combined Cycle Unit 2												
Turbines & Foundations	$	107,000	$	80,000	$	-	$	-	$	187,000	$	-
GSUs	$	13,000	$	10,000	$	-	$	-	$	23,000	$	-
Onsite Crush Conrete and Disposal	$	5,000	$	-	$	-	$	-	$	5,000	$	-
Debris	$	1,000	$	-	$	-	$	-	$	1,000	$	-
Scrap	$	-	$	-	$	-	$	-	$	-	$	(239,000)
Subtotal	**$**	**126,000**	**$**	**90,000**	**$**	**-**	**$**	**-**	**$**	**216,000**	**$**	**(239,000)**
Common Facilities												
Cooling Water Intakes and Circulating Water Pumps	$	82,000	$	110,000	$	-	$	-	$	192,000	$	-
Cooling Water Discharge Canal	$	33,000	$	183,000	$	-	$	117,000	$	333,000	$	-
Cooling Tower	$	48,000	$	235,000	$	-	$	180,000	$	463,000	$	-
All BOP Buildings	$	41,000	$	15,000	$	-	$	-	$	56,000	$	-
Closure of Ash Ponds	$	-	$	-	$	-	$	22,000,000	$	22,000,000	$	-
Fuel Oil Storage Tanks	$	31,000	$	44,000	$	-	$	-	$	75,000	$	-
All Other Tanks	$	16,000	$	14,000	$	-	$	-	$	30,000	$	-
Remediation of Soil Impacted by Fuel Oil Leak	$	-	$	-	$	-	$	1,005,000	$	1,005,000	$	-
PCB Oil Transportation and Disposal (>5 ppm to <50 ppm)	$	-	$	-	$	-	$	131,000	$	131,000	$	-
Soil Removal Beneath for PCB Equipment	$	-	$	-	$	-	$	766,000	$	766,000	$	-
Soil Removal Beneath Fuel Oil Tank	$	-	$	-	$	-	$	230,000	$	230,000	$	-
Fuel Oil Storage Tank Cleaning	$	-	$	-	$	-	$	11,000	$	11,000	$	-
Fuel Oil Line Flushing/Cleaning	$	-	$	-	$	-	$	45,000	$	45,000	$	-
Mercury & Universal Waste Disposal	$	-	$	-	$	4,000	$	-	$	4,000	$	-
Plant Washdown & Materials Disposal	$	-	$	-	$	483,000	$	-	$	483,000	$	-
On-site Concrete Crushing & Disposal	$	-	$	-	$	-	$	-	$	-	$	(341,000)
Subtotal	**$**	**251,000**	**$**	**601,000**	**$**	**487,000**	**$**	**24,485,000**	**$**	**25,824,000**	**$**	**(341,000)**
Cape Fear Plant Subtotal	**$**	**5,481,000**	**$**	**6,007,000**	**$**	**10,947,000**	**$**	**27,622,000**	**$**	**50,057,000**	**$**	**(11,608,000)**
TOTAL COST (CREDIT)									**$**	**50,057,000**	**$**	**(11,608,000)**
PROJECT INDIRECTS (5%)									**$**	**2,503,000**		
CONTINGENGY (20%)									**$**	**10,011,000**		
TOTAL PROJECT COST (CREDIT)									**$**	**62,571,000**	**$**	**(11,608,000)**
TOTAL NET PROJECT COST (CREDIT)									**$**	**50,963,000**		

Table A-2
Lee Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Lee Plant						
Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 819,000	$ 819,000	$ -
Boiler	$ 405,000	$ 396,000	$ -	$ -	$ 801,000	$ -
Steam Turbine & Building	$ 467,000	$ 424,000	$ -	$ -	$ 891,000	$ -
Precipitator	$ 40,000	$ 40,000	$ -	$ -	$ 80,000	$ -
Stack - Common Unit 1 & 2	$ 143,000	$ 366,000	$ -	$ -	$ 509,000	$ -
GSU & Foundation	$ 29,000	$ 42,000	$ -	$ -	$ 71,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 385,000	$ -	$ 385,000	$ -
Debris	$ -	$ -	$ 158,000	$ -	$ 158,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,554,000)
Subtotal	**$ 1,084,000**	**$ 1,268,000**	**$ 543,000**	**$ 827,000**	**$ 3,722,000**	**$ (1,554,000)**
Unit 2						
Asbestos Removal	$ -	$ -	$ -	$ 775,000	$ 775,000	$ -
Boiler	$ 345,000	$ 345,000	$ -	$ -	$ 690,000	$ -
Steam Turbine & Building	$ 403,000	$ 366,000	$ -	$ -	$ 769,000	$ -
Precipitator	$ 34,000	$ 34,000	$ -	$ -	$ 68,000	$ -
GSU & Foundation	$ 28,000	$ 41,000	$ -	$ -	$ 69,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 631,000	$ -	$ 631,000	$ -
Debris	$ -	$ -	$ 150,000	$ -	$ 150,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,614,000)
Subtotal	**$ 810,000**	**$ 786,000**	**$ 781,000**	**$ 783,000**	**$ 3,160,000**	**$ (1,614,000)**
Unit 3						
Asbestos Removal	$ -	$ -	$ -	$ 3,101,000	$ 3,101,000	$ -
Boiler	$ 1,075,000	$ 525,000	$ -	$ -	$ 1,600,000	$ -
Steam Turbine & Building	$ 1,253,000	$ 200,000	$ -	$ -	$ 1,453,000	$ -
Precipitator	$ 108,000	$ 53,000	$ -	$ -	$ 161,000	$ -
Stack	$ 143,000	$ 386,000	$ -	$ -	$ 529,000	$ -
GSU & Foundation	$ 49,000	$ 75,000	$ -	$ -	$ 124,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 699,000	$ -	$ 699,000	$ -
Debris	$ -	$ -	$ 600,000	$ -	$ 600,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (4,680,000)
Subtotal	**$ 2,628,000**	**$ 1,239,000**	**$ 1,299,000**	**$ 3,109,000**	**$ 8,275,000**	**$ (4,680,000)**
Coal Handling Facilities						
Demolition	$ 99,000	$ 114,000	$ -	$ -	$ 213,000	$ -
Coal Storage Area Restoration	$ -	$ -	$ -	$ 1,547,000	$ 1,547,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Debris	$ -	$ -	$ 30,000	$ -	$ 30,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (29,000)
Subtotal	**$ 99,000**	**$ 114,000**	**$ 31,000**	**$ 1,547,000**	**$ 1,791,000**	**$ (29,000)**
Combustion Turbine Unit 1						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ 3,000	$ 2,000	$ -	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (390,000)
Subtotal	**$ 40,000**	**$ 30,000**	**$ -**	**$ -**	**$ 70,000**	**$ (390,000)**
Combustion Turbine Unit 2						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ 4,000	$ 3,000	$ -	$ -	$ 7,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (368,000)
Subtotal	**$ 41,000**	**$ 31,000**	**$ -**	**$ -**	**$ 72,000**	**$ (368,000)**
Combustion Turbine Unit 3						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ 7,000	$ 5,000	$ -	$ -	$ 12,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (364,000)
Subtotal	**$ 44,000**	**$ 33,000**	**$ -**	**$ -**	**$ 77,000**	**$ (364,000)**
Combustion Turbine Unit 4						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ 7,000	$ 5,000	$ -	$ -	$ 12,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (155,000)
Subtotal	**$ 44,000**	**$ 33,000**	**$ -**	**$ -**	**$ 77,000**	**$ (155,000)**

Common Facilities						
Cooling Water System and Circulating Water Pumps	$ 85,000	$ 17,000	$ -	$ -	$ 102,000	$ -
Cooling Tower and Basin	$ 34,000	$ 11,000	$ -	$ -	$ 45,000	$ -
All BOP Buildings	$ 42,000	$ 15,000	$ -	$ -	$ 57,000	$ -
Closure of Ash Ponds	$ -	$ -	$ -	$ 43,000,000	$ 43,000,000	$ -
Fuel Oil Storage Tanks	$ 20,000	$ 145,000	$ -	$ -	$ 165,000	$ -
All Other Tanks	$ 17,000	$ 14,000	$ -	$ -	$ 31,000	$ -
PCB Oil Transportation and Disposal (>5 ppm to <50 ppm)	$ -	$ -	$ -	$ 105,000	$ 105,000	$ -
Soil Removal Beneath for PCB Equipment	$ -	$ -	$ -	$ 442,000	$ 442,000	$ -
Soil Removal Beneath Fuel Oil Tank	$ -	$ -	$ -	$ 160,000	$ 160,000	$ -
Fuel Oil Storage Tank Cleaning	$ -	$ -	$ -	$ 10,000	$ 10,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Plant Washdown & Materials Disposal	$ -	$ -	$ 110,000	$ 69,000	$ 179,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 7,000	$ -	$ 7,000	$ -
Debris	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (256,000)
Subtotal	**$ 198,000**	**$ 202,000**	**$ 118,000**	**$ 43,808,000**	**$ 44,326,000**	**$ (256,000)**
Lee Plant Subtotal	**$ 4,988,000**	**$ 3,736,000**	**$ 2,772,000**	**$ 50,074,000**	**$ 61,570,000**	**$ (9,410,000)**
TOTAL COST (CREDIT)					**$ 61,570,000**	**$ (9,410,000)**
PROJECT INDIRECTS (5%)					**$ 3,079,000**	
CONTINGENGY (20%)					**$ 12,314,000**	
TOTAL PROJECT COST (CREDIT)					**$ 76,963,000**	**$ (9,410,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 67,553,000**	

Table A-3
Sutton Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Sutton Plant						
Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 831,000	$ 831,000	$ -
Boiler	$ 277,000	$ 257,000	$ -	$ -	$ 534,000	$ -
Steam Turbine & Building	$ 235,000	$ 220,000	$ -	$ -	$ 455,000	$ -
Precipitator	$ 24,000	$ 26,000	$ -	$ -	$ 50,000	$ -
Stack - Common Unit 1 & 2	$ 387,000	$ 1,006,000	$ -	$ -	$ 1,393,000	$ -
GSU & Foundation	$ 47,000	$ 73,000	$ -	$ -	$ 120,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 497,000	$ -	$ 497,000	$ -
Debris	$ -	$ -	$ 396,000	$ -	$ 396,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,996,000)
Subtotal	**$ 970,000**	**$ 1,582,000**	**$ 893,000**	**$ 839,000**	**$ 4,284,000**	**$ (1,996,000)**
Unit 2						
Asbestos Removal	$ -	$ -	$ -	$ 356,000	$ 356,000	$ -
Boiler	$ 277,000	$ 257,000	$ -	$ -	$ 534,000	$ -
Steam Turbine & Building	$ 235,000	$ 220,000	$ -	$ -	$ 455,000	$ -
Precipitator	$ 24,000	$ 26,000	$ -	$ -	$ 50,000	$ -
GSU & Foundation	$ 47,000	$ 73,000	$ -	$ -	$ 120,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 545,000	$ -	$ 545,000	$ -
Debris	$ -	$ -	$ 396,000	$ -	$ 396,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,969,000)
Subtotal	**$ 583,000**	**$ 576,000**	**$ 941,000**	**$ 364,000**	**$ 2,464,000**	**$ (1,969,000)**
Unit 3						
Asbestos Removal	$ -	$ -	$ -	$ 209,000	$ 209,000	$ -
Boiler	$ 1,254,000	$ 941,000	$ -	$ -	$ 2,195,000	$ -
Steam Turbine & Building	$ 995,000	$ 929,000	$ -	$ -	$ 1,924,000	$ -
Precipitator	$ 125,000	$ 94,000	$ -	$ -	$ 219,000	$ -
Stack	$ 387,000	$ 1,006,000	$ -	$ -	$ 1,393,000	$ -
GSU & Foundation	$ 97,000	$ 143,000	$ -	$ -	$ 240,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,408,000	$ -	$ 1,408,000	$ -
Debris	$ -	$ -	$ 1,792,000	$ -	$ 1,792,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (5,597,000)
Subtotal	**$ 2,858,000**	**$ 3,113,000**	**$ 3,200,000**	**$ 217,000**	**$ 9,388,000**	**$ (5,597,000)**
Material Handling Facilities						
Demolition	$ 113,000	$ 194,000	$ -	$ -	$ 307,000	$ -
Coal Storage Area Restoration	$ -	$ -	$ -	$ 2,544,000	$ 2,544,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Debris	$ -	$ -	$ 60,000	$ -	$ 60,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (34,000)
Subtotal	**$ 113,000**	**$ 194,000**	**$ 61,000**	**$ 2,544,000**	**$ 2,912,000**	**$ (34,000)**
Combustion Turbine Unit 1						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ 3,000	$ 2,000	$ -	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (88,000)
Subtotal	**$ 40,000**	**$ 30,000**	**$ -**	**$ -**	**$ 70,000**	**$ (88,000)**
Combustion Turbine Unit 2						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ 5,000	$ 3,000	$ -	$ -	$ 8,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (88,000)
Subtotal	**$ 42,000**	**$ 31,000**	**$ -**	**$ -**	**$ 73,000**	**$ (88,000)**
Combustion Turbine Unit 3						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ 5,000	$ 3,000	$ -	$ -	$ 8,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (88,000)
Subtotal	**$ 42,000**	**$ 31,000**	**$ -**	**$ -**	**$ 73,000**	**$ (88,000)**

Common Facilities						
Cooling Water Intakes and Circulating Water Pumps	$ 145,000	$ 29,000	$ -	$ -	$ 174,000	$ -
Cooling Water Discharge Canal	$ 58,000	$ 19,000	$ -	$ -	$ 77,000	$ -
All BOP Buildings	$ 72,000	$ 26,000	$ -	$ -	$ 98,000	$ -
Closure of Ash Ponds	$ -	$ -	$ -	$ 21,000,000	$ 21,000,000	$ -
Fuel Oil Storage Tanks	$ 54,000	$ 78,000	$ -	$ -	$ 132,000	$ -
All Other Tanks	$ 29,000	$ 25,000	$ -	$ -	$ 54,000	$ -
PCB Oil Transportation and Disposal (>5 ppm to <50 ppm)	$ -	$ -	$ -	$ 87,000	$ 87,000	$ -
Soil Removal Beneath for PCB Equipment	$ -	$ -	$ -	$ 412,000	$ 412,000	$ -
Soil Removal Beneath Fuel Oil Tank	$ -	$ -	$ -	$ 1,346,000	$ 1,346,000	$ -
Fuel Oil Storage Tank Cleaning	$ -	$ -	$ -	$ 23,000	$ 23,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Plant Washdown & Materials Disposal	$ -	$ -	$ -	$ 69,000	$ 69,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 9,000	$ -	$ 9,000	$ -
Debris	$ -	$ -	$ 8,000	$ -	$ 8,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (210,000)
Subtotal	**$ 358,000**	**$ 177,000**	**$ 17,000**	**$ 22,956,000**	**$ 23,508,000**	**$ (210,000)**
Sutton Plant Subtotal	**$ 5,006,000**	**$ 5,734,000**	**$ 5,112,000**	**$ 26,920,000**	**$ 42,772,000**	**$ (10,070,000)**
TOTAL COST (CREDIT)					**$ 42,772,000**	**$ (10,070,000)**
PROJECT INDIRECTS (5%)					**$ 2,139,000**	
CONTINGENGY (20%)					**$ 8,554,000**	
TOTAL PROJECT COST (CREDIT)					**$ 53,465,000**	**$ (10,070,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 43,395,000**	

Table A-4
Weatherspoon Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Weatherspoon Plant						
Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 526,000	$ 526,000	$ -
Boiler	$ 270,000	$ 248,000	$ -	$ -	$ 518,000	$ -
Steam Turbine & Building	$ 251,000	$ 203,000	$ -	$ -	$ 454,000	$ -
Precipitator	$ 27,000	$ 25,000	$ -	$ -	$ 52,000	$ -
Stack - Common Unit 1 & 2	$ 105,000	$ 297,000	$ -	$ -	$ 402,000	$ -
GSU & Foundation	$ 33,000	$ 48,000	$ -	$ -	$ 81,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 197,000	$ -	$ 197,000	$ -
Debris	$ -	$ -	$ 113,000	$ -	$ 113,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,017,000)
Subtotal	**$ 686,000**	**$ 821,000**	**$ 310,000**	**$ 534,000**	**$ 2,351,000**	**$ (1,017,000)**
Unit 2						
Asbestos Removal	$ -	$ -	$ -	$ 526,000	$ 526,000	$ -
Boiler	$ 270,000	$ 248,000	$ -	$ -	$ 518,000	$ -
Steam Turbine & Building	$ 251,000	$ 203,000	$ -	$ -	$ 454,000	$ -
Precipitator	$ 27,000	$ 25,000	$ -	$ -	$ 52,000	$ -
GSU & Foundation	$ 33,000	$ 48,000	$ -	$ -	$ 81,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 216,000	$ -	$ 216,000	$ -
Debris	$ -	$ -	$ 113,000	$ -	$ 113,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,004,000)
Subtotal	**$ 581,000**	**$ 524,000**	**$ 329,000**	**$ 534,000**	**$ 1,968,000**	**$ (1,004,000)**
Unit 3						
Asbestos Removal	$ -	$ -	$ -	$ 748,000	$ 748,000	$ -
Boiler	$ 410,000	$ 351,000	$ -	$ -	$ 761,000	$ -
Steam Turbine & Building	$ 394,000	$ 308,000	$ -	$ -	$ 702,000	$ -
Precipitator	$ 41,000	$ 4,000	$ -	$ -	$ 45,000	$ -
Stack	$ 105,000	$ 297,000	$ -	$ -	$ 402,000	$ -
GSU & Foundation	$ 34,000	$ 49,000	$ -	$ -	$ 83,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 721,000	$ -	$ 721,000	$ -
Debris	$ -	$ -	$ 160,000	$ -	$ 160,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,834,000)
Subtotal	**$ 984,000**	**$ 1,009,000**	**$ 881,000**	**$ 756,000**	**$ 3,630,000**	**$ (1,834,000)**
Material Handling Facilities						
Demolition	$ 144,000	$ 94,000	$ -	$ -	$ 238,000	$ -
Coal Storage Area Restoration	$ -	$ -	$ -	$ 1,260,000	$ 1,260,000	$ -
Debris	$ -	$ -	$ 19,000	$ -	$ 19,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (35,000)
Subtotal	**$ 144,000**	**$ 94,000**	**$ 19,000**	**$ 1,260,000**	**$ 1,517,000**	**$ (35,000)**
Combustion Turbine Unit 1						
Turbines & Foundations	$ 61,000	$ 46,000	$ -	$ -	$ 107,000	$ -
GSUs	$ 20,000	$ 15,000	$ -	$ -	$ 35,000	$ -
Debris	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (144,000)
Subtotal	**$ 81,000**	**$ 61,000**	**$ 1,000**	**$ -**	**$ 143,000**	**$ (144,000)**
Combustion Turbine Unit 2						
Turbines & Foundations	$ 61,000	$ 46,000	$ -	$ -	$ 107,000	$ -
GSUs	$ 20,000	$ 15,000	$ -	$ -	$ 35,000	$ -
Debris	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (144,000)
Subtotal	**$ 81,000**	**$ 61,000**	**$ 1,000**	**$ -**	**$ 143,000**	**$ (144,000)**
Combustion Turbine Unit 3						
Turbines & Foundations	$ 61,000	$ 46,000	$ -	$ -	$ 107,000	$ -
GSUs	$ 20,000	$ 15,000	$ -	$ -	$ 35,000	$ -
Debris	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (144,000)
Subtotal	**$ 81,000**	**$ 61,000**	**$ 1,000**	**$ -**	**$ 143,000**	**$ (144,000)**

Combustion Turbine Unit 4												
Turbines & Foundations	$	61,000	$	46,000	$	-	$	-	$	107,000	$	-
GSUs	$	20,000	$	15,000	$	-	$	-	$	35,000	$	-
Debris	$	-	$	-	$	1,000	$	-	$	1,000	$	-
Scrap	$	-	$	-	$	-	$	-	$	-	$	(218,000)
Subtotal	**$**	**81,000**	**$**	**61,000**	**$**	**1,000**	**$**	**-**	**$**	**143,000**	**$**	**(218,000)**
Common Facilities												
Cooling Water Intakes and Circulating Water Pumps	$	100,000	$	159,000	$	-	$	-	$	259,000	$	-
Cooling Water Discharge Canal	$	45,000	$	88,000	$	-	$	-	$	133,000	$	-
All BOP Buildings	$	17,000	$	6,000	$	-	$	-	$	23,000	$	-
Closure of Ash Pond	$	-	$	-	$	-	$	7,000,000	$	7,000,000	$	-
All Other Tanks	$	20,000	$	78,000	$	-	$	-	$	98,000	$	-
Remediation of Soil Impacted by Fuel Oil Leak	$	-	$	-	$	-	$	2,779,000	$	2,779,000	$	-
PCB Oil Transportation and Disposal (>5 ppm to <50 ppm)	$	-	$	-	$	-	$	56,000	$	56,000	$	-
Soil Removal Beneath for PCB Equipment	$	-	$	-	$	-	$	324,000	$	324,000	$	-
Soil Removal Beneath Fuel Oil Tank	$	-	$	-	$	-	$	129,000	$	129,000	$	-
Fuel Oil Storage Tank Cleaning	$	-	$	-	$	-	$	23,000	$	23,000	$	-
Fuel Oil Line Flushing/Cleaning	$	-	$	-	$	-	$	8,000	$	8,000	$	-
Mercury & Universal Waste Disposal	$	-	$	-	$	-	$	11,000	$	11,000	$	-
Plant Washdown & Materials Disposal	$	-	$	-	$	-	$	69,000	$	69,000	$	-
Fly Ash Removal from Cooling Pond	$	-	$	-	$	-	$	484,000	$	484,000	$	-
On-site Concrete Crushing & Disposal	$	-	$	-	$	8,000	$	-	$	8,000	$	-
Debris	$	-	$	-	$	3,000	$	-	$	3,000	$	-
Scrap	$	-	$	-	$	-	$	-	$	-	$	(266,000)
Subtotal	**$**	**182,000**	**$**	**331,000**	**$**	**11,000**	**$**	**10,883,000**	**$**	**11,407,000**	**$**	**(266,000)**
Weatherspoon Plant Subtotal	**$**	**2,901,000**	**$**	**3,023,000**	**$**	**1,554,000**	**$**	**13,967,000**	**$**	**21,445,000**	**$**	**(4,806,000)**
TOTAL COST (CREDIT)									**$**	**21,445,000**	**$**	**(4,806,000)**
PROJECT INDIRECTS (5%)									**$**	**1,072,000**		
CONTINGENGY (20%)									**$**	**4,289,000**		
TOTAL PROJECT COST (CREDIT)									**$**	**26,806,000**	**$**	**(4,806,000)**
TOTAL NET PROJECT COST (CREDIT)									**$**	**22,000,000**		

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Burns & McDonnell: Making our clients successful for more than 100 years

Report on the

Decommissioning Cost Study
Future Units to be Decommissioned

Progress Energy Carolinas

Project No. 62009

January 2012

January 27, 2012

Mr. Issa Zarzar
Manager – Plant Decommissioning Projects
Progress Energy, Inc.
410 South Wilmington Street
Raleigh, North Carolina 27601

Re: Decommissioning Cost Study
BMcD Project No. 62009

Dear Mr. Zarzar:

Burns & McDonnell (BMcD) is pleased to submit this Decommissioning Cost Study prepared on behalf of Progress Energy Carolinas (Progress).

BMcD was retained by Progress to conduct a Decommissioning Cost Study (Study) for power generation assets in North Carolina and South Carolina, excluding nuclear units. The assets include natural gas, fuel oil, hydro-electric, and coal-fired generating facilities. Individuals from BMcD visited each of the Plants covered by the Study in July of 2011, along with a representative from LVI Services (LVI), a demolition contractor who is serving as a sub-consultant to BMcD on the Study. The purpose of the Study was to review the facilities and to make a recommendation to Progress regarding the total cost to decommission the facilities at the end of their useful lives.

The attached report presents the results of the Study, along with the cost estimates for decommissioning each of the facilities. The included costs are presented in 2011 dollars.

If you need any additional information, please contact me at (816) 822-4239 or jkopp@burnsmcd.com. It is a pleasure to be of service to Progress in this matter.

Sincerely,

Jeff Kopp, PE
Project Manager

cc: Vic Ranalletta, PE - BMcD
Jeff Pope, PE - BMcD
Michael Marcheschi - LVI

Decommissioning Cost Study

prepared for

Progress Energy Carolinas
Raleigh, North Carolina

January 2012

Project No. 62009

prepared by

Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri

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EXECUTIVE SUMMARY

ES.0 EXECUTIVE SUMMARY

ES.1 INTRODUCTION

Burns & McDonnell (BMcD) was retained by Progress Energy Carolinas (Progress) to conduct a Decommissioning Cost Study (Study) for power generation assets (Plants) in North Carolina and South Carolina, excluding nuclear units. The assets include natural gas, fuel oil, hydro-electric, and coal-fired generating facilities. Individuals from BMcD visited each of the Plants covered by the Study in July of 2011, along with a representative from LVI Services (LVI), a demolition contractor who is serving as a sub-consultant to BMcD on the Study. The purpose of the Study was to review the facilities and to make a recommendation to Progress regarding the total cost to decommission the facilities at the end of their useful lives.

The decommissioning costs were developed using the information provided by Progress, in-house data available to BMcD, and information supplied by LVI. Quantity take-offs were performed for major plant facilities and equipment based on observations from the site visits and review of drawings provided for each Plant. Decommissioning activities were determined and labor hours were estimated to complete each decommissioning activity. Current market pricing for labor rates and unit pricing were then developed for each task, and these rates were applied to the estimated quantities for the Plants to determine the total cost of decommissioning.

ES.2 RESULTS

BMcD has prepared estimates in current dollars (2011$) for the decommissioning of the Plants. These costs are summarized in Table ES-1. When Progress determines that the Plants should be retired, the above grade equipment and steel structures are assumed to have sufficient scrap value to a salvage contractor to offset a portion of the decommissioning costs. Progress will incur costs in the demolition and restoration of the sites less the salvage value of equipment and bulk steel.

Table ES-1: Decommissioning Cost Summary

Asset	Decommissioning Costs	Credits	Net Project Cost
Asheville	$33,757,000	($9,039,000)	$24,718,000
Blewett	$6,894,000	($1,090,000)	$5,804,000
Darlington	$6,348,000	($5,127,000)	$1,221,000
Marshall	$1,626,000	($179,000)	$1,447,000
Mayo	$54,296,000	($11,826,000)	$42,470,000
Morehead City	$186,000	($137,000)	$49,000
Richmond	$14,618,000	($11,138,000)	$3,480,000
Robinson	$23,938,000	($2,814,000)	$21,124,000
Roxboro	$154,870,000	($23,403,000)	$131,467,000
Tillery	$5,105,000	($1,444,000)	$3,661,000
Walters	$2,005,000	($1,391,000)	$614,000
Wayne	$2,654,000	($3,675,000)	($1,021,000)

The total project costs presented above include the costs to return the sites to an industrial condition suitable for reuse for development of an industrial facility. Included are the costs to dismantle the power generating equipment owned by Progress as well as the costs to dismantle the Progress owned balance of plant facilities and environmental site restoration activities.

ES.3 STATEMENT OF LIMITATIONS

In preparation of this decommissioning study, BMcD has relied upon information provided by Progress Energy. BMcD acknowledges that it has requested the information from Progress Energy that it deemed necessary to complete this study. While we have no reason to believe that the information provided to us, and upon which we have relied, is inaccurate or incomplete in any material respect, we have not independently verified such information and cannot guarantee its accuracy or completeness.

Engineer's estimates and projections of decommissioning costs are based on Engineer's experience, qualifications and judgment. Since Engineer has no control over weather, cost and availability of labor, material and equipment, labor productivity, construction contractors' procedures and methods, and other factors, Engineer does not guarantee the accuracy of its estimates and projections.

Engineer's estimates do not include allowances for unforeseen environmental liabilities associated with unexpected environmental contamination due to events not considered part of normal operations, such as

fuel tank ruptures, oil spills, etc. Estimates also do not include allowances for environmental remediation associated with changes in classification of hazardous materials.

* * * * *

SECTION 1

INTRODUCTION

1.0 INTRODUCTION

1.1 BACKGROUND

Burns & McDonnell (BMcD) was retained by Progress Energy Carolinas (Progress) to conduct a Decommissioning Cost Study (Study) for power generation assets (Plants) in North Carolina and South Carolina, excluding nuclear units. The assets include natural gas, fuel oil, hydro-electric, and coal-fired generating facilities. Individuals from BMcD visited each of the Plants covered by the Study in July of 2011, along with a representative from LVI Services (LVI), a demolition contractor who is serving as a sub-consultant to BMcD on the Study. The purpose of the Study was to review the facilities and to make a recommendation to Progress regarding the total cost to decommission the facilities at the end of their useful lives.

The decommissioning costs were developed using the information provided by Progress, in-house data available to BMcD, and information supplied by LVI. Quantity take-offs were performed for major plant facilities and equipment based on observations from the site visits and review of drawings provided for each Plant. Decommissioning activities were determined and labor hours were estimated to complete each decommissioning activity. Current market pricing for labor rates and unit pricing were then developed for each task, and these rates were applied to the estimated quantities for the Plants to determine the total cost of decommissioning.

1.2 STUDY METHODOLOGY

The site decommissioning costs were developed using information provided by Progress, information developed by LVI, and in-house data BMcD has collected from previous project experience. BMcD estimated quantities for equipment based on a visual inspection of the facilities, review of engineering drawings, BMcD's in house database of plant equipment quantities, along with LVI and BMcD's professional judgment. This resulted in an estimate of quantities for the tasks required to be performed for each decommissioning effort. Current market pricing for labor rates, equipment, and unit pricing were then developed for each task. The unit pricing was developed for each site based on the labor rates, equipment costs, and disposal costs specific to the area in which the work is to be performed. These rates were applied to the quantities for the Plants to determine the total cost of decommissioning for each site.

The decommissioning costs include the cost to return the site to an industrial condition, suitable for reuse for development of an industrial facility. Included are the costs to decommission all of the assets owned by Progress at the site, including power generating equipment and balance of plant facilities

1.3 SITE VISITS

Representatives from BMcD and LVI visited the sites. The site visit consisted of a tour of the Facility with Plant personnel to review the equipment installed at the site. Tours were conducted by Plant personnel.

Mr. Paul Desai, from Progress Energy, served as the Progress representative throughout the site visits, along with plant personnel at each of the sites.

The following BMcD representatives comprised the site visit team:

- Mr. Jeff Kopp, Project Manager
- Mr. Vic Ranalletta, Lead Engineer
- Mr. Jeff Pope, Lead Environmental

In addition, Mr. Jeff Grubich, Environmental Specialist, filled in for Mr. Jeff Pope on several of the site visits. The site visits were performed on the following dates.

Table 1-1: Site Visit Dates

Asset	Site Visit Date
Asheville	July 27, 2011
Blewett	July 26, 2011
Darlington	July 25, 2011
Marshall	July 28, 2011
Mayo	July 19, 2011
Morehead City	July 22, 2011
Richmond	July 26, 2011
Robinson	July 25, 2011
Roxboro	July 19, 2011
Tillery	July 26, 2011
Walters	July 28, 2011
Wayne	July 20, 2011

* * * * *

SECTION 2

PLANT DESCRIPTIONS

2.0 PLANT DESCRIPTIONS

2.1 ASHEVILLE

The Asheville plant is located just south of Asheville, in Arden, North Carolina. The facility includes two coal-fired units rated at a total capacity of 376 megawatts. The units include electrostatic precipitators, and have been retrofitted with a common selective catalytic reduction (SCR) system and a common flue gas desulfurization (FGD) system. The plant site includes a cooling lake and several ash ponds. In addition to the coal-fired units, the plant includes two GE 7FA combustion turbines operating in simple cycle mode.

2.2 BLEWETT

The Blewett plant is located approximately 30 miles east of Charlotte, in Lilesville, North Carolina. The facility includes four GE Frame 5 combustion turbines operating in simple cycle mode. The units are fired on fuel oil only. The site also includes a six-unit hydro-electric plant, totaling 22 megawatts.

2.3 DARLINGTON

The Darlington plant is located approximately 30 miles northeast of Columbia, South Carolina. The plant includes a total of 16 simple cycle combustion turbines. The units include 6 Westinghouse 501AA combustion turbines, 5 Westinghouse 501AB combustion turbines, and 2 Westinghouse 501D5A combustion turbines. The plant includes a fuel oil unloading station, two 5 million gallon fuel oil tanks, and a 1 million gallon fuel oil tank. All of the units run on fuel oil, and 6 of the units can run on natural gas as well.

2.4 MARSHALL

The Marshall plant is located just north of Asheville, in Marshall, North Carolina. The facility consists of two hydro-electric units, totaling 4 megawatts.

2.5 MAYO

The Mayo plant is located near Roxboro, North Carolina. The facility includes a dual boiler unit with a rated capacity of 727 megawatts. The boilers include electrostatic precipitators, and have been retrofitted with a common selective catalytic reduction (SCR) system and a common flue gas desulfurization system (scrubber). The plant site includes a cooling lake and several ash ponds.

2.6 MOREHEAD CITY

The Morehead City plant is located in Morehead City, North Carolina. The facility consists of a single Westinghouse 191 IC combustion turbine operating in simple cycle mode.

2.7 RICHMOND

The Richmond plant is located approximately 40 miles east of Charlotte, in Hamlet, North Carolina. The facility includes five GE 7FA combustion turbines operating in simple cycle mode. The facility also includes a 2-on-1 combined cycle powerblock consisting of two GE 7FAcombustion turbines, two heat recovery steam generators, and a Toshiba steam turbine. A second combined cycle powerblock is located onsite, consisting of two Siemens SGT6-5000F combustion turbines, two heat recovery steam generators, and a GE steam turbine.

2.8 ROBINSON

The Robinson plant is located approximately 30 miles northeast of Columbia, South Carolina. The facility includes a single coal-fired unit and a single Westinghouse 191 IC combustion turbine operating in simple cycle mode. The units include electrostatic precipitators, but do not include SCR systems or FGD systems. The plant site includes a cooling lake and ash ponds. The plant is located on the same site as a Progress Energy owned nuclear generating station.

2.9 ROXBORO

The Roxboro plant is located near Roxboro, North Carolina. The facility consists of four coal-fired units totaling 2,422 megawatts. The units include electrostatic precipitators, and have all been retrofitted with SCR systems and FGD systems. The plant site includes a cooling lake and ash ponds.

2.10 TILLERY

The Tillery plant is located approximately 30 miles east of Charlotte, in Mt. Gilead, North Carolina. The facility consists of a four hydro-electric units, totaling 87 megawatts.

2.11 WALTERS

The Walters plant is located approximately 20 miles northwest of Asheville, in Waterville, North Carolina. The facility consists of a four hydro-electric units, totaling 112 megawatts.

2.12 WAYNE

The Wayne plant is located in Goldsboro, North Carolina, adjacent to the Lee plant. The facility includes five GE 7FA combustion turbines operating in simple cycle mode.

* * * * *

SECTION 3

DECOMMISSIONING COSTS

3.0 DECOMMISSIONING COSTS

BMcD has prepared decommissioning cost estimates for the Plants. When Progress determines that each site should be retired, the above grade equipment and steel structures are assumed to have sufficient scrap value to a salvage contractor to offset a portion of the site decommissioning costs. However, Progress will incur costs of decommissioning of the Plants and restoration of the site to the extent that those costs exceed the salvage value of equipment and bulk steel.

The decommissioning costs include the cost to return the site to an industrial condition, suitable for reuse for development of an industrial facility. Included are the costs to dismantle all of the assets owned by Progress at the site, including power generating equipment and balance of plant facilities, as well as environmental site restoration activities.

For purposes of this study, BMcD and LVI have assumed that each site will be decommissioned as a single project, allowing the most cost effective demolition methods to be utilized. A summary of several of the means and methods that could be employed is summarized in the following paragraphs; however, means and methods will not be dictated to the contractor by BMcD. It will be the contractor's responsibility to determine means and methods that result in safely decommissioning the Plants at the lowest possible cost.

Asbestos remediation would take place prior to commencement of any other demolition activities. Abatement would need to be performed in compliance with all state and federal regulations, including, but not limited to requirements for sealing off work areas and maintaining negative pressure throughout the removal process. Final clearances and approvals would need to be achieved prior to performing further demolition activities.

High grade assets would then be removed from the site, to the extent possible. This would include items such as transformers, transformer coils, circuit breakers, electrical wire, condenser plates and tubes, and heater tubes. High grade assets include precious alloys such as copper, aluminum-brass tubes, stainless steel tubes, and other high value metals occurring in plant systems. High grade asset removal would occur up-front in the schedule, to reduce the potential for vandalism, to increase cash flow, and for separation of recyclable materials, in order to increase scrap recovery. Methods of removal vary with the location and nature of the asset. Small transformers, small equipment, and wire would likely be removed

and shipped as-is for processing at a scrap yard. Large transformers, combustion turbines, steam turbines, and condensers would likely require some on-site disassembly prior to being shipped to a scrap yard.

Construction and Demolition (C&D) waste includes items such as non-asbestos insulation, roofing, wood, drywall, plastics, and other non-metallic materials. C&D waste would typically be segregated from scrap and concrete to avoid cross-contaminating of waste streams or recycle streams. C&D demolition crews could remove these materials with equipment such as excavators equipped with material handling attachments, skid steers, etc. This material would be consolidated and loaded into bulk containers for disposal.

In general, boilers and HRSGs could be felled and cut into manageable sized pieces on the ground. First the structures around the boilers would need to be removed using excavators equipped with shears and grapples. Stairs, grating, elevators, and other high structures would be removed using an “ultra high reach” excavator, equipped with shears. Following removal of these structures, the boilers or HRSGs would be felled, using explosive blasts. The boilers would then be dismantled using equipment such as excavators equipped with shears and grapples, and the scrap metal loaded onto trailers for recycling.

After the surrounding structures and ductwork have been removed, the stacks would be imploded, using controlled blasts. Following implosion the stack liners and concrete would be reduced in size to allow for handling and removal.

Balance of plant structures and foundations would likely be demolished using excavators equipped with hydraulic shears, hydraulic grapples, and impact breakers, along with workers utilizing open flame cutting torches. Steel components would be separated, reduced in size, and loaded onto trailers for recycling. Concrete would be broken into manageable sized pieces and stockpiled for crushing on-site. Concrete pieces would ultimately be loaded in a hopper and fed through a crusher to be sized for on-site disposal.

The Robinson Station would likely be demolished utilizing “ultra high reach” excavators equipped with shears and a concrete processor, excavators, and skid steers, since it cannot be felled, due to the proximity of the adjacent nuclear unit.

3.1 GENERAL DECOMMISSIONING ASSUMPTIONS FOR ALL SITES

The following assumptions were made as the basis of all of the cost estimates.

1. The estimates are inclusive of all cost necessary to properly dismantle and decommission all sites to a marketable or usable condition. For purposes of this study and the included cost estimates, the facilities will be restored to a condition suitable for industrial use.
2. All facilities will be decommissioned to zero generating output. Existing utilities will remain in place for use by the contractor for the duration of the demolition activities.
3. All work will take place in the most cost efficient method.
4. Labor costs are based on a regular 40 hour workweek without overtime.
5. It is assumed that all the power stations will be dismantled after all units at a single site are taken out of service, allowing dismantlement of entire sites at once.
6. Soil testing and any other on-site testing has not been conducted for this study.
7. Transmission switchyards and substations within the boundaries of the plant are not part of the demolition scope. Switchyards that are associated with the facilities only and are not part of the transmission system are included for demolition. For purposes of this study, the division between generation assets and transmission assets is at the high side of the generator step-up transformers.
8. The costs for relocation of transmission lines, or other transmission assets, are specifically excluded from the decommissioning cost estimates. Any costs necessary to support on-going operations of adjacent or newly proposed units will be allocated to the operating costs of the units not being decommissioned.
9. Step up transformers, auxiliary transformers, and spare transformers are included for demolition and scrap in all estimates.
10. Abatement of asbestos will precede any other work. After final air quality clearances have been reached, demolition can proceed.
11. All demolition and abatement activities, including removal of asbestos, will be done in accordance with any and all applicable Federal, State and Local laws, rules and regulations.
12. Progress Energy will remove or consume all burnable coal, fuel oil and chemicals prior to commencement of demolition activities.
13. If any PCB contaminated oil is encountered, it will be removed and disposed of properly. Estimated quantities of PCB contaminated oil were developed for each site based on data provided by Progress Energy.
14. Hazardous material abatement is included for all sites as necessary, including asbestos, mercury, and PCBs. Lead paint coated materials will be handled by certified personnel as necessary, but will not be removed prior to demolition.
15. No environmental costs have been included to address cleanup of contaminated soils, hazardous materials, or other conditions present on-site having a negative environmental impact, other than

those specifically listed in these assumptions. No allowances are included for unforeseen environmental remediation activities.

16. Handling and disposal of hazardous material will be performed in compliance with the approved methods of Progress Energy Environmental Services Department.
17. Refractory brick on the coal fired boilers is handled and disposed of as hazardous waste, due to the likelihood of the presence of arsenic contamination.
18. Existing ash ponds will be pumped dry, filled with inert debris, capped with 40 mil geo-membrane, geo-net drainage layer, 18 inches of soil, and vegetated cover.
19. Stormwater ponds will be pumped dry, filled with inert debris, capped with 40 mil geo-membrane, geo-net drainage layer, 18 inches of soil, and vegetated cover.
20. Cooling lakes will remain as-is.
21. Site areas will be graded to achieve suitable site drainage to natural drainage patterns, but grading will be minimized to the extent possible.
22. All above grade structures will be demolished. All below grade structures, including foundations, will be abandoned in-place unless deemed hazardous by Progress Energy or otherwise stated in the assumptions as being demolished.
23. All roads, paving, crushed rock surfacing, and rail lines will be abandoned in place, and be available for reuse.
24. Existing basements will be used to bury non-hazardous debris. Concrete in trenches and basements will be perforated to create drainage. Non-hazardous debris, such as concrete and brick, will be crushed and used as clean fill on-site once the capacity of all existing basements has been exceeded. All inert debris is disposed on-site, with the exception of the hydro-electric plants. Costs for offsite disposal are included for materials not classified as inert debris, and for all debris at the hydro-electric plants.
25. Major equipment, structural steel, combustion turbines, generators, inlet filters, exhaust stacks, transformers, electrical equipment, cabling, wiring, pump skids, above ground piping, and equipment enclosures for the above equipment are sold for scrap and removed from the Plant site by the demolition contractor. All other demolished materials are considered debris.
26. Except for the circulating water lines, underground piping will be abandoned in place. Circulating water system pipes will be capped, have the tops broken out, and backfilled with on-site soil.
27. Sewers, catch basins and ducts will be filled and sealed on the upstream side. Horizontal runs will be abandoned in place after being closed.

28. Costs are included to clean out the fuel oil tanks and lines. Costs have also been included to remove one foot of soil directly below each of the fuel oil tanks to account for the potential for this soil to be contaminated during normal operations.
29. Disturbed site areas will be seeded after they are graded to provide a suitable ground cover to prevent soil erosion.
30. Spare Parts inventories have been provided to BMcD by Progress Energy. It is assumed that spare parts having potential reuse will be transferred to other Progress Energy sites or sold on the secondary market prior to commencing dismantlement. For purposes of this study, BMcD has assumed that any spare parts, tools, inventory, or equipment in the buildings will be salvaged or sold for scrap, the value of which has been accounted for in the estimates.
31. Rolling stock, including rail cars, dozers, plant vehicles, etc. is assumed to be removed by Progress Energy prior to decommissioning.
32. Valuation and sale of land and all replacement generation costs are excluded from this scope.
33. For purposes of this study, it is assumed that none of the equipment will have a salvage value in excess of the scrap value of the materials in the equipment at the time of the decommissioning study. The decommissioning cost estimate is based on the end of useful life of each facility. All equipment, steel, copper, and other metals will be sold as scrap. Credits for salvage value are based on scrap value alone. Resale of equipment and materials is not included.
34. The scope of the costs included in this Study is limited to the decommissioning activities that will occur at the end of useful life of the facilities. Additional on-going costs may be required, including, but not limited to groundwater monitoring associated with ash pond closure and/or other environmental monitoring activities. These costs are excluded from the cost estimates provided in this Study.
35. Contingency is included in the cost estimate to cover expenses that are unknown at the time the estimate is prepared, but can reasonably be anticipated to be expended on the project. When preparing a cost estimate, there is always some uncertainty as to the precision of the quantities in the estimate, how work will be performed, and what work conditions will be like when the project is executed. Uncertainties are greater in a demolition project than in a construction project due to the nature of the drawings used for quantity takeoffs and the likelihood of encountering unknown conditions, such as hazardous materials, or environmental contamination. Other unknown conditions that could impact the costs include, but are not limited to, changing market conditions and weather delays. These uncertainties will impact the actual costs of the project relative to the estimated cost. The estimator is aware of these unknowns when preparing the cost estimate and

includes contingency to cover these costs. A 20% contingency was included on the direct costs in the estimates prepared as part of this study to cover unknowns.

36. Scrap value of steel is included at $320 per gross-ton.
37. Scrap value of copper is included at $2.89 per pound.
38. The current scrap metal values utilized in this study are on the higher end of the range relative to historical scrap metal pricing.
39. Pricing for all estimates is in 2011 dollars.
40. Market conditions may result in cost variations at the time of contract execution.

3.2 SITE SPECIFIC DECOMMISSIONING ASSUMPTIONS

3.2.1 Asheville

The following assumptions were made specific to the Asheville plant.

1. Unit 1 - has been assumed to have had approximately 50% of the asbestos removed from the boilers, 50% of asbestos removed from the steam turbines, and 20% of asbestos removed from the critical piping. The cost of removal and disposal of the remaining asbestos is included in the cost estimates.
2. Unit 2 - has been assumed to have had approximately 50% of the asbestos removed from the boilers, 50% of asbestos removed from the steam turbines, and 20% of asbestos removed from the critical piping. The cost of removal and disposal of the remaining asbestos is included in the cost estimates.
3. The old Unit 1 stack is assumed to contain asbestos. The old Unit 2 stack is asbestos free. The new combined wet stack is asbestos free.
4. The precipitators, SCRs, scrubbers, and steam turbines are all asbestos free.
5. The combustion turbines do not contain any asbestos.
6. The cooling lake will remain as-is.
7. Three transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. PCB testing results indicate that PCB levels are below 50 ppm. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 50 ppm and 500 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

8. The wastewater treatment facility is included for demolition.

3.2.2 Blewett

The following assumptions were made specific to the Blewett plant.

1. The dam associated with the power generation facility is not included for demolition. It is assumed that the dam will be required to remain in operation for flow control purposes. The powerhouse and penstocks will also remain in place to serve support flow control operations. The generators, transformers, and all other power generation equipment will be removed.
2. Although the powerhouse will remain, the cost of asbestos abatement in the powerhouse will be borne by Progress Energy and is included in the decommissioning cost estimates.
3. The CO2 shed associated with the engine plant includes panels that contain asbestos.
4. Ceiling tiles in the powerhouse and insulation around the small water tank on the island contain asbestos.
5. Additional areas around the powerhouse potentially contain asbestos, including, but not limited to, pipe insulation, sprayed decorative ceilings, plaster, gaskets, valve packing, floor tile and vinyl, specialty paint and coatings, roofing asphalt, joint compound, cord/rope, roofing felt, transite panels, ebony boards, mastics, electrical wire coating. An allowance for abatement of these potentially asbestos contaminated areas has been included in the cost estimates.
6. Transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. No PCB testing data has been provided to BMcD. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 50 ppm and 200 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

3.2.3 Darlington

The following assumptions were made specific to the Darlington plant.

1. Units 12 and 13 are asbestos free

2. Units 2, 4, 6, 7, 8, 10, 11 still have asbestos containing heat shields in place. Enpuricon, Inc. provided a cost estimate to remove these remaining heat shields for $18,480. This cost has been incorporated in the decommissioning estimates.
3. Units 1, 3, 5, 9 have had asbestos containing heat shields removed
4. The lube oil lines under the generators and water lines are assumed to contain asbestos. Costs for removal and disposal of this asbestos have been included in the cost estimates.
5. Transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. PCB testing results were provided to BMcD by Progress Energy. All recent tests indicate that PCB levels are below 50 ppm. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 5 ppm and 50 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

3.2.4 Marshall

The following assumptions were made specific to the Marshall plant.

1. The dam associated with the power generation facility is not included for demolition. It is assumed that the dam will be required to remain in operation for flow control purposes. The powerhouse and penstocks will also remain in place to serve support flow control operations. The generators, transformers, and all other power generation equipment will be removed.
2. Although the powerhouse will remain, the cost of asbestos abatement in the powerhouse will be borne by Progress Energy and is included in the decommissioning cost estimates.
3. Ceiling tiles in the powerhouse and flooring in the control room contain asbestos.
4. Additional areas around the powerhouse potentially contain asbestos, including, but not limited to, pipe insulation, sprayed decorative ceilings, plaster, gaskets, valve packing, floor tile and vinyl, specialty paint and coatings, roofing asphalt, joint compound, cord/rope, roofing felt, transite panels, ebony boards, mastics, electrical wire coating. An allowance for abatement of these potentially asbestos contaminated areas has been included in the cost estimates.
5. Transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. No PCB testing data has been provided to BMcD. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 50 ppm and 200 ppm. This

oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

3.2.5 Mayo

The following assumptions were made specific to the Mayo plant.

1. The boilers, steam turbines, critical piping, and other major equipment at the Mayo plant is assumed to be asbestos free, based on the age of the facility. Gaskets, packing, tiles, etc. are assumed to contain asbestos. The cost for handling and disposing of this asbestos containing material is included in the cost estimates.
2. The cooling lake will remain as-is.
3. Transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. PCB testing results were provided to BMcD by Progress Energy. All recent tests indicate that PCB levels are below 50 ppm. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 5 ppm and 50 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.
4. The bioreactor is included for demolition.

3.2.6 Morehead City

The following assumptions were made specific to the Morehead City plant.

1. The combustion turbine is assumed to contain asbestos insulation.
2. No PCB data is available for this facility. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 5 ppm and 50 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

3.2.7 Richmond

The following assumptions were made specific to the Richmond plant.

1. There is no asbestos at the Richmond site.
2. There are no PCBs at the Richmond site.

3.2.8 Robinson

The following assumptions were made specific to the Robinson plant.

1. Unit 1 - has been assumed to have had approximately 20% of the asbestos removed from the boiler, 20% of asbestos removed from the steam turbines, and 30% of asbestos removed from the critical piping. The cost of removal and disposal of the remaining asbestos is included in the cost estimates.
2. The stack is assumed to contain asbestos
3. The combustion turbine is assumed to contain asbestos insulation.
4. The on-site rail will remain to support the nuclear generating facility.
5. In areas where fuel oil tanks have leaked, the affected areas will be excavated down 5 feet below the existing ground surface level. This soil will be hauled off and disposed of in an appropriately licensed landfill. For purposes of this study, this depth of removal from the surface was selected as an assumed average depth of removal for the contaminated areas. The actual contamination depth may be shallower or deeper in some areas, but for purposes of this study, this average removal depth was assumed. During final decommissioning activities, soil sampling will be performed if needed, to verify removal of contaminated material.
6. In areas where fuel oil pipes have leaked, a trench will be excavated 5 feet wide by 10 feet below the existing ground surface level. This soil will be hauled off and disposed of in an appropriately licensed landfill. For purposes of this study, this depth and of removal from the surface and width of removal was selected as an assumed average area of contamination surrounding the fuel oil lines. The actual area of contamination may be smaller or larger in some areas, but for purposes of this study, this average removal area was assumed. During final decommissioning activities, soil sampling will be performed if needed, to verify removal of contaminated material
7. The cooling lake will remain as-is.
8. Areas of the ash pond are known to contain low levels of radiation. These areas will remain undisturbed in the ash pond.

9. No blasting will be allowed at this site. The Robinson coal fired unit will need to be dismantled in a controlled manner, since operation of the adjacent nuclear unit will continue. It is assumed that a high reach excavator will be utilized to remove light steel framing, decks, and support structures and also used with shears to cut into boiler skin and begin dismantling boiler tubes. Larger items, such as steam drums, columns, girders, and the economizer manifold will be torch cut and picked utilizing cranes and/or excavators. Once these items are on the ground, they will be dismantled and loaded onto trailers for recycling
10. Additional costs are included in the demolition cost estimates to cover gamma scanning for radiation contamination of all debris to be hauled off site.
11. Additional costs are included for decreased productivity and other costs related to security inspections and other security requirements of the nuclear facility.
12. Costs are included for replacing the guard towers related to the nuclear facility that are currently located on the coal fired boiler.
13. Transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. PCB testing results were provided to BMcD by Progress Energy. Most recent tests indicate PCB levels of approximately 110 ppm. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 50 ppm and 200 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

3.2.9 Roxboro

The following assumptions were made specific to the Roxboro plant.

1. Unit 1 has been assumed to have had approximately 90% of the asbestos removed from the boilers, 60% of asbestos removed from the steam turbines, and 60% of asbestos removed from the critical piping. The cost of removal and disposal of the remaining asbestos is included in the cost estimates.
2. Unit 2 has been assumed to have had approximately 60% of the asbestos removed from the boilers, 60% of asbestos removed from the steam turbines, and 60% of asbestos removed from the critical piping. The cost of removal and disposal of the remaining asbestos is included in the cost estimates.

3. Unit 3 has been assumed to have had approximately 60% of the asbestos removed from the boilers, 60% of asbestos removed from the steam turbines, and 60% of asbestos removed from the critical piping. The cost of removal and disposal of the remaining asbestos is included in the cost estimates.
4. Unit 4 has been assumed to have had approximately 60% of the asbestos removed from the boilers, 60% of asbestos removed from the steam turbines, and 60% of asbestos removed from the critical piping. The cost of removal and disposal of the remaining asbestos is included in the cost estimates.
5. The old stacks are concrete stacks with a brick liner, with a layer of asbestos material in between the concrete and the brick. Unit 1 and Unit 2 stacks are approximately 400 feet tall. Unit 3 and Unit 4 stacks are approximately 800 feet tall. The cost of removal and disposal of this asbestos is included in the cost estimates.
6. In areas where fuel oil tanks have leaked, the affected areas will be excavated down 5 feet below the existing ground surface level. This soil will be hauled off and disposed of in an appropriately licensed landfill. For purposes of this study, this depth of removal from the surface was selected as an assumed average depth of removal for the contaminated areas. The actual contamination depth may be shallower or deeper in some areas, but for purposes of this study, this average removal depth was assumed. During final decommissioning activities, soil sampling will be performed if needed, to verify removal of contaminated material.
7. In areas where fuel oil pipes have leaked, a trench will be excavated 5 feet wide by 10 feet below the existing ground surface level. This soil will be hauled off and disposed of in an appropriately licensed landfill. For purposes of this study, this depth and of removal from the surface and width of removal was selected as an assumed average area of contamination surrounding the fuel oil lines. The actual area of contamination may be smaller or larger in some areas, but for purposes of this study, this average removal area was assumed. During final decommissioning activities, soil sampling will be performed if needed, to verify removal of contaminated material.
8. The cooling lake and intake canal will remain as-is.
9. Plant personnel indicated that 70% of the transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. No recent PCB testing has been performed. For purposes of this study, it will be assumed that PCB levels of the transformer oils are between 5 ppm and 50 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual

contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

10. The bioreactor is included for demolition.

3.2.10 Tillery

The following assumptions were made specific to the Tillery plant.

1. The dam associated with the power generation facility is not included for demolition. It is assumed that the dam will be required to remain in operation for flow control purposes. The powerhouse and penstocks will also remain in place to serve support flow control operations. The generators, transformers, and all other power generation equipment will be removed.
2. Although the powerhouse will remain, the cost of asbestos abatement in the powerhouse will be borne by Progress Energy and is included in the decommissioning cost estimates.
3. No known asbestos contamination has been identified; however, areas of potential asbestos contamination exist.
4. Additional areas around the powerhouse potentially contain asbestos, including, but not limited to, pipe insulation, sprayed decorative ceilings, plaster, gaskets, valve packing, floor tile and vinyl, specialty paint and coatings, roofing asphalt, joint compound, cord/rope, roofing felt, transite panels, ebony boards, mastics, electrical wire coating. An allowance for abatement of these potentially asbestos contaminated areas has been included in the cost estimates.
5. The recently installed oxygenation system will remain in place.
6. Transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. No PCB testing data has been provided to BMcD. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 50 ppm and 200 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

3.2.11 Walters

The following assumptions were made specific to the Walters plant.

1. The dam associated with the power generation facility is not included for demolition. It is assumed that the dam will be required to remain in operation for flow control purposes. The powerhouse and penstocks will also remain in place to serve support flow control operations. The generators, transformers, and all other power generation equipment will be removed.
2. Although the powerhouse will remain, the cost of asbestos abatement in the powerhouse will be borne by Progress Energy and is included in the decommissioning cost estimates.
3. The CO2 shed associated with the engine plant includes panels that contain asbestos.
4. A list of known asbestos contamination has been provided to BMcD by Progress Energy, and serves as the basis for the asbestos removal and disposal costs.
5. Additional areas around the powerhouse potentially contain asbestos, including, but not limited to, pipe insulation, sprayed decorative ceilings, plaster, gaskets, valve packing, floor tile and vinyl, specialty paint and coatings, roofing asphalt, joint compound, cord/rope, roofing felt, transite panels, ebony boards, mastics, electrical wire coating. An allowance for abatement of these potentially asbestos contaminated areas has been included in the cost estimates.
6. Transformers at the plant historically included PCB containing oil. These oils have all been removed, however, there is potential for PCB leach back from residual contamination in the transformer cores. No PCB testing data has been provided to BMcD. For purposes of this study, it will be assumed that PCB levels in all transformer oils are between 50 ppm and 200 ppm. This oil will be disposed of in accordance with applicable regulations. Foundations supporting equipment that contained PCBs will be assumed to contain residual contamination and will be removed and disposed of properly. The costs also include removal of one foot of soil beneath the pads for offsite disposal.

3.2.12 Wayne

The following assumptions were made specific to the Wayne plant.

1. There is no asbestos at the Wayne site.
2. The on-site diesel tanker trucks owned by Progress Energy are not included in the decommissioning cost estimates. These trucks will be sold or transferred prior to commencement of decommissioning activities.
3. There are no PCBs at the Wayne site.

3.3 RESULTS

BMcD has prepared estimates in current dollars (2011$) for the decommissioning of the Plants. These costs are summarized in Table 3-1. A breakdown of the decommissioning costs can be found in Appendix A.

Table 3-1: Decommissioning Cost Summary

Asset	Decommissioning Costs	Credits	Net Project Cost
Asheville	$33,757,000	($9,039,000)	$24,718,000
Blewett	$6,894,000	($1,090,000)	$5,804,000
Darlington	$6,348,000	($5,127,000)	$1,221,000
Marshall	$1,626,000	($179,000)	$1,447,000
Mayo	$54,296,000	($11,826,000)	$42,470,000
Morehead City	$186,000	($137,000)	$49,000
Richmond	$14,618,000	($11,138,000)	$3,480,000
Robinson	$23,938,000	($2,814,000)	$21,124,000
Roxboro	$154,870,000	($23,403,000)	$131,467,000
Tillery	$5,105,000	($1,444,000)	$3,661,000
Walters	$2,005,000	($1,391,000)	$614,000
Wayne	$2,654,000	($3,675,000)	($1,021,000)

* * * * *

SECTION 4

LIMITATIONS

4.0 LIMITATIONS

In preparation of this decommissioning study, BMcD has relied upon information provided by Progress Energy. BMcD acknowledges that it has requested the information from Progress Energy that it deemed necessary to complete this study. While we have no reason to believe that the information provided to us, and upon which we have relied, is inaccurate or incomplete in any material respect, we have not independently verified such information and cannot guarantee its accuracy or completeness.

Engineer's estimates and projections of decommissioning costs are based on Engineer's experience, qualifications and judgment. Since Engineer has no control over weather, cost and availability of labor, material and equipment, labor productivity, construction contractors' procedures and methods, and other factors, Engineer does not guarantee the accuracy of its estimates and projections.

Engineer's estimates do not include allowances for unforeseen environmental liabilities associated with unexpected environmental contamination due to events not considered part of normal operations, such as fuel tank ruptures, oil spills, etc. Estimates also do not include allowances for environmental remediation associated with changes in classification of hazardous materials.

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APPENDIX A

DECOMMISSOINING COST BREAKDOWNS

Table A-1
Asheville Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Asheville Plant						
Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 397,000	$ 397,000	$ -
Boiler	$ 756,000	$ 720,000	$ -	$ -	$ 1,476,000	$ -
Steam Turbine & Building	$ 538,000	$ 684,000	$ -	$ -	$ 1,222,000	$ -
Precipitator	$ 40,000	$ 27,000	$ -	$ -	$ 67,000	$ -
SCR/FGD	$ 18,000	$ 13,000	$ -	$ -	$ 31,000	$ -
Stack	$ 318,000	$ 194,000	$ -	$ -	$ 512,000	$ -
GSU & Foundation	$ 43,000	$ 54,000	$ -	$ -	$ 97,000	$ -
Hazardous Materials Disposal (Refractory, etc)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 2,611,000	$ -	$ 2,611,000	$ -
Debris	$ -	$ -	$ 975,000	$ -	$ 975,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (3,388,000)
Subtotal	**$ 1,713,000**	**$ 1,692,000**	**$ 3,586,000**	**$ 405,000**	**$ 7,396,000**	**$ (3,388,000)**
Unit 2						
Asbestos Removal	$ -	$ -	$ -	$ 406,000	$ 406,000	$ -
Boiler	$ 756,000	$ 720,000	$ -	$ -	$ 1,476,000	$ -
Steam Turbine & Building	$ 571,000	$ 695,000	$ -	$ -	$ 1,266,000	$ -
Precipitator	$ 41,000	$ 28,000	$ -	$ -	$ 69,000	$ -
SCR/FGD	$ 19,000	$ 13,000	$ -	$ -	$ 32,000	$ -
Stack	$ 93,000	$ 238,000	$ -	$ -	$ 331,000	$ -
GSU & Foundation	$ 93,000	$ 55,000	$ -	$ -	$ 148,000	$ -
Hazardous Materials Disposal (Refractory, etc)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 2,016,000	$ -	$ 2,016,000	$ -
Debris	$ -	$ -	$ 687,000	$ -	$ 687,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (3,448,000)
Subtotal	**$ 1,573,000**	**$ 1,749,000**	**$ 2,703,000**	**$ 414,000**	**$ 6,439,000**	**$ (3,448,000)**
Material Handling Facilities						
Demolition	$ 204,000	$ 109,000	$ -	$ -	$ 313,000	$ -
Gypsum & Coal Storage Area Restoration	$ -	$ -	$ -	$ 1,801,000	$ 1,801,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 209,000	$ -	$ 209,000	$ -
Debris	$ -	$ -	$ 52,000	$ -	$ 52,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (487,000)
Subtotal	**$ 204,000**	**$ 109,000**	**$ 261,000**	**$ 1,801,000**	**$ 2,375,000**	**$ (487,000)**
Combustion Turbine Unit 1						
Turbines & Foundations	$ 117,000	$ 88,000	$ -	$ -	$ 205,000	$ -
GSUs	$ 18,000	$ 13,000	$ -	$ -	$ 31,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Debris	$ -	$ -	$ 2,000	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (548,000)
Subtotal	**$ 135,000**	**$ 101,000**	**$ 3,000**	**$ -**	**$ 239,000**	**$ (548,000)**
Combustion Turbine Unit 2						
Turbines & Foundations	$ 117,000	$ 88,000	$ -	$ -	$ 205,000	$ -
GSUs	$ 18,000	$ 13,000	$ -	$ -	$ 31,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Debris	$ -	$ -	$ 2,000	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (604,000)
Subtotal	**$ 135,000**	**$ 101,000**	**$ 3,000**	**$ -**	**$ 239,000**	**$ (604,000)**
Common Facilities						
Cooling Water Intakes and Circulating Water Pumps	$ 82,000	$ 112,000	$ -	$ -	$ 194,000	$ -
Cooling Water Discharge Canal	$ 33,000	$ 185,000	$ -	$ -	$ 218,000	$ -
All BOP Buildings	$ 41,000	$ 15,000	$ -	$ -	$ 56,000	$ -
Closure of Ash Ponds	$ -	$ -	$ -	$ 9,000,000	$ 9,000,000	$ -
Fuel Oil Storage Tanks	$ 20,000	$ 64,000	$ -	$ -	$ 84,000	$ -
All Other Tanks	$ 16,000	$ 14,000	$ -	$ -	$ 30,000	$ -
PCB Oil Transportation and Disposal (>50 ppm to <500 ppm)	$ -	$ -	$ -	$ 109,000	$ 109,000	$ -
Soil Removal Beneath PCB Equipment	$ -	$ -	$ -	$ 242,000	$ 242,000	$ -
Soil Removal Beneath Fuel Oil Tank	$ -	$ -	$ -	$ 216,000	$ 216,000	$ -
Fuel Oil Storage Tank Cleaning	$ -	$ -	$ -	$ 40,000	$ 40,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Nuclear Device Removal and Disposal	$ -	$ -	$ -	$ 13,000	$ 13,000	$ -
Plant Washdown & Materials Disposal	$ -	$ -	$ -	$ 45,000	$ 45,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 36,000	$ -	$ 36,000	$ -
Debris	$ -	$ -	$ 13,000	$ -	$ 13,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (564,000)
Subtotal	**$ 192,000**	**$ 390,000**	**$ 49,000**	**$ 9,687,000**	**$ 10,318,000**	**$ (564,000)**
Asheville Plant Subtotal	**$ 3,952,000**	**$ 4,142,000**	**$ 6,605,000**	**$ 12,307,000**	**$ 27,006,000**	**$ (9,039,000)**
TOTAL COST (CREDIT)					**$ 27,006,000**	**$ (9,039,000)**
PROJECT INDIRECTS (5%)					**$ 1,350,000**	
CONTINGENGY (20%)					**$ 5,401,000**	
TOTAL PROJECT COST (CREDIT)					**$ 33,757,000**	**$ (9,039,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 24,718,000**	

Table A-2
Blewett Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Blewett Plant						
Combustion Turbine Unit 1						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ 7,000	$ 5,000	$ -	$ -	$ 12,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (168,000)
Subtotal	**$ 44,000**	**$ 33,000**	**$ -**	**$ -**	**$ 77,000**	**$ (168,000)**
Combustion Turbine Unit 2						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ -	$ 5,000	$ -	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (168,000)
Subtotal	**$ 37,000**	**$ 33,000**	**$ -**	**$ -**	**$ 70,000**	**$ (168,000)**
Combustion Turbine Unit 3						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ -	$ 5,000	$ -	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (168,000)
Subtotal	**$ 37,000**	**$ 33,000**	**$ -**	**$ -**	**$ 70,000**	**$ (168,000)**
Combustion Turbine Unit 4						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ -	$ 5,000	$ -	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (168,000)
Subtotal	**$ 37,000**	**$ 33,000**	**$ -**	**$ -**	**$ 70,000**	**$ (168,000)**
Combustion Turbine Common Facilities						
Asbestos Removal	$ -	$ -	$ -	$ 6,000	$ 6,000	$ -
PCB Oil Transportation and Disposal (>50 ppm to <500 ppm)	$ -	$ -	$ -	$ 37,000	$ 37,000	$ -
Soil Removal Beneath PCB Equipment	$ -	$ -	$ 44,000	$ 398,000	$ 442,000	$ -
Soil Removal Beneath Fuel Oil Tank	$ -	$ -	$ -	$ 67,000	$ 67,000	$ -
Fuel Oil Storage Tank Cleaning	$ -	$ -	$ -	$ 20,000	$ 20,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 9,000	$ 9,000	$ -
Subtotal	**$ -**	**$ -**	**$ 44,000**	**$ 537,000**	**$ 581,000**	**$ -**
Hydroelectric Units 1 - 6						
Demolition	$ 2,550,000	$ 1,104,000	$ -	$ -	$ 3,654,000	$ -
Debris	$ -	$ -	$ 11,000	$ -	$ 11,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (418,000)
Subtotal	**$ 2,550,000**	**$ 1,104,000**	**$ 11,000**	**$ -**	**$ 3,665,000**	**$ (418,000)**
Hydroelectric Common Facilities						
Asbestos Removal	$ -	$ -	$ -	$ 695,000	$ 695,000	$ -
PCB Oil Transportation and Disposal (>50 ppm to <200 ppm)	$ -	$ -	$ -	$ 37,000	$ 37,000	$ -
Soil Removal Beneath PCB Equipment	$ -	$ -	$ 66,000	$ 173,000	$ 239,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Subtotal	**$ -**	**$ -**	**$ 66,000**	**$ 916,000**	**$ 982,000**	**$ -**
Blewett Plant Subtotal	**$ 2,705,000**	**$ 1,236,000**	**$ 121,000**	**$ 1,453,000**	**$ 5,515,000**	**$ (1,090,000)**
TOTAL COST (CREDIT)					**$ 5,515,000**	**$ (1,090,000)**
PROJECT INDIRECTS (5%)					**$ 276,000**	
CONTINGENGY (20%)					**$ 1,103,000**	
TOTAL PROJECT COST (CREDIT)					**$ 6,894,000**	**$ (1,090,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 5,804,000**	

Table A-3
Darlington Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Darlington Plant						
Combustion Turbine Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 1,000	$ 1,000	$ -
Turbines & Foundations	$ 73,000	$ 54,000	$ -	$ -	$ 127,000	$ -
GSUs	$ 7,000	$ 5,000	$ -	$ -	$ 12,000	$ -
On-site Concrete Crushing & Disposal	$ 2,000	$ -	$ -	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (316,000)
Subtotal	**$ 82,000**	**$ 59,000**	**$ -**	**$ 1,000**	**$ 142,000**	**$ (316,000)**
Combustion Turbine Unit 2						
Asbestos Removal	$ -	$ -	$ -	$ 4,000	$ 4,000	$ -
Turbines & Foundations	$ 73,000	$ 54,000	$ -	$ -	$ 127,000	$ -
GSUs	$ 6,000	$ 5,000	$ -	$ -	$ 11,000	$ -
On-site Concrete Crushing & Disposal	$ 2,000	$ -	$ -	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (333,000)
Subtotal	**$ 81,000**	**$ 59,000**	**$ -**	**$ 4,000**	**$ 144,000**	**$ (333,000)**
Combustion Turbine Unit 3						
Asbestos Removal	$ -	$ -	$ -	$ 1,000	$ 1,000	$ -
Turbines & Foundations	$ 73,000	$ 54,000	$ -	$ -	$ 127,000	$ -
GSUs	$ 7,000	$ 5,000	$ -	$ -	$ 12,000	$ -
On-site Concrete Crushing & Disposal	$ 2,000	$ -	$ -	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (316,000)
Subtotal	**$ 82,000**	**$ 59,000**	**$ -**	**$ 1,000**	**$ 142,000**	**$ (316,000)**
Combustion Turbine Unit 4						
Asbestos Removal	$ -	$ -	$ -	$ 4,000	$ 4,000	$ -
Turbines & Foundations	$ 73,000	$ 54,000	$ -	$ -	$ 127,000	$ -
GSUs	$ 6,000	$ 5,000	$ -	$ -	$ 11,000	$ -
On-site Concrete Crushing & Disposal	$ 2,000	$ -	$ -	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (333,000)
Subtotal	**$ 81,000**	**$ 59,000**	**$ -**	**$ 4,000**	**$ 144,000**	**$ (333,000)**
Combustion Turbine Unit 5						
Asbestos Removal	$ -	$ -	$ -	$ 1,000	$ 1,000	$ -
Turbines & Foundations	$ 73,000	$ 54,000	$ -	$ -	$ 127,000	$ -
GSUs	$ 6,000	$ 5,000	$ -	$ -	$ 11,000	$ -
On-site Concrete Crushing & Disposal	$ 2,000	$ -	$ -	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (333,000)
Subtotal	**$ 81,000**	**$ 59,000**	**$ -**	**$ 1,000**	**$ 141,000**	**$ (333,000)**
Combustion Turbine Unit 6						
Asbestos Removal	$ -	$ -	$ -	$ 4,000	$ 4,000	$ -
Turbines & Foundations	$ 73,000	$ 54,000	$ -	$ -	$ 127,000	$ -
GSUs	$ 6,000	$ 5,000	$ -	$ -	$ 11,000	$ -
On-site Concrete Crushing & Disposal	$ 2,000	$ -	$ -	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (333,000)
Subtotal	**$ 81,000**	**$ 59,000**	**$ -**	**$ 4,000**	**$ 144,000**	**$ (333,000)**
Combustion Turbine Unit 7						
Asbestos Removal	$ -	$ -	$ -	$ 4,000	$ 4,000	$ -
Turbines & Foundations	$ 73,000	$ 54,000	$ -	$ -	$ 127,000	$ -
GSUs	$ 6,000	$ 5,000	$ -	$ -	$ 11,000	$ -
On-site Concrete Crushing & Disposal	$ 2,000	$ -	$ -	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (333,000)
Subtotal	**$ 81,000**	**$ 59,000**	**$ -**	**$ 4,000**	**$ 144,000**	**$ (333,000)**
Combustion Turbine Unit 8						
Asbestos Removal	$ -	$ -	$ -	$ 4,000	$ 4,000	$ -
Turbines & Foundations	$ 73,000	$ 54,000	$ -	$ -	$ 127,000	$ -
GSUs	$ 6,000	$ 5,000	$ -	$ -	$ 11,000	$ -
On-site Concrete Crushing & Disposal	$ 2,000	$ -	$ -	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (333,000)
Subtotal	**$ 81,000**	**$ 59,000**	**$ -**	**$ 4,000**	**$ 144,000**	**$ (333,000)**
Combustion Turbine Unit 9						
Asbestos Removal	$ -	$ -	$ -	$ 1,000	$ 1,000	$ -
Turbines & Foundations	$ 73,000	$ 54,000	$ -	$ -	$ 127,000	$ -
GSUs	$ 6,000	$ 5,000	$ -	$ -	$ 11,000	$ -
On-site Concrete Crushing & Disposal	$ 2,000	$ -	$ -	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (333,000)
Subtotal	**$ 81,000**	**$ 59,000**	**$ -**	**$ 1,000**	**$ 141,000**	**$ (333,000)**

Combustion Turbine Unit 10												
Asbestos Removal	$	-	$	-	$	-	$	4,000	$	4,000	$	-
Turbines & Foundations	$	73,000	$	54,000	$	-	$	-	$	127,000	$	-
GSUs	$	9,000	$	7,000	$	-	$	-	$	16,000	$	-
On-site Concrete Crushing & Disposal	$	2,000	$	-	$	-	$	-	$	2,000	$	-
Scrap	$	-	$	-	$	-	$	-	$	-	$	(328,000)
Subtotal	**$**	**84,000**	**$**	**61,000**	**$**	**-**	**$**	**4,000**	**$**	**149,000**	**$**	**(328,000)**
Combustion Turbine Unit 11												
Asbestos Removal	$	-	$	-	$	-	$	4,000	$	4,000	$	-
Turbines & Foundations	$	73,000	$	54,000	$	-	$	-	$	127,000	$	-
GSUs	$	6,000	$	5,000	$	-	$	-	$	11,000	$	-
On-site Concrete Crushing & Disposal	$	2,000	$	-	$	-	$	-	$	2,000	$	-
Scrap	$	-	$	-	$	-	$	-	$	-	$	(333,000)
Subtotal	**$**	**81,000**	**$**	**59,000**	**$**	**-**	**$**	**4,000**	**$**	**144,000**	**$**	**(333,000)**
Combustion Turbine Unit 12												
Turbines & Foundations	$	93,000	$	70,000	$	-	$	-	$	163,000	$	-
GSUs	$	12,000	$	9,000	$	-	$	-	$	21,000	$	-
On-site Concrete Crushing & Disposal	$	5,000	$	-	$	1,000	$	-	$	6,000	$	-
Scrap	$	-	$	-	$	-	$	-	$	-	$	(474,000)
Subtotal	**$**	**110,000**	**$**	**79,000**	**$**	**1,000**	**$**	**-**	**$**	**190,000**	**$**	**(474,000)**
Combustion Turbine Unit 13												
Turbines & Foundations	$	93,000	$	70,000	$	-	$	-	$	163,000	$	-
GSUs	$	12,000	$	9,000	$	-	$	-	$	21,000	$	-
On-site Concrete Crushing & Disposal	$	5,000	$	-	$	1,000	$	-	$	6,000	$	-
Scrap	$	-	$	-	$	-	$	-	$	-	$	(457,000)
Subtotal	**$**	**110,000**	**$**	**79,000**	**$**	**1,000**	**$**	**-**	**$**	**190,000**	**$**	**(457,000)**
Common Facilities												
BOP Buildings & Tanks	$	130,000	$	97,000	$	-	$	-	$	227,000	$	-
Mechanical Pipings	$	125,000	$	94,000	$	-	$	-	$	219,000	$	-
On-site Concrete Crushing & Disposal	$	16,000	$	-	$	3,000	$	-	$	19,000	$	-
PCB Oil Transportation and Disposal (>5 ppm to <50 ppm)	$	-	$	-	$	153,000	$	153,000	$	306,000	$	-
Soil Removal Beneath PCB Equipment	$	-	$	-	$	441,000	$	707,000	$	1,148,000	$	-
Soil Removal Beneath Fuel Oil Tank	$	-	$	-	$	-	$	971,000	$	971,000	$	-
Fuel Oil Storage Tank Cleaning	$	-	$	-	$	-	$	110,000	$	110,000	$	-
Fuel Oil Line Flushing/Cleaning	$	-	$	-	$	-	$	22,000	$	22,000	$	-
Mercury & Universal Waste Disposal	$	-	$	-	$	-	$	11,000	$	11,000	$	-
Debris	$	-	$	-	$	86,000	$	-	$	86,000	$	-
Scrap	$	-	$	-	$	-	$	-	$	-	$	(572,000)
Subtotal	**$**	**271,000**	**$**	**191,000**	**$**	**683,000**	**$**	**1,974,000**	**$**	**3,119,000**	**$**	**(572,000)**
Darlington Plant Subtotal	**$**	**1,387,000**	**$**	**1,000,000**	**$**	**685,000**	**$**	**2,006,000**	**$**	**5,078,000**	**$**	**(5,127,000)**
TOTAL COST (CREDIT)									**$**	**5,078,000**	**$**	**(5,127,000)**
PROJECT INDIRECTS (5%)									**$**	**254,000**		
CONTINGENGY (20%)									**$**	**1,016,000**		
TOTAL PROJECT COST (CREDIT)									**$**	**6,348,000**	**$**	**(5,127,000)**
TOTAL NET PROJECT COST (CREDIT)									**$**	**1,221,000**		

Table A-4
Marshall Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Marshall Plant						
Hydroelectric Units 1 & 2						
Demolition	$ 726,000	$ 354,000	$ -	$ -	$ 1,080,000	$ -
Debris	$ -	$ -	$ 20,000	$ -	$ 20,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (179,000)
Subtotal	**$ 726,000**	**$ 354,000**	**$ 20,000**	**$ -**	**$ 1,100,000**	**$ (179,000)**
Hydroelectric Common Facilities						
Asbestos Removal	$ -	$ -	$ -	$ 62,000	$ 62,000	$ -
PCB Oil Transportation and Disposal (>50 ppm to <200 ppm)	$ -	$ -	$ -	$ 10,000	$ 10,000	$ -
Soil Removal Beneath PCB Equipment	$ -	$ -	$ -	$ 118,000	$ 118,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Subtotal	**$ -**	**$ -**	**$ -**	**$ 201,000**	**$ 201,000**	**$ -**
Marshall Plant Subtotal	**$ 726,000**	**$ 354,000**	**$ 20,000**	**$ 201,000**	**$ 1,301,000**	**$ (179,000)**
TOTAL COST (CREDIT)					**$ 1,301,000**	**$ (179,000)**
PROJECT INDIRECTS (5%)					**$ 65,000**	
CONTINGENGY (20%)					**$ 260,000**	
TOTAL PROJECT COST (CREDIT)					**$ 1,626,000**	**$ (179,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 1,447,000**	

Table A-5
Mayo Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Mayo Plant						
Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 25,000	$ 25,000	$ -
Boiler	$ 2,526,000	$ 2,311,000	$ -	$ -	$ 4,837,000	$ -
Steam Turbine & Building	$ 1,700,000	$ 1,448,000	$ -	$ -	$ 3,148,000	$ -
Precipitator	$ 253,000	$ 231,000	$ -	$ -	$ 484,000	$ -
SCR/FGD	$ 402,000	$ 434,000	$ -	$ -	$ 836,000	$ -
Stack	$ 781,000	$ 1,946,000	$ -	$ -	$ 2,727,000	$ -
GSU & Foundation	$ 79,000	$ 117,000	$ -	$ -	$ 196,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 5,561,000	$ -	$ 5,561,000	$ -
Debris	$ -	$ -	$ 1,448,000	$ -	$ 1,448,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (8,766,000)
Subtotal	**$ 5,741,000**	**$ 6,487,000**	**$ 7,009,000**	**$ 33,000**	**$ 19,270,000**	**$ (8,766,000)**
Material Handling Facilities						
Demolition	$ 99,000	$ 212,000	$ -	$ -	$ 311,000	$ -
Coal Storage Area Restoration	$ -	$ -	$ -	$ 2,344,000	$ 2,344,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 238,000	$ -	$ 238,000	$ -
Debris	$ -	$ -	$ 125,000	$ -	$ 125,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,535,000)
Subtotal	**$ 99,000**	**$ 212,000**	**$ 363,000**	**$ 2,344,000**	**$ 3,018,000**	**$ (1,535,000)**
Common Facilities						
Cooling Water System and Circulating Water Pumps	$ 158,000	$ 349,000	$ -	$ -	$ 507,000	$ -
Cooling Tower & Basin	$ 47,000	$ 69,000	$ -	$ -	$ 116,000	$ -
Closure of Ash Ponds	$ -	$ -	$ -	$ 19,000,000	$ 19,000,000	$ -
Fuel Oil Storage Tanks	$ 59,000	$ 84,000	$ -	$ -	$ 143,000	$ -
All Other Tanks	$ 32,000	$ 27,000	$ -	$ -	$ 59,000	$ -
PCB Oil Transportation and Disposal (>5 ppm to <50 ppm)	$ -	$ -	$ -	$ 211,000	$ 211,000	$ -
Soil Removal Beneath PCB Equipment	$ -	$ -	$ -	$ 236,000	$ 236,000	$ -
Soil Removal Beneath Fuel Oil Tank	$ -	$ -	$ -	$ 59,000	$ 59,000	$ -
Fuel Oil Storage Tank Cleaning	$ -	$ -	$ -	$ 20,000	$ 20,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 4,000	$ 4,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Nuclear Device Removal and Disposal	$ 6,000	$ -	$ 8,000	$ 13,000	$ 27,000	$ -
Plant Washdown & Materials Disposal	$ 11,000	$ 8,000	$ 4,000	$ 23,000	$ 46,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 236,000	$ -	$ 236,000	$ -
Debris	$ -	$ -	$ 474,000	$ -	$ 474,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,525,000)
Subtotal	**$ 313,000**	**$ 537,000**	**$ 722,000**	**$ 19,577,000**	**$ 21,149,000**	**$ (1,525,000)**
Mayo Plant Subtotal	**$ 6,153,000**	**$ 7,236,000**	**$ 8,094,000**	**$ 21,954,000**	**$ 43,437,000**	**$ (11,826,000)**
TOTAL COST (CREDIT)					**$ 43,437,000**	**$ (11,826,000)**
PROJECT INDIRECTS (5%)					**$ 2,172,000**	
CONTINGENGY (20%)					**$ 8,687,000**	
TOTAL PROJECT COST (CREDIT)					**$ 54,296,000**	**$ (11,826,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 42,470,000**	

Table A-6
Morehead City Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Morehead City Plant						
Combustion Turbine Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 30,000	$ 30,000	$ -
Turbines & Foundations	$ 18,000	$ 13,000	$ -	$ -	$ 31,000	$ -
GSUs	$ 4,000	$ 3,000	$ -	$ -	$ 7,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (120,000)
Subtotal	**$ 22,000**	**$ 16,000**	**$ -**	**$ 30,000**	**$ 68,000**	**$ (120,000)**
Common Facilities						
Fuel Oil Tanks & Unloading Area	$ 8,000	$ 6,000	$ -	$ -	$ 14,000	$ -
PCB Oil Transportation and Disposal (>5 ppm to <50 ppm)	$ -	$ -	$ -	$ 10,000	$ 10,000	$ -
Soil Removal Beneath PCB Equipment	$ -	$ -	$ -	$ 29,000	$ 29,000	$ -
Soil Removal Beneath Fuel Oil Tank	$ -	$ -	$ -	$ 14,000	$ 14,000	$ -
Fuel Oil Storage Tank Cleaning	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 1,000	$ 1,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 5,000	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (17,000)
Subtotal	**$ 8,000**	**$ 6,000**	**$ -**	**$ 67,000**	**$ 81,000**	**$ (17,000)**
Morehead City Plant Subtotal	**$ 30,000**	**$ 22,000**	**$ -**	**$ 97,000**	**$ 149,000**	**$ (137,000)**
TOTAL COST (CREDIT)					**$ 149,000**	**$ (137,000)**
PROJECT INDIRECTS (5%)					**$ 7,000**	
CONTINGENGY (20%)					**$ 30,000**	
TOTAL PROJECT COST (CREDIT)					**$ 186,000**	**$ (137,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 49,000**	

Table A-7
Richmond Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Richmond Plant						
Combustion Turbine Unit 1						
Turbines & Foundations	$ 254,000	$ 190,000	$ -	$ -	$ 444,000	$ -
GSUs	$ 34,000	$ 26,000	$ -	$ -	$ 60,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 2,000	$ -	$ 2,000	$ -
Debris	$ -	$ -	$ 5,000	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (679,000)
Subtotal	**$ 288,000**	**$ 216,000**	**$ 7,000**	**$ -**	**$ 511,000**	**$ (679,000)**
Combustion Turbine Unit 2						
Turbines & Foundations	$ 254,000	$ 190,000	$ -	$ -	$ 444,000	$ -
GSUs	$ 34,000	$ 26,000	$ -	$ -	$ 60,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 2,000	$ -	$ 2,000	$ -
Debris	$ -	$ -	$ 5,000	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (679,000)
Subtotal	**$ 288,000**	**$ 216,000**	**$ 7,000**	**$ -**	**$ 511,000**	**$ (679,000)**
Combustion Turbine Unit 3						
Turbines & Foundations	$ 254,000	$ 190,000	$ -	$ -	$ 444,000	$ -
GSUs	$ 34,000	$ 26,000	$ -	$ -	$ 60,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 2,000	$ -	$ 2,000	$ -
Debris	$ -	$ -	$ 5,000	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (593,000)
Subtotal	**$ 288,000**	**$ 216,000**	**$ 7,000**	**$ -**	**$ 511,000**	**$ (593,000)**
Combustion Turbine Unit 4						
Turbines & Foundations	$ 254,000	$ 190,000	$ -	$ -	$ 444,000	$ -
GSUs	$ 34,000	$ 26,000	$ -	$ -	$ 60,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 2,000	$ -	$ 2,000	$ -
Debris	$ -	$ -	$ 5,000	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (593,000)
Subtotal	**$ 288,000**	**$ 216,000**	**$ 7,000**	**$ -**	**$ 511,000**	**$ (593,000)**
Combustion Turbine Unit 5						
Turbines & Foundations	$ 254,000	$ 190,000	$ -	$ -	$ 444,000	$ -
GSUs	$ 34,000	$ 26,000	$ -	$ -	$ 60,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 2,000	$ -	$ 2,000	$ -
Debris	$ -	$ -	$ 5,000	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (588,000)
Subtotal	**$ 288,000**	**$ 216,000**	**$ 7,000**	**$ -**	**$ 511,000**	**$ (588,000)**
Combined Cycle - Powerblock 1 (480MW)						
2 GE 7FAs and HRSGs	$ 1,693,000	$ 1,270,000	$ -	$ -	$ 2,963,000	$ -
Steam Turbine & Pedestal	$ 264,000	$ 198,000	$ -	$ -	$ 462,000	$ -
3 GSUs & Electrical	$ 89,000	$ 67,000	$ -	$ -	$ 156,000	$ -
Cooling Tower and Basin, Cubic FT	$ 51,000	$ 60,000	$ -	$ -	$ 111,000	$ -
On-site Concrete Crushing & Disposal	$ 13,000	$ -	$ 51,000	$ -	$ 64,000	$ -
Debris	$ -	$ -	$ 71,000	$ -	$ 71,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (3,175,000)
Subtotal	**$ 2,110,000**	**$ 1,595,000**	**$ 122,000**	**$ -**	**$ 3,827,000**	**$ (3,175,000)**
Combined Cycle - Powerblock 2 (600MW)						
2 GE 7FAs and HRSGs	$ 1,958,000	$ 1,468,000	$ -	$ -	$ 3,426,000	$ -
Steam Turbine & Pedestal	$ 305,000	$ 229,000	$ -	$ -	$ 534,000	$ -
3 GSUs & Electrical	$ 103,000	$ 77,000	$ -	$ -	$ 180,000	$ -
Cooling Tower and Basin, Cubic FT	$ 63,000	$ 75,000	$ -	$ -	$ 138,000	$ -
On-site Concrete Crushing & Disposal	$ 14,000	$ -	$ 55,000	$ -	$ 69,000	$ -
Debris	$ -	$ -	$ 71,000	$ -	$ 71,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (3,536,000)
Subtotal	**$ 2,443,000**	**$ 1,849,000**	**$ 126,000**	**$ -**	**$ 4,418,000**	**$ (3,536,000)**
Common Facilities						
All BOP Buildings	$ 28,000	$ 21,000	$ -	$ -	$ 49,000	$ -
Fuel Oil Storage Tanks	$ 5,000	$ 4,000	$ -	$ -	$ 9,000	$ -
All Other Tanks	$ 7,000	$ 5,000	$ -	$ -	$ 12,000	$ -
Soil Removal Beneath Fuel Oil Tank	$ -	$ -	$ -	$ 657,000	$ 657,000	$ -
Miscellaneous Transformers	$ 7,000	$ 5,000	$ -	$ -	$ 12,000	$ -
Fuel Oil Storage Tank Cleaning	$ -	$ -	$ -	$ 105,000	$ 105,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 15,000	$ 15,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
On-site Concrete Crushing & Disposal	$ 1,000	$ -	$ 5,000	$ -	$ 6,000	$ -
Debris	$ -	$ -	$ 18,000	$ -	$ 18,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,295,000)
Subtotal	**$ 48,000**	**$ 35,000**	**$ 23,000**	**$ 788,000**	**$ 894,000**	**$ (1,295,000)**
Richmond Plant Subtotal	**$ 6,041,000**	**$ 4,559,000**	**$ 306,000**	**$ 788,000**	**$ 11,694,000**	**$ (11,138,000)**
TOTAL COST (CREDIT)					**$ 11,694,000**	**$ (11,138,000)**
PROJECT INDIRECTS (5%)					**$ 585,000**	
CONTINGENGY (20%)					**$ 2,339,000**	
TOTAL PROJECT COST (CREDIT)					**$ 14,618,000**	**$ (11,138,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 3,480,000**	

Table A-8
Robinson Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Robinson Plant						
Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 570,000	$ 570,000	$ -
Boiler	$ 869,000	$ 435,000	$ -	$ -	$ 1,304,000	$ -
Steam Turbine & Building	$ 313,000	$ 166,000	$ -	$ -	$ 479,000	$ -
Precipitator	$ 70,000	$ 31,000	$ -	$ -	$ 101,000	$ -
Stack	$ 626,000	$ 298,000	$ -	$ -	$ 924,000	$ -
GSU & Foundation	$ 69,000	$ 99,000	$ -	$ -	$ 168,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,066,000	$ -	$ 1,066,000	$ -
Debris	$ -	$ -	$ 726,000	$ -	$ 726,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (2,673,000)
Subtotal	**$ 1,947,000**	**$ 1,029,000**	**$ 1,792,000**	**$ 578,000**	**$ 5,346,000**	**$ (2,673,000)**
Material Handling Facilities						
Demolition	$ 116,000	$ 183,000	$ -	$ -	$ 299,000	$ -
Coal Storage Area Restoration	$ -	$ -	$ -	$ 1,631,000	$ 1,631,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Debris	$ -	$ -	$ 26,000	$ -	$ 26,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (48,000)
Subtotal	**$ 116,000**	**$ 183,000**	**$ 27,000**	**$ 1,631,000**	**$ 1,957,000**	**$ (48,000)**
Combustion Turbine Unit 1						
Turbines & Foundations	$ 37,000	$ 28,000	$ -	$ -	$ 65,000	$ -
GSUs	$ 7,000	$ 5,000	$ -	$ -	$ 12,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (93,000)
Subtotal	**$ 44,000**	**$ 33,000**	**$ -**	**$ -**	**$ 77,000**	**$ (93,000)**
Common Facilities						
Security Permitting Costs (i.e. Worker Background Checks, etc.)	$ 50,000	$ -	$ -	$ -	$ 50,000	$ -
Identification of any Radioactive Materials	$ -	$ -	$ -	$ 100,000	$ 100,000	$ -
Closure of Ash Ponds	$ -	$ -	$ -	$ 11,000,000	$ 11,000,000	$ -
Remediation of Soil Impacted by Fuel Oil Leak	$ -	$ -	$ -	$ 241,000	$ 241,000	$ -
PCB Oil Transportation and Disposal (>50 ppm to <200 ppm)	$ -	$ -	$ 26,000	$ 26,000	$ 52,000	$ -
Soil Removal Beneath PCB Equipment	$ -	$ -	$ 74,000	$ 118,000	$ 192,000	$ -
Soil Removal Beneath Fuel Oil Tank	$ -	$ -	$ -	$ 65,000	$ 65,000	$ -
Fuel Oil Storage Tank Cleaning	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 3,000	$ 3,000	$ -
Mercury & Universal Waste Disposal	$ 6,000	$ 5,000	$ -	$ 11,000	$ 22,000	$ -
Nuclear Device Removal and Disposal	$ 6,000	$ -	$ 8,000	$ -	$ 14,000	$ -
Plant Washdown & Materials Disposal	$ 11,000	$ 8,000	$ 4,000	$ -	$ 23,000	$ -
Subtotal	**$ 73,000**	**$ 13,000**	**$ 112,000**	**$ 11,572,000**	**$ 11,770,000**	**$ -**
Robinson Plant Subtotal	**$ 2,180,000**	**$ 1,258,000**	**$ 1,931,000**	**$ 13,781,000**	**$ 19,150,000**	**$ (2,814,000)**
TOTAL COST (CREDIT)					**$ 19,150,000**	**$ (2,814,000)**
PROJECT INDIRECTS (5%)					**$ 958,000**	
CONTINGENGY (20%)					**$ 3,830,000**	
TOTAL PROJECT COST (CREDIT)					**$ 23,938,000**	**$ (2,814,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 21,124,000**	

Table A-9
Roxboro Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Roxboro Plant						
Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 700,000	$ 700,000	$ -
Boiler	$ 1,296,000	$ 1,184,000	$ -	$ -	$ 2,480,000	$ -
Steam Turbine & Building	$ 519,000	$ 510,000	$ -	$ -	$ 1,029,000	$ -
Precipitator	$ 123,000	$ 125,000	$ -	$ -	$ 248,000	$ -
SCR/FGD	$ 186,000	$ 200,000	$ -	$ -	$ 386,000	$ -
Stack	$ 302,000	$ 794,000	$ -	$ -	$ 1,096,000	$ -
GSU & Foundation	$ 34,000	$ 113,000	$ -	$ -	$ 147,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 3,415,000	$ -	$ 3,415,000	$ -
Debris	$ -	$ -	$ 1,993,000	$ -	$ 1,993,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (5,668,000)
Subtotal	**$ 2,460,000**	**$ 2,926,000**	**$ 5,408,000**	**$ 708,000**	**$ 11,502,000**	**$ (5,668,000)**
Unit 2						
Asbestos Removal	$ -	$ -	$ -	$ 1,177,000	$ 1,177,000	$ -
Boiler	$ 2,111,000	$ 1,906,000	$ -	$ -	$ 4,017,000	$ -
Steam Turbine & Building	$ 843,000	$ 828,000	$ -	$ -	$ 1,671,000	$ -
Precipitator	$ 141,000	$ 95,000	$ -	$ -	$ 236,000	$ -
SCR/FGD	$ 186,000	$ 200,000	$ -	$ -	$ 386,000	$ -
Stack	$ 302,000	$ 794,000	$ -	$ -	$ 1,096,000	$ -
GSU & Foundation	$ 55,000	$ 189,000	$ -	$ -	$ 244,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 3,080,000	$ -	$ 3,080,000	$ -
Debris	$ -	$ -	$ 3,389,000	$ -	$ 3,389,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (6,189,000)
Subtotal	**$ 3,638,000**	**$ 4,012,000**	**$ 6,469,000**	**$ 1,185,000**	**$ 15,304,000**	**$ (6,189,000)**
Unit 3						
Asbestos Removal	$ -	$ -	$ -	$ 1,391,000	$ 1,391,000	$ -
Boiler	$ 2,375,000	$ 2,232,000	$ -	$ -	$ 4,607,000	$ -
Steam Turbine & Building	$ 940,000	$ 924,000	$ -	$ -	$ 1,864,000	$ -
Precipitator	$ 231,000	$ 212,000	$ -	$ -	$ 443,000	$ -
SCR/FGD	$ 186,000	$ 200,000	$ -	$ -	$ 386,000	$ -
Stack	$ 781,000	$ 1,703,000	$ -	$ -	$ 2,484,000	$ -
GSU & Foundation	$ 61,000	$ 224,000	$ -	$ -	$ 285,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,749,000	$ -	$ 1,749,000	$ -
Debris	$ -	$ -	$ 3,949,000	$ -	$ 3,949,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (5,604,000)
Subtotal	**$ 4,574,000**	**$ 5,495,000**	**$ 5,698,000**	**$ 1,399,000**	**$ 17,166,000**	**$ (5,604,000)**
Unit 4						
Asbestos Removal	$ -	$ -	$ -	$ 1,391,000	$ 1,391,000	$ -
Boiler	$ 2,457,000	$ 2,302,000	$ -	$ -	$ 4,759,000	$ -
Steam Turbine & Building	$ 973,000	$ 956,000	$ -	$ -	$ 1,929,000	$ -
Precipitator	$ 235,000	$ 212,000	$ -	$ -	$ 447,000	$ -
SCR/FGD	$ 186,000	$ 200,000	$ -	$ -	$ 386,000	$ -
Stack	$ 195,000	$ 1,703,000	$ -	$ -	$ 1,898,000	$ -
GSU & Foundation	$ 63,000	$ 222,000	$ -	$ -	$ 285,000	$ -
Hazardous Materials Disposal (Refractory)	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 1,939,000	$ -	$ 1,939,000	$ -
Debris	$ -	$ -	$ 3,930,000	$ -	$ 3,930,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (3,605,000)
Subtotal	**$ 4,109,000**	**$ 5,595,000**	**$ 5,869,000**	**$ 1,399,000**	**$ 16,972,000**	**$ (3,605,000)**
Marterial Handling Facilities						
Demolition	$ 1,397,000	$ 749,000	$ -	$ -	$ 2,146,000	$ -
Gypsum & Coal Storage Area Restoration	$ -	$ -	$ -	$ 7,383,000	$ 7,383,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 280,000	$ -	$ 280,000	$ -
Debris	$ -	$ -	$ 288,000	$ -	$ 288,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (951,000)
Subtotal	**$ 1,397,000**	**$ 749,000**	**$ 568,000**	**$ 7,383,000**	**$ 10,097,000**	**$ (951,000)**
Common Facilities						
Cooling Water System and Circulating Water Pumps	$ 559,000	$ 112,000	$ -	$ -	$ 671,000	$ -
Cooling Towers & Basins	$ 47,000	$ 69,000	$ -	$ -	$ 116,000	$ -
Closure of Ash Ponds	$ -	$ -	$ -	$ 47,000,000	$ 47,000,000	$ -
Fuel Oil Storage Tanks	$ 70,000	$ 25,000	$ -	$ -	$ 95,000	$ -
All Other Tanks	$ 112,000	$ 95,000	$ -	$ -	$ 207,000	$ -
Remediation of Soil Impacted by Fuel Oil Leak	$ -	$ -	$ -	$ 711,000	$ 711,000	$ -
PCB Oil Transportation and Disposal (>5 ppm to <50 ppm)	$ -	$ -	$ 828,000	$ 828,000	$ 1,656,000	$ -
Soil Removal Beneath PCB Equipment	$ -	$ -	$ 478,000	$ 766,000	$ 1,244,000	$ -
Soil Removal Beneath Fuel Oil Tank	$ -	$ -	$ -	$ 179,000	$ 179,000	$ -
Fuel Oil Storage Tank Cleaning	$ -	$ -	$ -	$ 21,000	$ 21,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Nuclear Device Removal and Disposal	$ -	$ -	$ -	$ 13,000	$ 13,000	$ -
Plant Washdown & Materials Disposal	$ -	$ -	$ -	$ 91,000	$ 91,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 206,000	$ -	$ 206,000	$ -
Debris	$ -	$ -	$ 626,000	$ -	$ 626,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,386,000)
Subtotal	**$ 788,000**	**$ 301,000**	**$ 2,138,000**	**$ 49,628,000**	**$ 52,855,000**	**$ (1,386,000)**
Roxboro Plant Subtotal	**$ 16,966,000**	**$ 19,078,000**	**$ 26,150,000**	**$ 61,702,000**	**$ 123,896,000**	**$ (23,403,000)**
TOTAL COST (CREDIT)					**$ 123,896,000**	**$ (23,403,000)**
PROJECT INDIRECTS (5%)					**$ 6,195,000**	
CONTINGENGY (20%)					**$ 24,779,000**	
TOTAL PROJECT COST (CREDIT)					**$ 154,870,000**	**$ (23,403,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 131,467,000**	

Table A-10
Tillery Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Tillery Plant						
Hydroelectric Units 1 - 4						
Demolition	$ 2,016,000	$ 842,000	$ -	$ -	$ 2,858,000	$ -
Debris	$ -	$ -	$ 61,000	$ -	$ 61,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,444,000)
Subtotal	**$ 2,016,000**	**$ 842,000**	**$ 61,000**	**$ -**	**$ 2,919,000**	**$ (1,444,000)**
Hydroelectric Common Facilities						
Asbestos Removal	$ -	$ -	$ -	$ 610,000	$ 610,000	$ -
PCB Oil Transportation and Disposal (>50 ppm to <200 ppm)	$ -	$ -	$ -	$ 132,000	$ 132,000	$ -
Soil Removal Beneath PCB Equipment	$ -	$ -	$ -	$ 412,000	$ 412,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Subtotal	**$ -**	**$ -**	**$ -**	**$ 1,165,000**	**$ 1,165,000**	**$ -**
Tillery Plant Subtotal	**$ 2,016,000**	**$ 842,000**	**$ 61,000**	**$ 1,165,000**	**$ 4,084,000**	**$ (1,444,000)**
TOTAL COST (CREDIT)					**$ 4,084,000**	**$ (1,444,000)**
PROJECT INDIRECTS (5%)					**$ 204,000**	
CONTINGENGY (20%)					**$ 817,000**	
TOTAL PROJECT COST (CREDIT)					**$ 5,105,000**	**$ (1,444,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 3,661,000**	

Table A-11
Walters Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Walters Plant						
Hydroelectric Units 1 - 3						
Demolition	$ 696,000	$ 418,000	$ -	$ -	$ 1,114,000	$ -
Debris	$ -	$ -	$ 28,000	$ -	$ 28,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,391,000)
Subtotal	**$ 696,000**	**$ 418,000**	**$ 28,000**	**$ -**	**$ 1,142,000**	**$ (1,391,000)**
Hydroelectric Common Facilities						
Asbestos Removal	$ -	$ -	$ -	$ 172,000	$ 172,000	$ -
PCB Oil Transportation and Disposal (>50 ppm to <200 ppm)	$ -	$ -	$ -	$ 43,000	$ 43,000	$ -
Soil Removal Beneath PCB Equipment	$ -	$ -	$ -	$ 236,000	$ 236,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Subtotal	**$ -**	**$ -**	**$ -**	**$ 462,000**	**$ 462,000**	**$ -**
Walters Plant Subtotal	**$ 696,000**	**$ 418,000**	**$ 28,000**	**$ 462,000**	**$ 1,604,000**	**$ (1,391,000)**
TOTAL COST (CREDIT)					**$ 1,604,000**	**$ (1,391,000)**
PROJECT INDIRECTS (5%)					**$ 80,000**	
CONTINGENGY (20%)					**$ 321,000**	
TOTAL PROJECT COST (CREDIT)					**$ 2,005,000**	**$ (1,391,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 614,000**	

Table A-12
Wayne Plant
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Salvage
Wayne Plant						
Combustion Turbine Unit 10						
Turbines & Foundations	$ 117,000	$ 88,000	$ -	$ -	$ 205,000	$ -
GSUs	$ 17,000	$ 13,000	$ -	$ -	$ 30,000	$ -
On-site Concrete Crushing & Disposal	$ 1,000	$ -	$ 4,000	$ -	$ 5,000	$ -
Debris	$ -	$ -	$ 9,000	$ -	$ 9,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (570,000)
Subtotal	**$ 135,000**	**$ 101,000**	**$ 13,000**	**$ -**	**$ 249,000**	**$ (570,000)**
Combustion Turbine Unit 11						
Turbines & Foundations	$ 117,000	$ 88,000	$ -	$ -	$ 205,000	$ -
GSUs	$ 17,000	$ 13,000	$ -	$ -	$ 30,000	$ -
On-site Concrete Crushing & Disposal	$ 1,000	$ -	$ 4,000	$ -	$ 5,000	$ -
Debris	$ -	$ -	$ 9,000	$ -	$ 9,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (570,000)
Subtotal	**$ 135,000**	**$ 101,000**	**$ 13,000**	**$ -**	**$ 249,000**	**$ (570,000)**
Combustion Turbine Unit 12						
Turbines & Foundations	$ 117,000	$ 88,000	$ -	$ -	$ 205,000	$ -
GSUs	$ 17,000	$ 13,000	$ -	$ -	$ 30,000	$ -
On-site Concrete Crushing & Disposal	$ 1,000	$ -	$ 4,000	$ -	$ 5,000	$ -
Debris	$ -	$ -	$ 9,000	$ -	$ 9,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (570,000)
Subtotal	**$ 135,000**	**$ 101,000**	**$ 13,000**	**$ -**	**$ 249,000**	**$ (570,000)**
Combustion Turbine Unit 13						
Turbines & Foundations	$ 117,000	$ 88,000	$ -	$ -	$ 205,000	$ -
GSUs	$ 17,000	$ 13,000	$ -	$ -	$ 30,000	$ -
On-site Concrete Crushing & Disposal	$ 1,000	$ -	$ 4,000	$ -	$ 5,000	$ -
Debris	$ -	$ -	$ 9,000	$ -	$ 9,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (570,000)
Subtotal	**$ 135,000**	**$ 101,000**	**$ 13,000**	**$ -**	**$ 249,000**	**$ (570,000)**
Combustion Turbine Unit 14						
Turbines & Foundations	$ 117,000	$ 88,000	$ -	$ -	$ 205,000	$ -
GSUs	$ 15,000	$ 11,000	$ -	$ -	$ 26,000	$ -
On-site Concrete Crushing & Disposal	$ 1,000	$ -	$ 4,000	$ -	$ 5,000	$ -
Debris	$ -	$ -	$ 9,000	$ -	$ 9,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (613,000)
Subtotal	**$ 133,000**	**$ 99,000**	**$ 13,000**	**$ -**	**$ 245,000**	**$ (613,000)**
Common Facilities						
Admin and Other BOP Buildings	$ 10,000	$ 8,000	$ -	$ -	$ 18,000	$ -
Fuel Oil Tanks & Containment Wall	$ 139,000	$ 105,000	$ -	$ -	$ 244,000	$ -
Water Tanks	$ 50,000	$ 38,000	$ -	$ -	$ 88,000	$ -
Miscellaneous BOP Equipment	$ 70,000	$ 52,000	$ 1,000	$ -	$ 123,000	$ -
Soil Removal Beneath Fuel Oil Tank	$ -	$ -	$ -	$ 314,000	$ 314,000	$ -
Fuel Oil Storage Tank Cleaning	$ -	$ -	$ -	$ 60,000	$ 60,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
On-site Concrete Crushing & Disposal	$ 1,000	$ -	$ 4,000	$ -	$ 5,000	$ -
Debris	$ -	$ -	$ 11,000	$ -	$ 11,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (782,000)
Subtotal	**$ 270,000**	**$ 203,000**	**$ 16,000**	**$ 393,000**	**$ 882,000**	**$ (782,000)**
Wayne Plant Subtotal	**$ 943,000**	**$ 706,000**	**$ 81,000**	**$ 393,000**	**$ 2,123,000**	**$ (3,675,000)**
TOTAL COST (CREDIT)					**$ 2,123,000**	**$ (3,675,000)**
PROJECT INDIRECTS (5%)					**$ 106,000**	
CONTINGENGY (20%)					**$ 425,000**	
TOTAL PROJECT COST (CREDIT)					**$ 2,654,000**	**$ (3,675,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ (1,021,000)**	

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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing *Late-Filed Exhibit No. 20* as filed in Docket Nos. E-7, Sub 1219 and E-2, Sub 1219, were served via electronic delivery or mailed, first-class, postage prepaid, upon all parties of record.

This, the 29th day of October, 2020.

/s/Mary Lynne Grigg
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