

4.2 Realization Rates

The average realization rates for winter and summer are provided in Table 4-7 and Table 4-8. Both show measured generation as a percentage of the dispatched generation for each event interval.

Two of the 4 winter event days met the 95% realization rate target (Table 4-7). This is an improvement compared to 2017 when none of the 3 event days met the 95% target. Eighteen of 27 summer event days (67%) met or exceeded the 95% target (Table 4-8). The highest performing summer event day occurred September 5, generating 115% of the dispatched load on that day. The lowest performing summer event day occurred on May 3, yielding a realization rate of 65%. On this day only three participant generators located on the Peninsula, which includes Williamsburg, Newport News, and Hampton, were dispatched. Average realization rates that meet or exceed the 95% target are bolded in Table 4-7 and Table 4-8.

Table 4-7. Realization Rates by Event Day and Hour Ending–Winter

Realization Rate by Event Day and Hour Ending–Winter													
Event Day	Hour Ending											Average	
	5	6	7	8	9	10	11	18	19	20	21		22
2-Jan-18	58%	65%	73%	78%	72%	73%	72%						70%
5-Jan-18			69%	95%	105%			94%	103%	102%	100%	96%	95%
6-Jan-18			76%	102%	106%								95%
7-Jan-18			77%	100%	106%								94%

Table 4-8. Realization Rates by Event Day and Hour Ending–Summer

Realization Rate by Event Day and Hour Ending–Summer							
Event Day	Hour Ending						Average
	15	16	17	18	19	20	
3-May-18	68%	67%	67%	66%	64%	61%	65%
18-Jun-18			86%	93%	92%		90%
19-Jun-18	98%	101%	102%				101%
28-Jun-18			87%	97%			92%
29-Jun-18		91%	94%	94%			93%
30-Jun-18			90%	95%	94%		93%
1-Jul-18			104%	111%	105%		107%
2-Jul-18		104%	110%	104%			106%
3-Jul-18		107%	116%	112%			112%
5-Jul-18		77%	82%	83%			81%
10-Jul-18			92%	103%			97%
16-Jul-18		66%	111%	109%			95%
27-Jul-18		93%	98%	91%			94%
6-Aug-18		90%	100%	97%			96%
7-Aug-18		93%	102%	103%			99%
8-Aug-18		105%	120%	118%			114%
9-Aug-18		111%	113%	115%			113%
15-Aug-18			90%	101%			95%
16-Aug-18		90%	92%	90%			91%
17-Aug-18	103%	109%	110%				107%
27-Aug-18			105%	109%	108%		107%
28-Aug-18		108%	112%	112%			111%
29-Aug-18		101%	109%	107%			106%
30-Aug-18		102%	110%				106%
4-Sep-18		106%	113%	113%			111%
5-Sep-18		111%	119%	115%			115%
6-Sep-18		116%	117%	47%			93%

4.3 Site-Level Detail

Table 4-9 shows the average realization rates by participant site for each event day. Each site is assigned a unique identifier. If a participant site was not dispatched during an event, the corresponding cell is blank. Realization rates greater than or equal to 95% are highlighted green, less than 95% and greater than or equal to 50% are purple and rates less than 50% are highlighted in red.

Site IDs 9, 11, and 13 met or exceeded the 95% target for every 2018 event day that they were called. These sites were also high performers in 2017 (see Table 4-9 and Table 4-10). Table 4-11 shows the monthly average realization rate for each site. Five sites achieved or exceeded the program target of 95% every month that they were called. Sites 1, 5 and 6 were the only sites that did not reach the target realization rate of 95% in any month. Of these three sites, Sites 1 and 5 did not achieve a 95% realization rate for any event day in 2018. Site 6 achieved a realization of 95% for nine event days (see Table 10 and Table 11), but no monthly realization rate higher than 89% (see Table 4-11).

The lowest performing summer event occurred on May 3, yielding a realization rate of 65%. On this day only 3 participant generators located on the Peninsula, which includes Williamsburg, Newport News, and Hampton, were dispatched.

Table 4-9. Average Realization Rates by Site and Event Day (January 2–July 27, 2018)

Site ID	January				May	June					July						
	2	5	6	7		3	18	19	28	29	30	1	2	3	5	10	16
1	22%				70%	63%	67%	70%	69%	66%	74%	68%	91%	12%	71%	91%	74%
2	76%	62%	60%	27%		104%	111%	99%	102%	103%	108%	107%	110%	134%	102%	85%	60%
3	74%	82%	76%	76%		101%	107%	93%	99%	99%	99%	105%	107%	93%	101%	83%	98%
4	52%	62%	52%	52%		107%	112%	95%	95%	84%	85%	89%	87%	112%	80%	67%	82%
5	43%	48%	42%	42%		87%	90%	67%	80%	79%	83%	90%	89%	71%	82%	62%	85%
6	59%	59%	53%	56%	89%	92%	95%	79%	85%	82%	85%	92%	95%	94%	5%		110%
7	88%	80%	86%	86%		99%	103%	93%	100%	100%	102%	101%	101%	1%	91%	79%	103%
8	144%	134%	161%	175%		133%	146%	125%	2%		100%	107%	104%	208%	74%	2%	0%
9	133%	139%	137%	144%		138%	153%	136%	143%	146%	150%	161%	162%	107%	148%	100%	146%
10	143%	143%	147%	154%		120%	127%	100%	112%	116%	125%	129%	134%	144%	100%	84%	102%
11	205%	205%	201%	210%		215%	171%	213%	221%	224%	228%	232%	222%	227%	220%		
12	79%	77%	81%	89%		104%	108%	92%	97%	96%	105%	108%	107%	94%	92%	78%	98%
13	119%	128%	126%	140%		142%	145%	125%	139%	136%	145%	148%	151%	140%	142%	117%	137%
14	105%	112%	114%	116%		103%	105%	98%	107%	104%	104%	111%	114%	86%	105%	84%	85%
15	110%	114%	117%	130%		0%	144%	124%	127%	124%	93%	135%	140%	176%	129%	113%	126%
16	88%	98%	94%	96%	6%	74%	114%	97%	102%	98%	108%	110%	103%	78%	80%	91%	94%
17	55%	55%	55%	58%		94%	106%	85%	103%	96%	96%	103%	101%	104%	96%	80%	
18	123%	131%	120%	126%		126%	153%	144%	144%	143%	145%	147%	145%	133%	123%	105%	
19	151%	157%	154%	153%							213%	218%	218%	277%	207%	242%	238%
20	108%	101%	89%	88%							227%	130%	67%	227%	196%	203%	
21		73%	97%	38%							205%	210%	205%	0%	192%	203%	206%

Table 4-10. Average Realization Rates by Site and Event Day (August 6–September 6, 2018)

Site ID	August											September		
	6	7	8	9	15	16	17	27	28	29	30	4	5	6
1	80%	79%	90%	95%	70%	74%	80%	80%	78%	82%	78%	95%	95%	85%
2	93%	105%	105%	100%	102%	101%	108%	103%	107%	105%	106%	105%	106%	75%
3	101%	106%	108%	106%	92%	109%	112%	105%	114%	107%	106%	99%	112%	84%
4	93%	102%	103%	93%	84%	97%	105%	101%	103%	105%	94%	98%	102%	74%
5	79%	83%	87%	83%	66%	80%	85%	82%	86%	80%	79%	80%	85%	66%
6	64%	114%	116%	112%	103%	0%		107%	111%	0%				
7	90%	106%	108%	106%	93%	95%	97%	90%	102%	90%	91%	97%	101%	75%
8	90%	95%	104%		62%		100%	94%	104%	99%	79%	0%	99%	97%
9	146%	144%	143%	148%	121%	149%	149%	153%	153%	151%	136%	148%	157%	114%
10	2%	12%						14%	112%	122%	118%	106%	130%	93%
11														
12	95%	95%	99%	96%	79%	98%	102%	98%	101%	99%	95%	95%	103%	72%
13	134%	137%	141%	137%	133%	139%	139%	140%	141%	145%	147%	142%	143%	103%
14	109%	108%	108%	100%	94%	99%	107%	104%	109%	108%	105%	107%	108%	79%
15	133%	133%	136%	134%	123%	135%	138%	125%	139%	133%	135%			
16	7%	99%	103%	97%	91%	0%	103%	99%	103%	103%	100%	100%	92%	70%
17														
18	148%	140%	150%	145%		0%	154%	136%	157%	160%	164%	158%	158%	119%
19	229%	1%	265%	261%	259%	256%	267%	256%	261%	263%	265%	251%	249%	220%
20	194%	210%	214%	206%	203%	203%	214%	211%	216%	212%	187%	203%	203%	175%
21	198%	201%	208%	203%	204%	199%	206%	205%	202%	205%	209%	205%	203%	180%

Table 4-11. Average Realization Rates by Site and Event Month

Site ID	January				May	June					July						August						September							
	2	5	6	7	3	18	19	28	29	30	1	2	3	5	10	16	27	6	7	8	9	15	16	17	27	28	29	30	4	5
1	22%				70%	67%					69%						80%						92%							
2	56%					104%					101%						103%						95%							
3	77%					100%					98%						106%						98%							
4	55%					98%					86%						98%						91%							
5	44%					81%					80%						81%						77%							
6	57%				89%	87%					80%						81%													
7	85%					99%					82%						97%						91%							
8	154%					101%					85%						92%						65%							
9	138%					143%					139%						145%						140%							
10	147%					115%					117%						69%						118%							
11	205%					209%					226%												90%							
12	82%					99%					97%						96%						129%							
13	128%					137%					140%						140%						98%							
14	112%					103%					99%						105%						88%							
15	118%					104%					130%						133%						145%							
16	94%				6%	97%					95%						82%						240%							
17	56%					97%					97%												194%							
18	125%					142%					133%						135%						196%							
19	154%										230%						235%													
20	97%										175%						206%													
21	69%										174%						204%													

5 CONCLUSIONS

When demand for electricity is particularly high, the Company calls upon participants in the Non-residential DG Program to provide a supply resource to the company by operating backup power to curtail load on the Company's grid.

The objective of each DG event is to provide the Company with a supply resource during periods of high demand. The goal of the DG program is that measured generation be at least 95% of dispatched load. In 2018, the DG Program met its target 95% realization rate. Summer events, with an evaluated realization rate of 100%, exceeded the 95% program target by 5%. The 2018 winter events averaged an 85% realization rate.

6 RECOMMENDATIONS

The purpose of the Company's annual Non-residential DG program evaluation of dispatch events is to assess program progress towards planned goals, while providing actionable information for program managers to calibrate program operation to align with these goals.

DNV GL recommends that enrolled and dispatched load be reviewed and updated seasonally to account for changes in site-level demand for electricity and any changes in corresponding generation capacity. Since participants are generating electricity based on their demand only, and provide this amount of capacity to the grid, commitments based on maximum capacity calculated from summer peaks are not attainable in the winter. The Company would need to establish site-level estimates of the monthly peak kW based on historical and/or seasonal site-level measured demand to make this change. The benefits of doing so would be:

- Improved ability to predict the peak shaving capability of the program in aggregate throughout the year
- Improved ability to track site-level performance with realization rates comparable across all months



ABOUT DNV GL

Driven by our purpose of safeguarding life, property and the environment, DNV GL enables organizations to advance the safety and sustainability of their business. We provide classification and technical assurance along with software and independent expert advisory services to the maritime, oil and gas, and energy industries. We also provide certification services to customers across a wide range of industries. Operating in more than 100 countries, our 16,000 professionals are dedicated to helping our customers make the world safer, smarter, and greener.