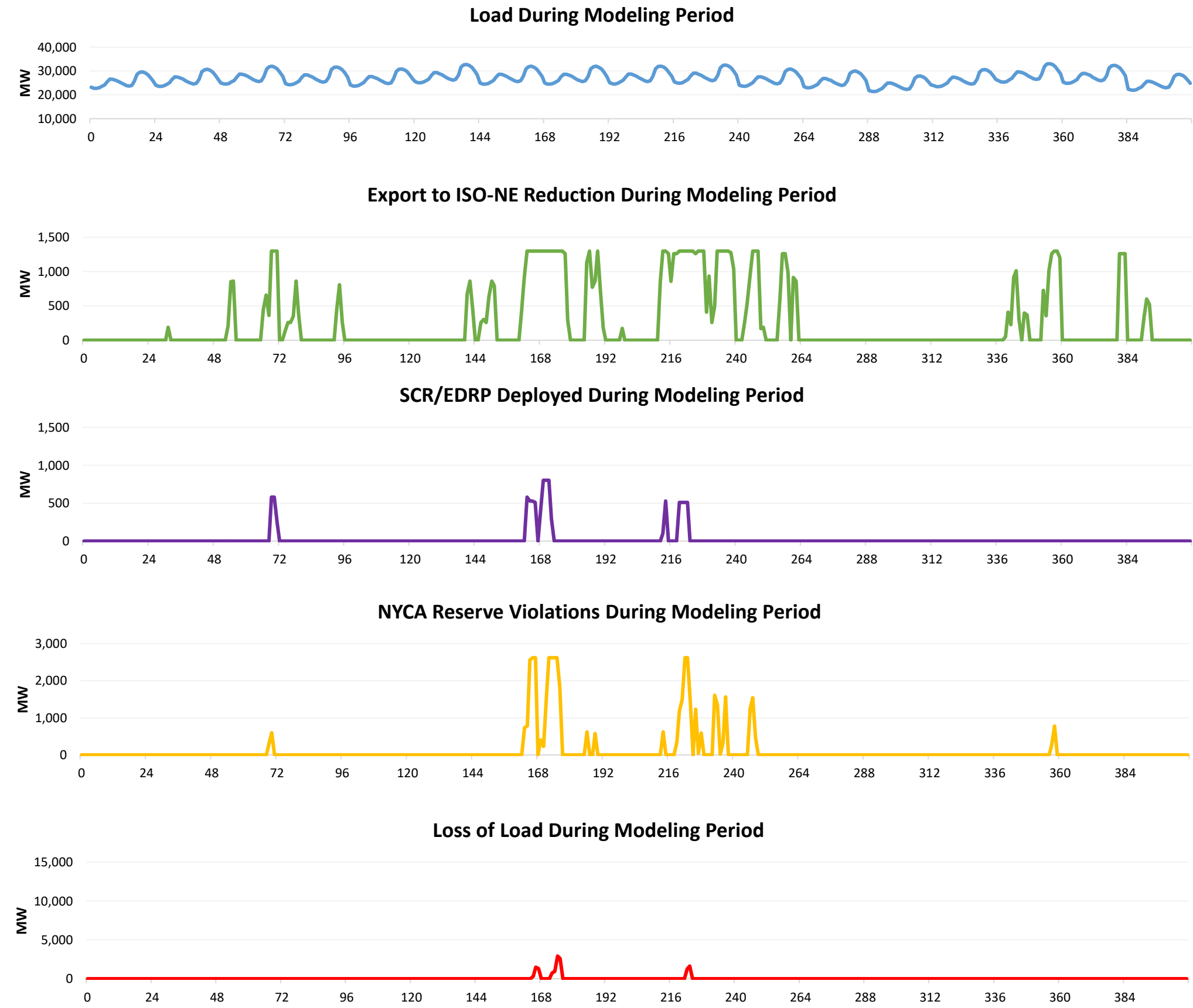


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 1 - PD 1 No Disruptions (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 1 - PD 1 No Disruptions



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	117
Total MWh	103,786
Avg. MW	254.4

SCR Deployment	
Total Hrs.	18
Total MWh	9,301
Avg. MW	22.8

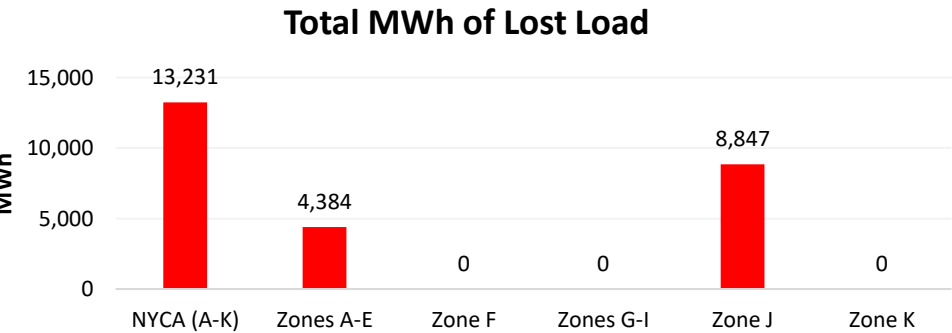
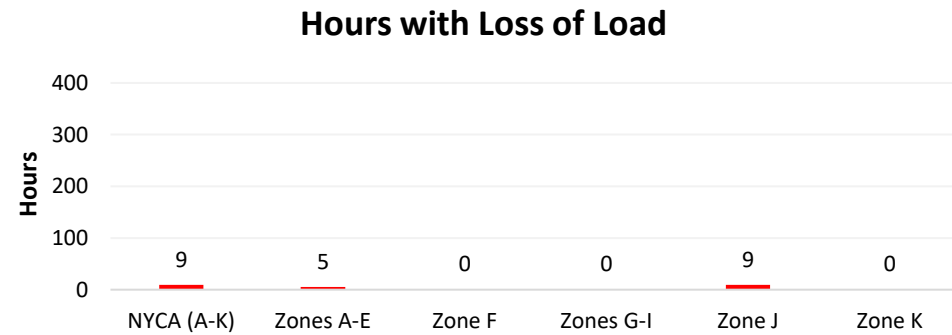
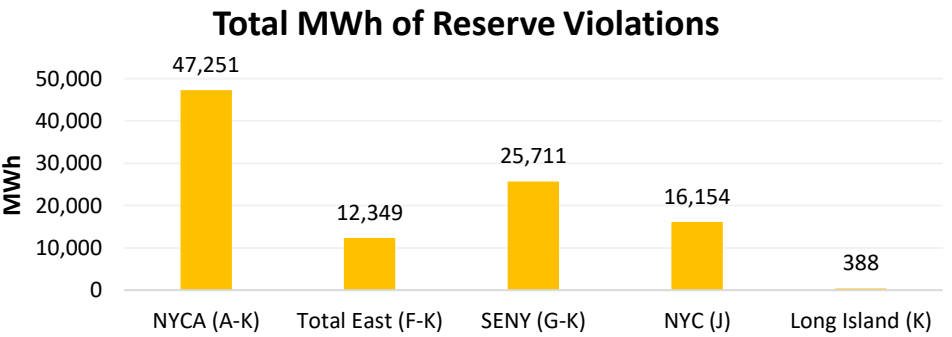
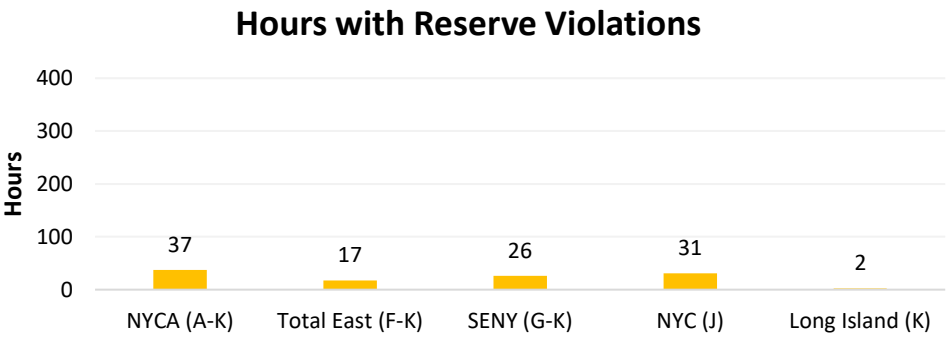
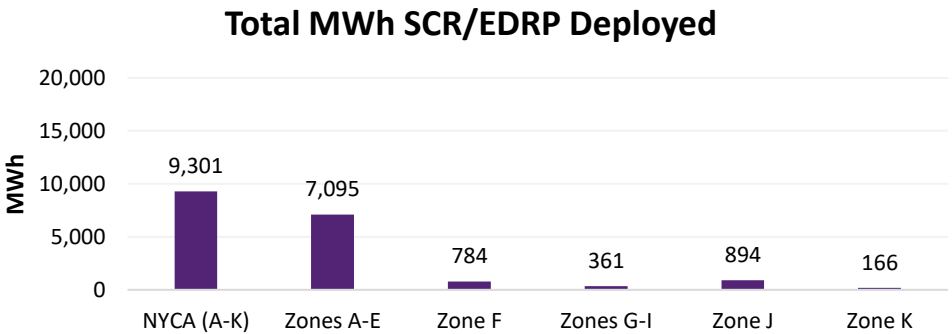
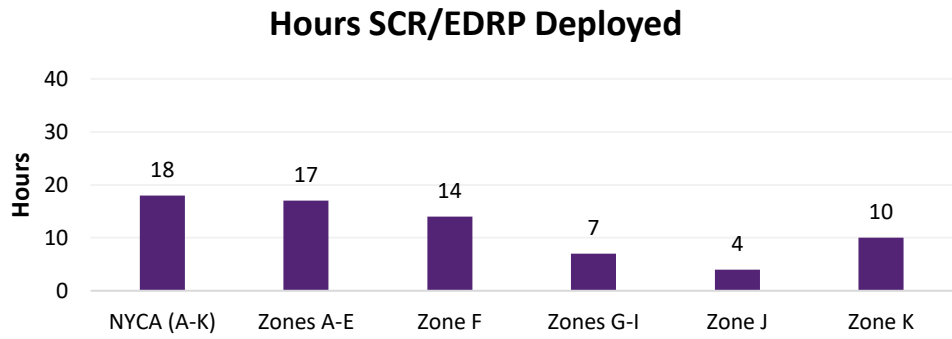
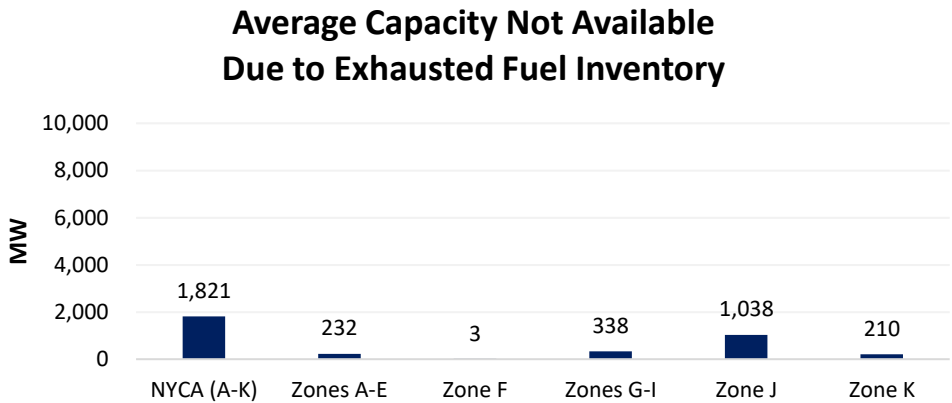
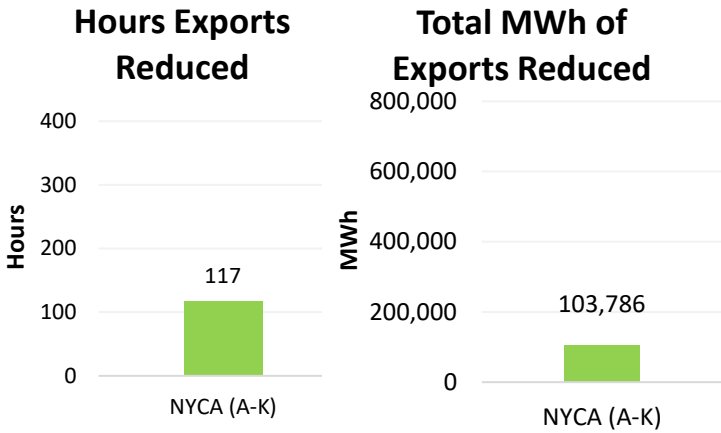
Reserve Violations	
Total Hrs.	37
Total MWh	47,251
Avg. MW	115.8
First Hour with Viol.	69

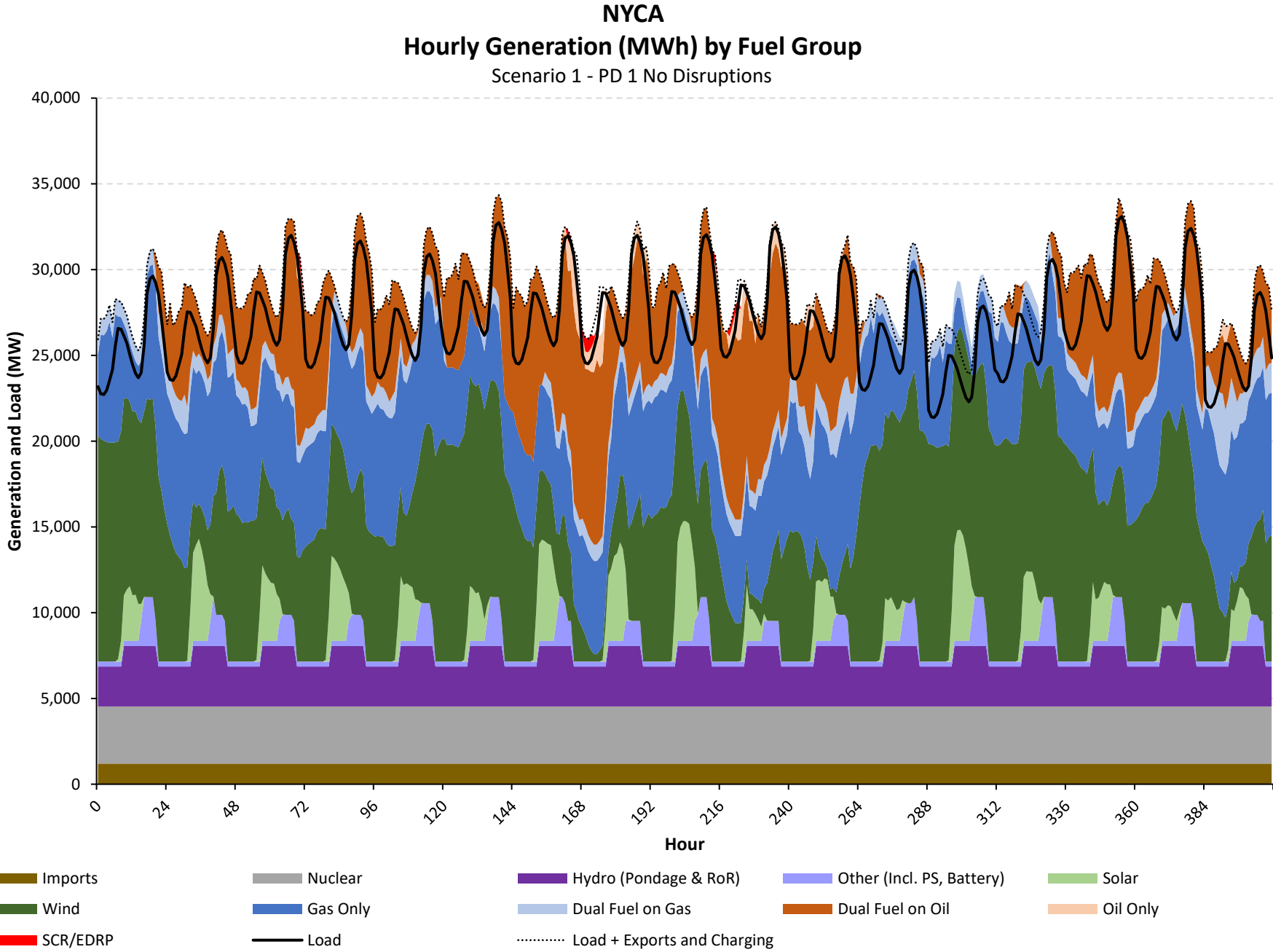
Loss of Load	
Total Hrs.	9
Total MWh	13,231
Avg. MW	32.4
First Hour with Losses	165

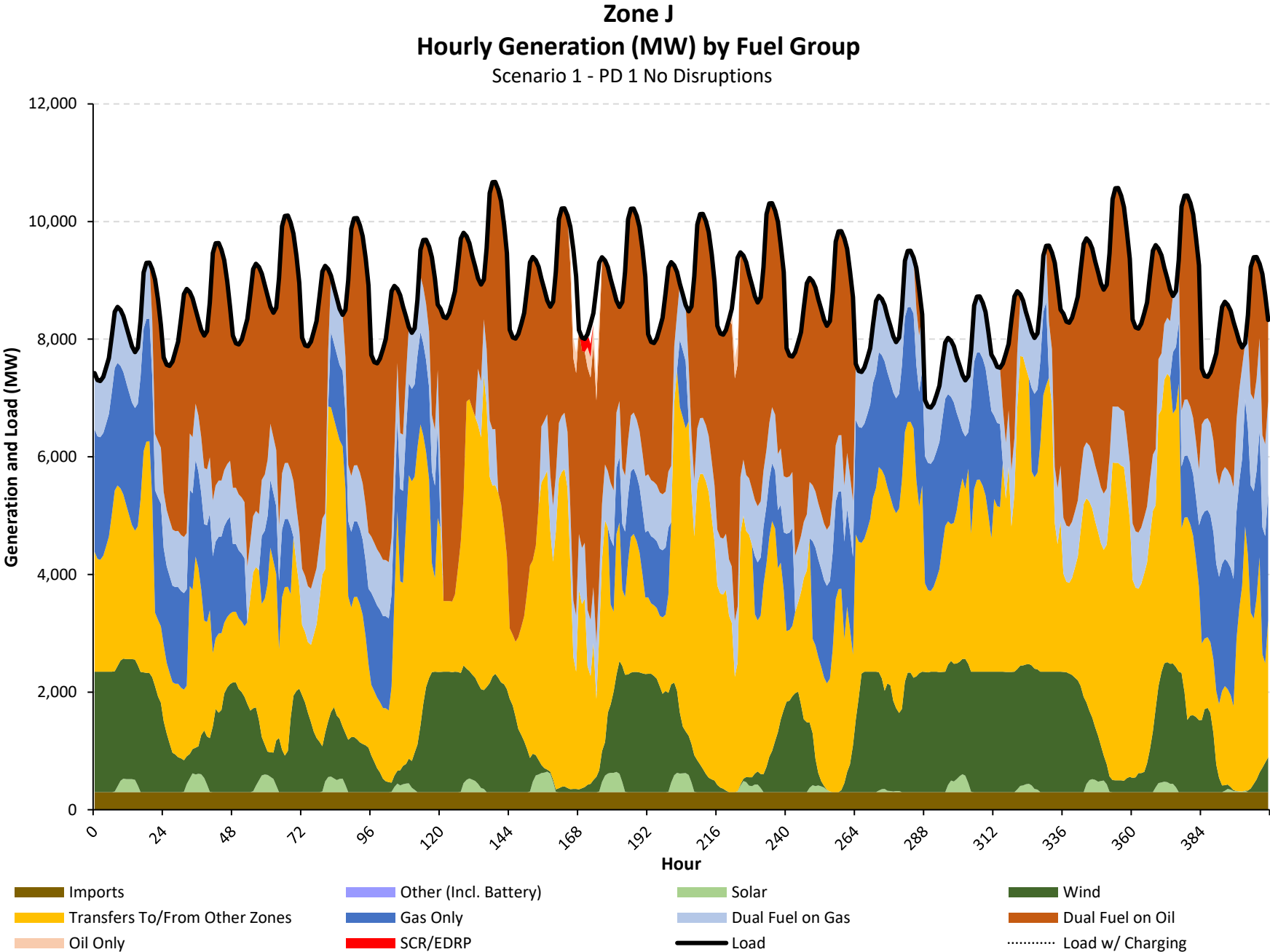
Full Period Results Summary

Case Name: Scenario 1 - PD 1 No Disruptions

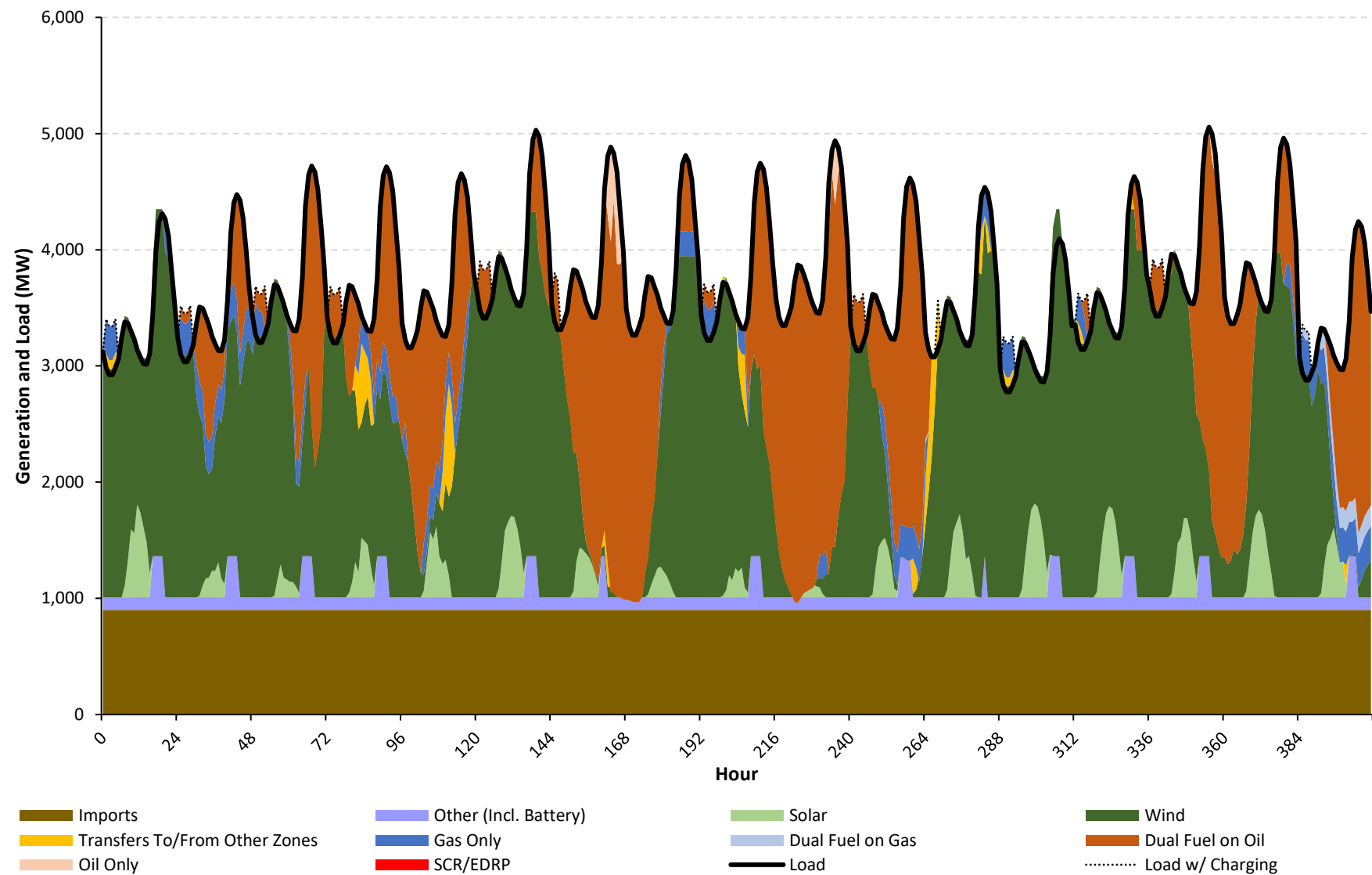
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

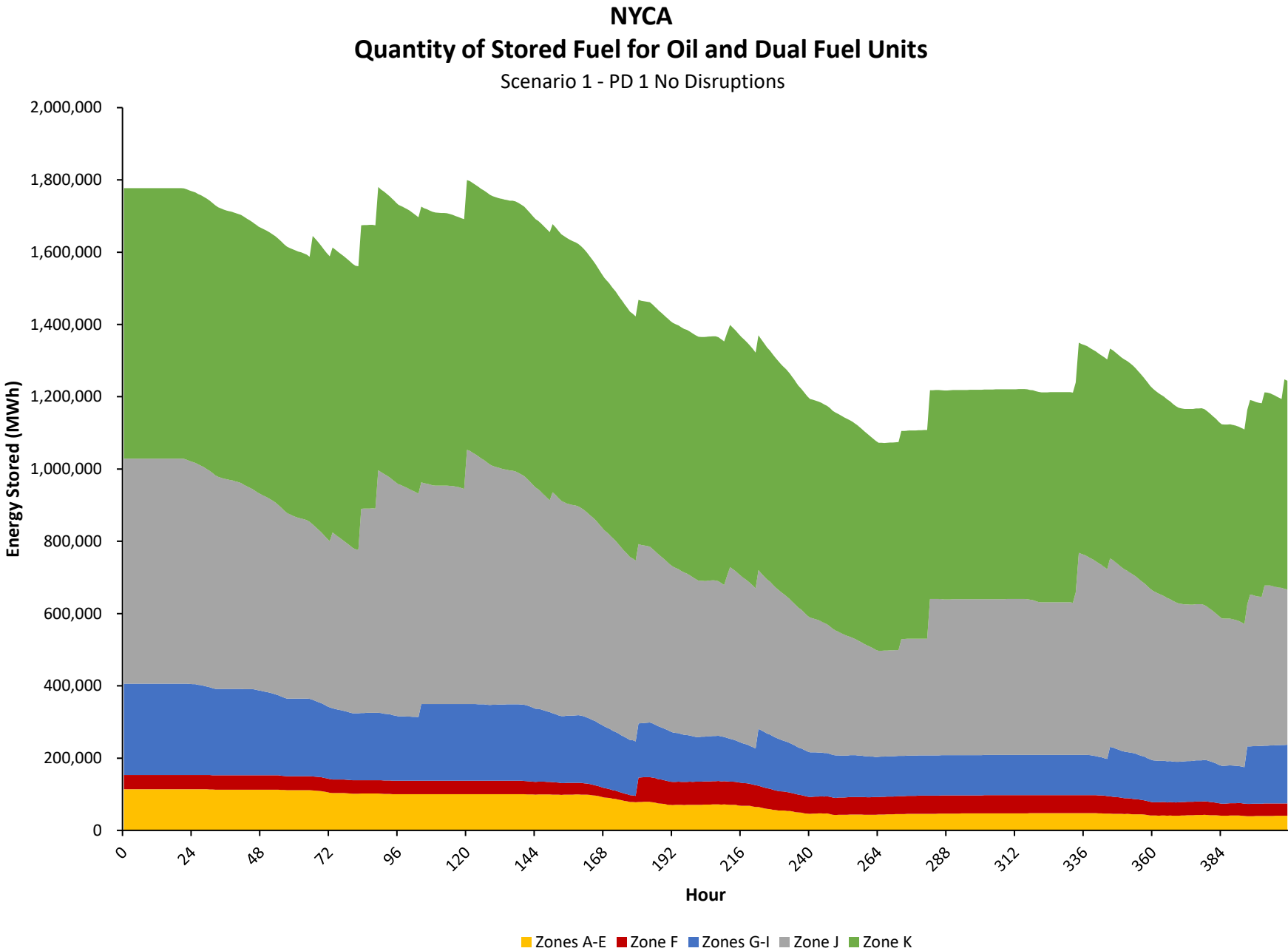


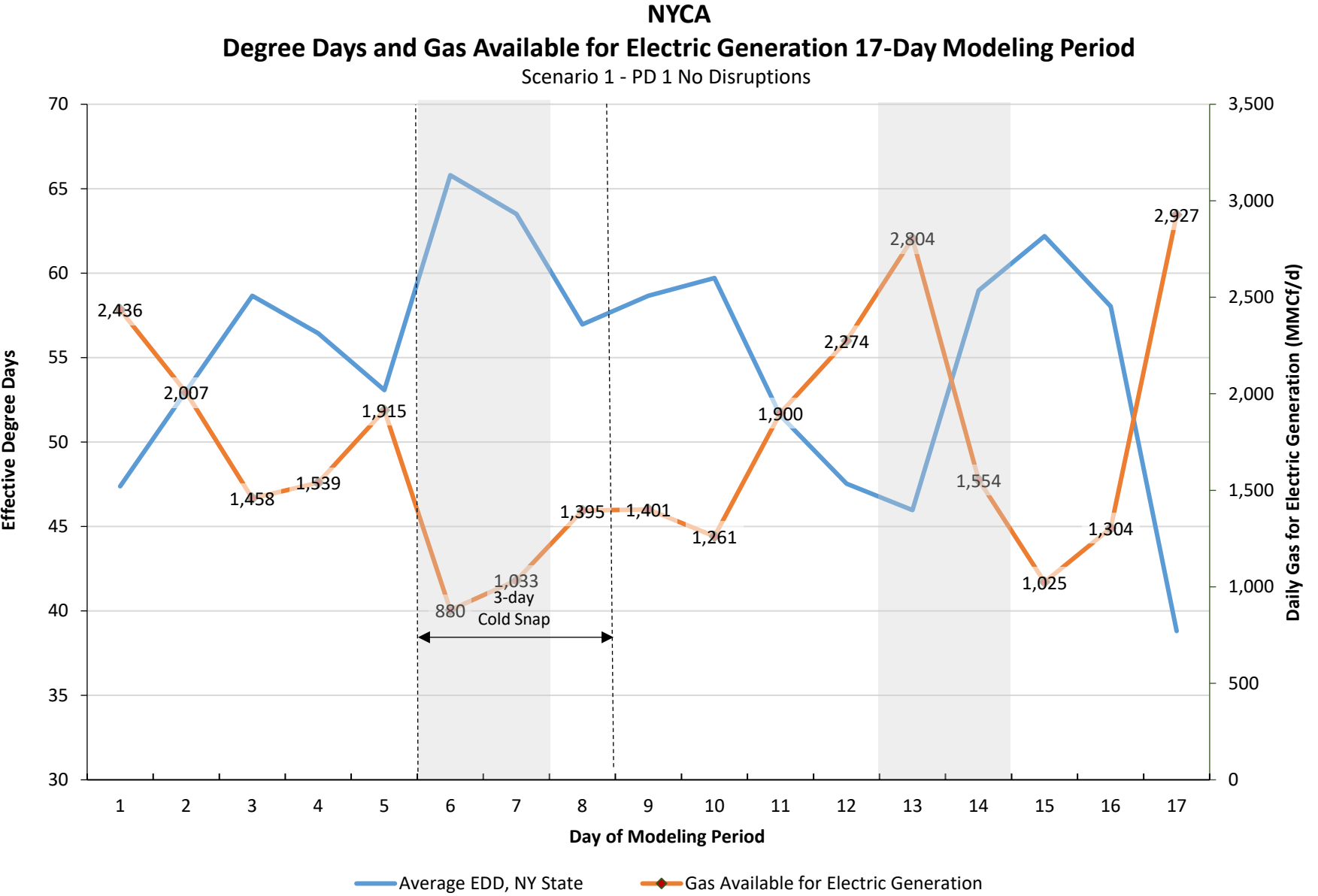




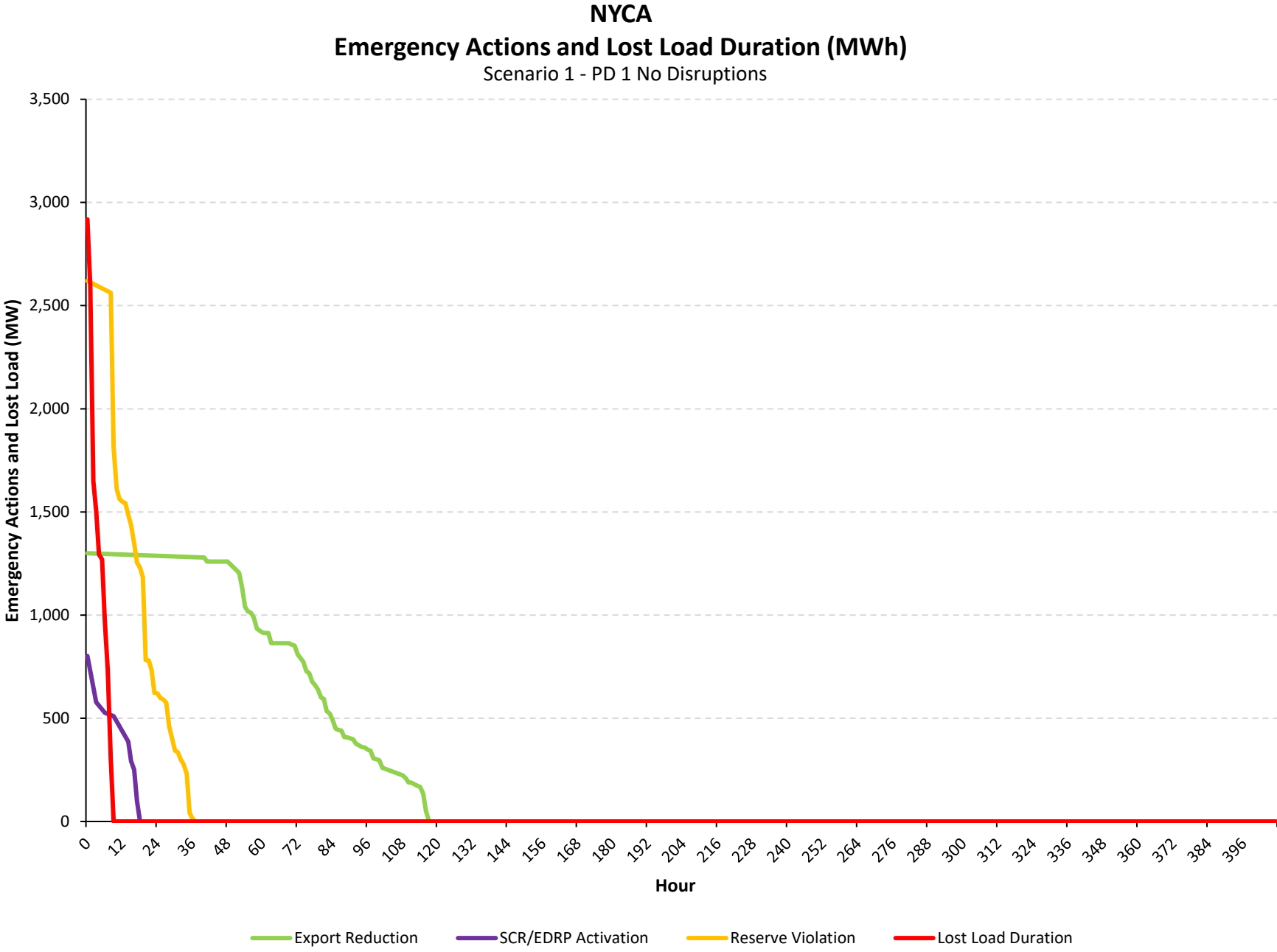
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 1 - PD 1 No Disruptions

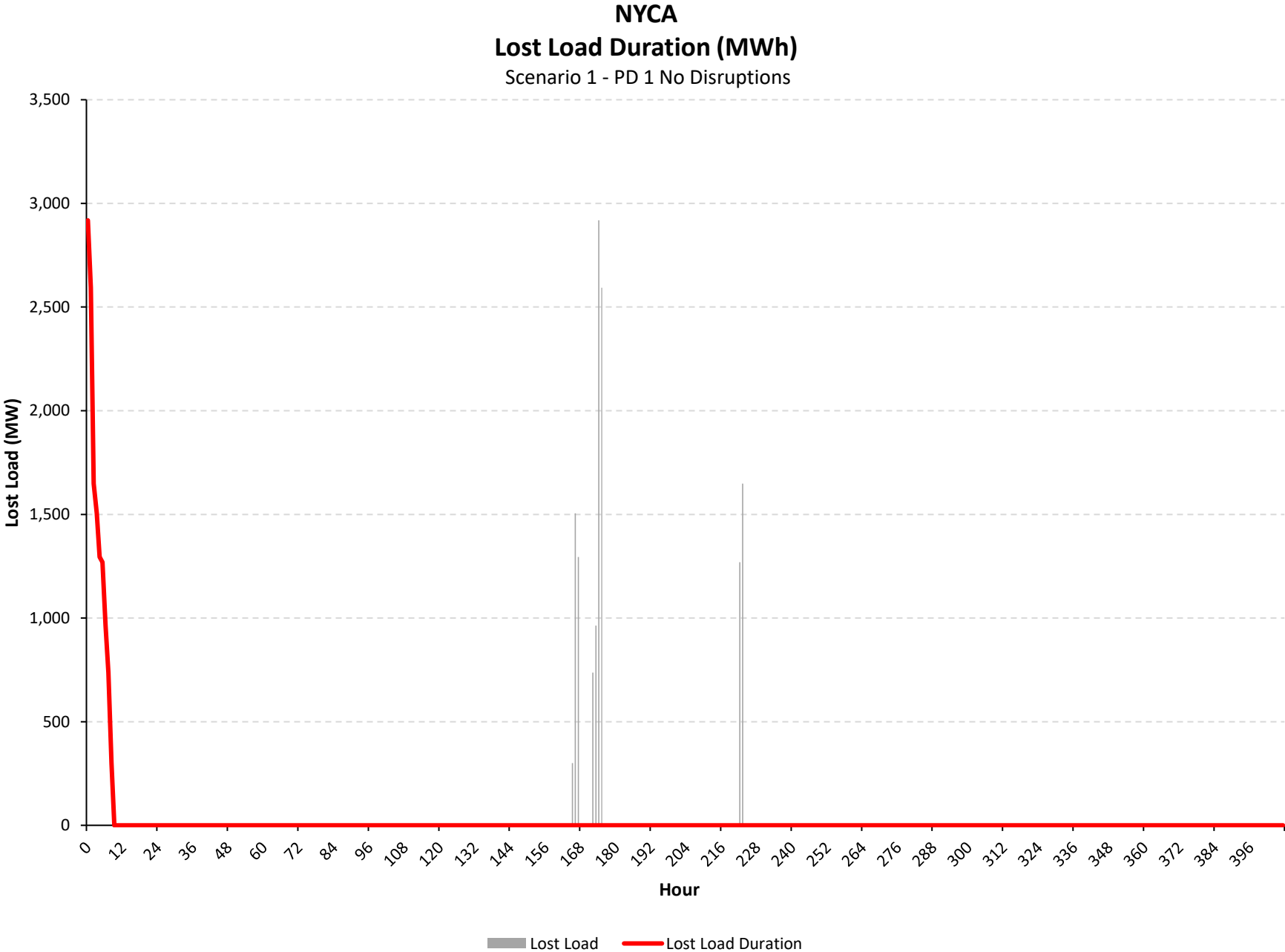






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



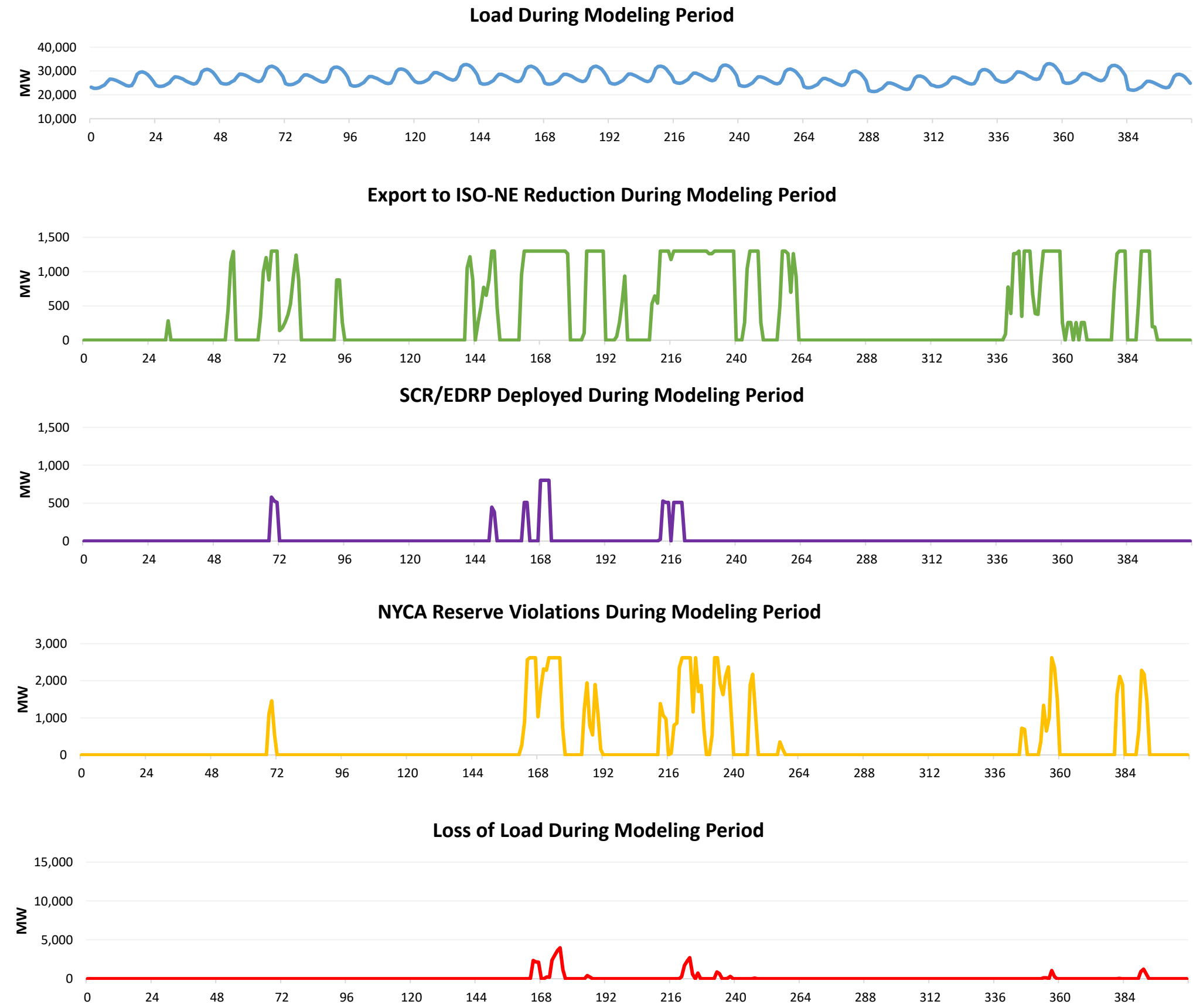


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 1 - PD 2 High Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 1 - PD 2 High Outage



Case Summary	
Derate (EFORD) Increase:	High
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	147
Total MWh	146,627
Avg. MW	359.4

SCR Deployment	
Total Hrs.	19
Total MWh	10,286
Avg. MW	25.2

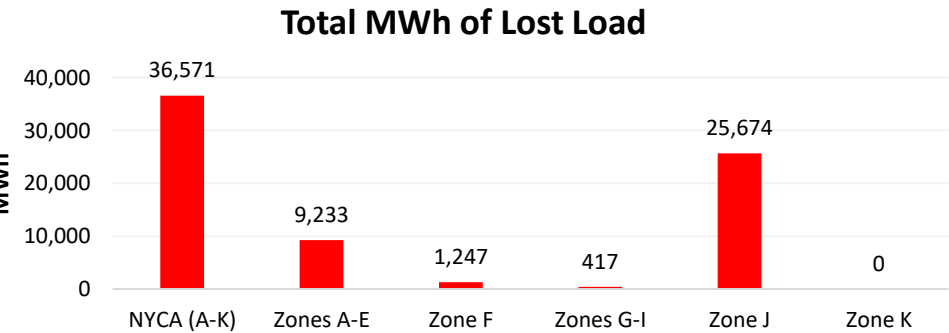
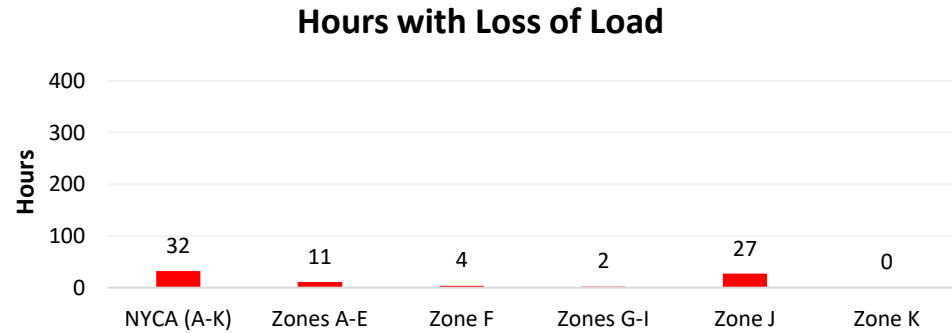
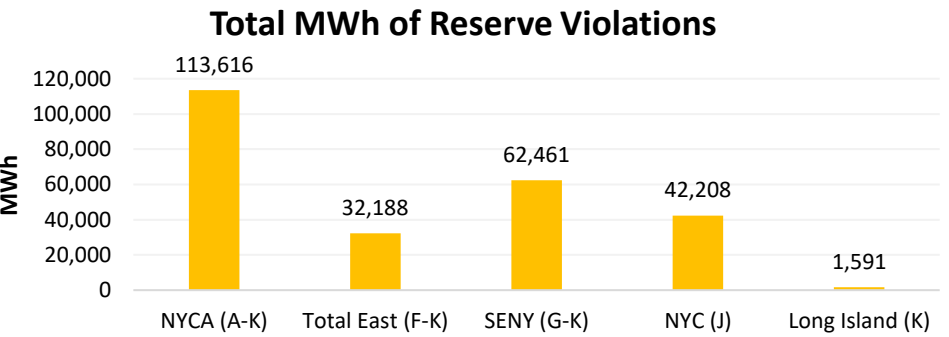
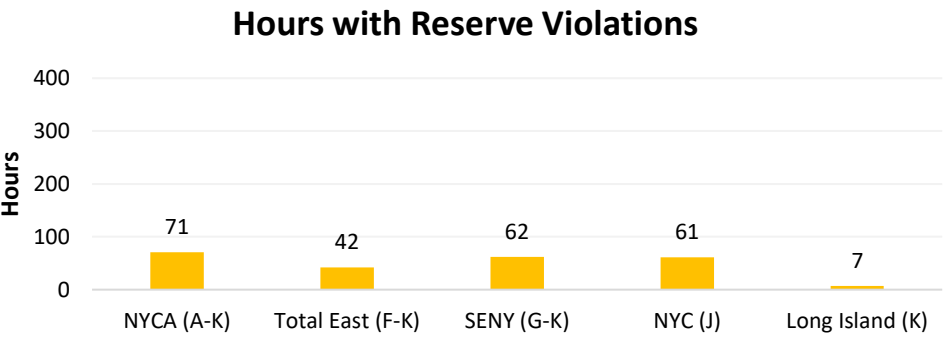
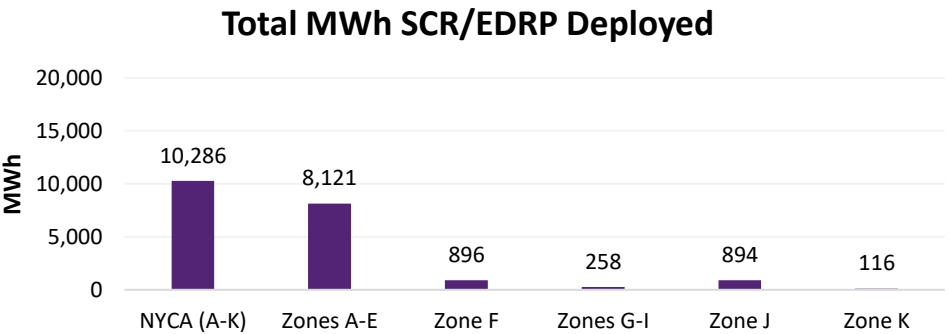
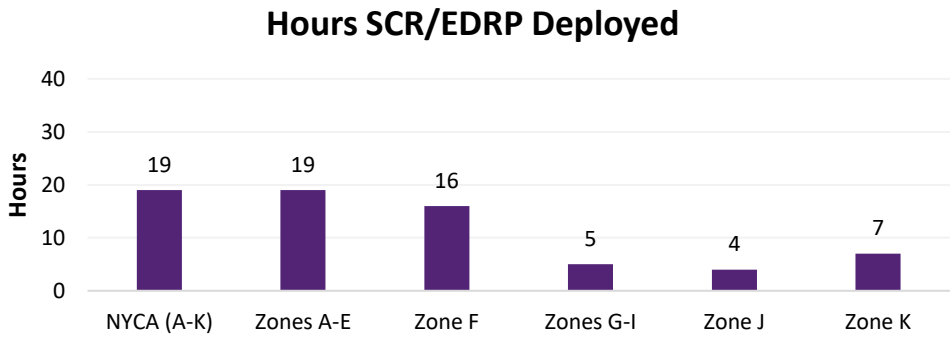
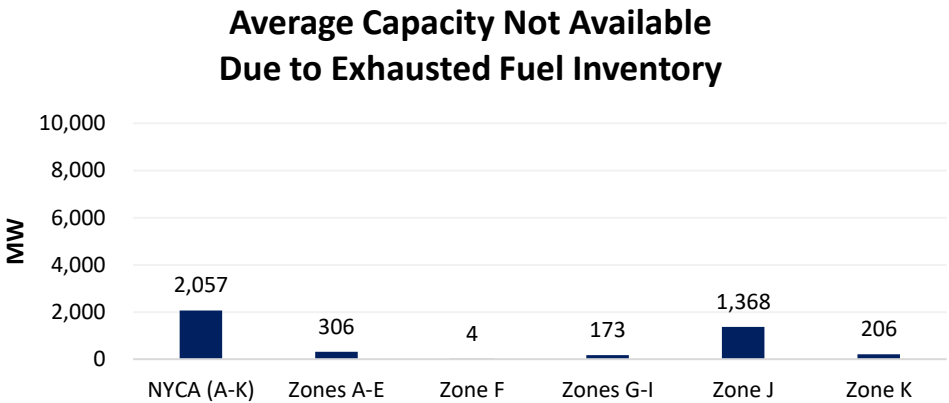
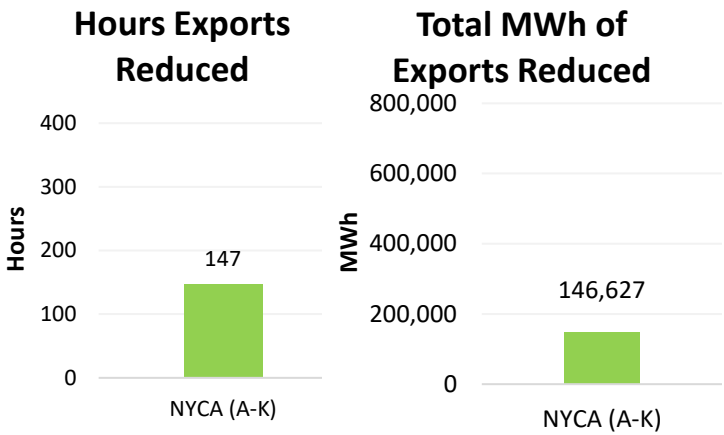
Reserve Violations	
Total Hrs.	71
Total MWh	113,616
Avg. MW	278.5
First Hour with Viol.	69

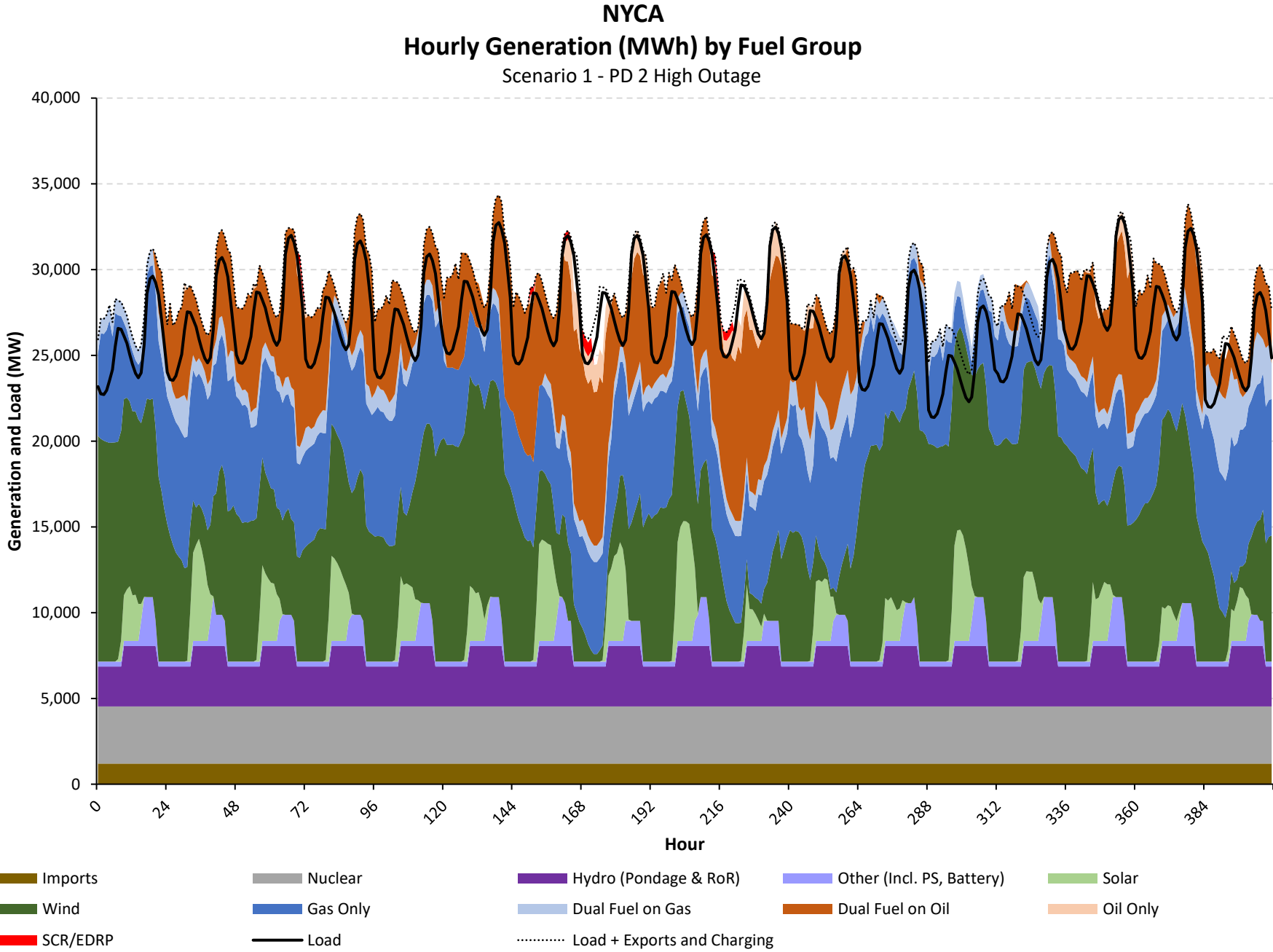
Loss of Load	
Total Hrs.	32
Total MWh	36,571
Avg. MW	89.6
First Hour with Losses	164

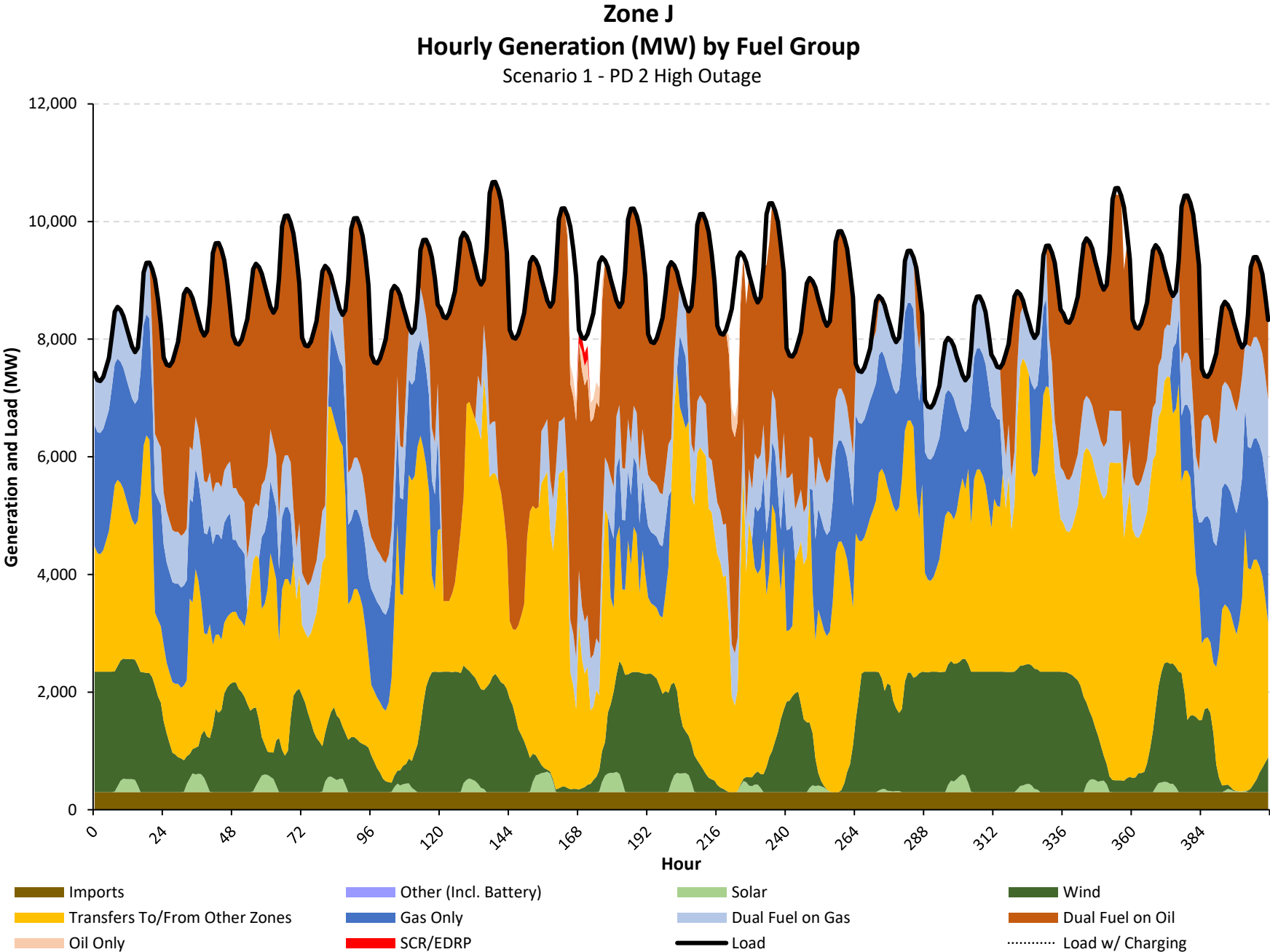
Full Period Results Summary

Case Name: Scenario 1 - PD 2 High Outage

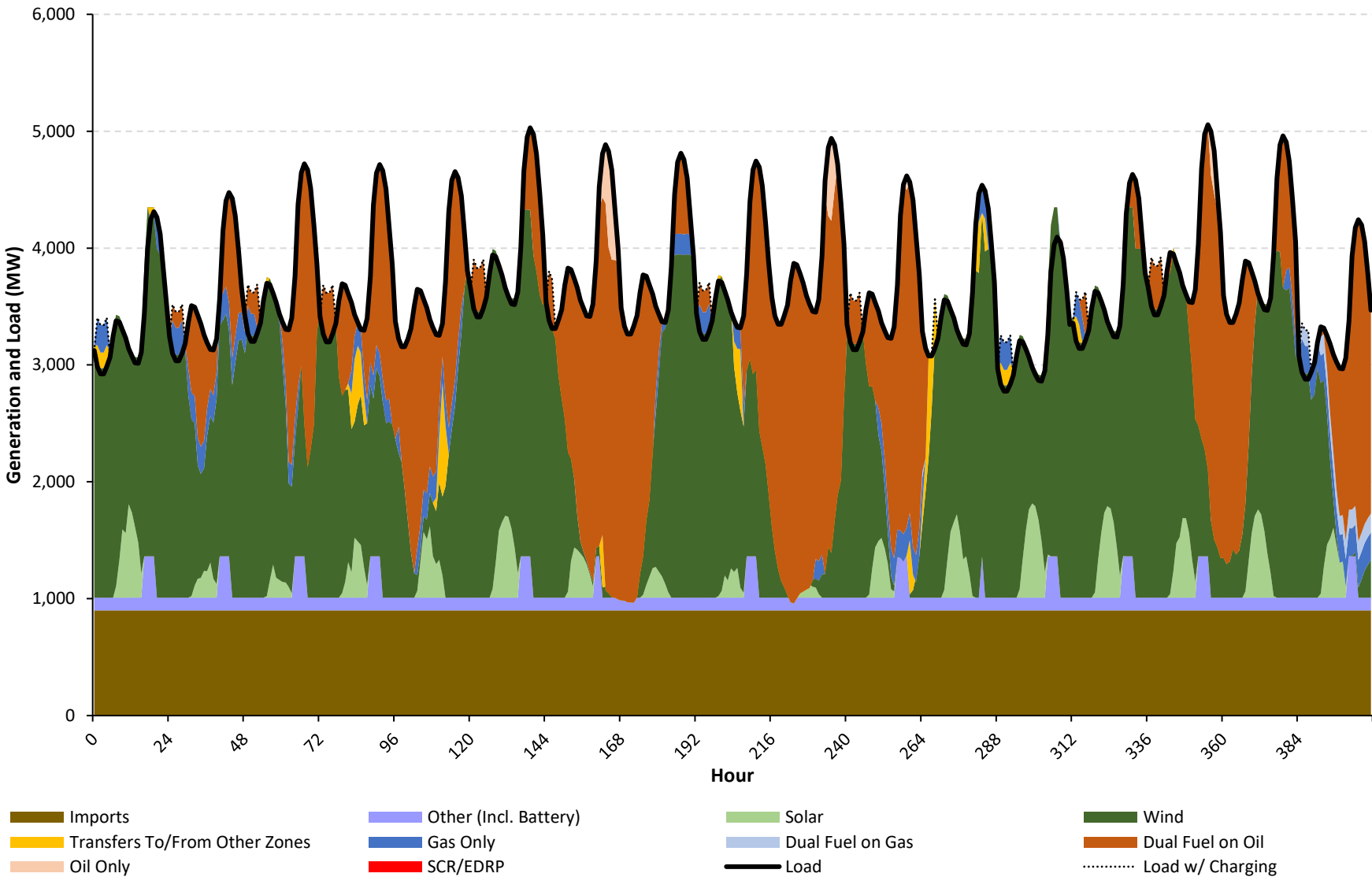
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

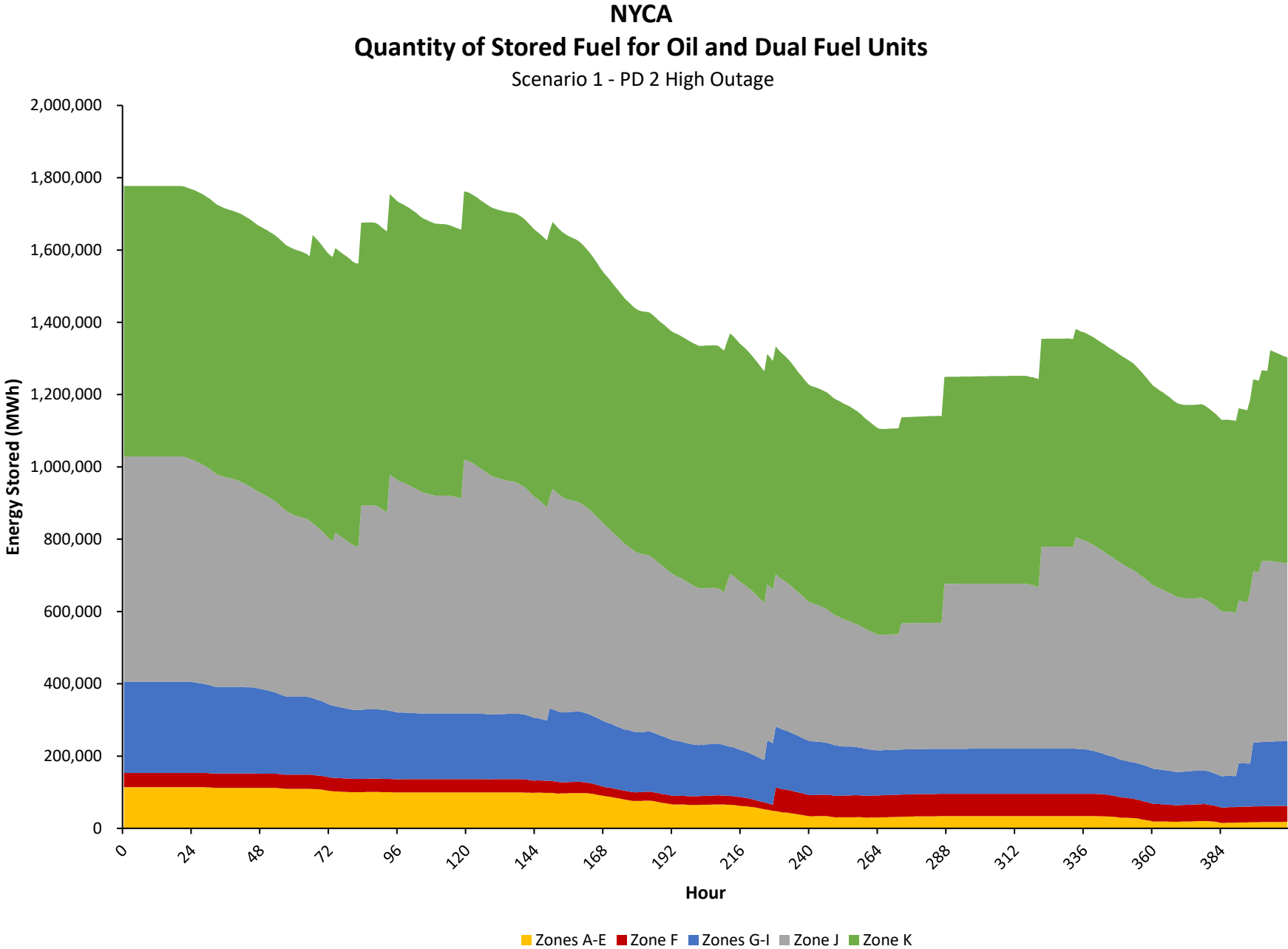


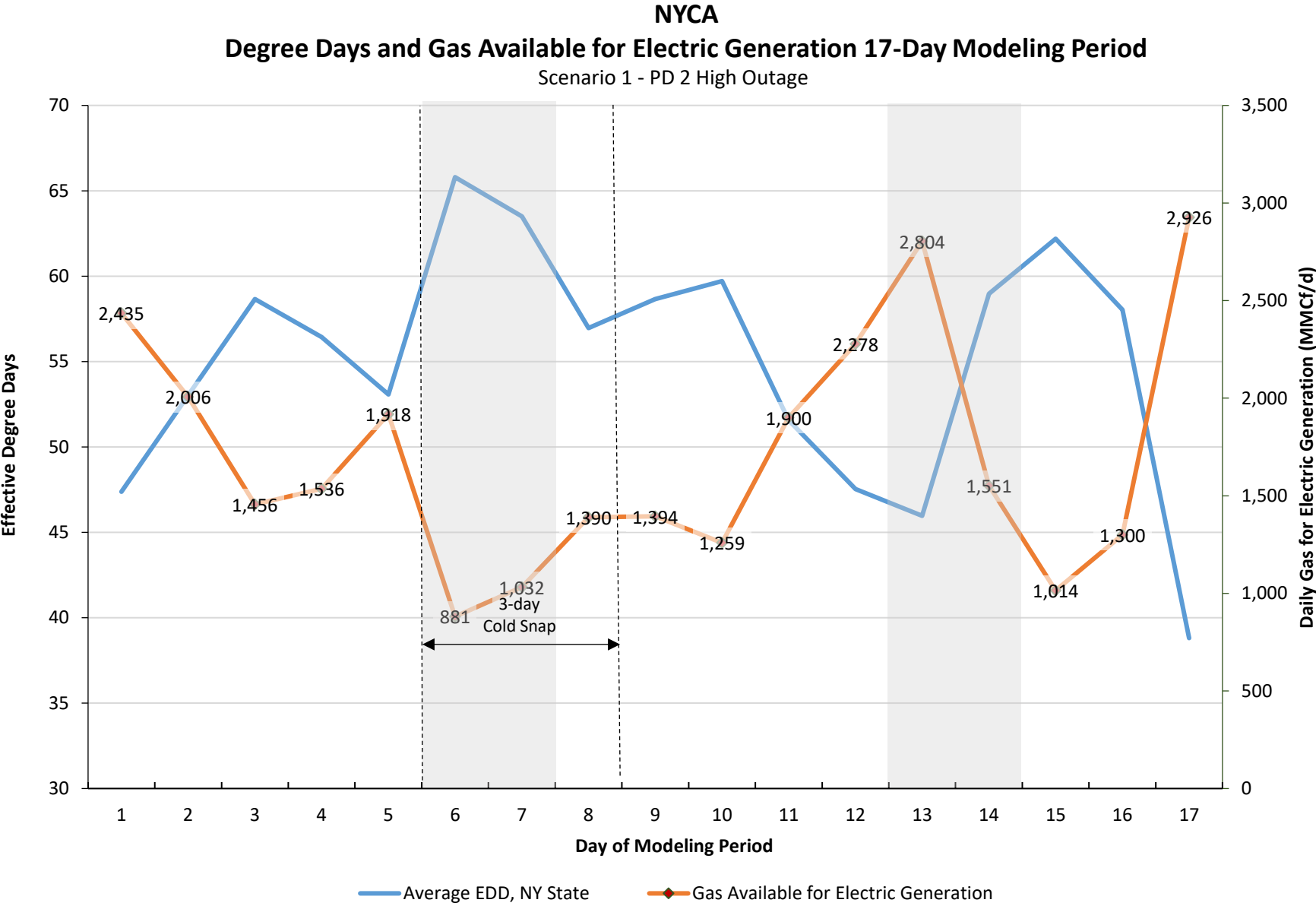




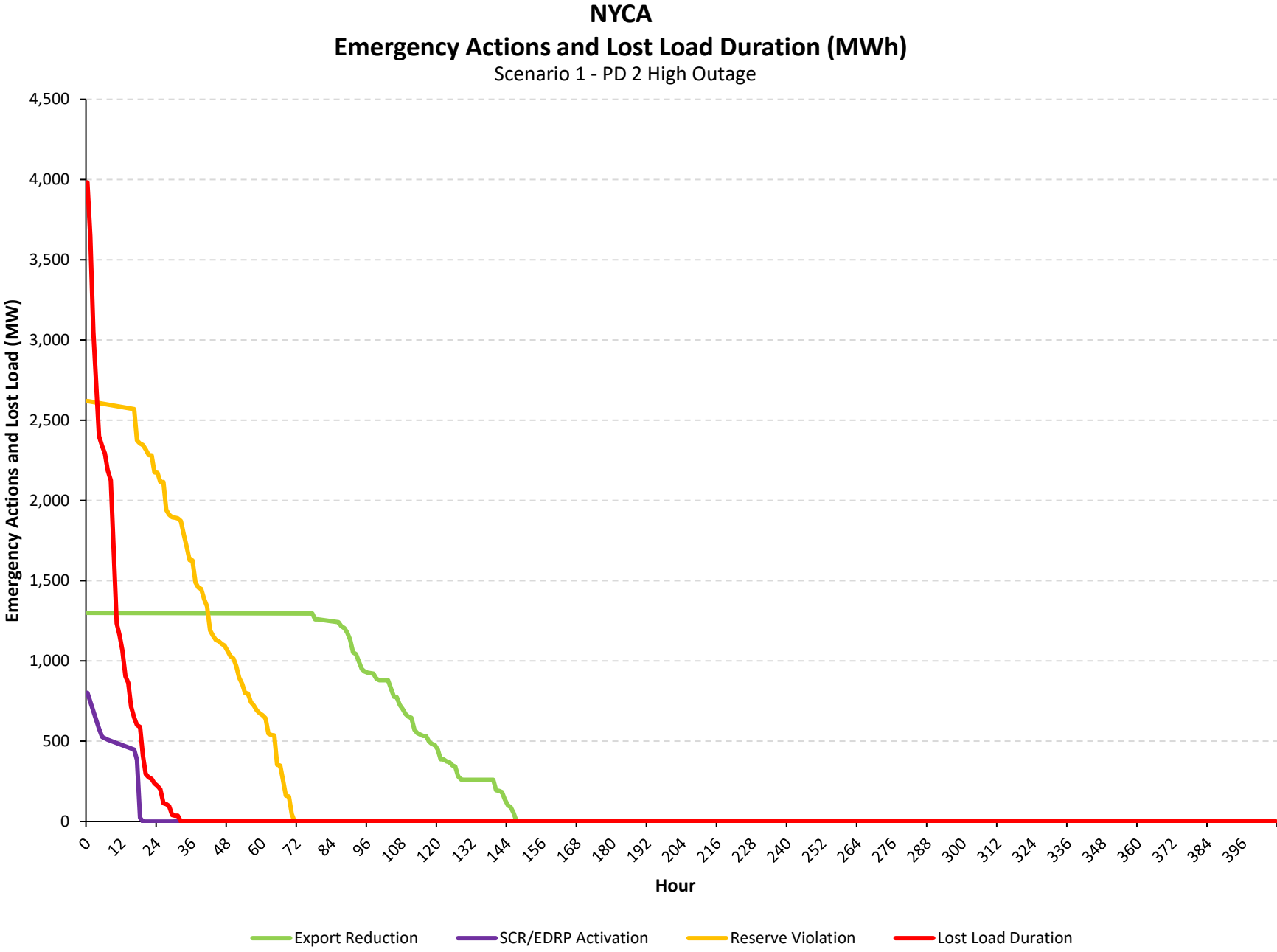
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 1 - PD 2 High Outage

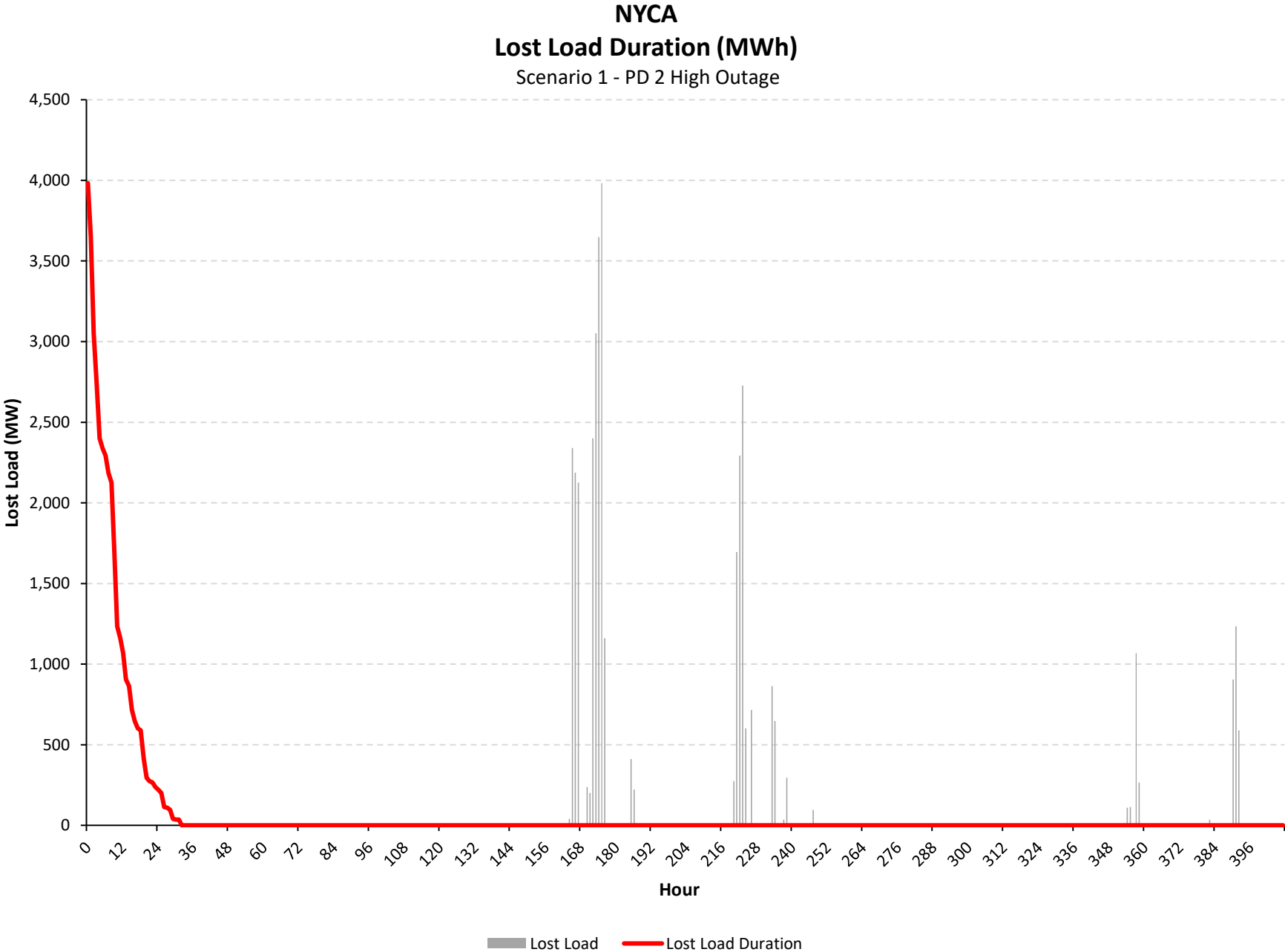






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



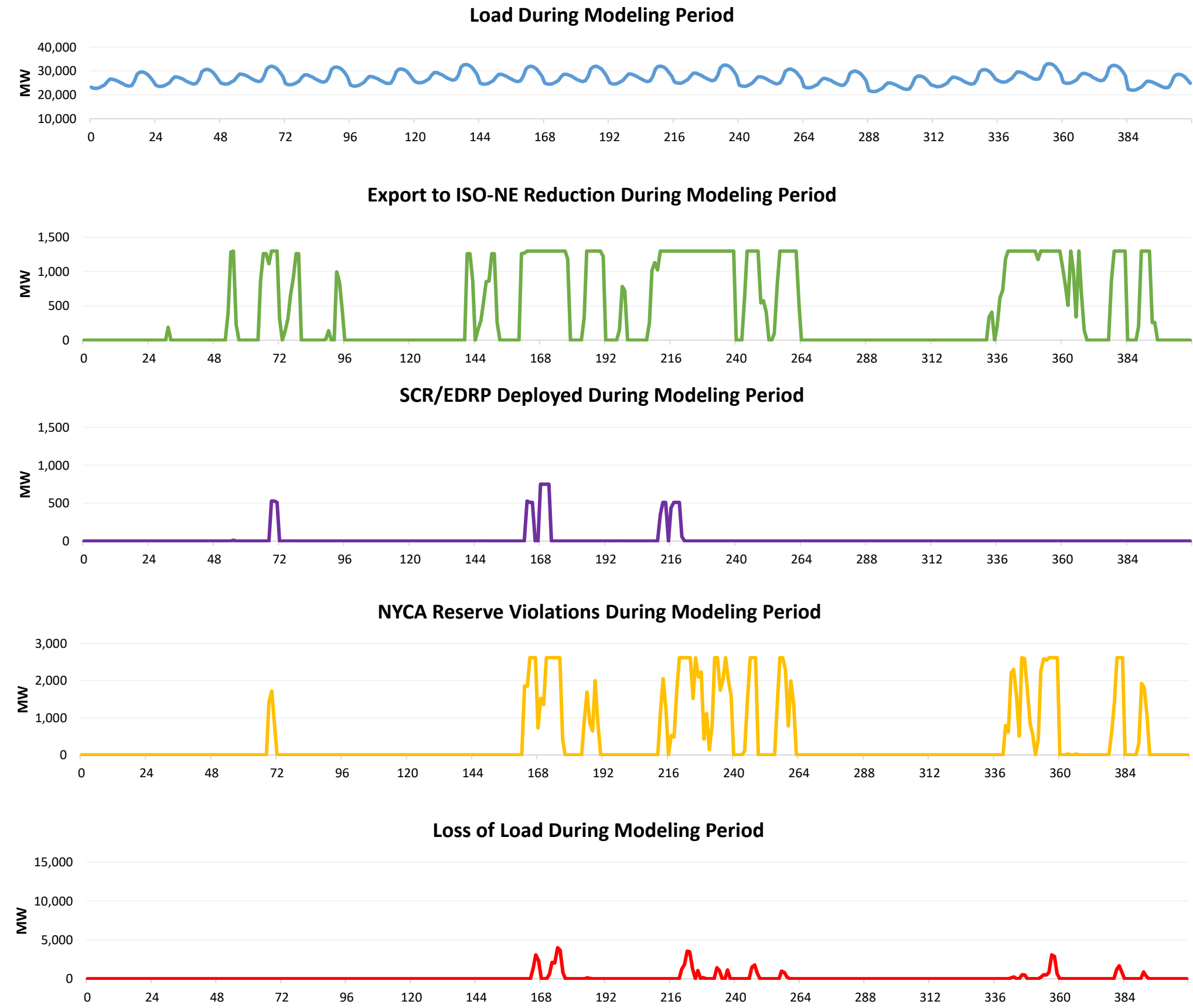


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 1 - PD 3 SENY Deactivation (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 1 - PD 3 SENY Deactivation



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	All

Export Reductions	
Total Hrs.	163
Total MWh	171,058
Avg. MW	419.3

SCR Deployment	
Total Hrs.	19
Total MWh	9,520
Avg. MW	23.3

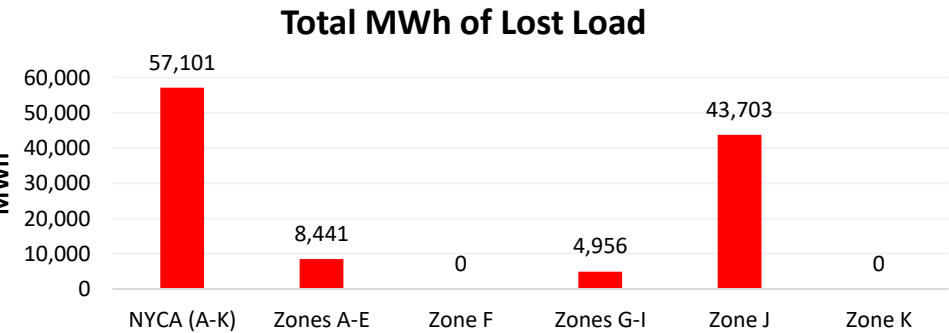
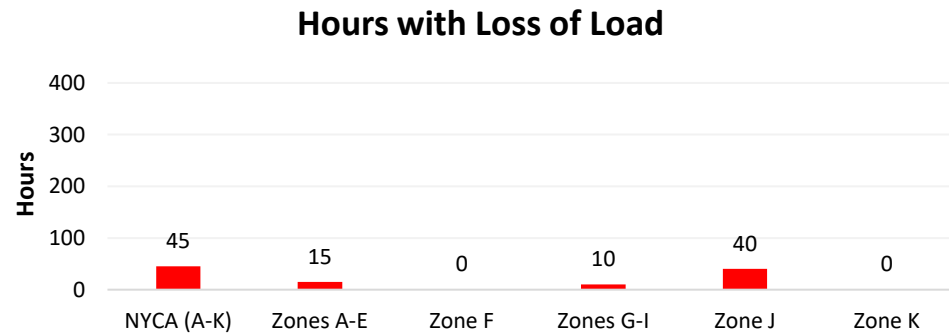
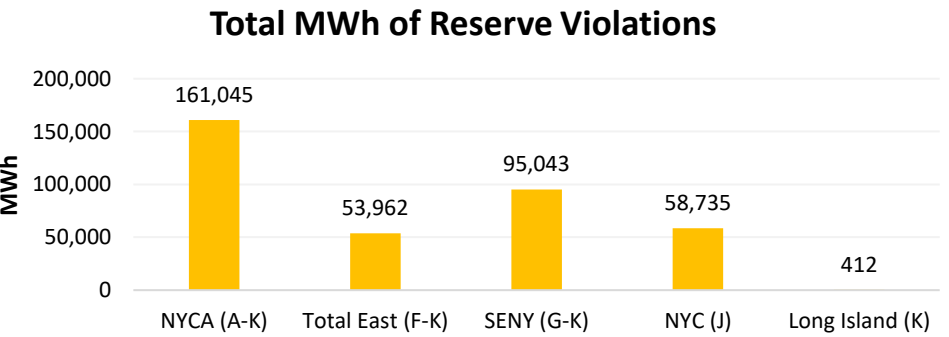
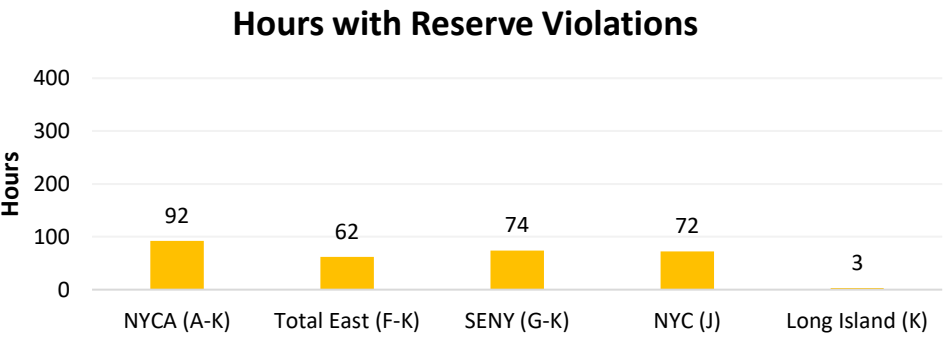
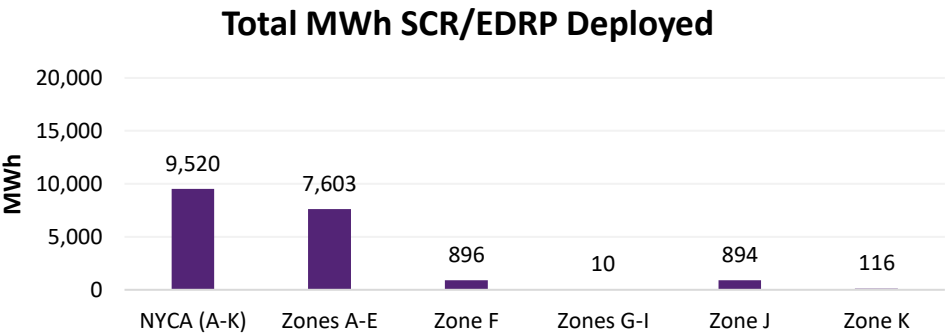
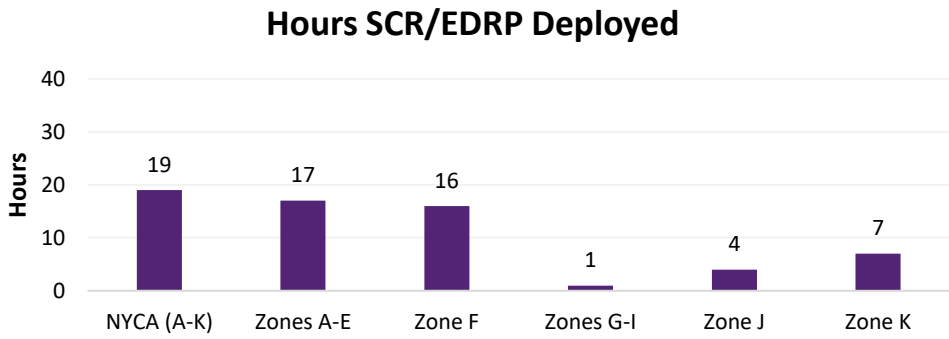
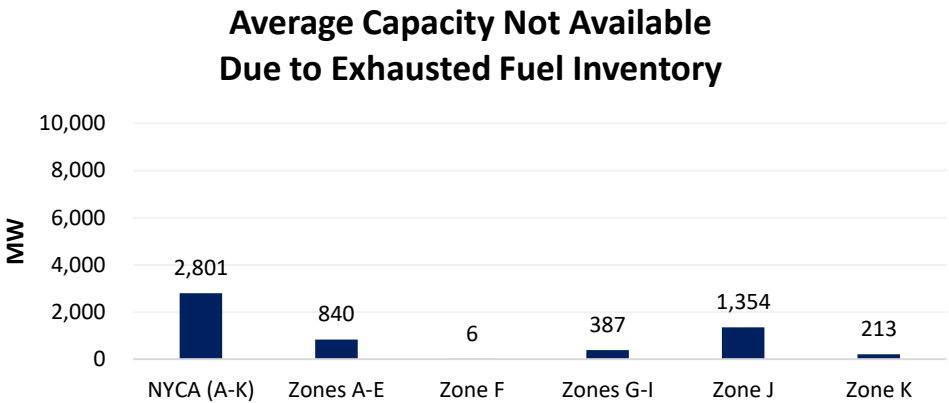
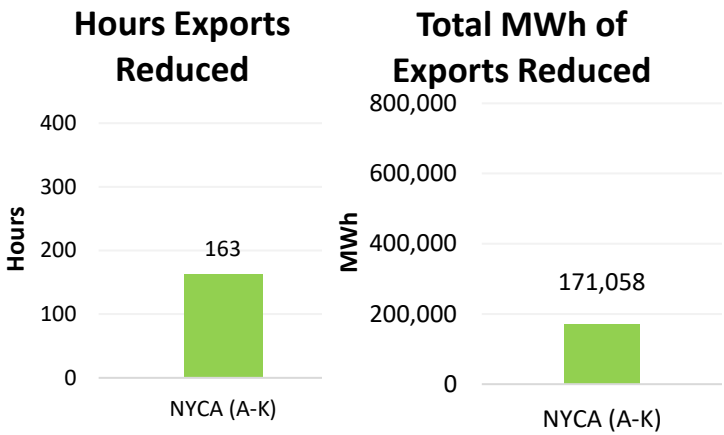
Reserve Violations	
Total Hrs.	92
Total MWh	161,045
Avg. MW	394.7
First Hour with Viol.	69

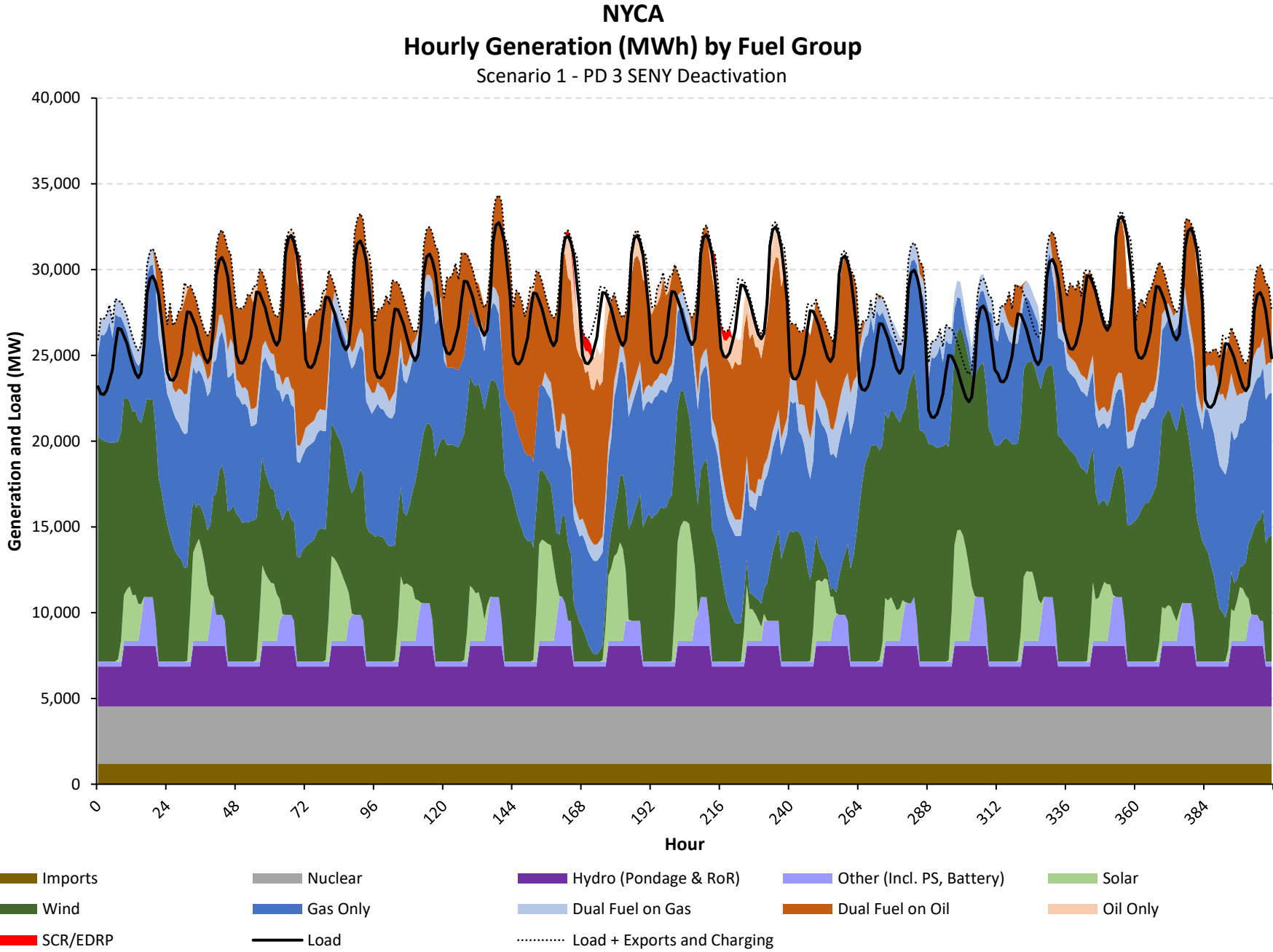
Loss of Load	
Total Hrs.	45
Total MWh	57,101
Avg. MW	140.0
First Hour with Losses	165

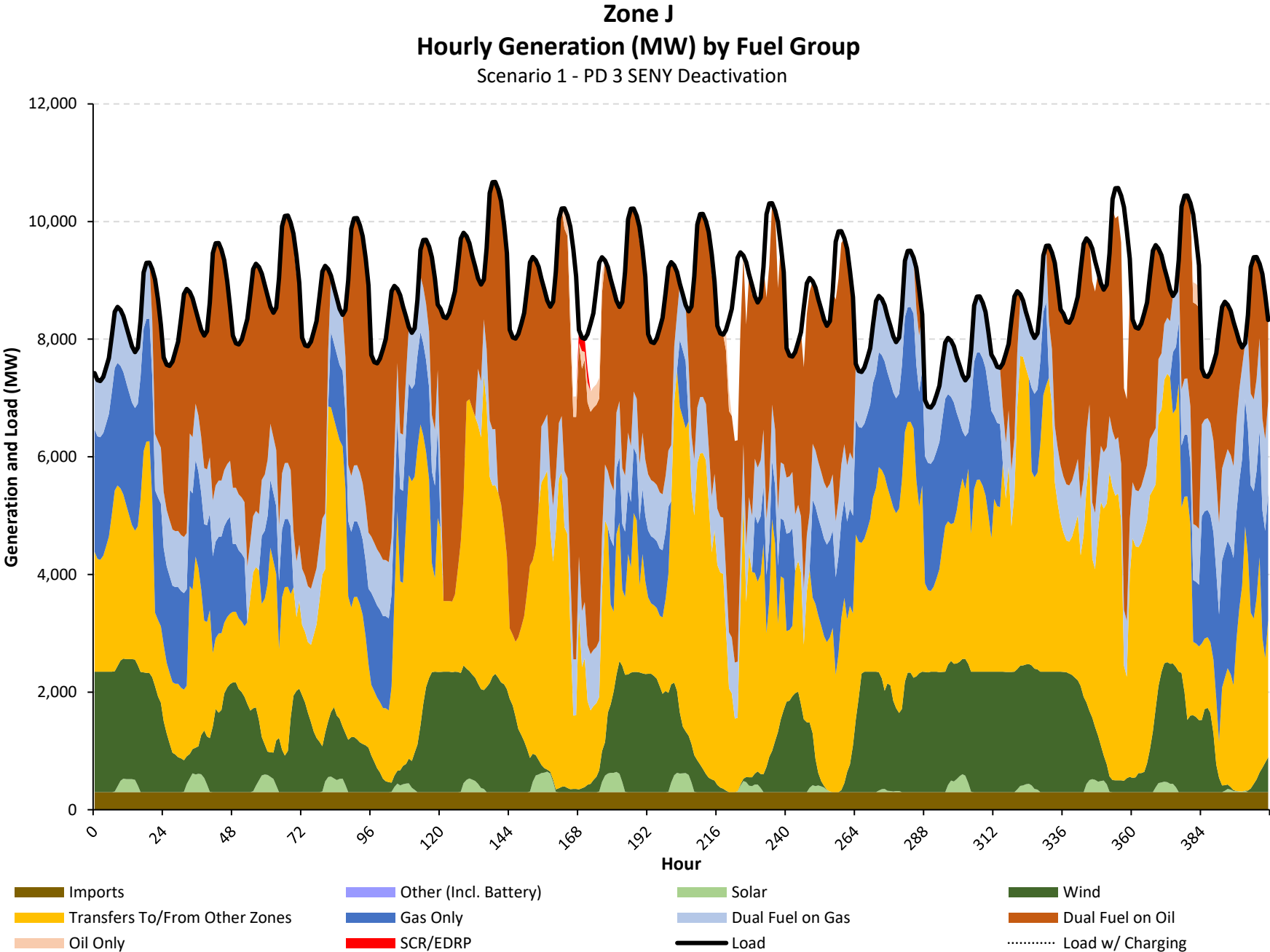
Full Period Results Summary

Case Name: Scenario 1 - PD 3 SENY Deactivation

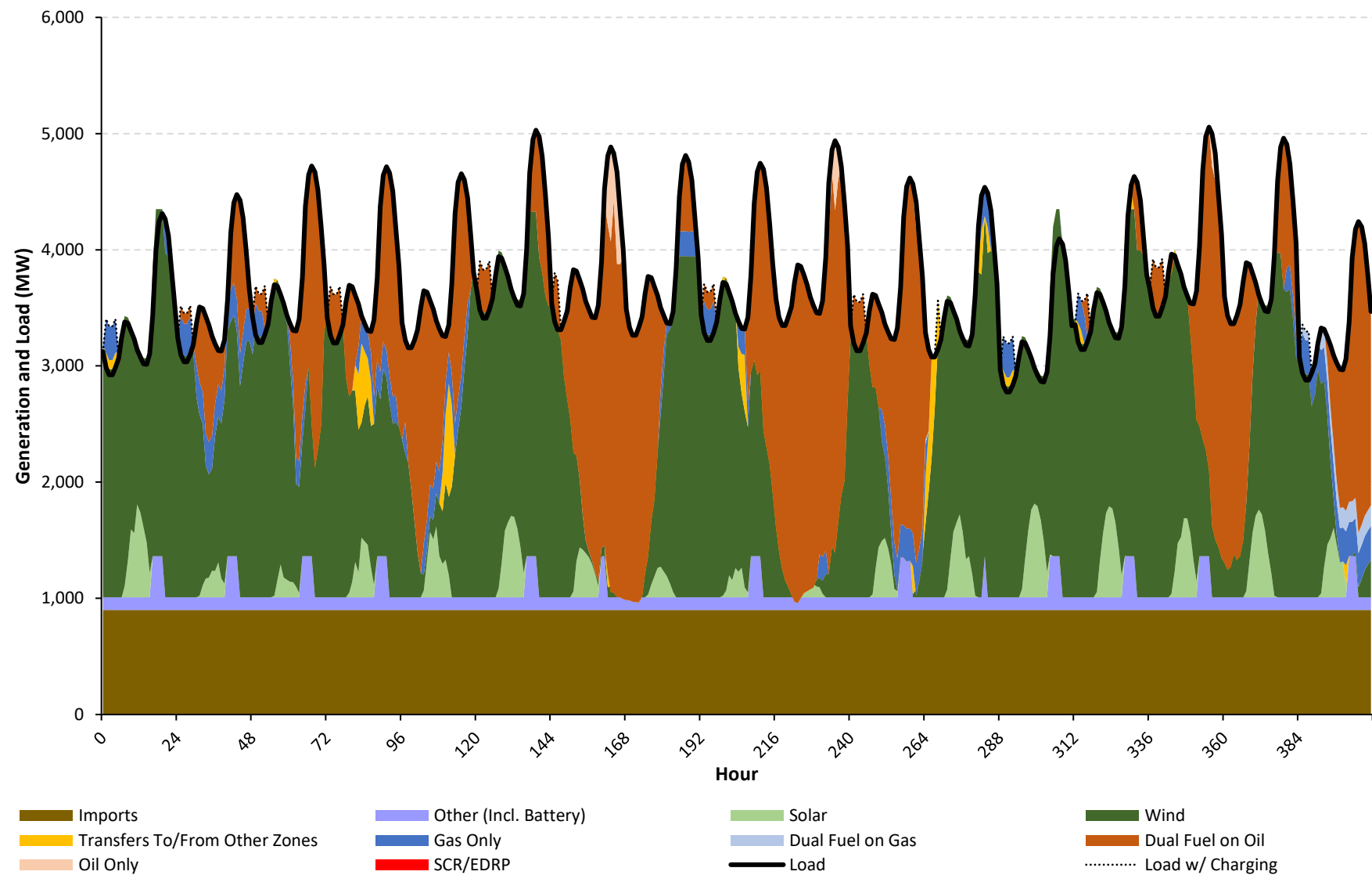
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	All

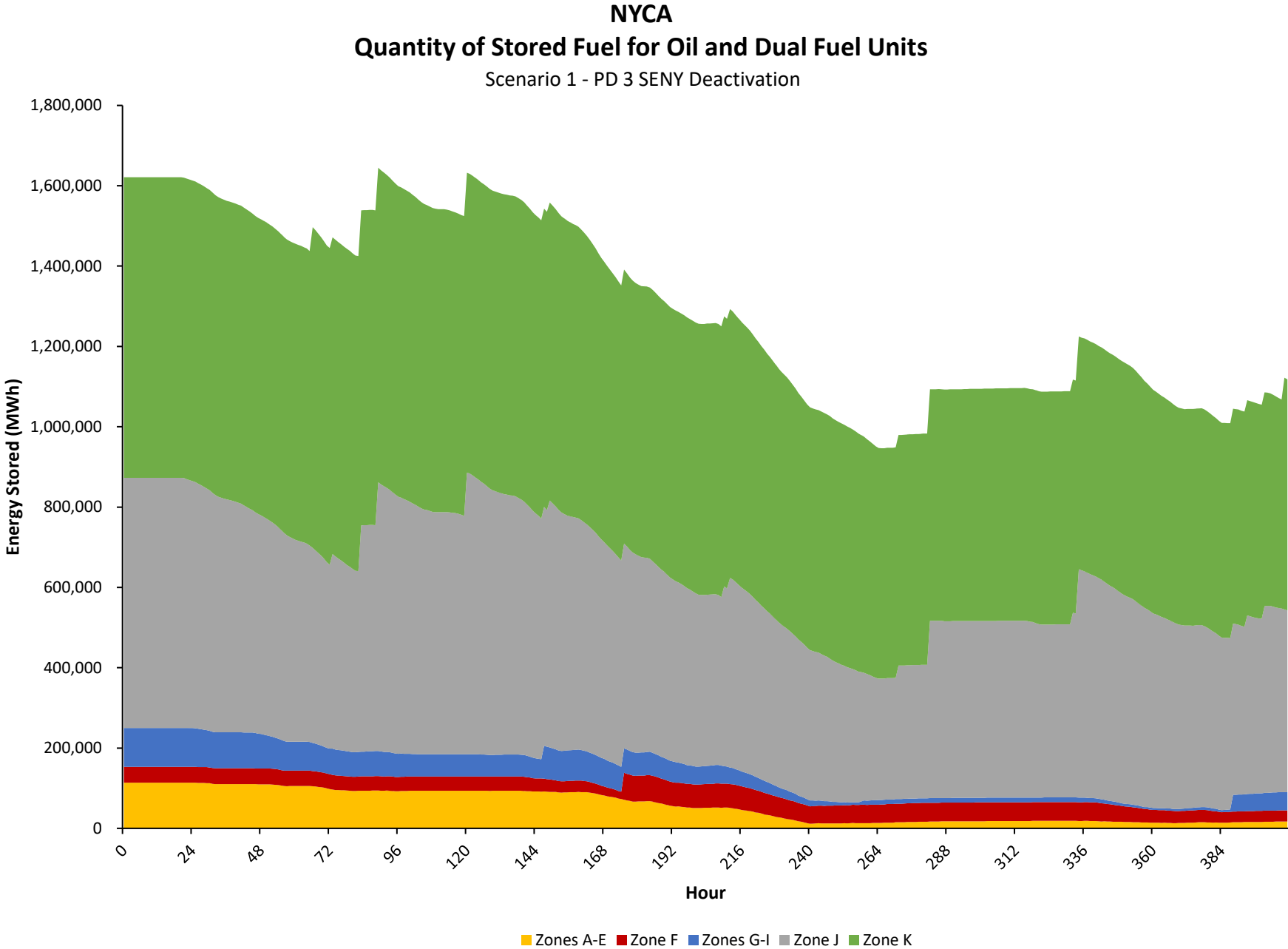


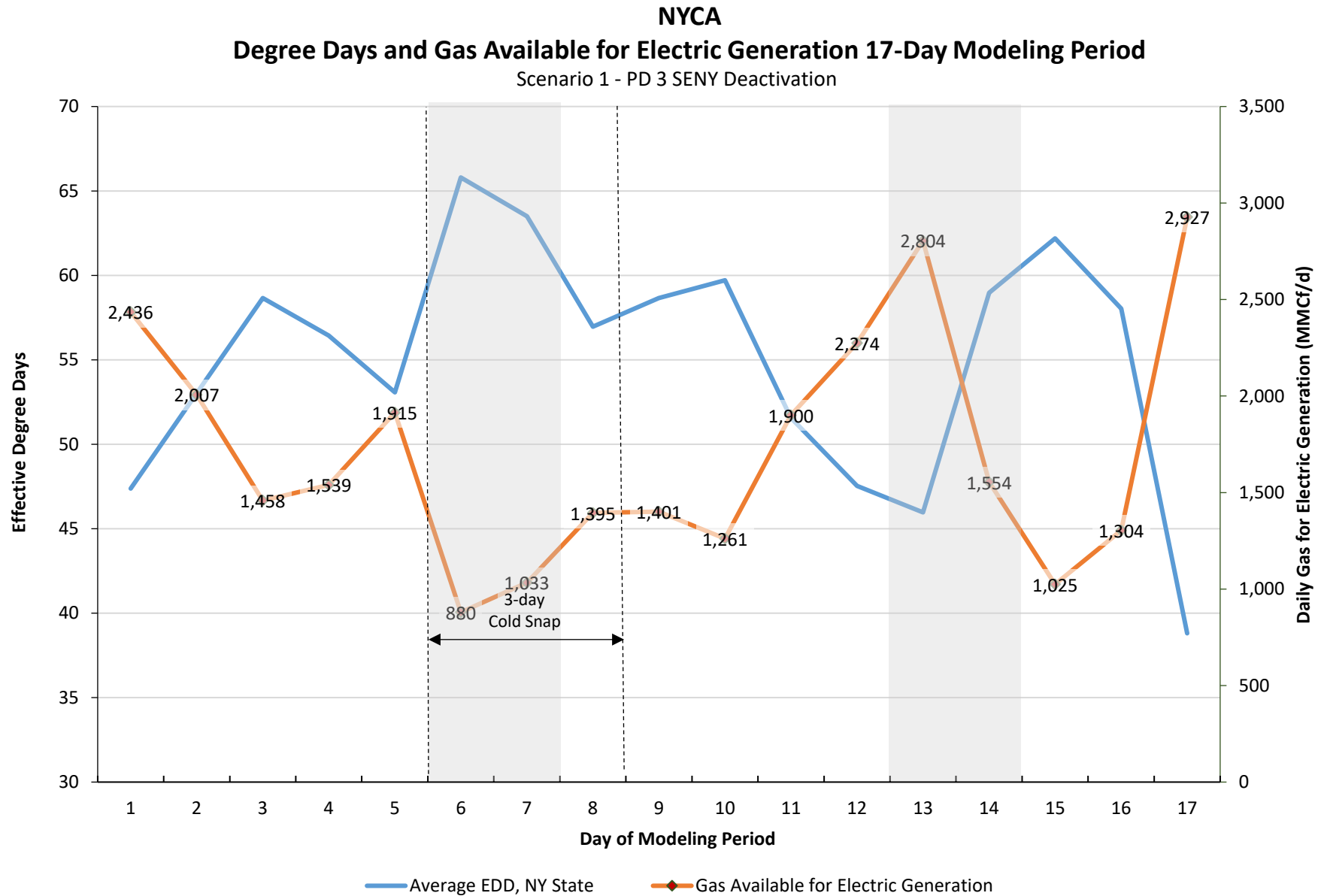




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 1 - PD 3 SENY Deactivation



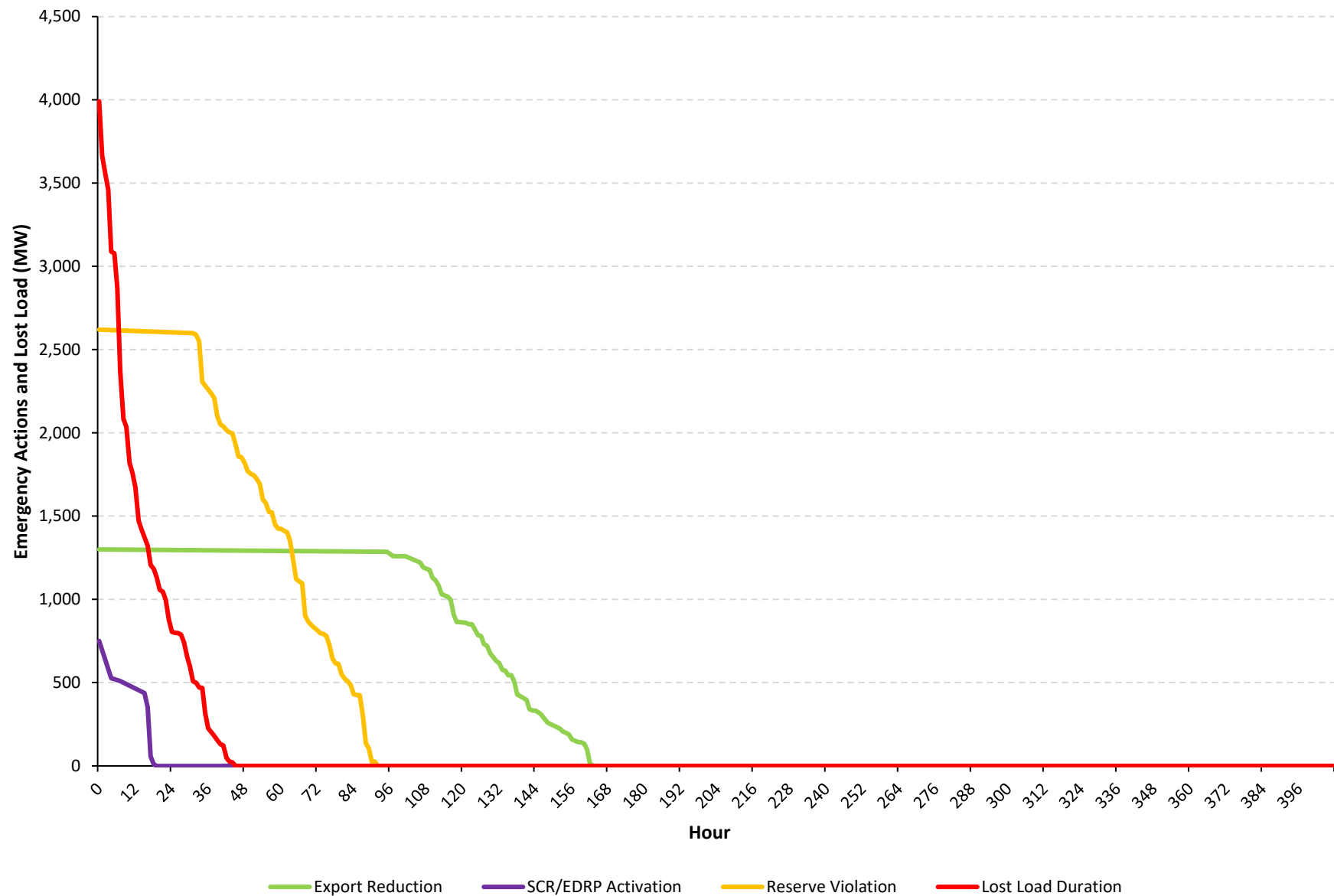


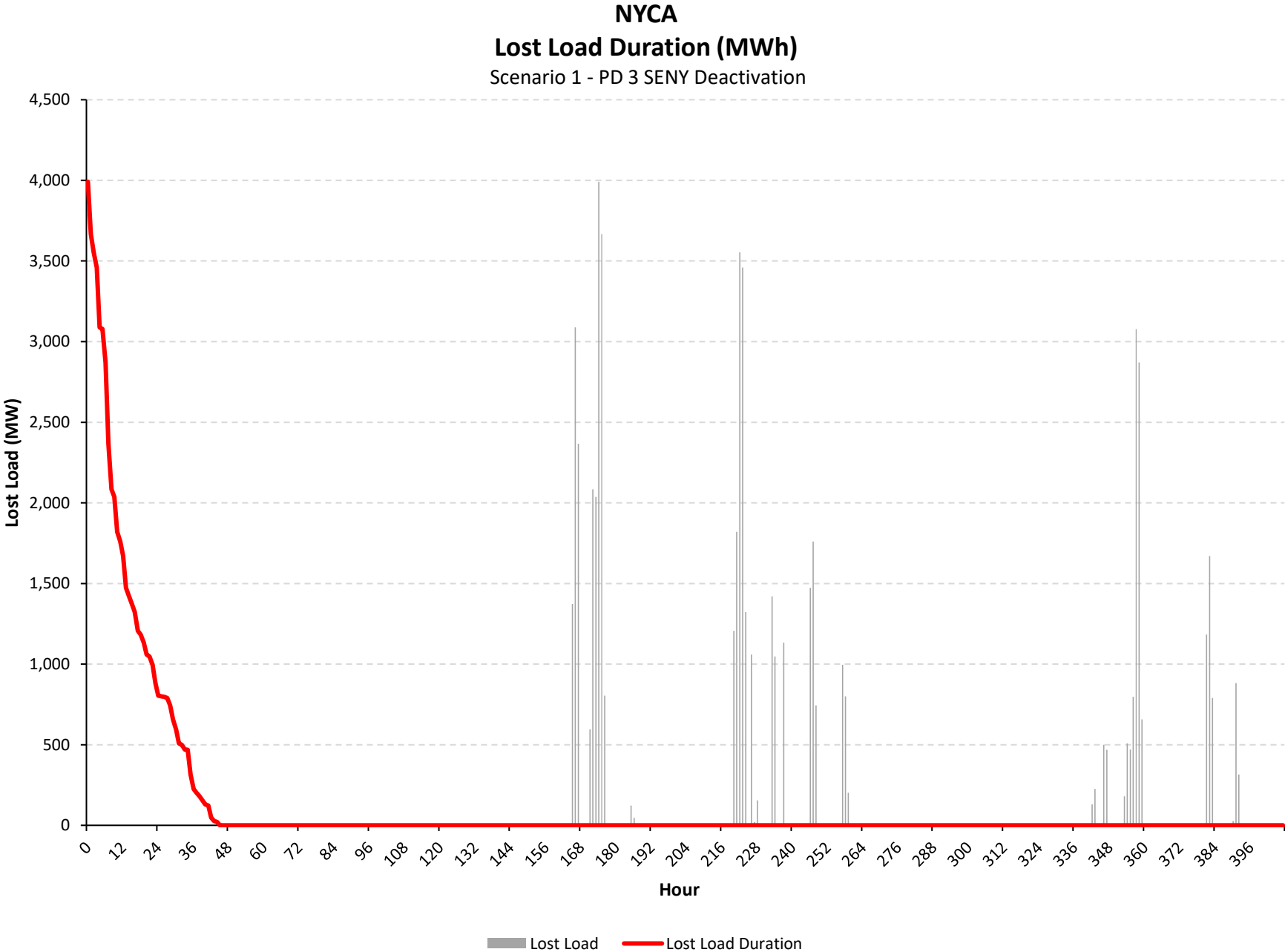


Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.

NYCA
Emergency Actions and Lost Load Duration (MWh)
Scenario 1 - PD 3 SENY Deactivation



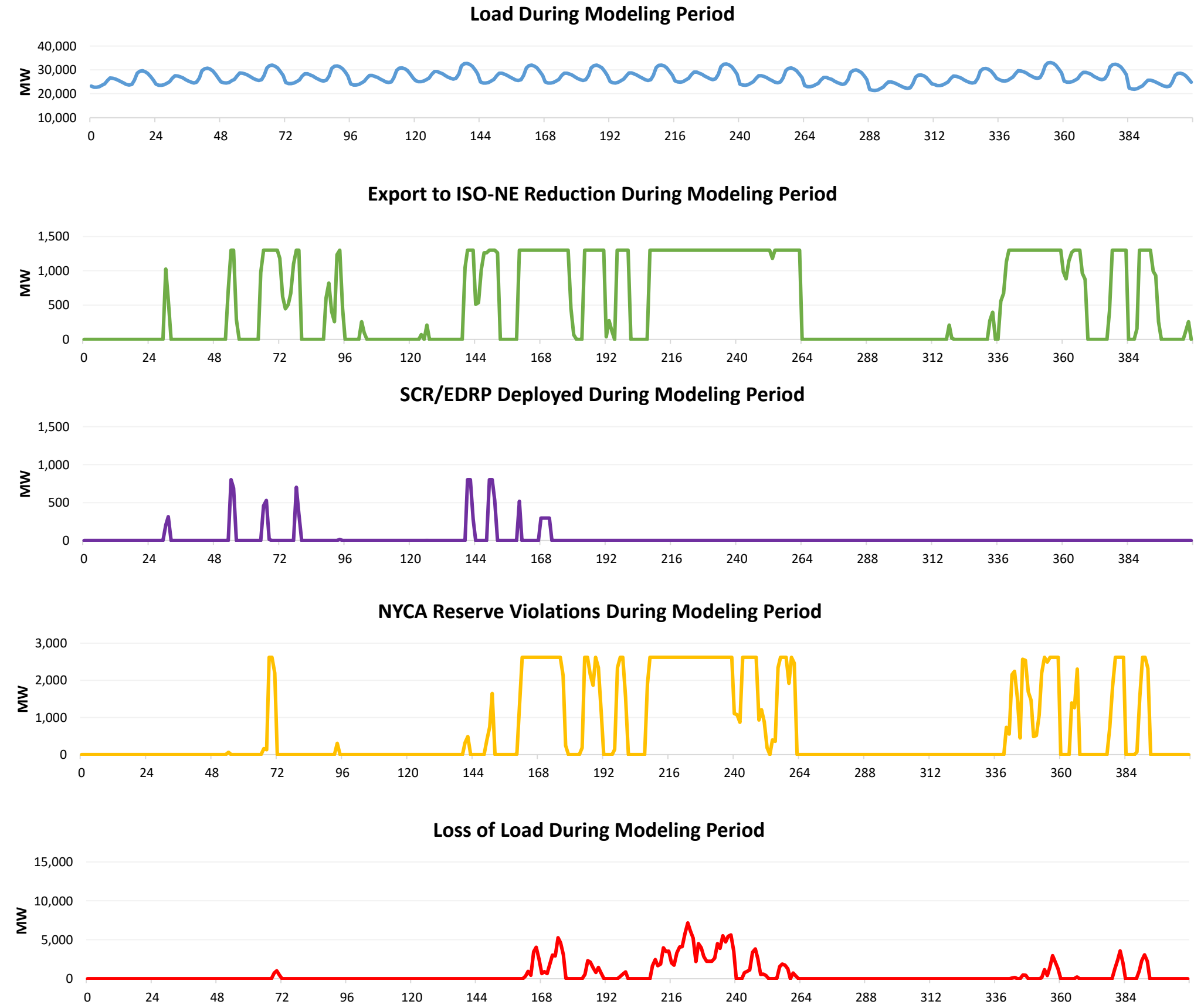


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 1 - PD 4 Nuclear Station Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 1 - PD 4 Nuclear Station Outage



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	192
Total MWh	213,464
Avg. MW	523.2

SCR Deployment	
Total Hrs.	21
Total MWh	9,799
Avg. MW	24.0

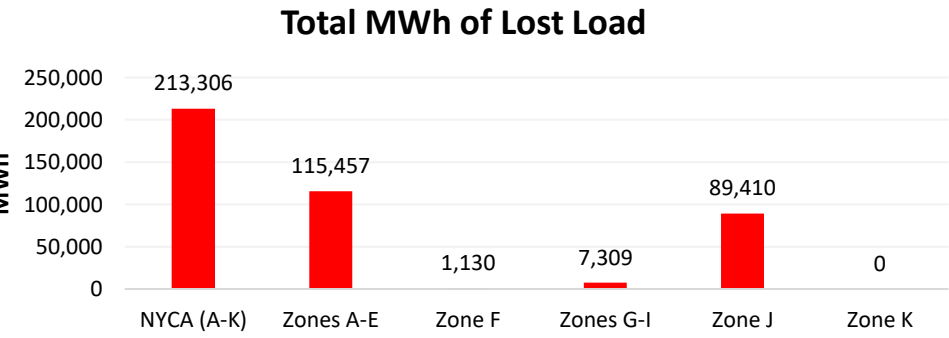
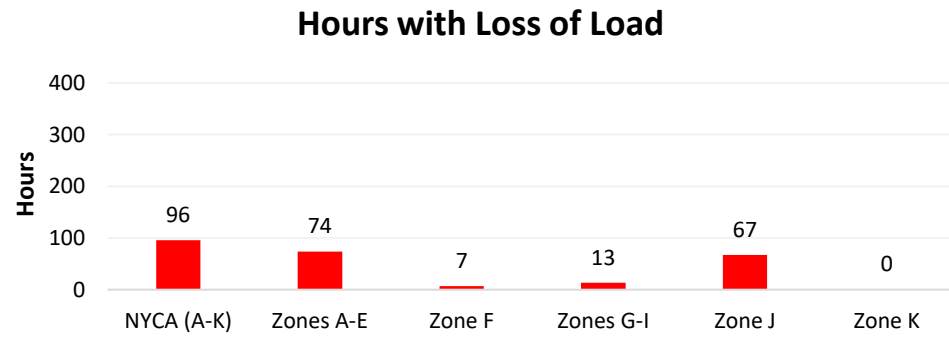
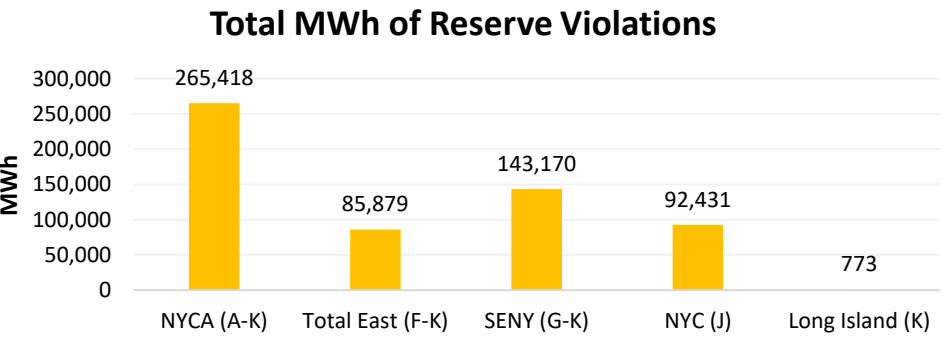
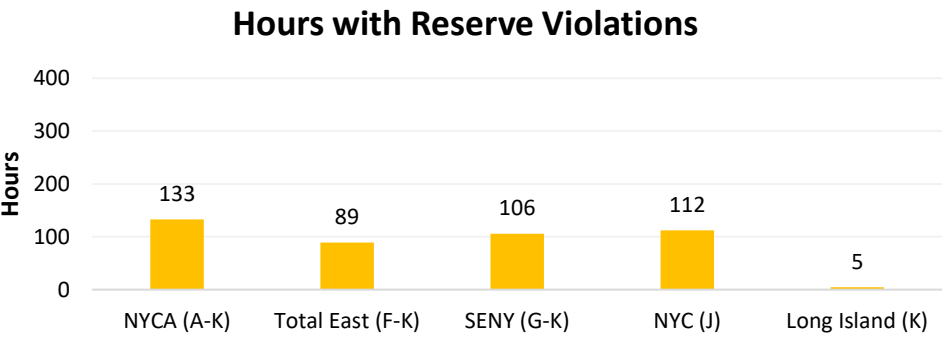
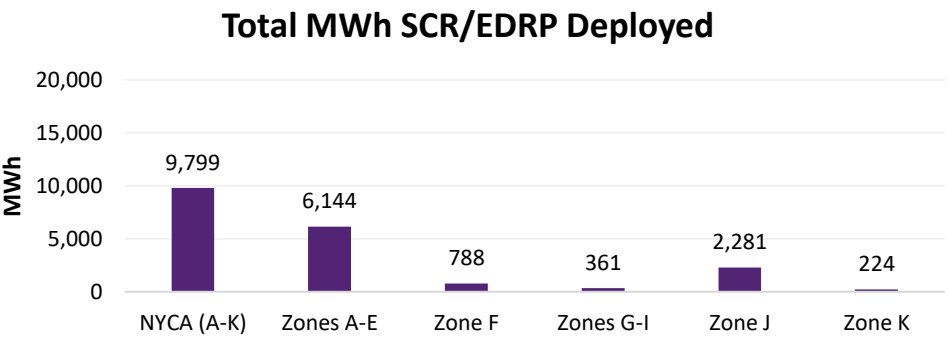
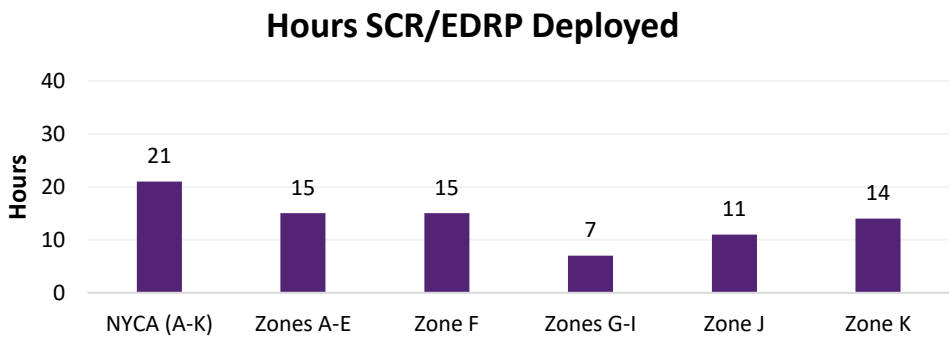
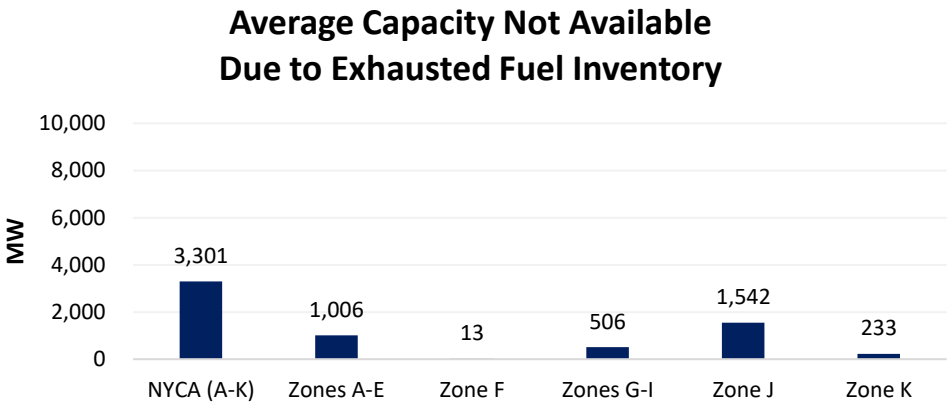
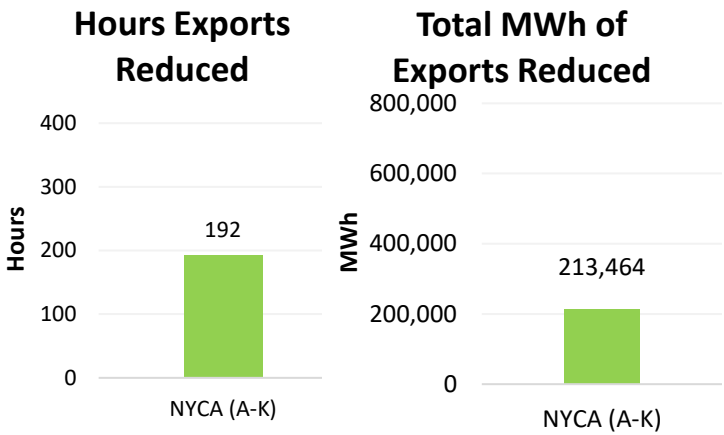
Reserve Violations	
Total Hrs.	133
Total MWh	265,418
Avg. MW	650.5
First Hour with Viol.	54

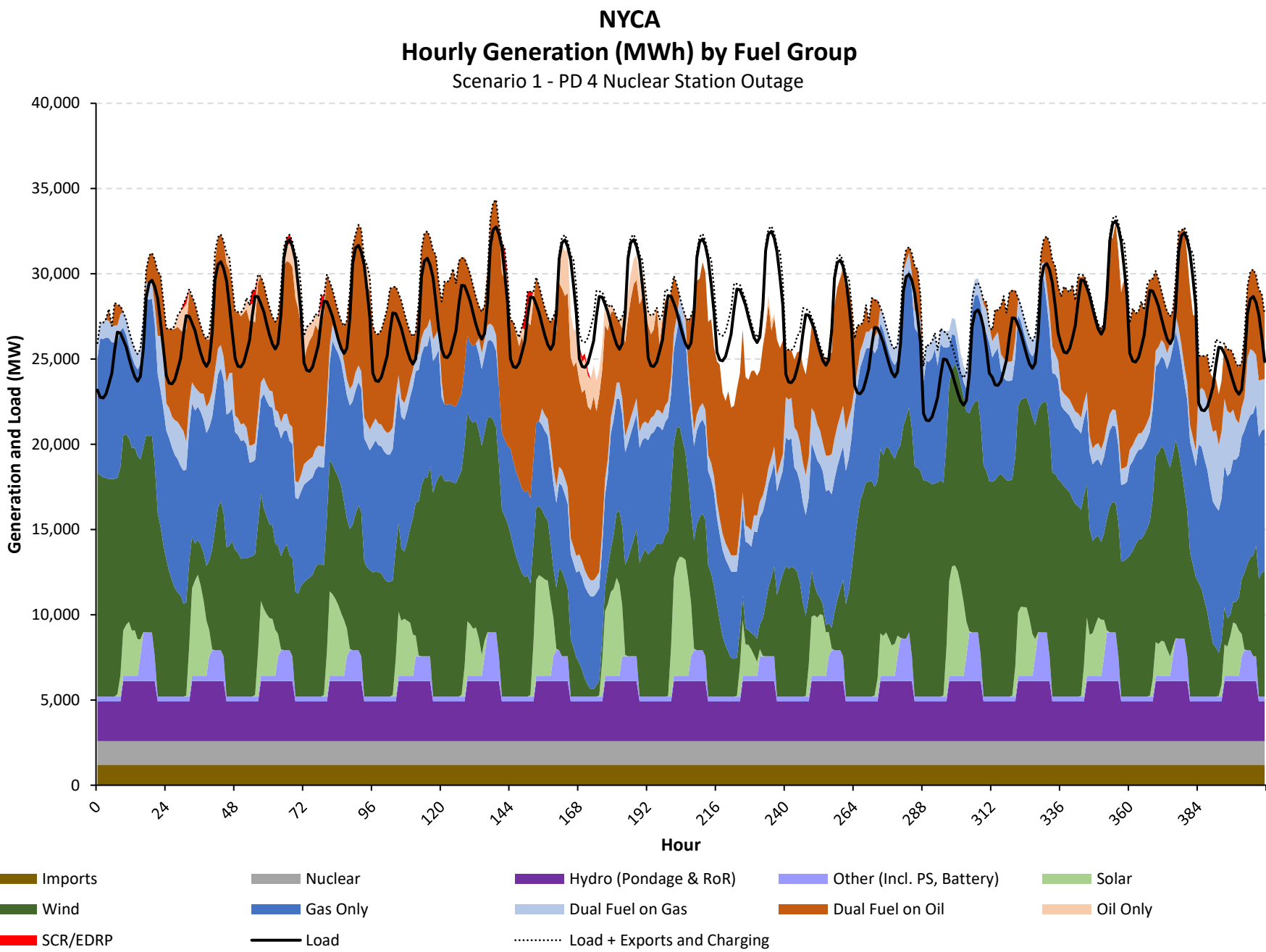
Loss of Load	
Total Hrs.	96
Total MWh	213,306
Avg. MW	522.8
First Hour with Losses	69

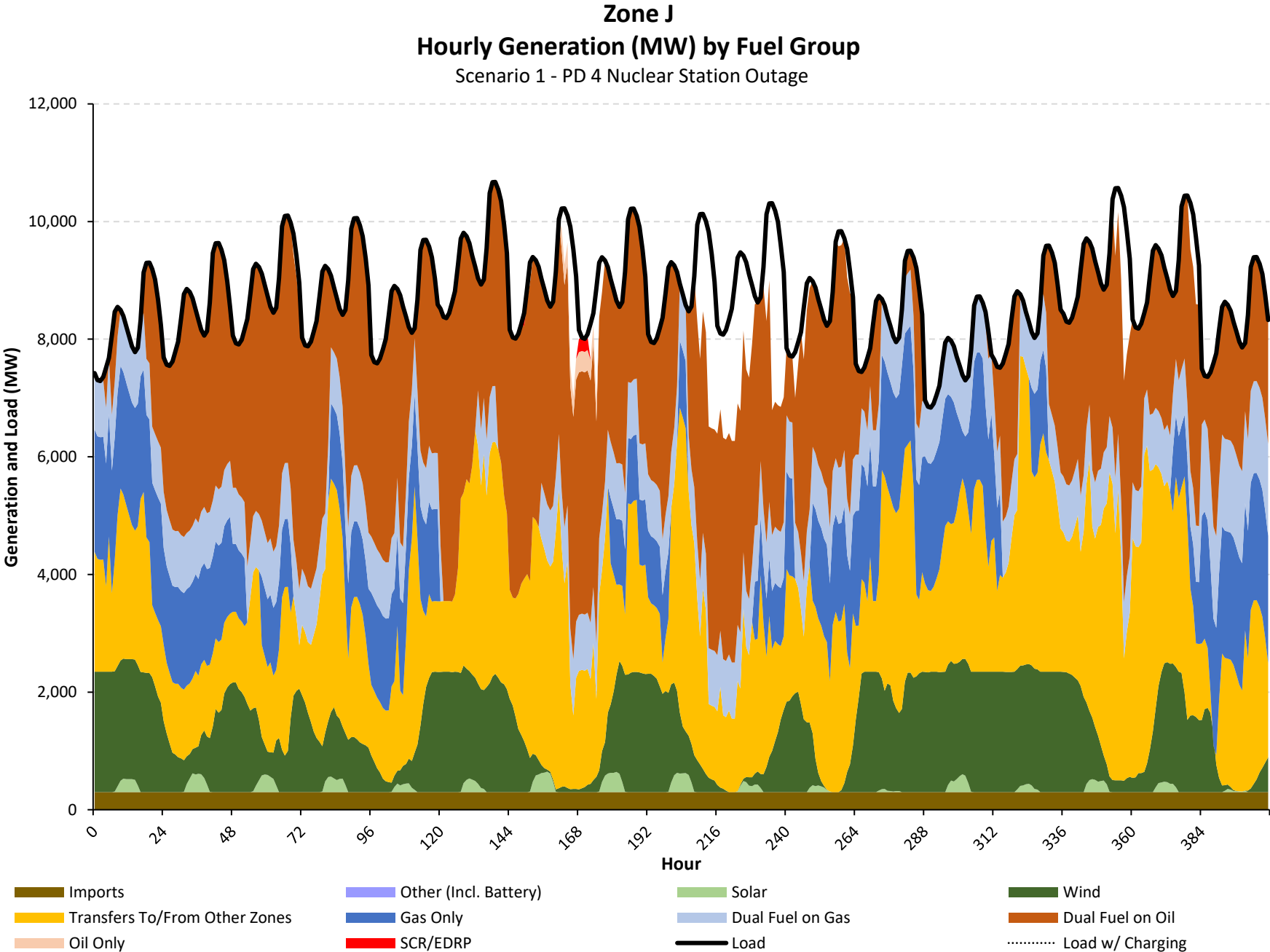
Full Period Results Summary

Case Name: Scenario 1 - PD 4 Nuclear Station Outage

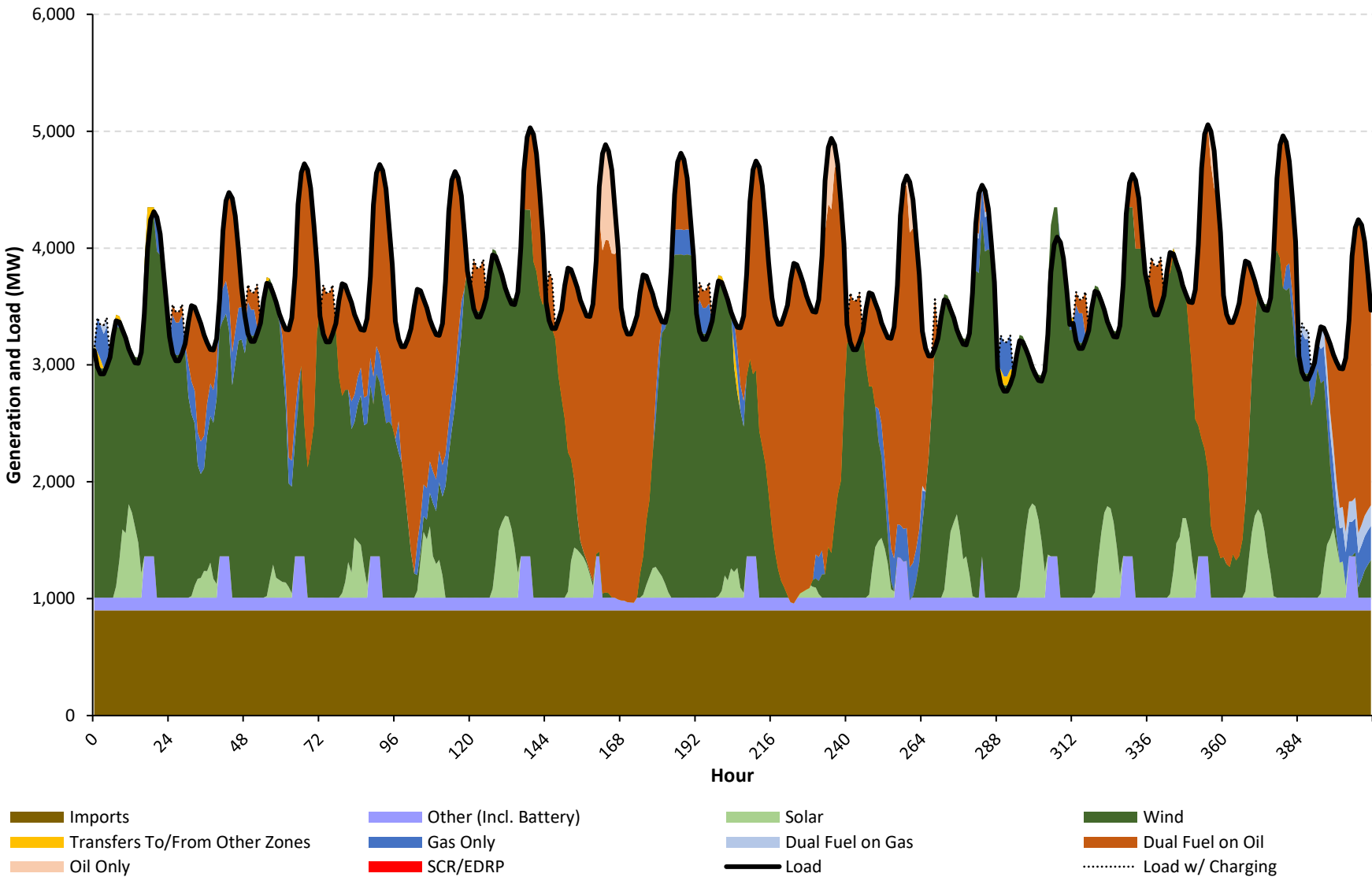
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	All

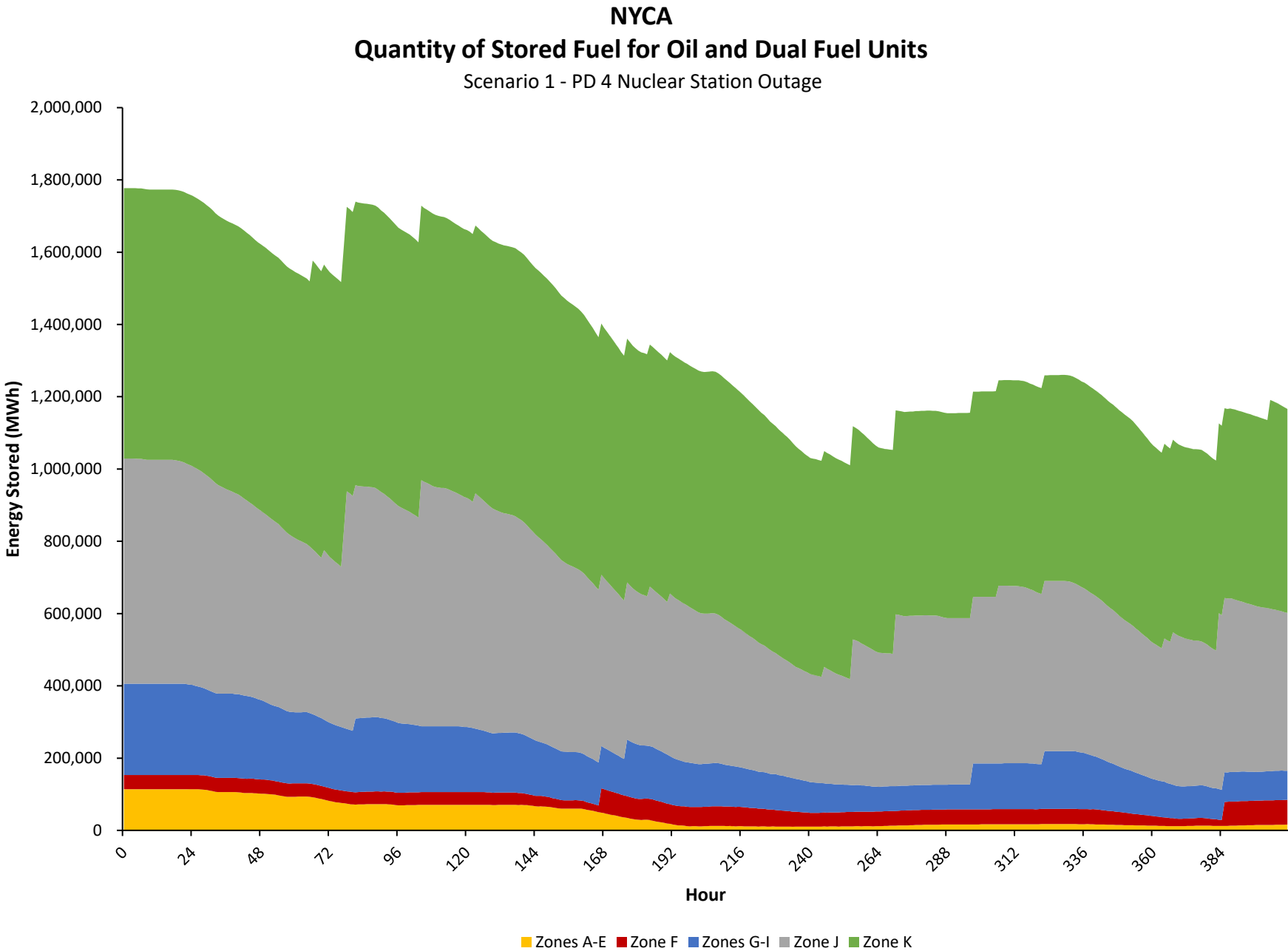


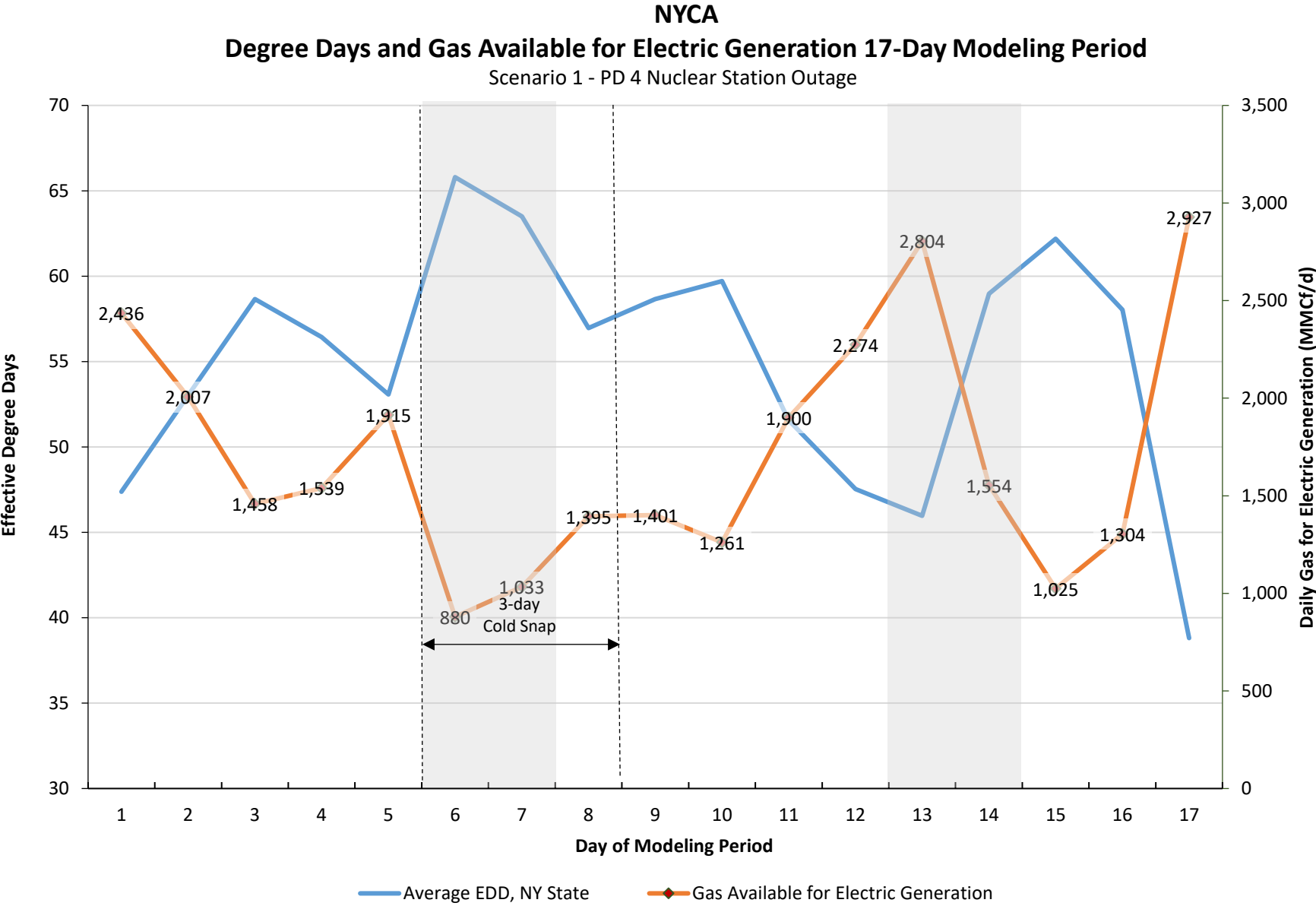




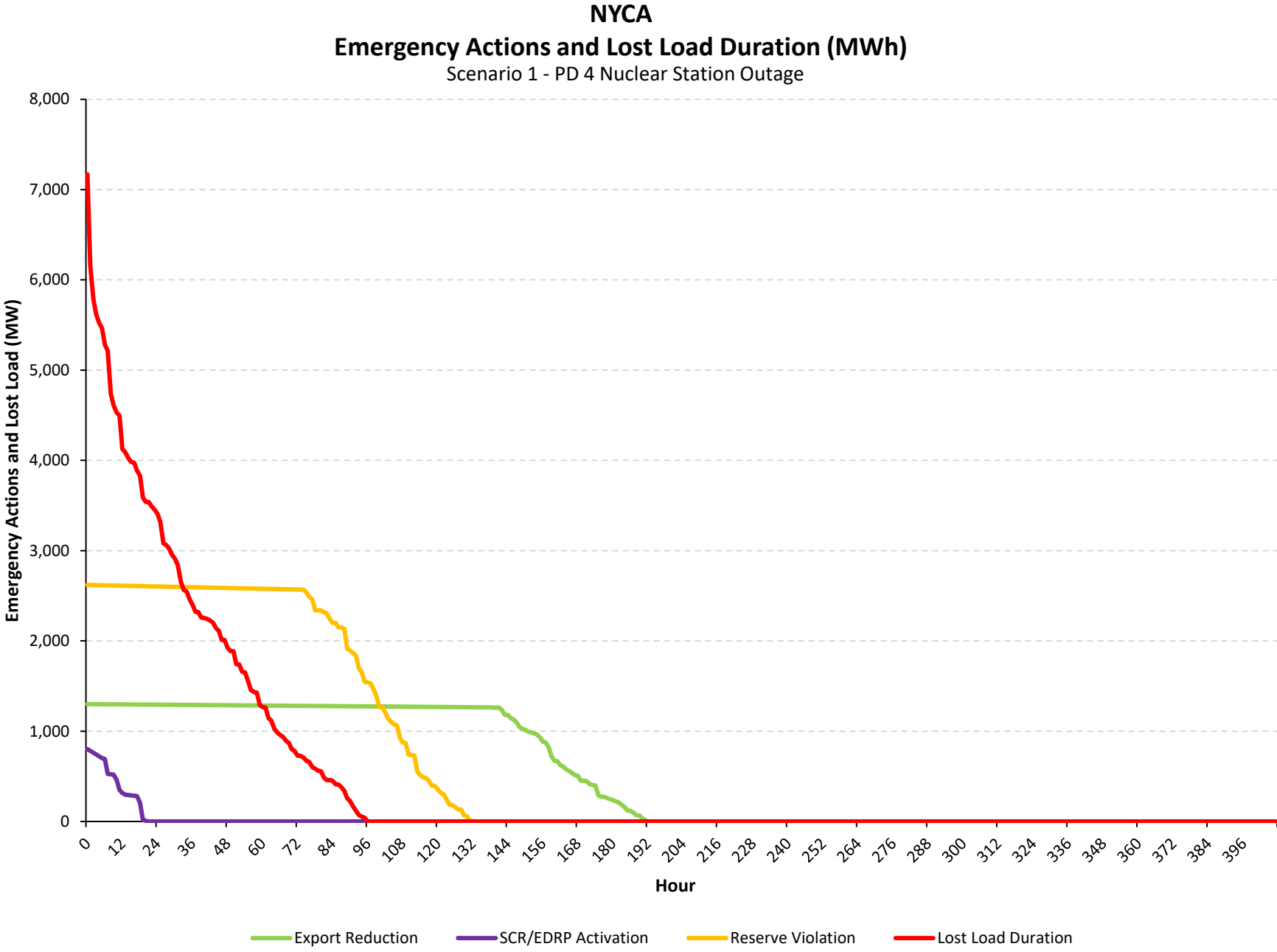
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 1 - PD 4 Nuclear Station Outage

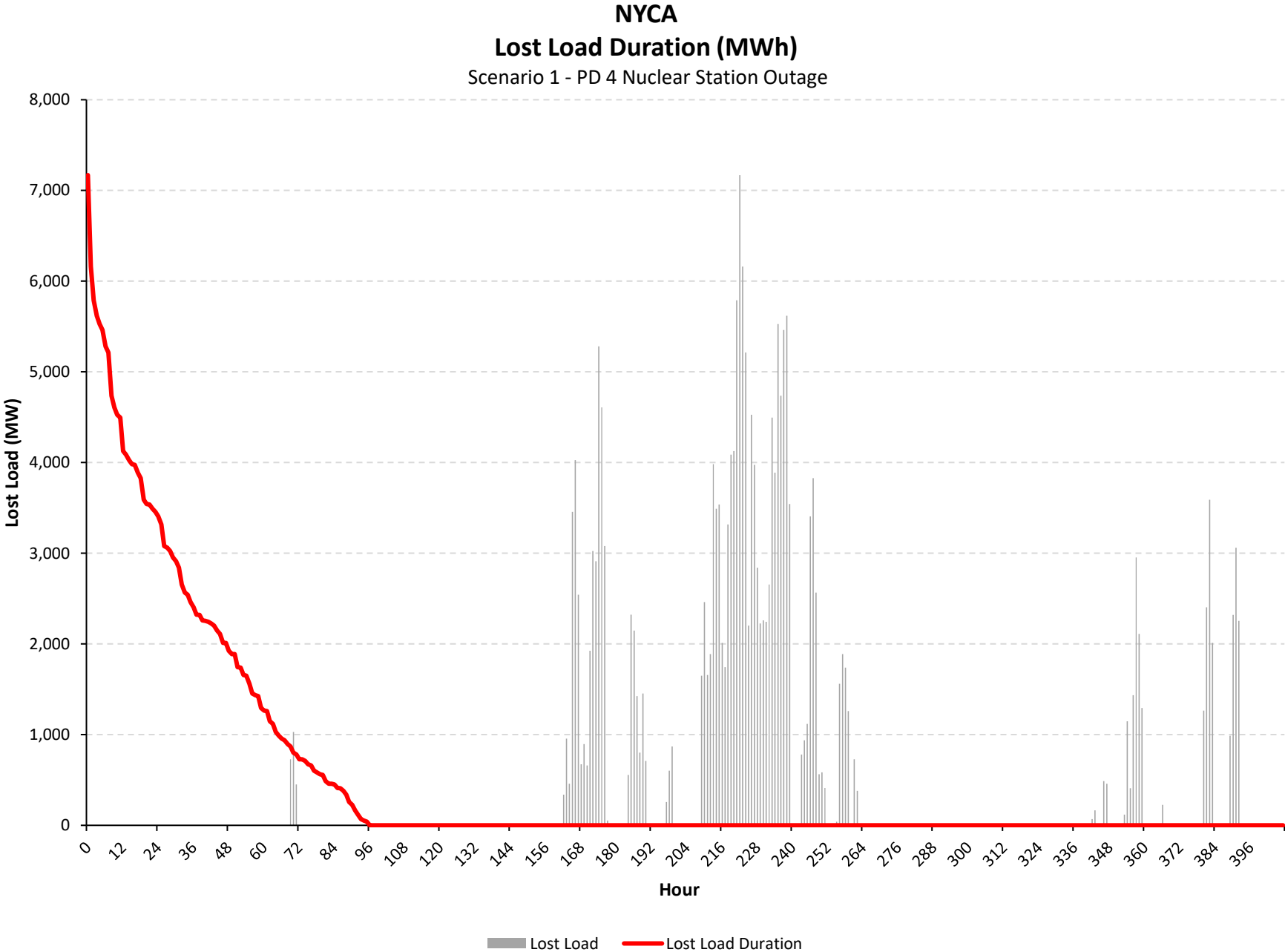






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



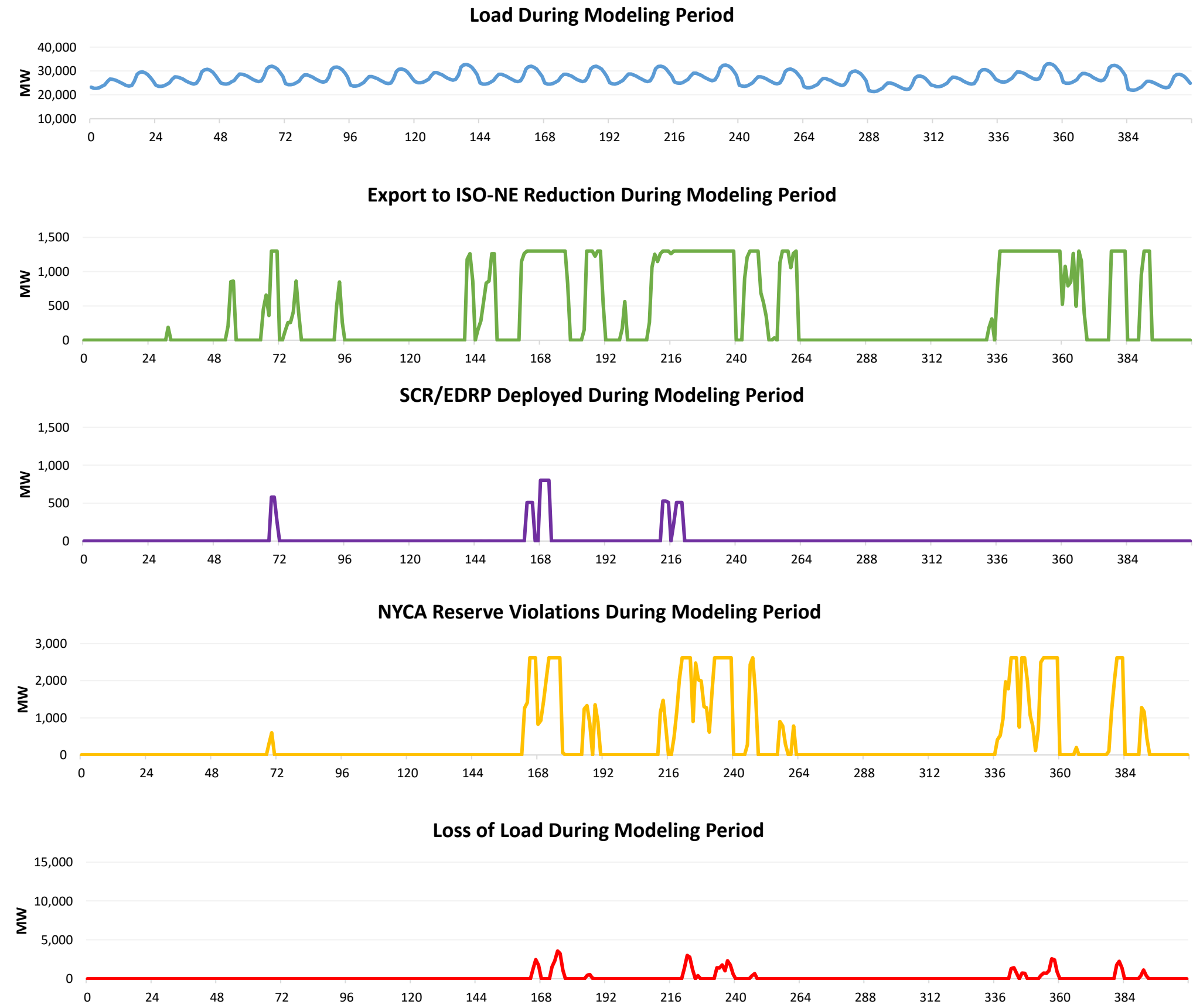


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 1 - PD 5 No Truck Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 1 - PD 5 No Truck Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	151
Total MWh	161,114
Avg. MW	394.9

SCR Deployment	
Total Hrs.	17
Total MWh	9,479
Avg. MW	23.2

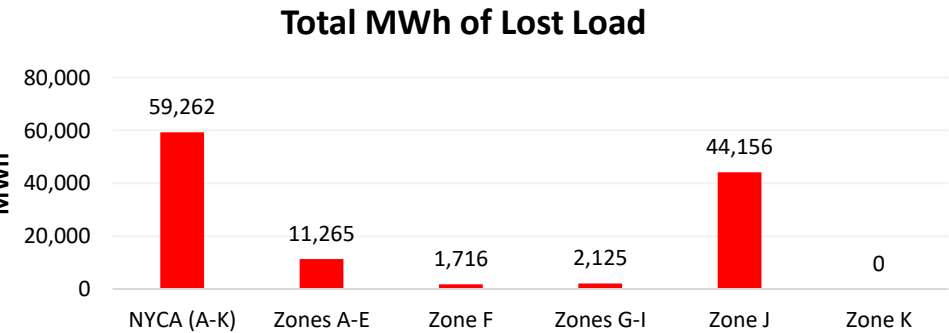
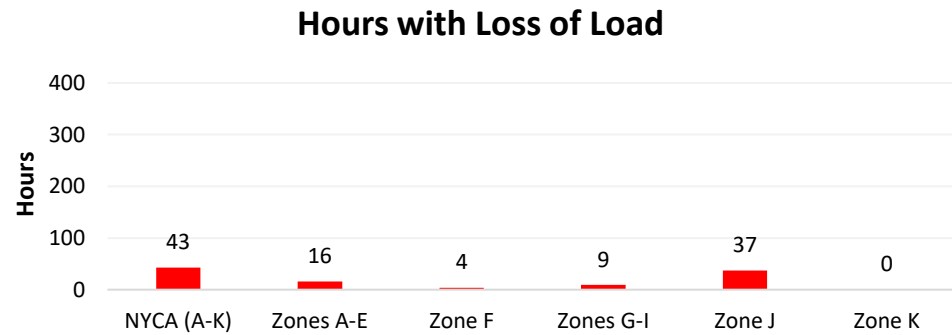
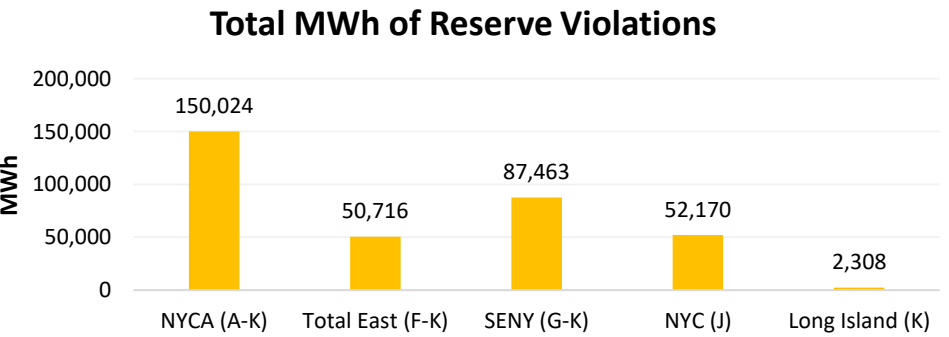
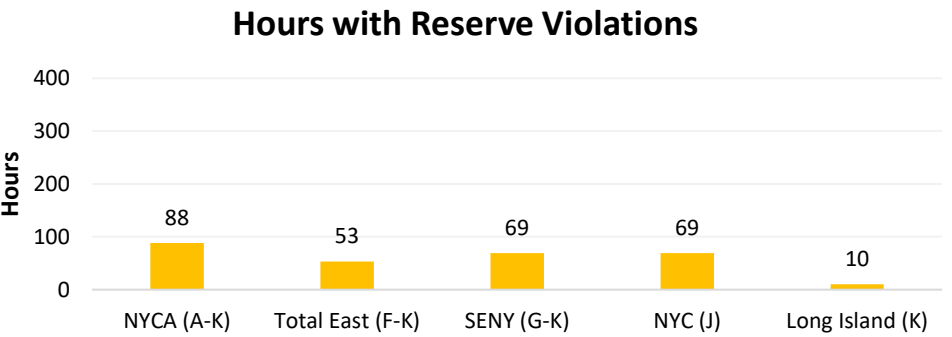
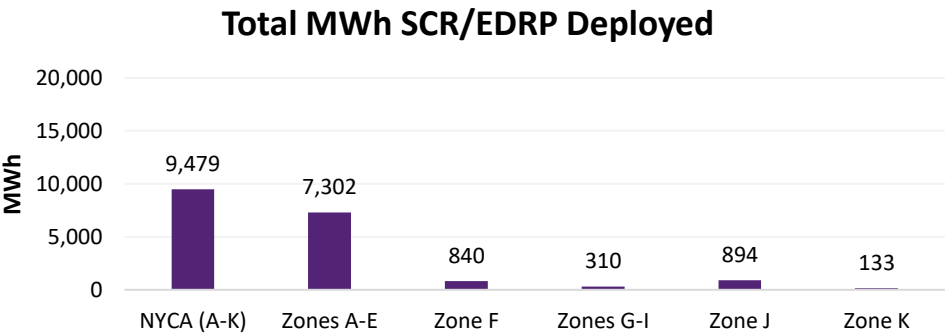
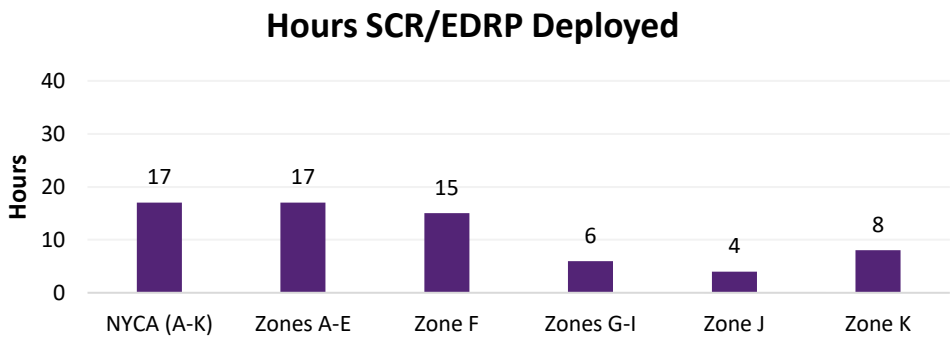
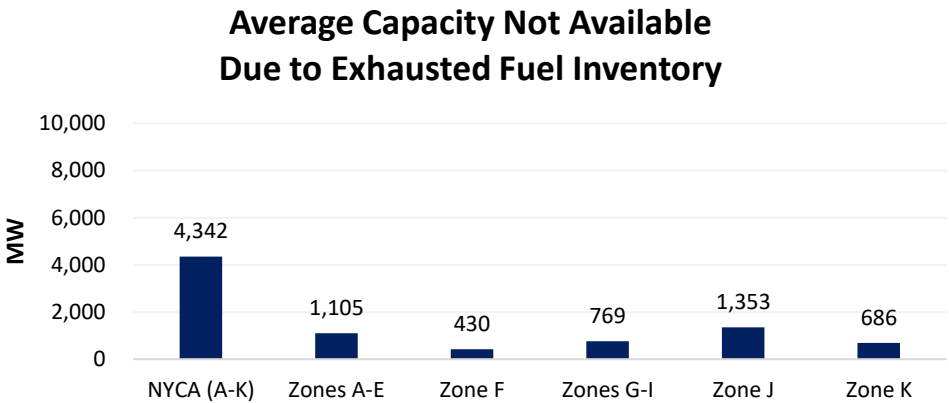
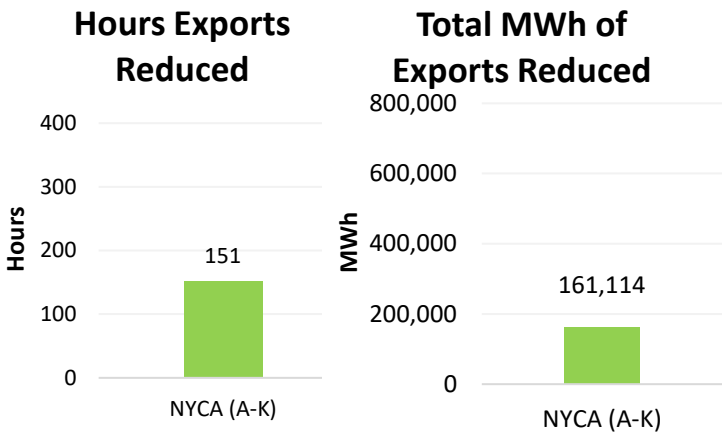
Reserve Violations	
Total Hrs.	88
Total MWh	150,024
Avg. MW	367.7
First Hour with Viol.	69

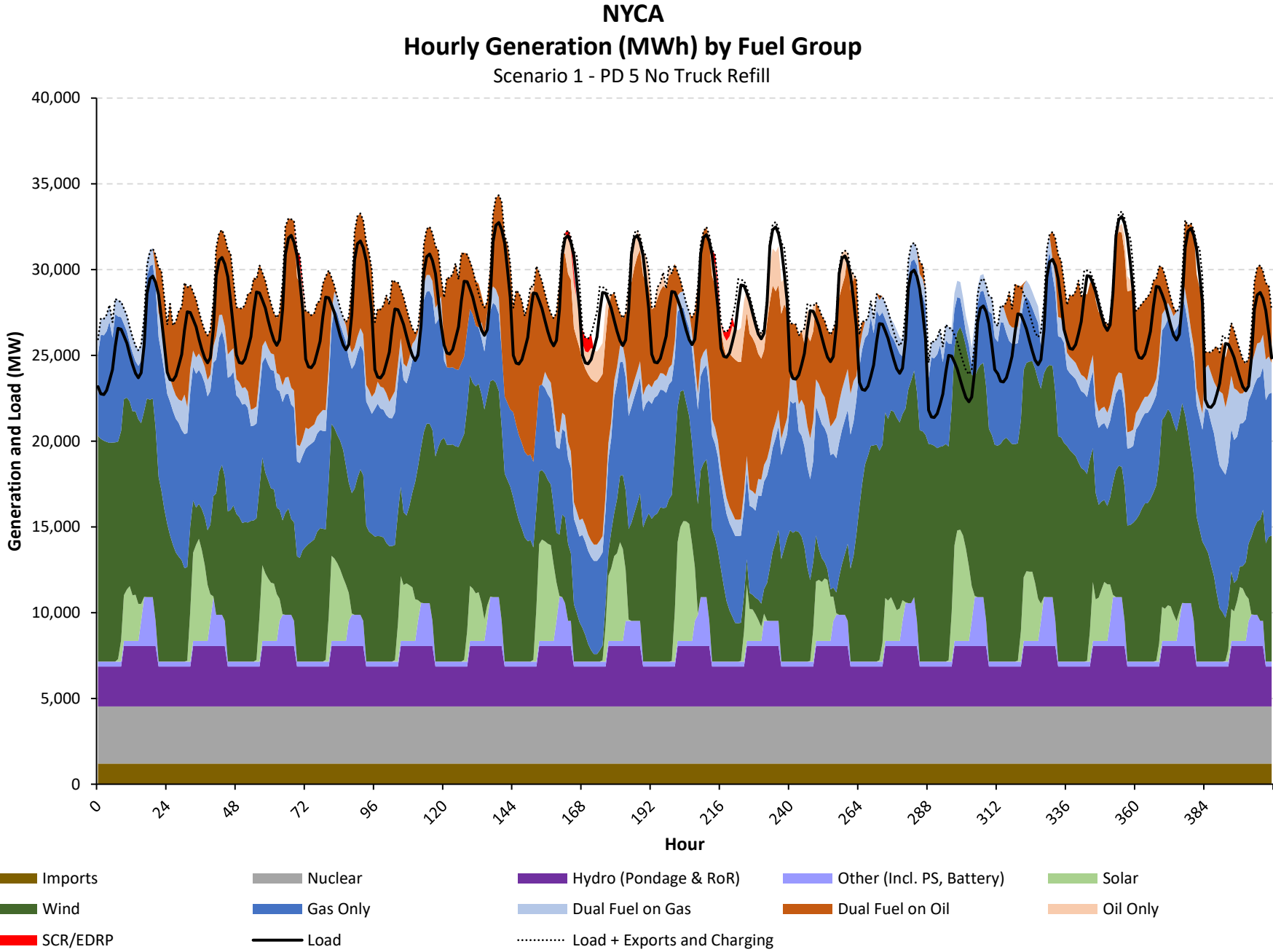
Loss of Load	
Total Hrs.	43
Total MWh	59,262
Avg. MW	145.3
First Hour with Losses	165

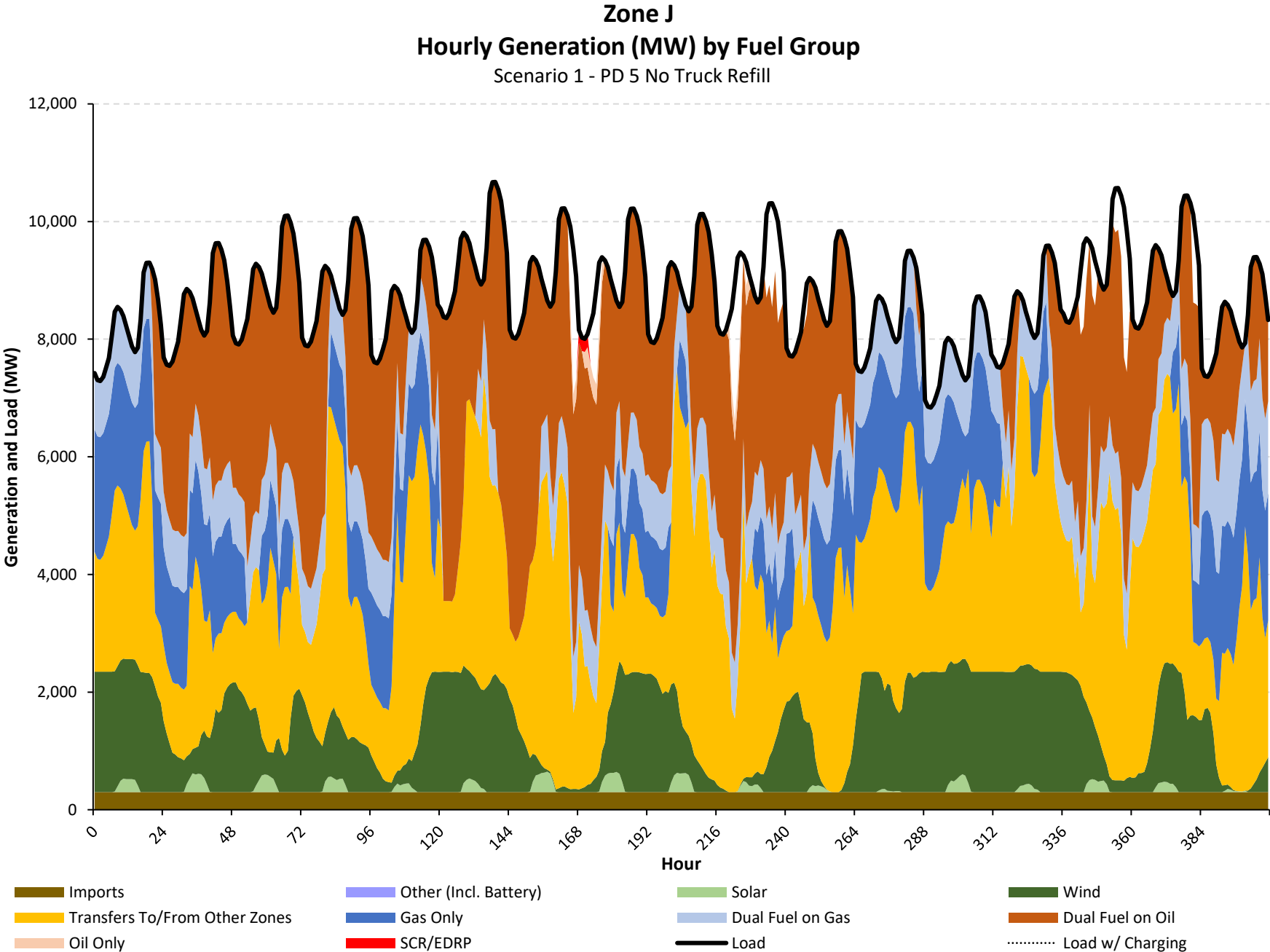
Full Period Results Summary

Case Name: Scenario 1 - PD 5 No Truck Refill

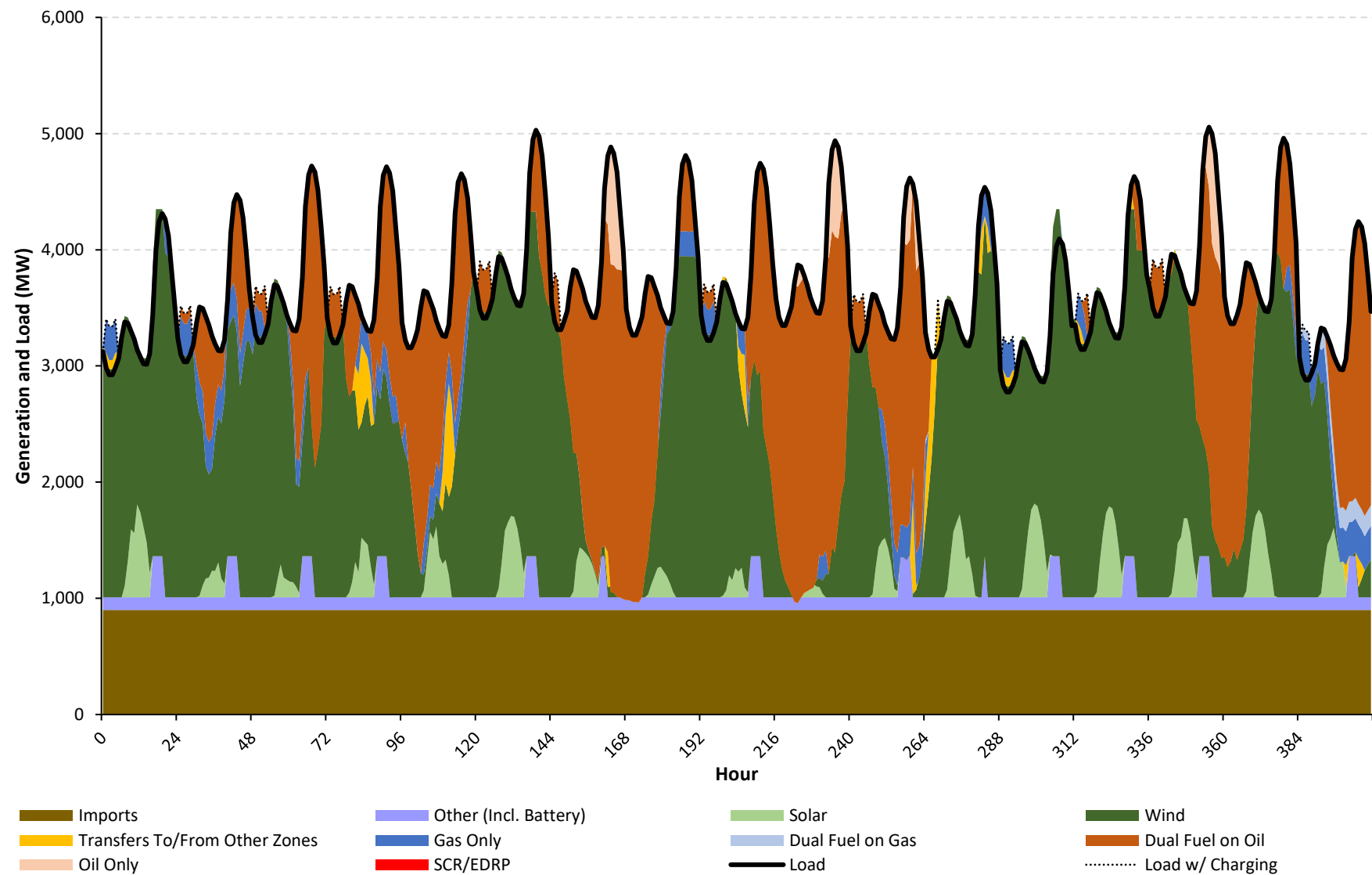
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

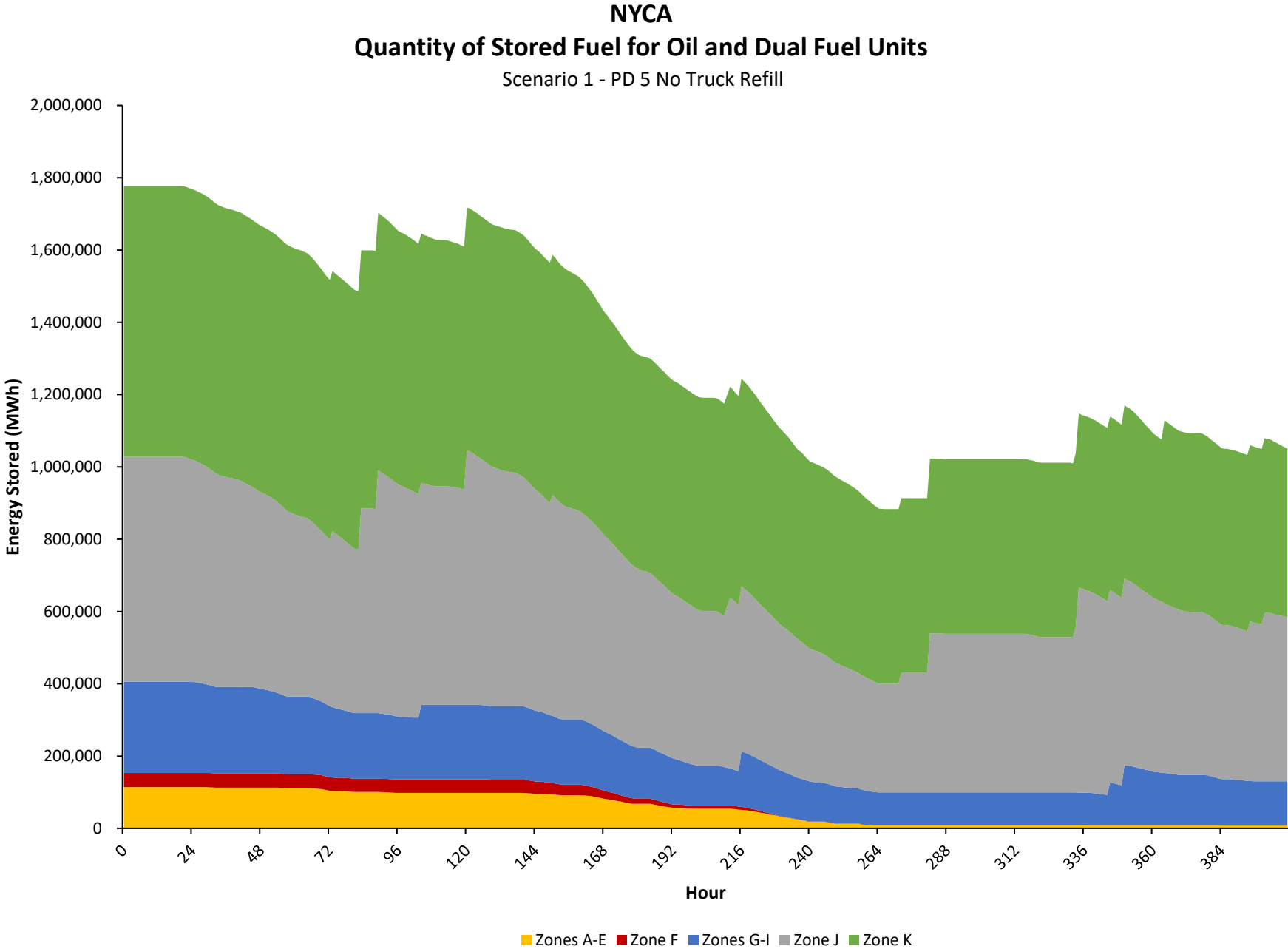


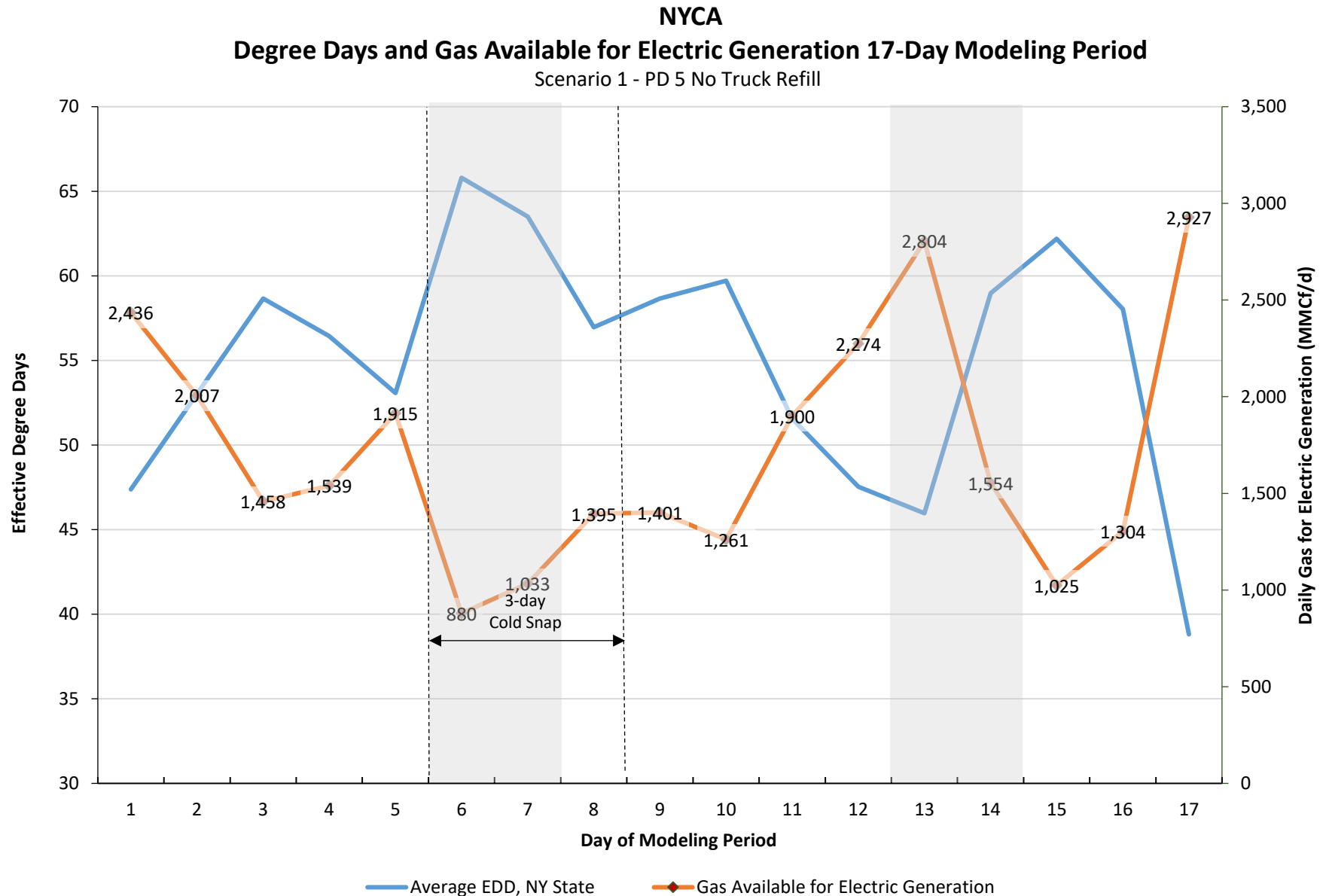




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 1 - PD 5 No Truck Refill

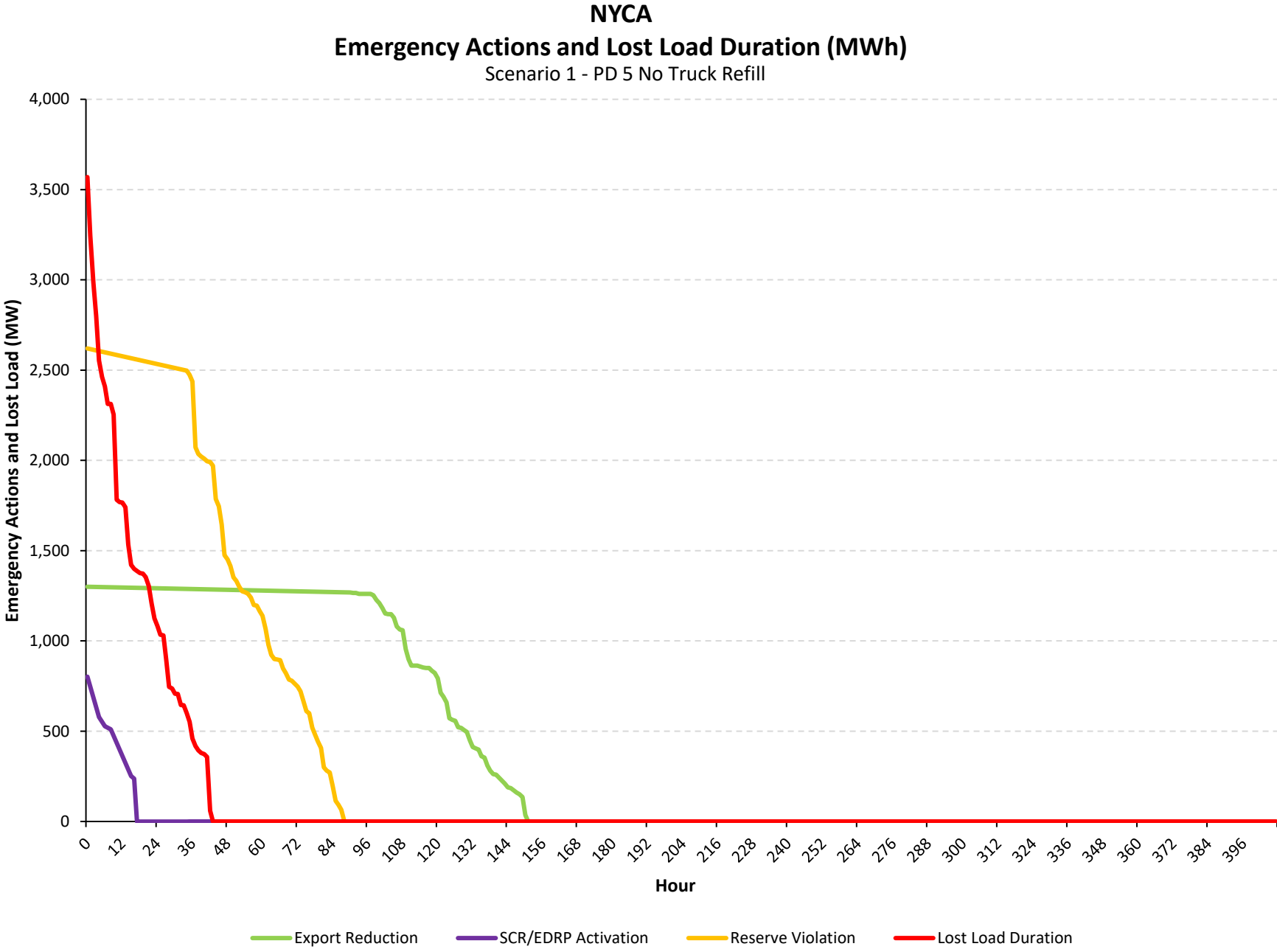


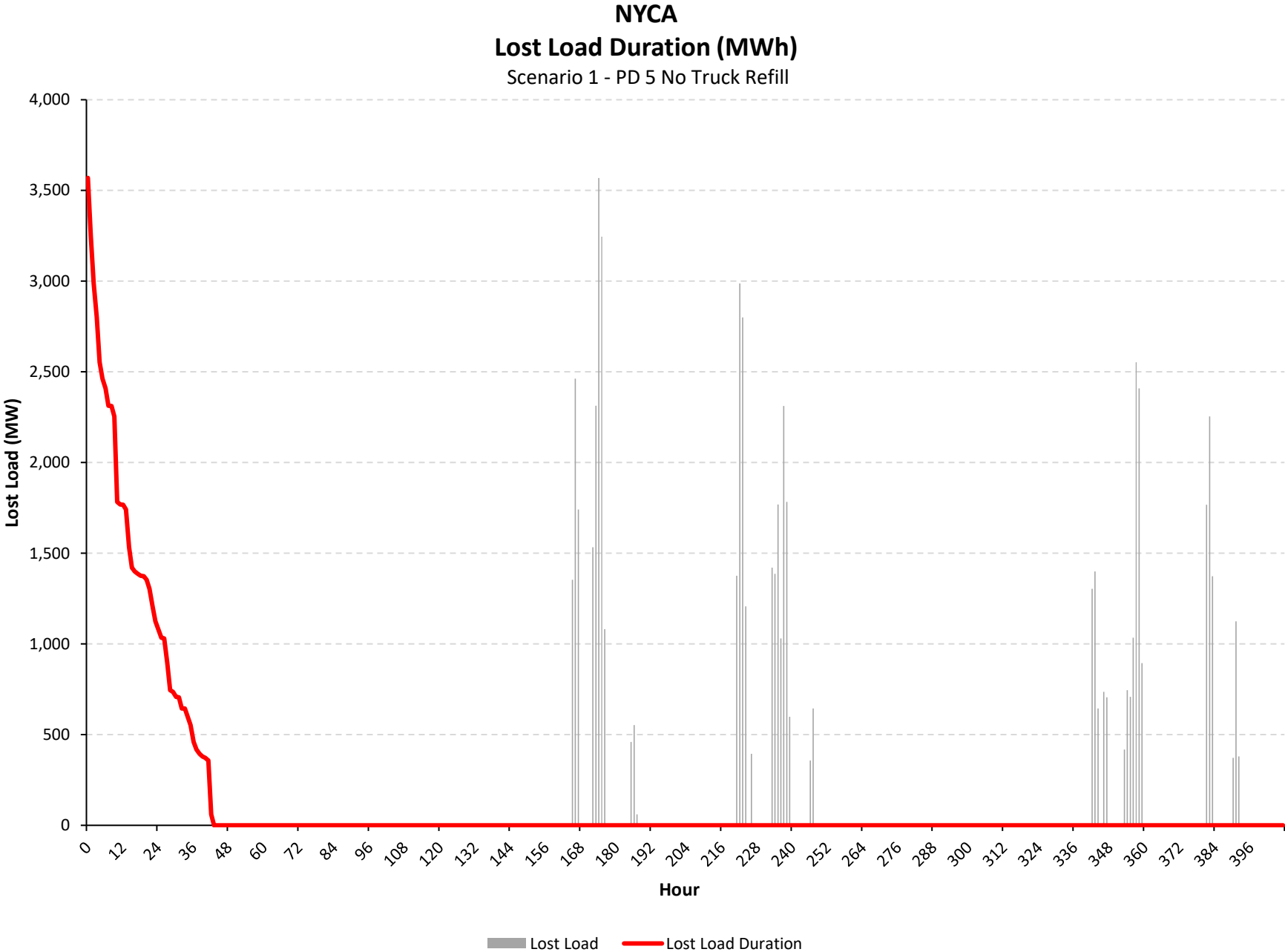




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



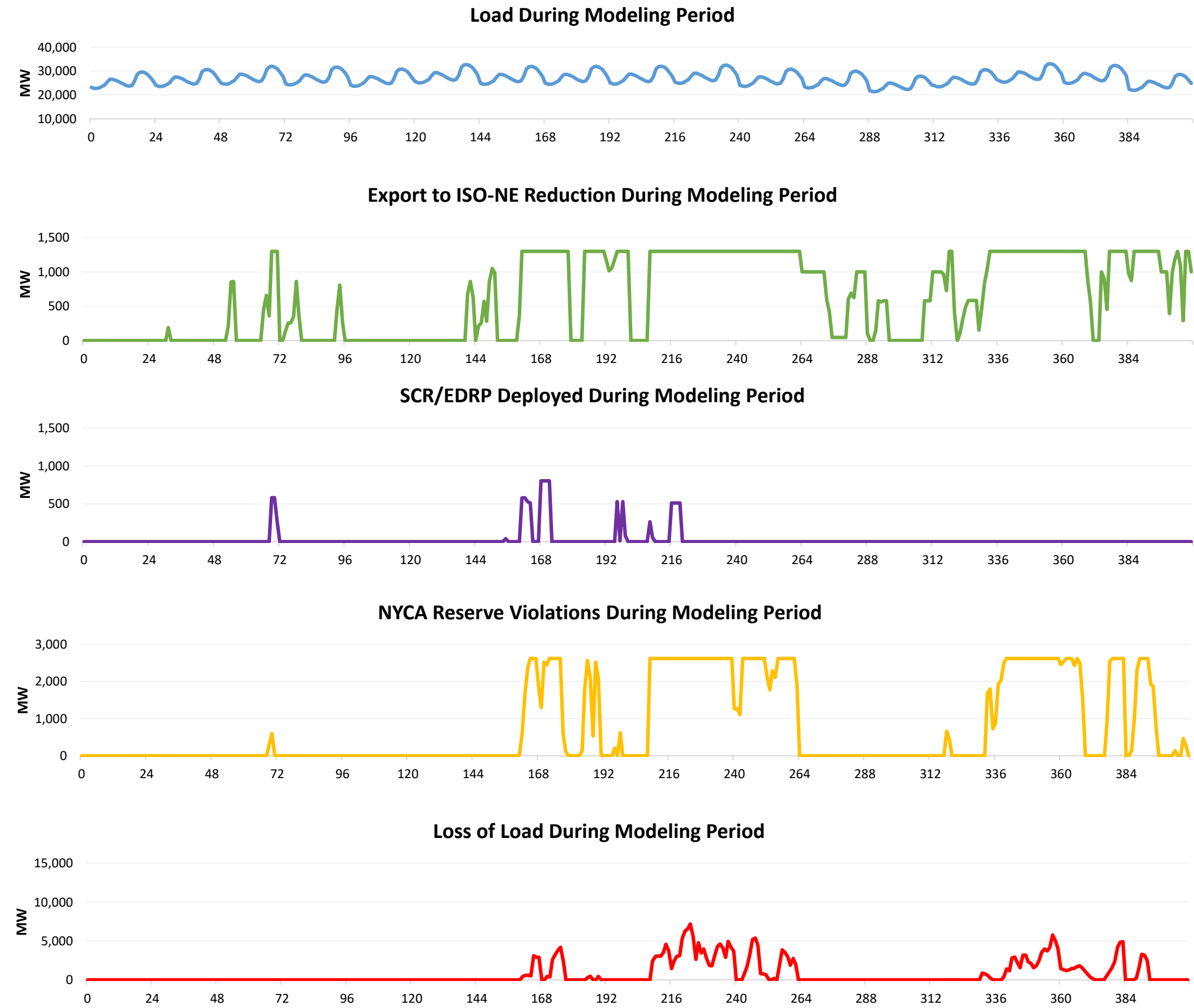


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 1 - PD 6 No Barge Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 1 - PD 6 No Barge Refill



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	246
Total MWh	256,874
Avg. MW	629.6

SCR Deployment	
Total Hrs.	22
Total MWh	10,347
Avg. MW	25.4

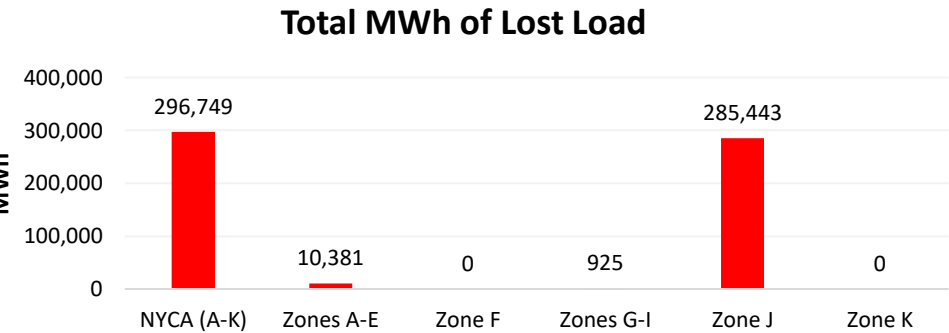
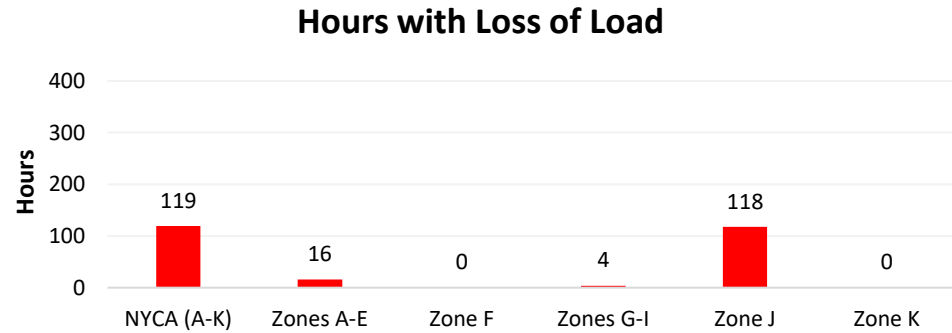
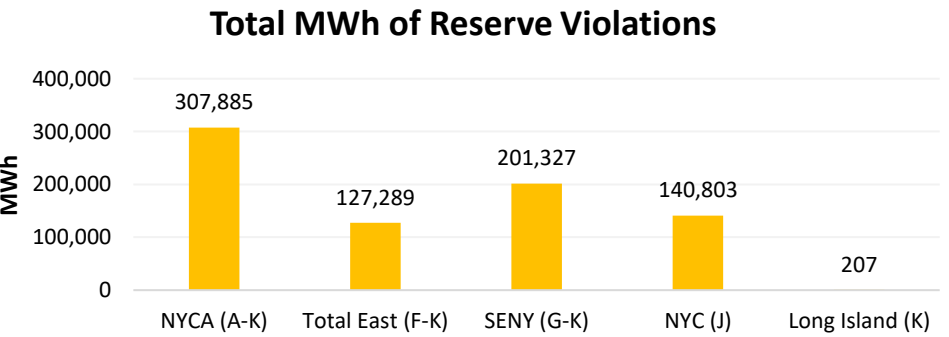
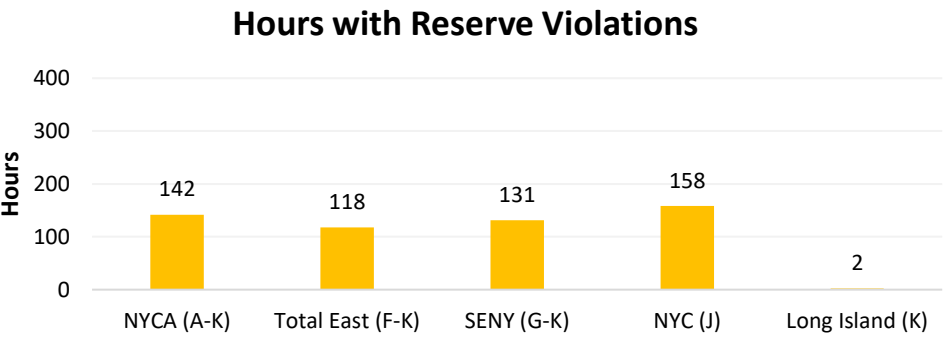
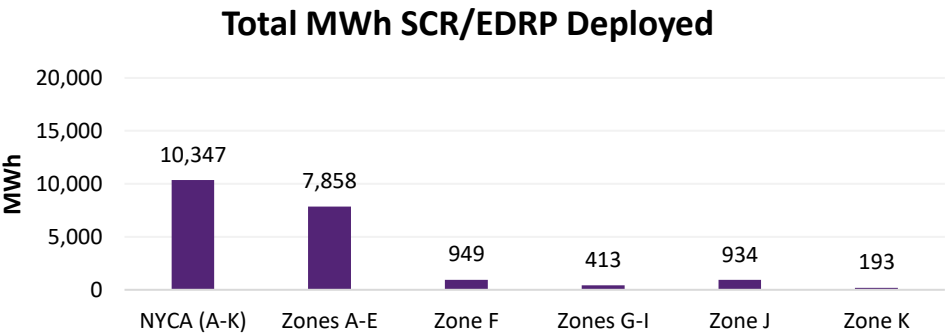
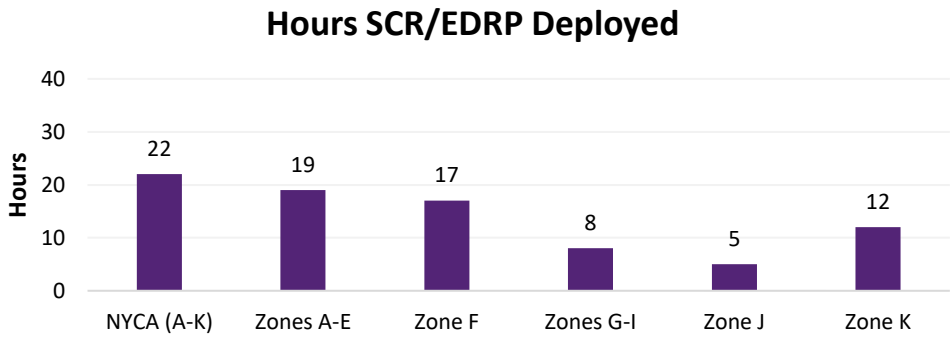
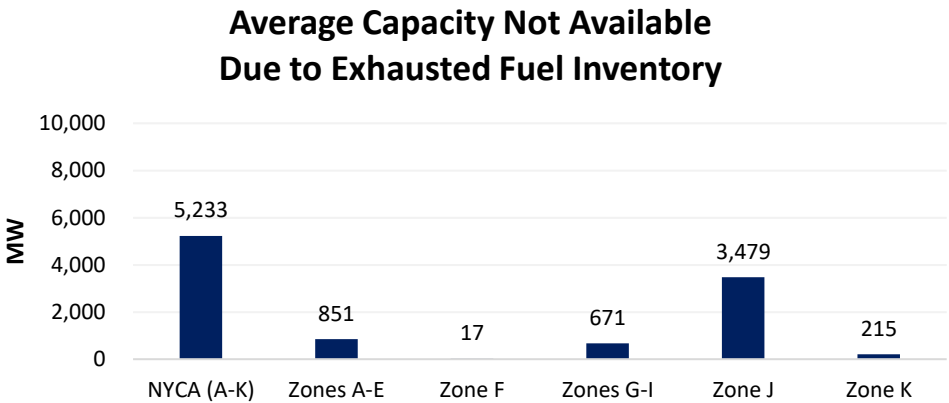
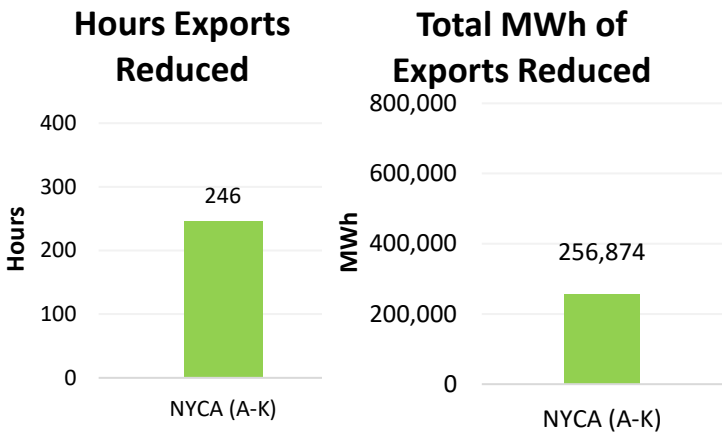
Reserve Violations	
Total Hrs.	142
Total MWh	307,885
Avg. MW	754.6
First Hour with Viol.	69

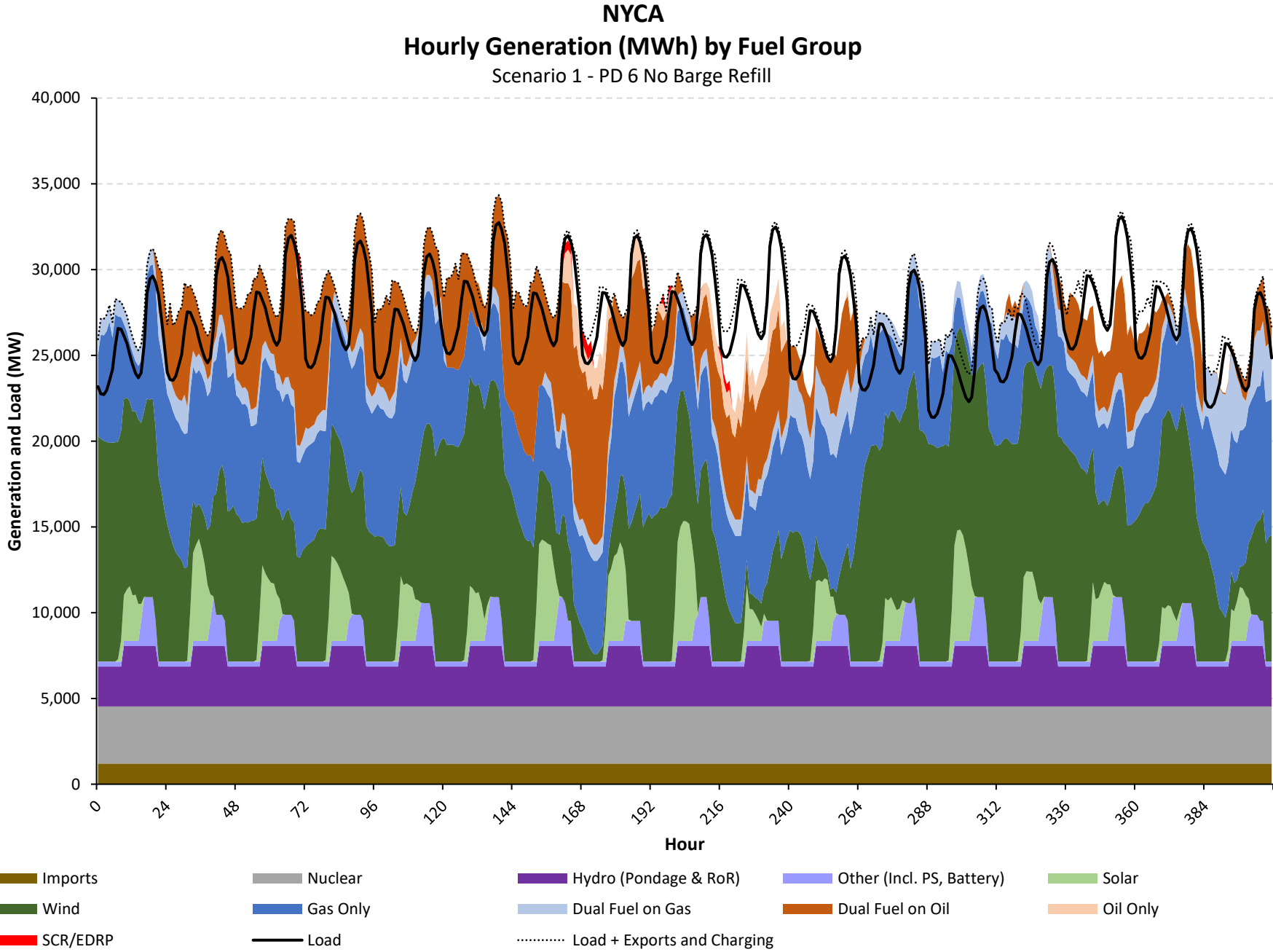
Loss of Load	
Total Hrs.	119
Total MWh	296,749
Avg. MW	727.3
First Hour with Losses	161

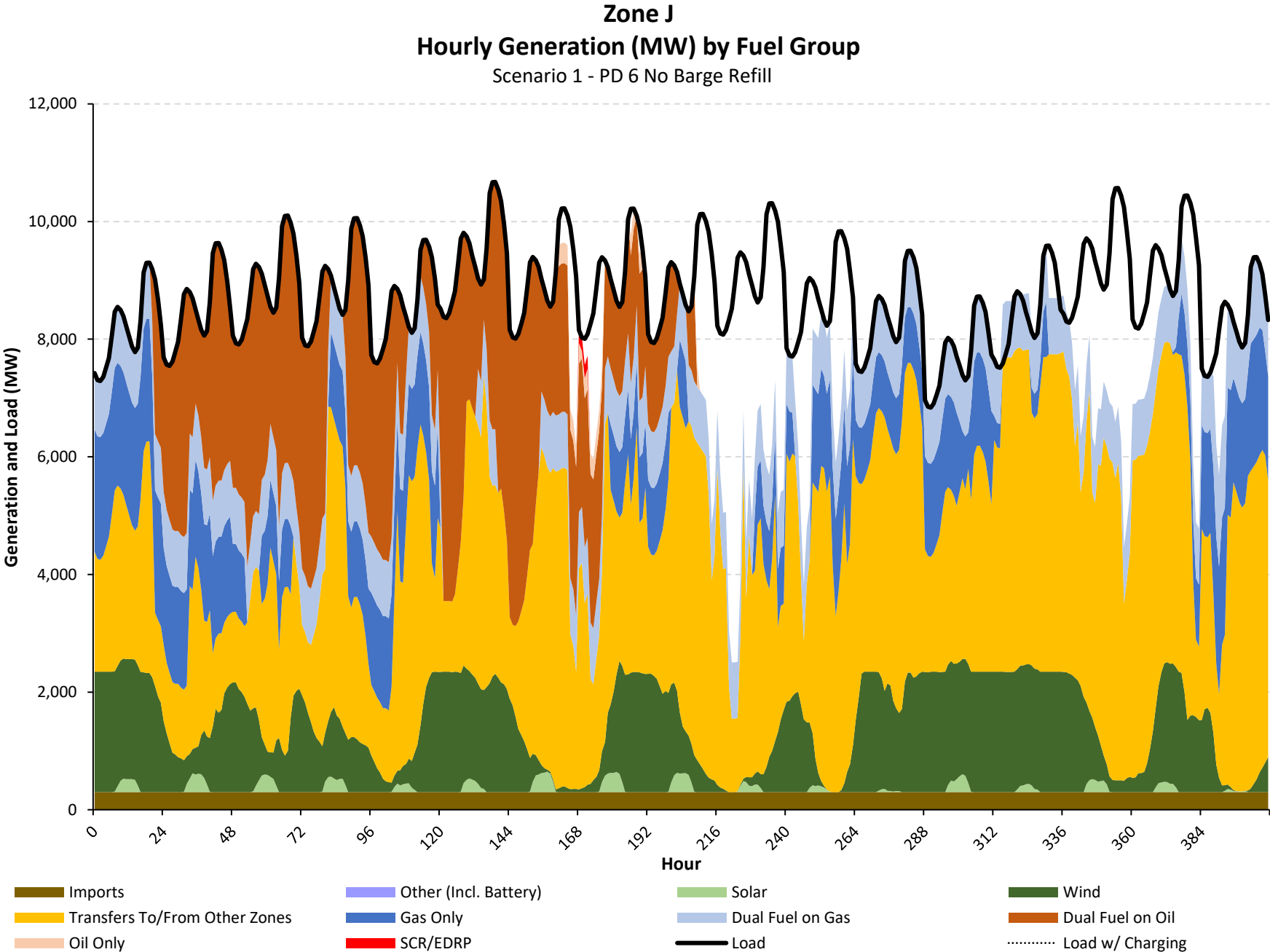
Full Period Results Summary

Case Name: Scenario 1 - PD 6 No Barge Refill

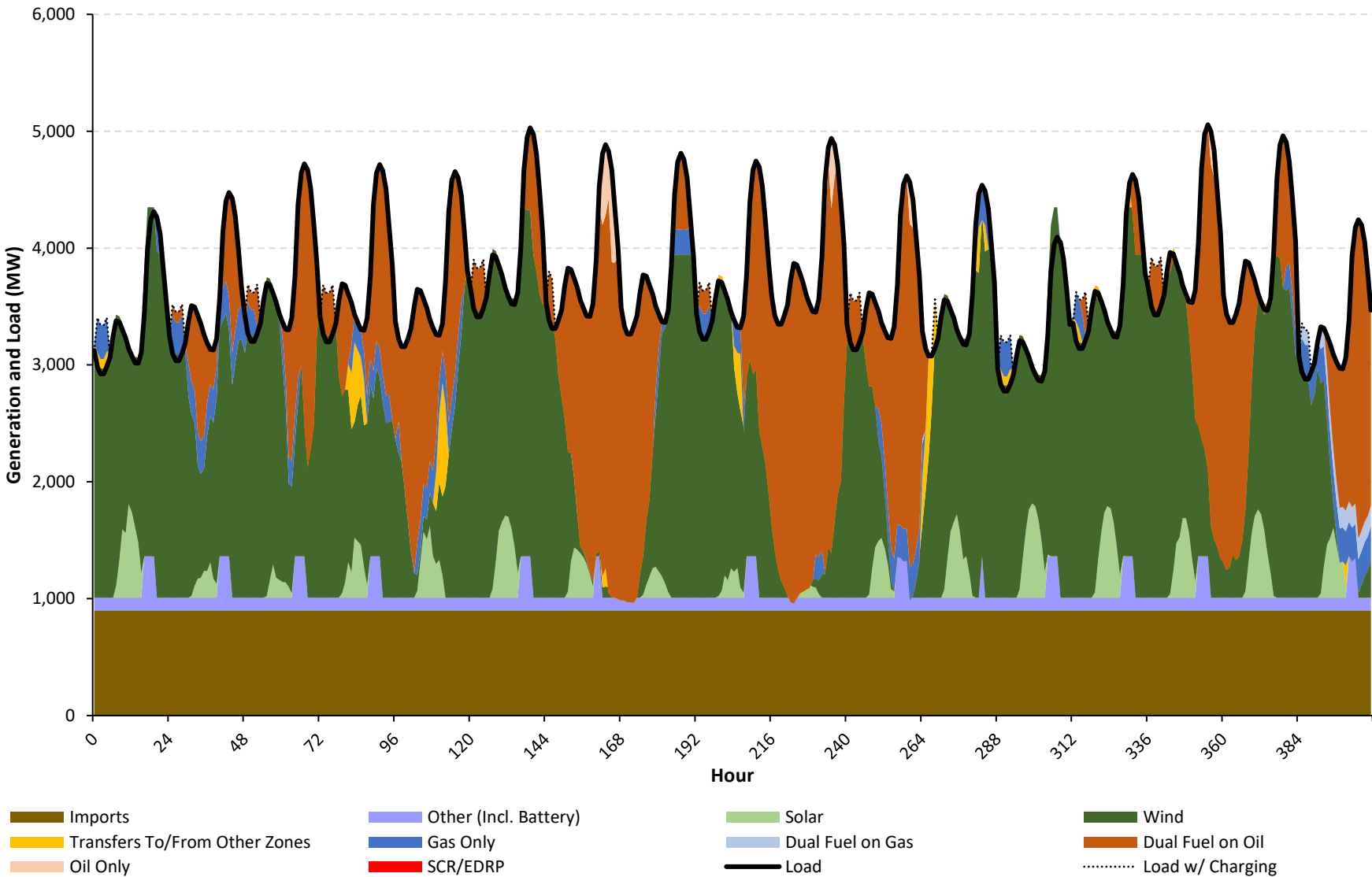
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

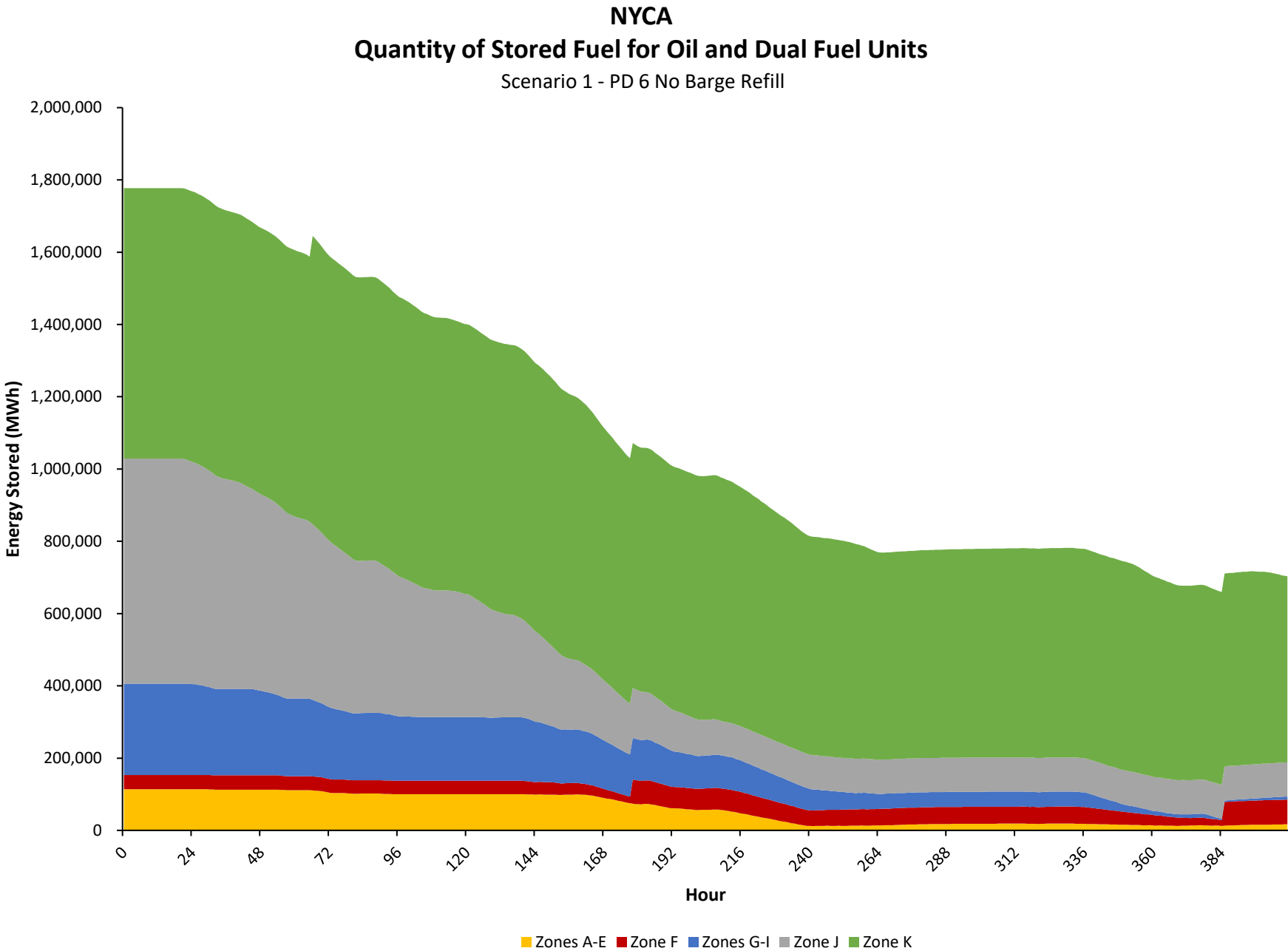


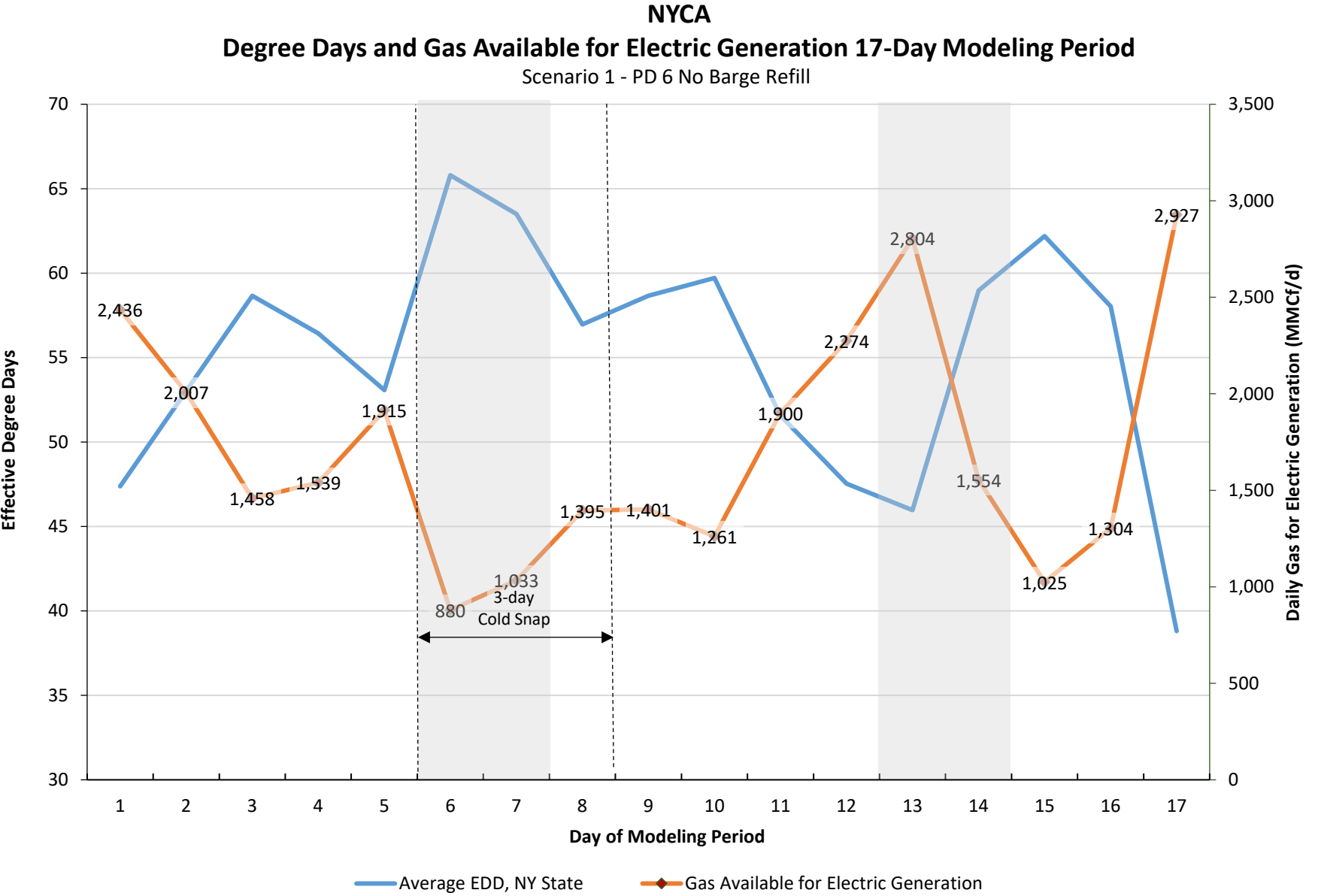




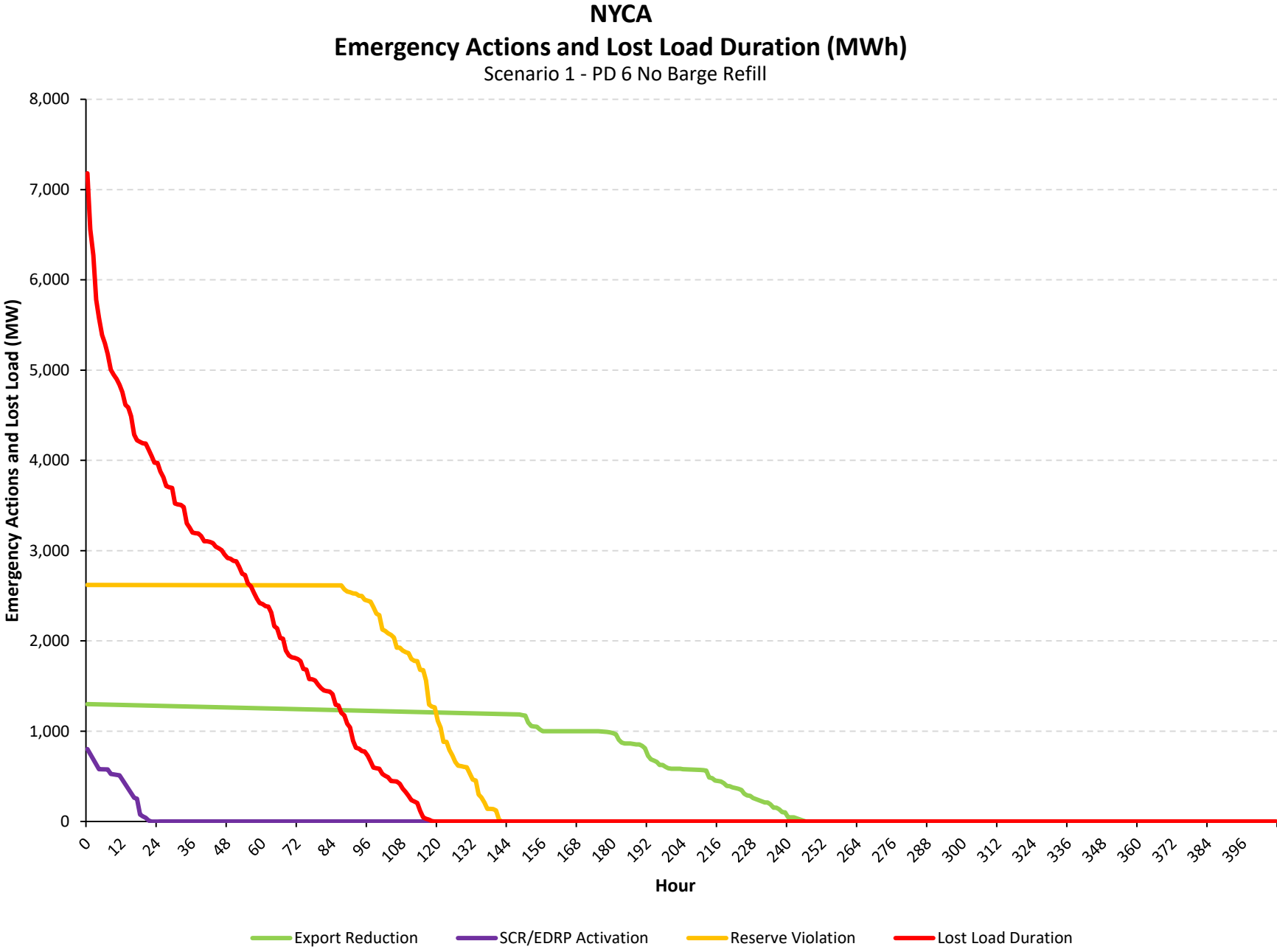
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 1 - PD 6 No Barge Refill

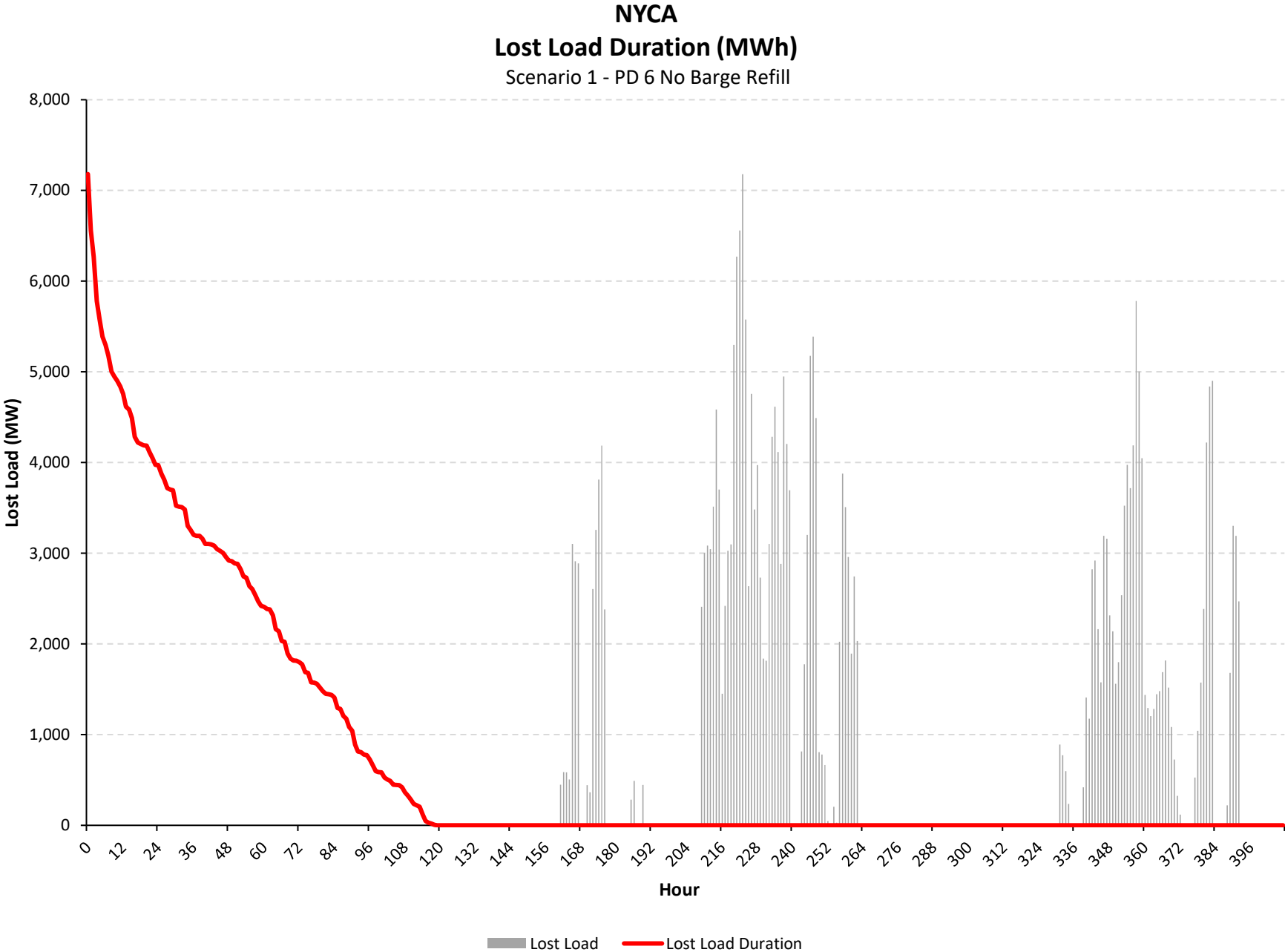






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



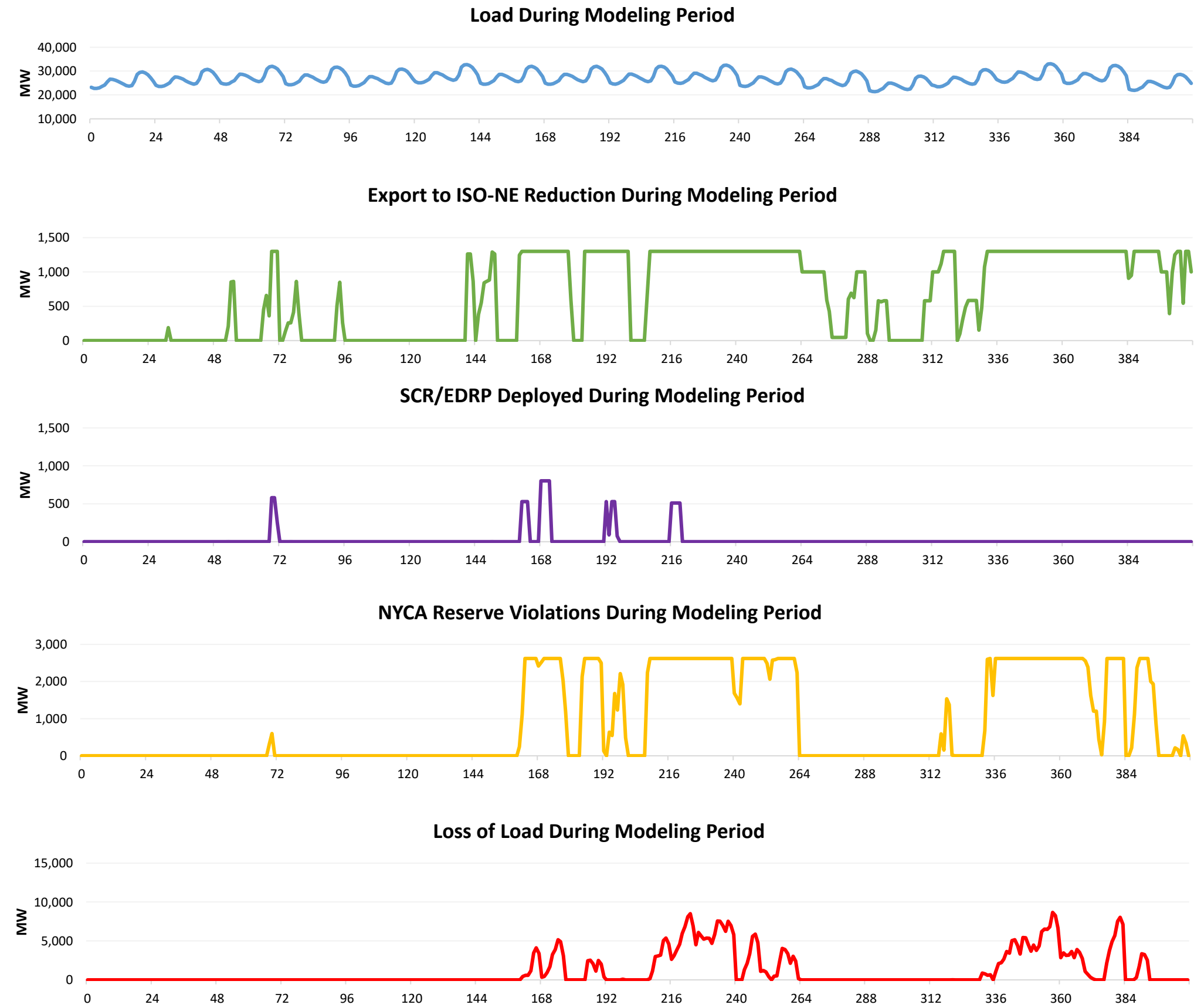


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 1 - PD 7 No Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 1 - PD 7 No Refill



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	251
Total MWh	272,572
Avg. MW	668.1

SCR Deployment	
Total Hrs.	19
Total MWh	9,979
Avg. MW	24.5

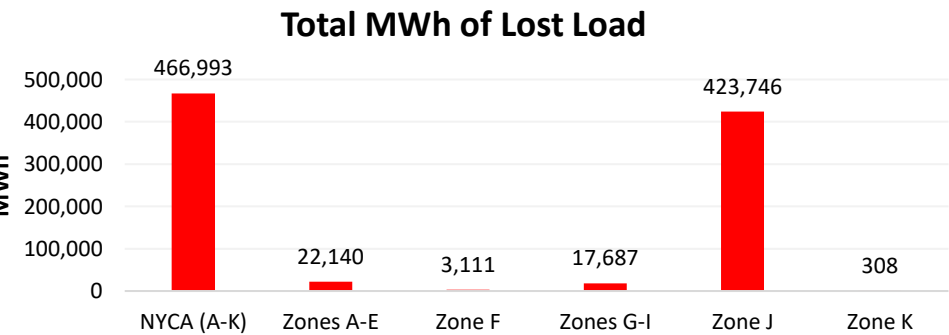
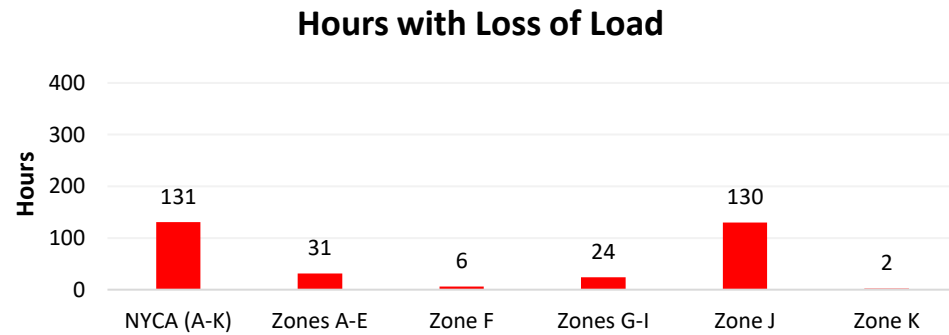
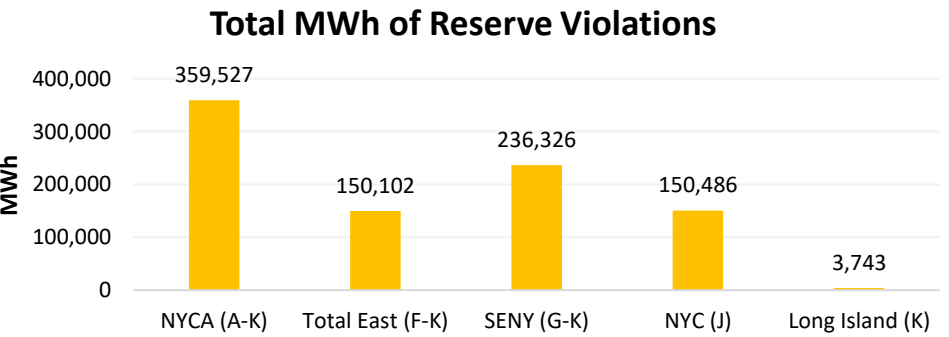
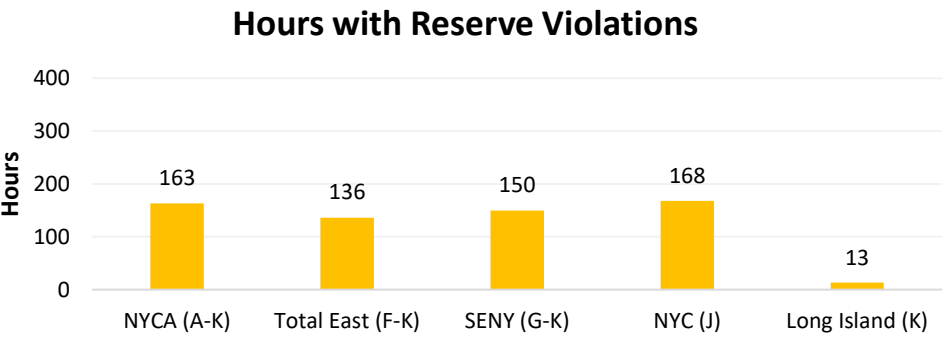
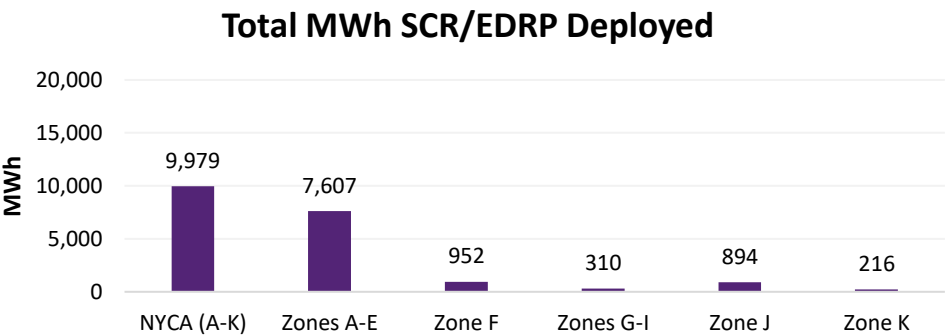
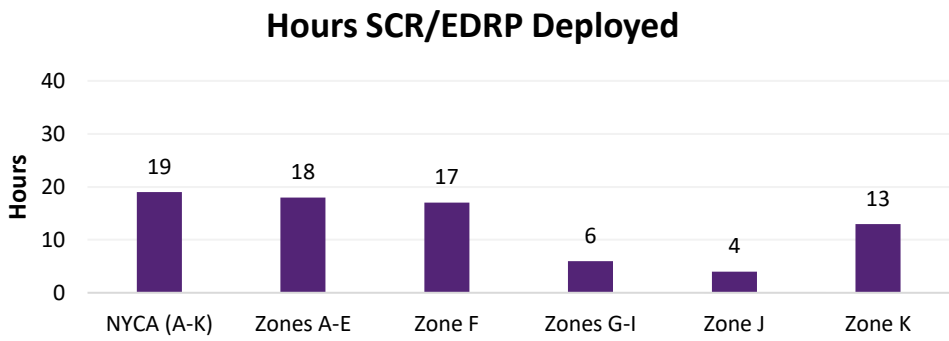
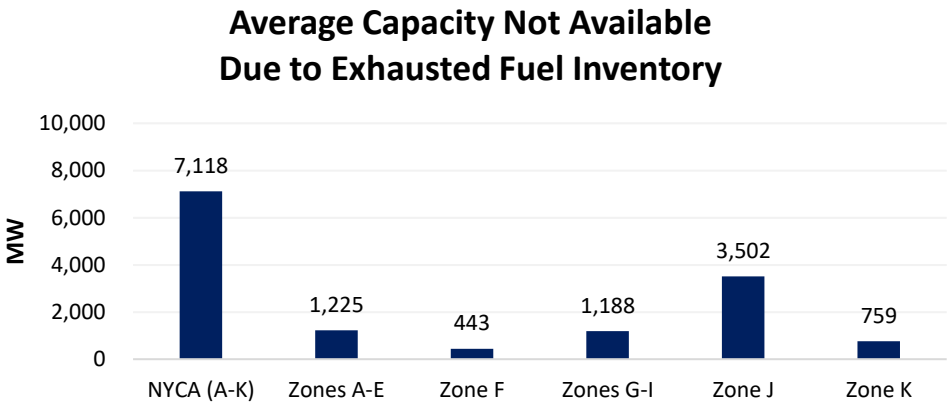
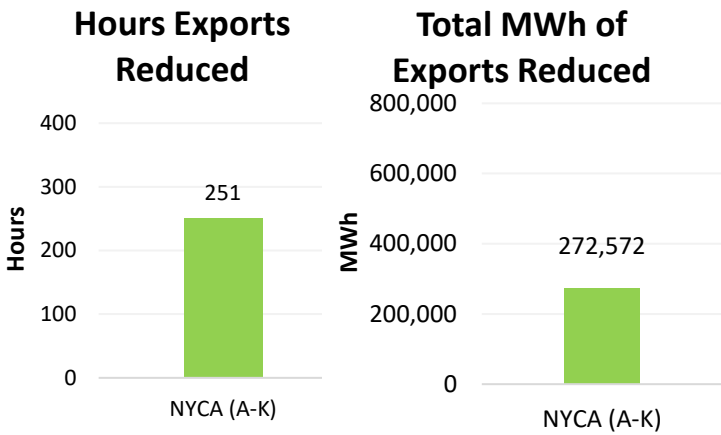
Reserve Violations	
Total Hrs.	163
Total MWh	359,527
Avg. MW	881.2
First Hour with Viol.	69

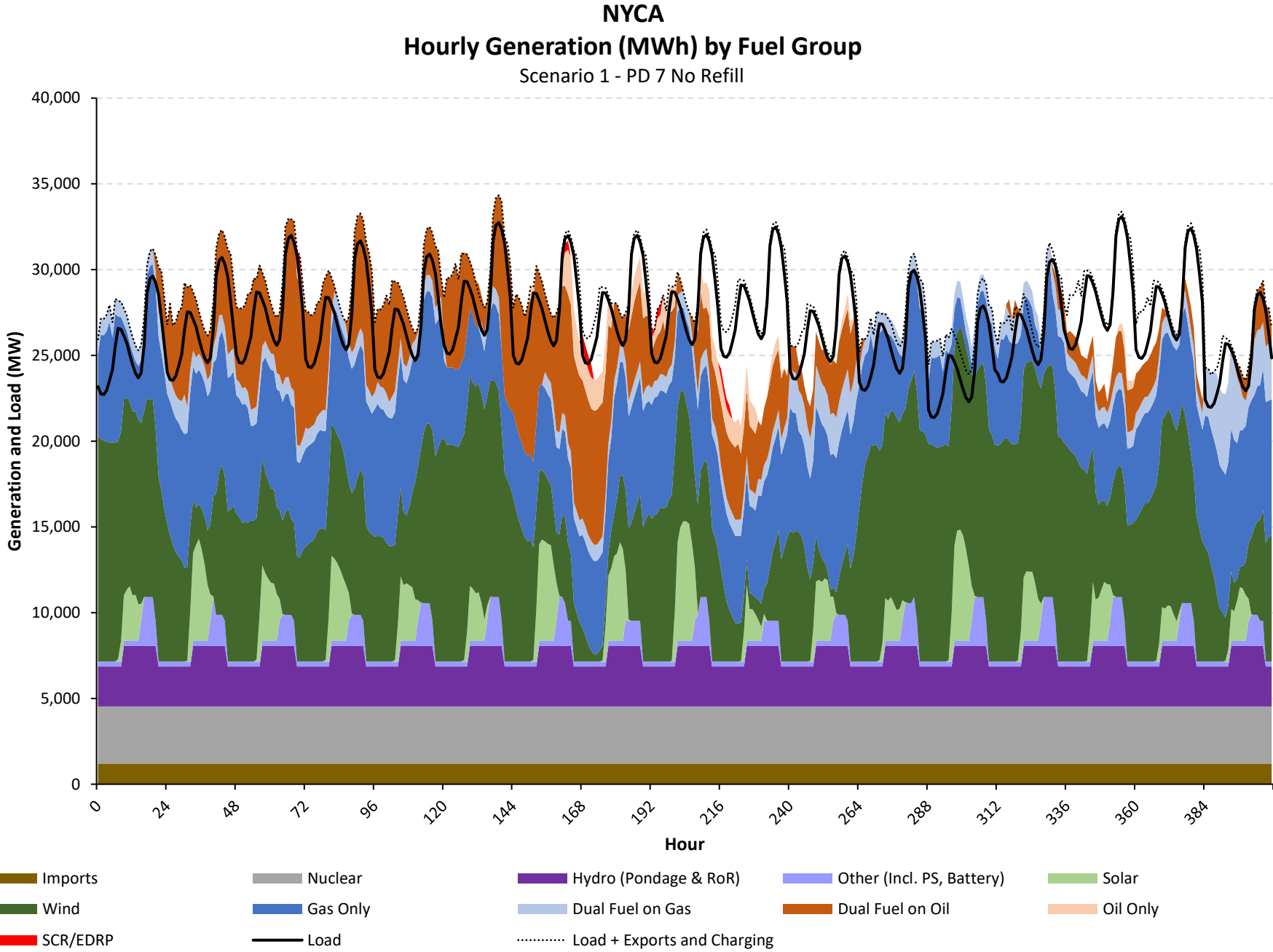
Loss of Load	
Total Hrs.	131
Total MWh	466,993
Avg. MW	1,144.6
First Hour with Losses	161

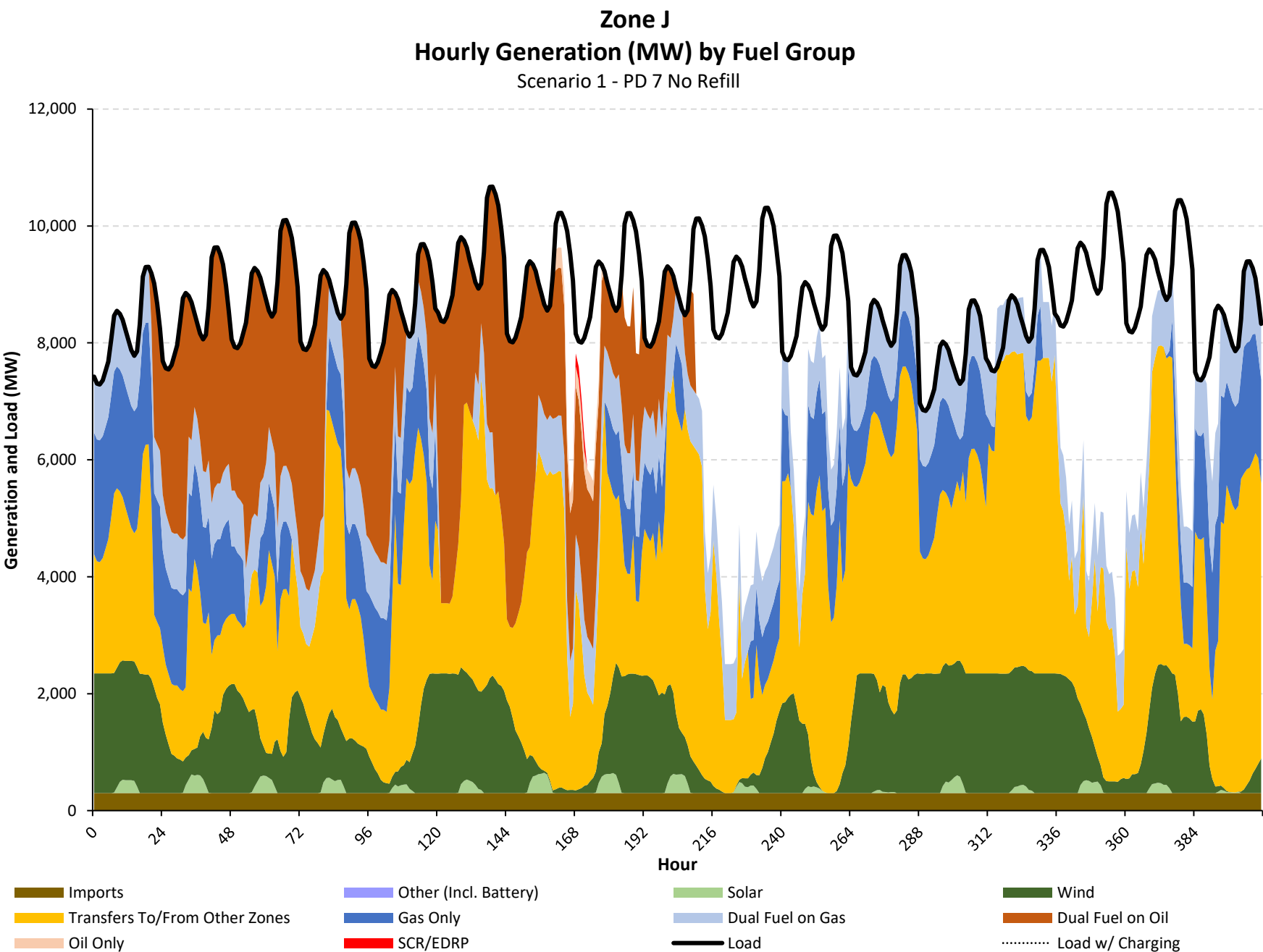
Full Period Results Summary

Case Name: Scenario 1 - PD 7 No Refill

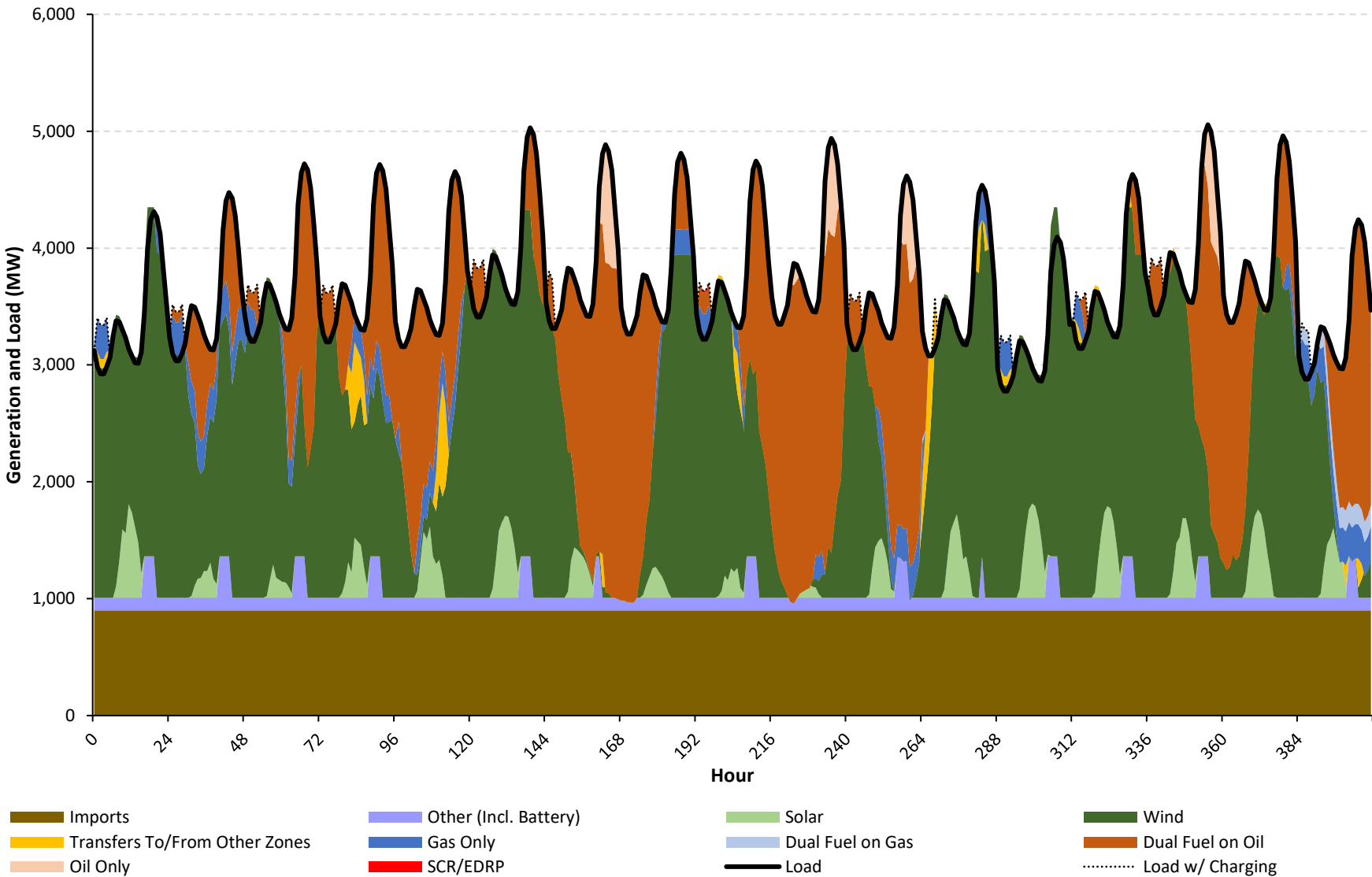
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All



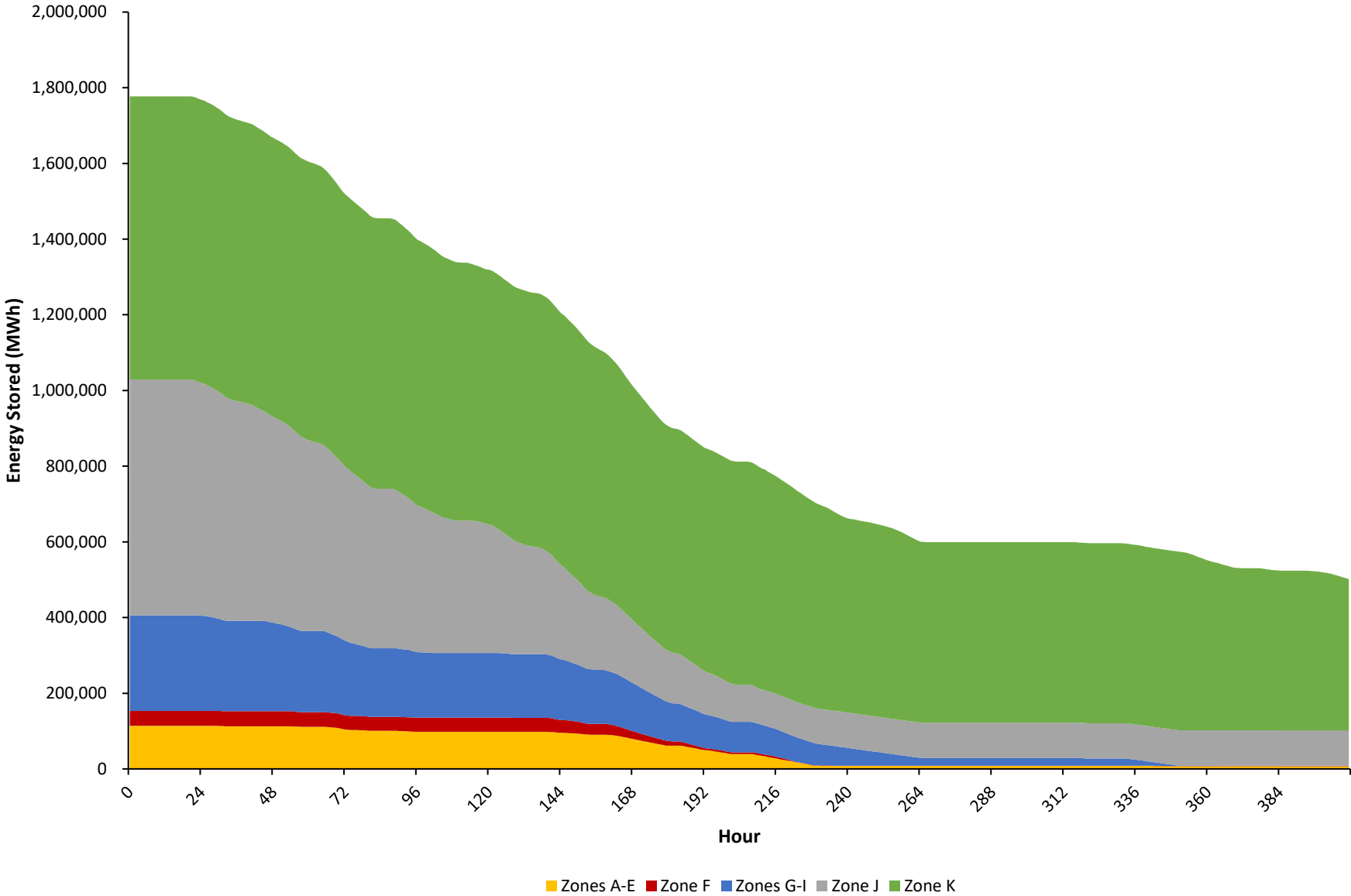


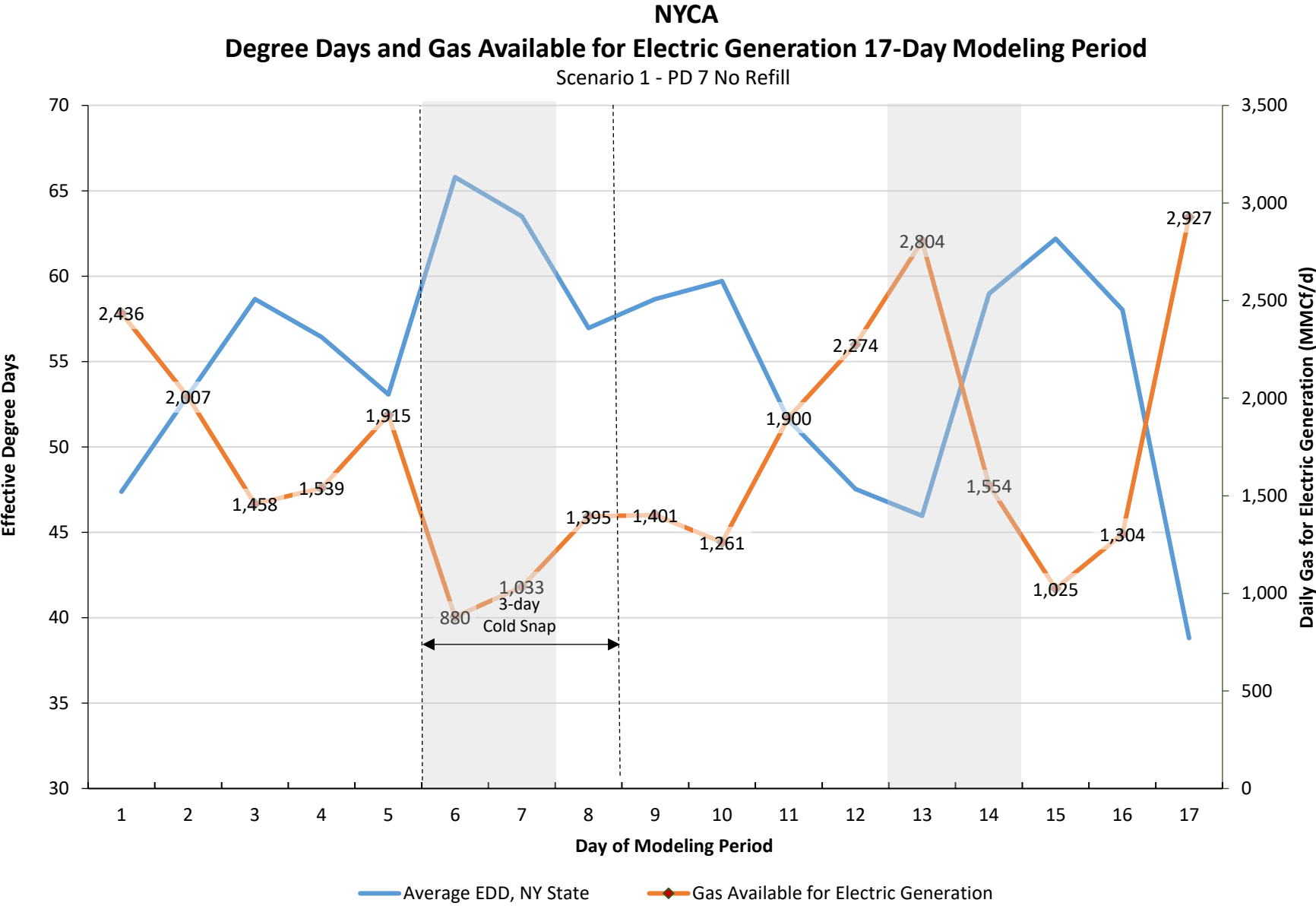


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 1 - PD 7 No Refill



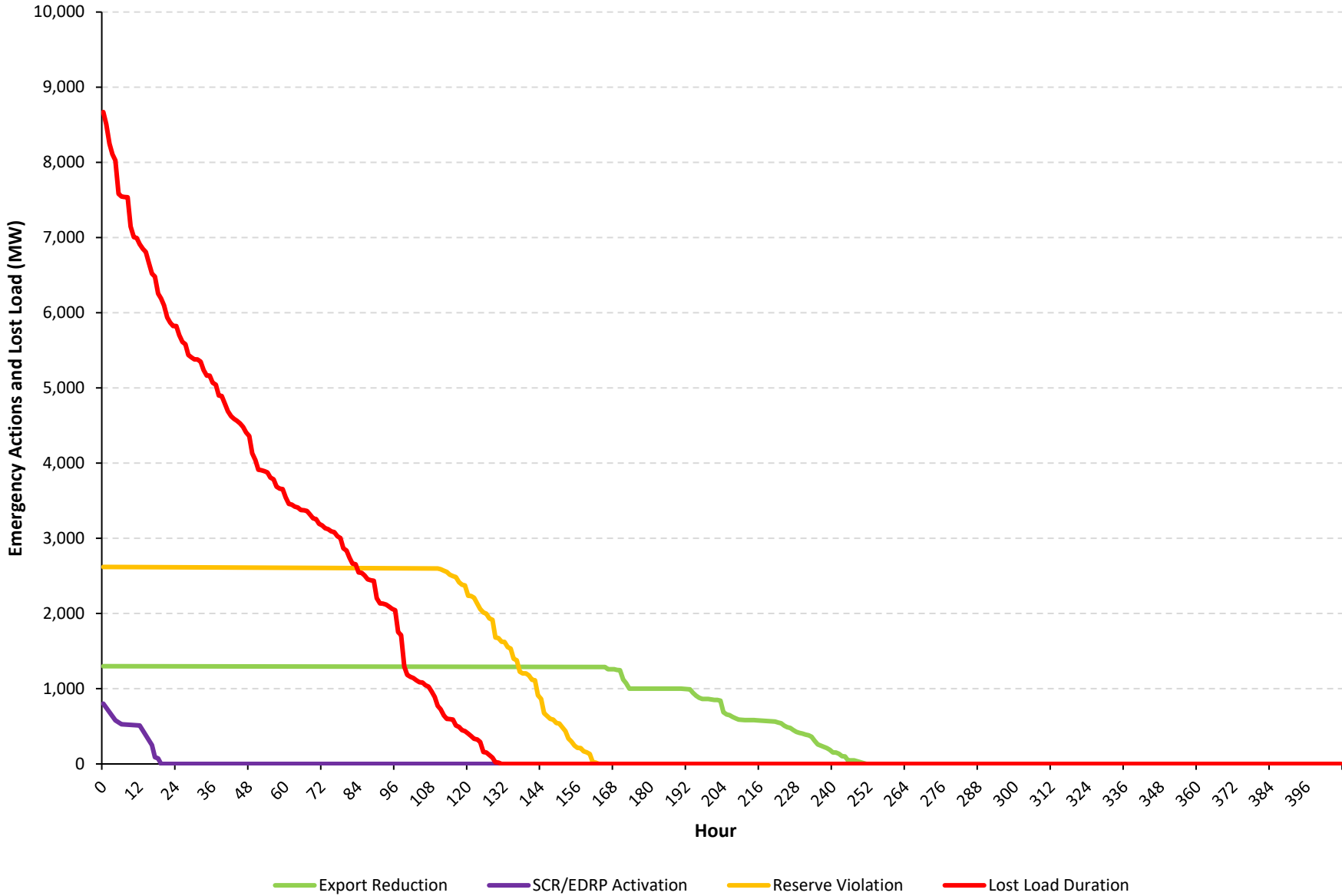
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 1 - PD 7 No Refill

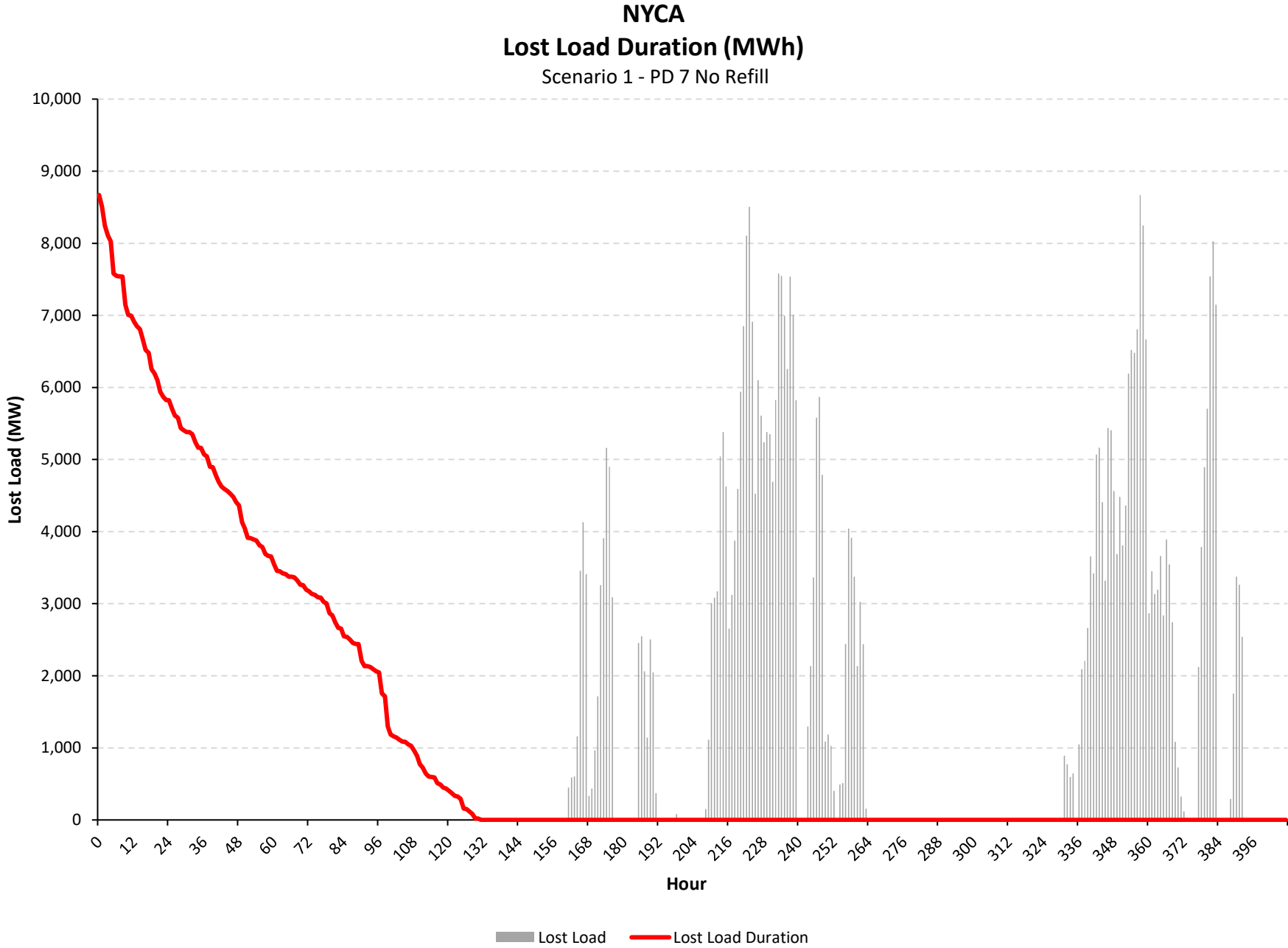




Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.

NYCA
Emergency Actions and Lost Load Duration (MWh)
Scenario 1 - PD 7 No Refill



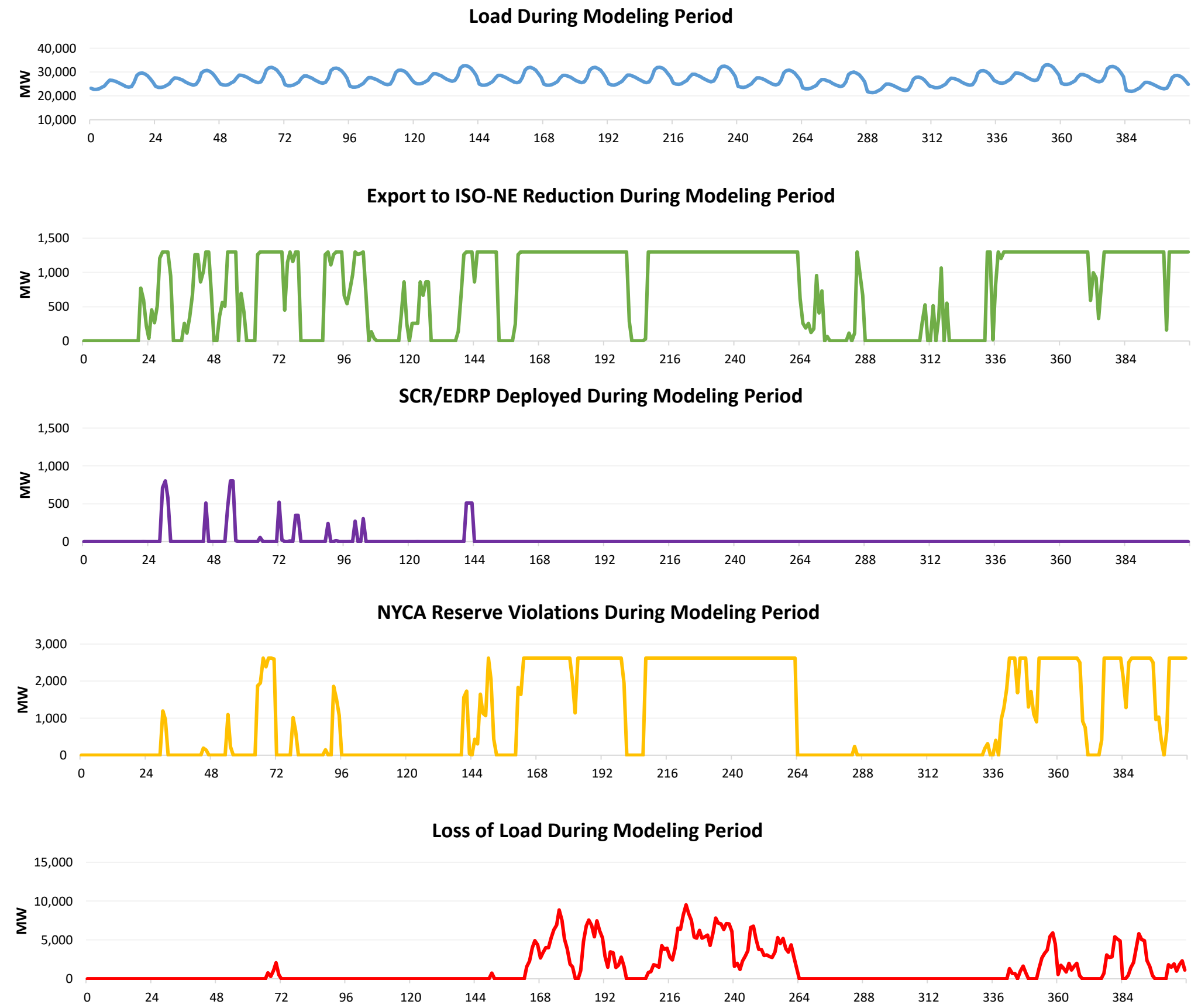


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 1 - PD 8 Non-Firm Gas Unavailable (F-K) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 1 - PD 8 Non-Firm Gas Unavailable (F-K)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	287
Total MWh	314,356
Avg. MW	770.5

SCR Deployment	
Total Hrs.	21
Total MWh	8,342
Avg. MW	20.4

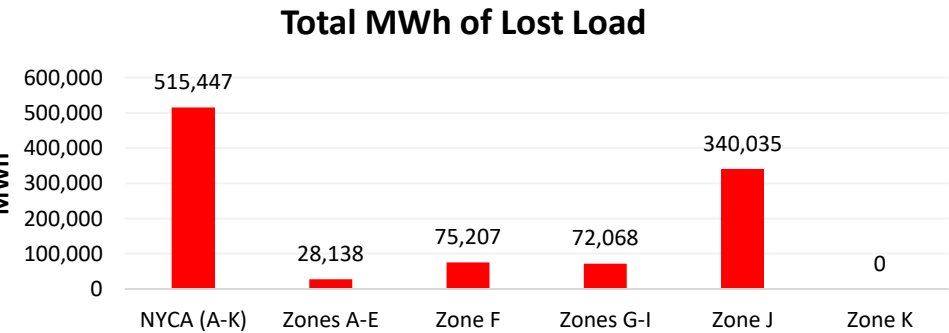
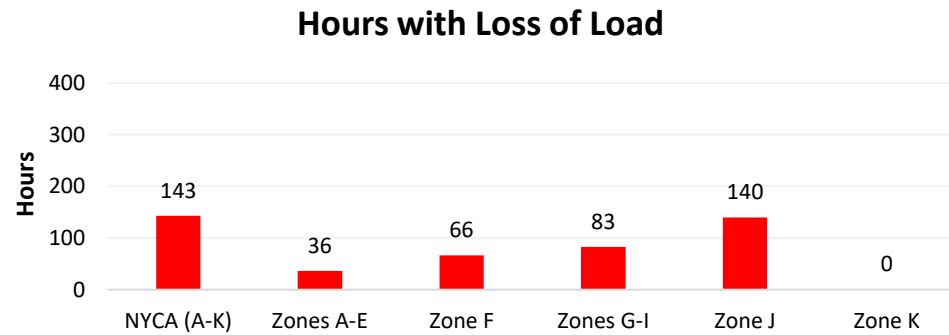
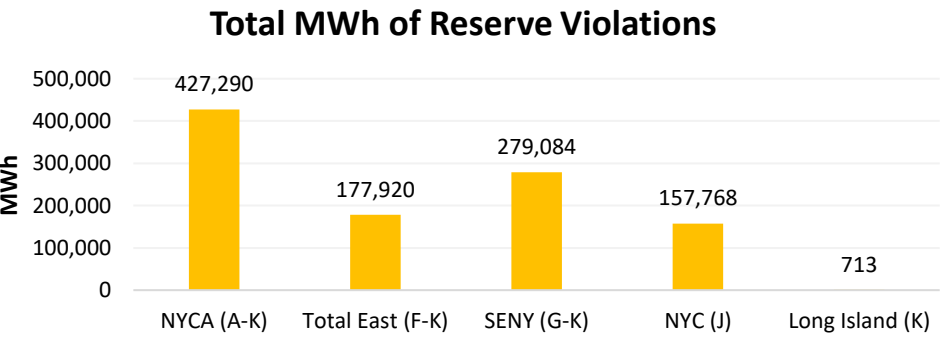
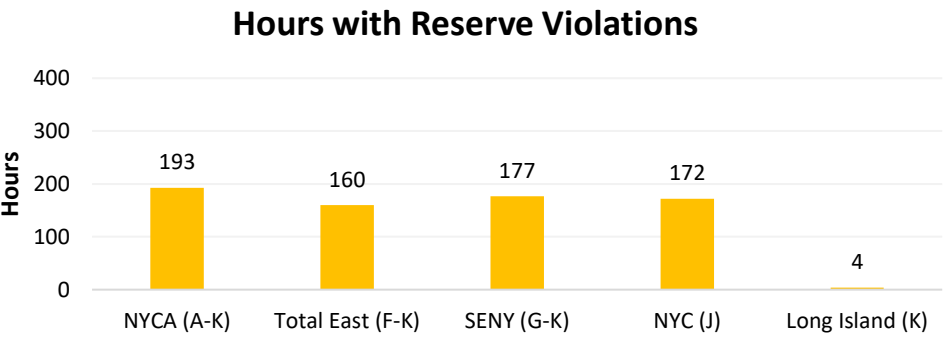
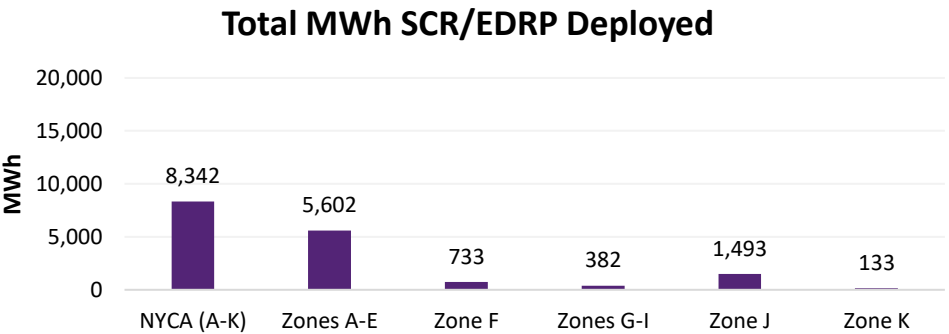
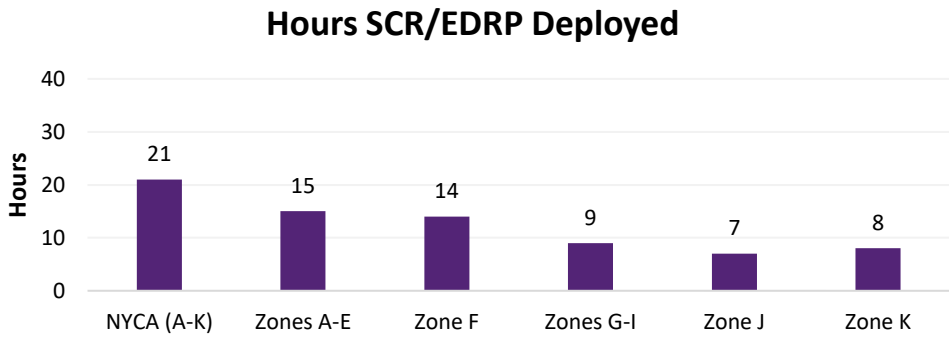
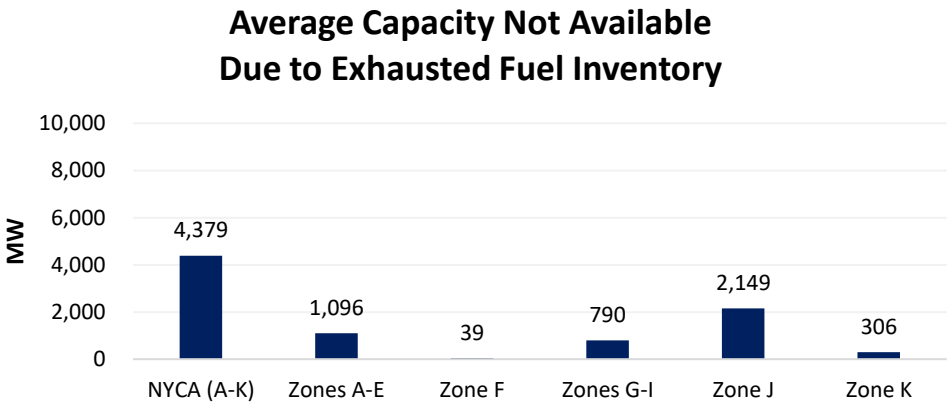
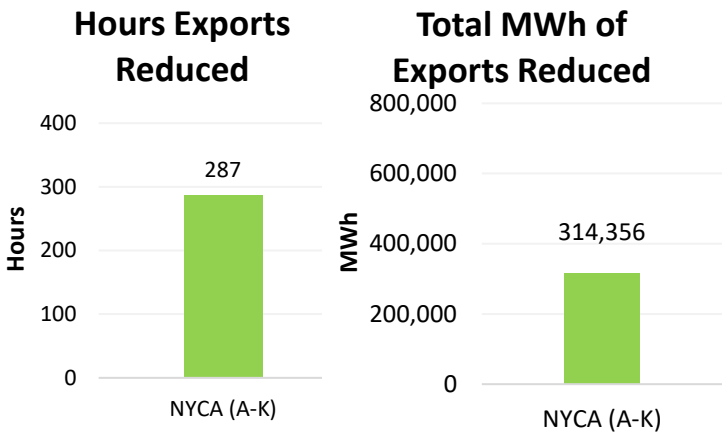
Reserve Violations	
Total Hrs.	193
Total MWh	427,290
Avg. MW	1,047.3
First Hour with Viol.	30

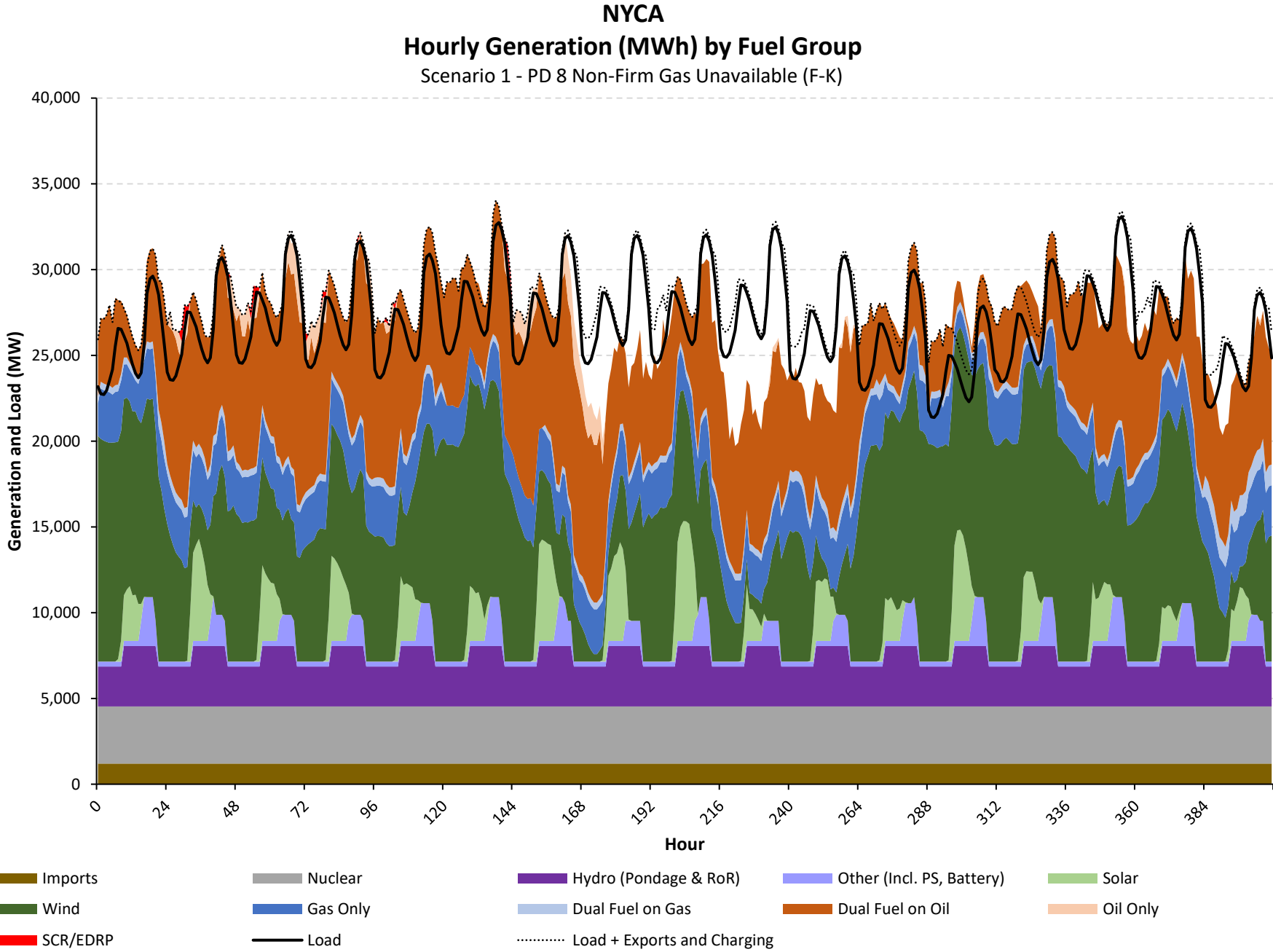
Loss of Load	
Total Hrs.	143
Total MWh	515,447
Avg. MW	1,263.4
First Hour with Losses	67

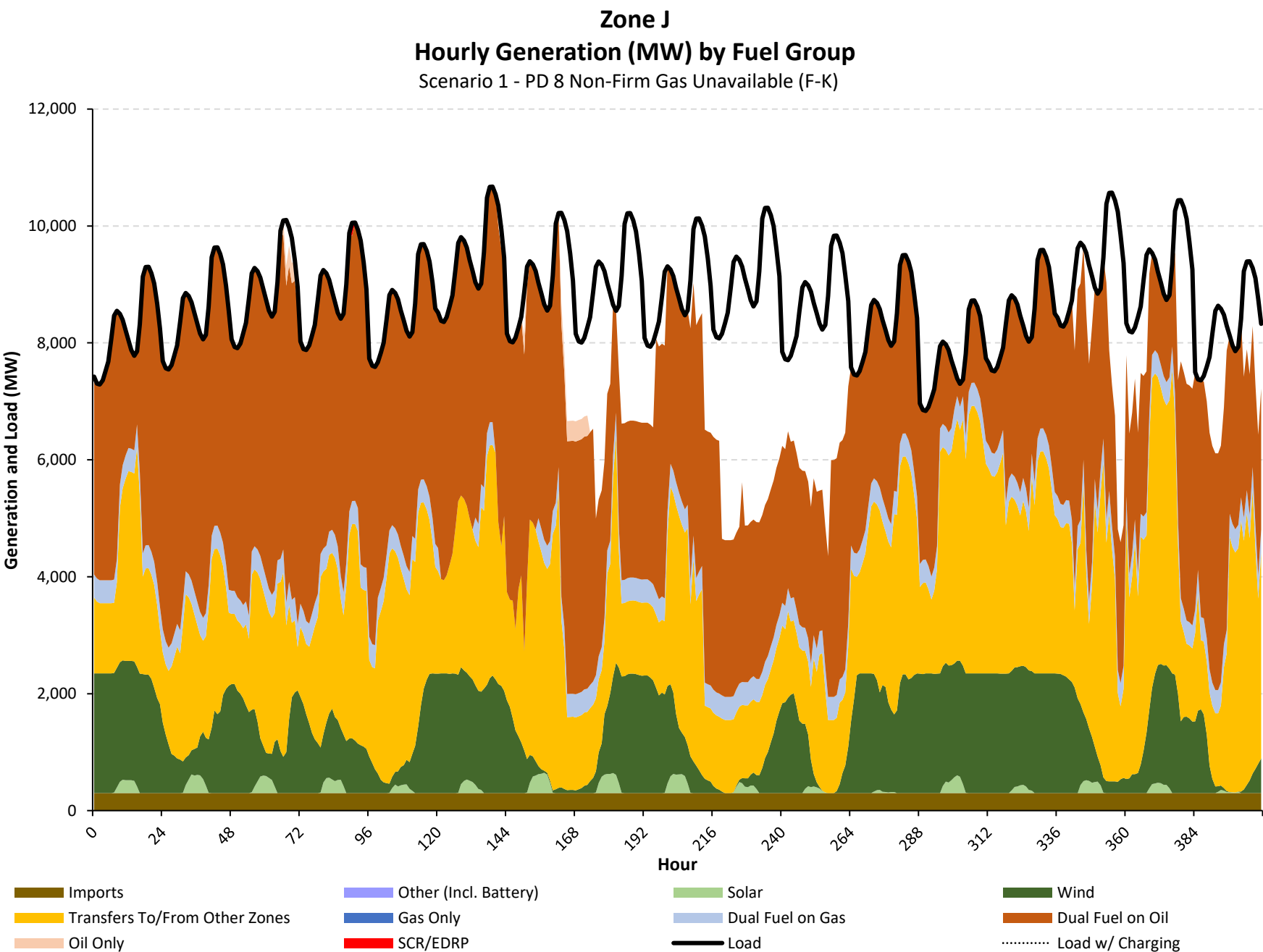
Full Period Results Summary

Case Name: Scenario 1 - PD 8 Non-Firm Gas Unavailable (F-K)

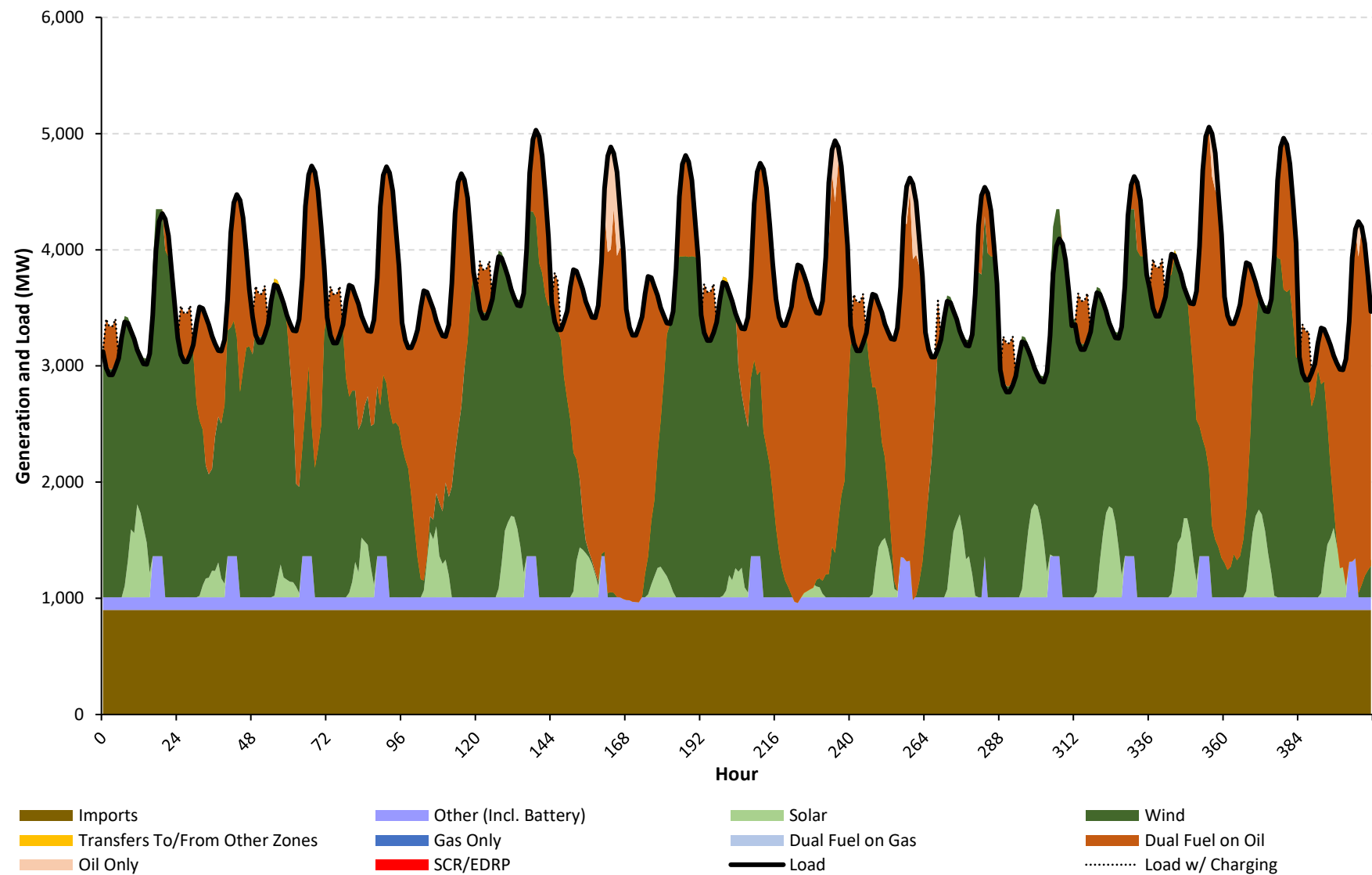
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

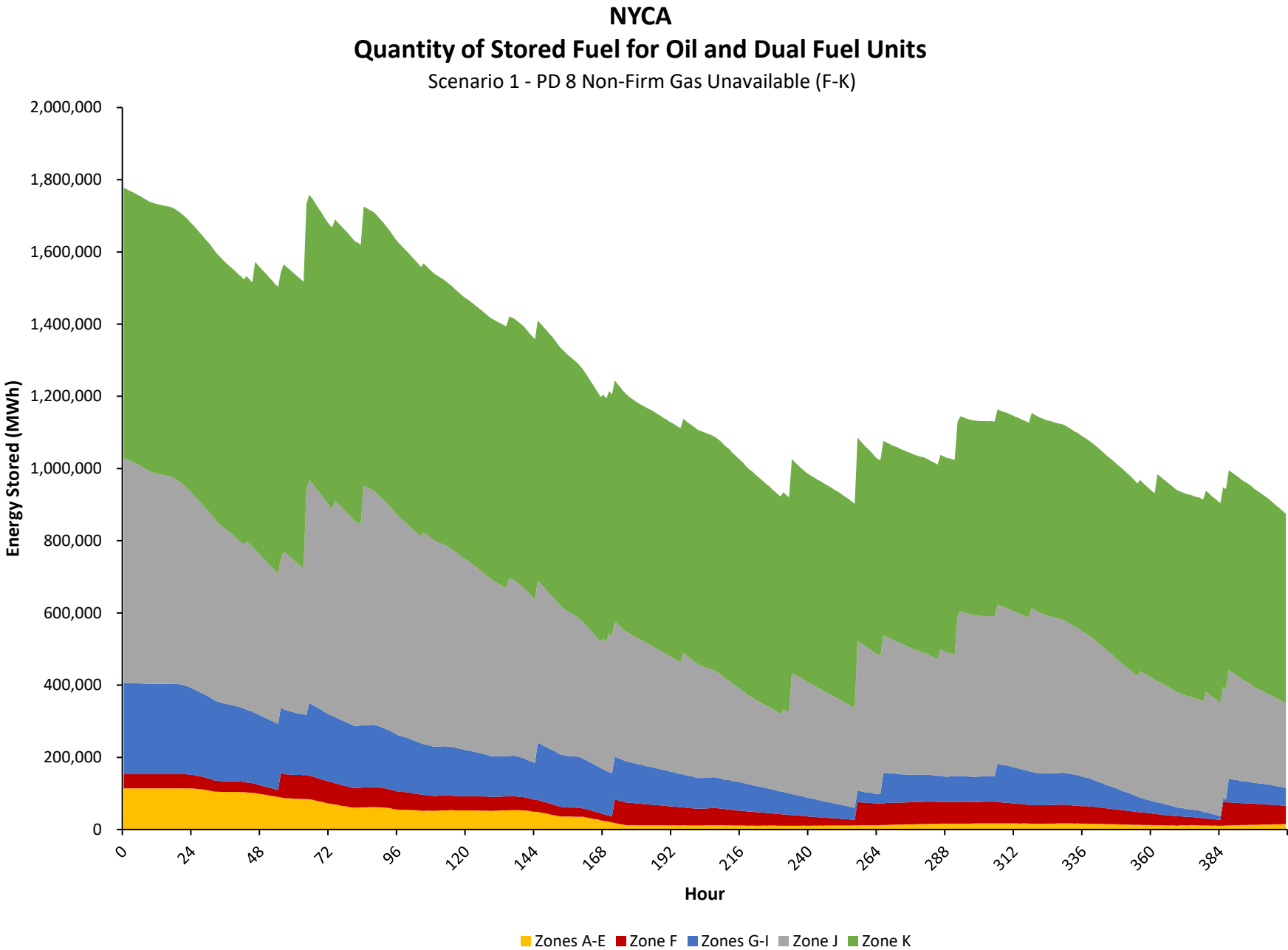


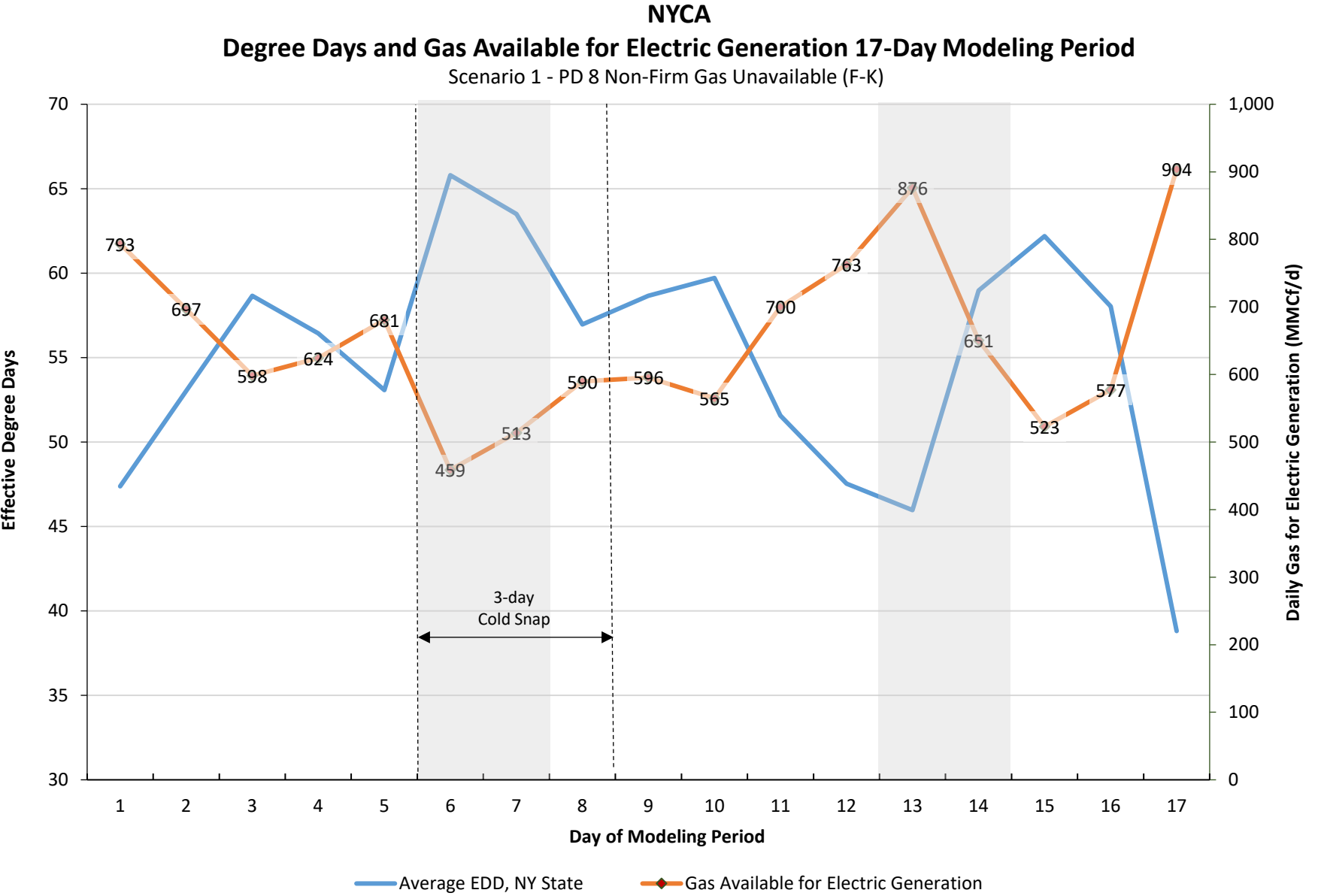




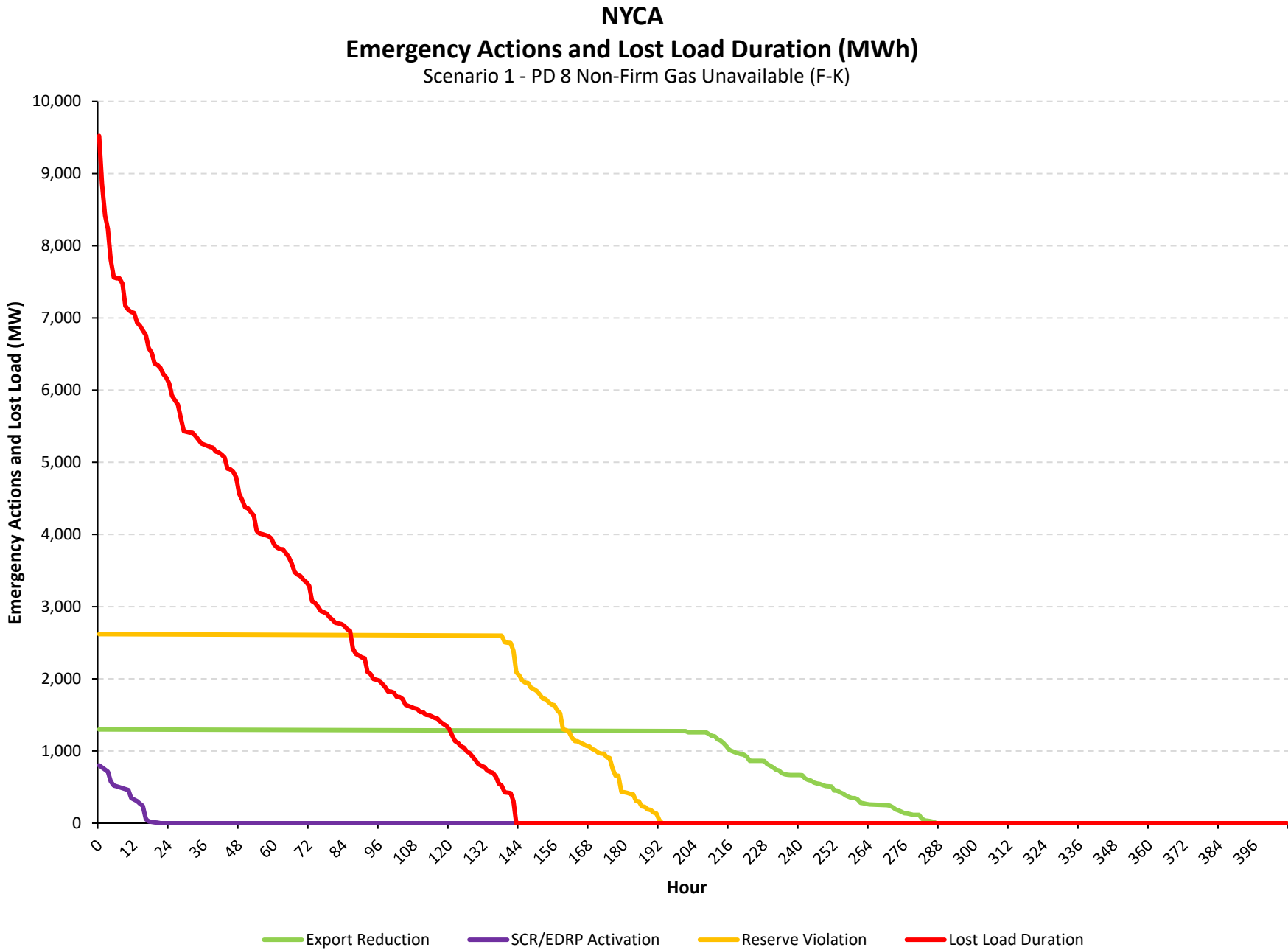
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 1 - PD 8 Non-Firm Gas Unavailable (F-K)

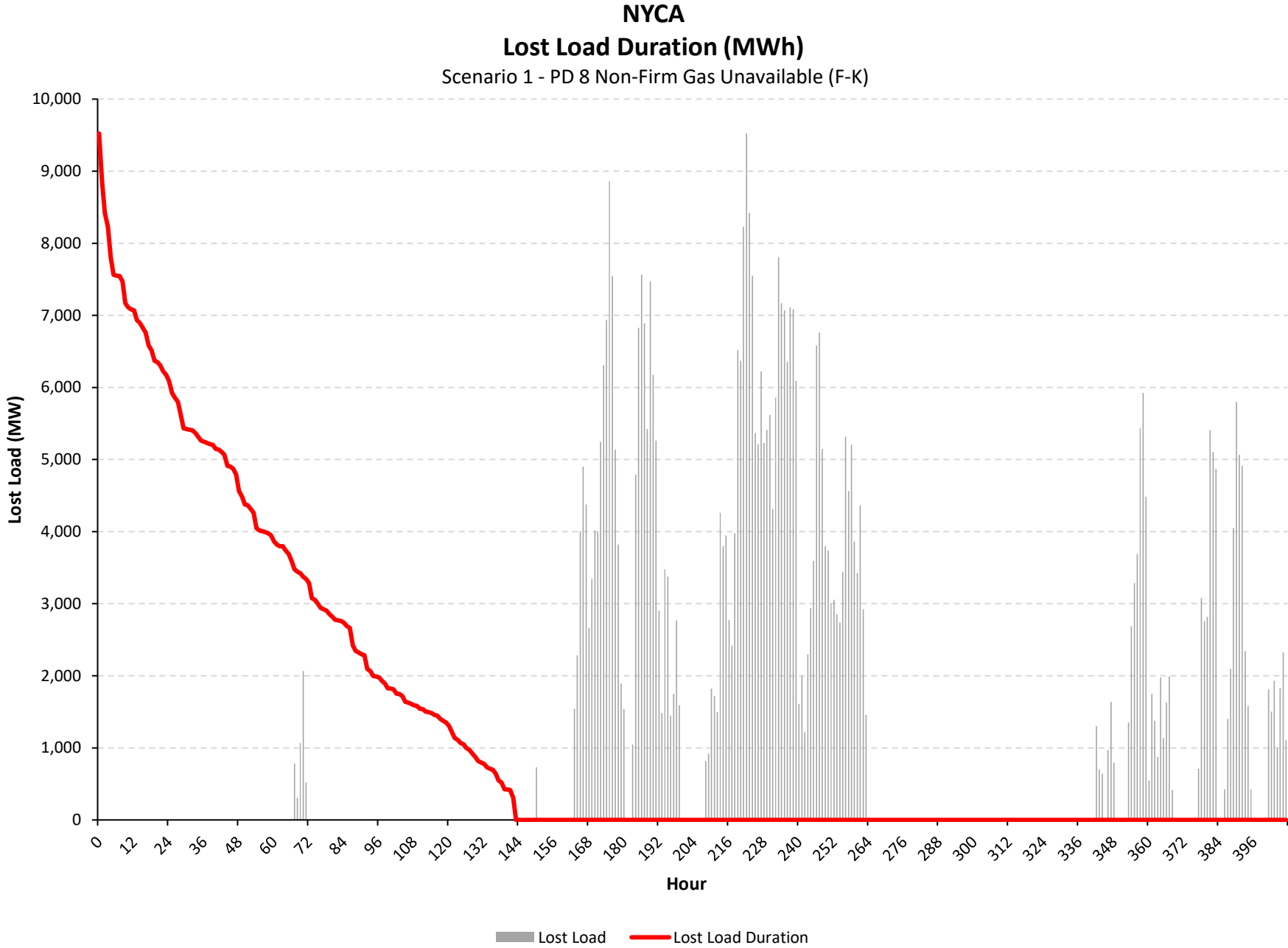






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



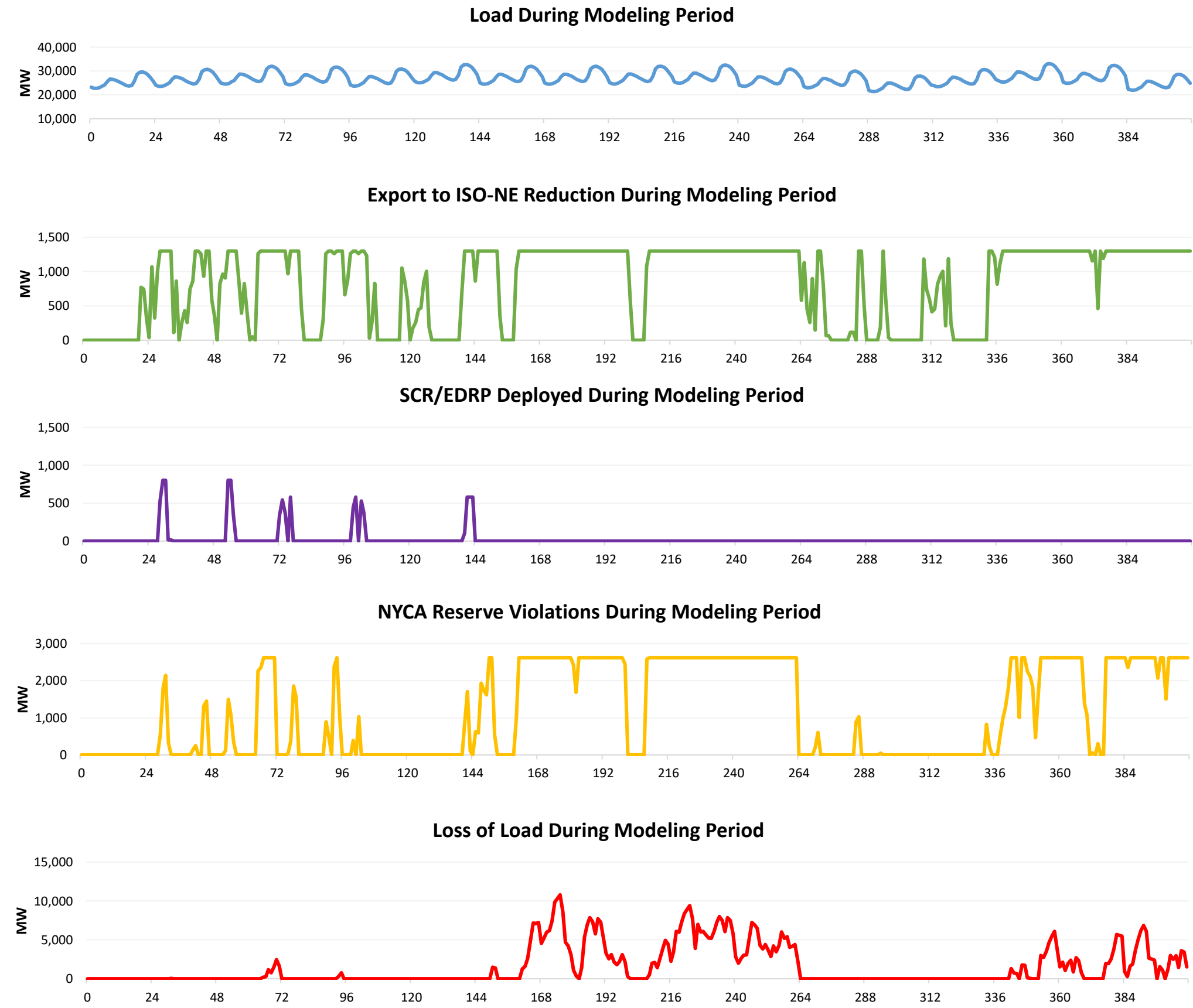


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 1 - PD 9 Non-Firm Gas Unavailable (NYCA) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 1 - PD 9 Non-Firm Gas Unavailable (NYCA)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	307
Total MWh	342,955
Avg. MW	840.6

SCR Deployment	
Total Hrs.	20
Total MWh	9,711
Avg. MW	23.8

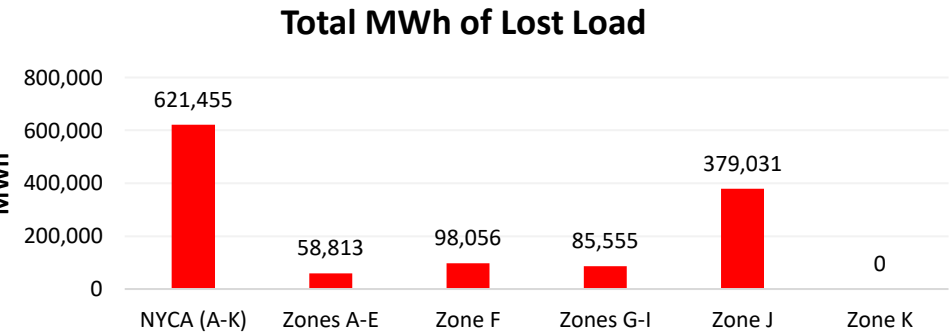
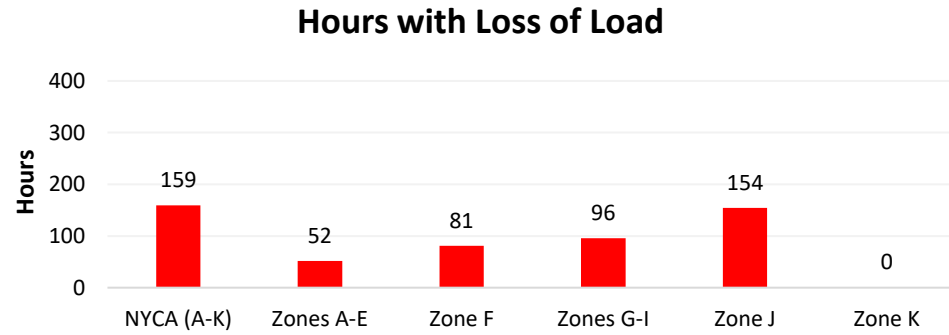
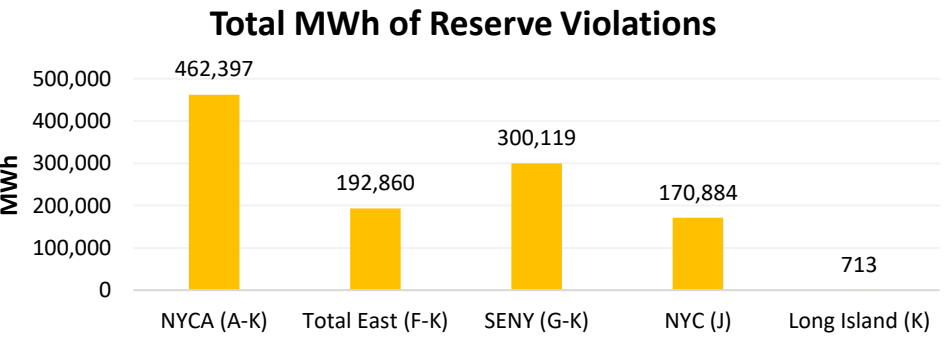
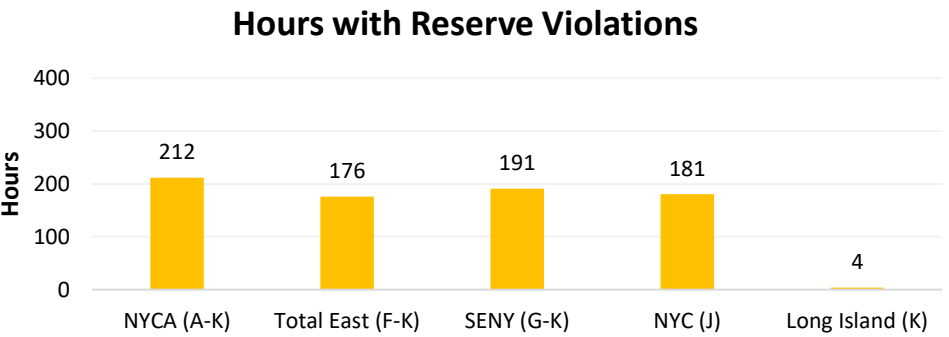
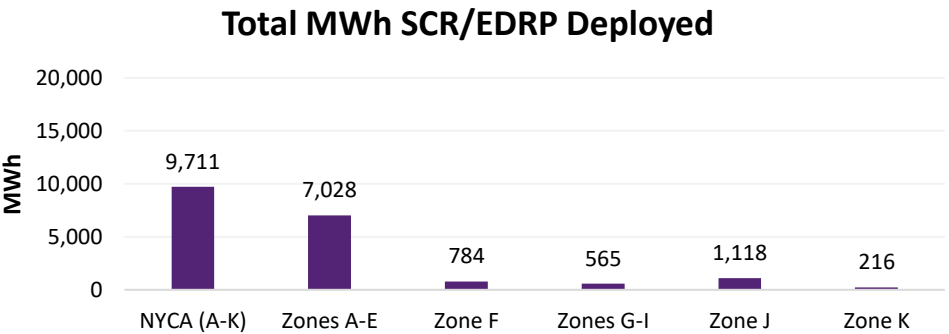
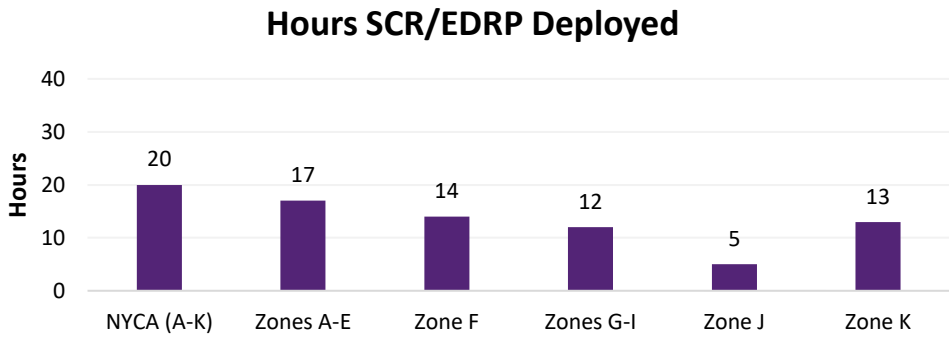
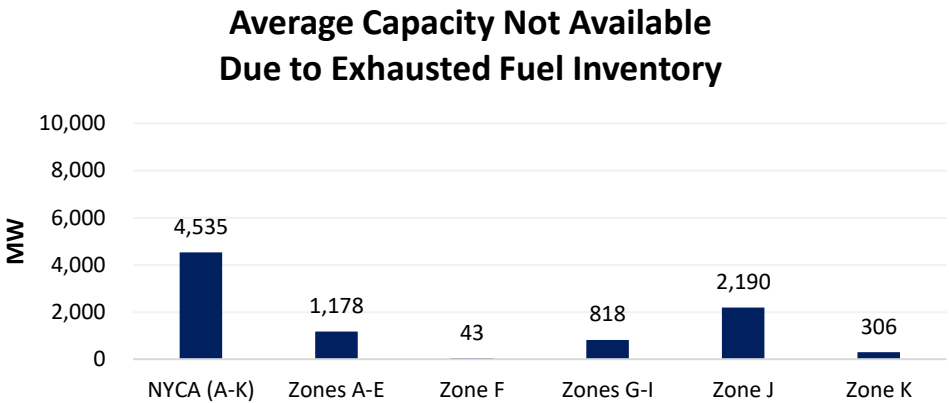
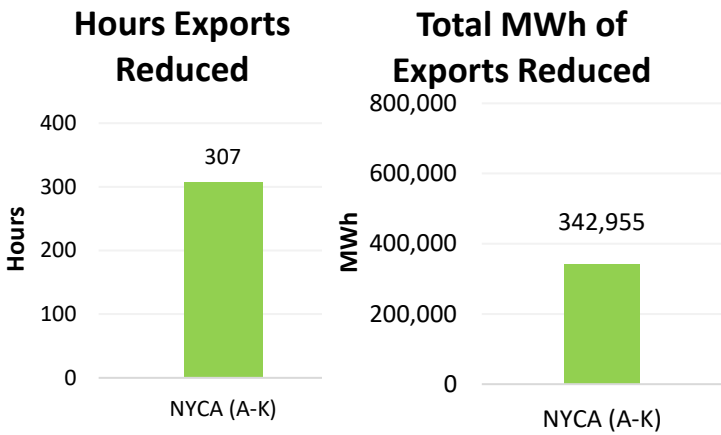
Reserve Violations	
Total Hrs.	212
Total MWh	462,397
Avg. MW	1,133.3
First Hour with Viol.	29

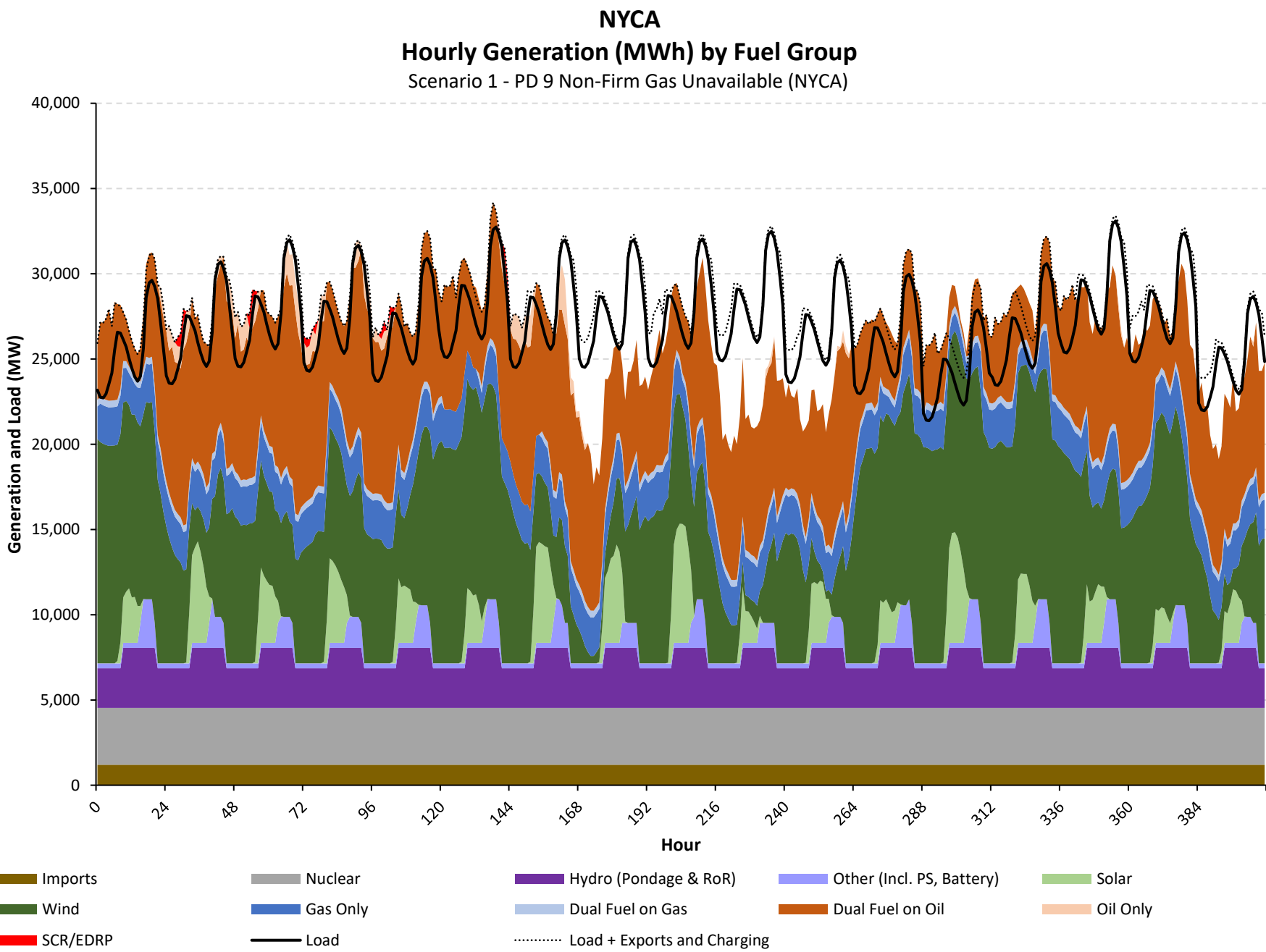
Loss of Load	
Total Hrs.	159
Total MWh	621,455
Avg. MW	1,523.2
First Hour with Losses	31

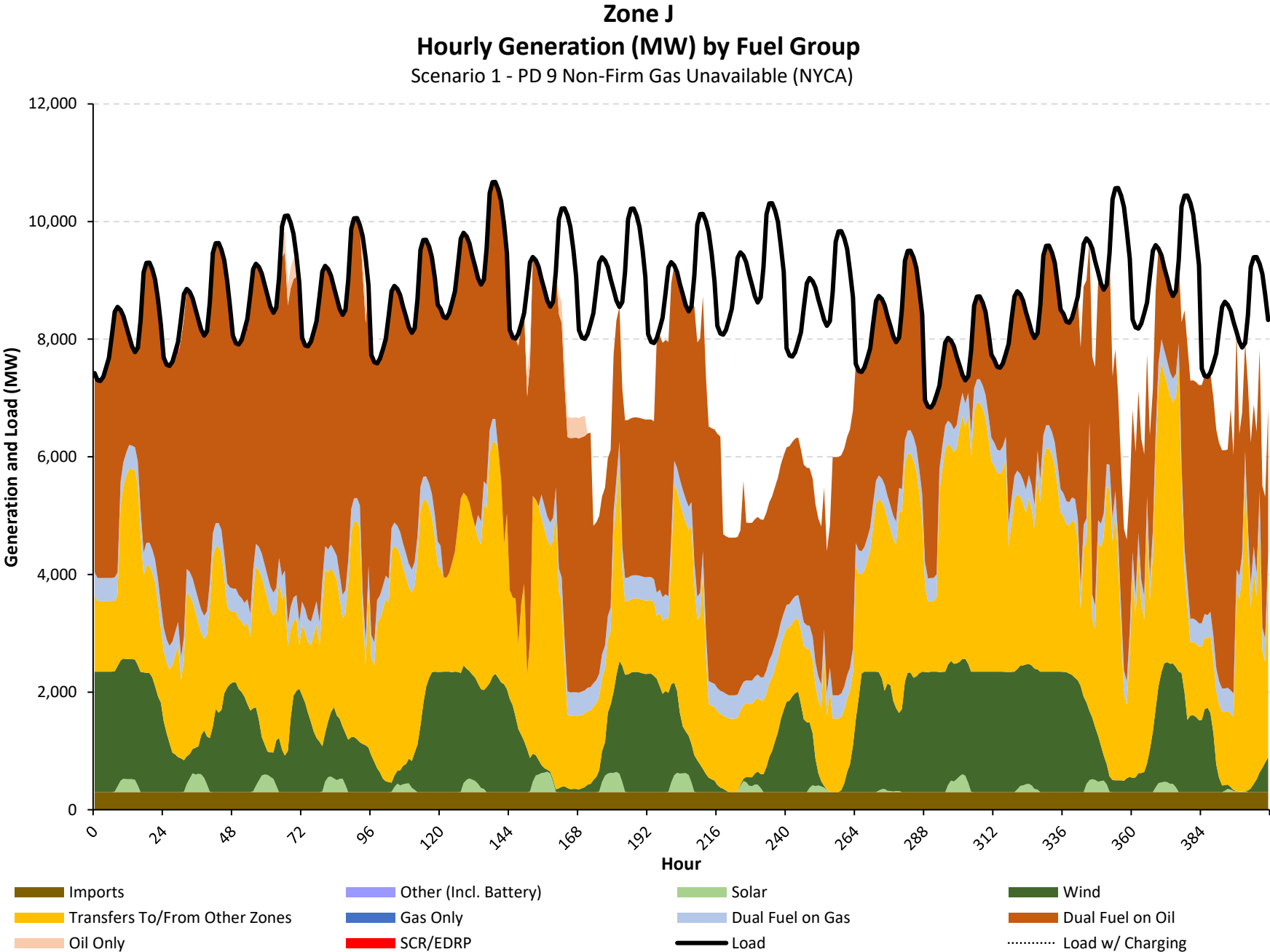
Full Period Results Summary

Case Name: Scenario 1 - PD 9 Non-Firm Gas Unavailable (NYCA)

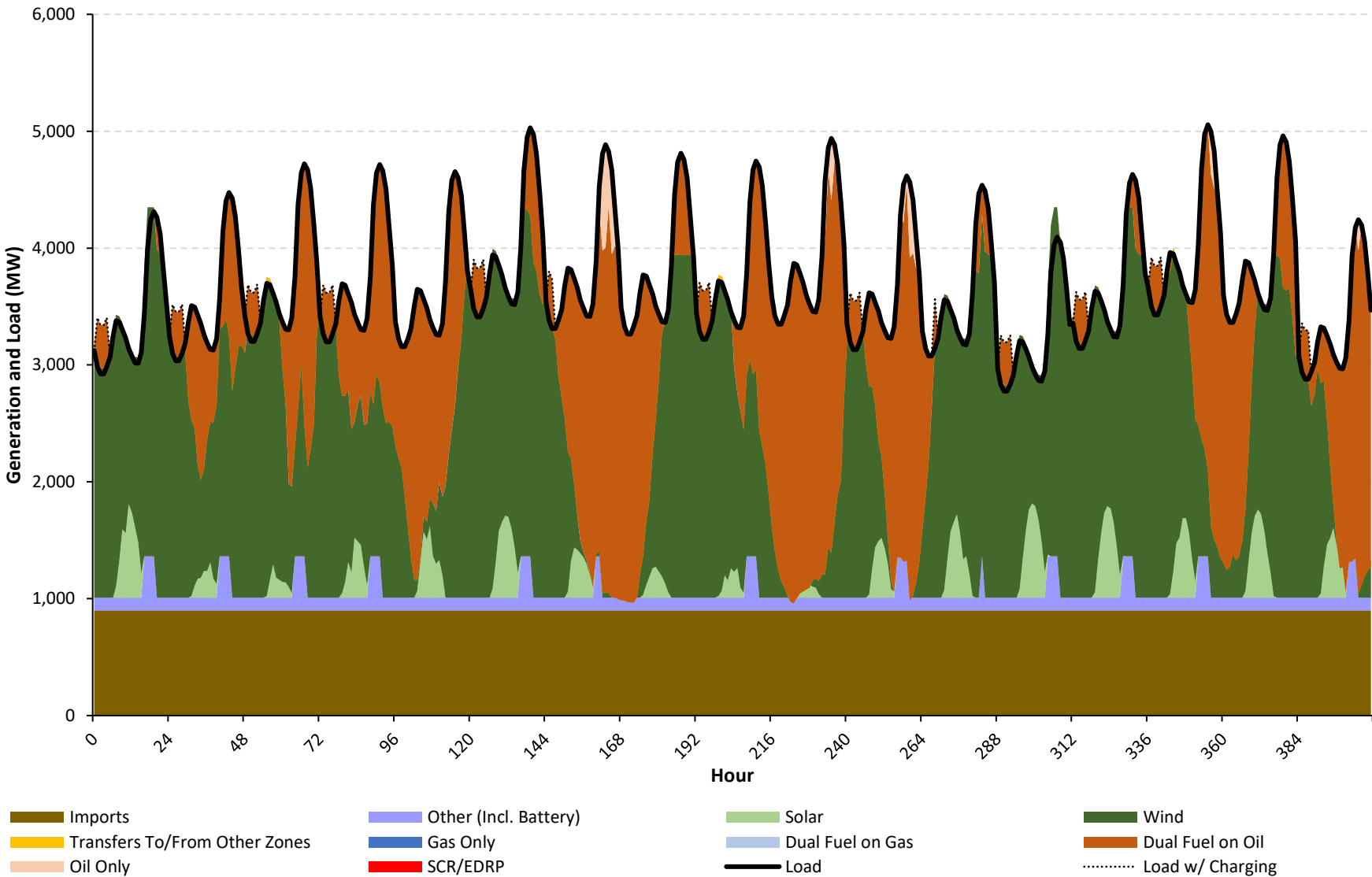
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

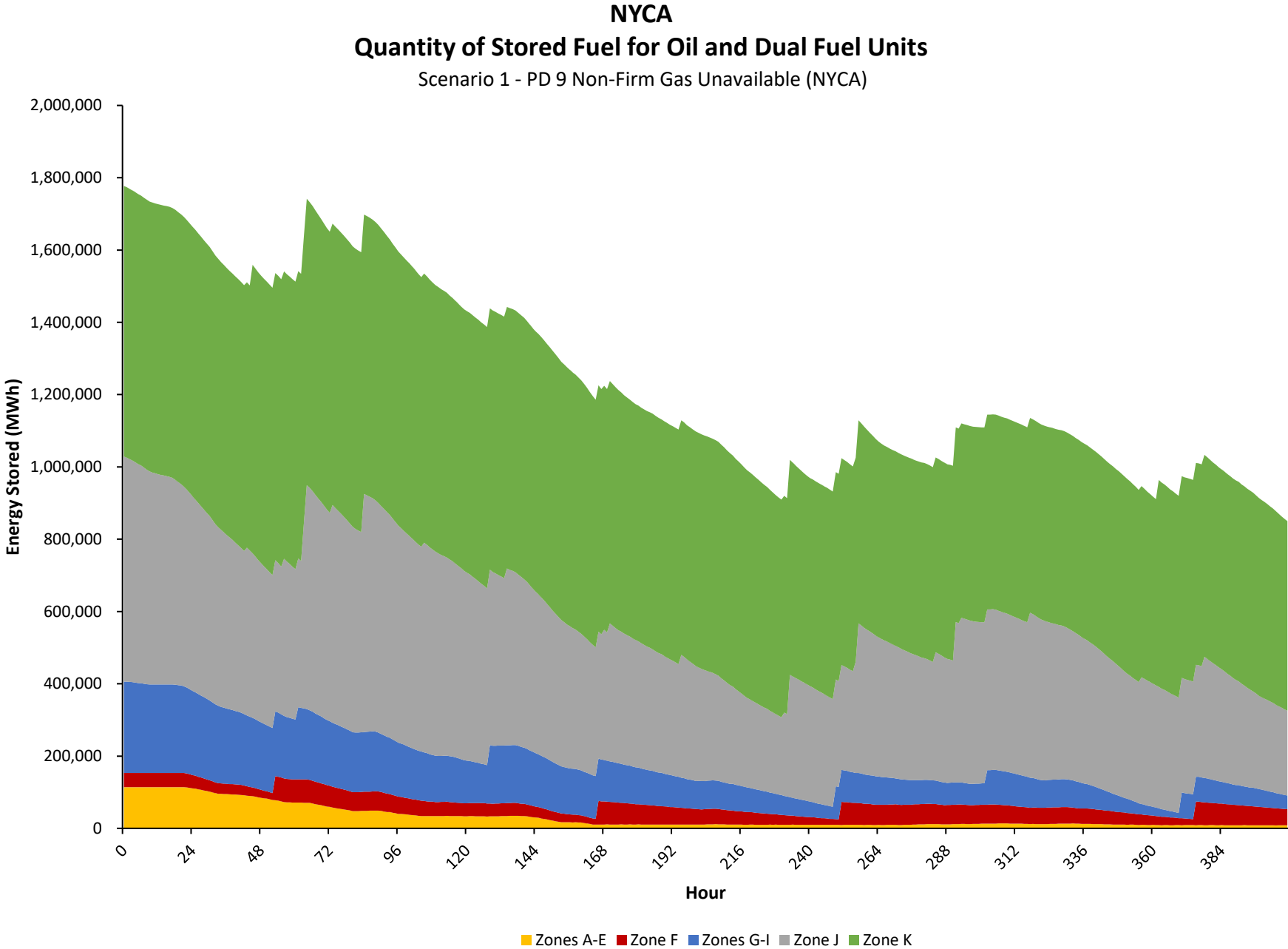


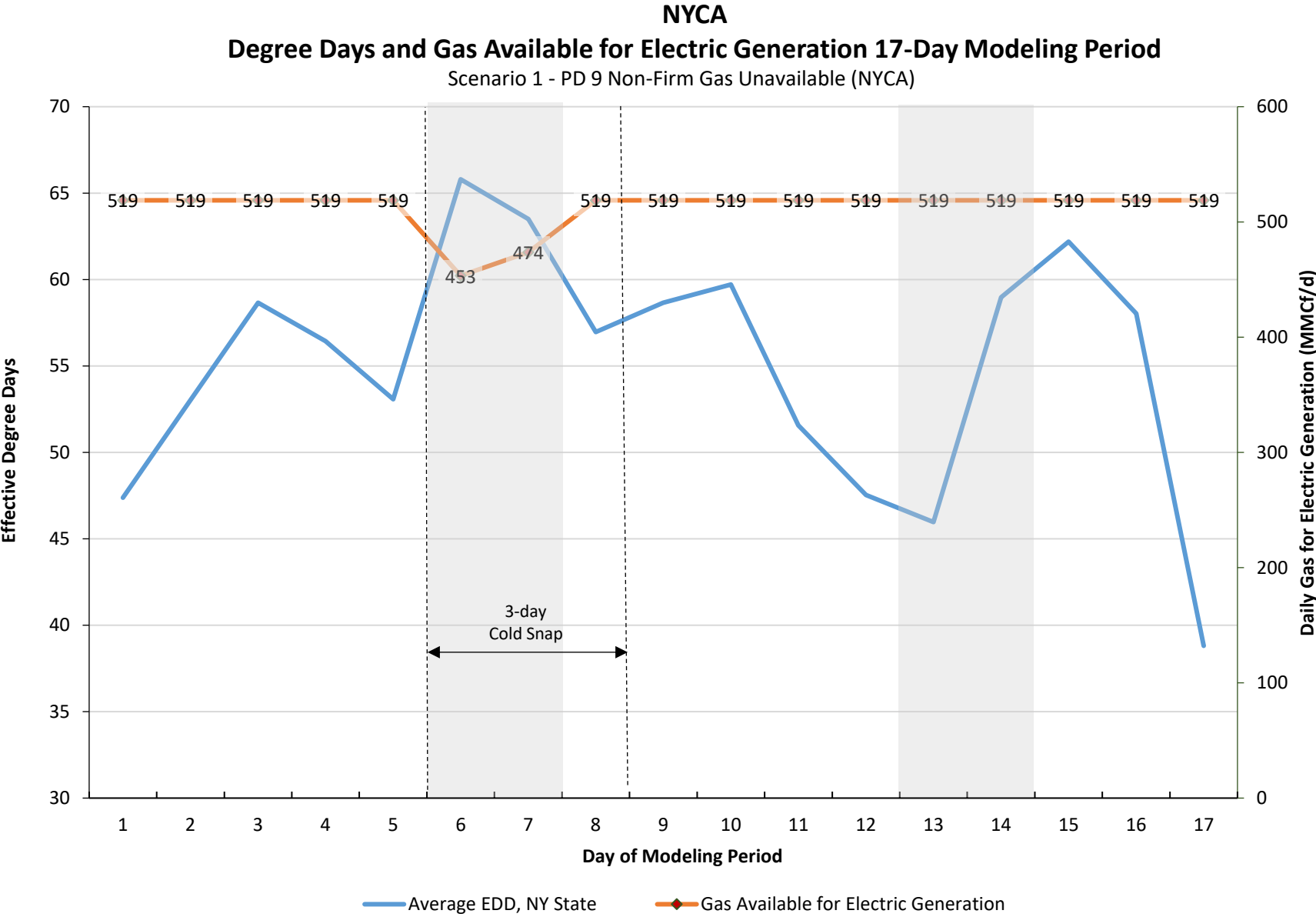




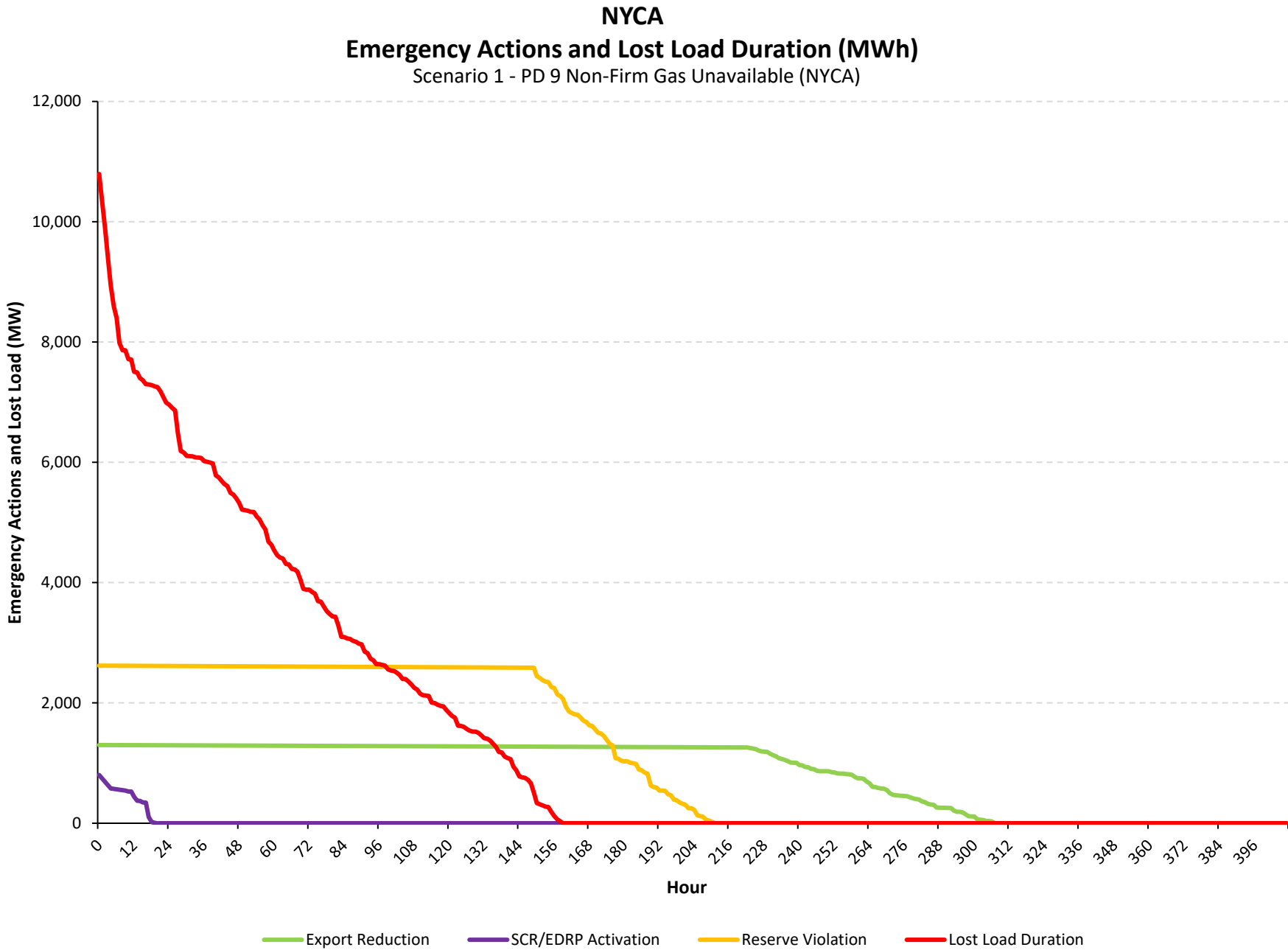
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 1 - PD 9 Non-Firm Gas Unavailable (NYCA)

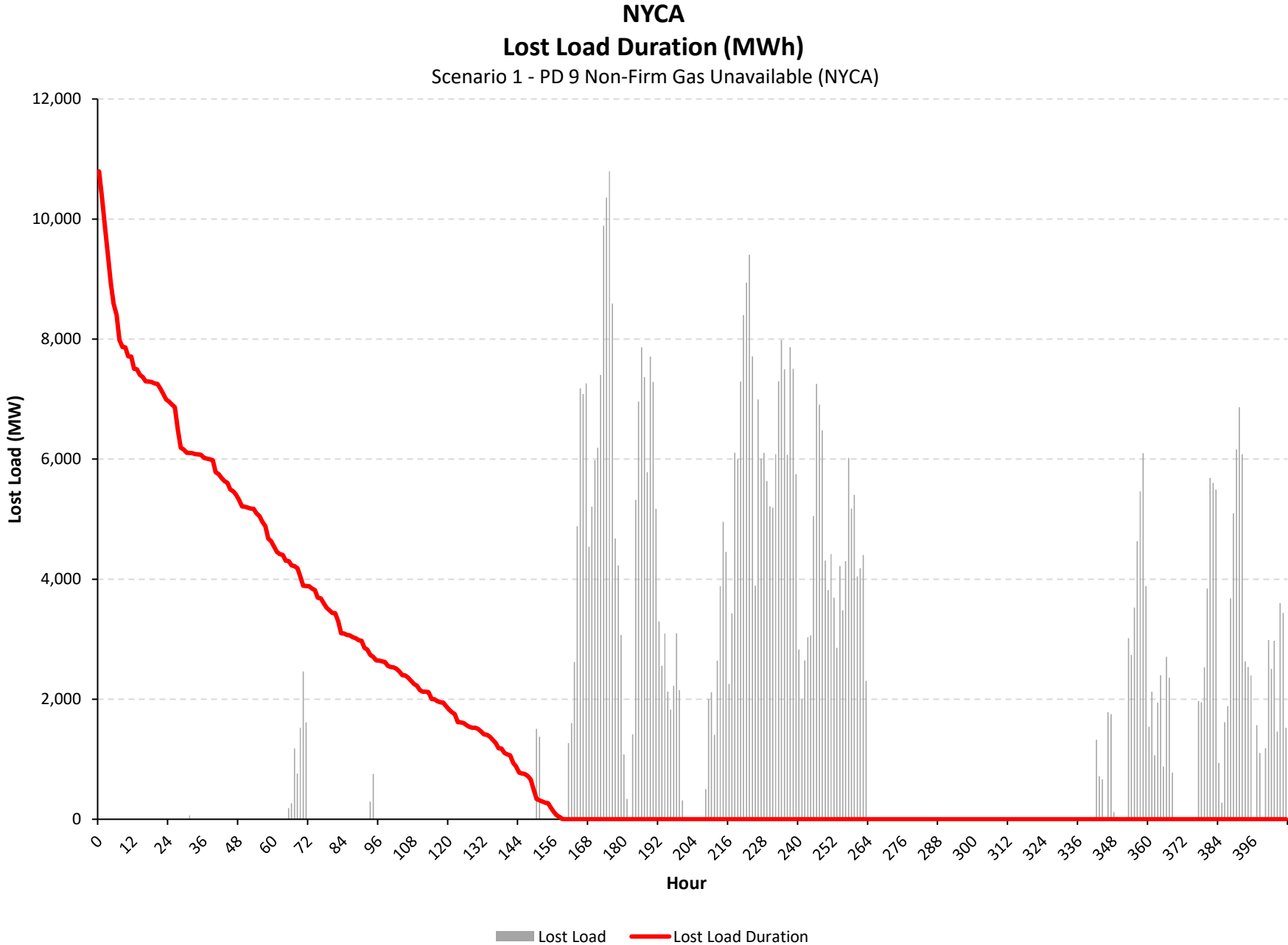






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



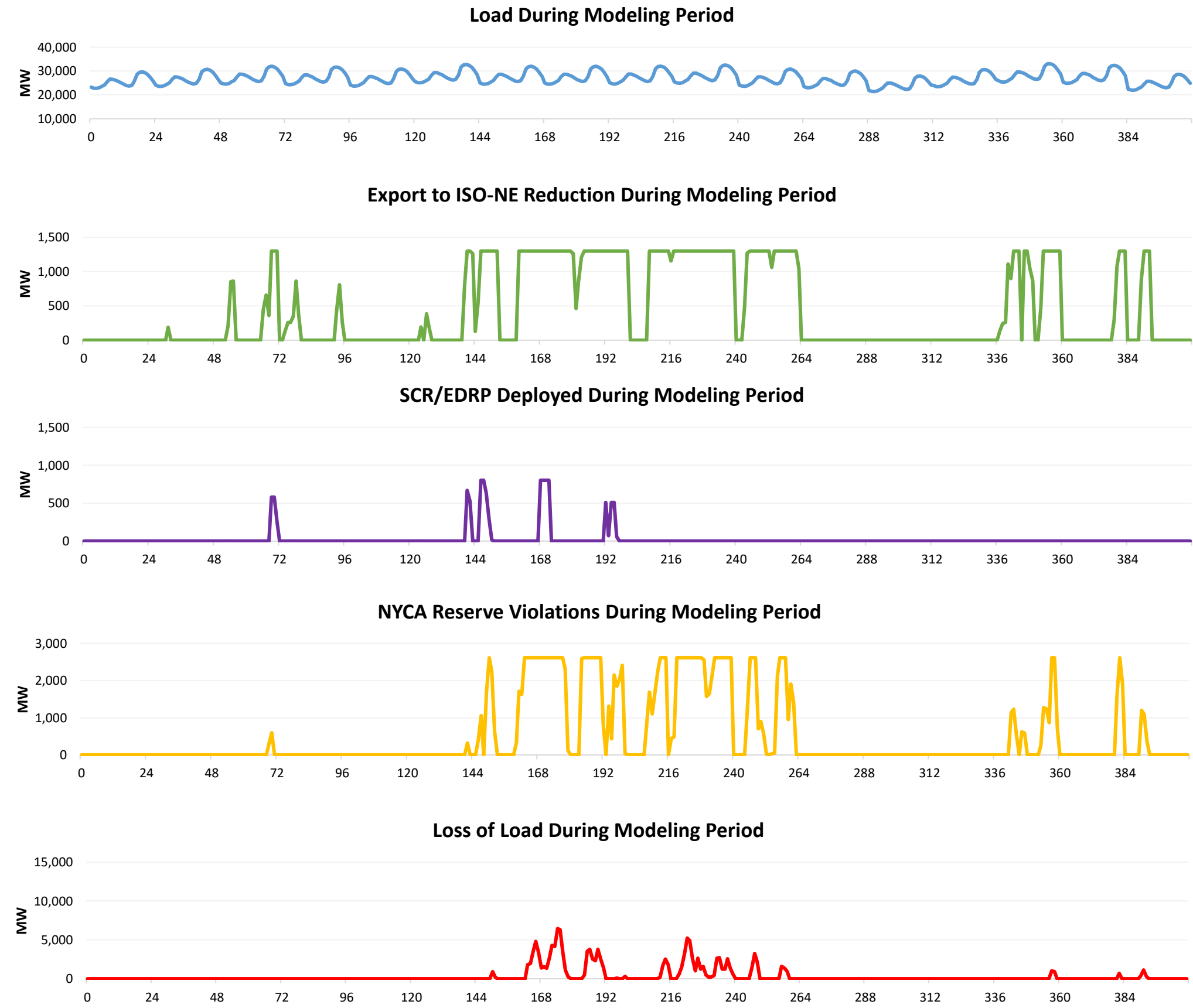


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 1 - PD 10 Non-Firm Gas Unavailable (4 days) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 1 - PD 10 Non-Firm Gas Unavailable (4 days)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	159
Total MWh	176,479
Avg. MW	432.5

SCR Deployment	
Total Hrs.	19
Total MWh	10,023
Avg. MW	24.6

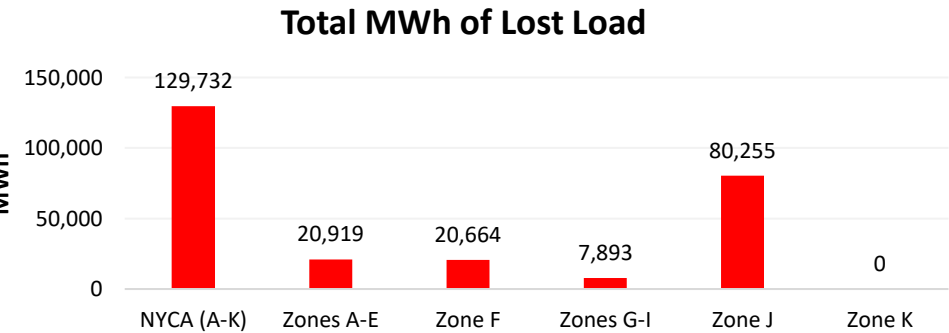
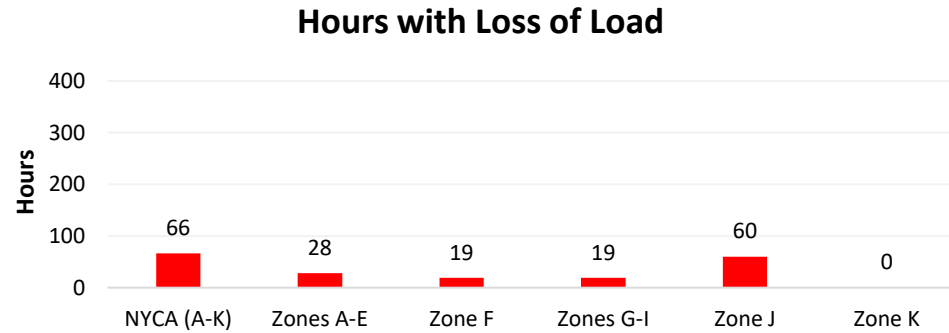
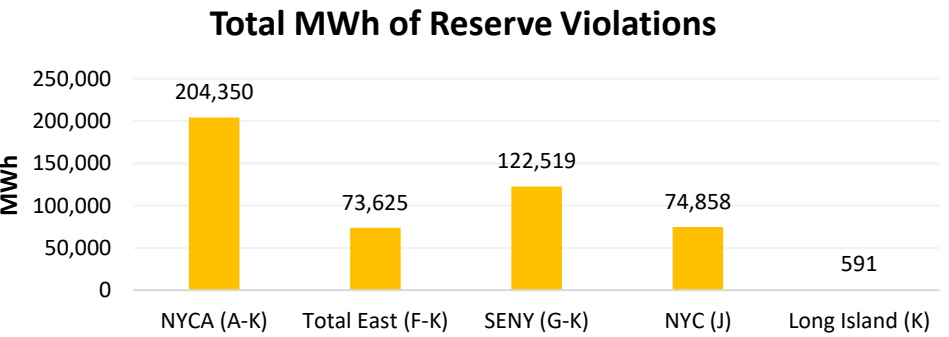
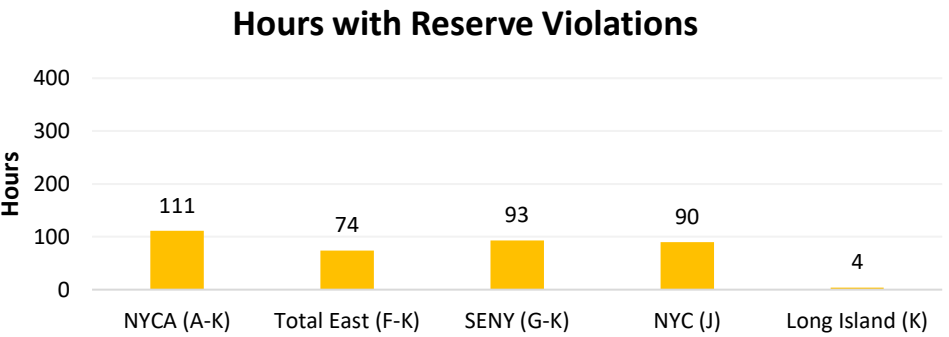
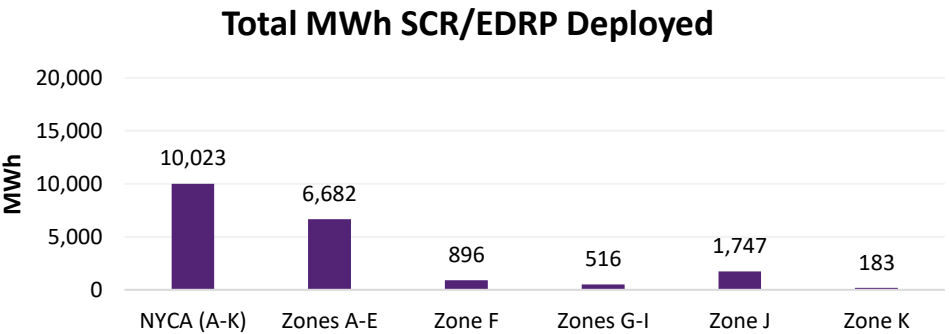
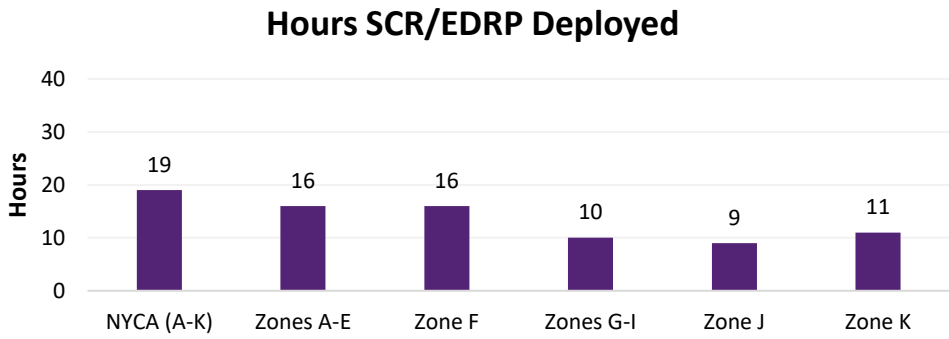
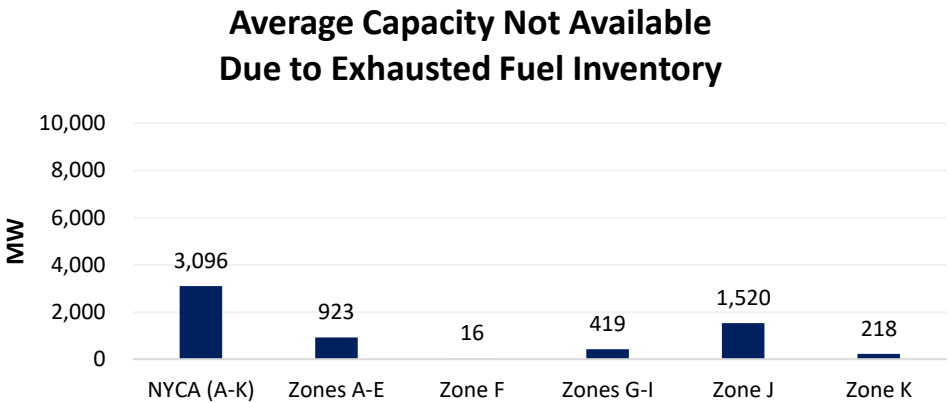
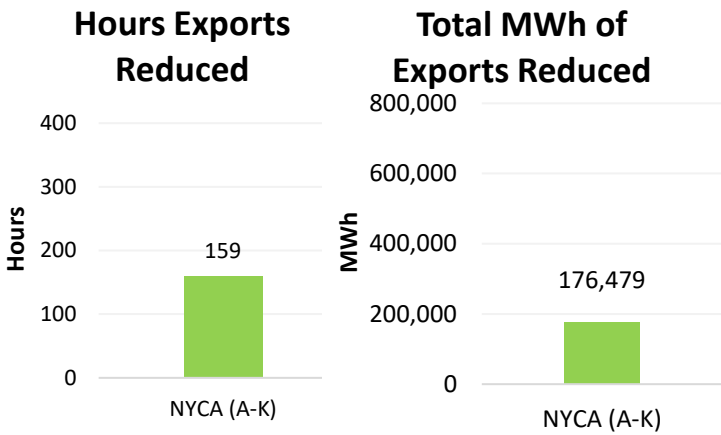
Reserve Violations	
Total Hrs.	111
Total MWh	204,350
Avg. MW	500.9
First Hour with Viol.	69

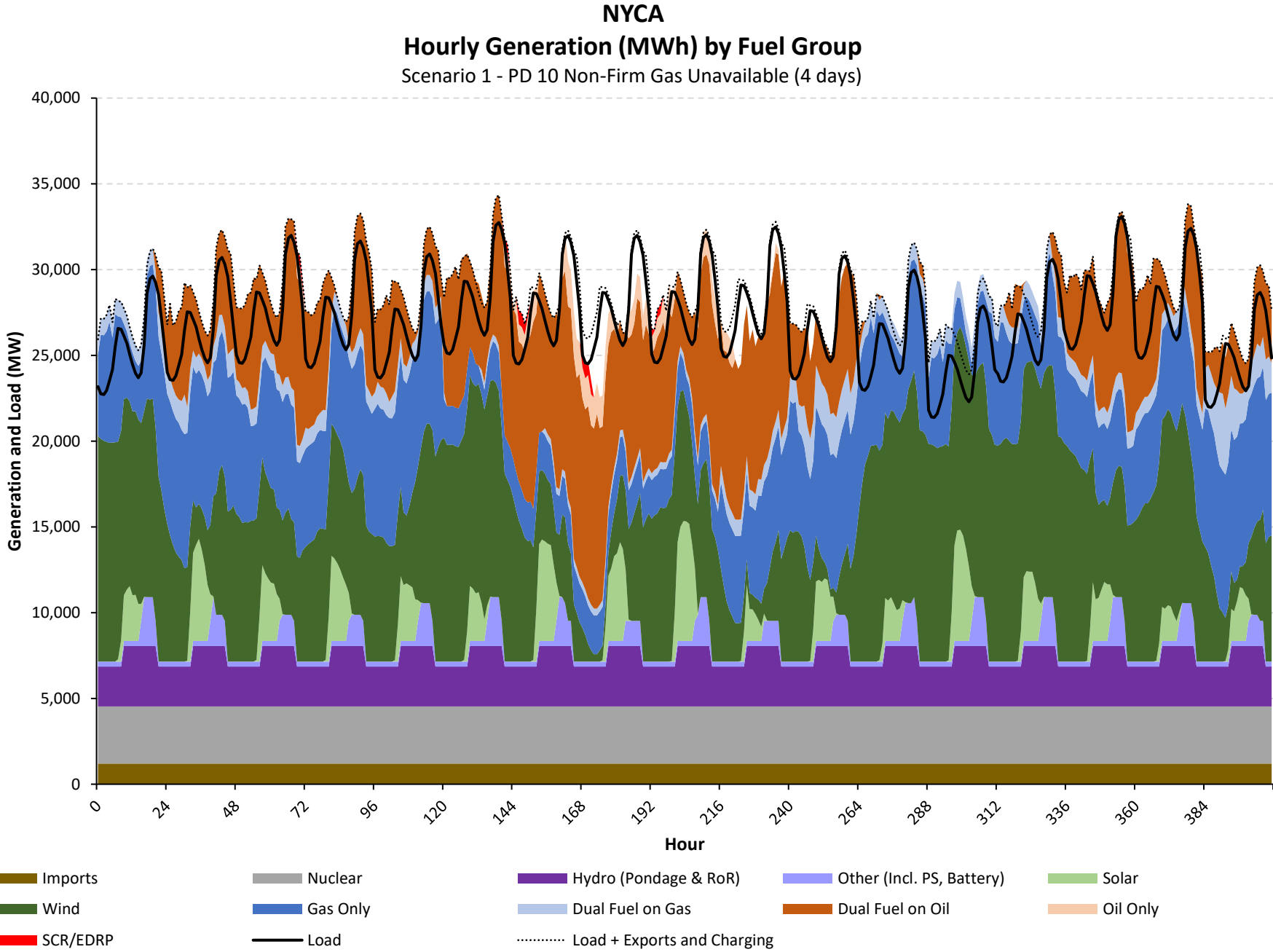
Loss of Load	
Total Hrs.	66
Total MWh	129,732
Avg. MW	318.0
First Hour with Losses	150

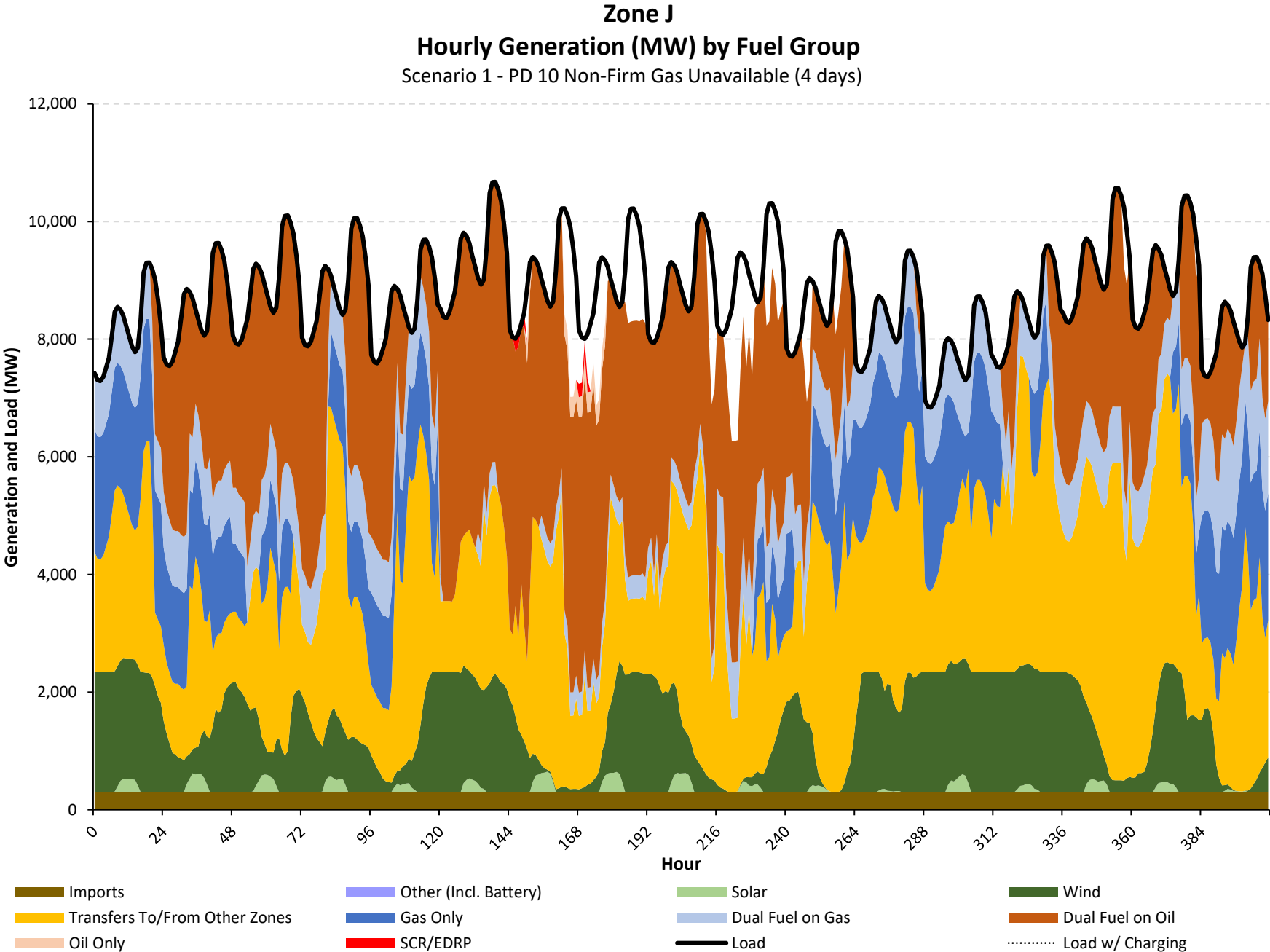
Full Period Results Summary

Case Name: Scenario 1 - PD 10 Non-Firm Gas Unavailable (4 days)

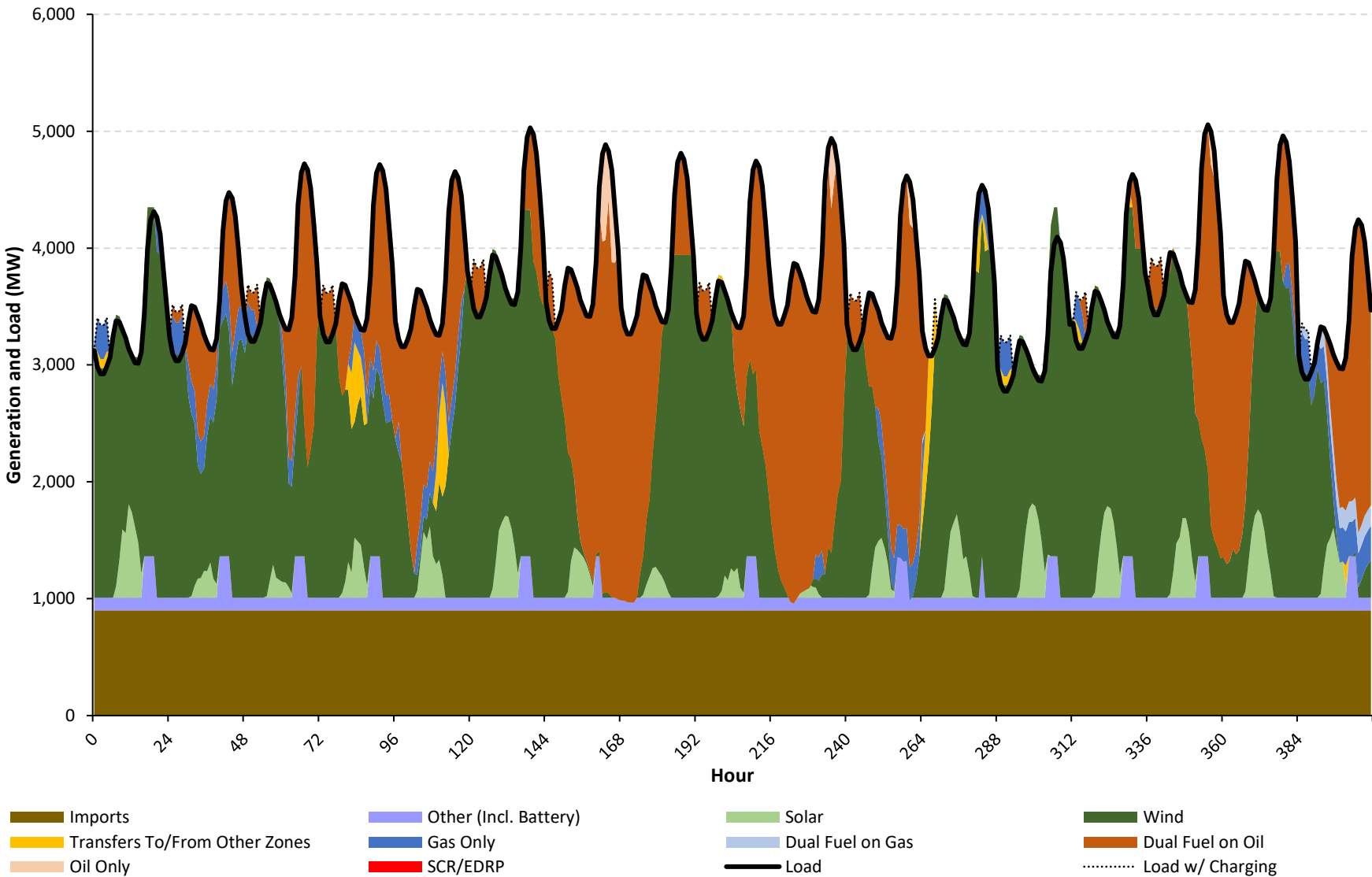
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

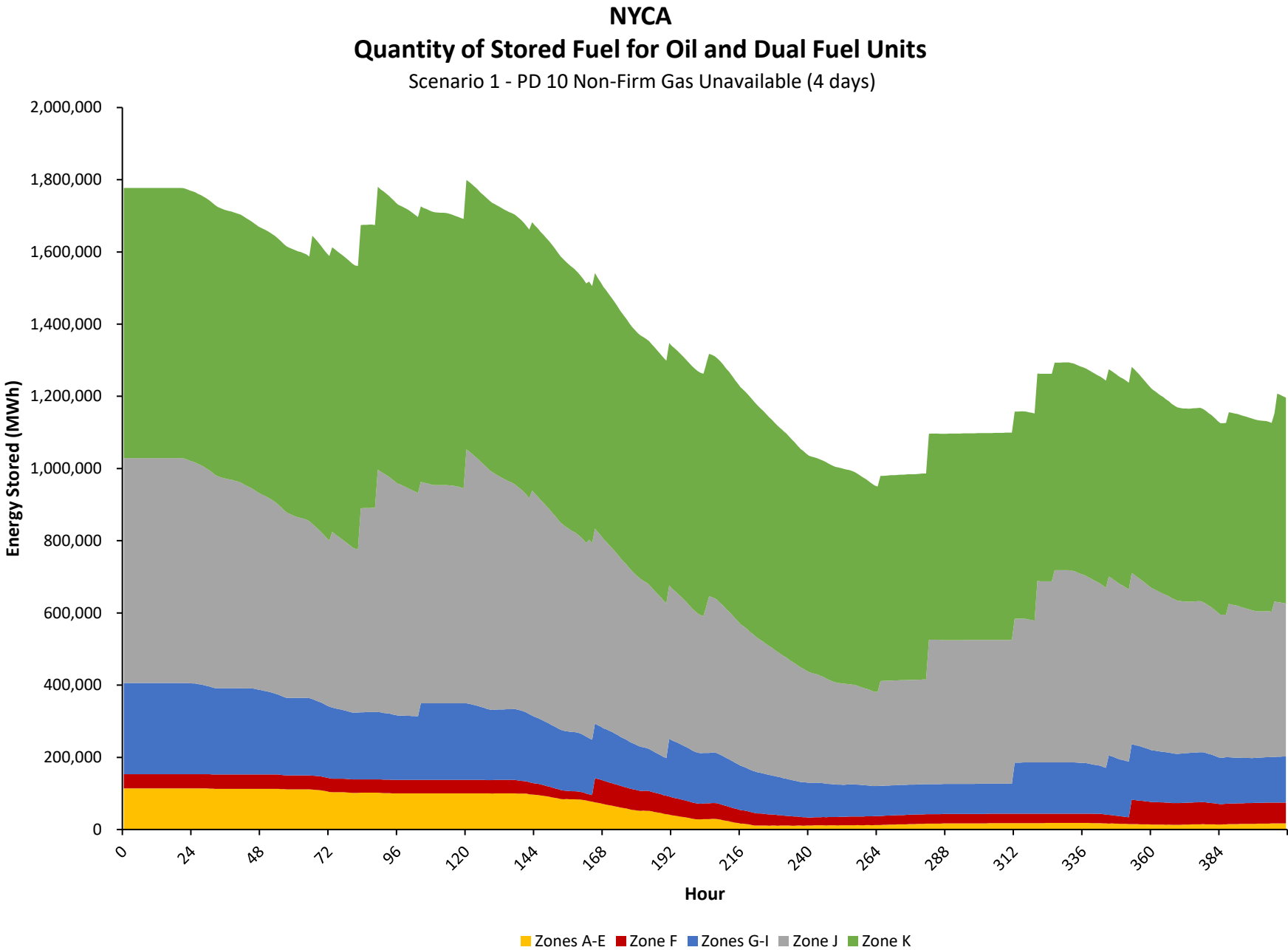


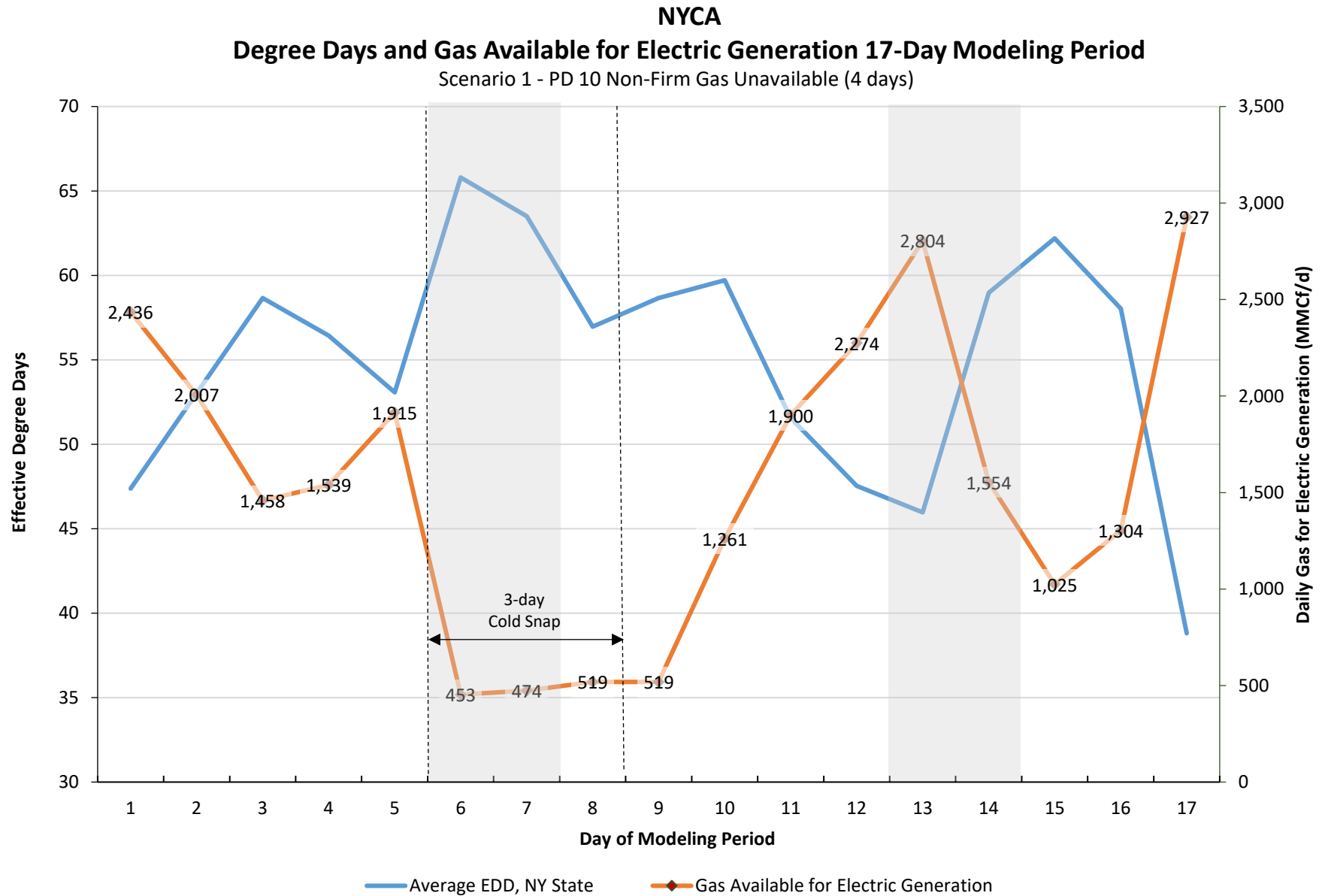




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 1 - PD 10 Non-Firm Gas Unavailable (4 days)

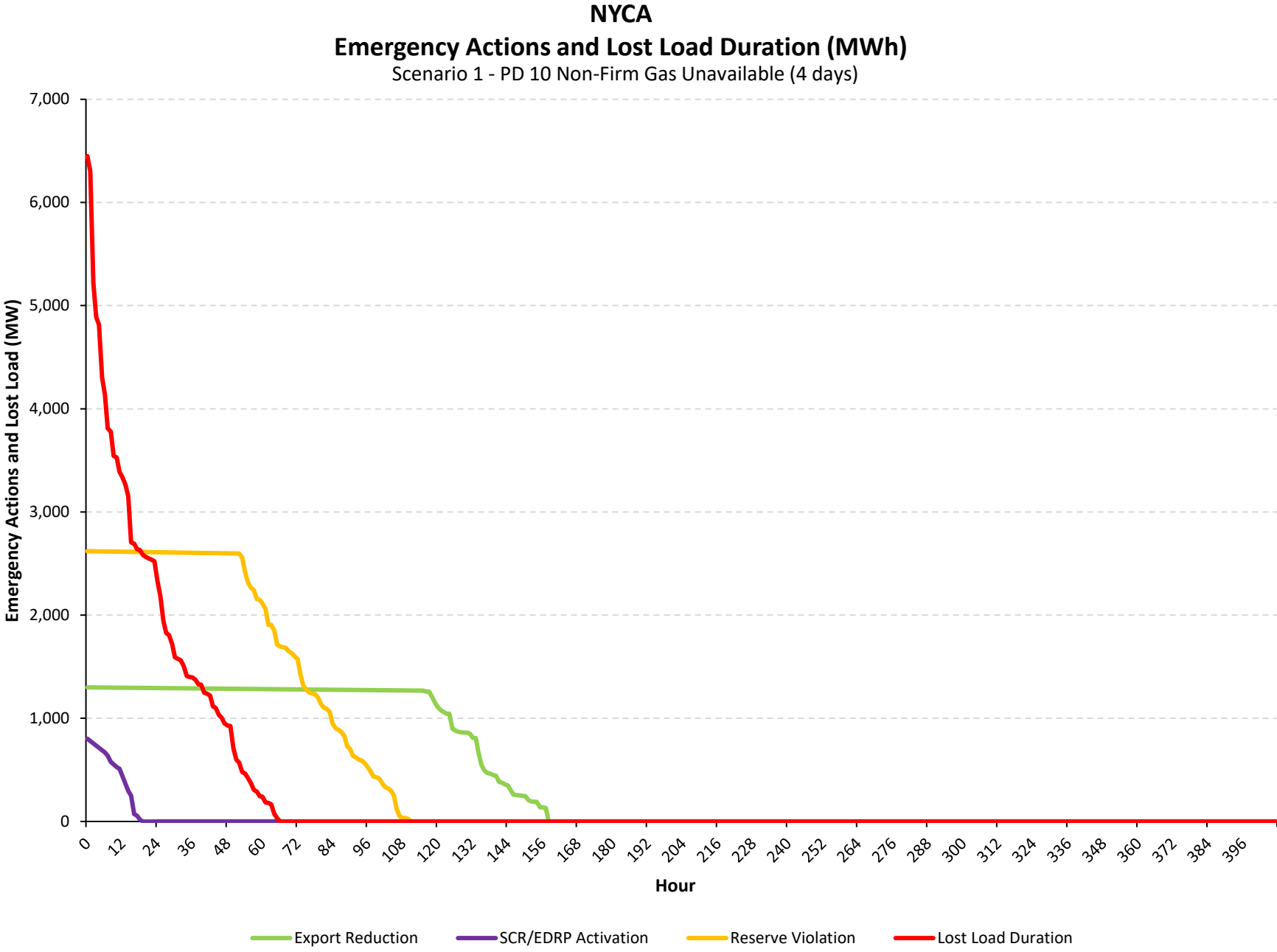


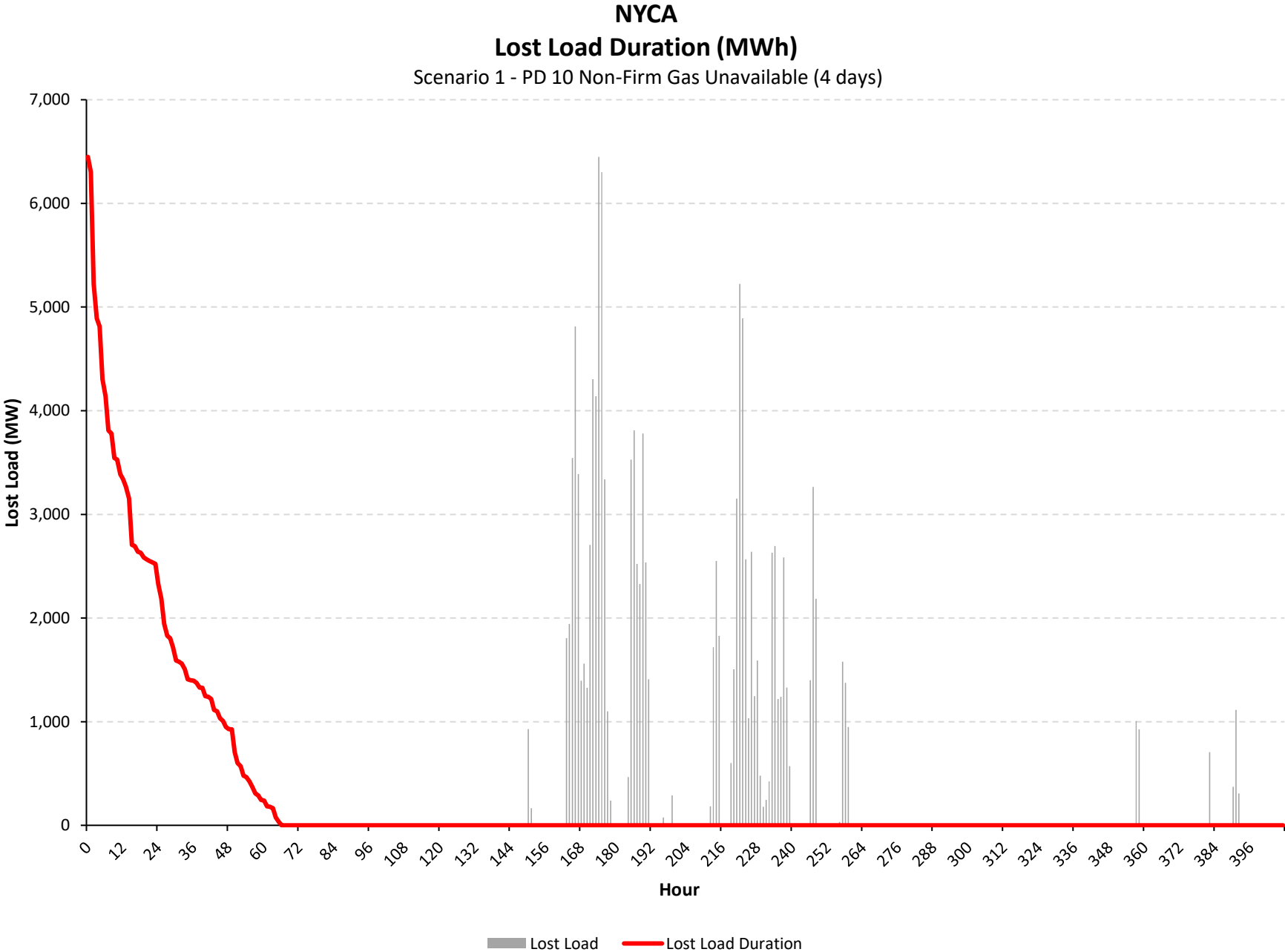




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



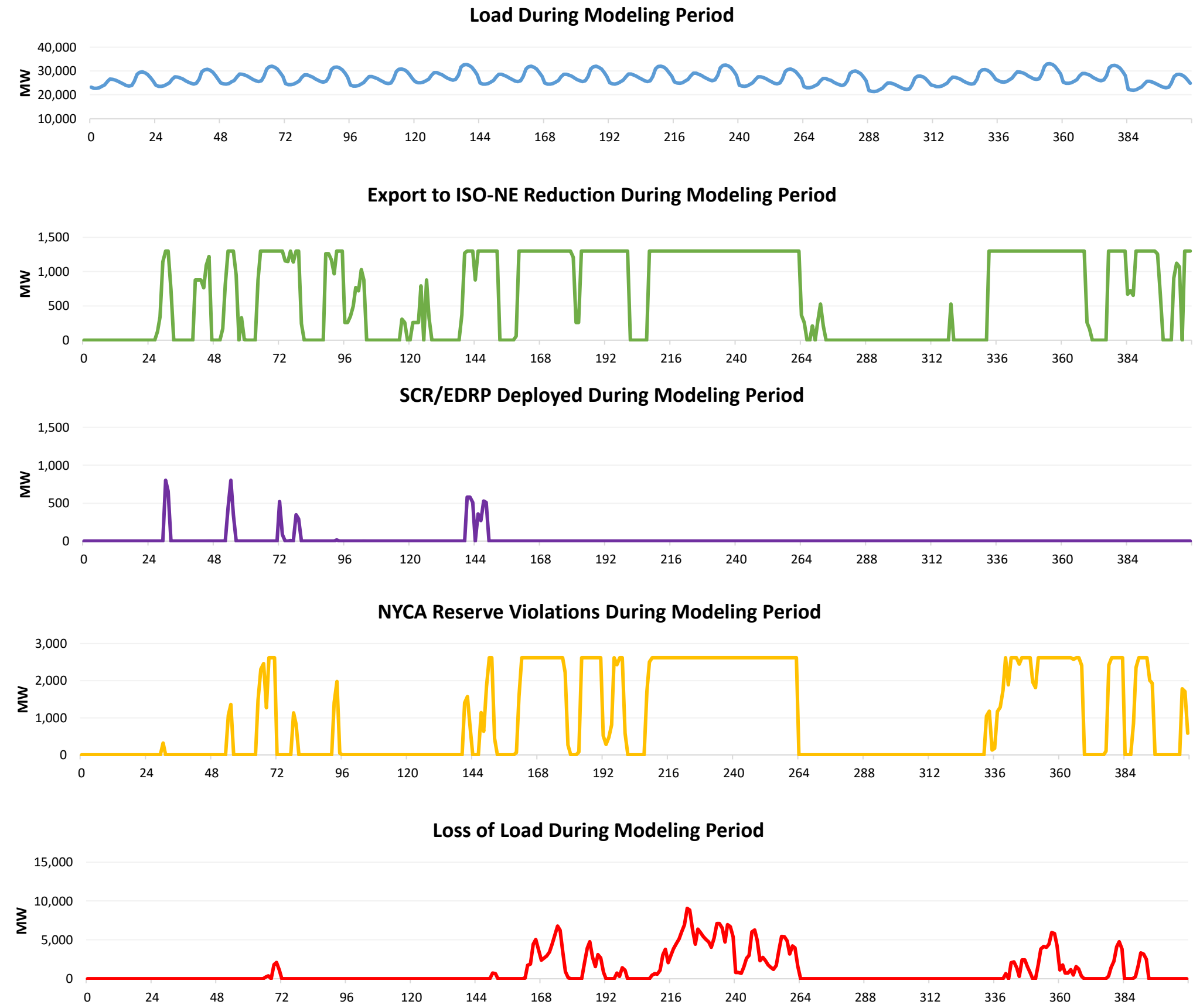


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 1 - PD 11 Combination Disruption (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 1 - PD 11 Combination Disruption



Case Summary	
Derate (EFORD) Increase:	High
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	243
Total MWh	274,517
Avg. MW	672.8

SCR Deployment	
Total Hrs.	18
Total MWh	7,650
Avg. MW	18.8

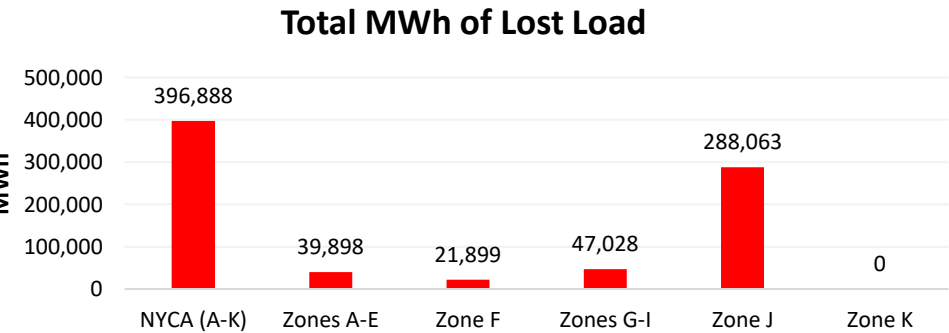
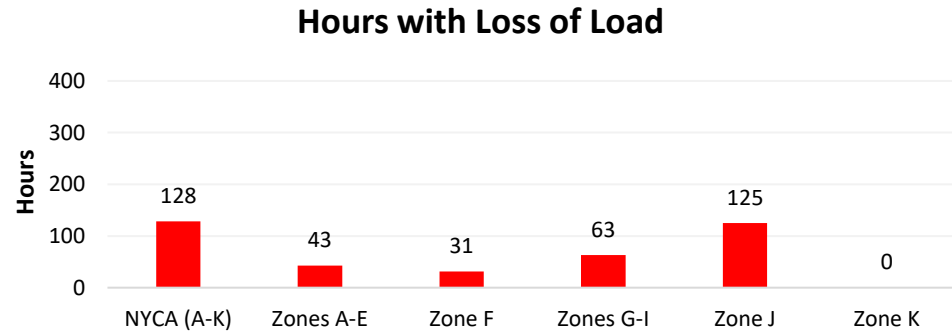
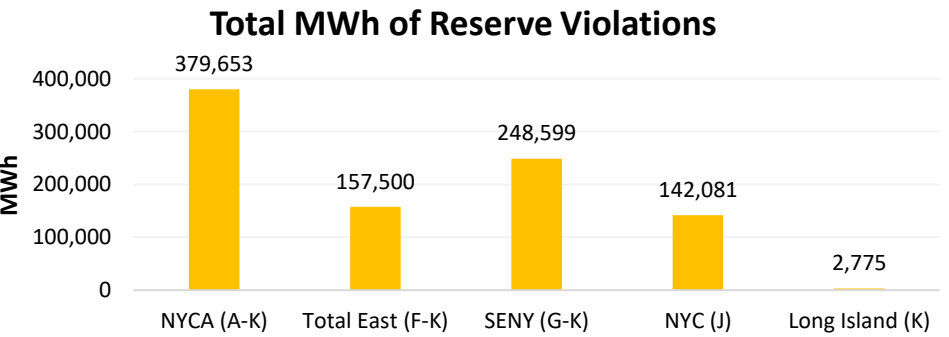
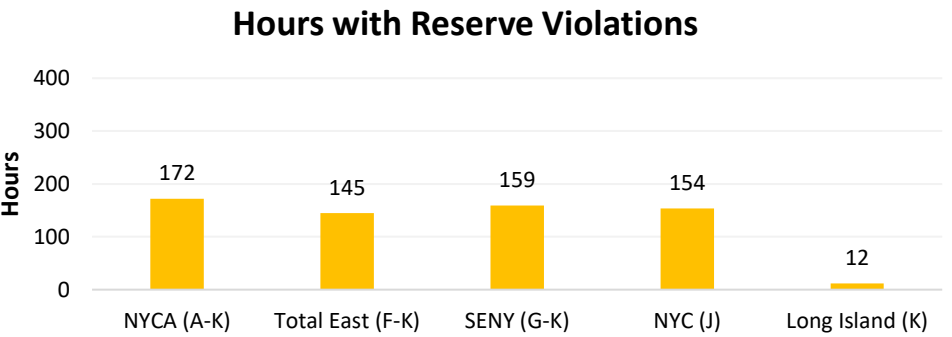
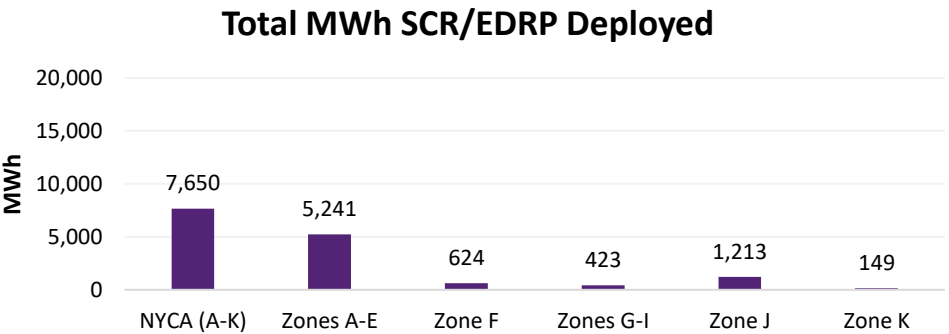
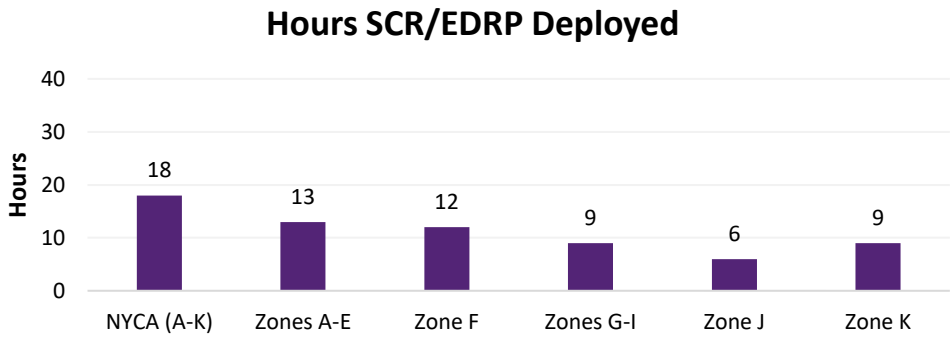
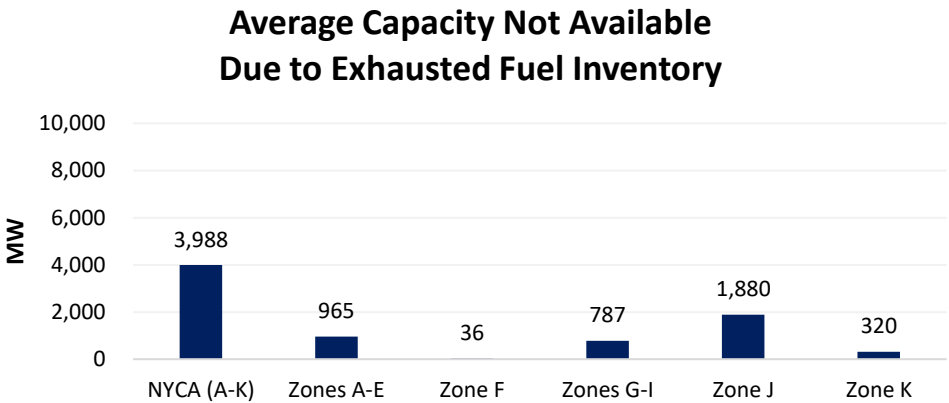
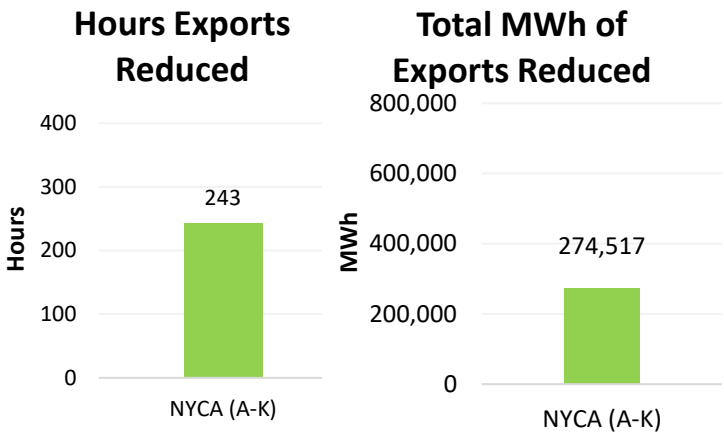
Reserve Violations	
Total Hrs.	172
Total MWh	379,653
Avg. MW	930.5
First Hour with Viol.	30

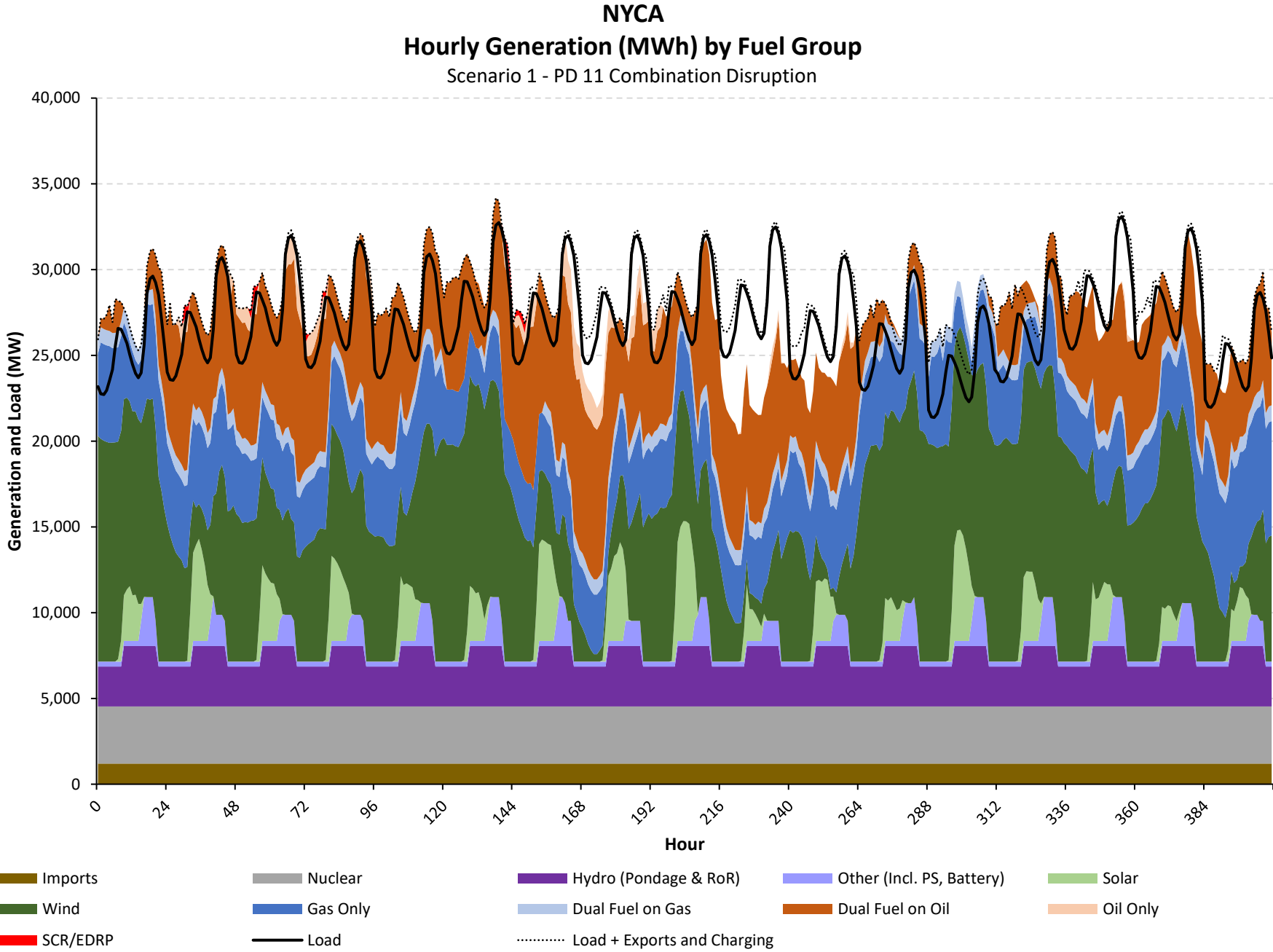
Loss of Load	
Total Hrs.	128
Total MWh	396,888
Avg. MW	972.8
First Hour with Losses	66

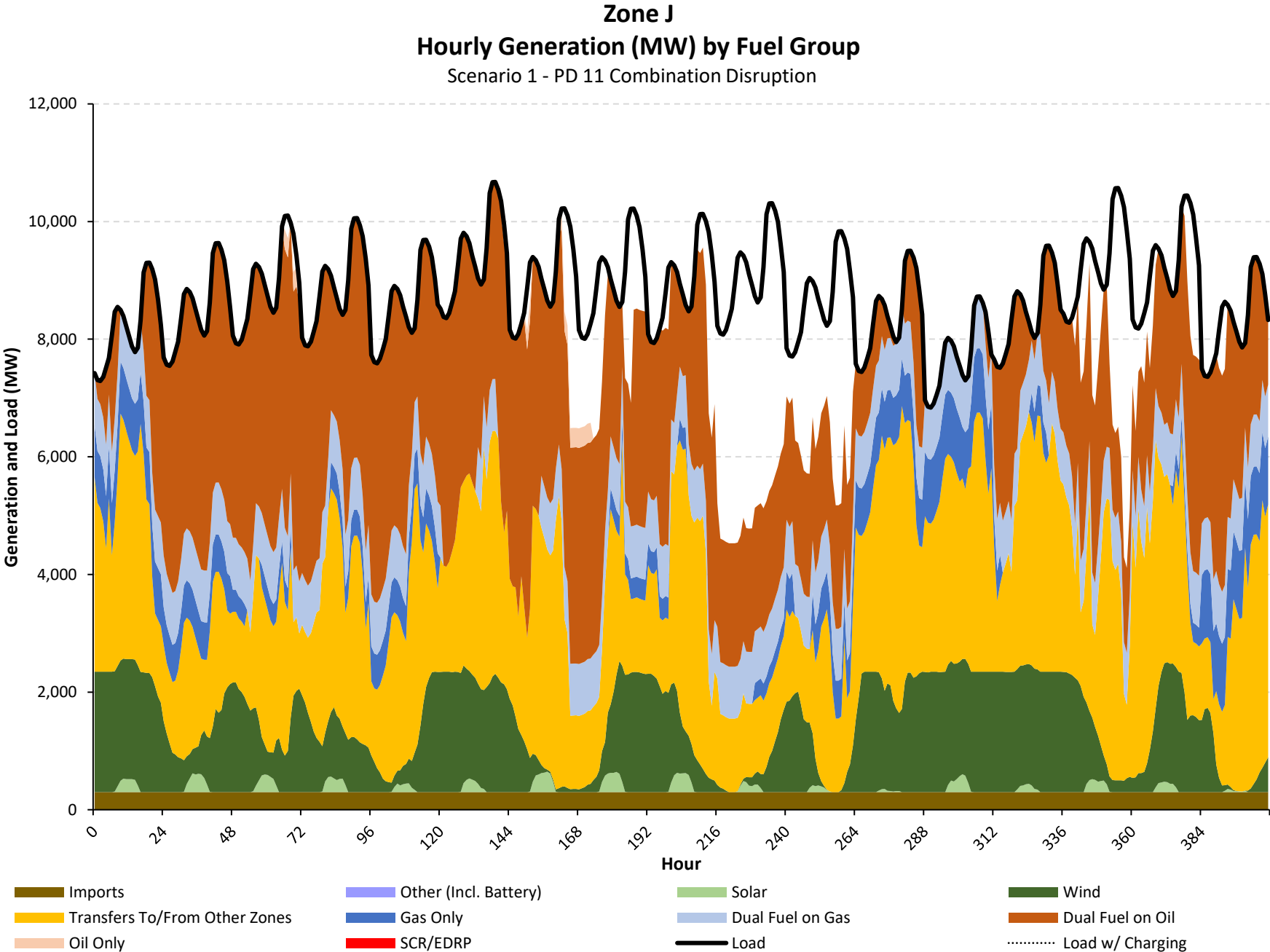
Full Period Results Summary

Case Name: Scenario 1 - PD 11 Combination Disruption

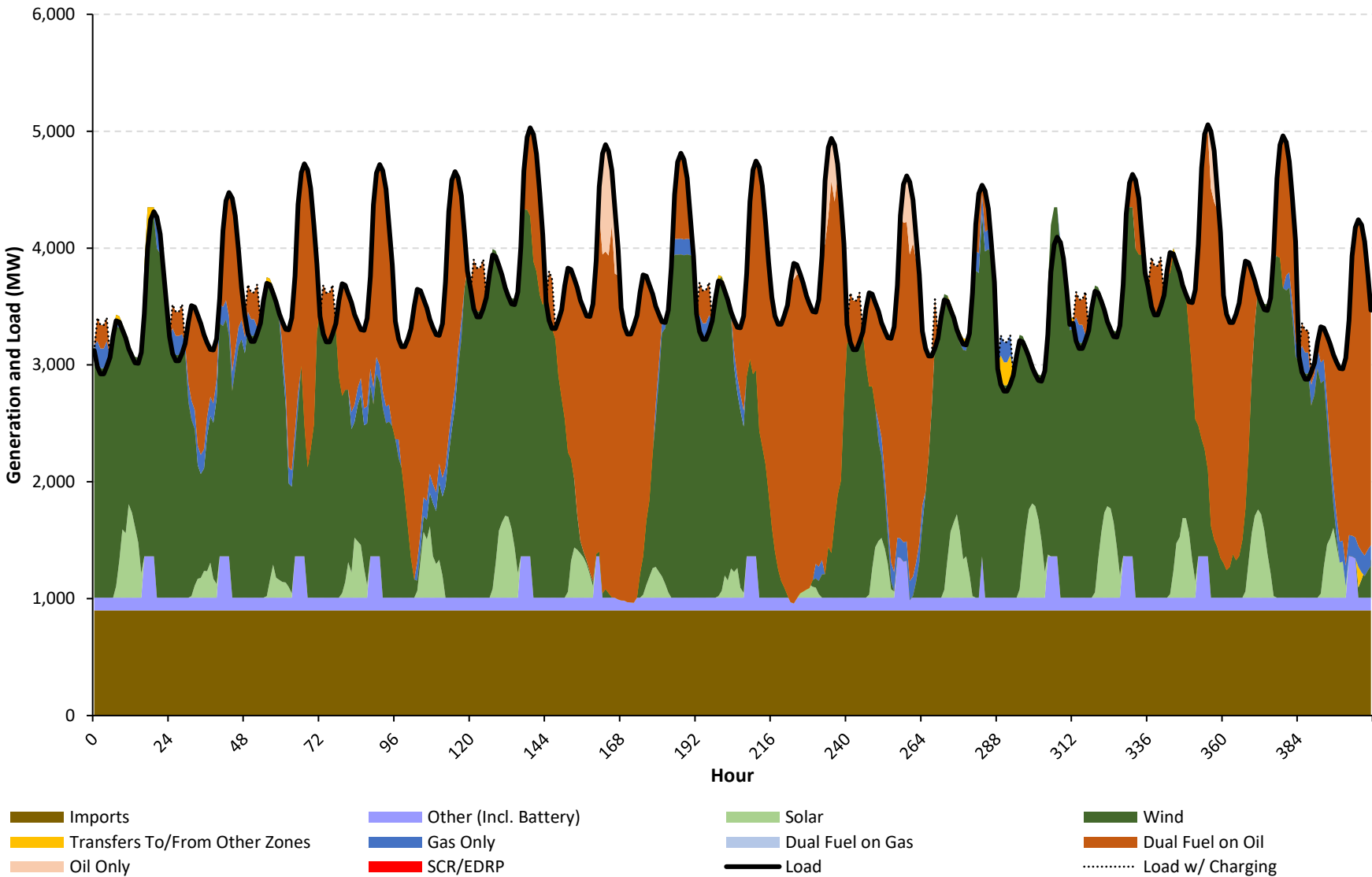
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

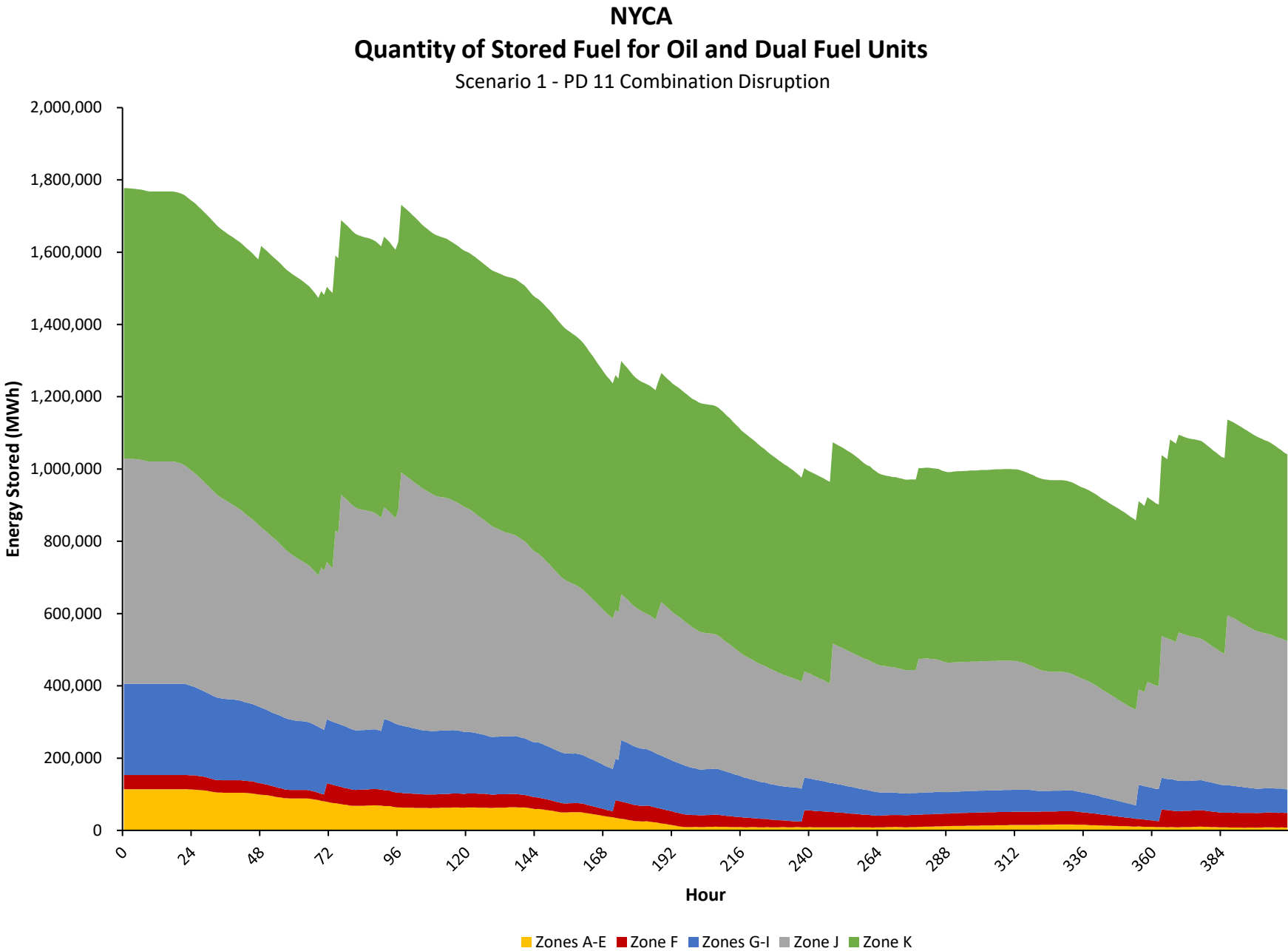


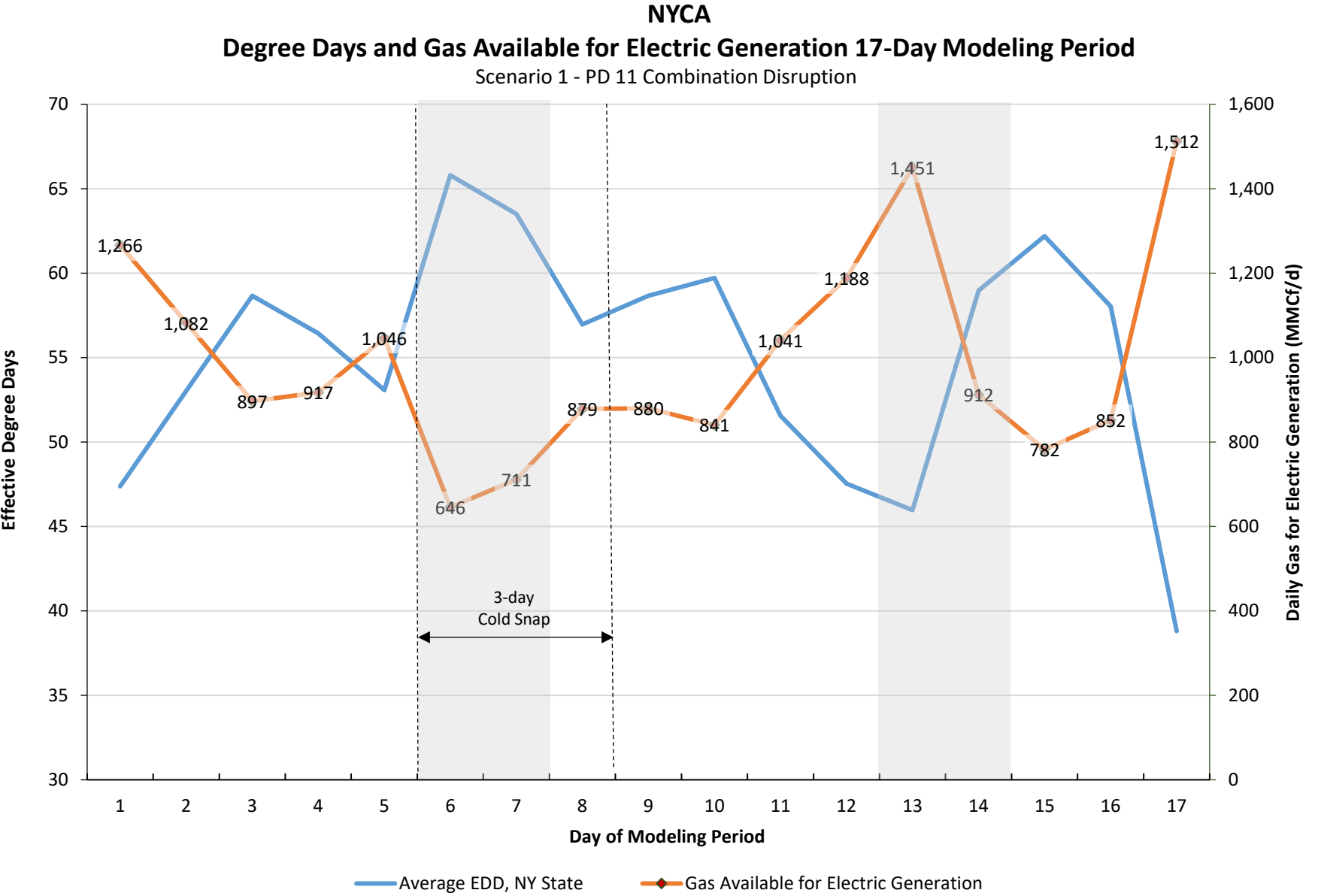




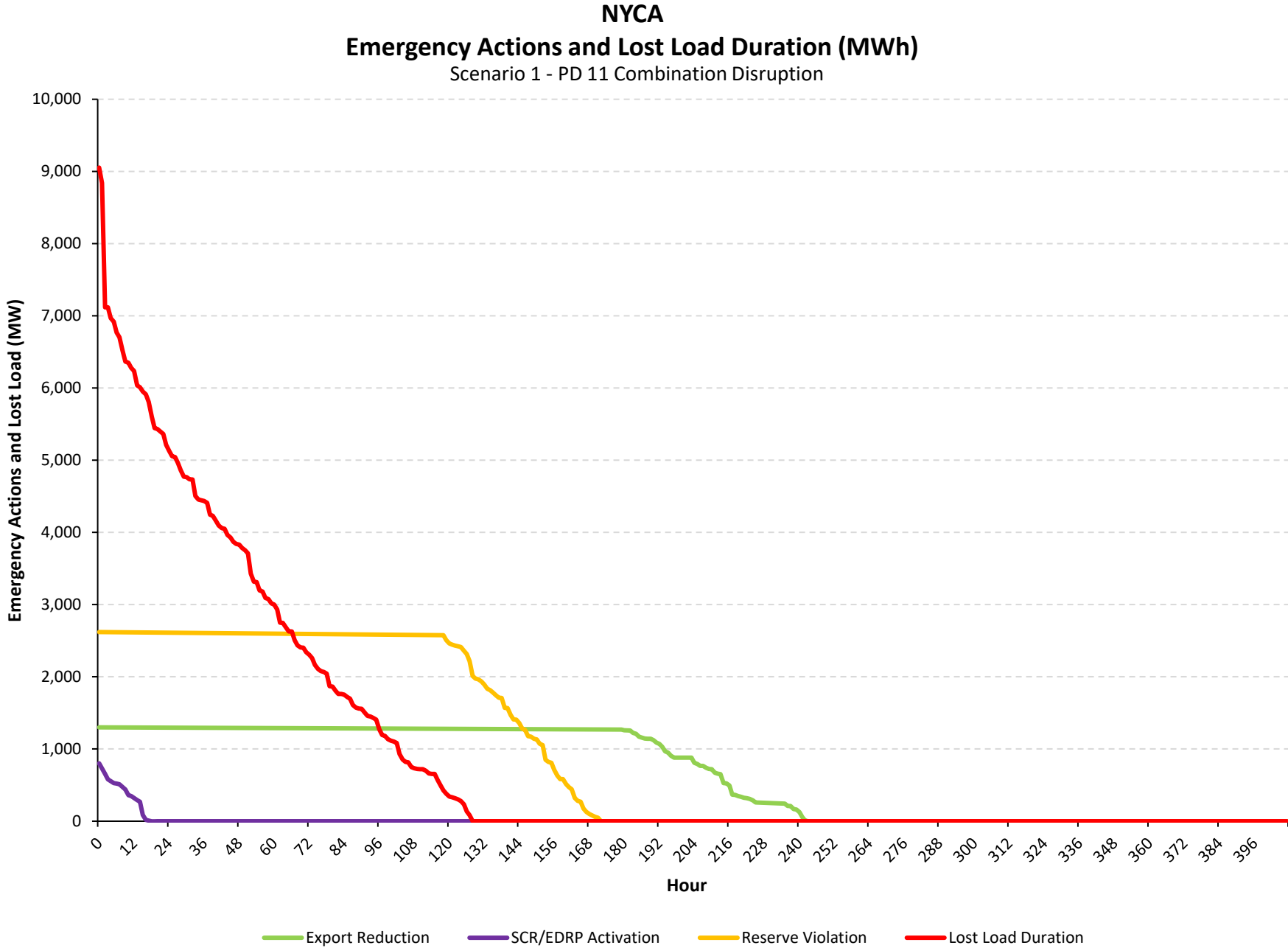
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 1 - PD 11 Combination Disruption

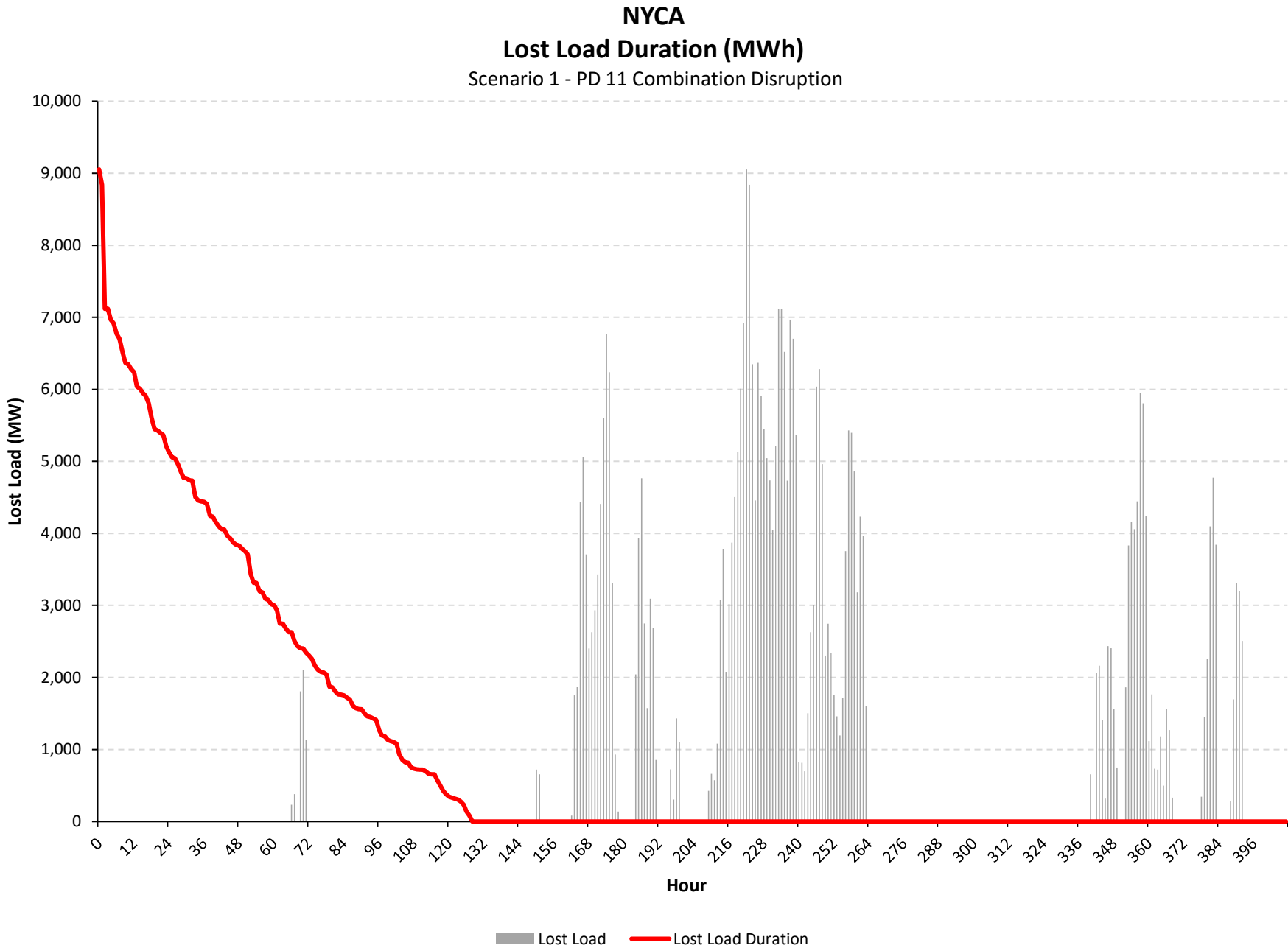






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



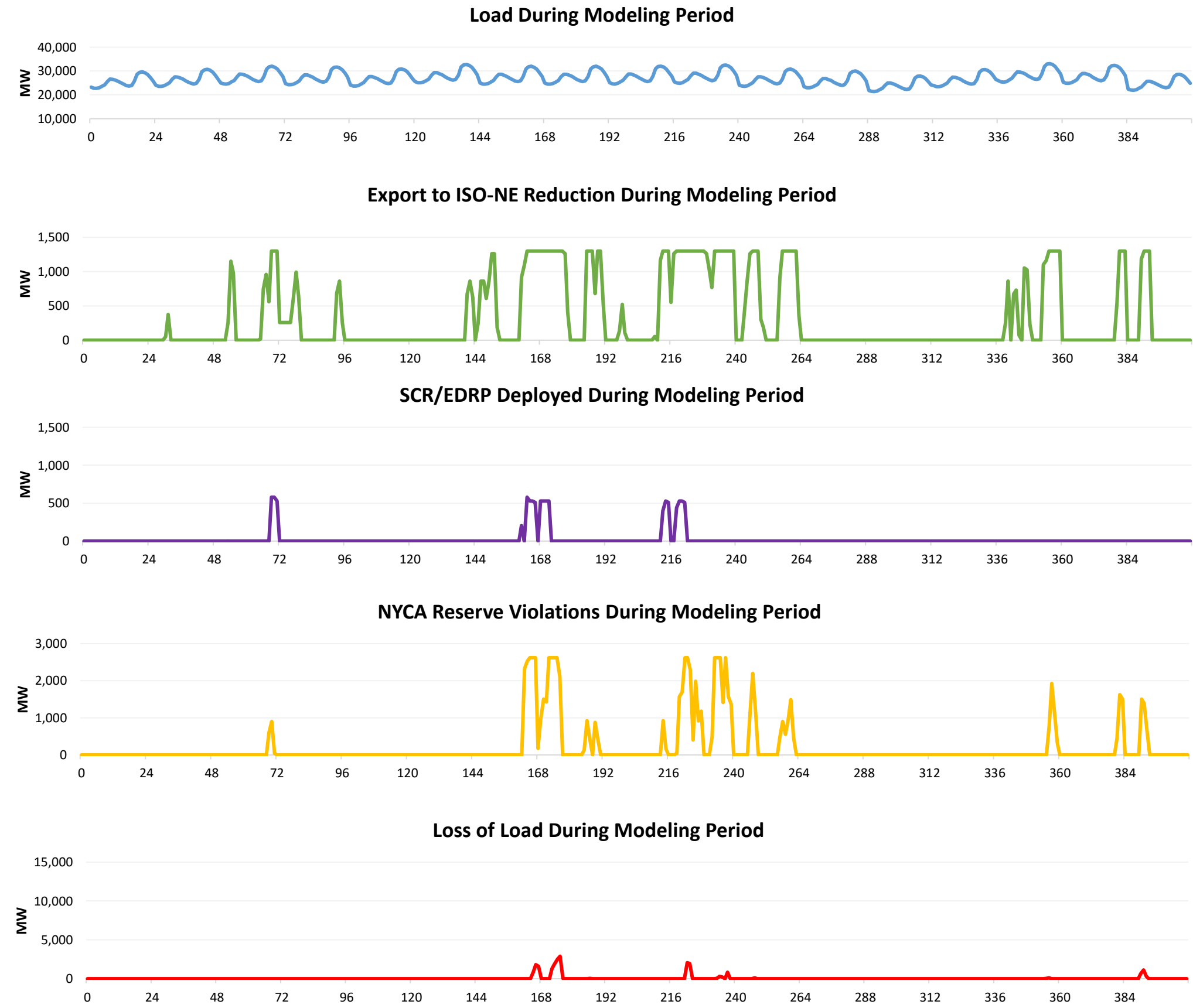


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 2 - PD 1 No Disruptions (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 2 - PD 1 No Disruptions



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	130
Total MWh	126,968
Avg. MW	311.2

SCR Deployment	
Total Hrs.	19
Total MWh	9,576
Avg. MW	23.5

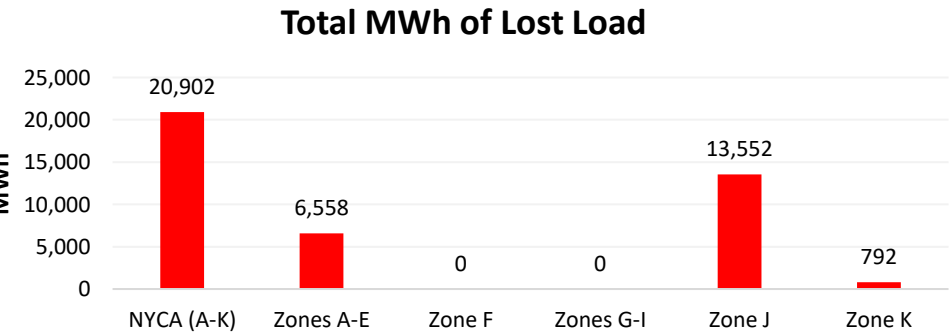
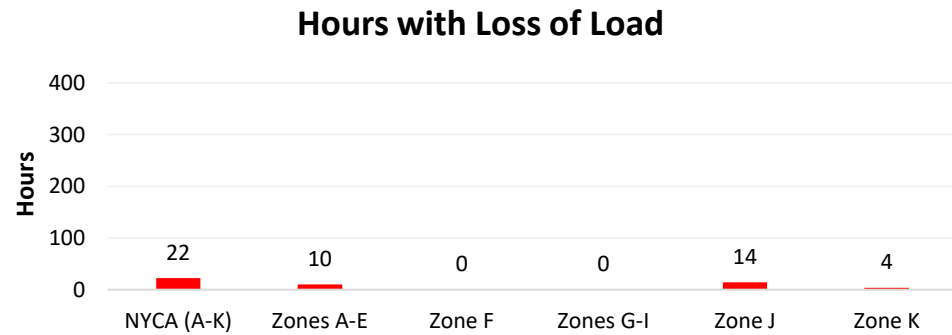
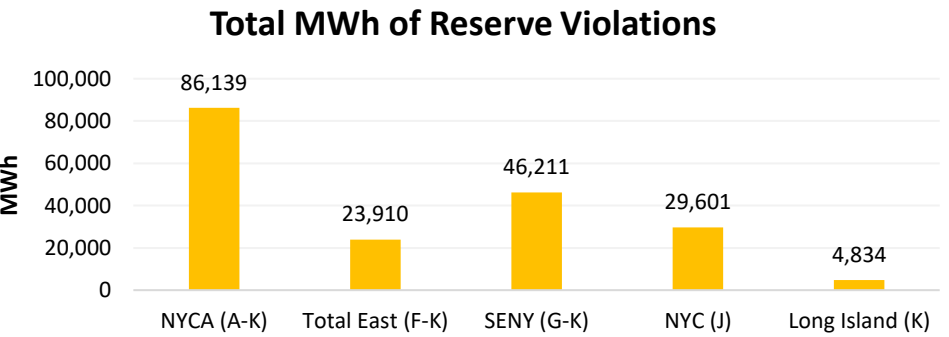
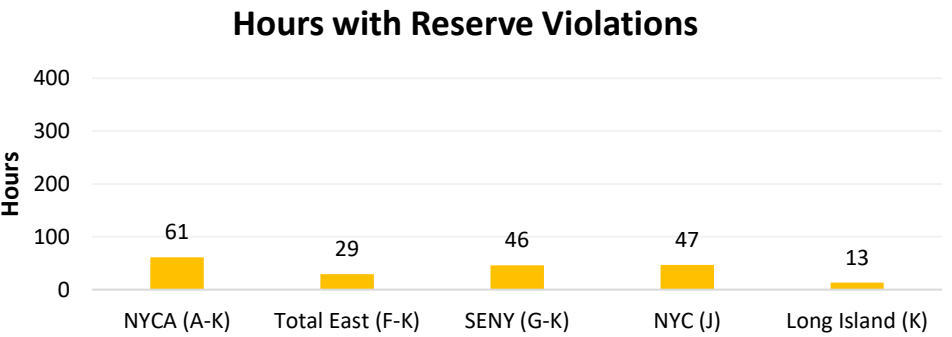
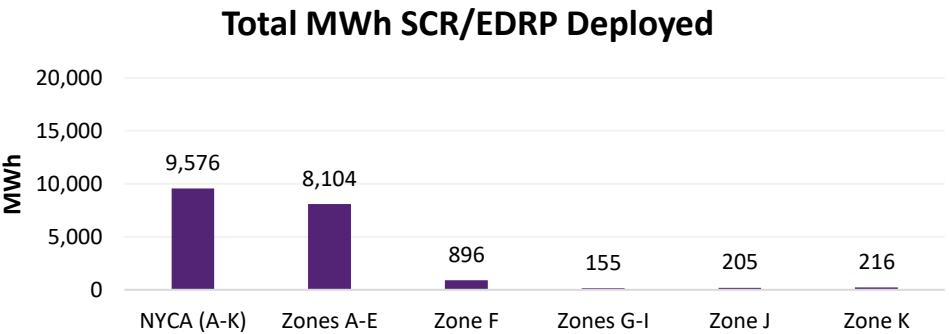
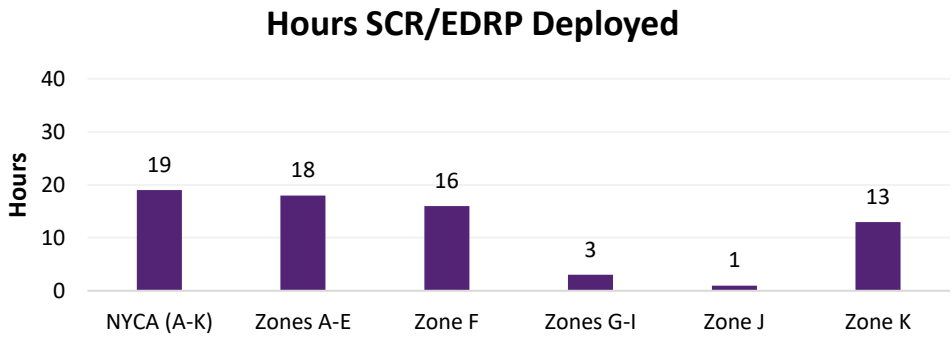
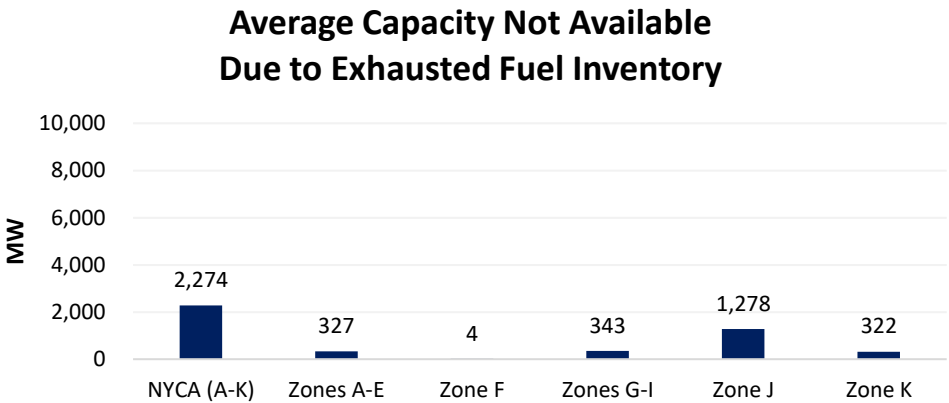
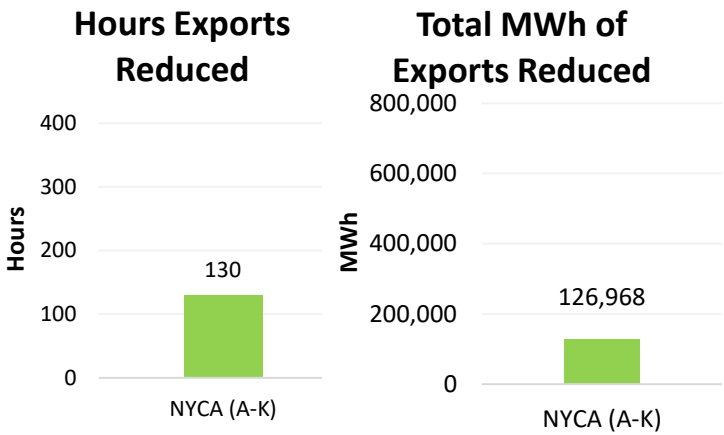
Reserve Violations	
Total Hrs.	61
Total MWh	86,139
Avg. MW	211.1
First Hour with Viol.	69

Loss of Load	
Total Hrs.	22
Total MWh	20,902
Avg. MW	51.2
First Hour with Losses	165

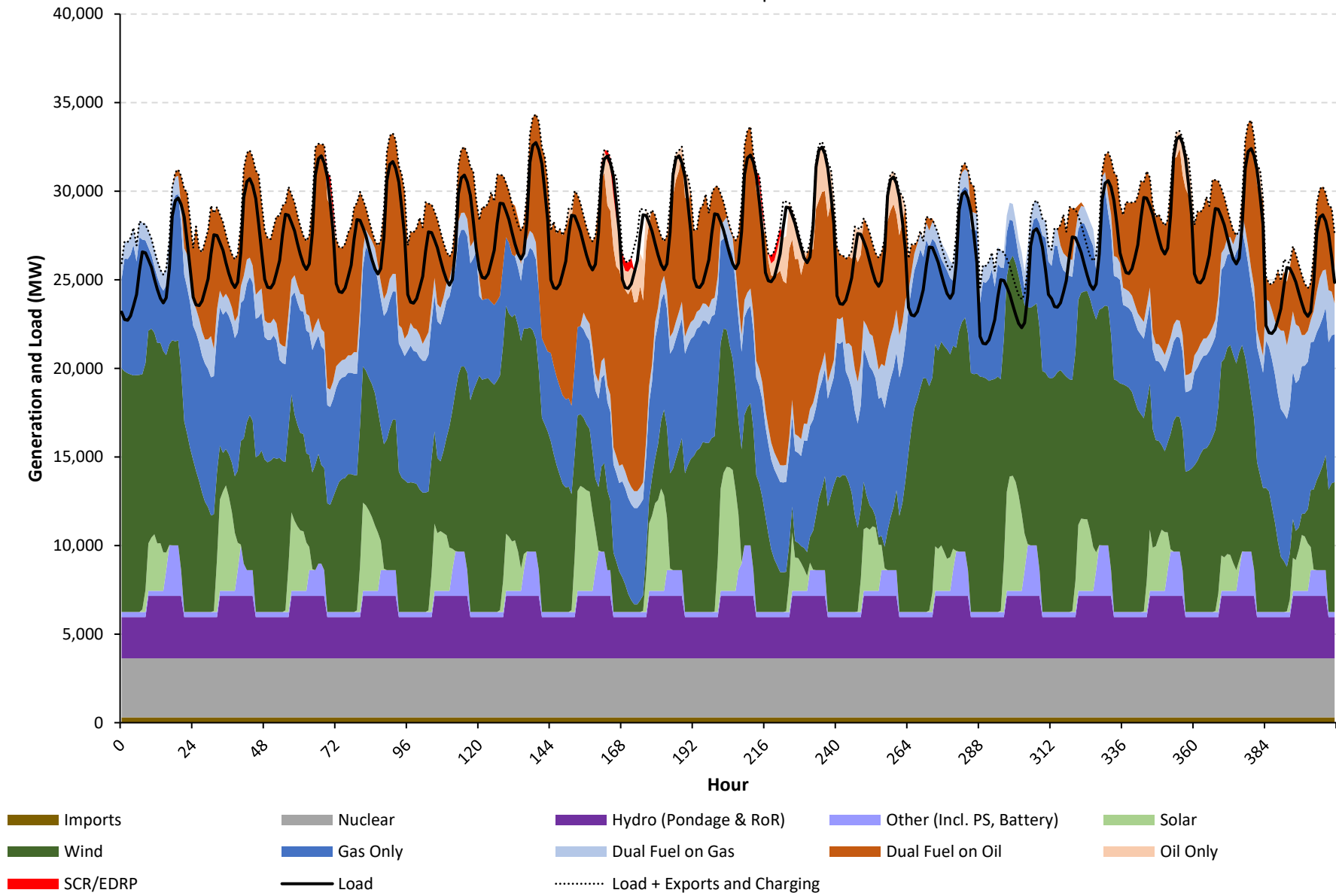
Full Period Results Summary

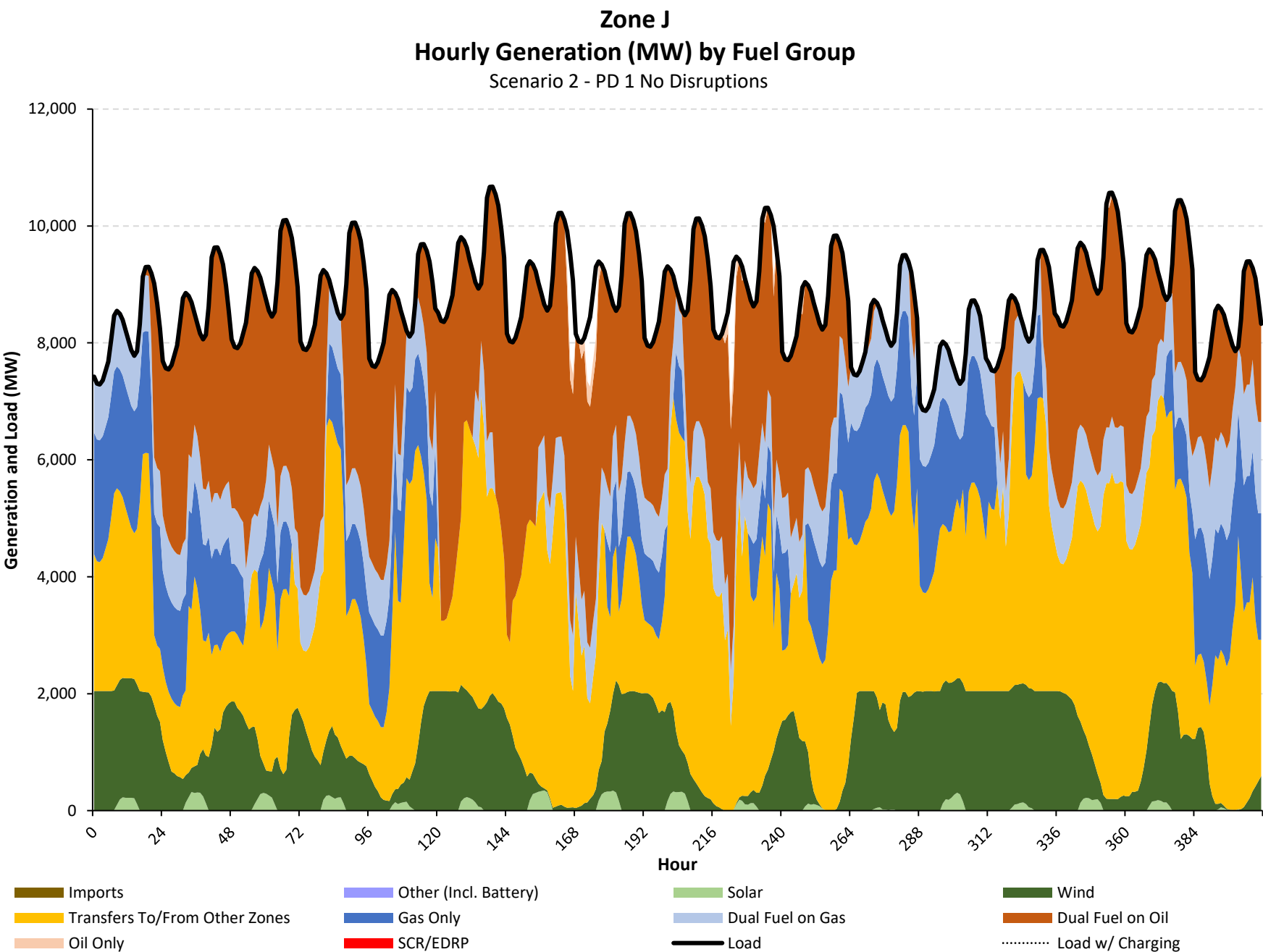
Case Name: Scenario 2 - PD 1 No Disruptions

Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

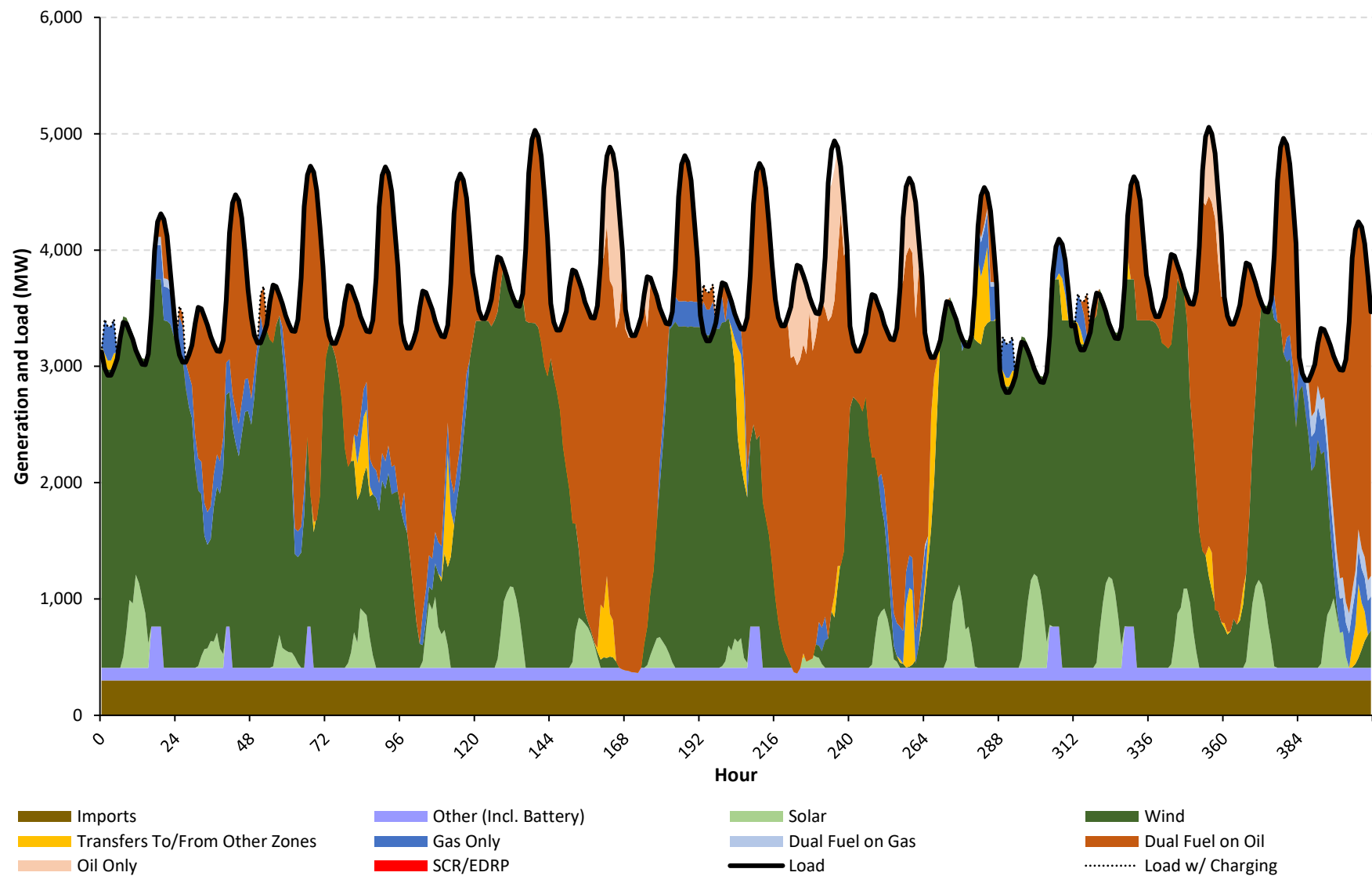


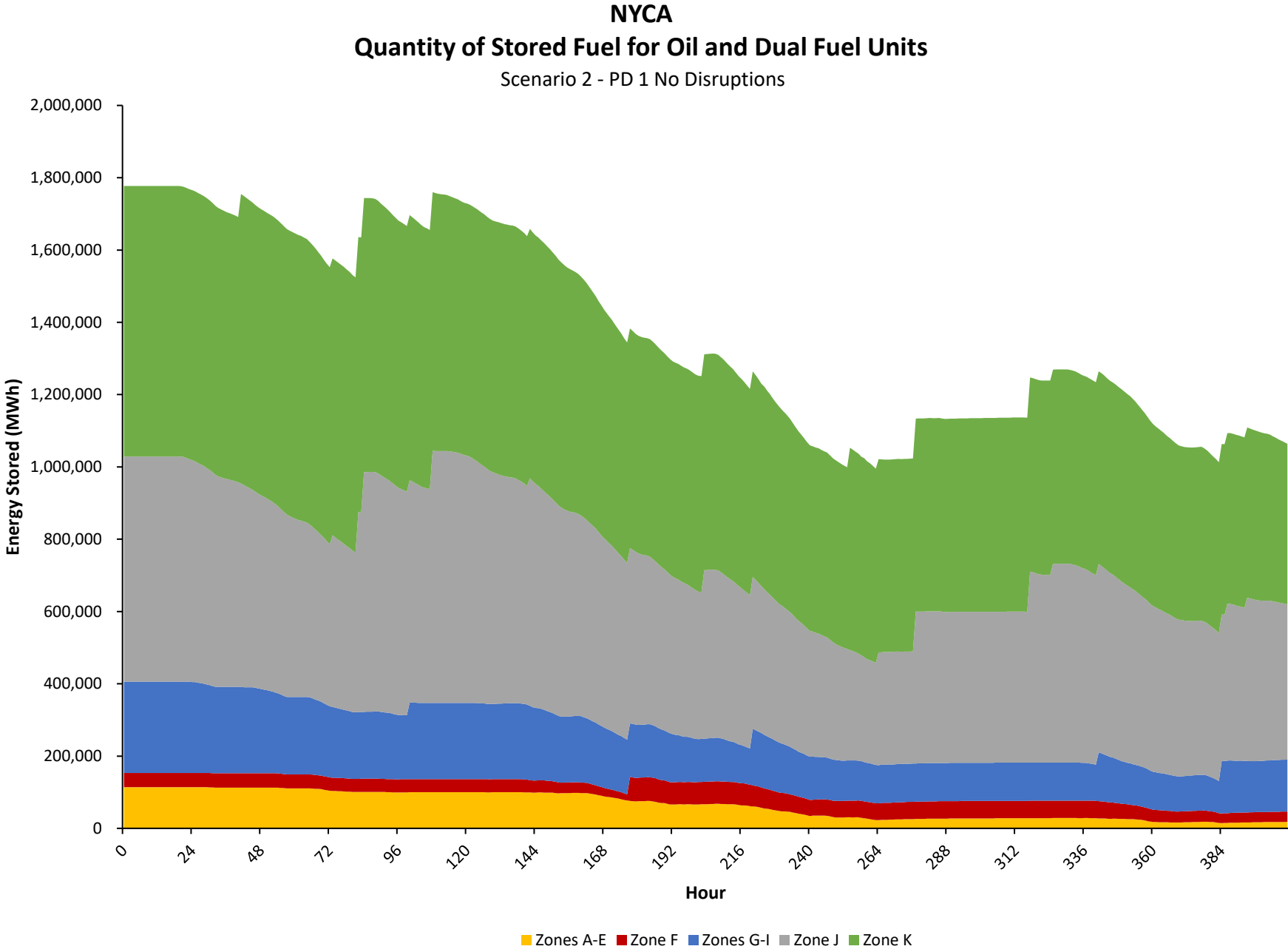
NYCA
Hourly Generation (MWh) by Fuel Group
Scenario 2 - PD 1 No Disruptions

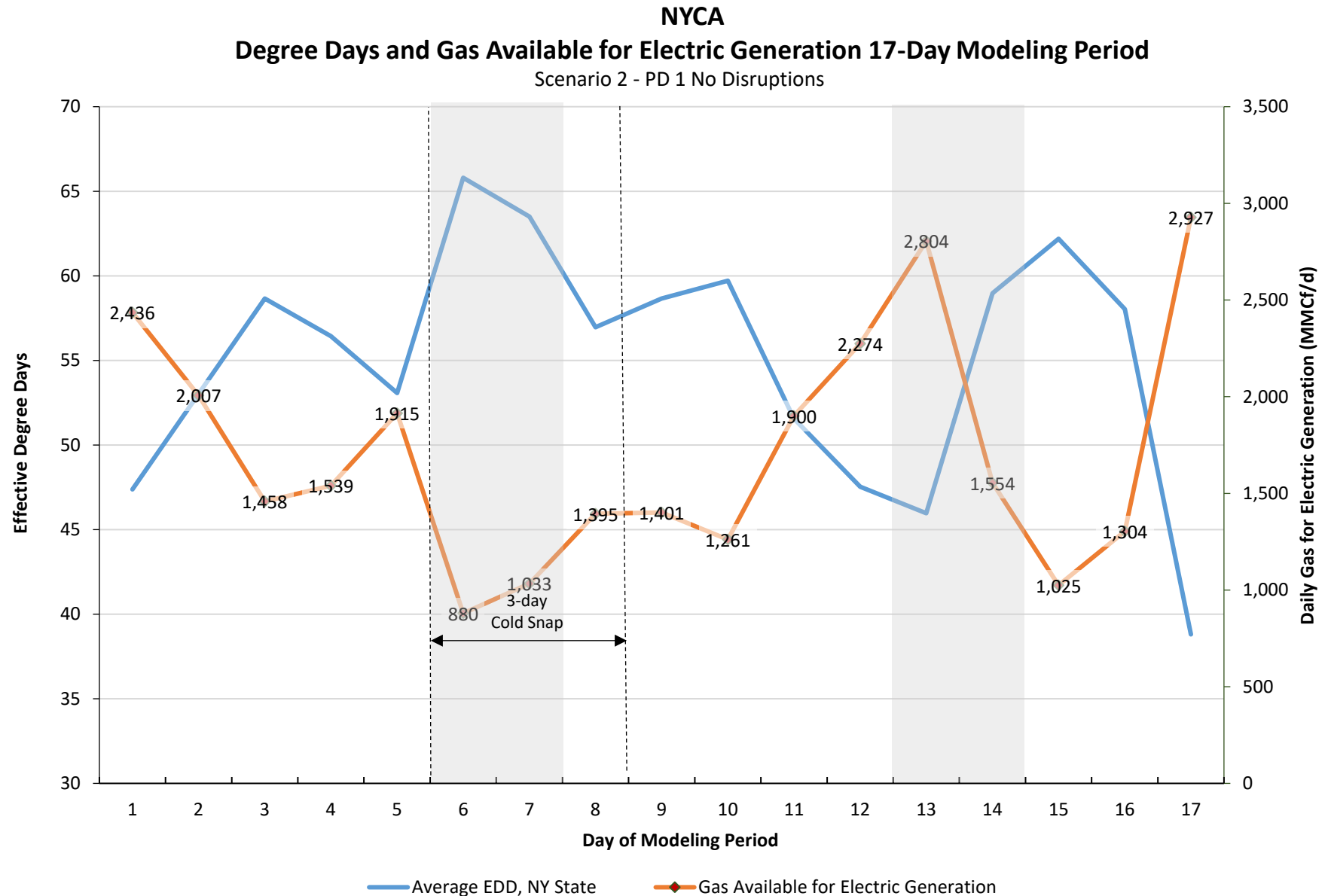




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 2 - PD 1 No Disruptions

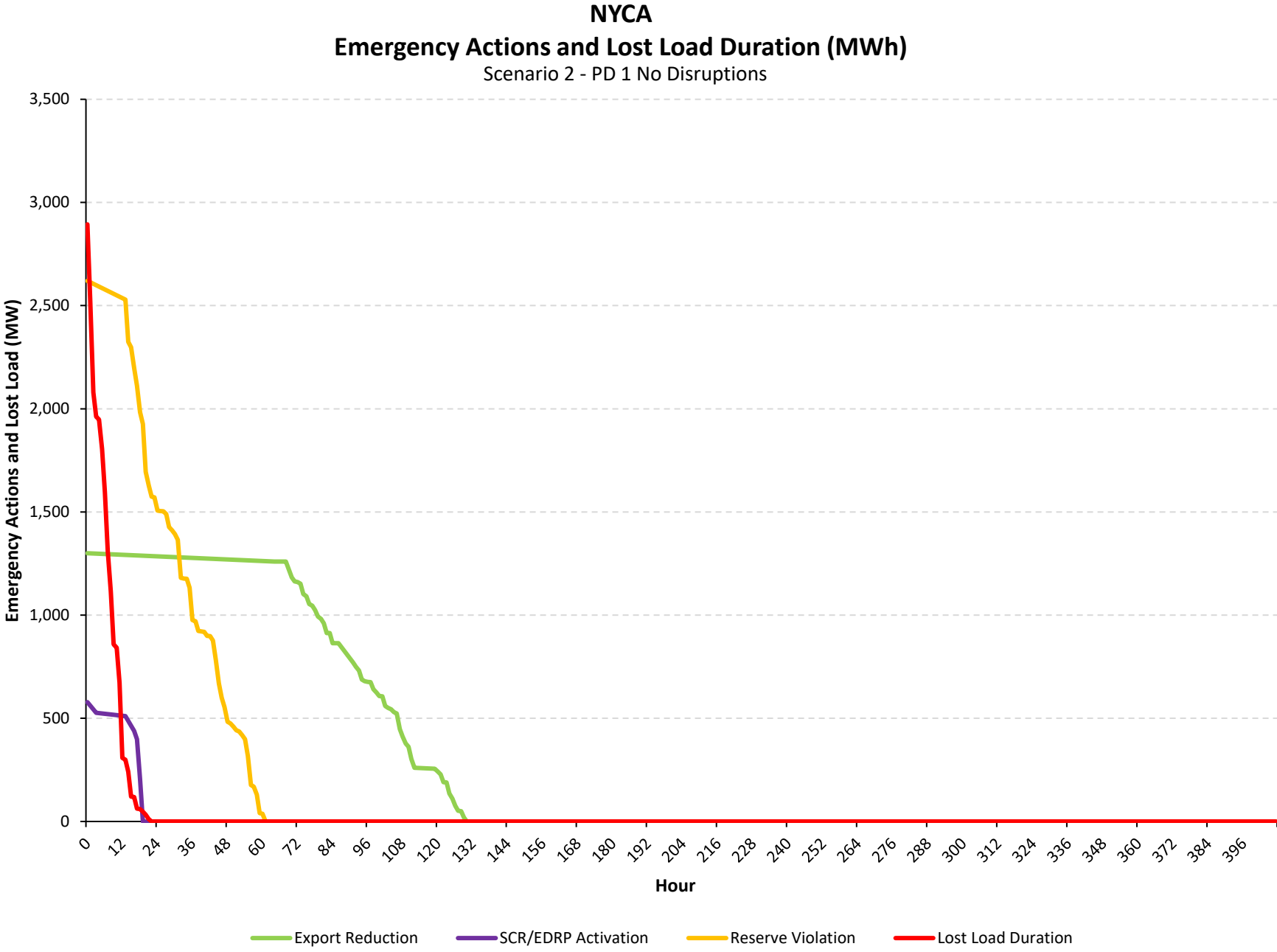


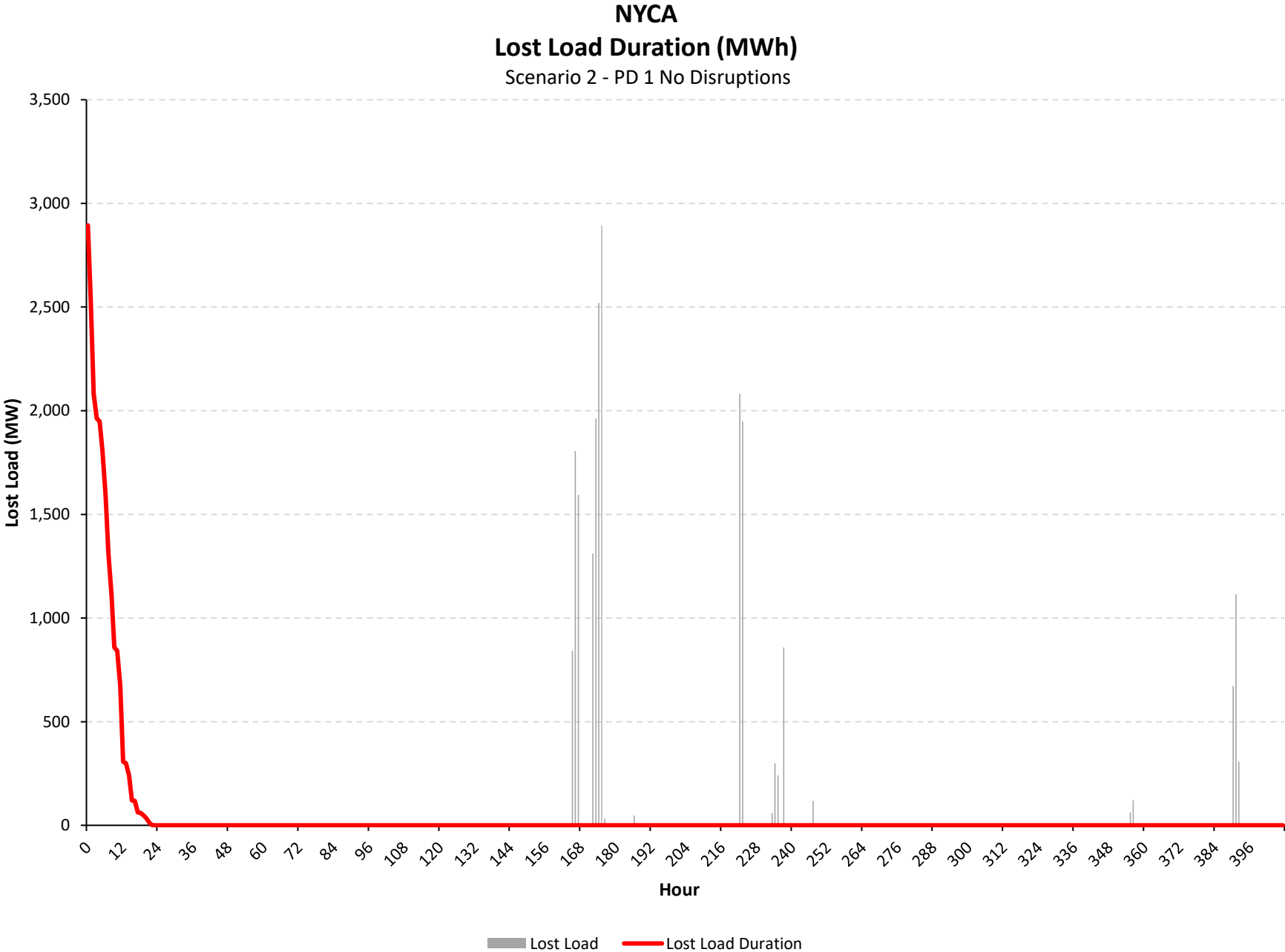




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



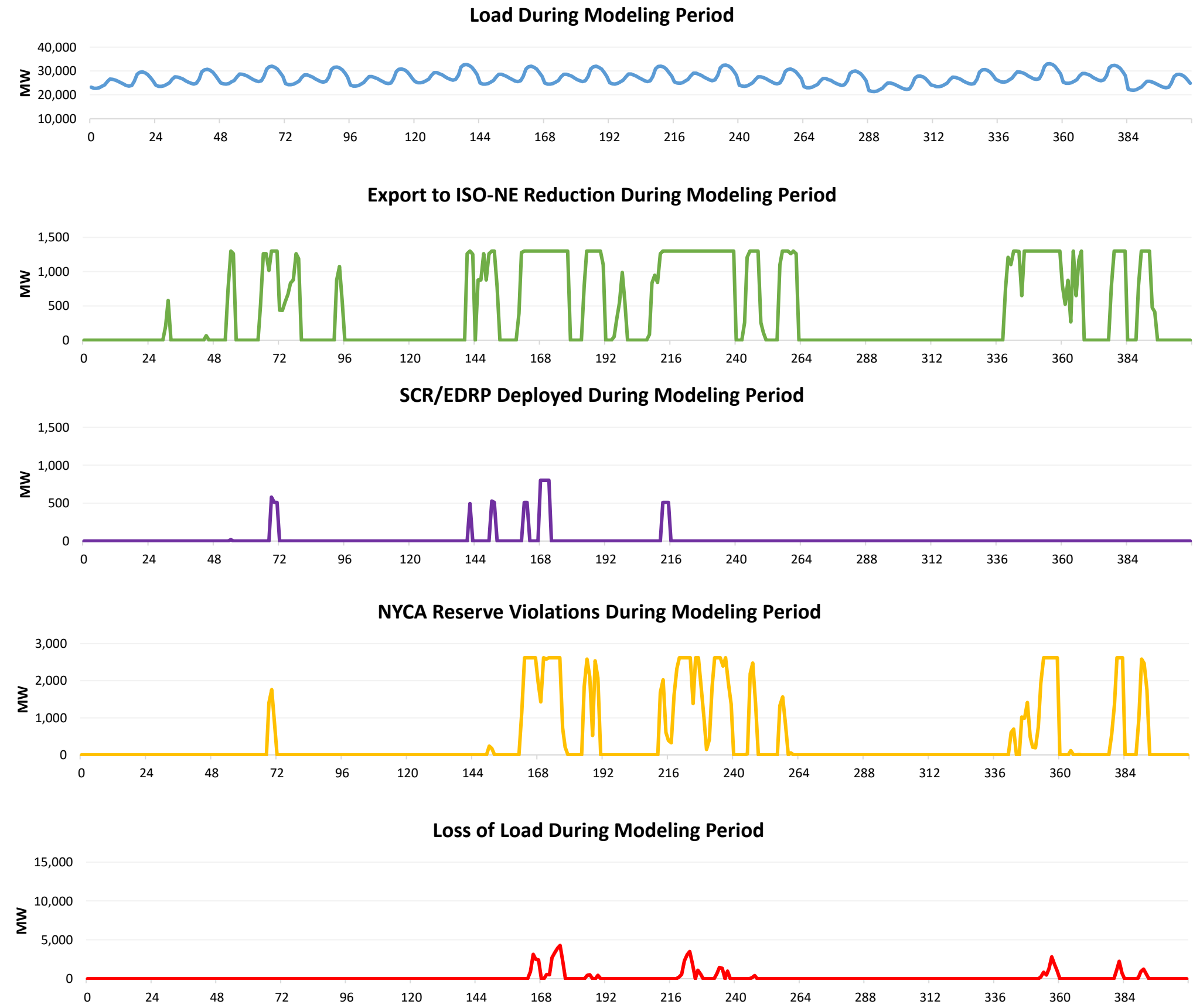


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 2 - PD 2 High Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 2 - PD 2 High Outage



Case Summary	
Derate (EFORD) Increase:	High
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	157
Total MWh	170,937
Avg. MW	419.0

SCR Deployment	
Total Hrs.	16
Total MWh	8,910
Avg. MW	21.8

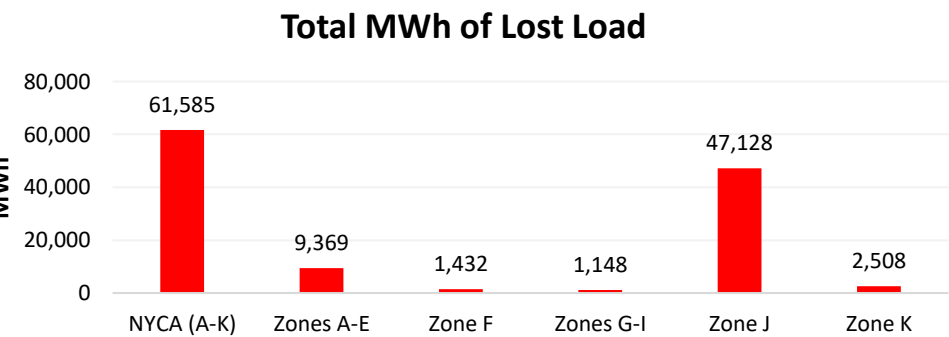
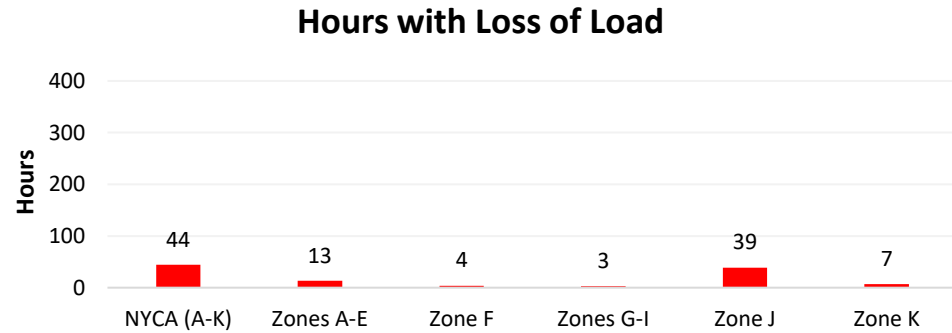
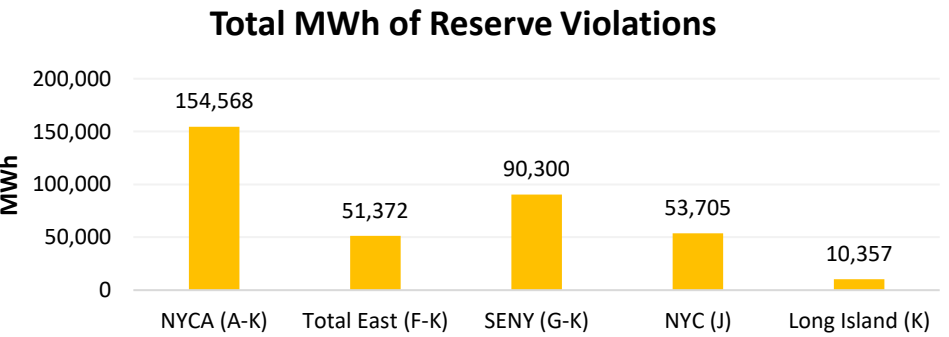
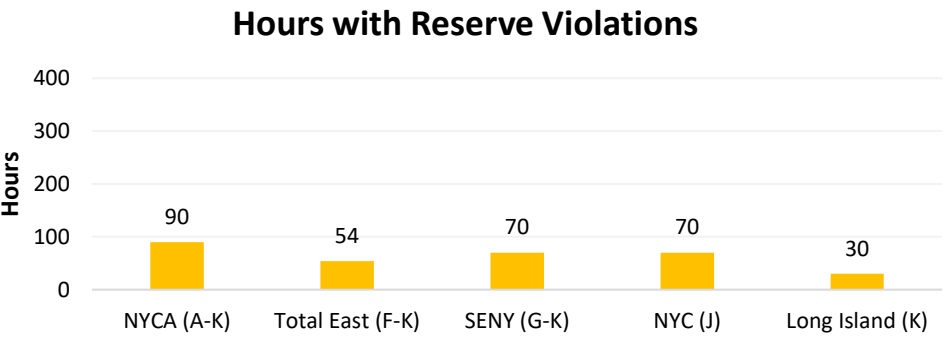
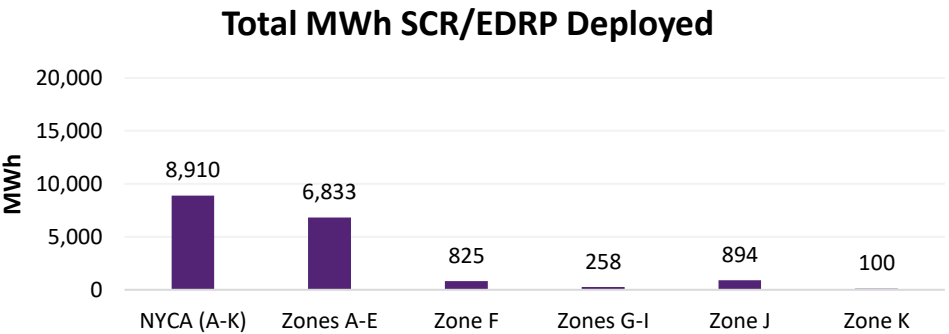
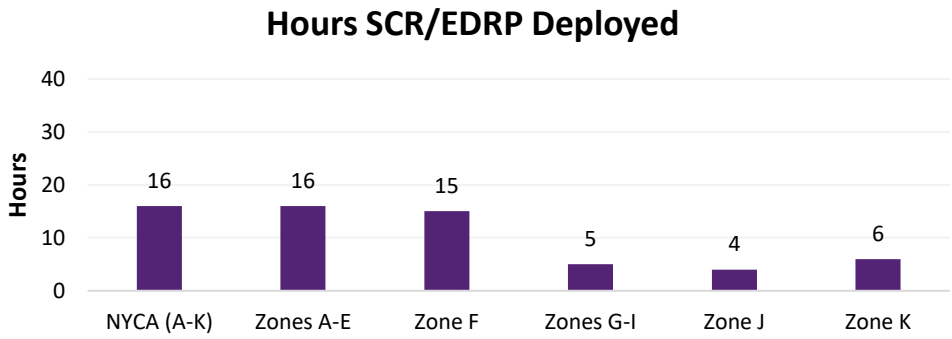
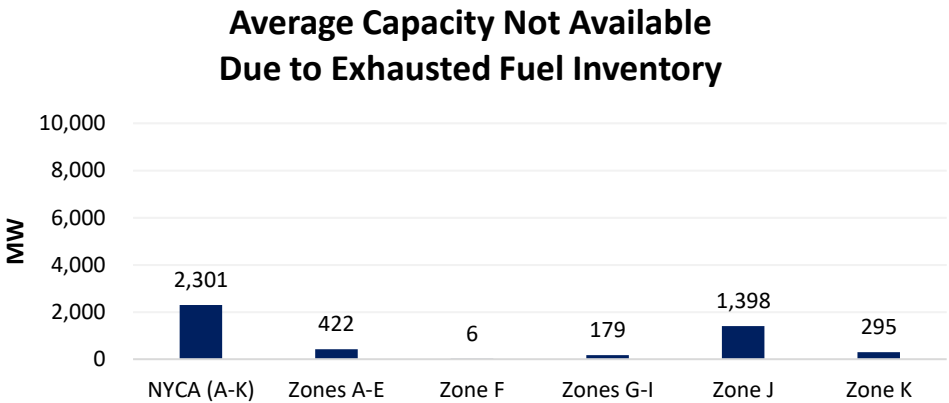
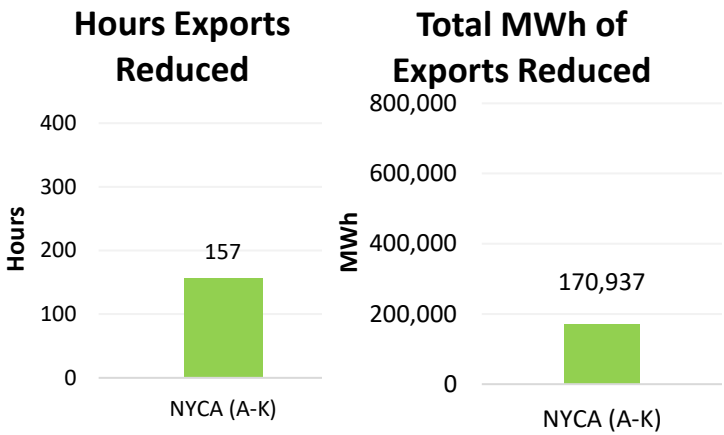
Reserve Violations	
Total Hrs.	90
Total MWh	154,568
Avg. MW	378.8
First Hour with Viol.	69

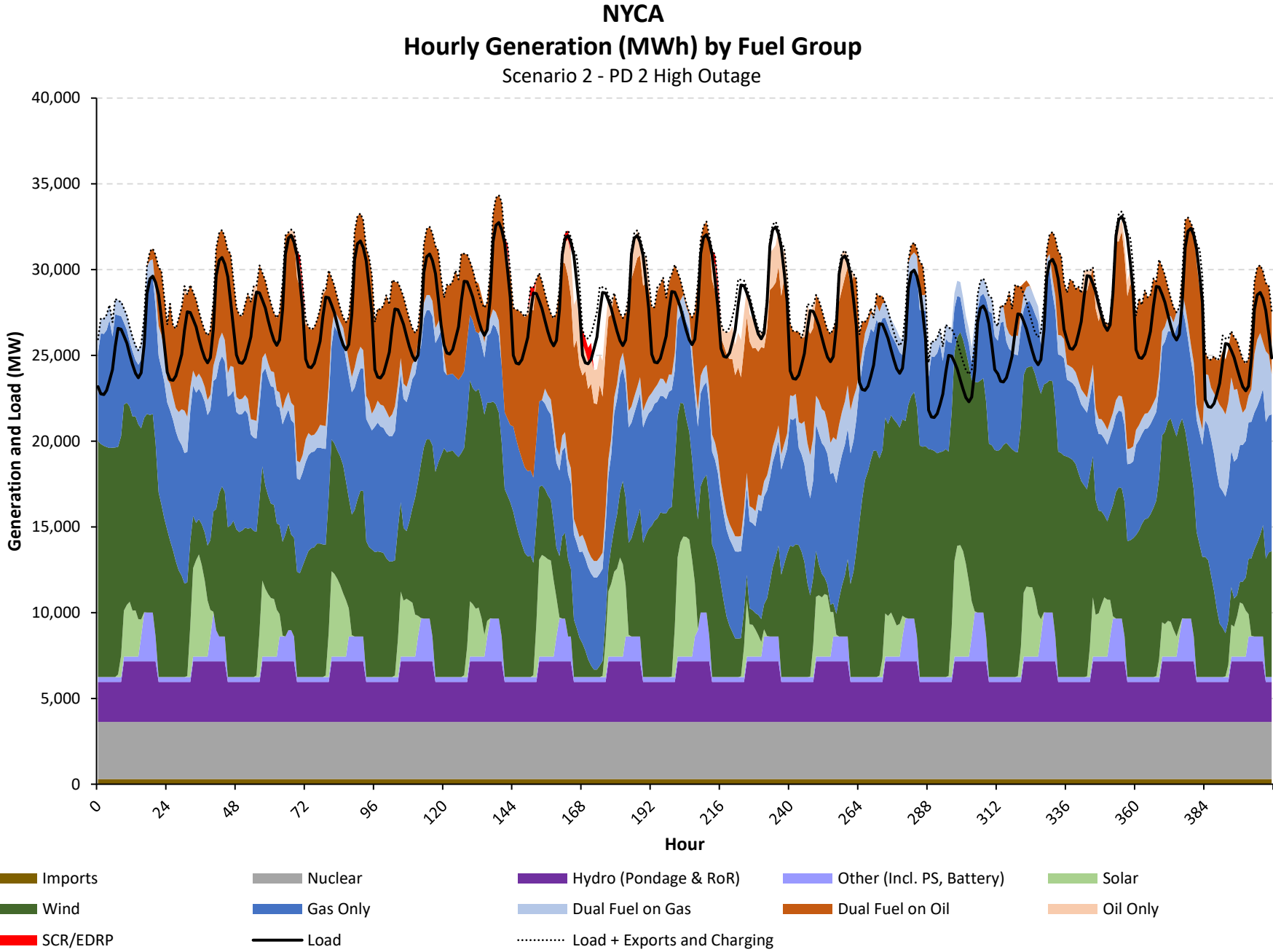
Loss of Load	
Total Hrs.	44
Total MWh	61,585
Avg. MW	150.9
First Hour with Losses	164

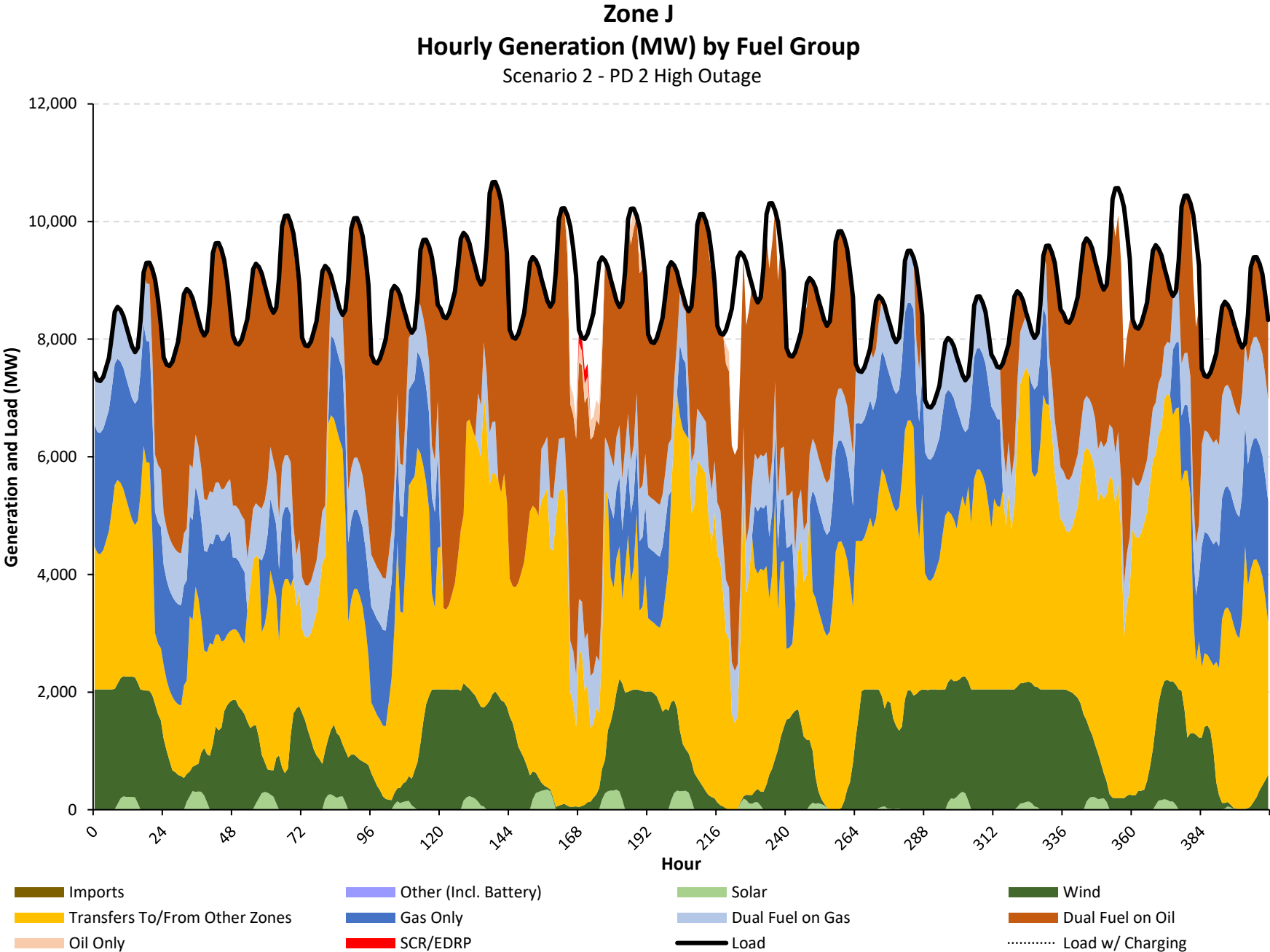
Full Period Results Summary

Case Name: Scenario 2 - PD 2 High Outage

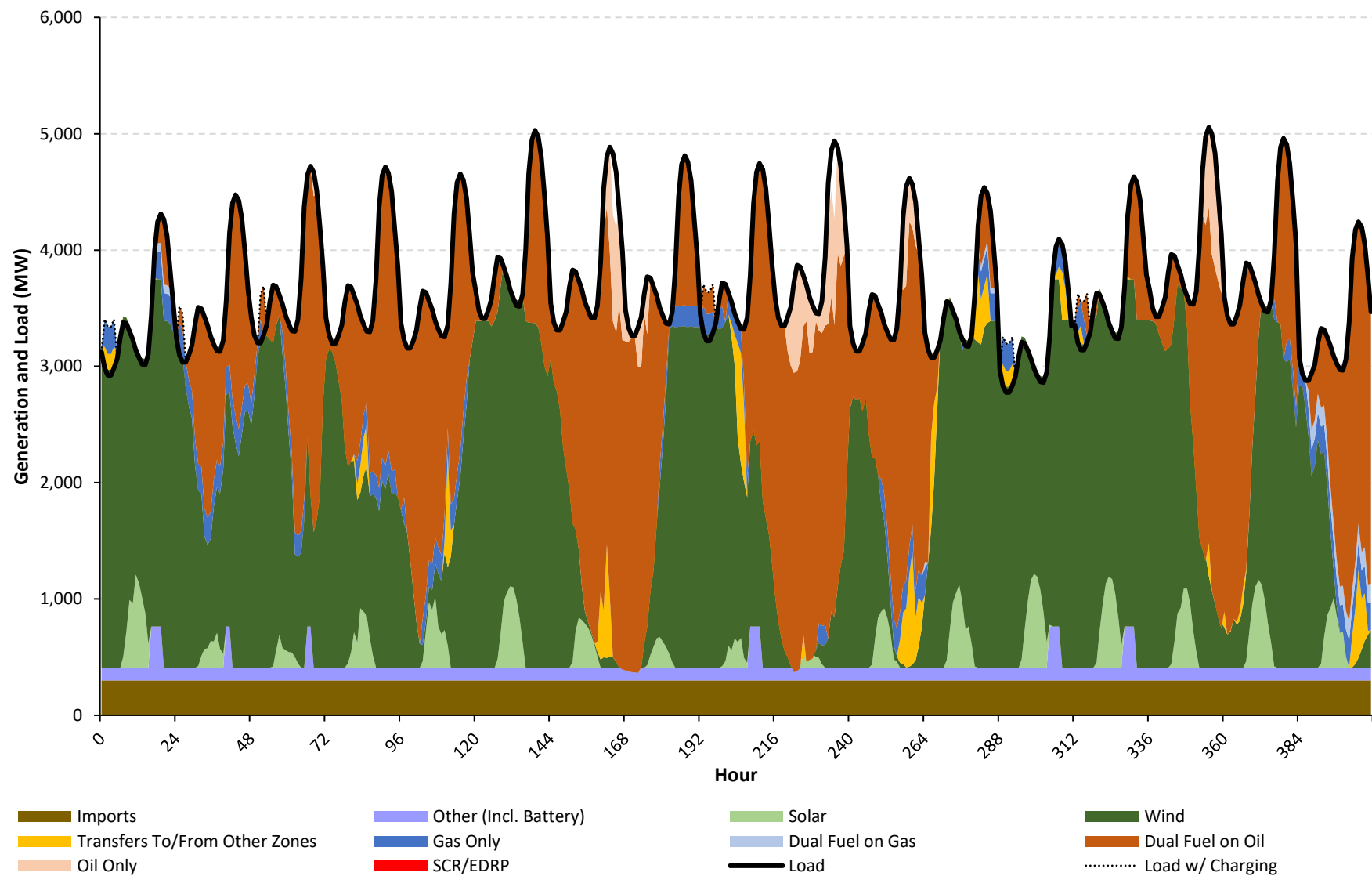
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

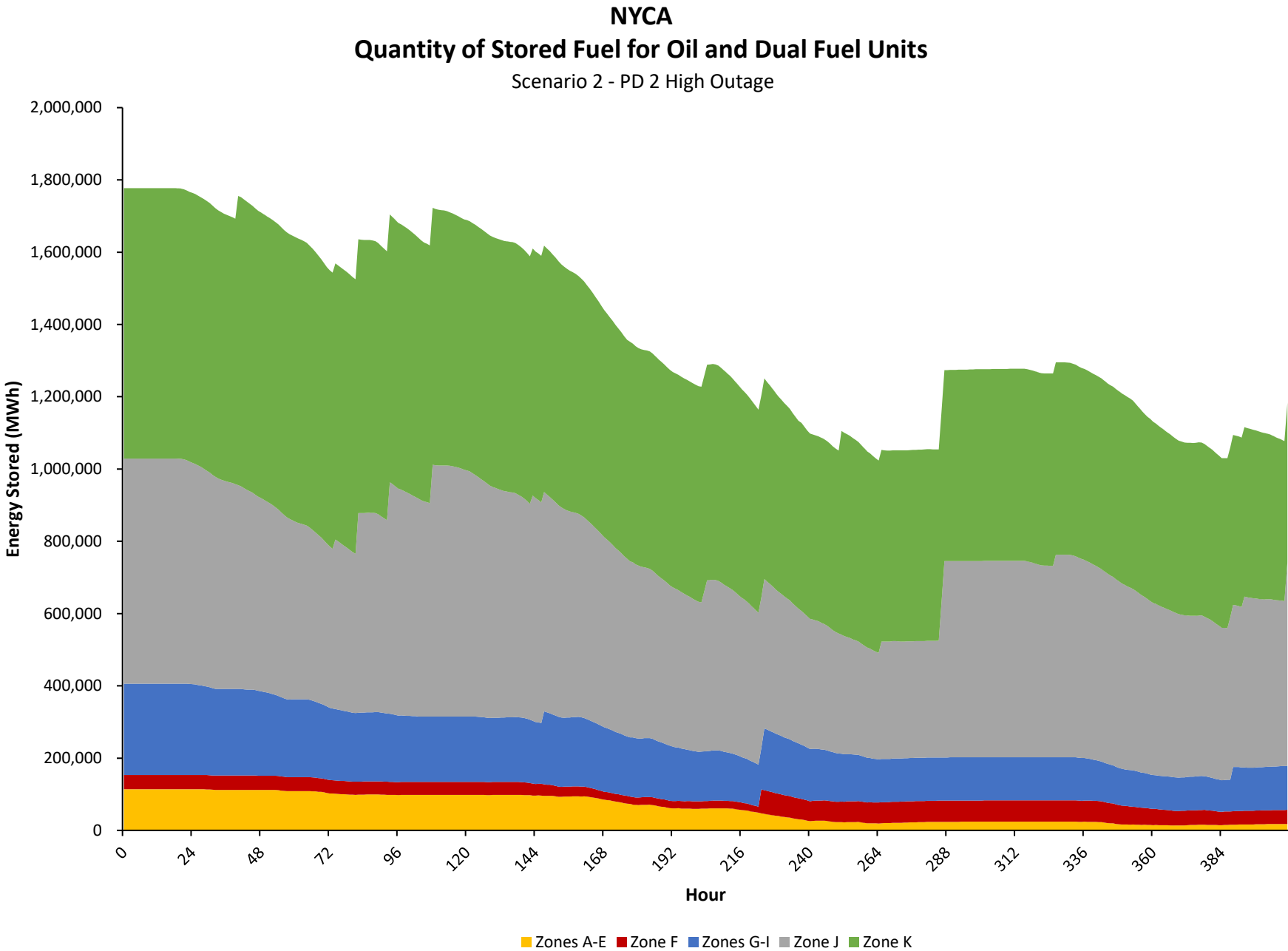


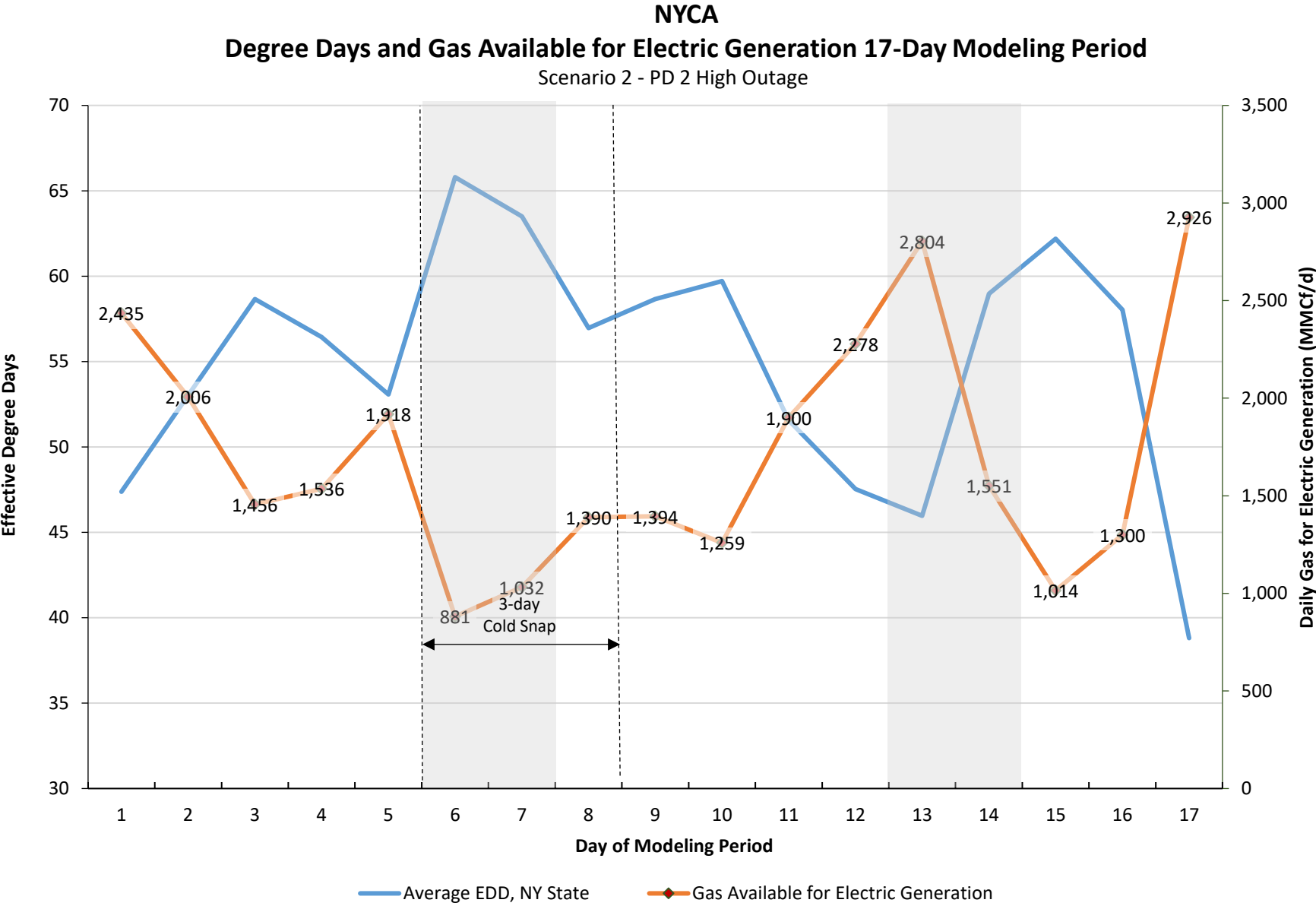




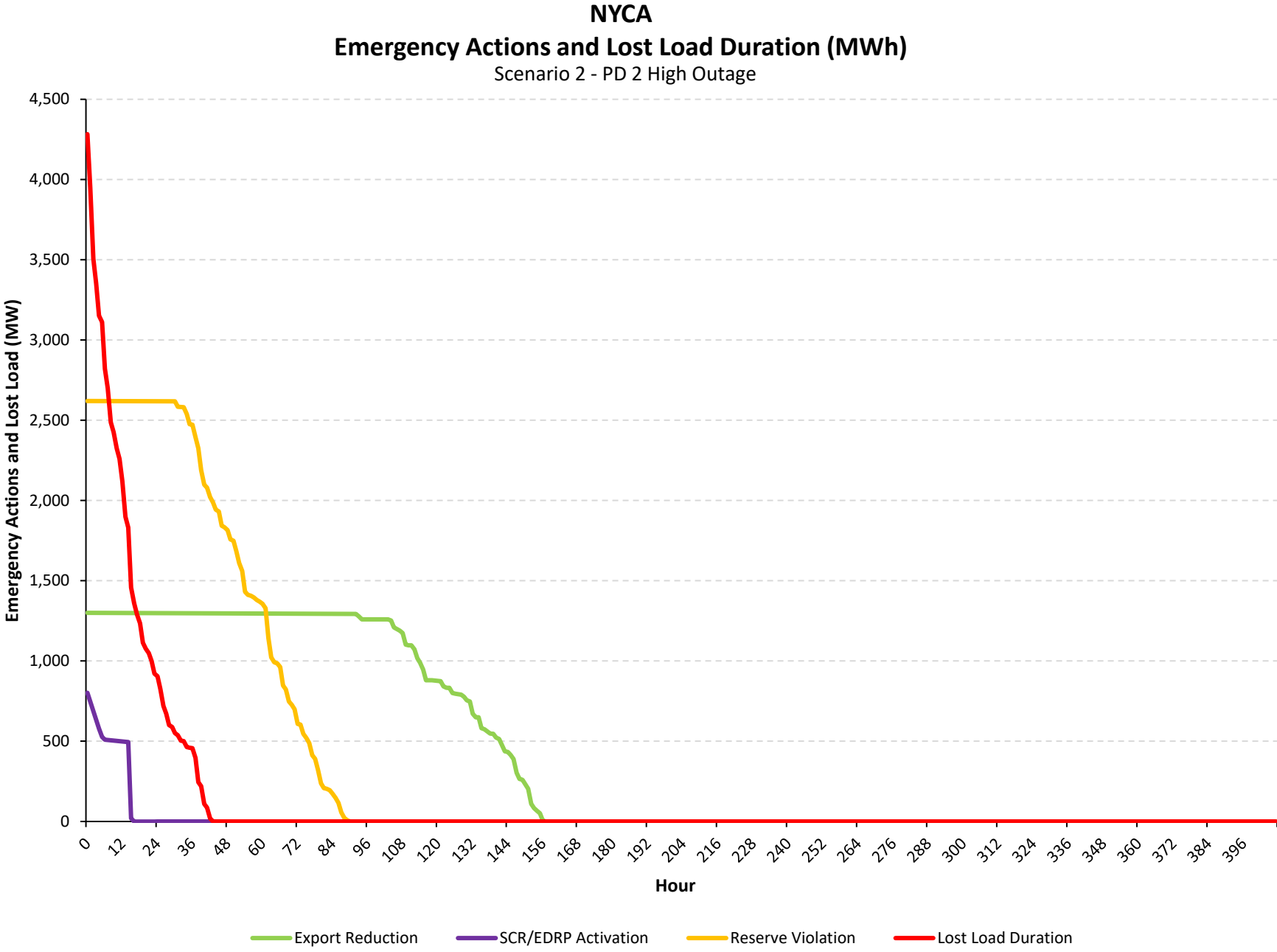
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 2 - PD 2 High Outage

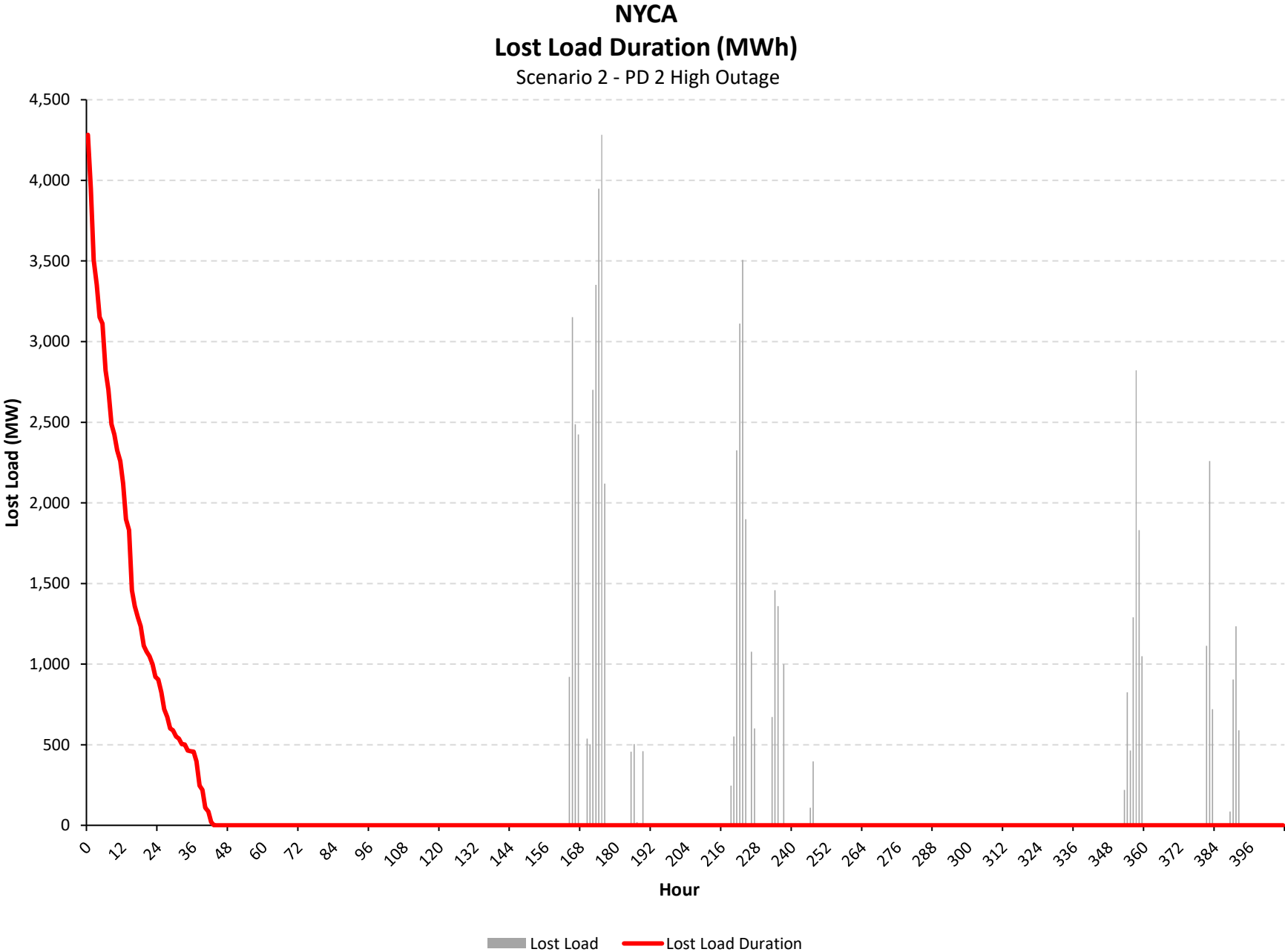






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



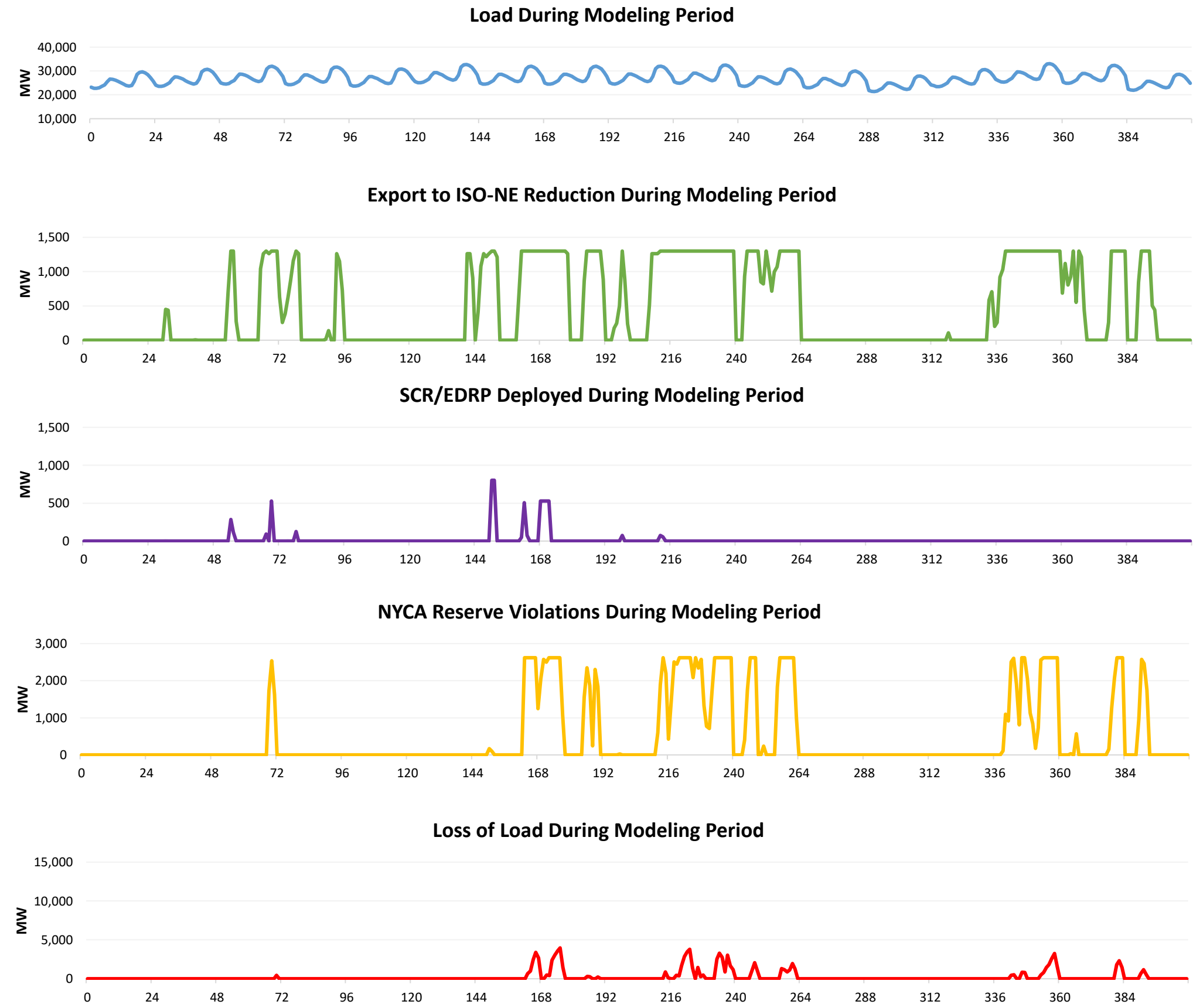


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 2 - PD 3 SENY Deactivation (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 2 - PD 3 SENY Deactivation



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	176
Total MWh	192,209
Avg. MW	471.1

SCR Deployment	
Total Hrs.	17
Total MWh	5,689
Avg. MW	13.9

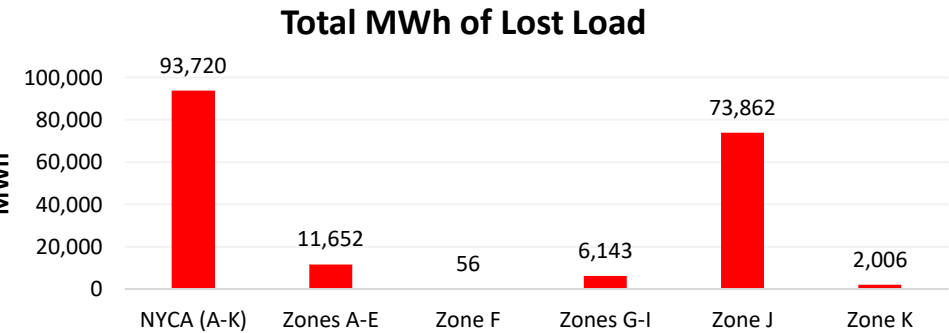
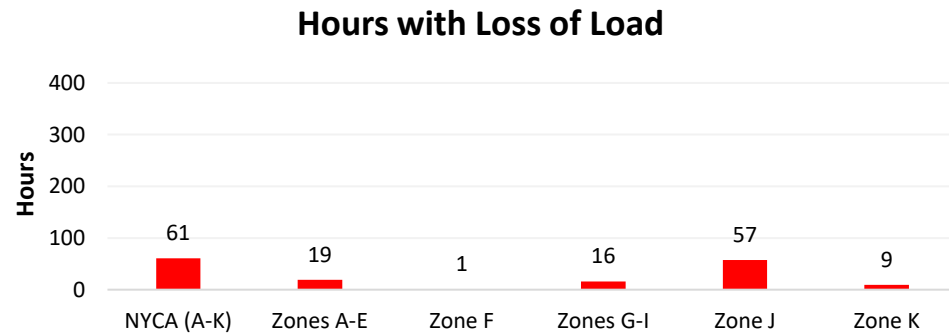
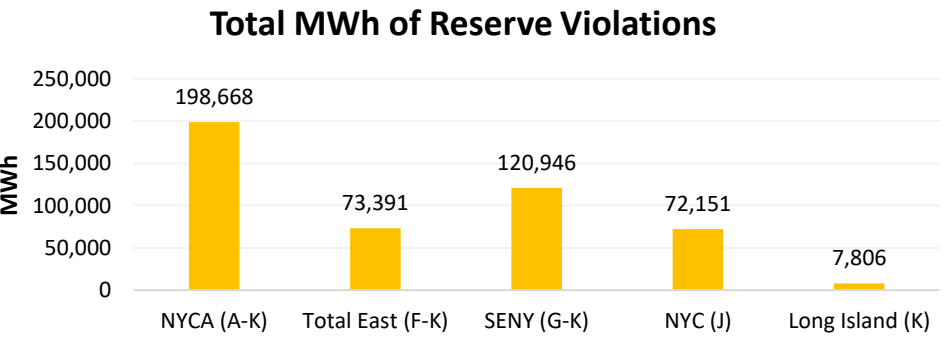
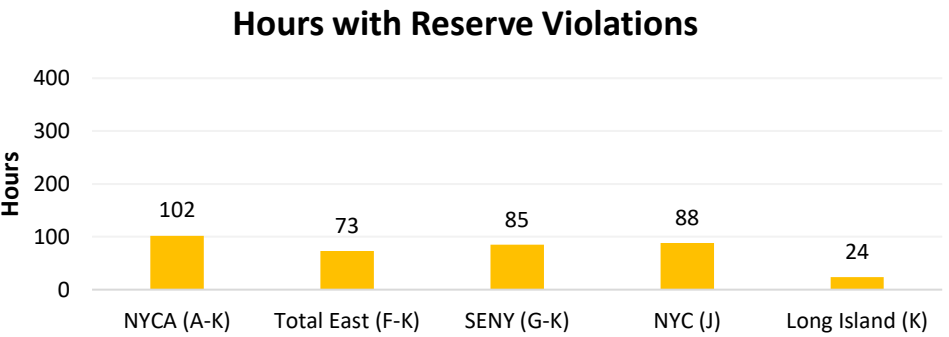
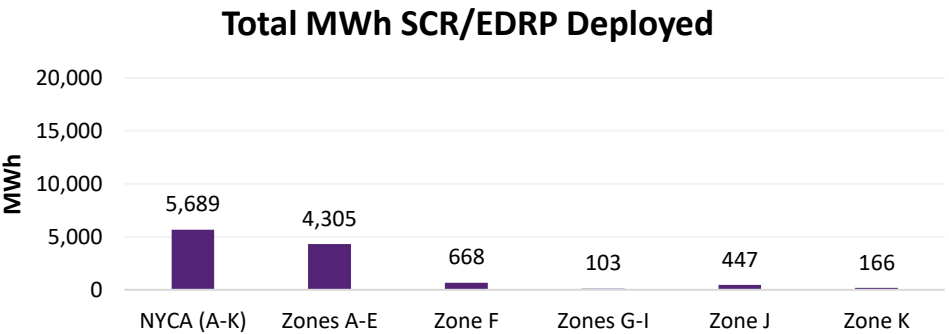
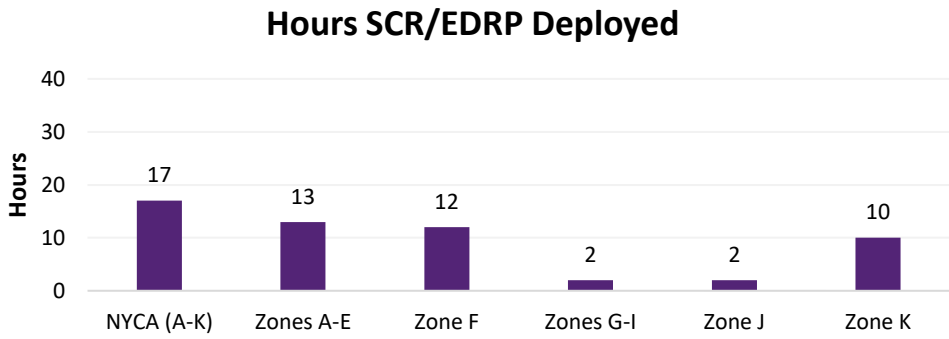
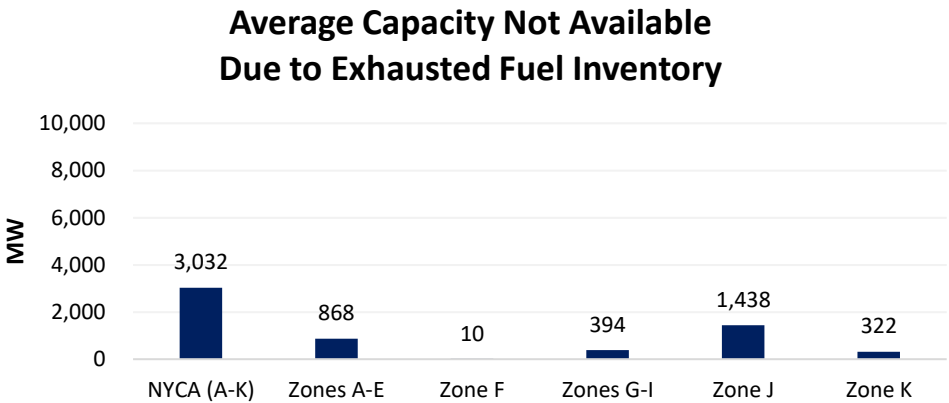
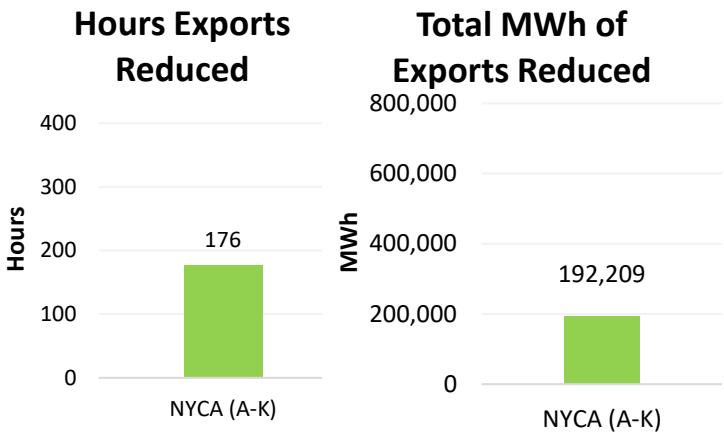
Reserve Violations	
Total Hrs.	102
Total MWh	198,668
Avg. MW	486.9
First Hour with Viol.	69

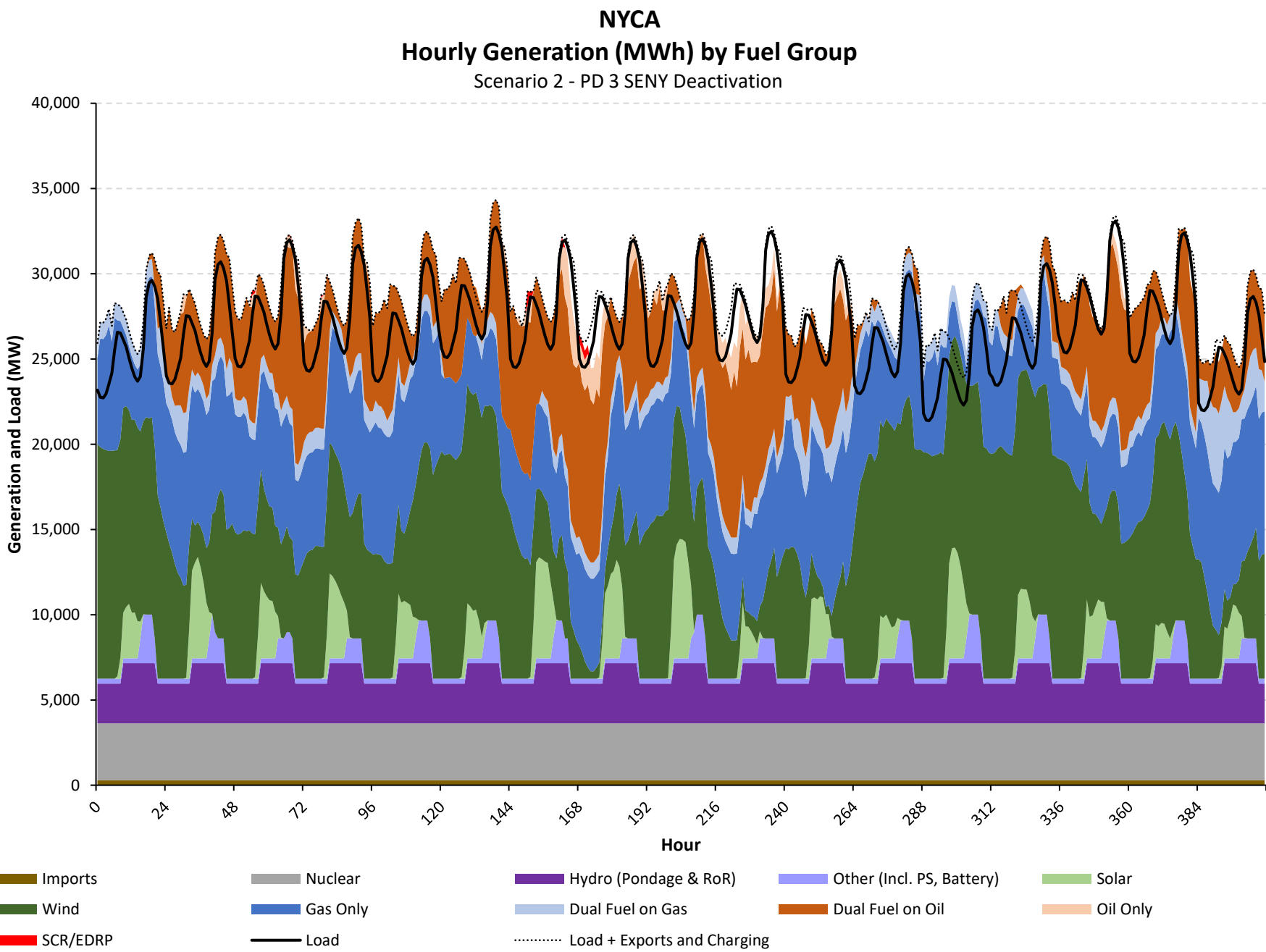
Loss of Load	
Total Hrs.	61
Total MWh	93,720
Avg. MW	229.7
First Hour with Losses	70

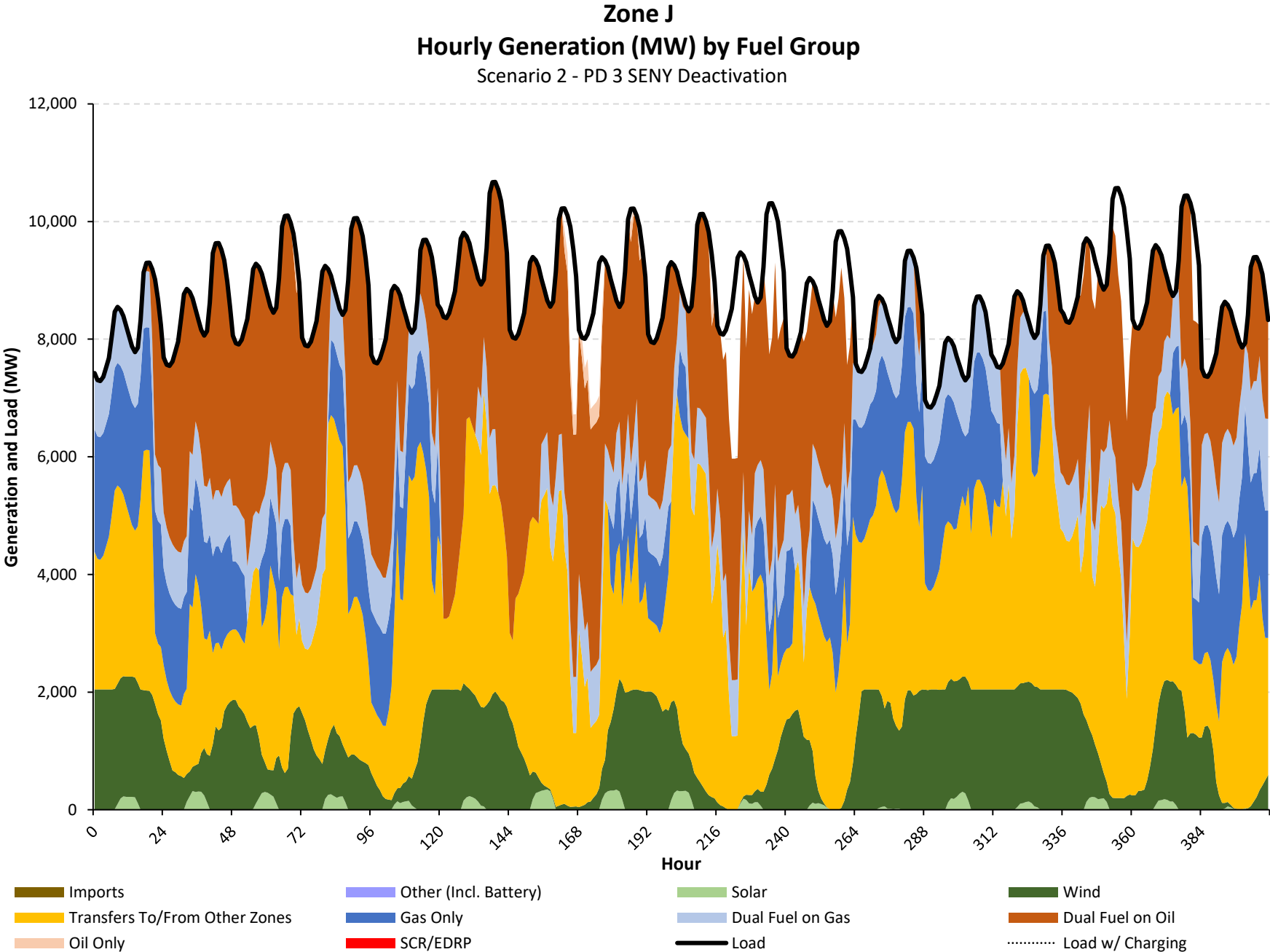
Full Period Results Summary

Case Name: Scenario 2 - PD 3 SENY Deactivation

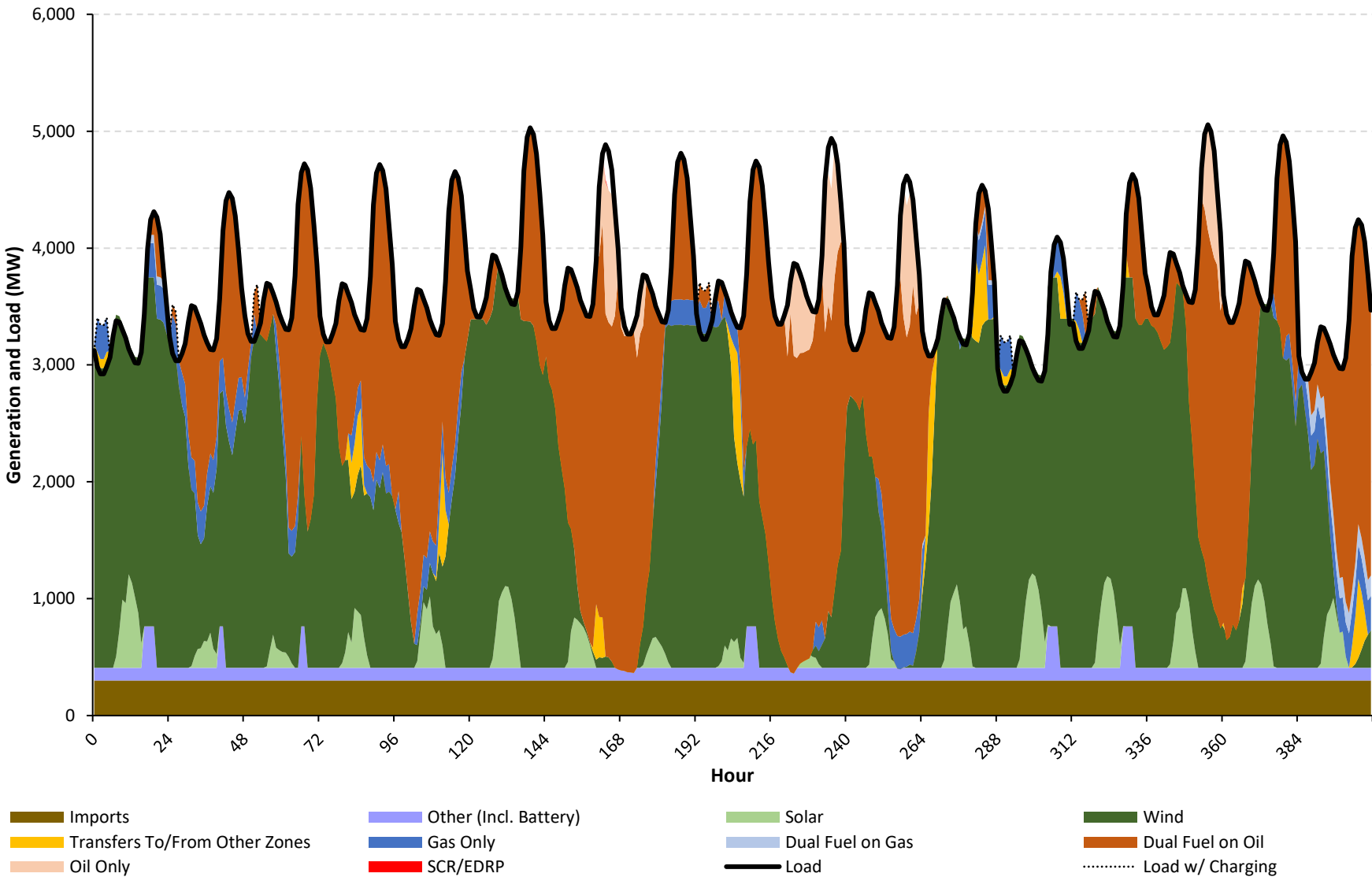
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	Net Zero

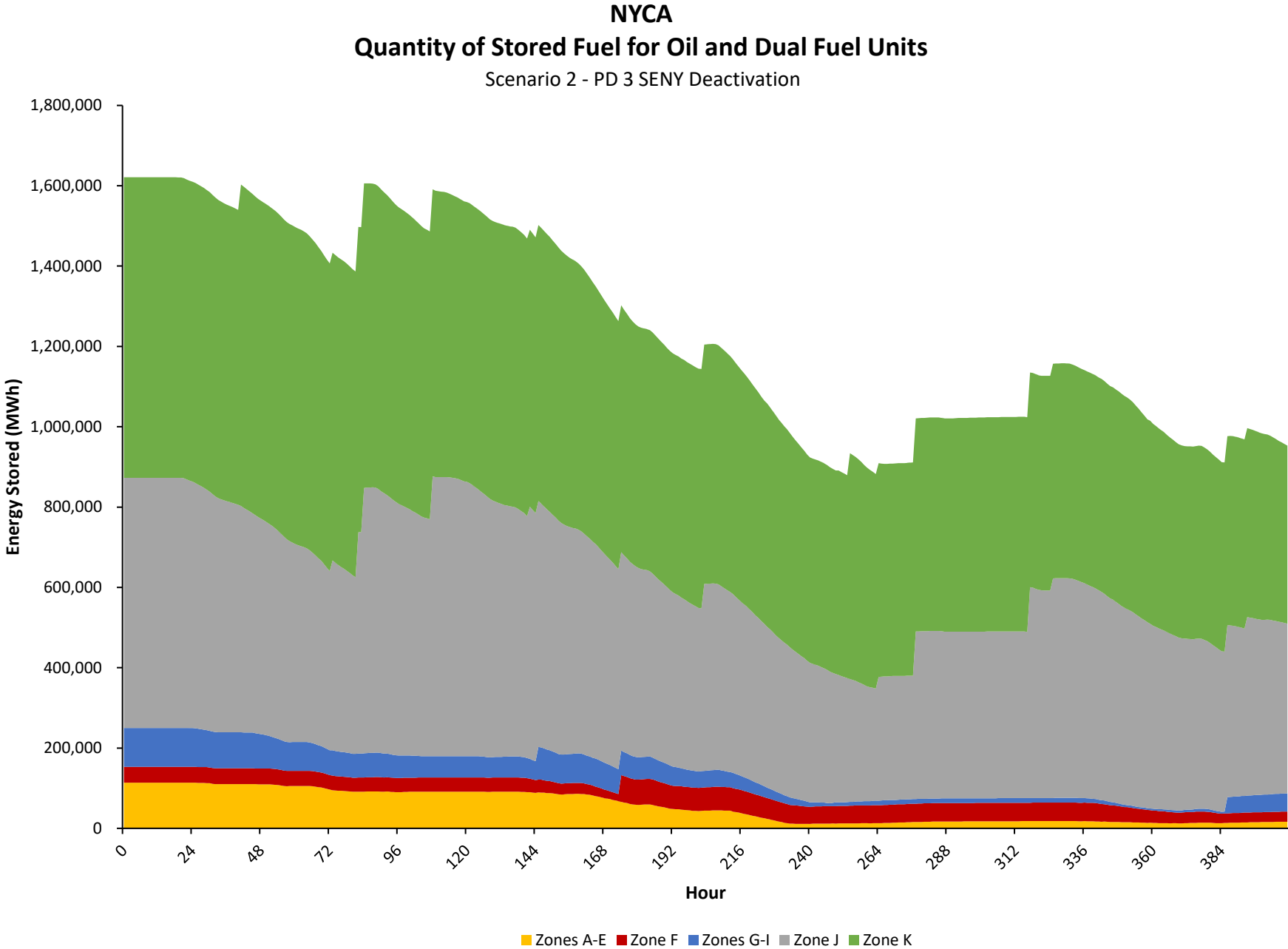


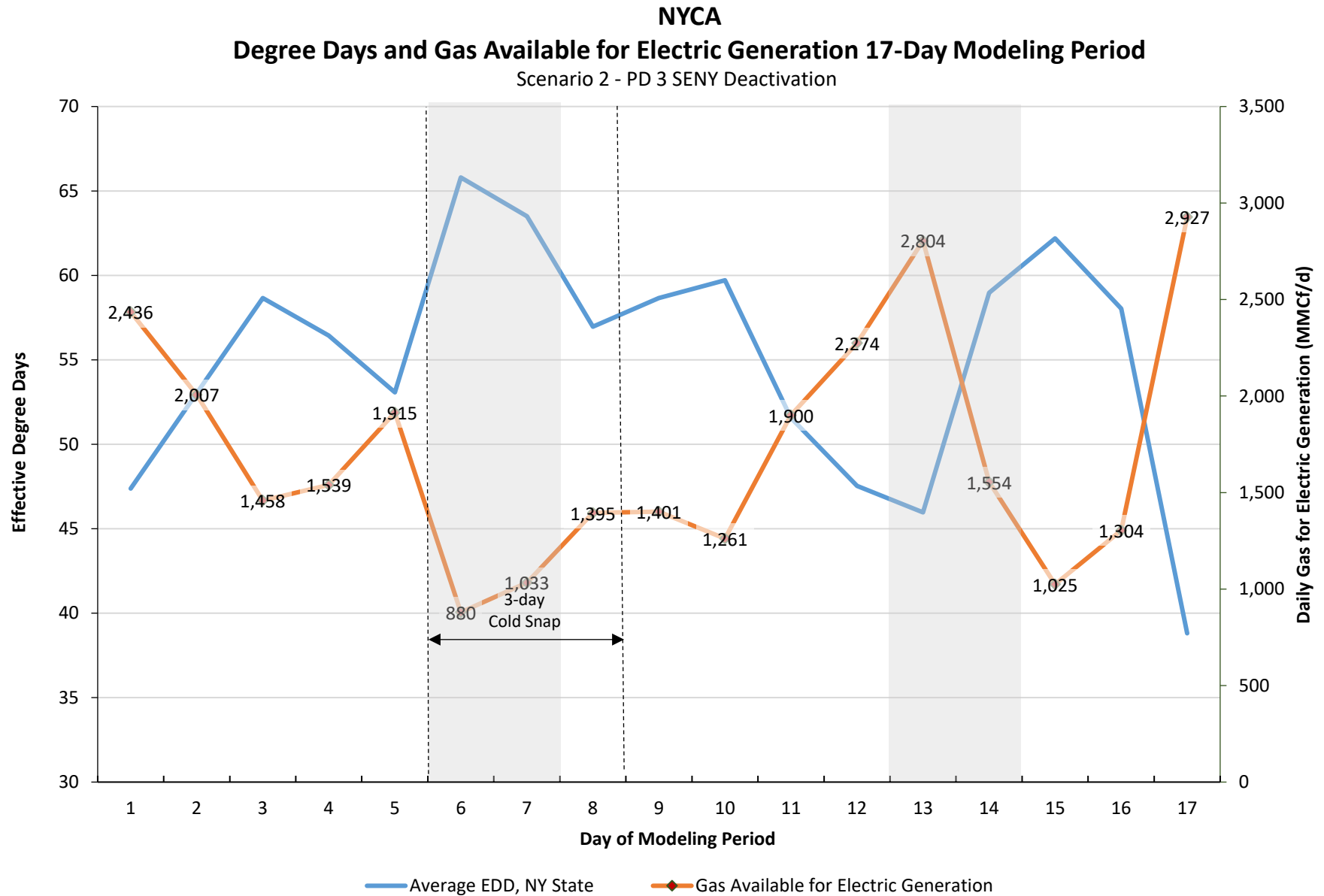




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 2 - PD 3 SENY Deactivation

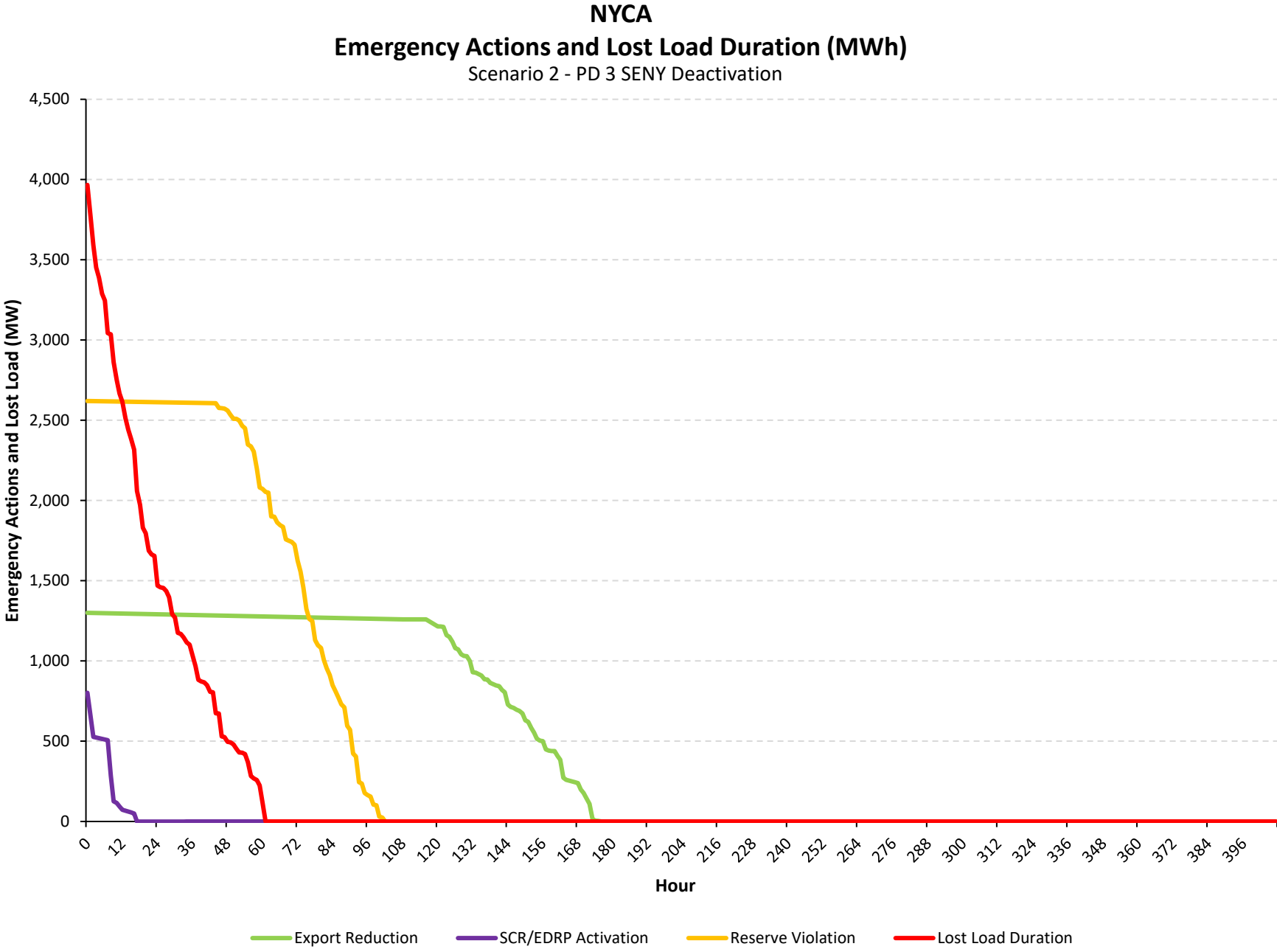


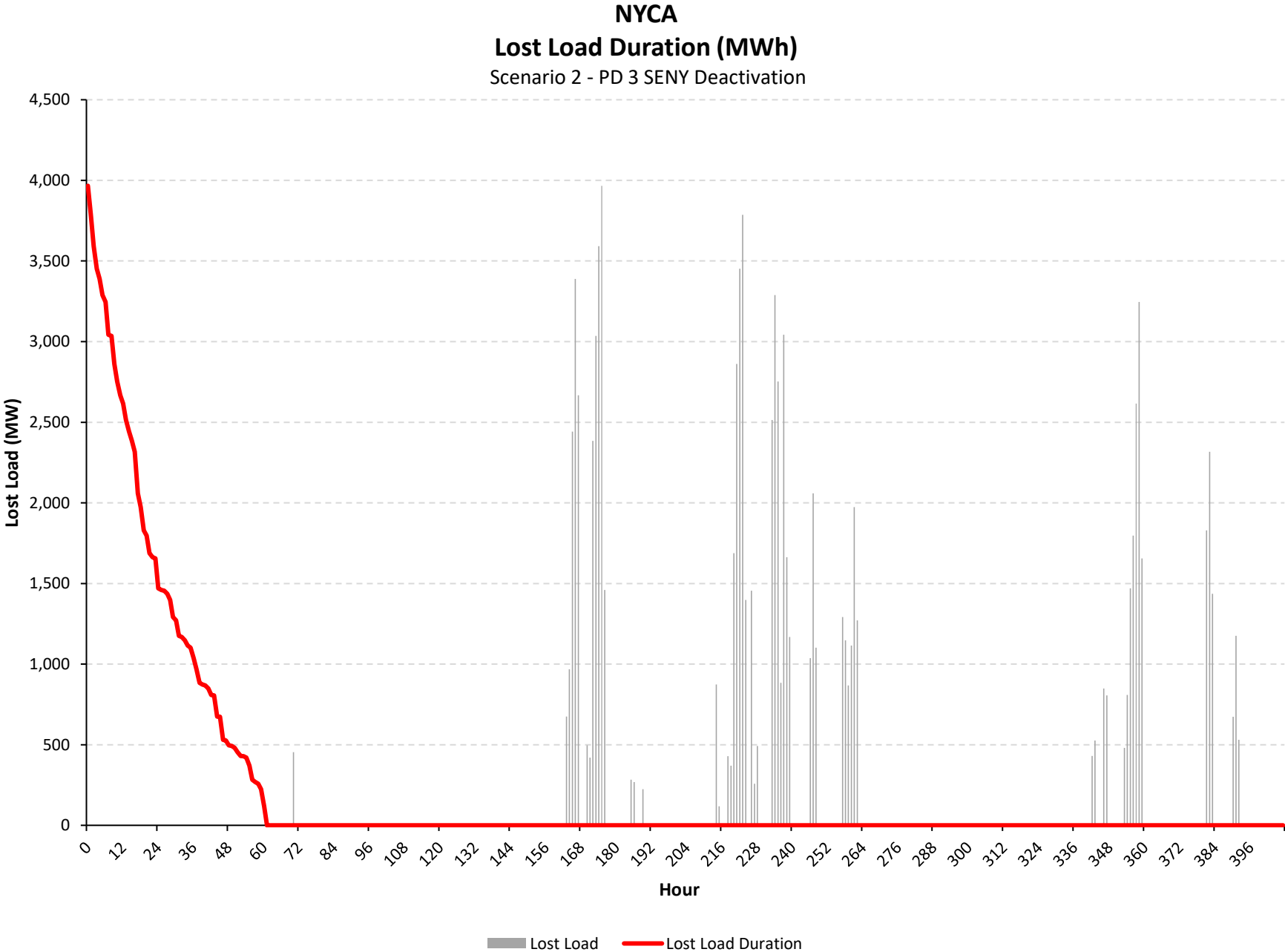




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



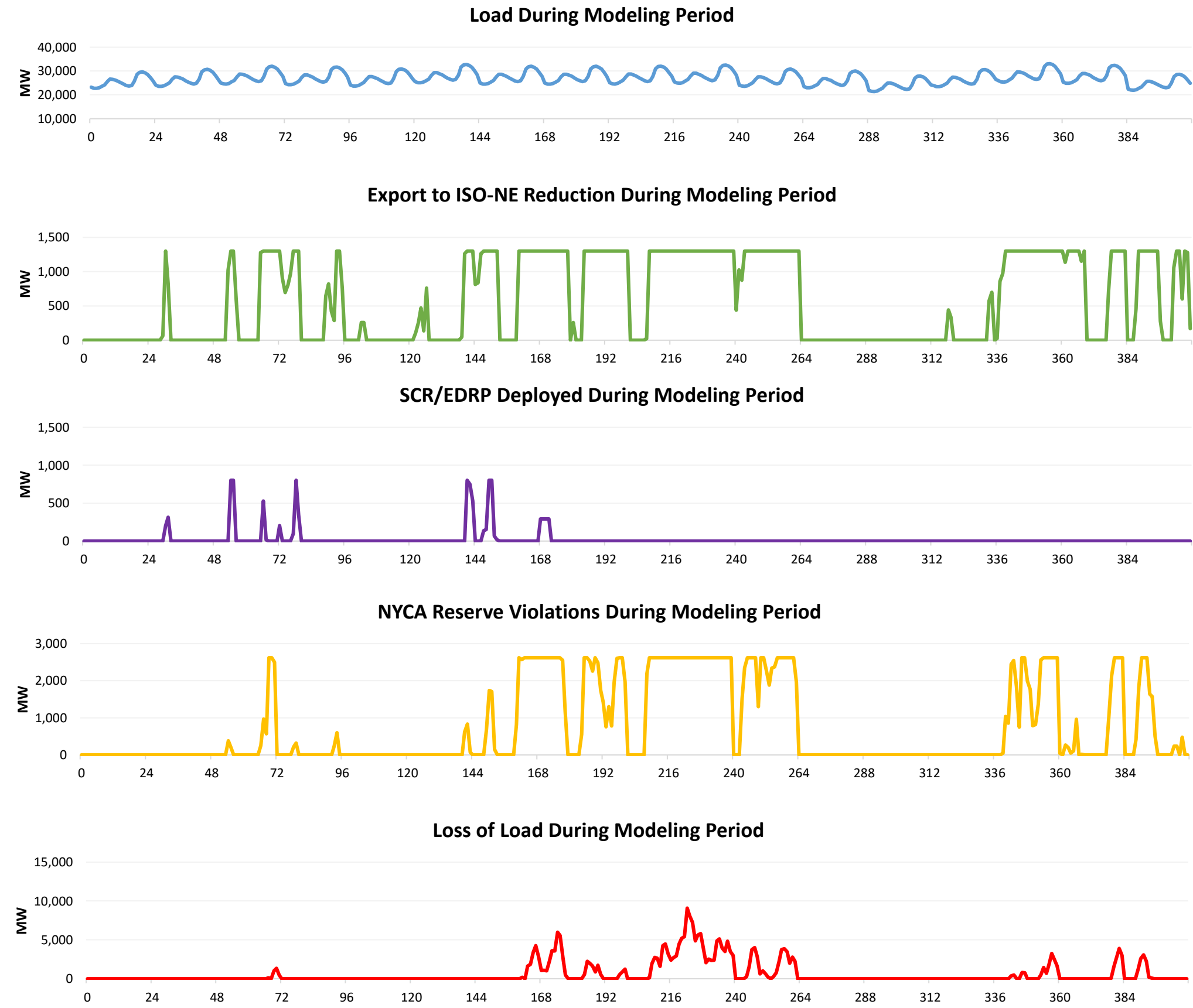


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 2 - PD 4 Nuclear Station Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 2 - PD 4 Nuclear Station Outage



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	205
Total MWh	235,314
Avg. MW	576.7

SCR Deployment	
Total Hrs.	23
Total MWh	9,343
Avg. MW	22.9

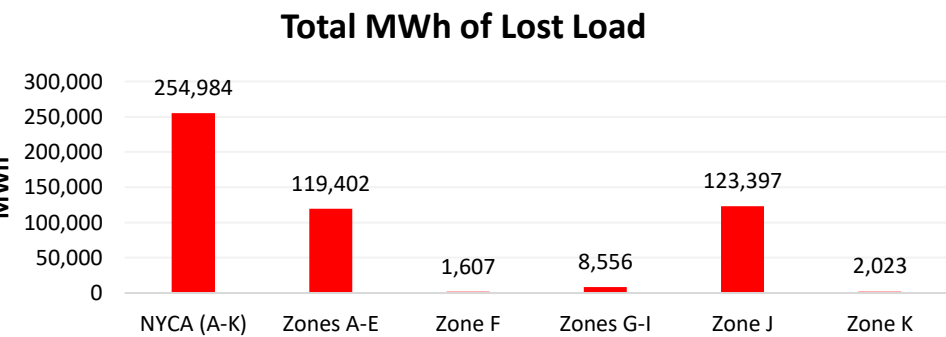
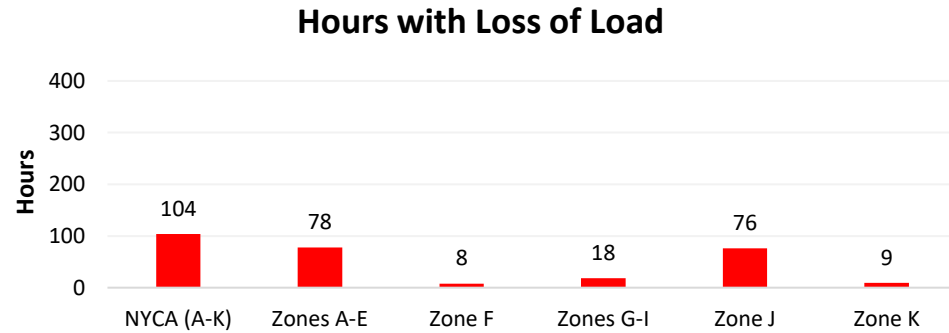
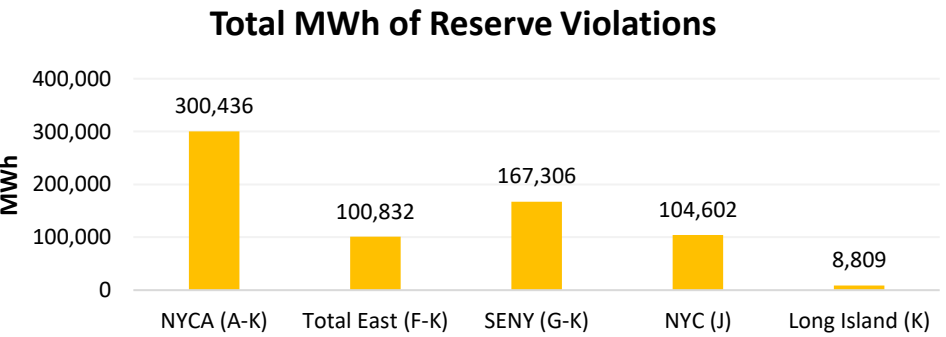
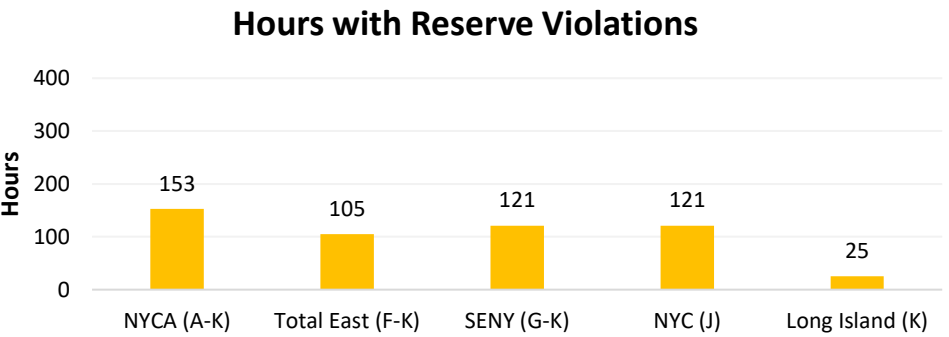
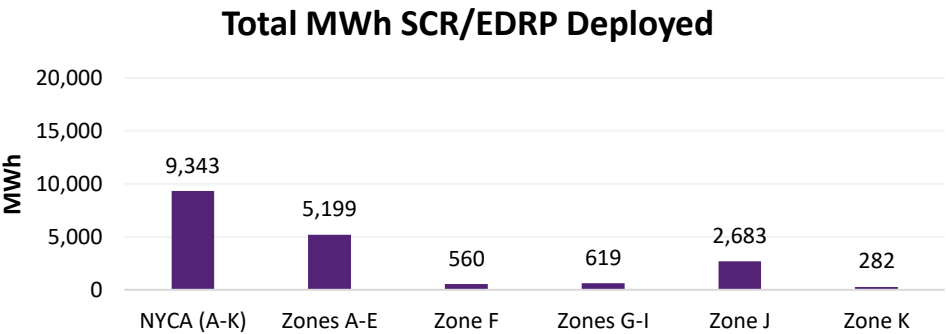
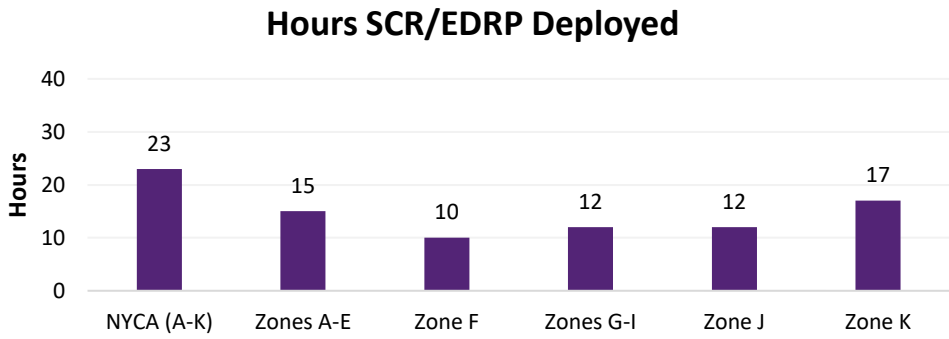
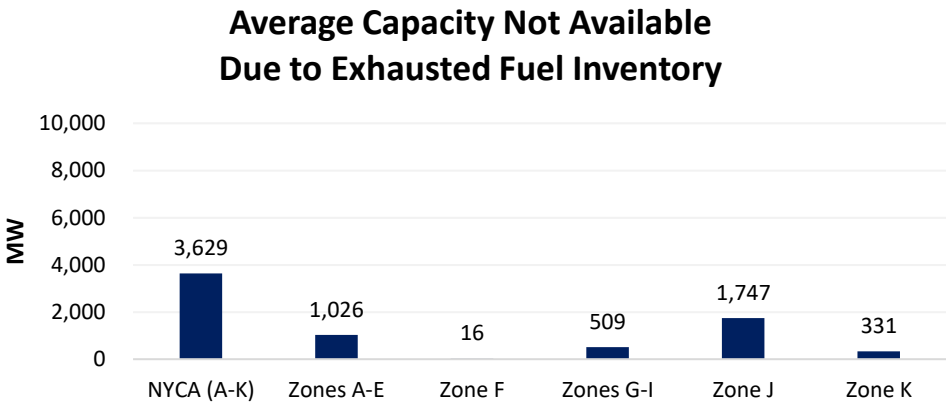
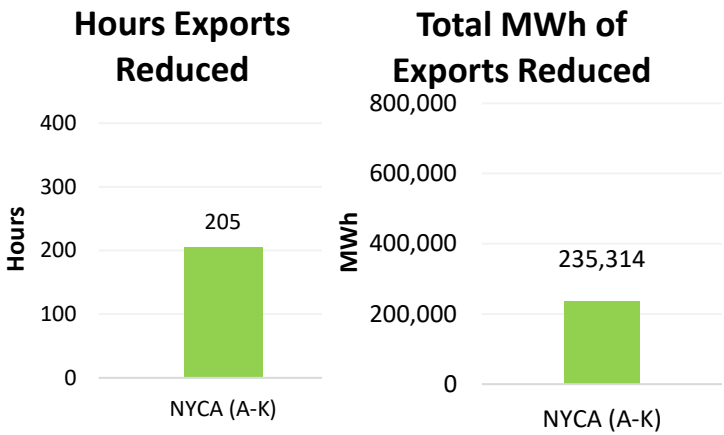
Reserve Violations	
Total Hrs.	153
Total MWh	300,436
Avg. MW	736.4
First Hour with Viol.	54

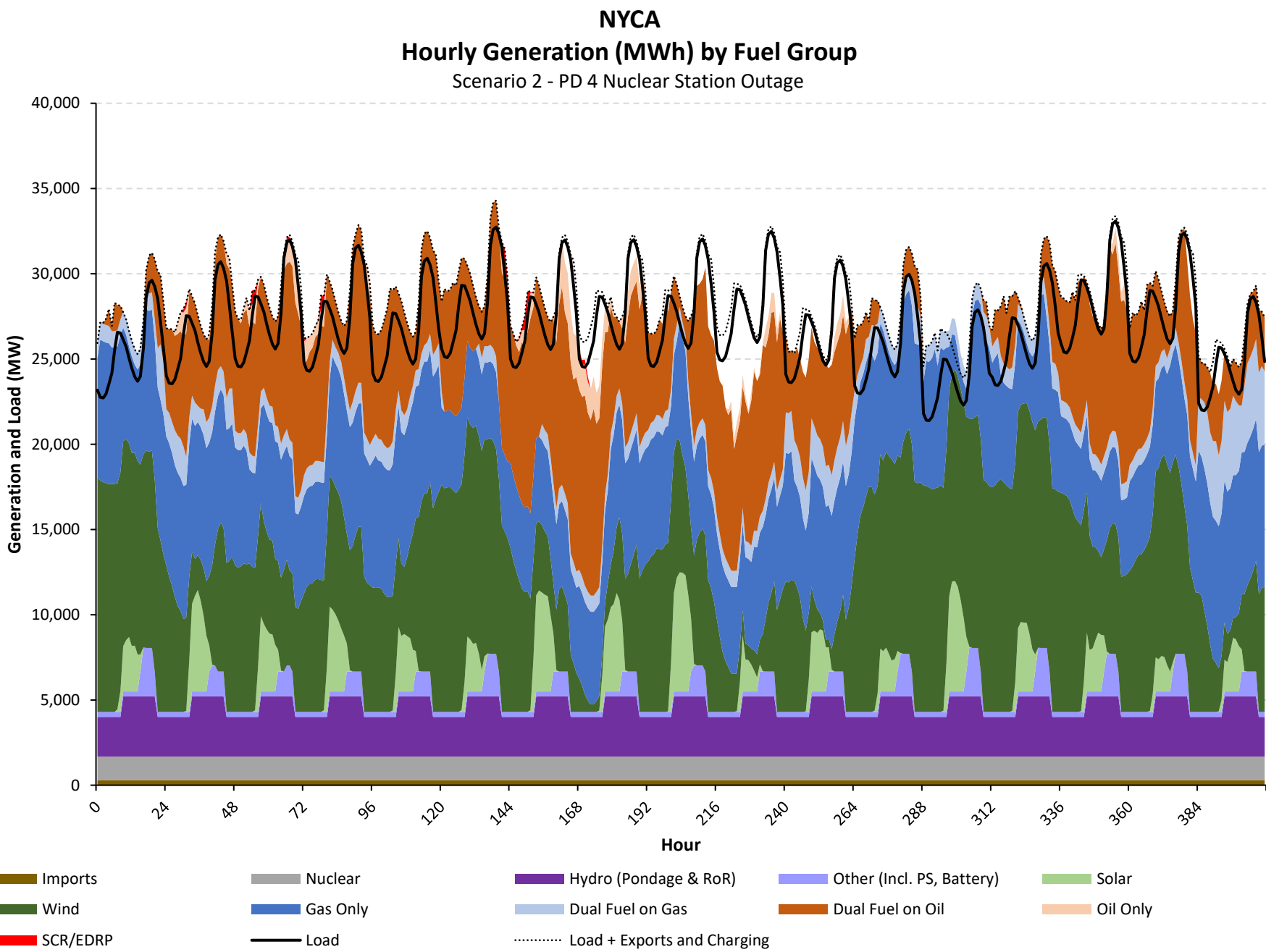
Loss of Load	
Total Hrs.	104
Total MWh	254,984
Avg. MW	625.0
First Hour with Losses	67

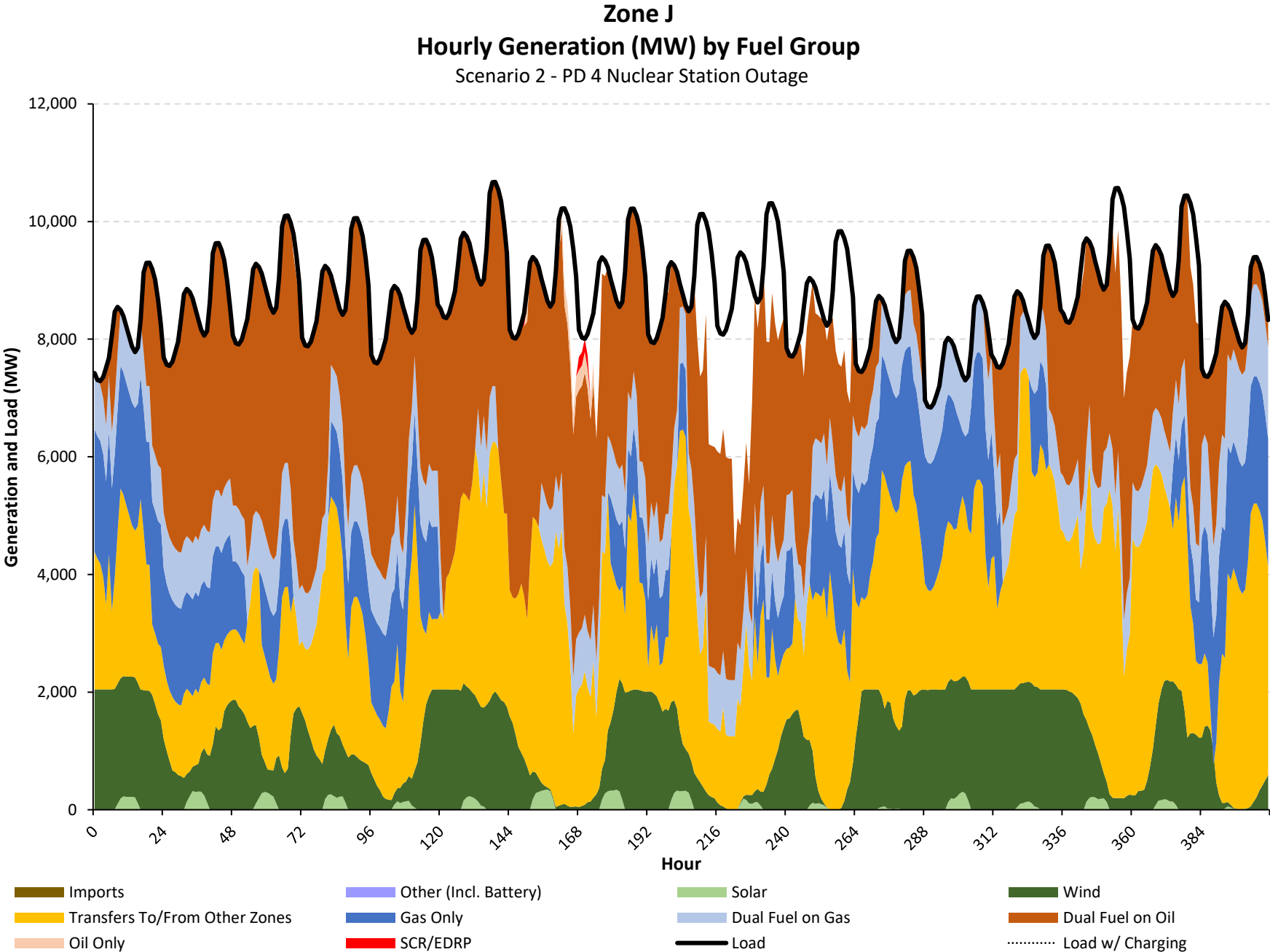
Full Period Results Summary

Case Name: Scenario 2 - PD 4 Nuclear Station Outage

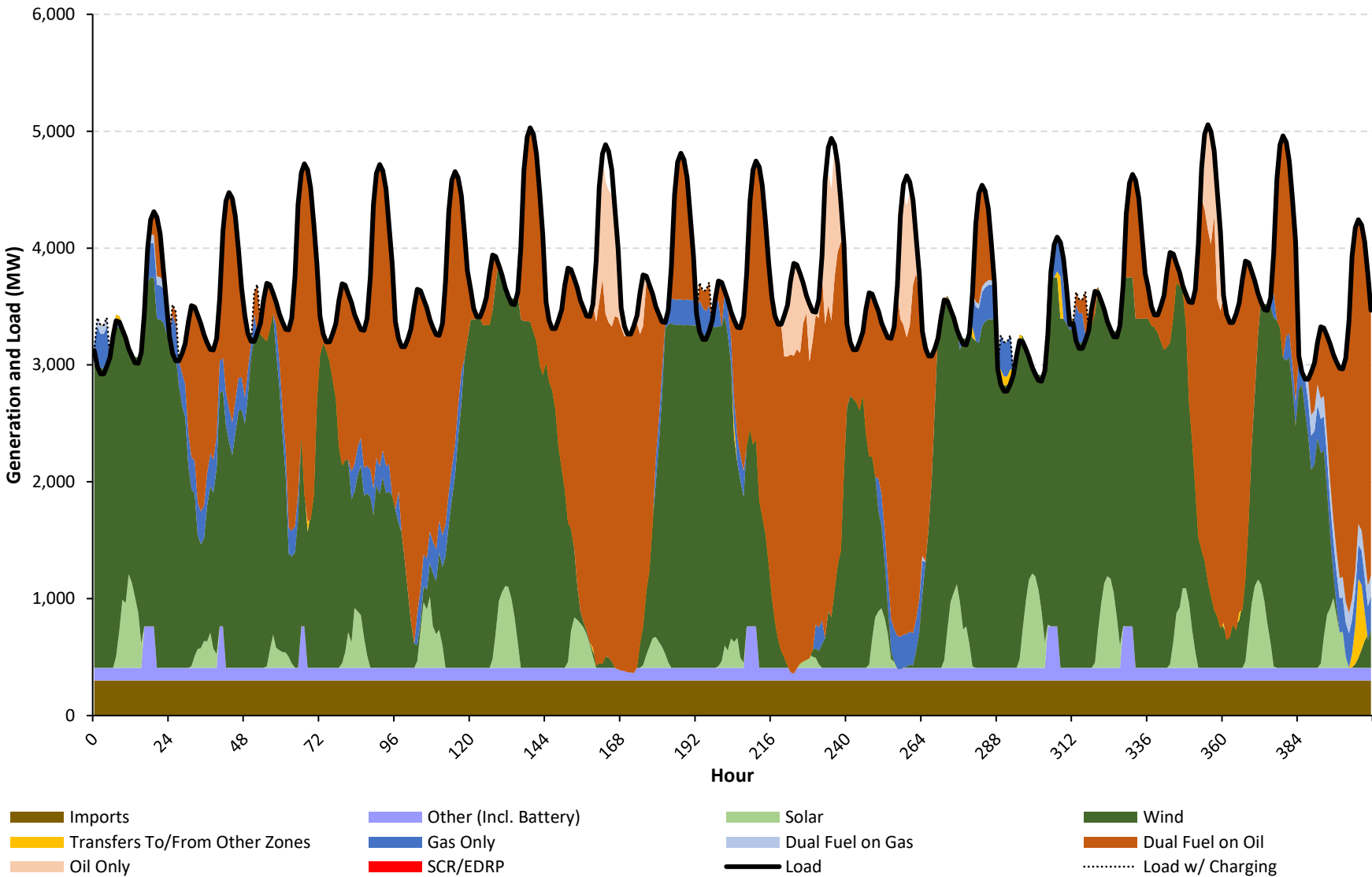
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	Net Zero

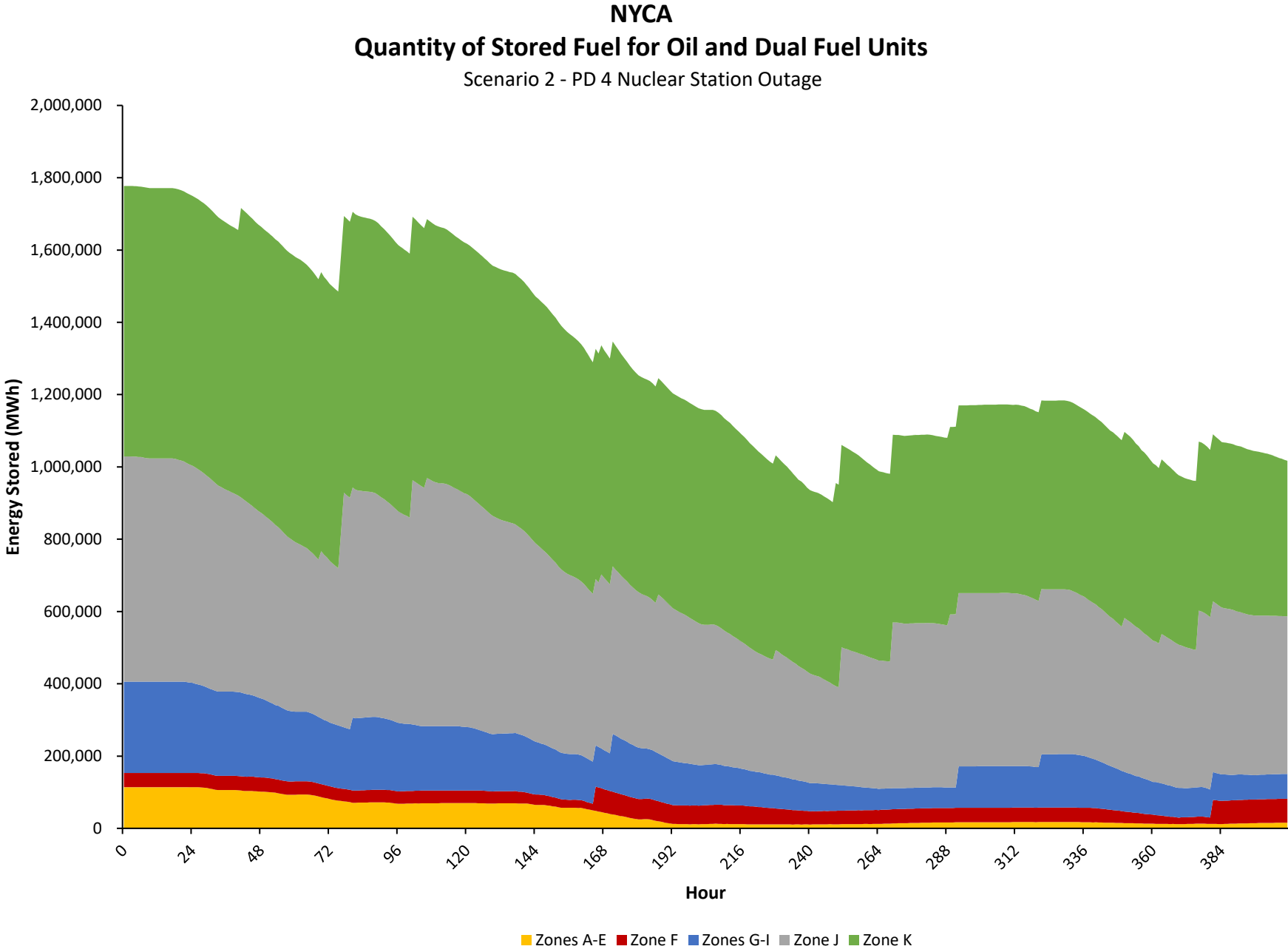


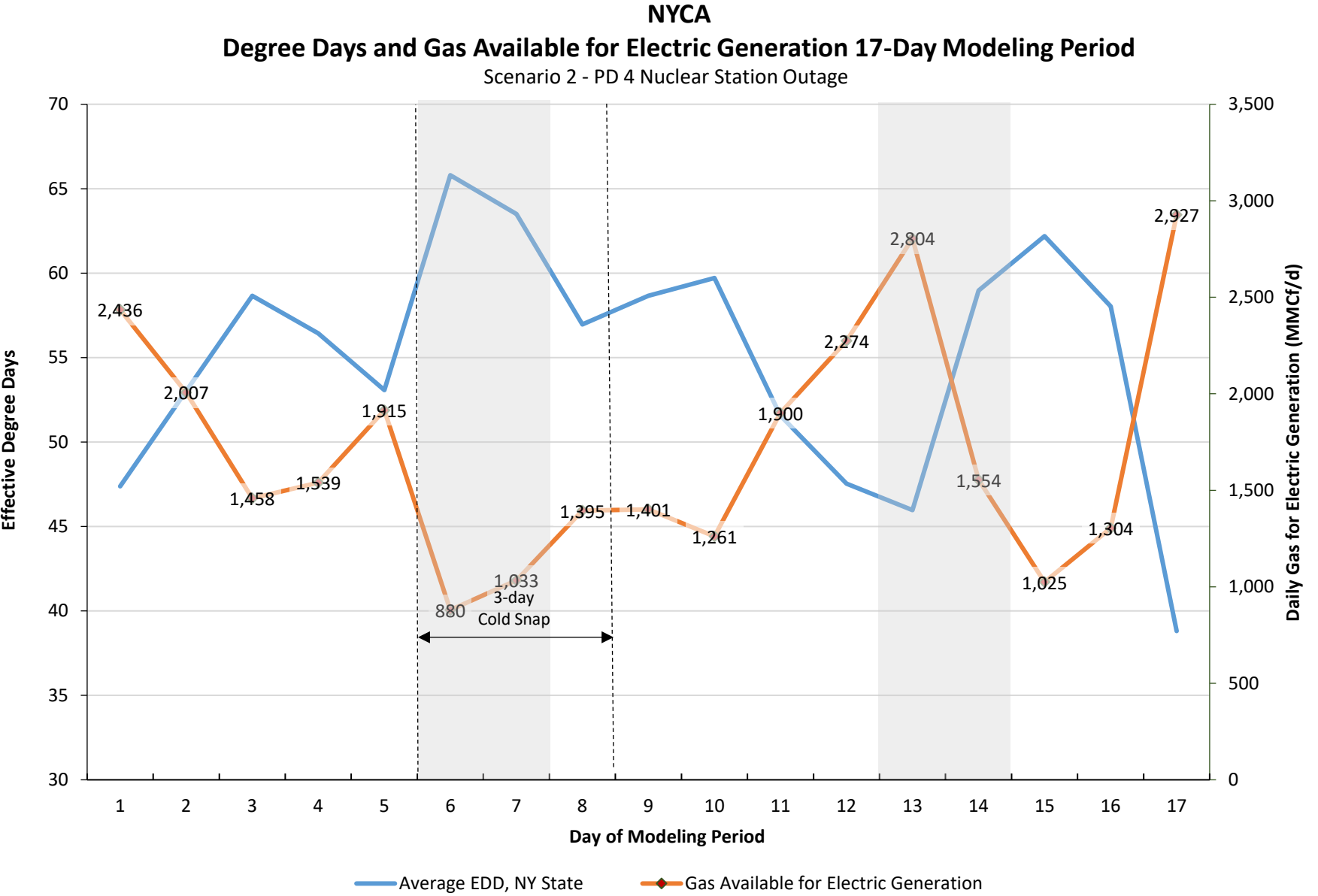




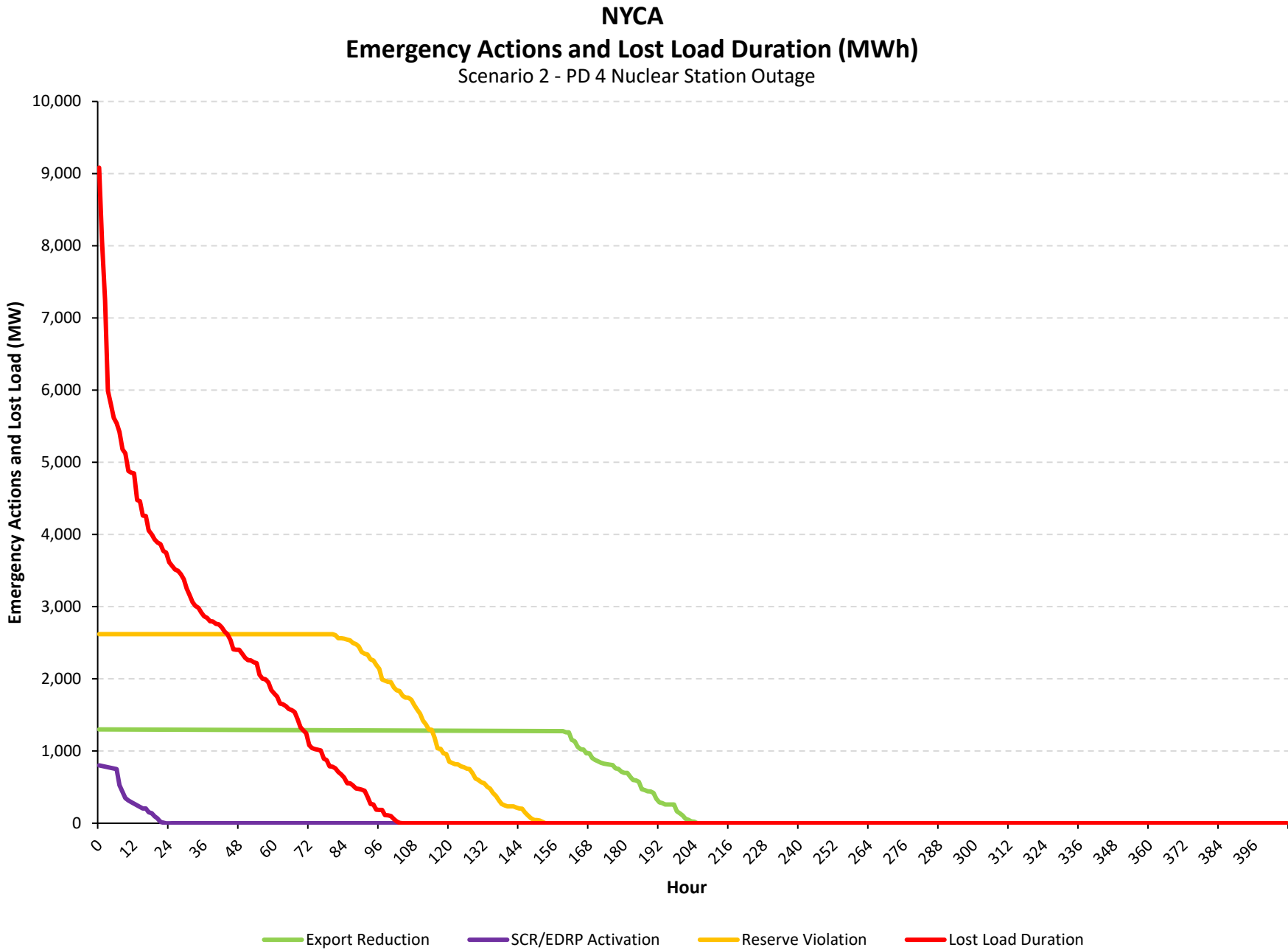
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 2 - PD 4 Nuclear Station Outage

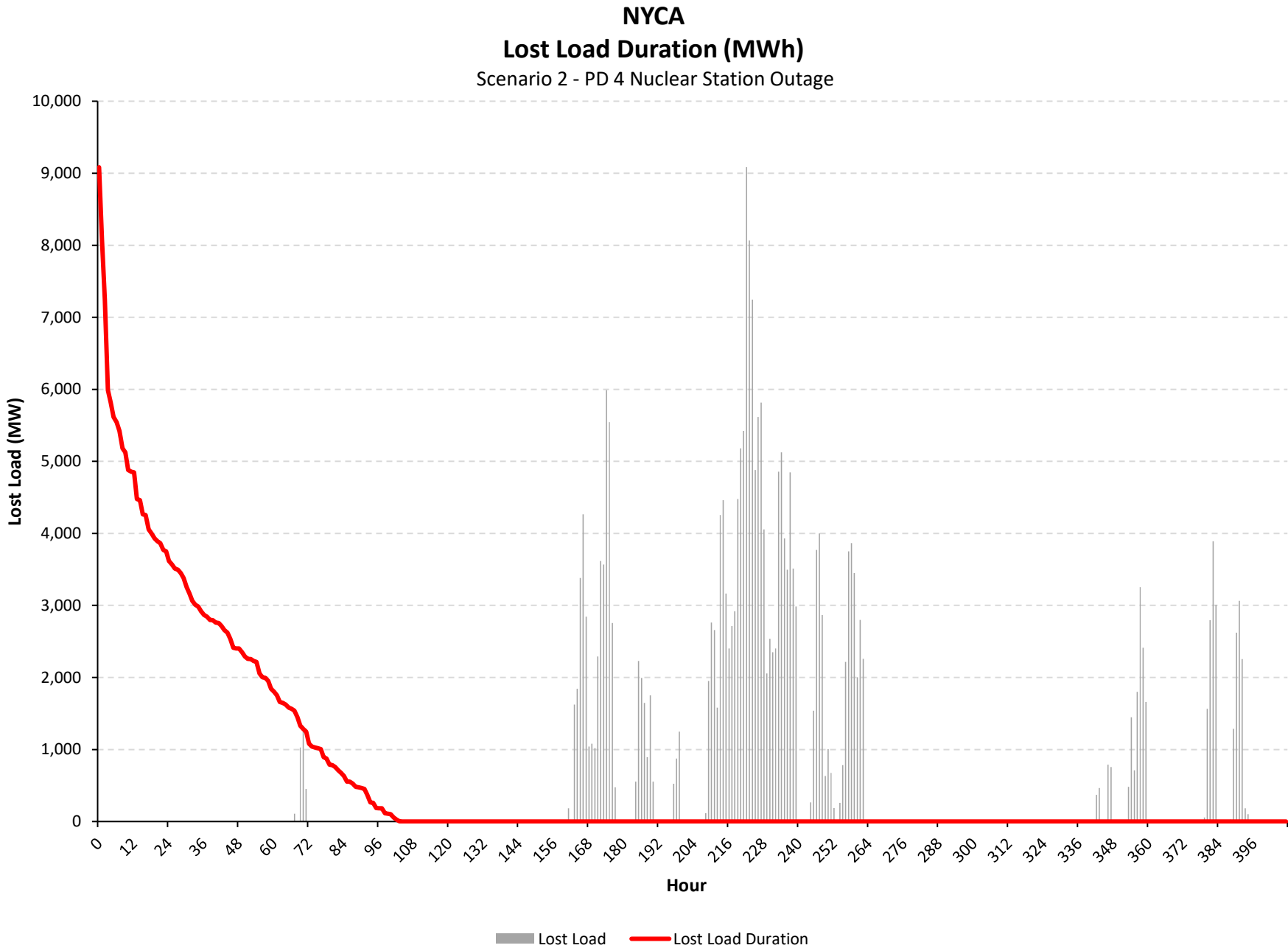






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



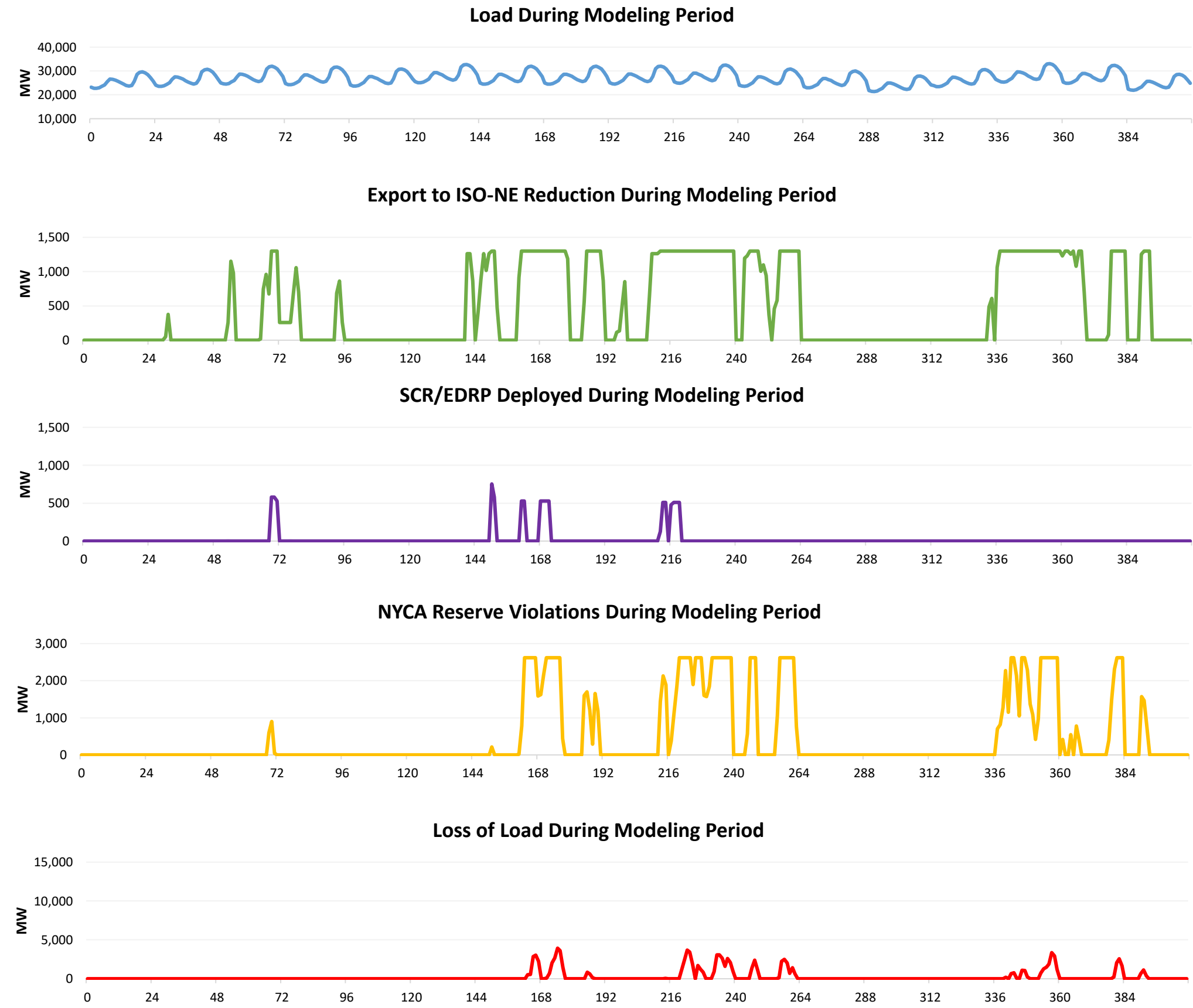


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 2 - PD 5 No Truck Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 2 - PD 5 No Truck Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	163
Total MWh	180,169
Avg. MW	441.6

SCR Deployment	
Total Hrs.	18
Total MWh	9,330
Avg. MW	22.9

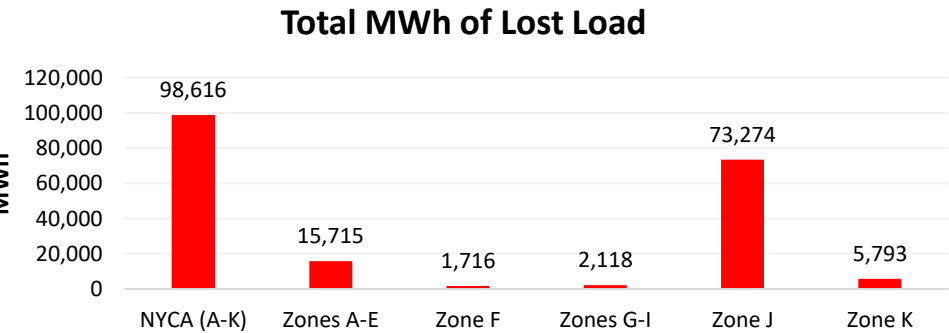
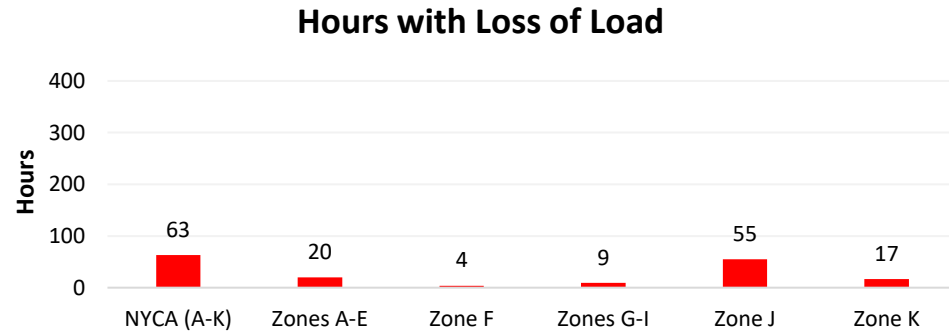
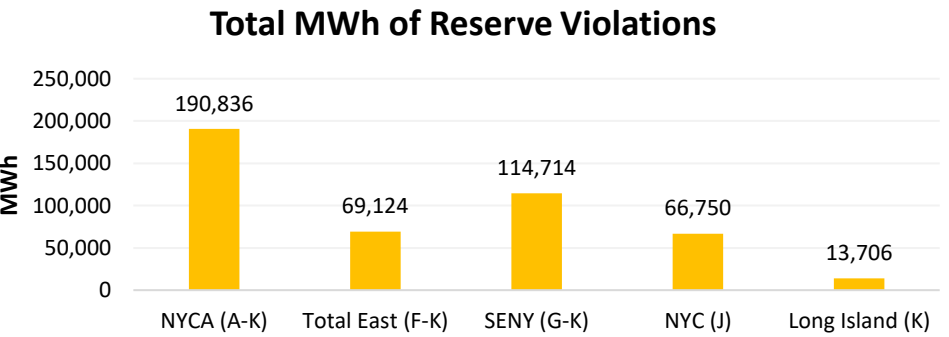
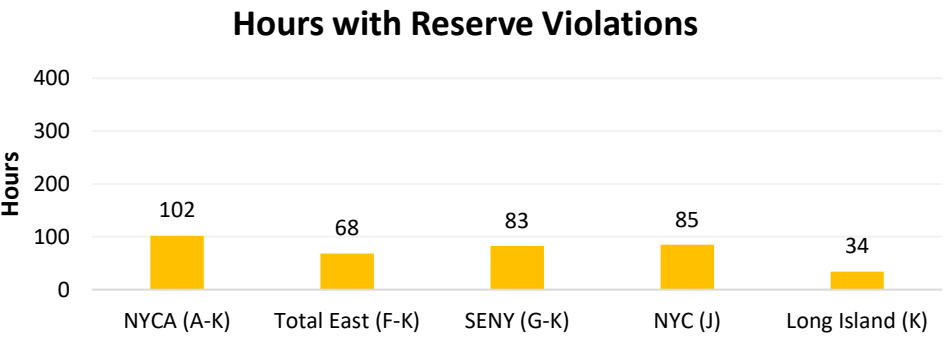
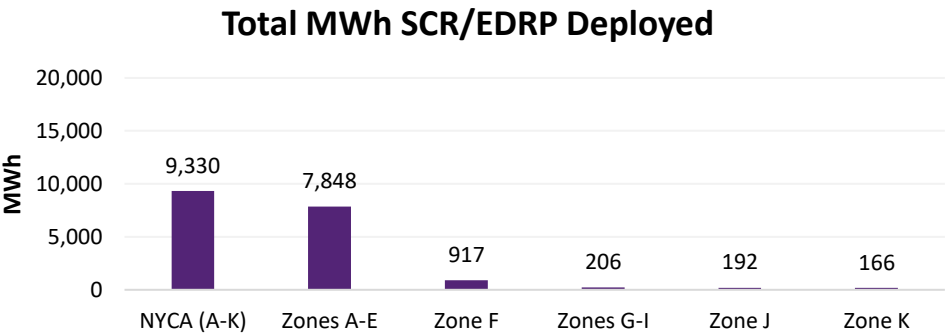
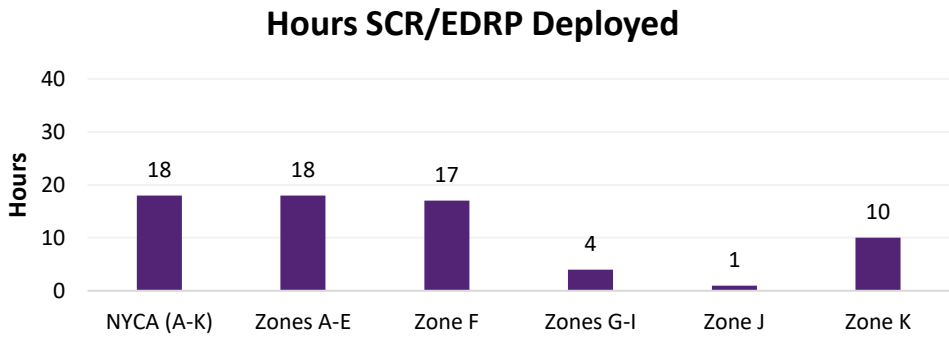
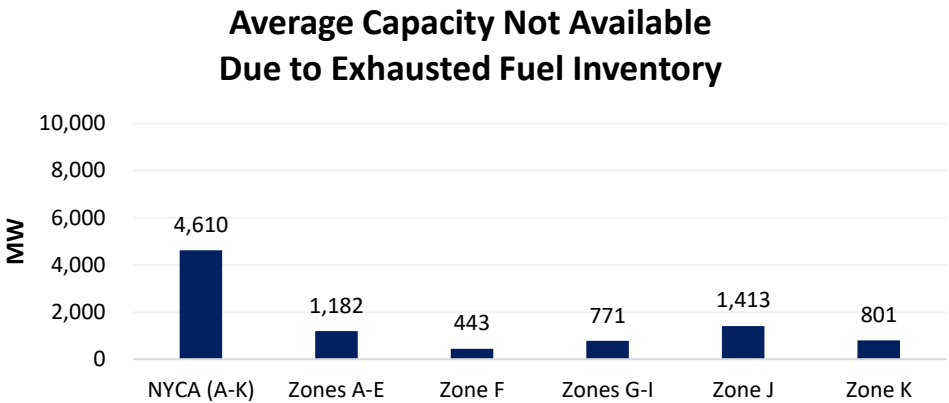
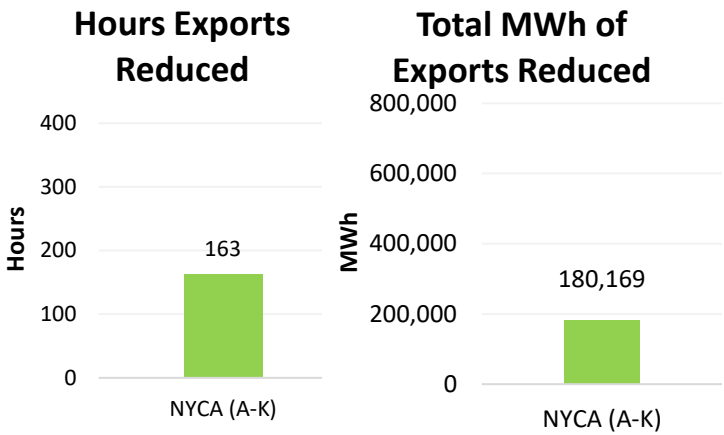
Reserve Violations	
Total Hrs.	102
Total MWh	190,836
Avg. MW	467.7
First Hour with Viol.	69

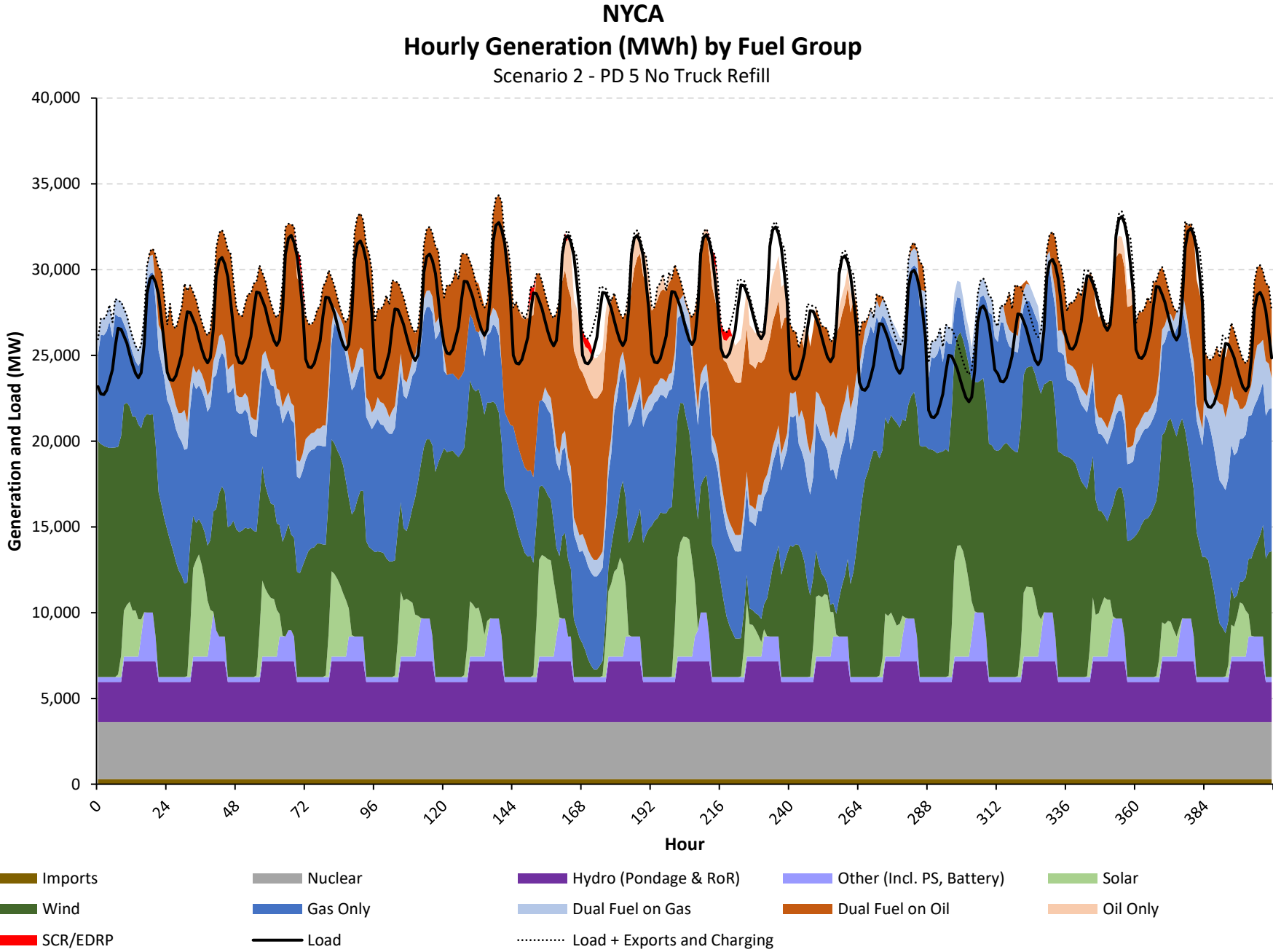
Loss of Load	
Total Hrs.	63
Total MWh	98,616
Avg. MW	241.7
First Hour with Losses	163

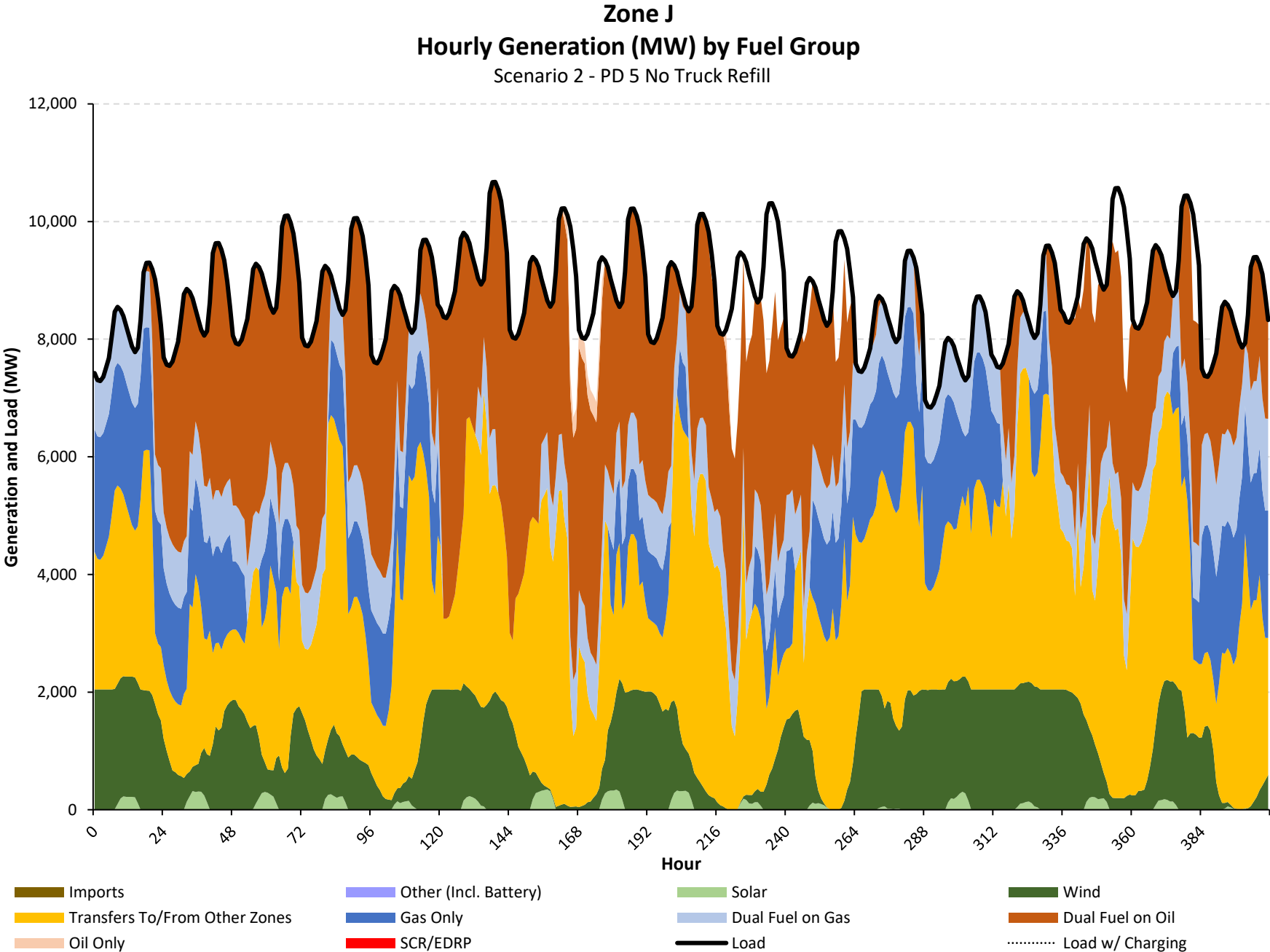
Full Period Results Summary

Case Name: Scenario 2 - PD 5 No Truck Refill

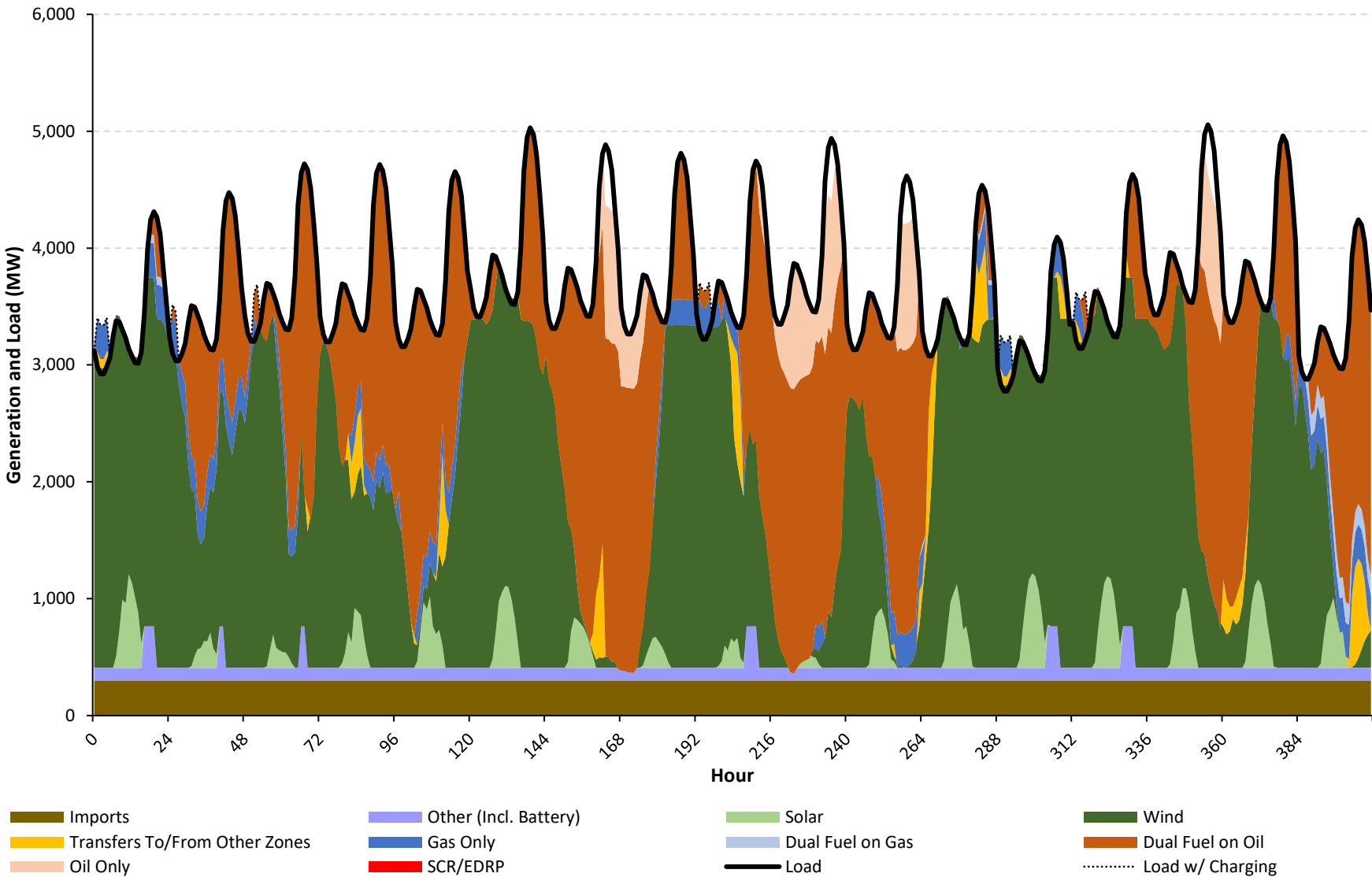
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

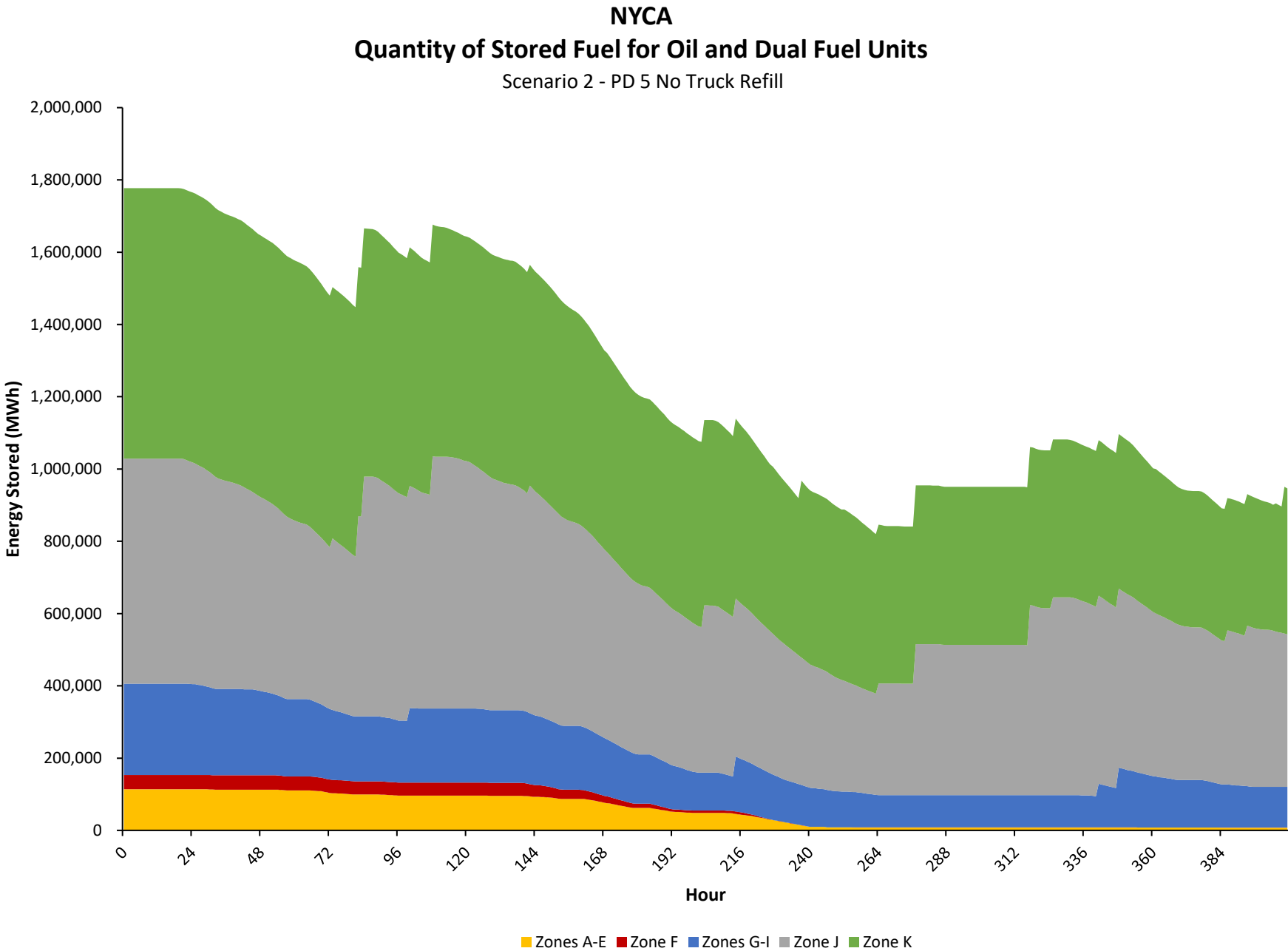


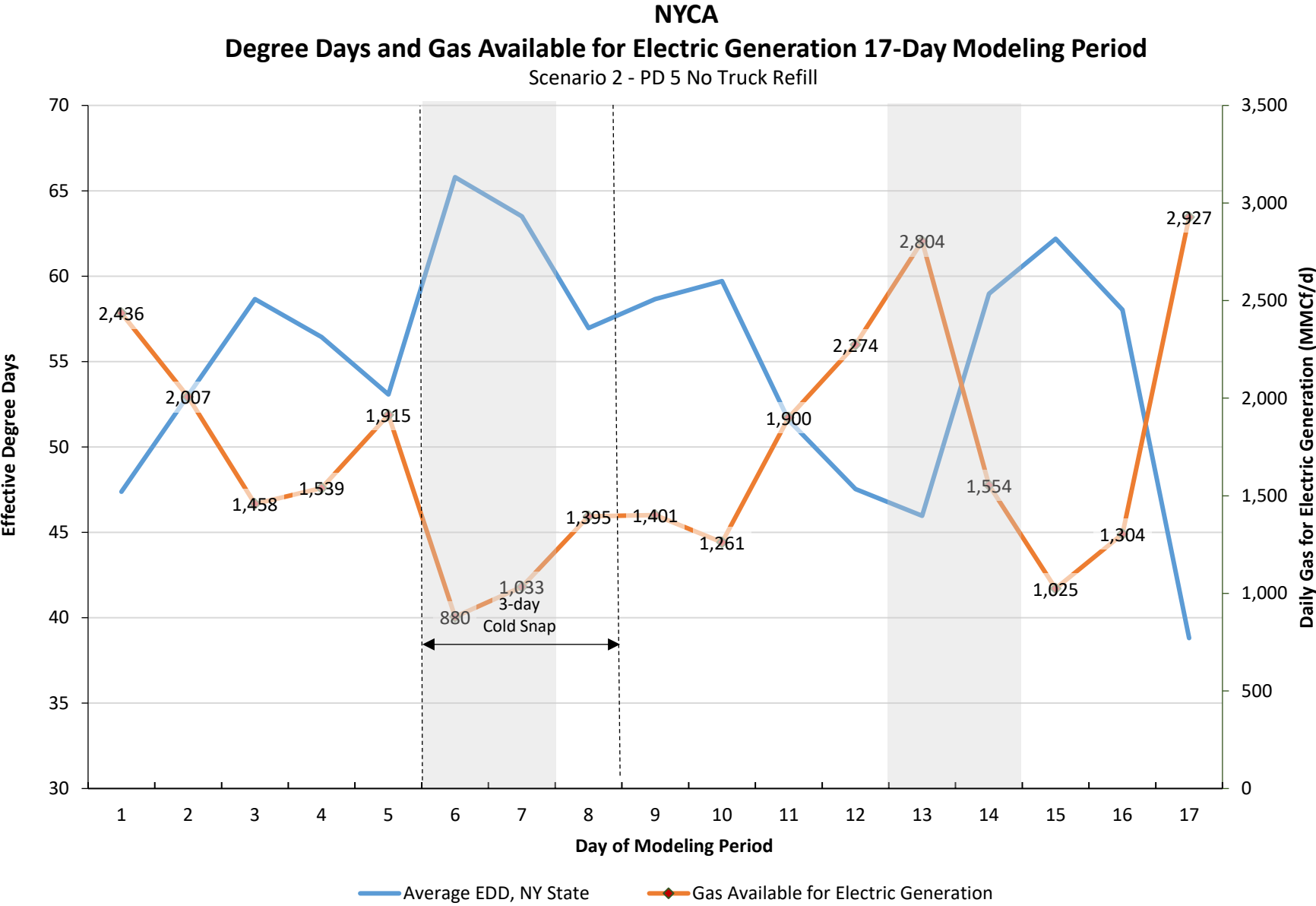




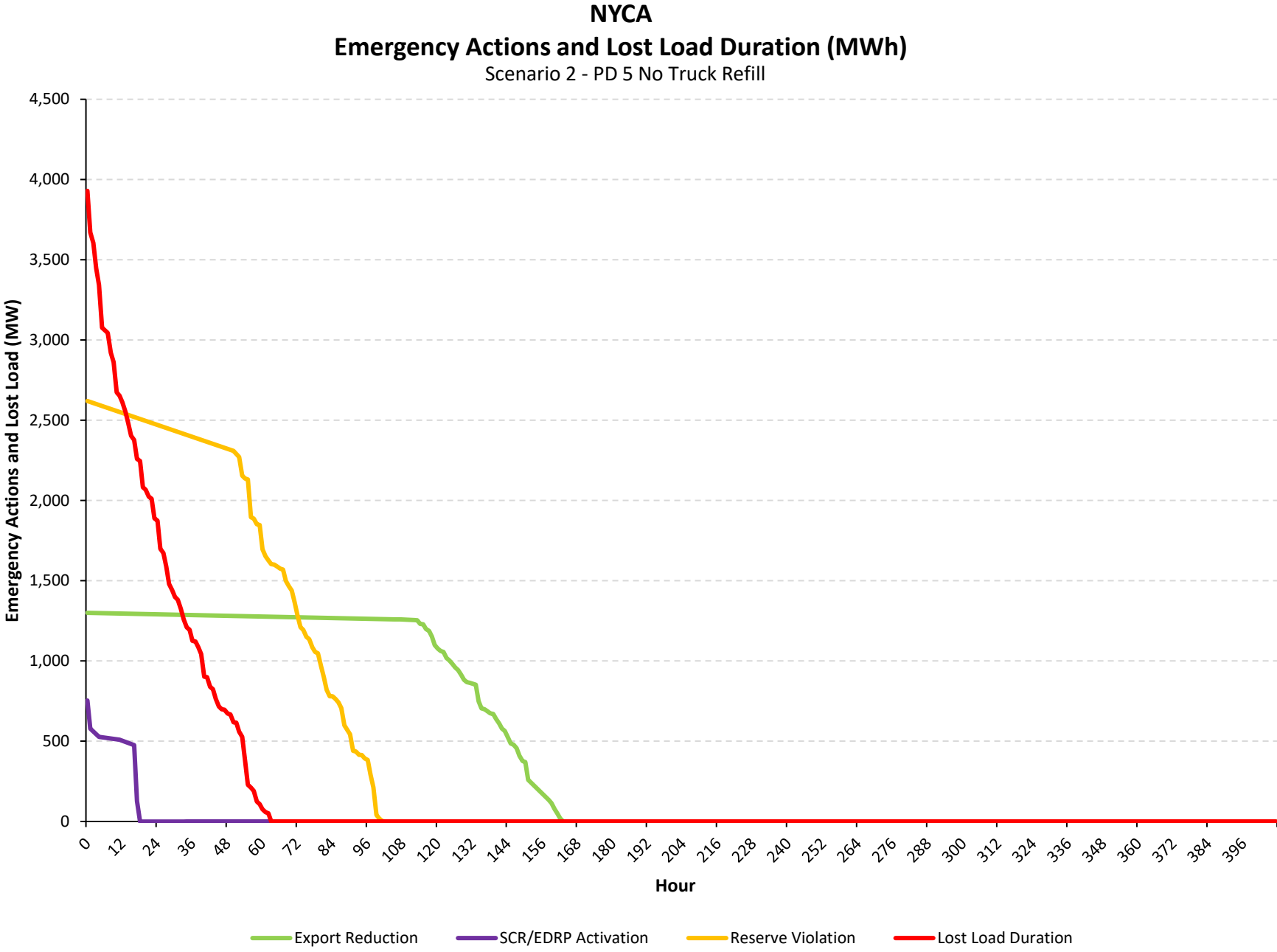
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 2 - PD 5 No Truck Refill

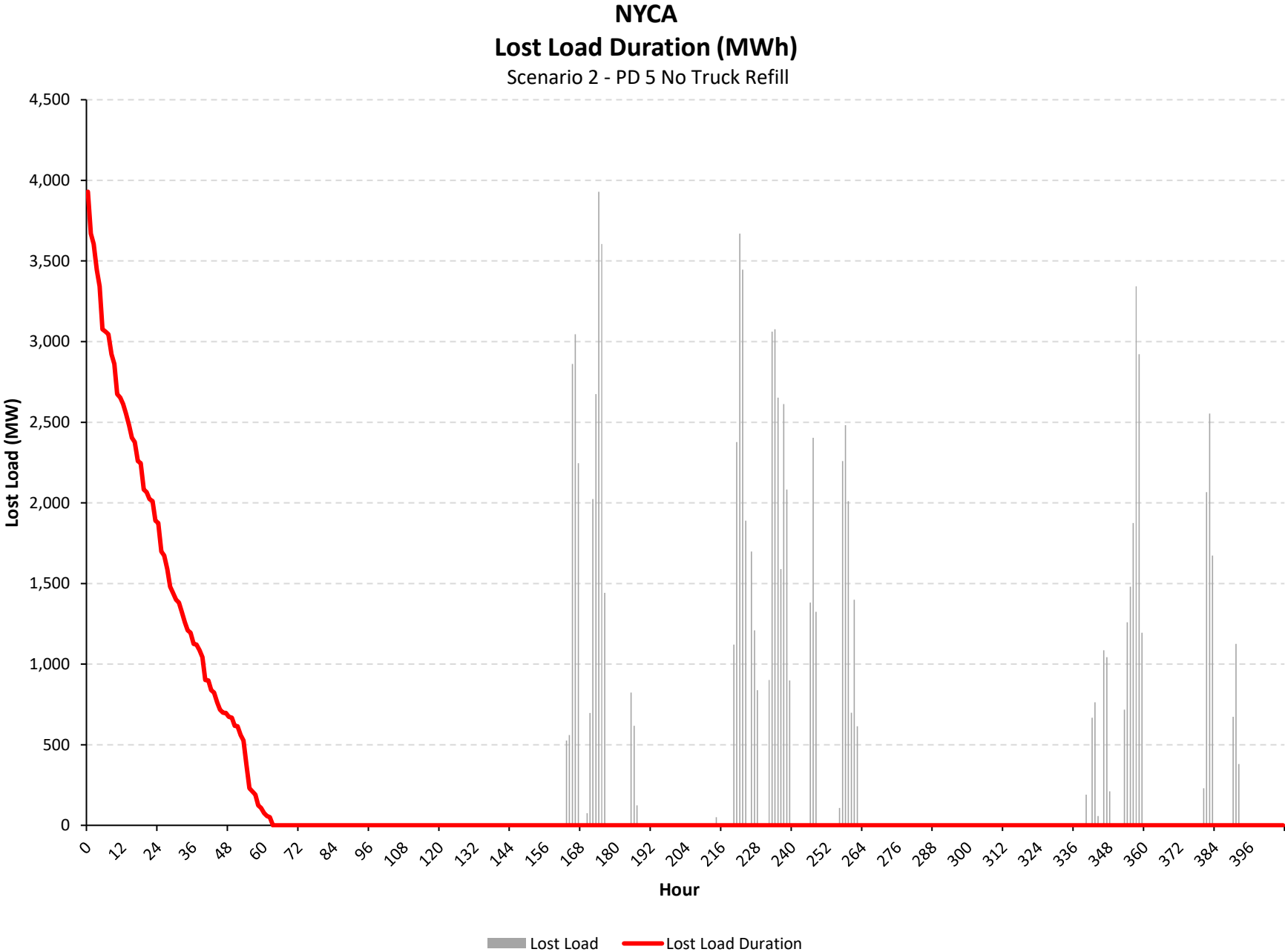






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



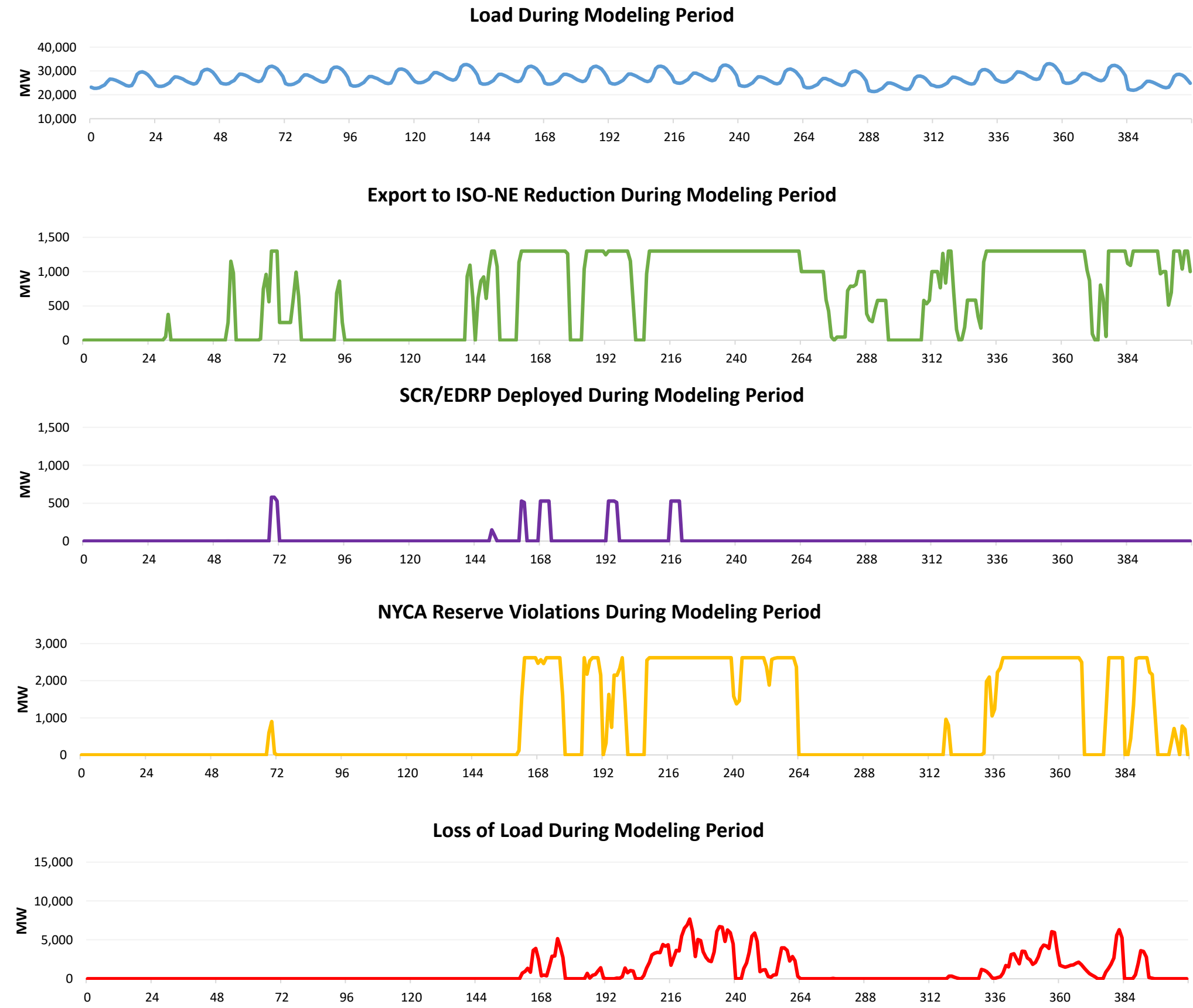


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 2 - PD 6 No Barge Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 2 - PD 6 No Barge Refill



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	257
Total MWh	270,397
Avg. MW	662.7

SCR Deployment	
Total Hrs.	19
Total MWh	9,256
Avg. MW	22.7

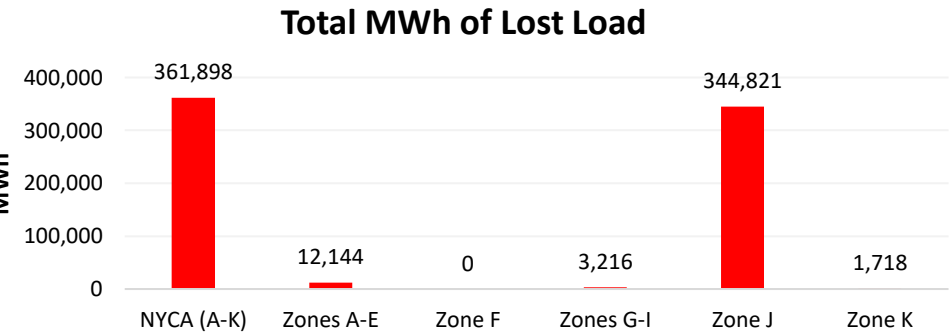
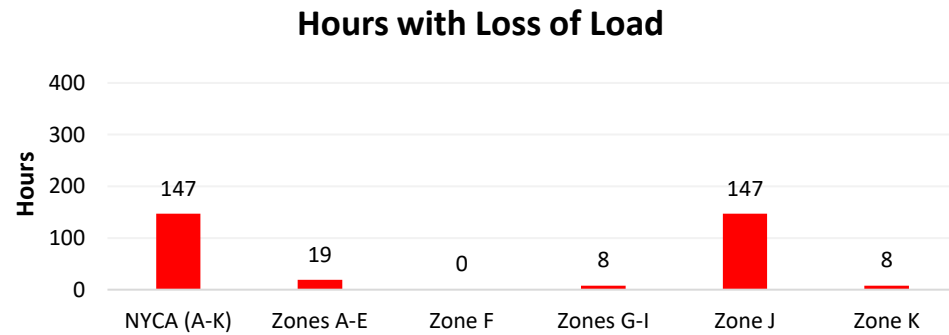
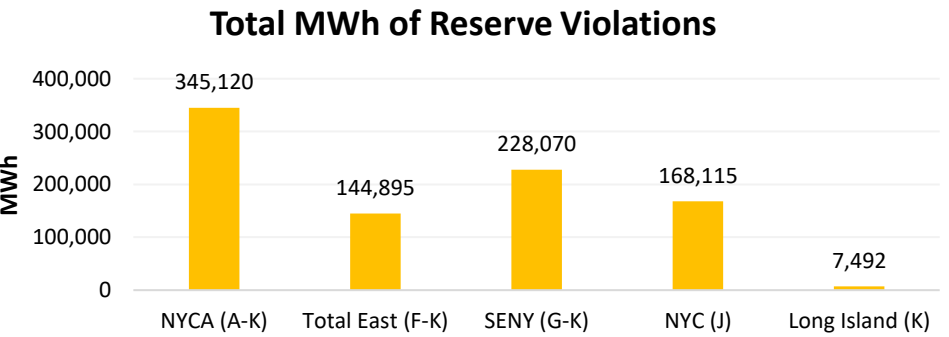
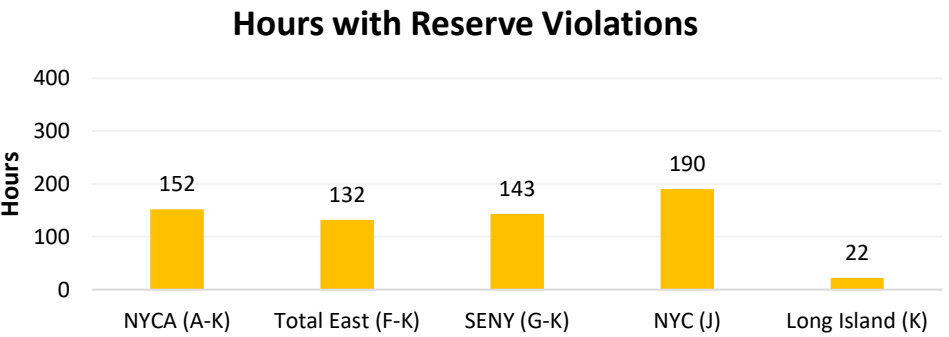
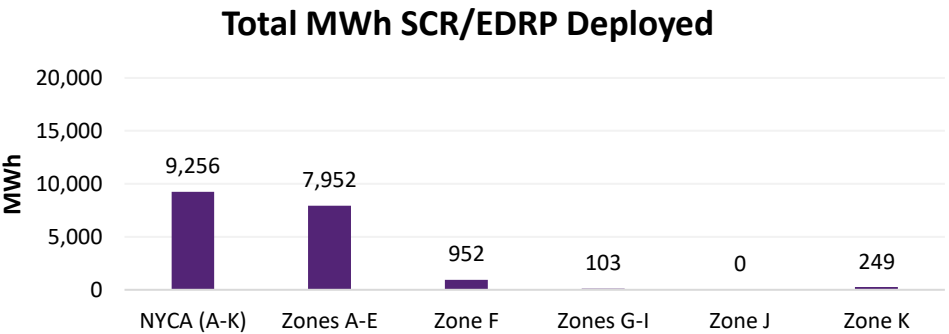
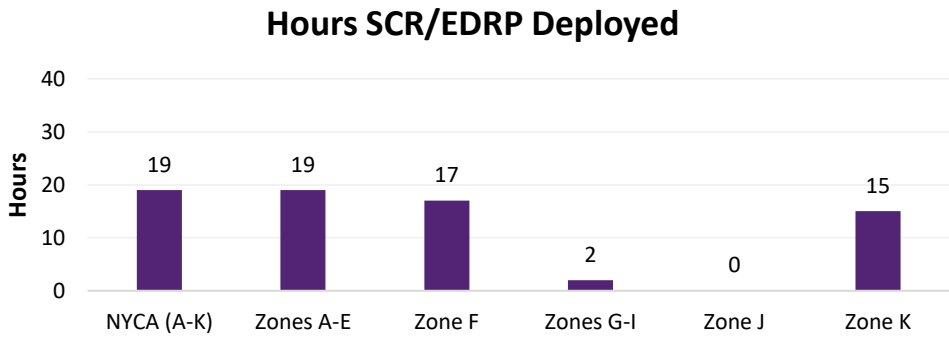
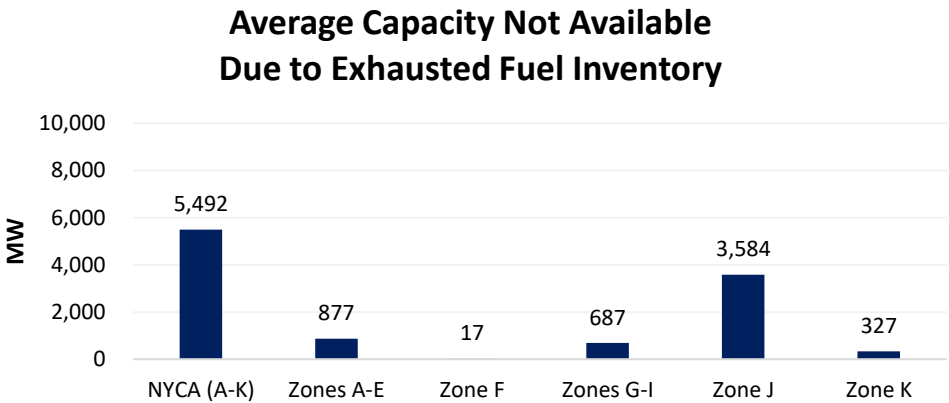
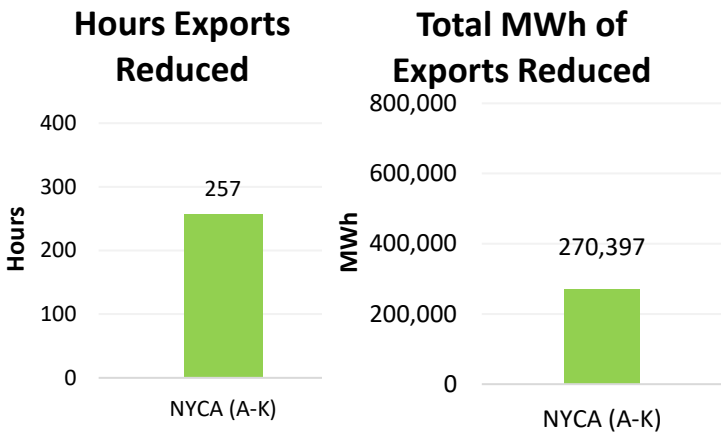
Reserve Violations	
Total Hrs.	152
Total MWh	345,120
Avg. MW	845.9
First Hour with Viol.	69

Loss of Load	
Total Hrs.	147
Total MWh	361,898
Avg. MW	887.0
First Hour with Losses	161

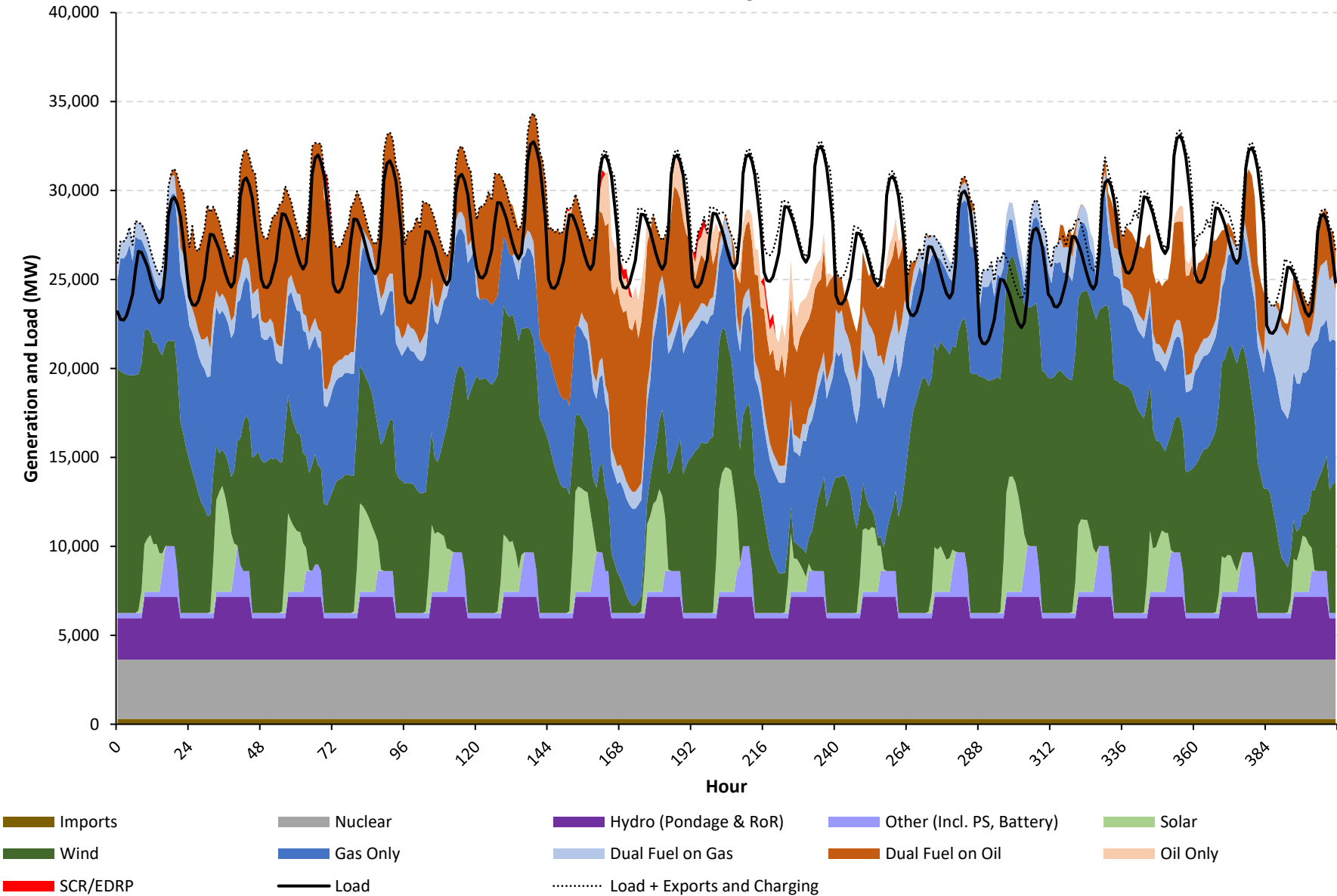
Full Period Results Summary

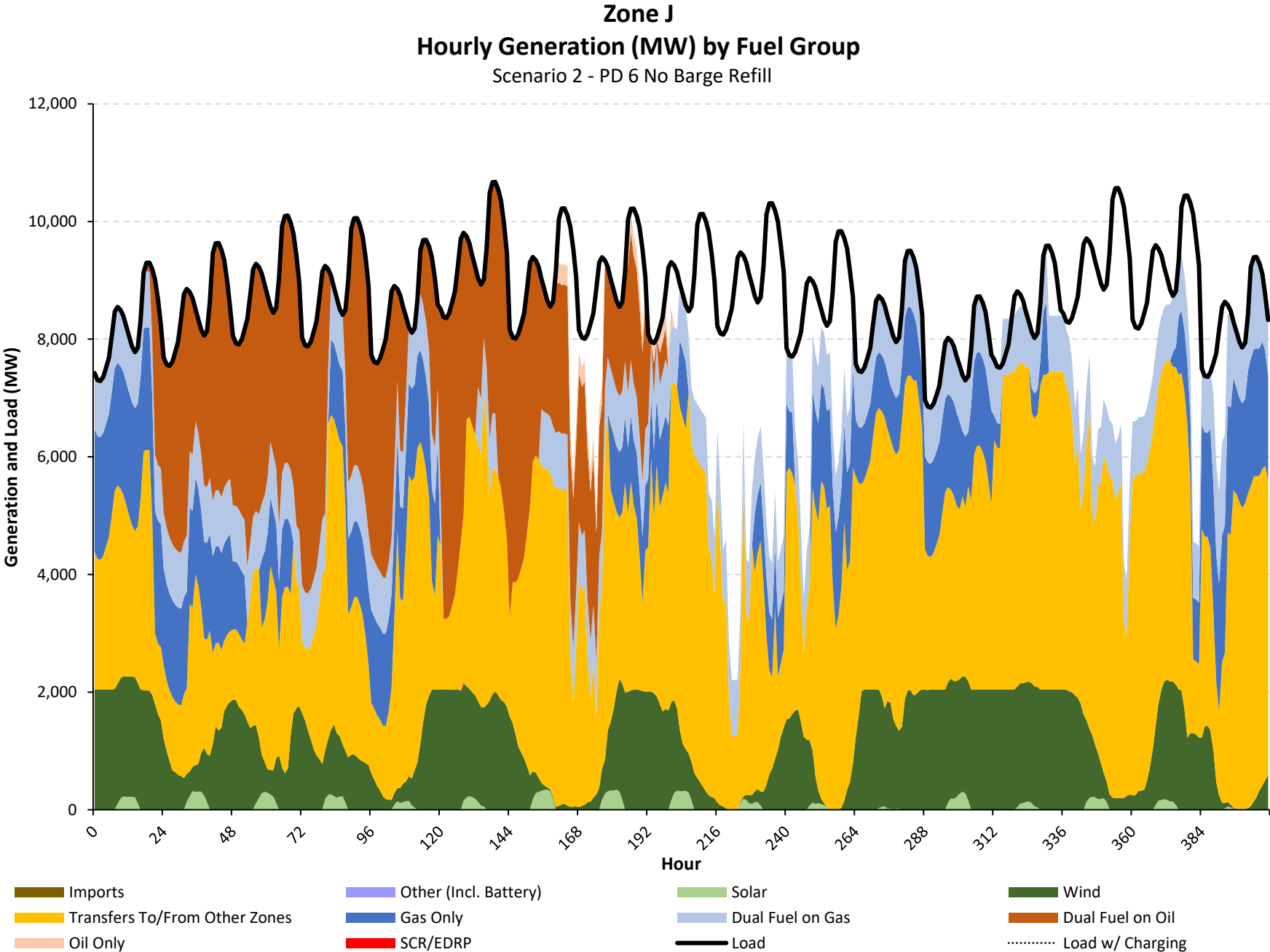
Case Name: Scenario 2 - PD 6 No Barge Refill

Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

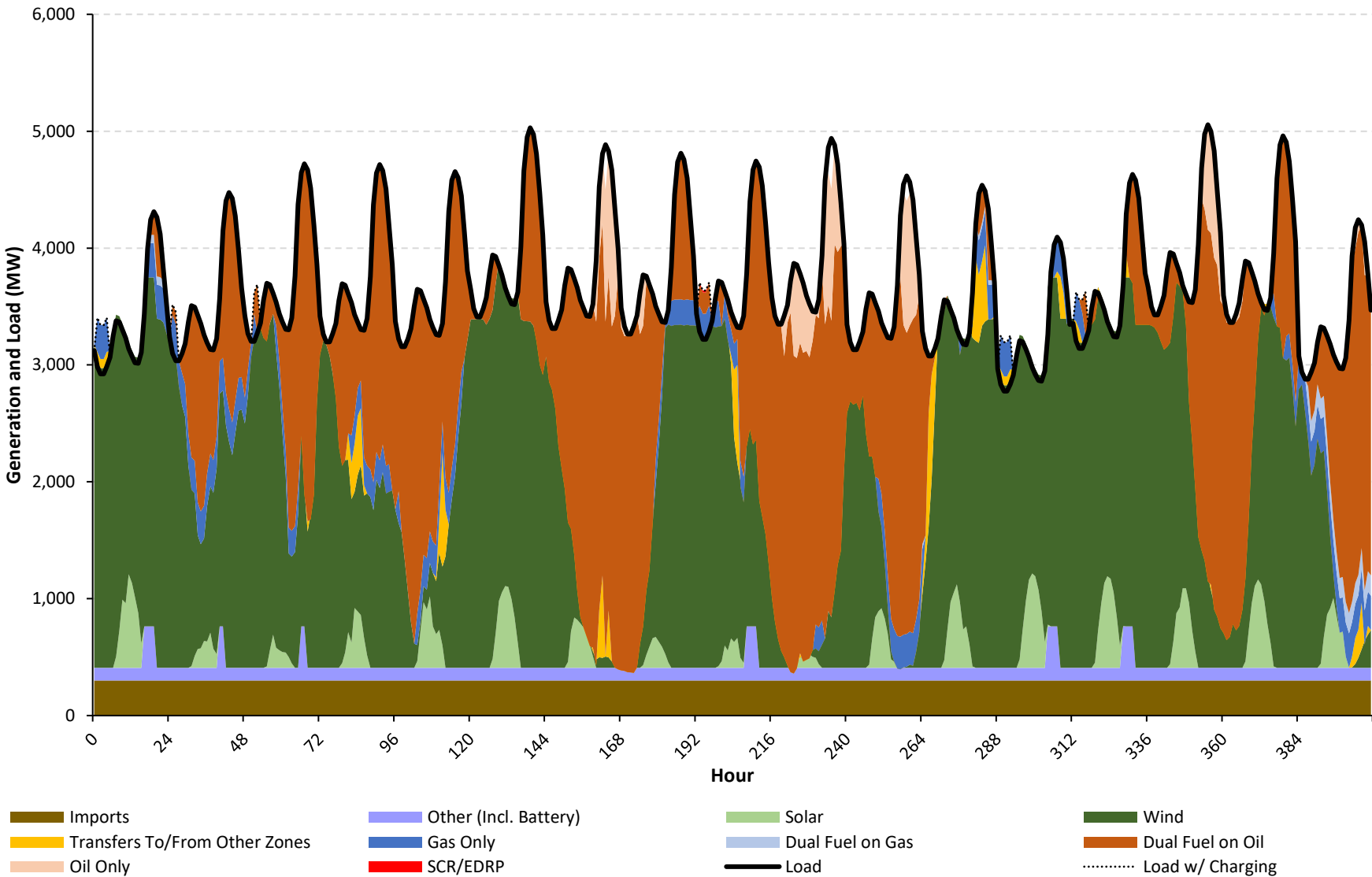


NYCA
Hourly Generation (MWh) by Fuel Group
Scenario 2 - PD 6 No Barge Refill

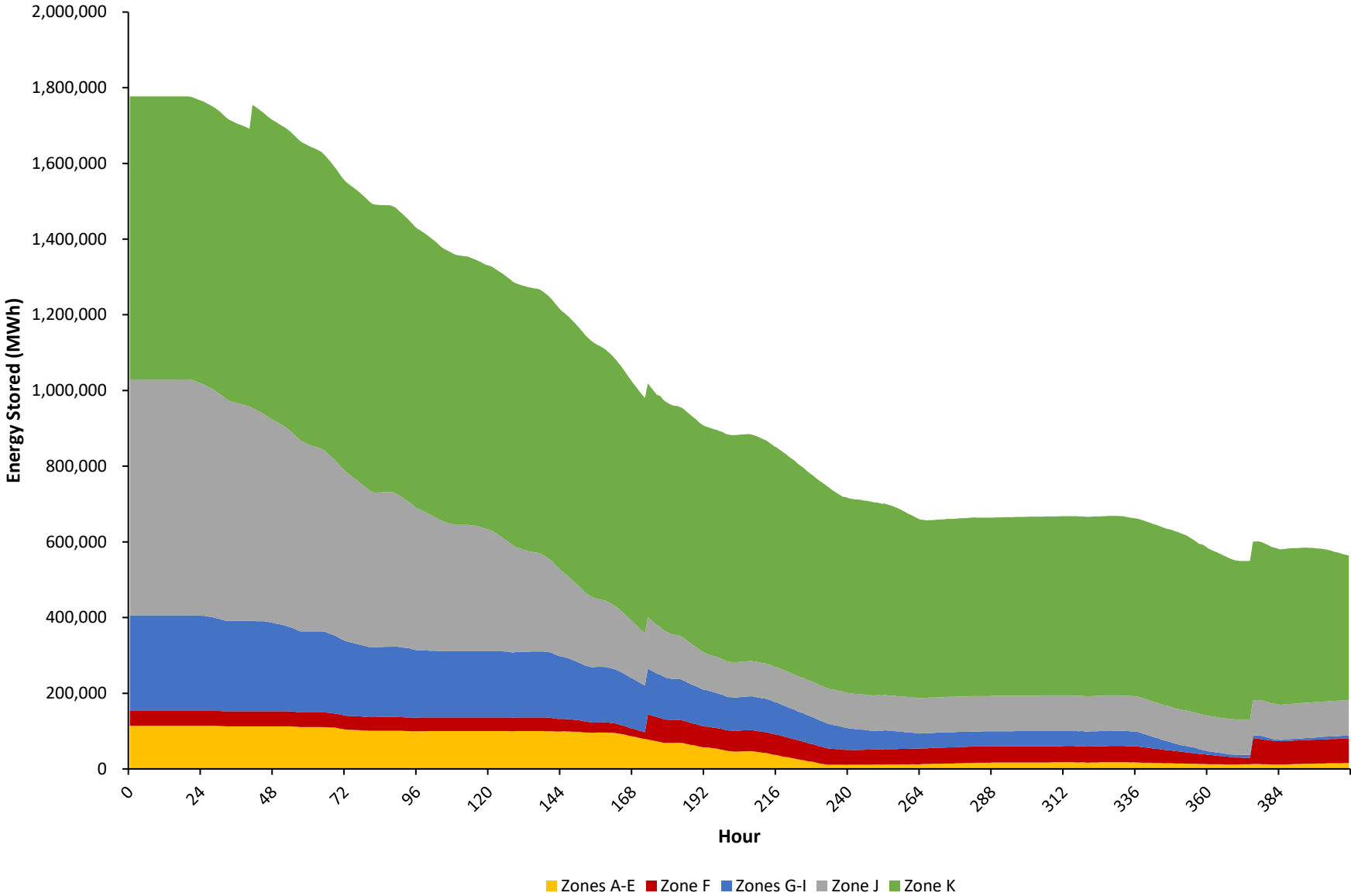


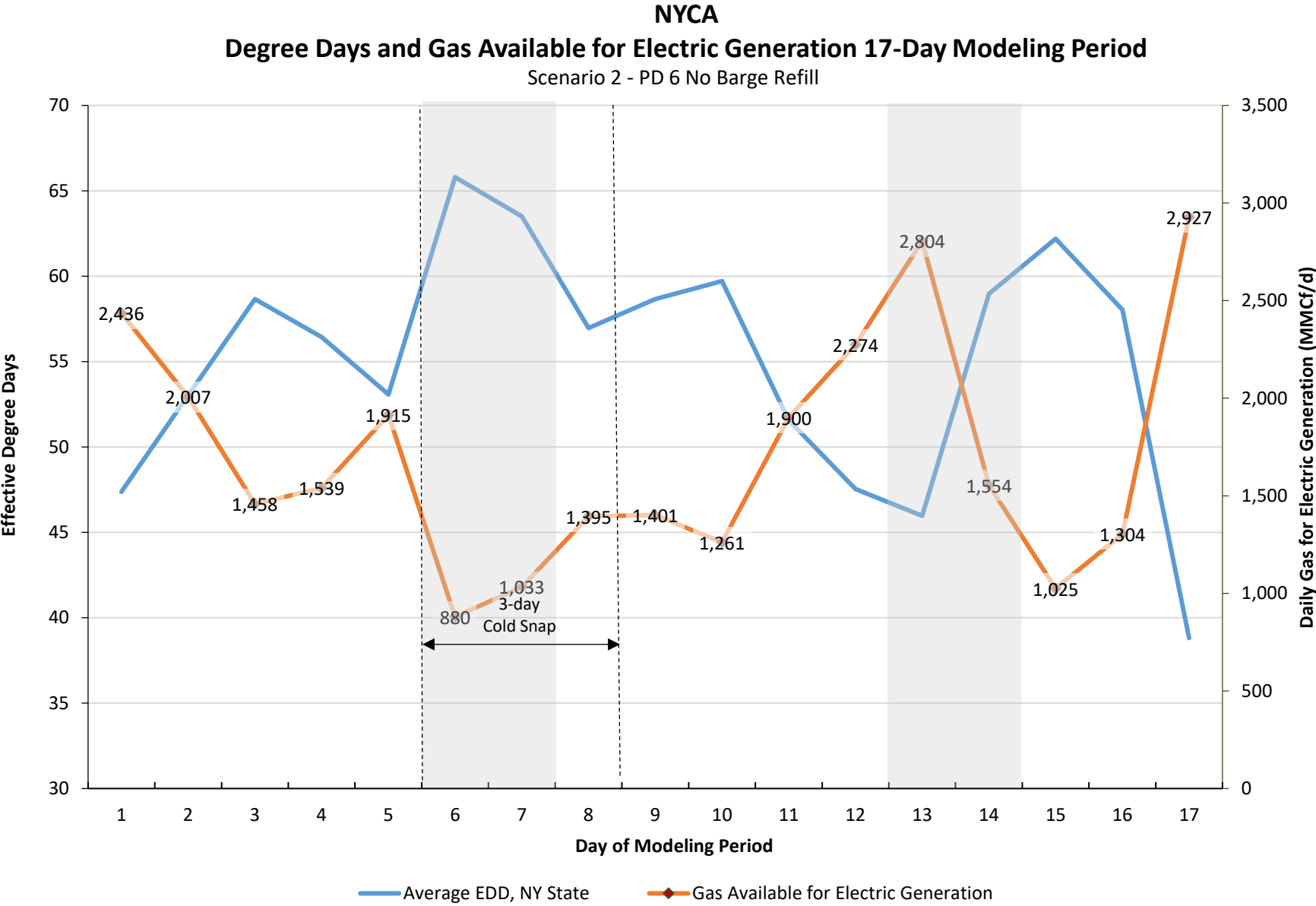


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 2 - PD 6 No Barge Refill

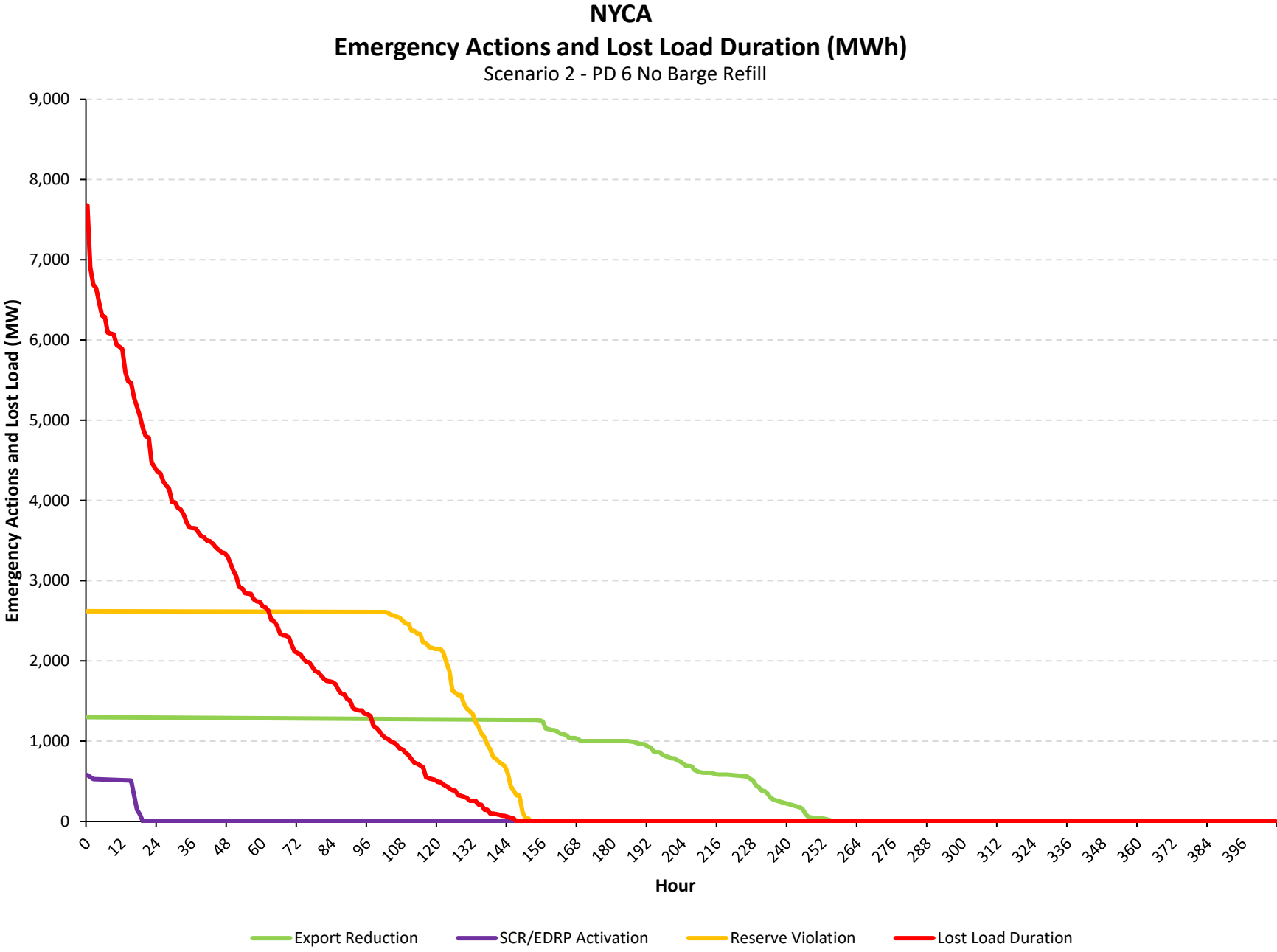


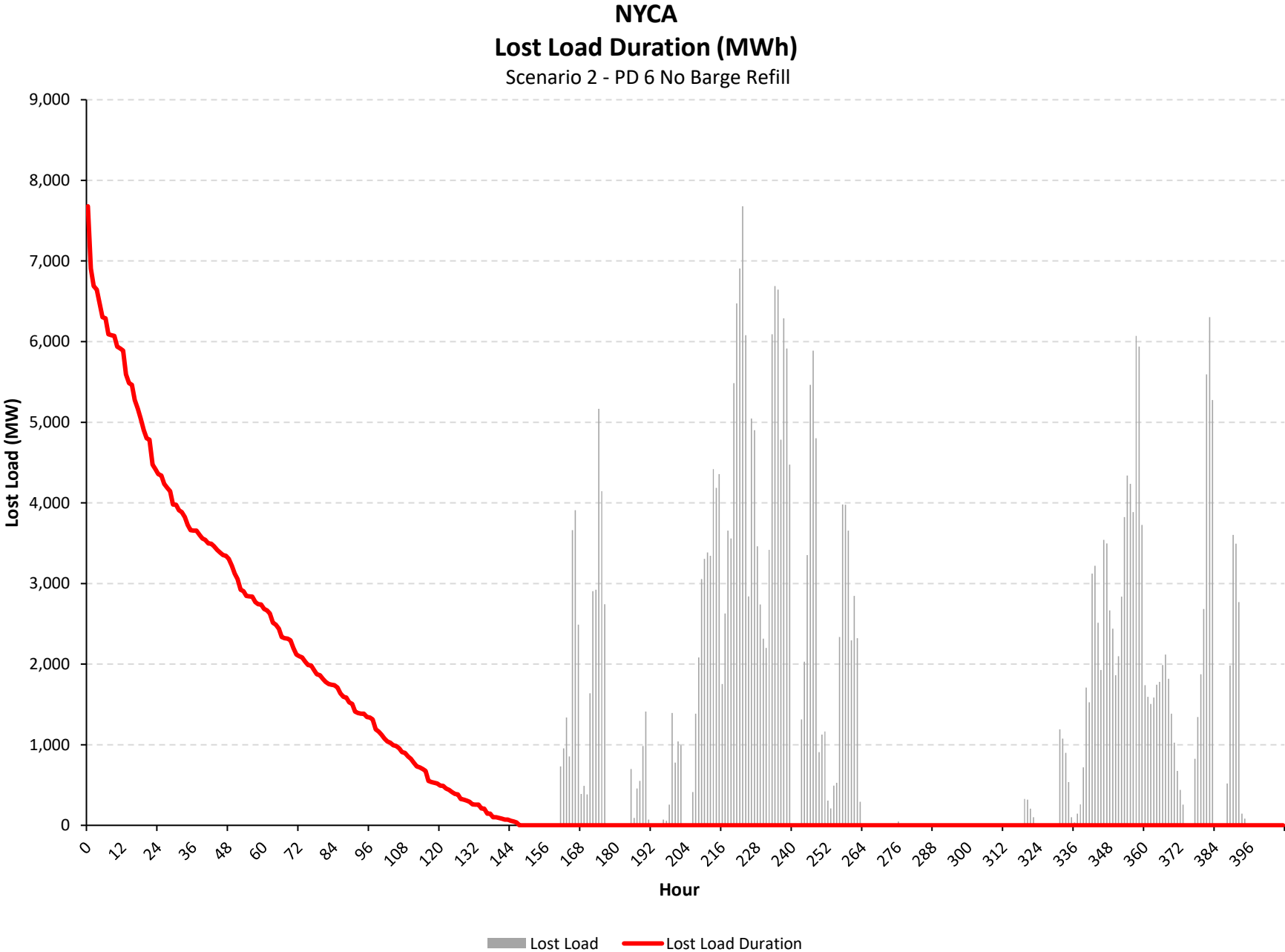
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 2 - PD 6 No Barge Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



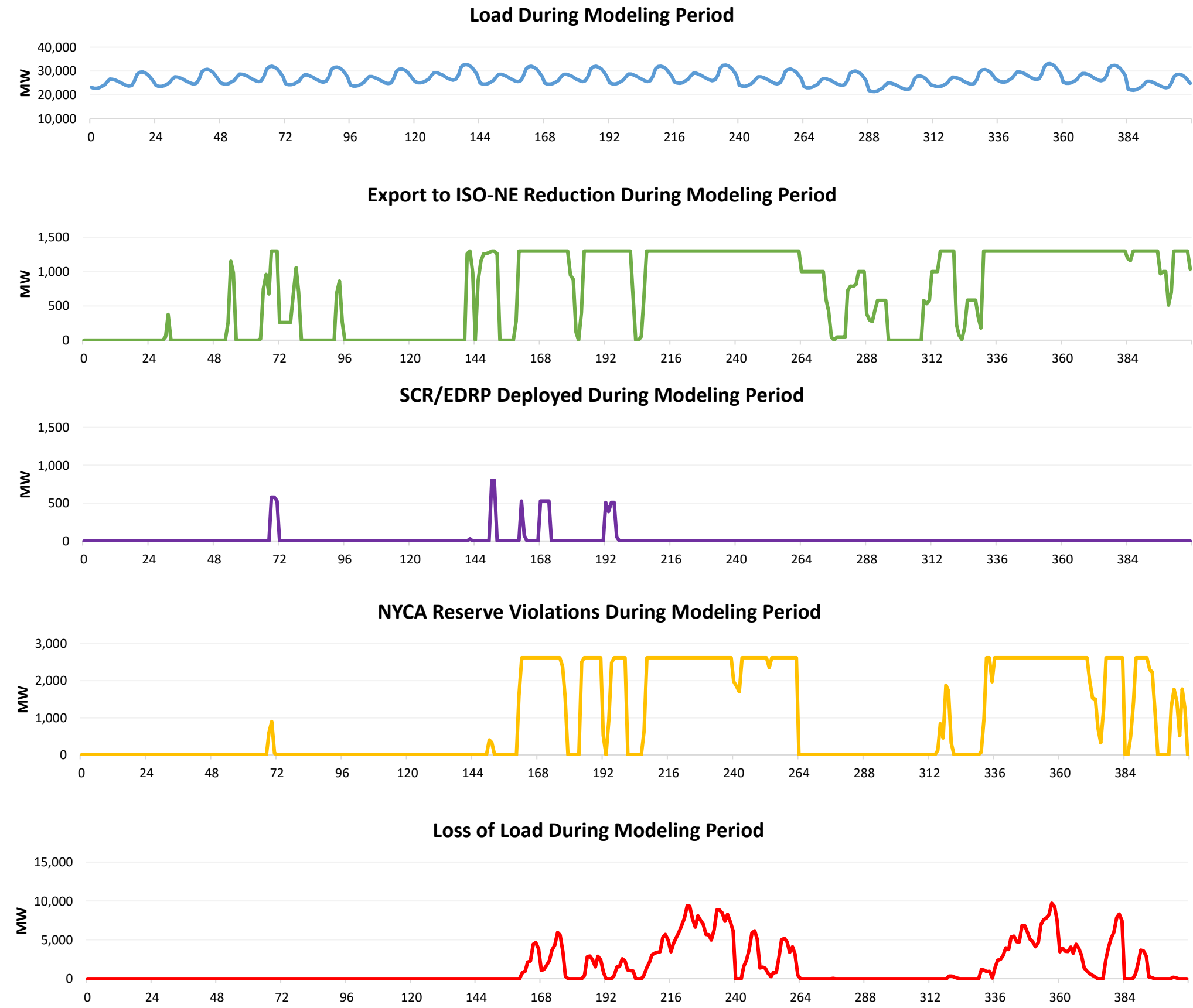


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 2 - PD 7 No Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 2 - PD 7 No Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	266
Total MWh	287,241
Avg. MW	704.0

SCR Deployment	
Total Hrs.	18
Total MWh	8,007
Avg. MW	19.6

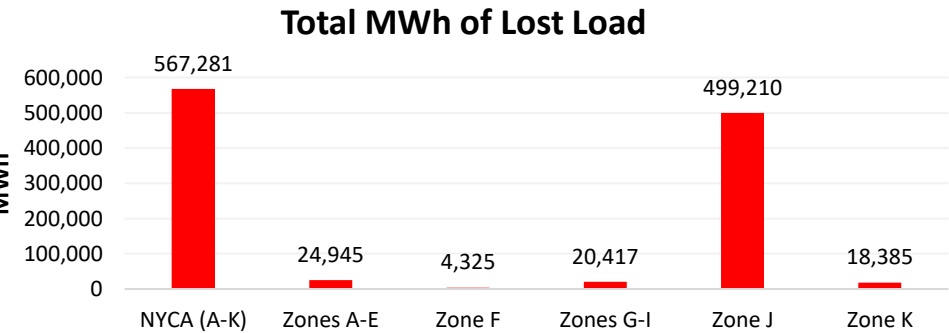
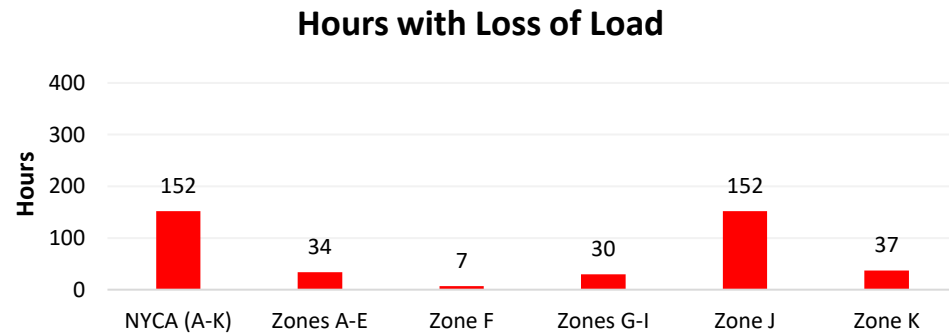
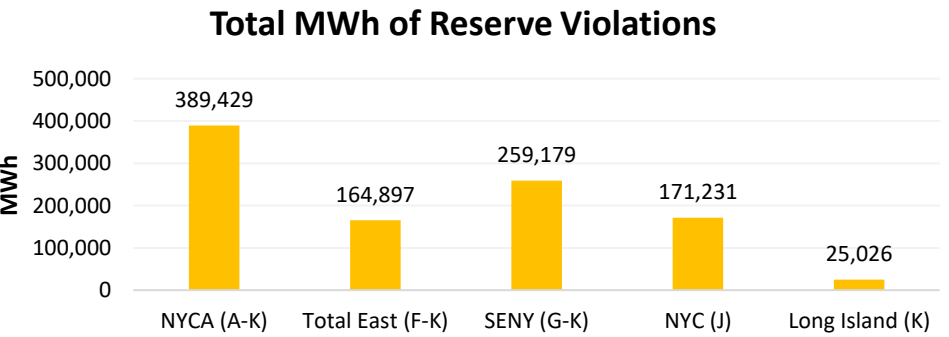
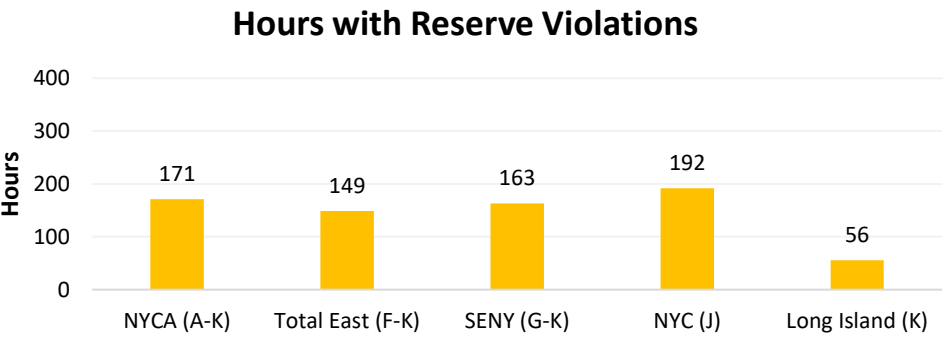
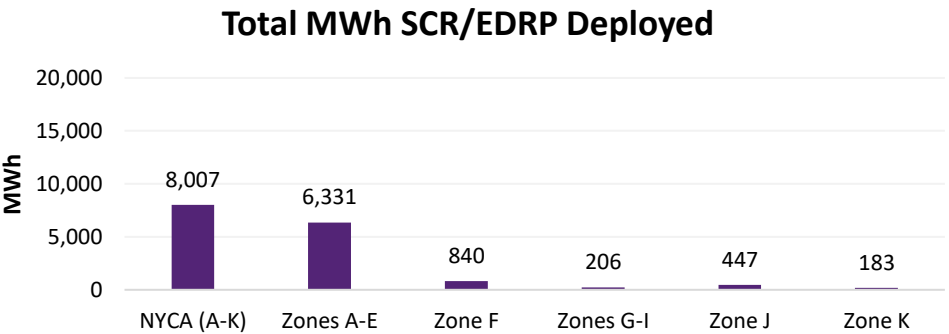
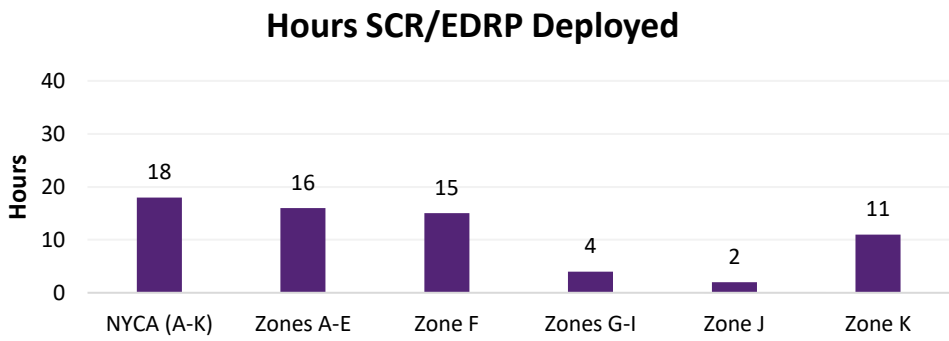
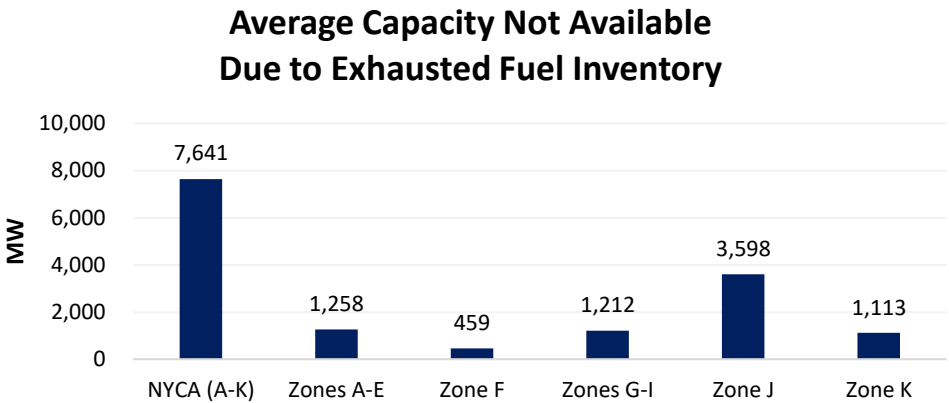
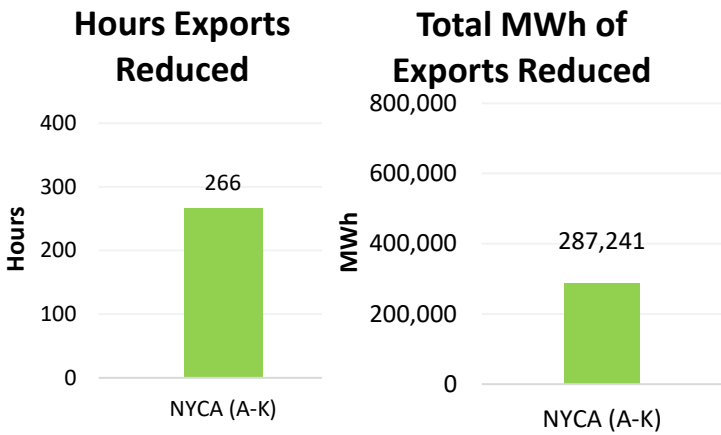
Reserve Violations	
Total Hrs.	171
Total MWh	389,429
Avg. MW	954.5
First Hour with Viol.	69

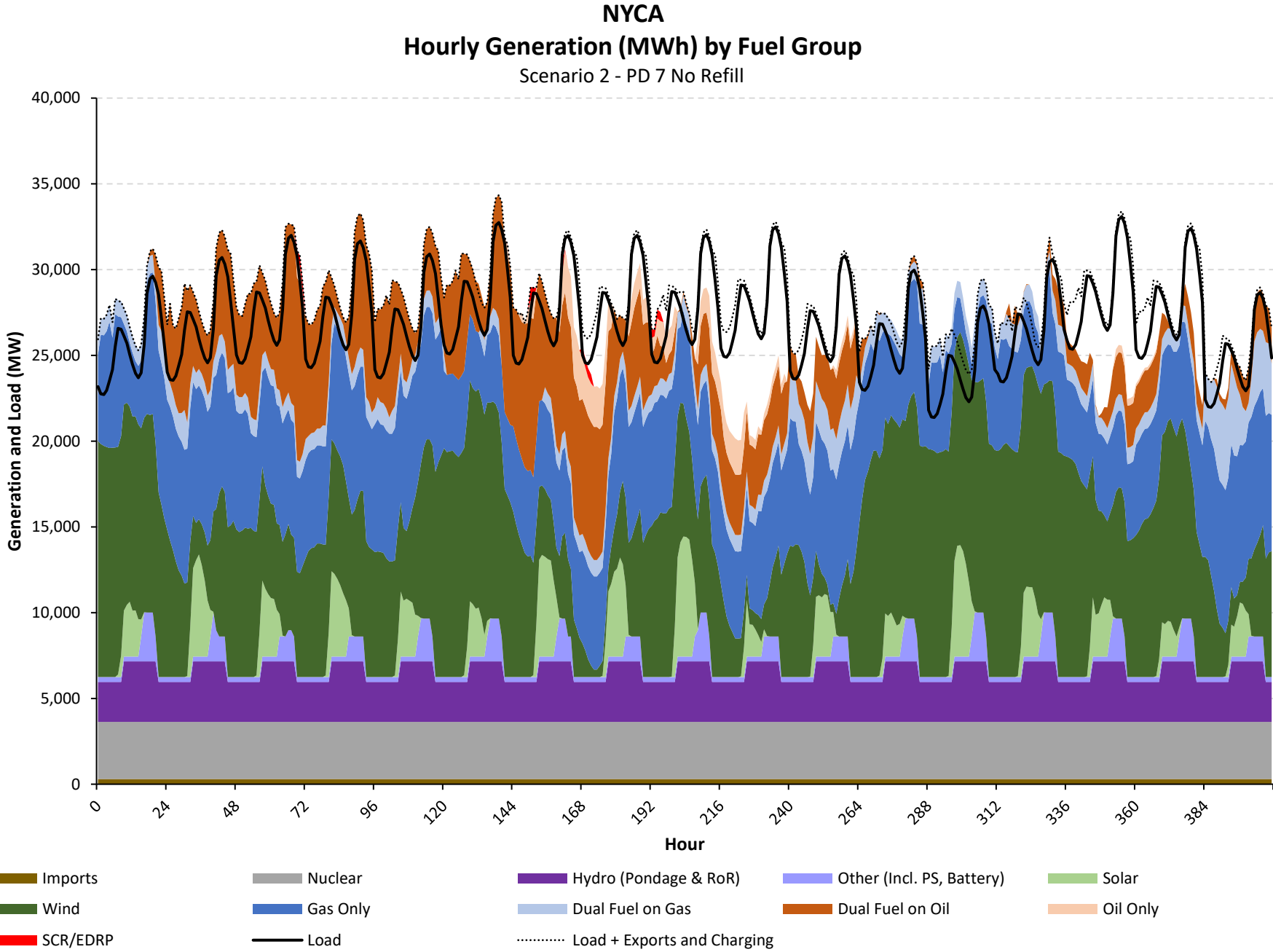
Loss of Load	
Total Hrs.	152
Total MWh	567,281
Avg. MW	1,390.4
First Hour with Losses	161

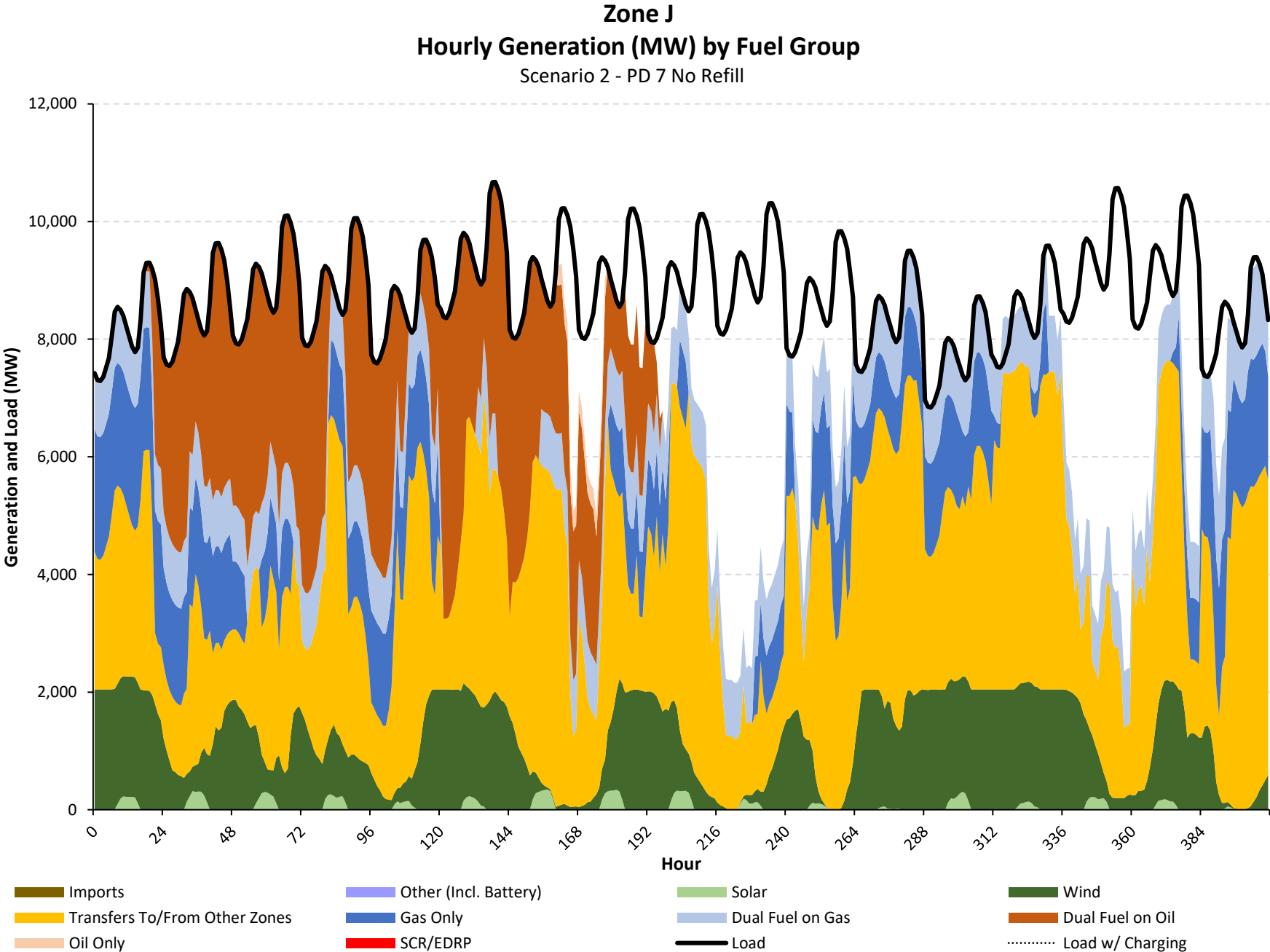
Full Period Results Summary

Case Name: Scenario 2 - PD 7 No Refill

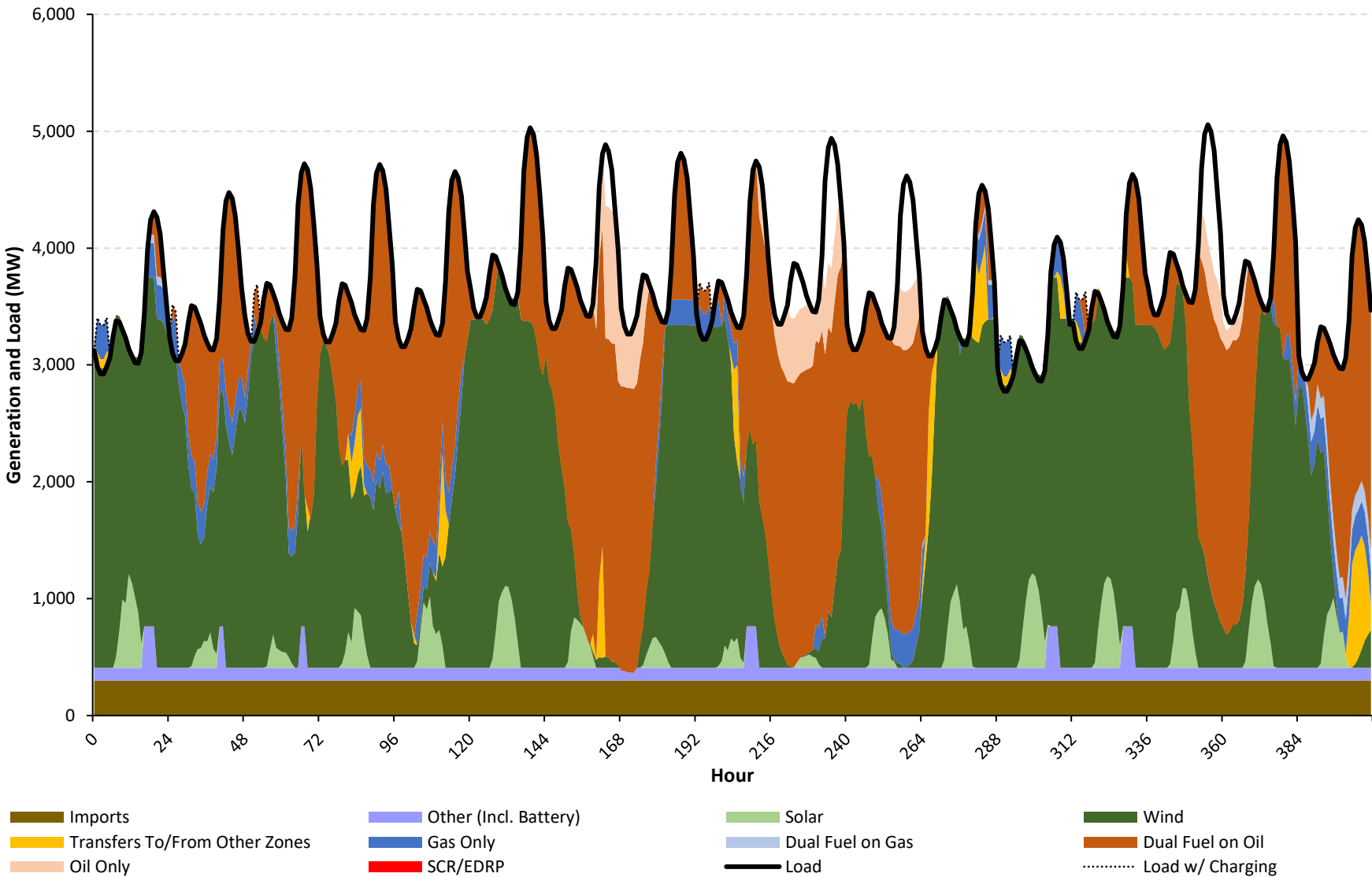
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



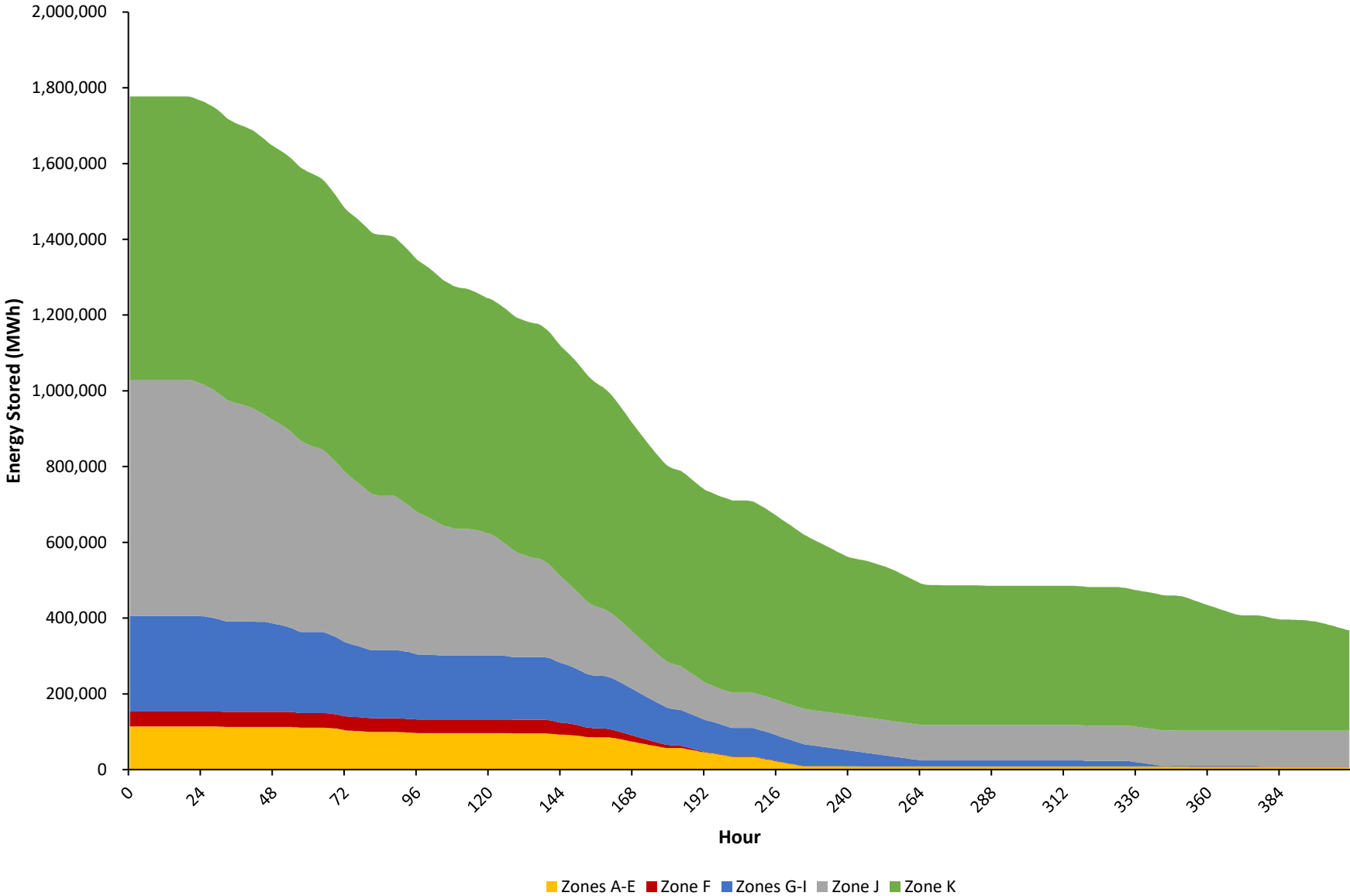


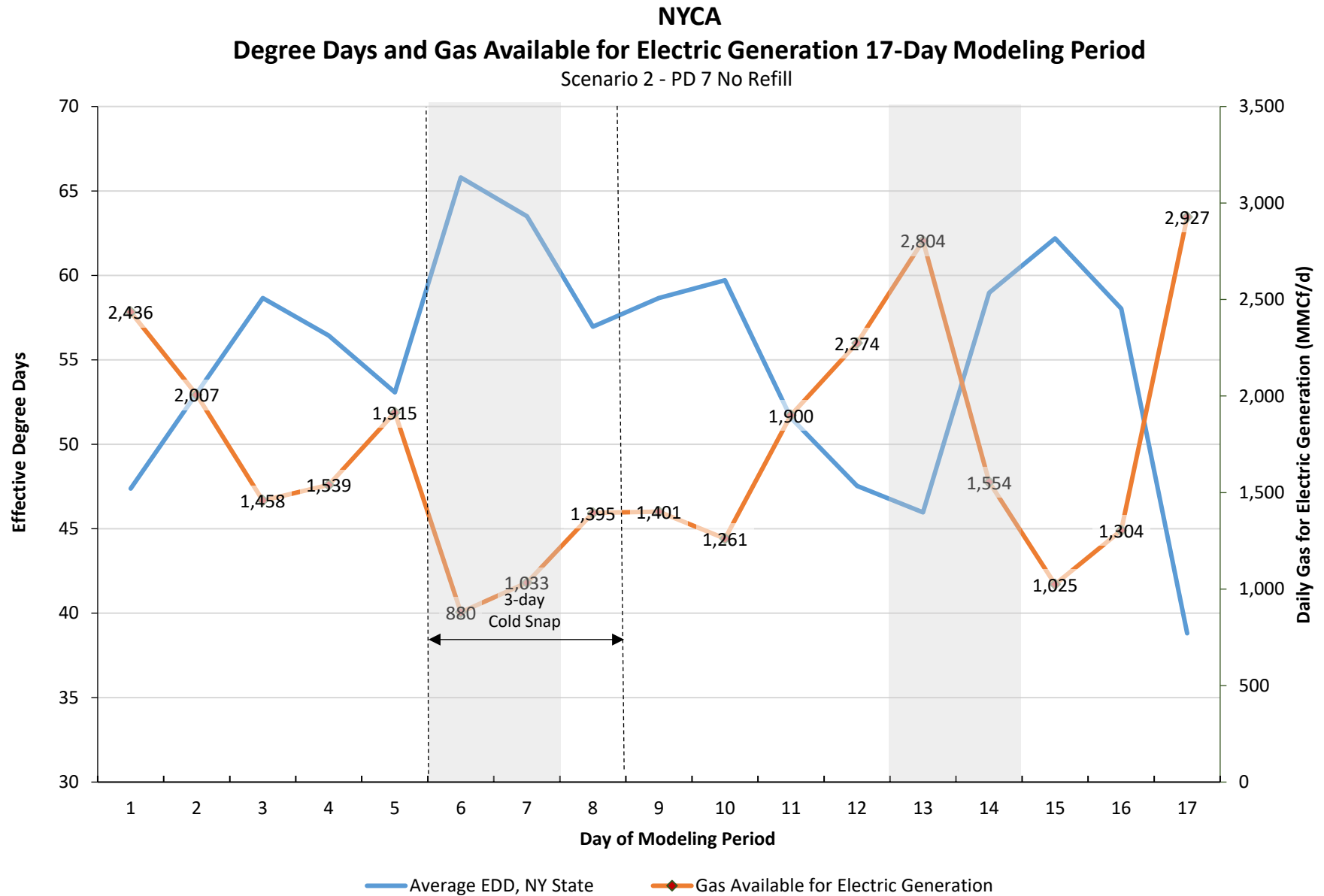


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 2 - PD 7 No Refill



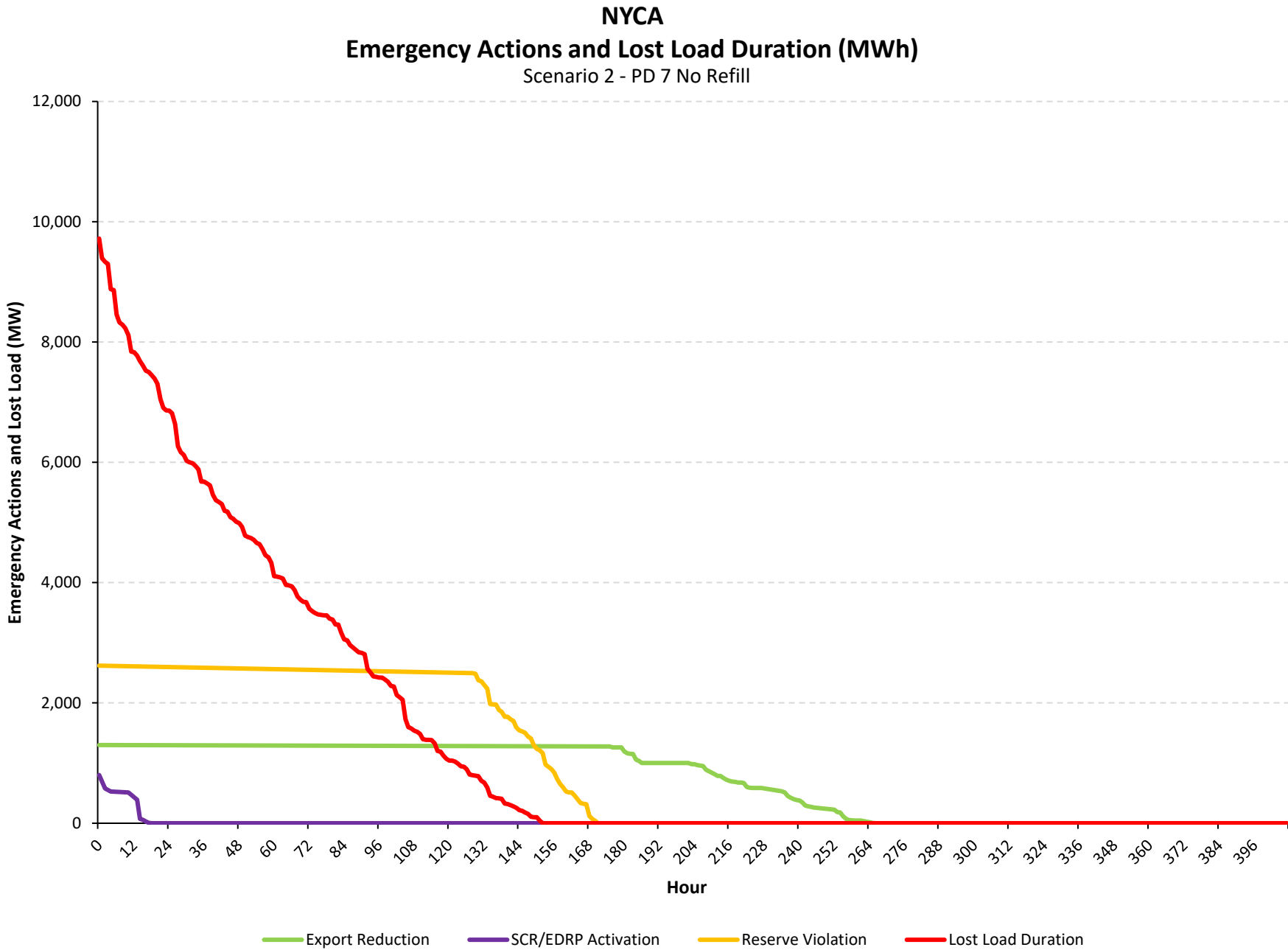
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 2 - PD 7 No Refill

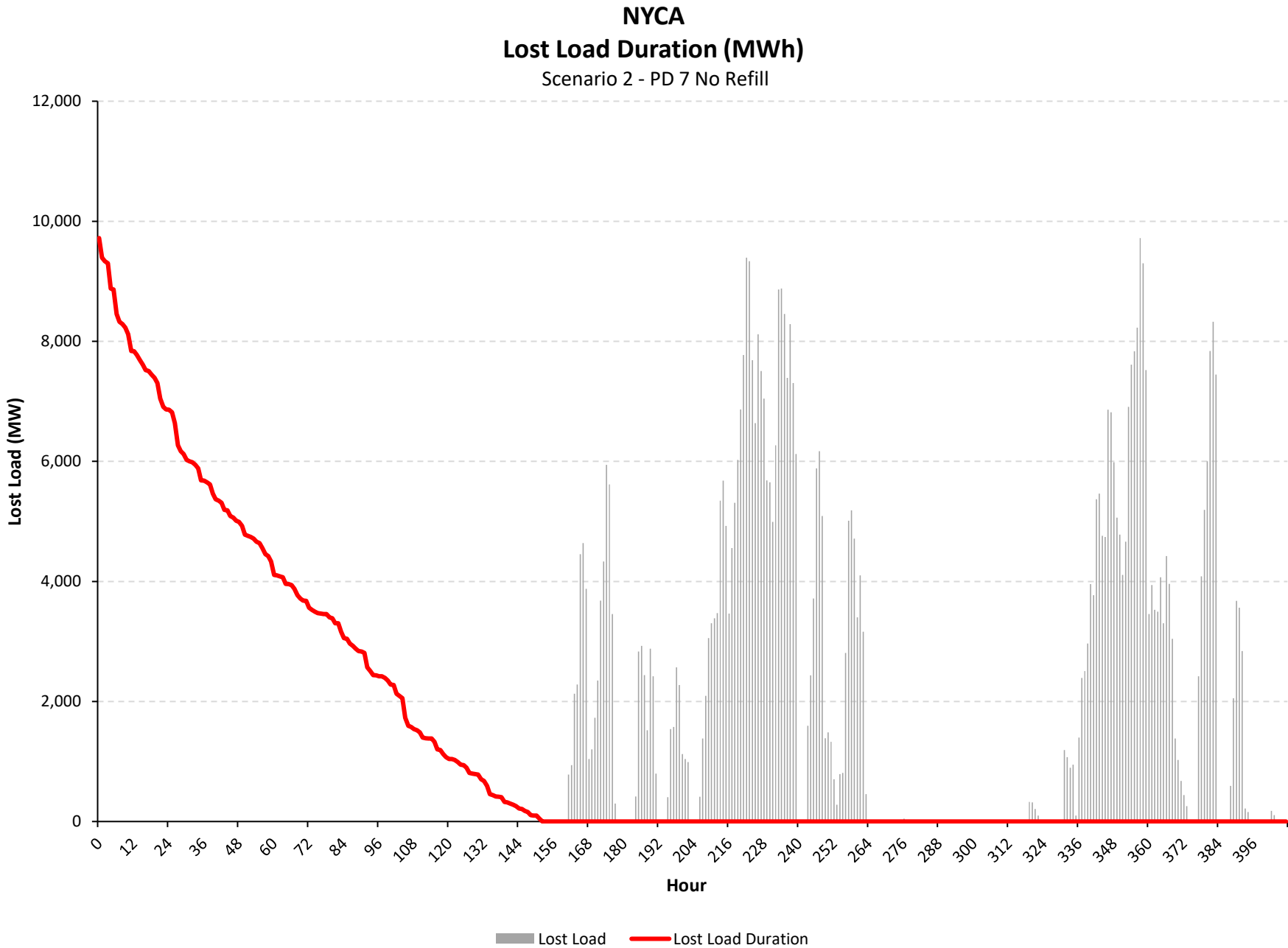




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



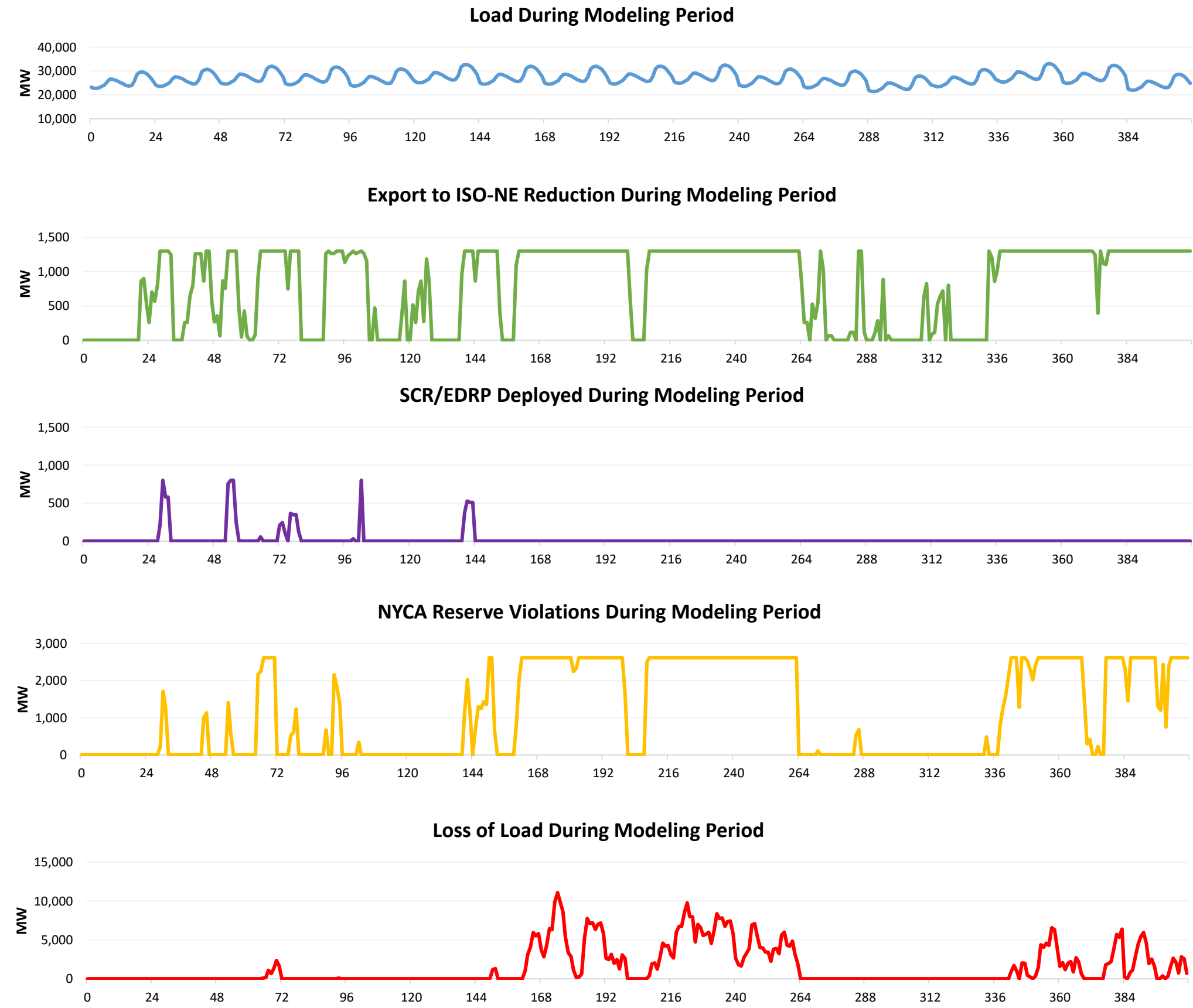


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 2 - PD 8 Non-Firm Gas Unavailable (F-K) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 2 - PD 8 Non-Firm Gas Unavailable (F-K)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	296
Total MWh	331,651
Avg. MW	812.9

SCR Deployment	
Total Hrs.	22
Total MWh	9,326
Avg. MW	22.9

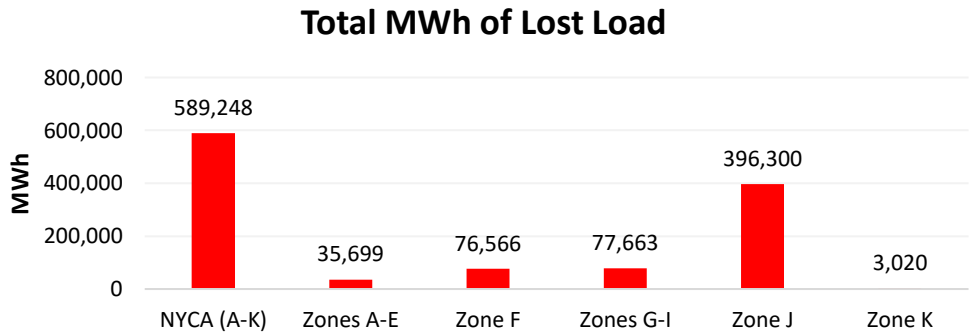
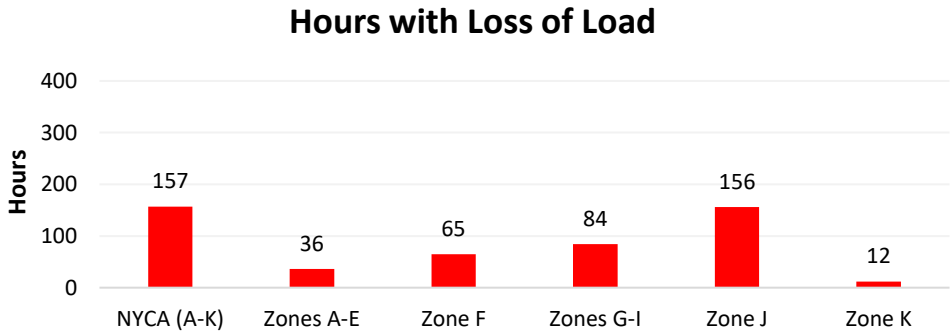
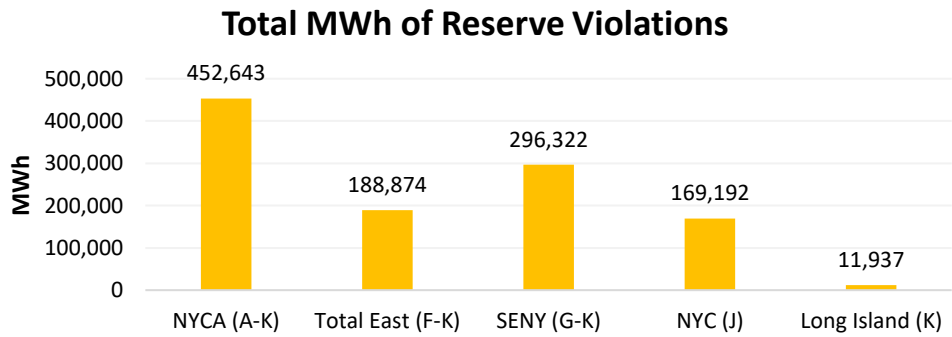
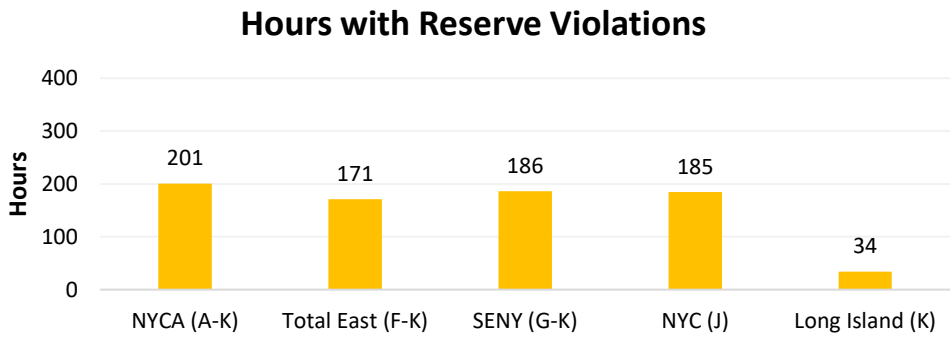
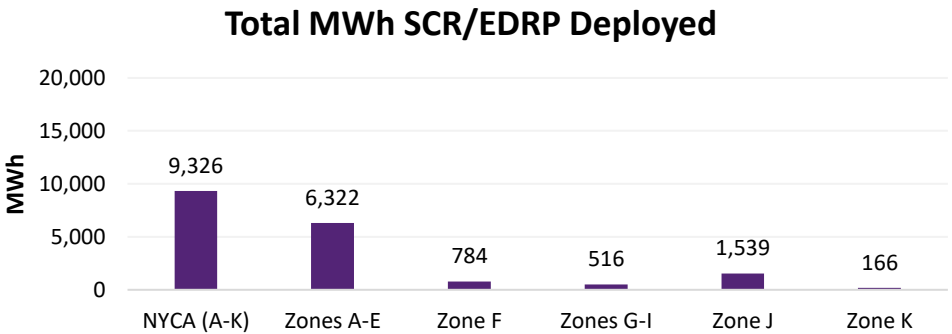
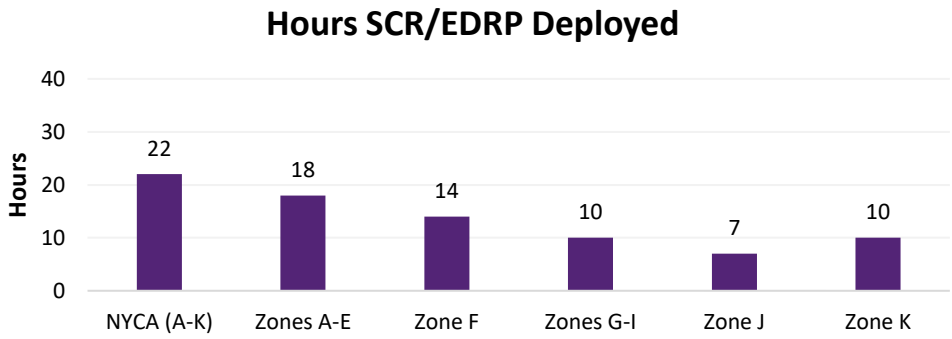
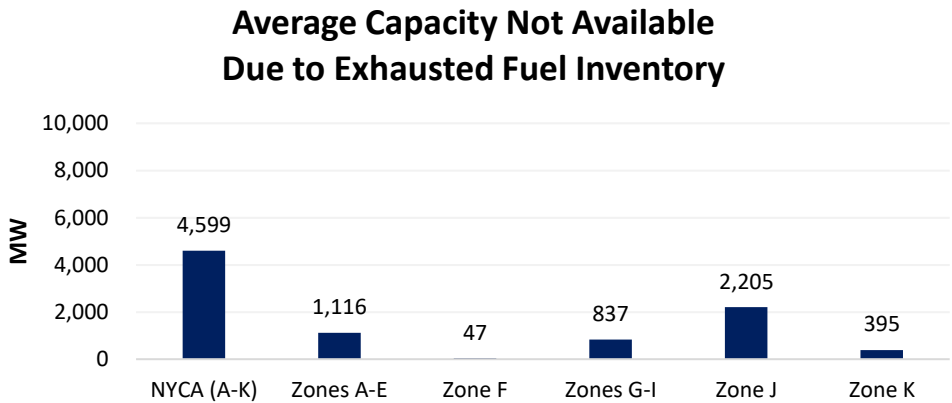
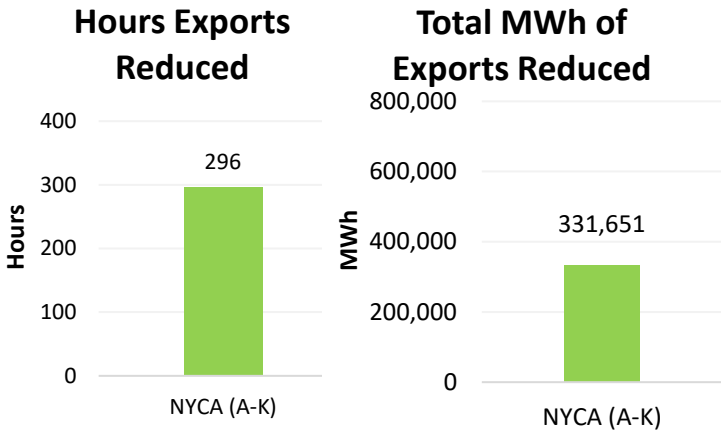
Reserve Violations	
Total Hrs.	201
Total MWh	452,643
Avg. MW	1,109.4
First Hour with Viol.	29

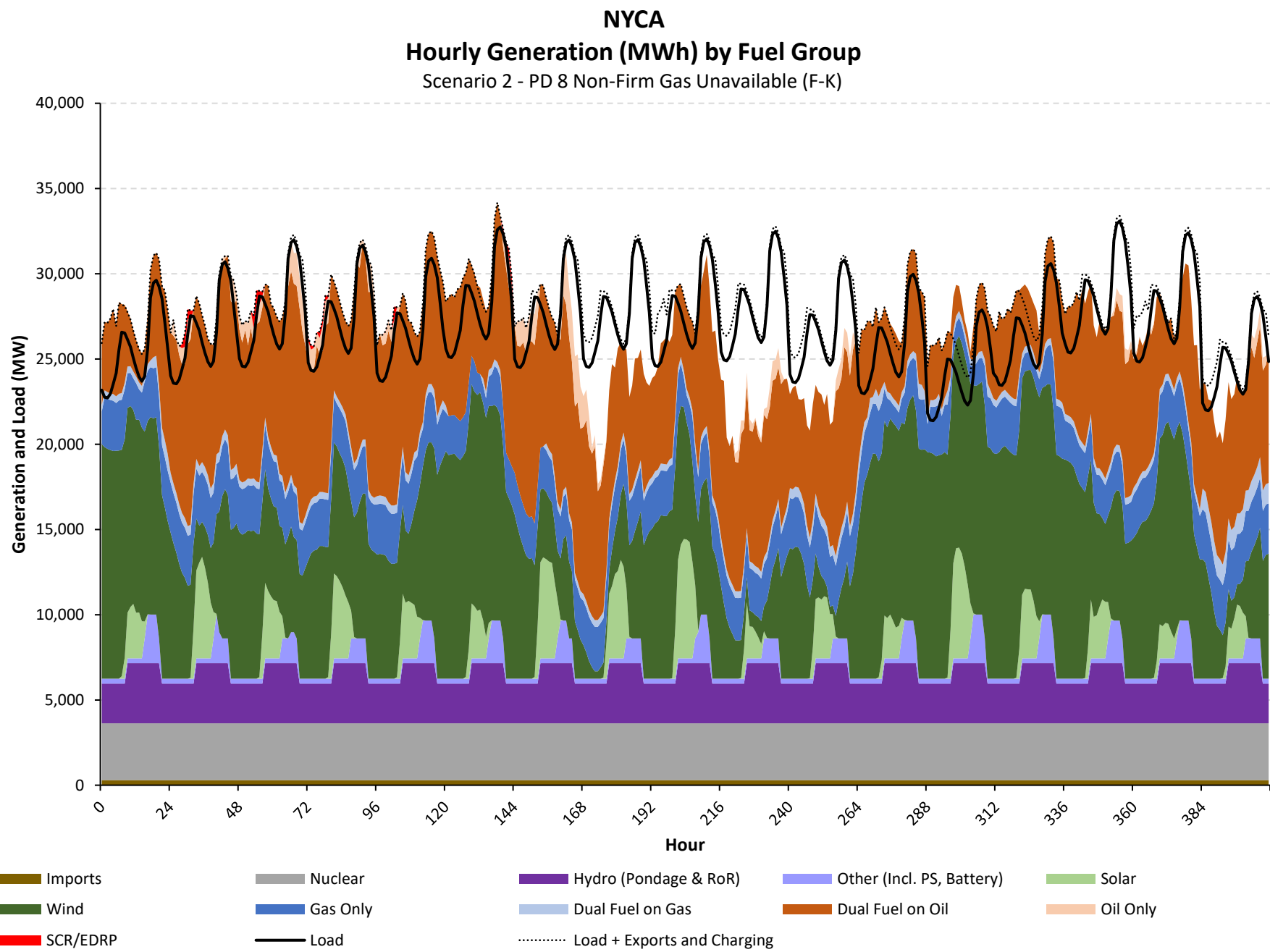
Loss of Load	
Total Hrs.	157
Total MWh	589,248
Avg. MW	1,444.2
First Hour with Losses	65

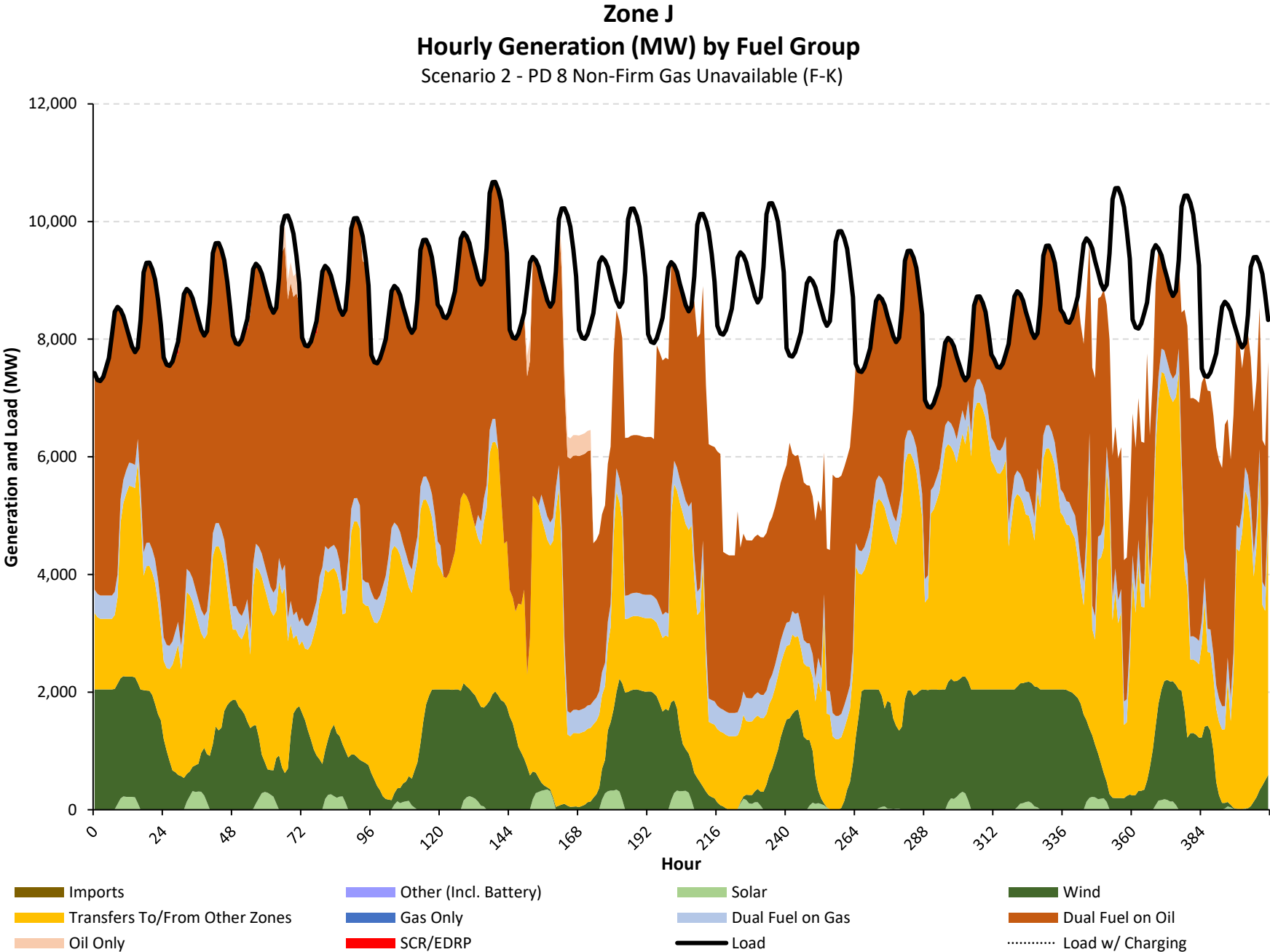
Full Period Results Summary

Case Name: Scenario 2 - PD 8 Non-Firm Gas Unavailable (F-K)

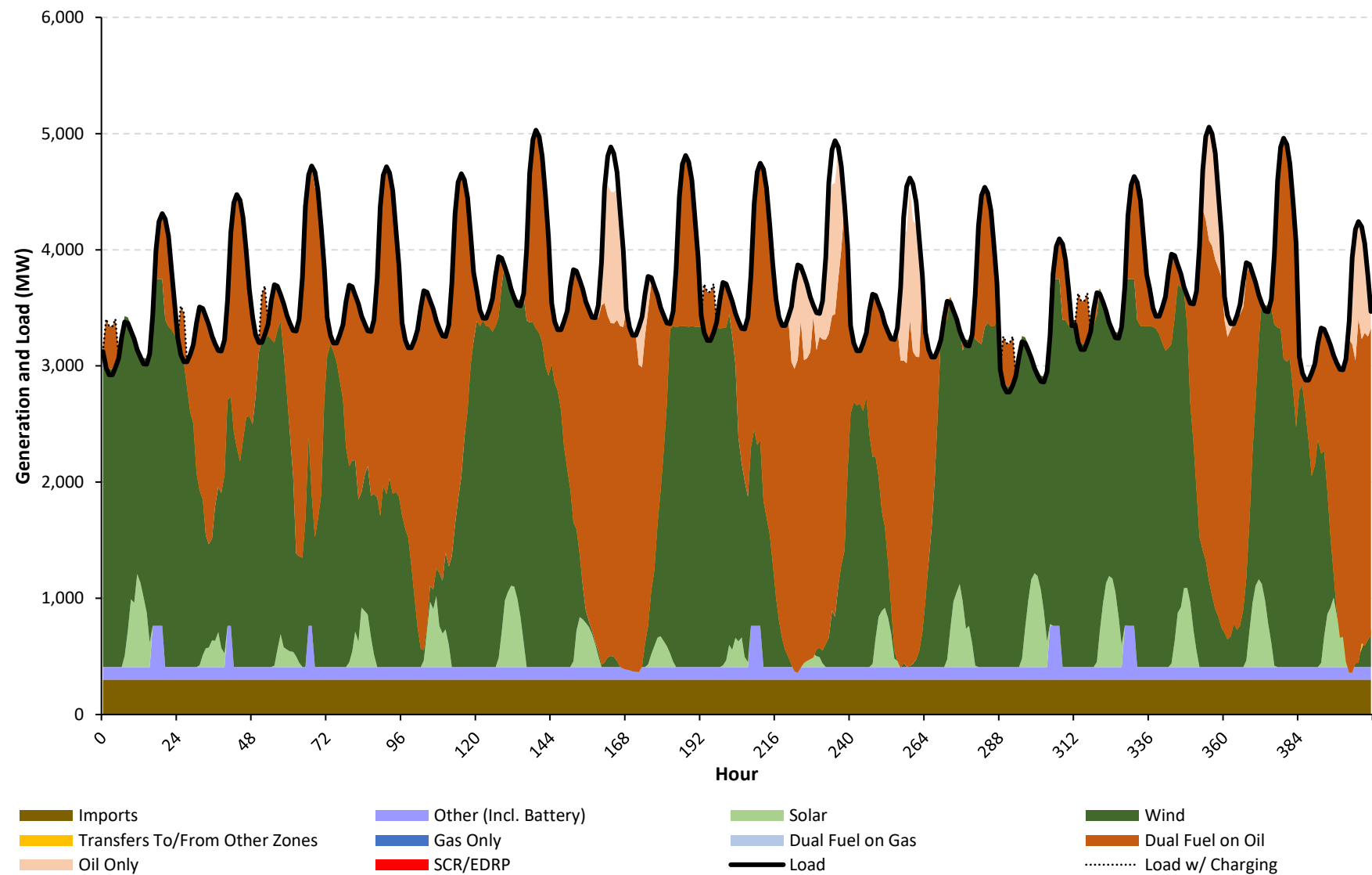
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

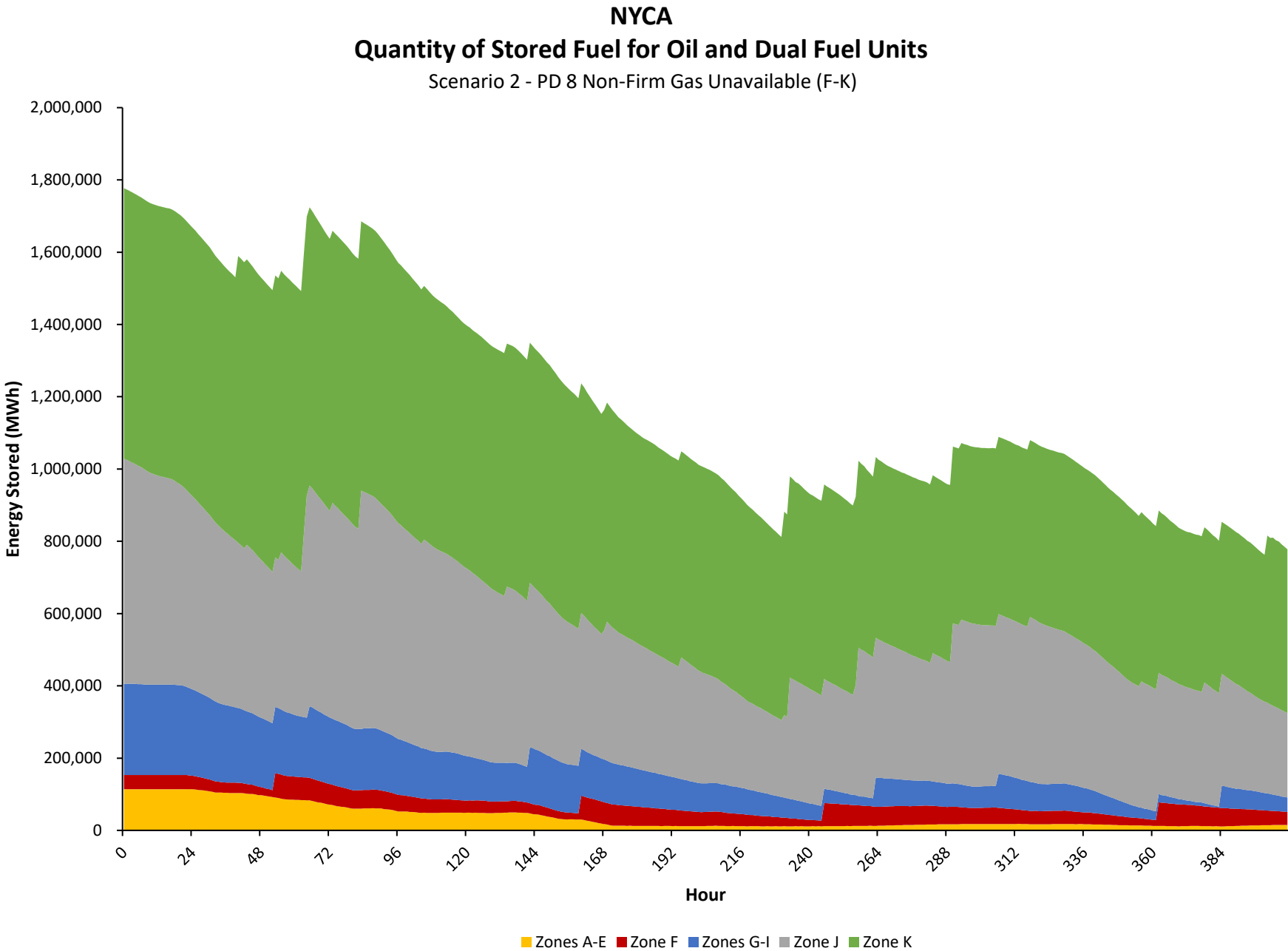


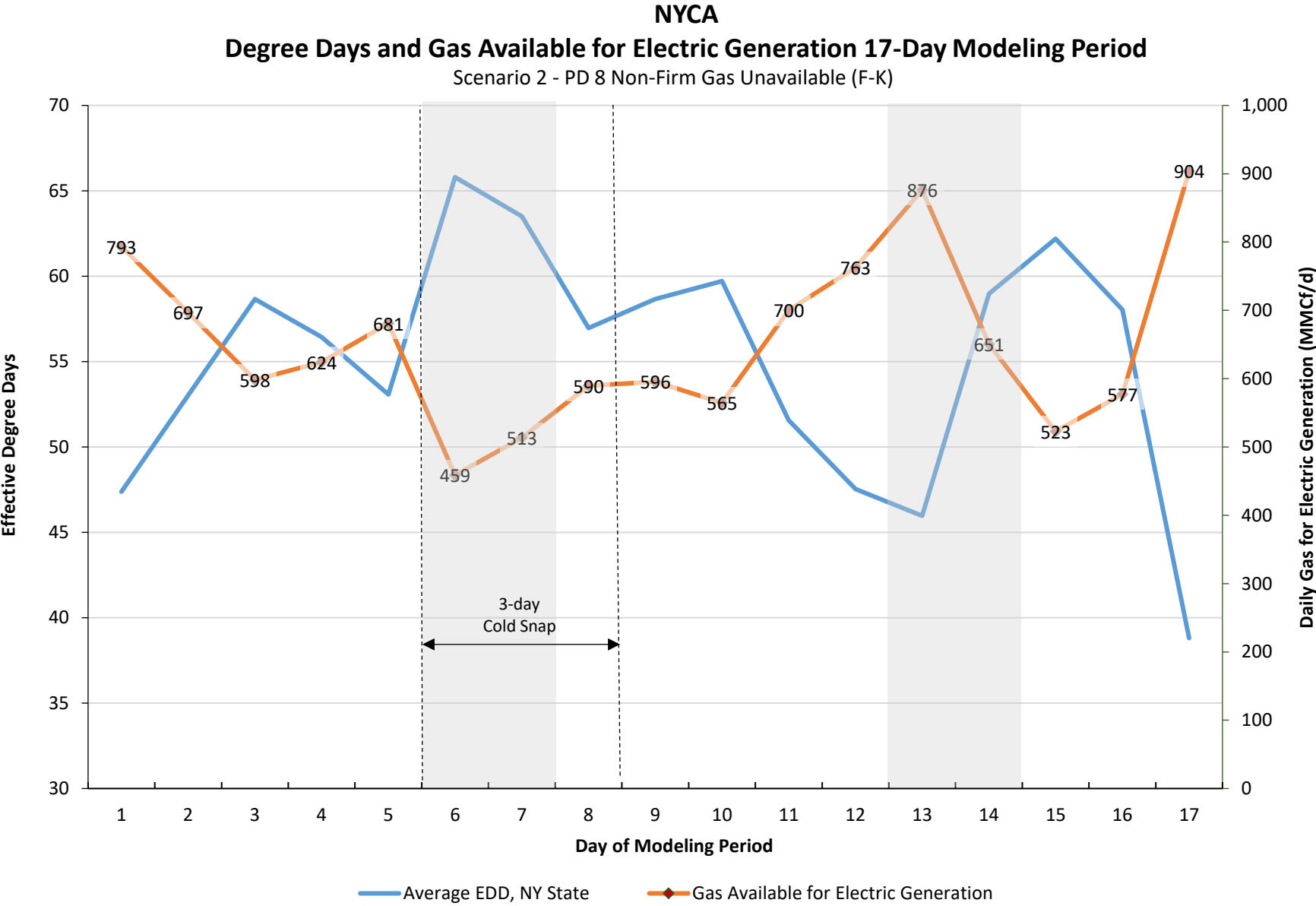




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 2 - PD 8 Non-Firm Gas Unavailable (F-K)

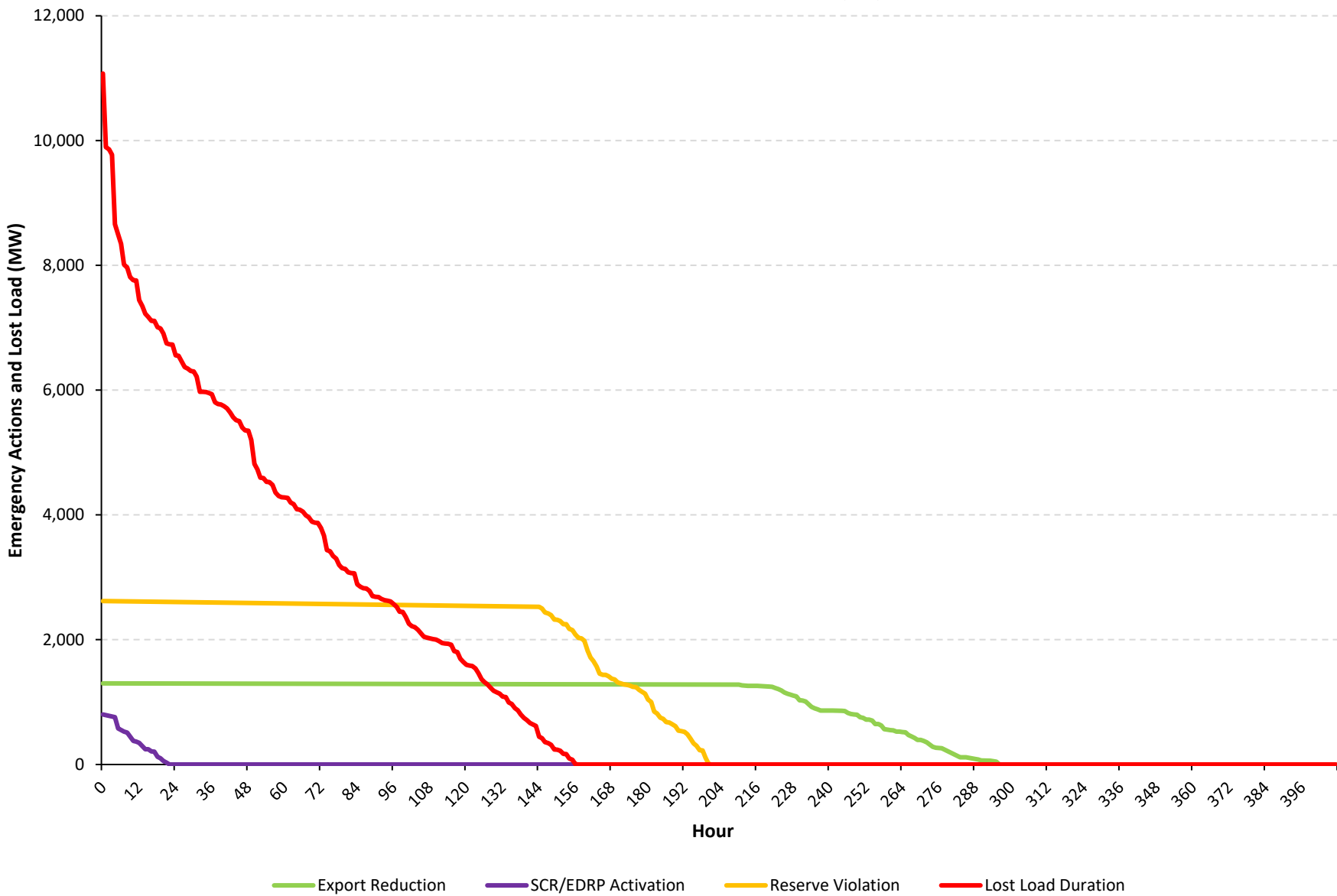


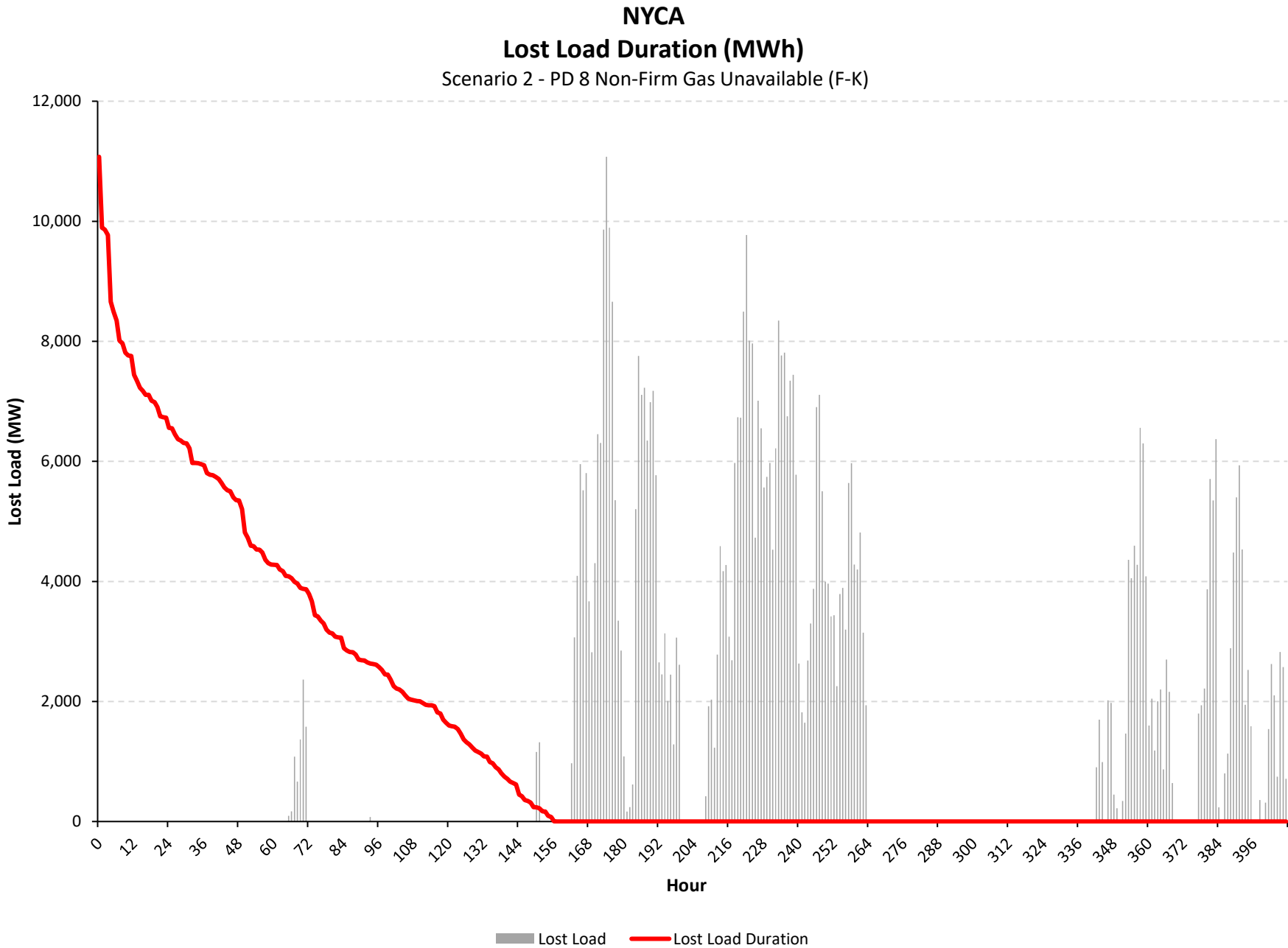




Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.

NYCA
Emergency Actions and Lost Load Duration (MWh)
Scenario 2 - PD 8 Non-Firm Gas Unavailable (F-K)



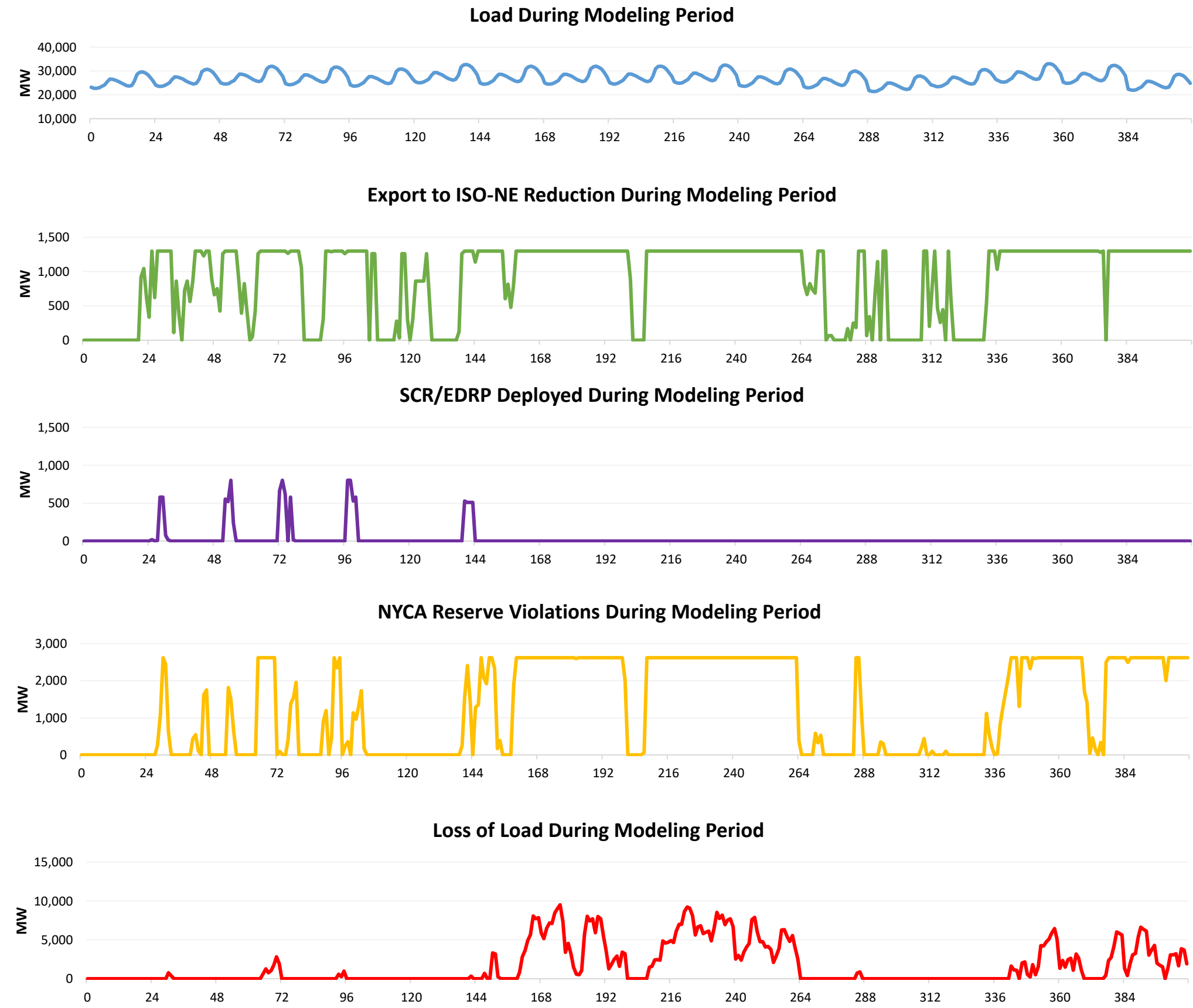


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 2 - PD 9 Non-Firm Gas Unavailable (NYCA) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 2 - PD 9 Non-Firm Gas Unavailable (NYCA)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	318
Total MWh	368,137
Avg. MW	902.3

SCR Deployment	
Total Hrs.	23
Total MWh	10,843
Avg. MW	26.6

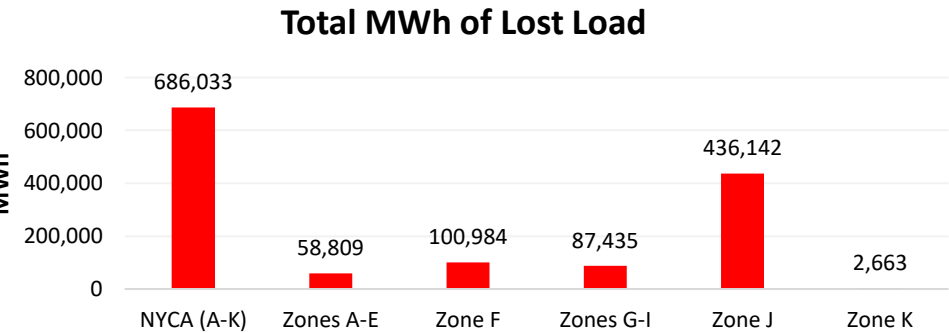
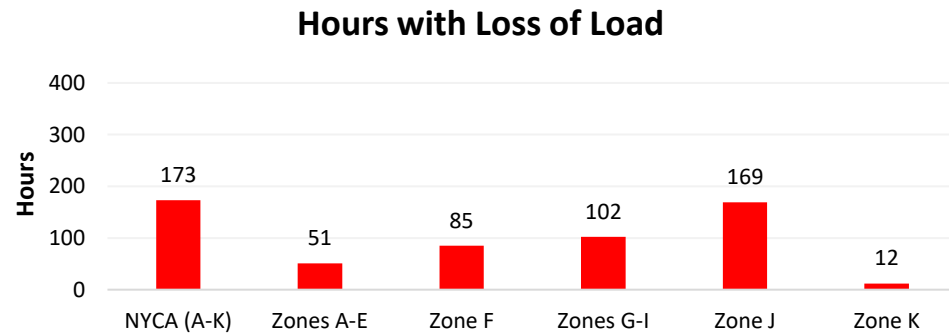
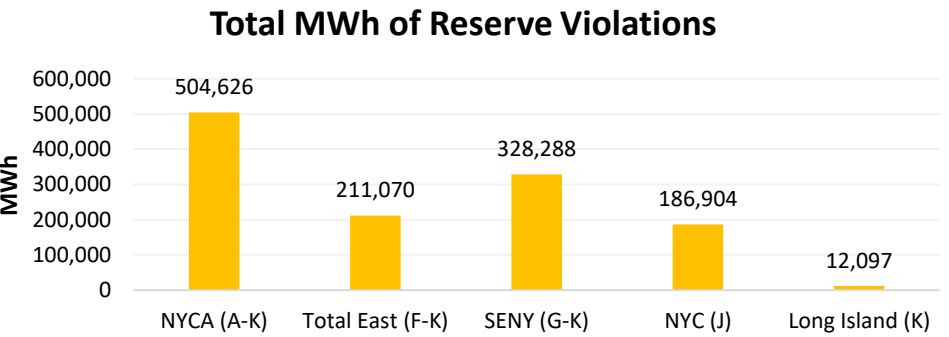
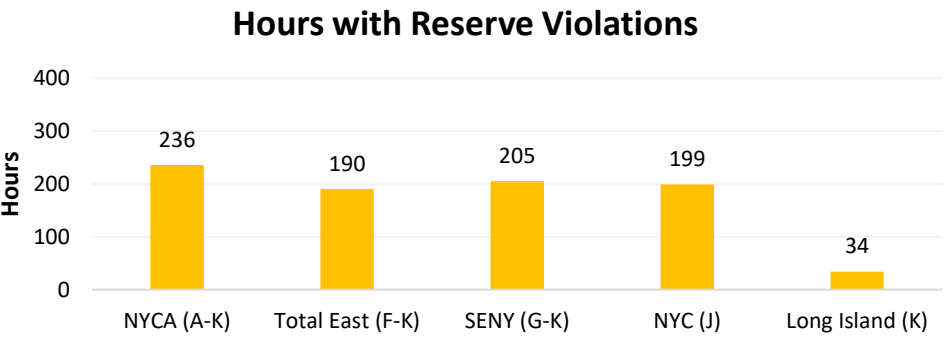
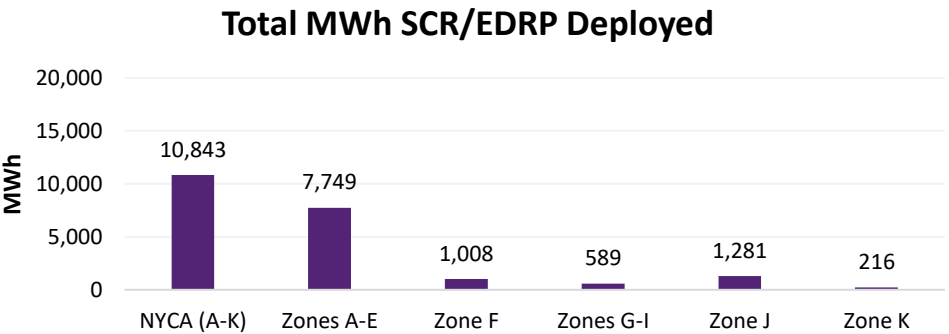
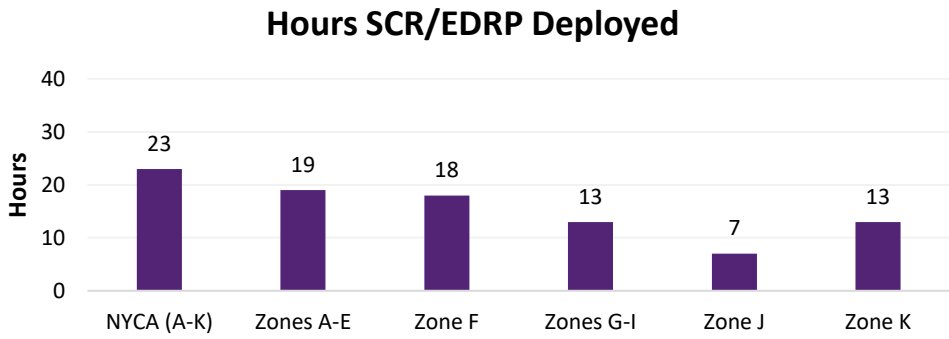
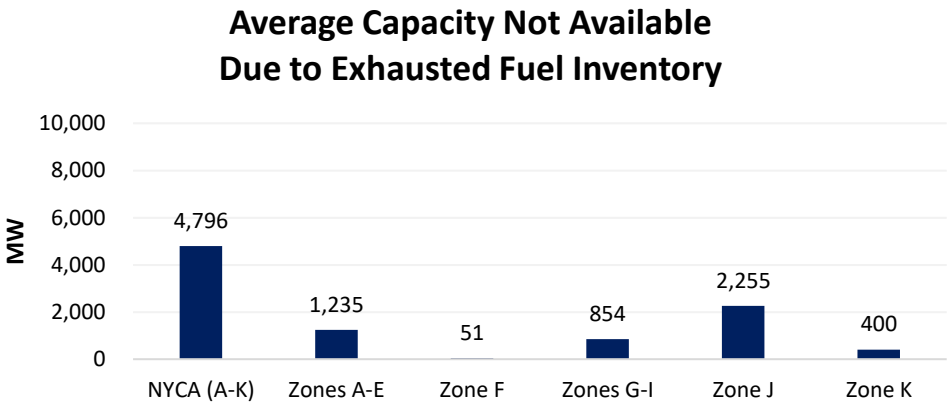
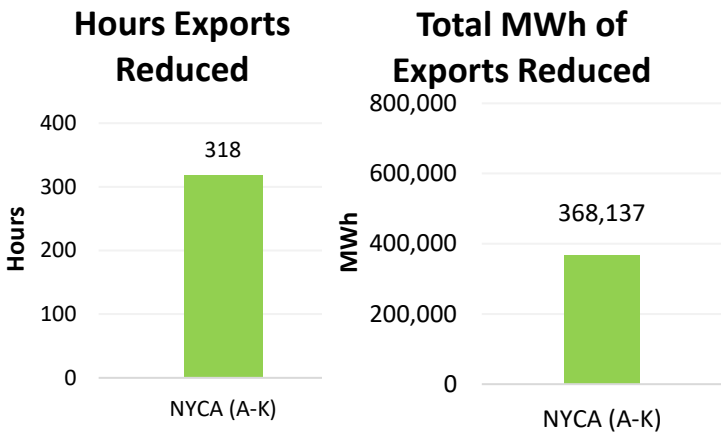
Reserve Violations	
Total Hrs.	236
Total MWh	504,626
Avg. MW	1,236.8
First Hour with Viol.	28

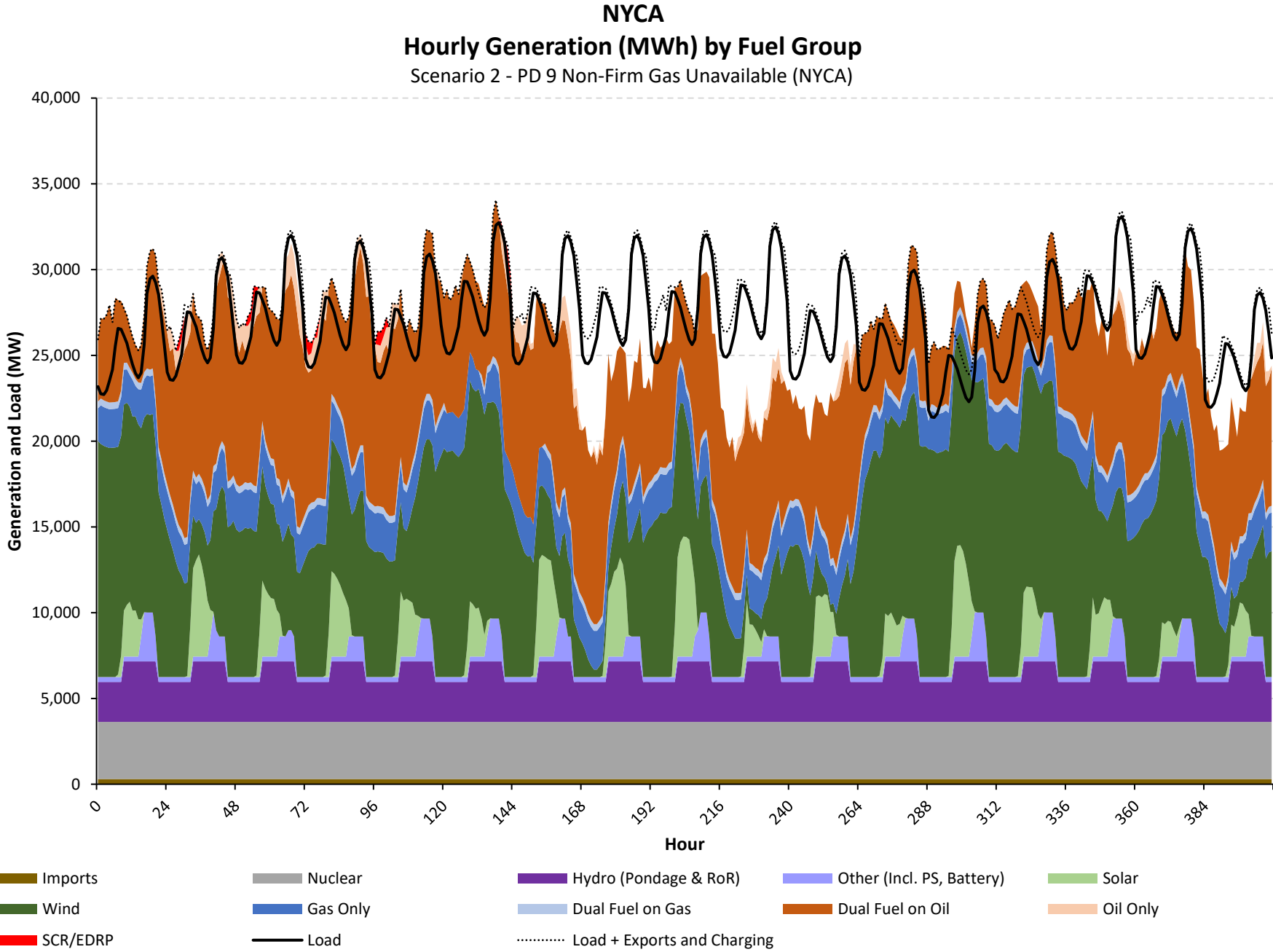
Loss of Load	
Total Hrs.	173
Total MWh	686,033
Avg. MW	1,681.5
First Hour with Losses	30

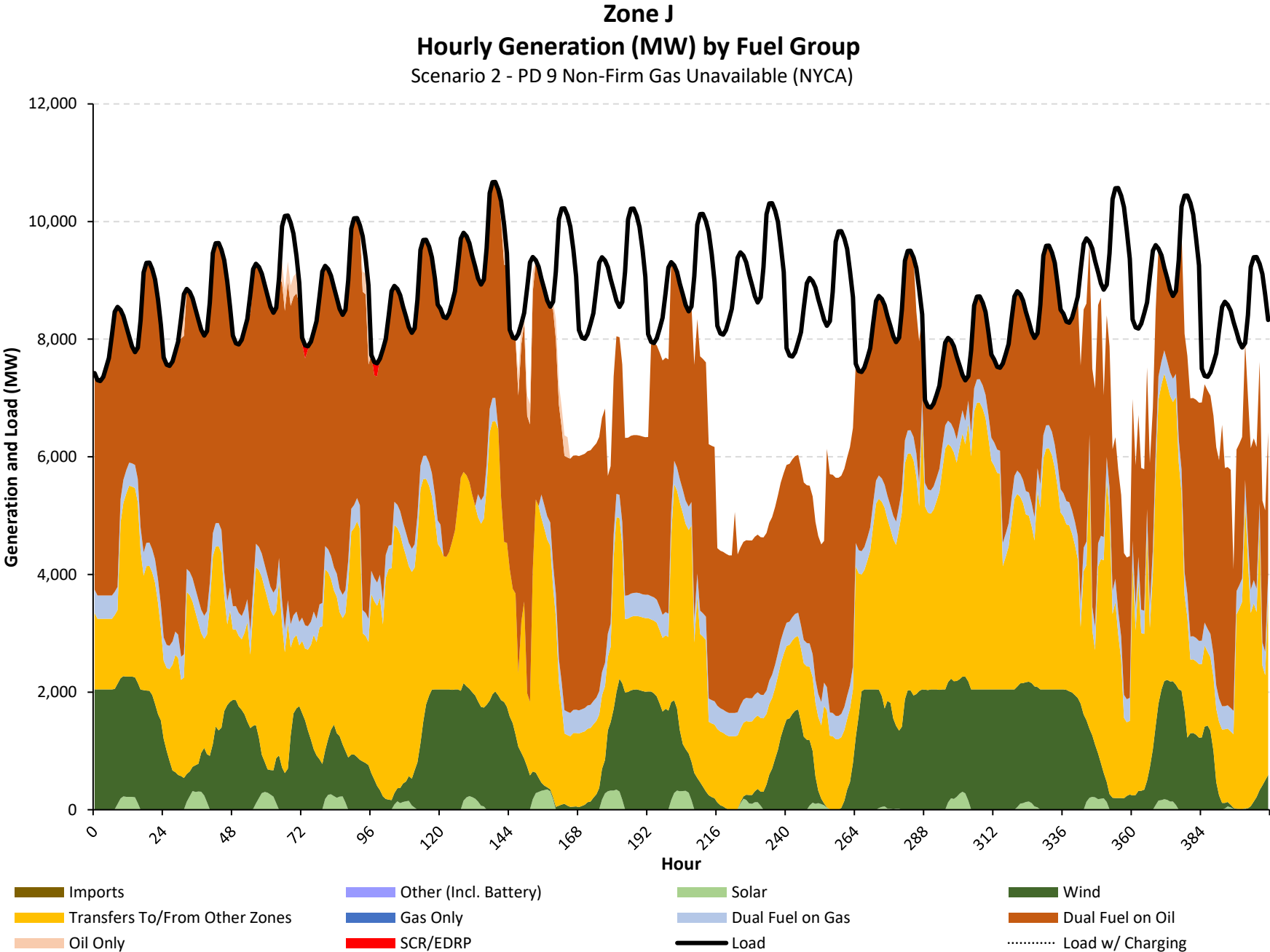
Full Period Results Summary

Case Name: Scenario 2 - PD 9 Non-Firm Gas Unavailable (NYCA)

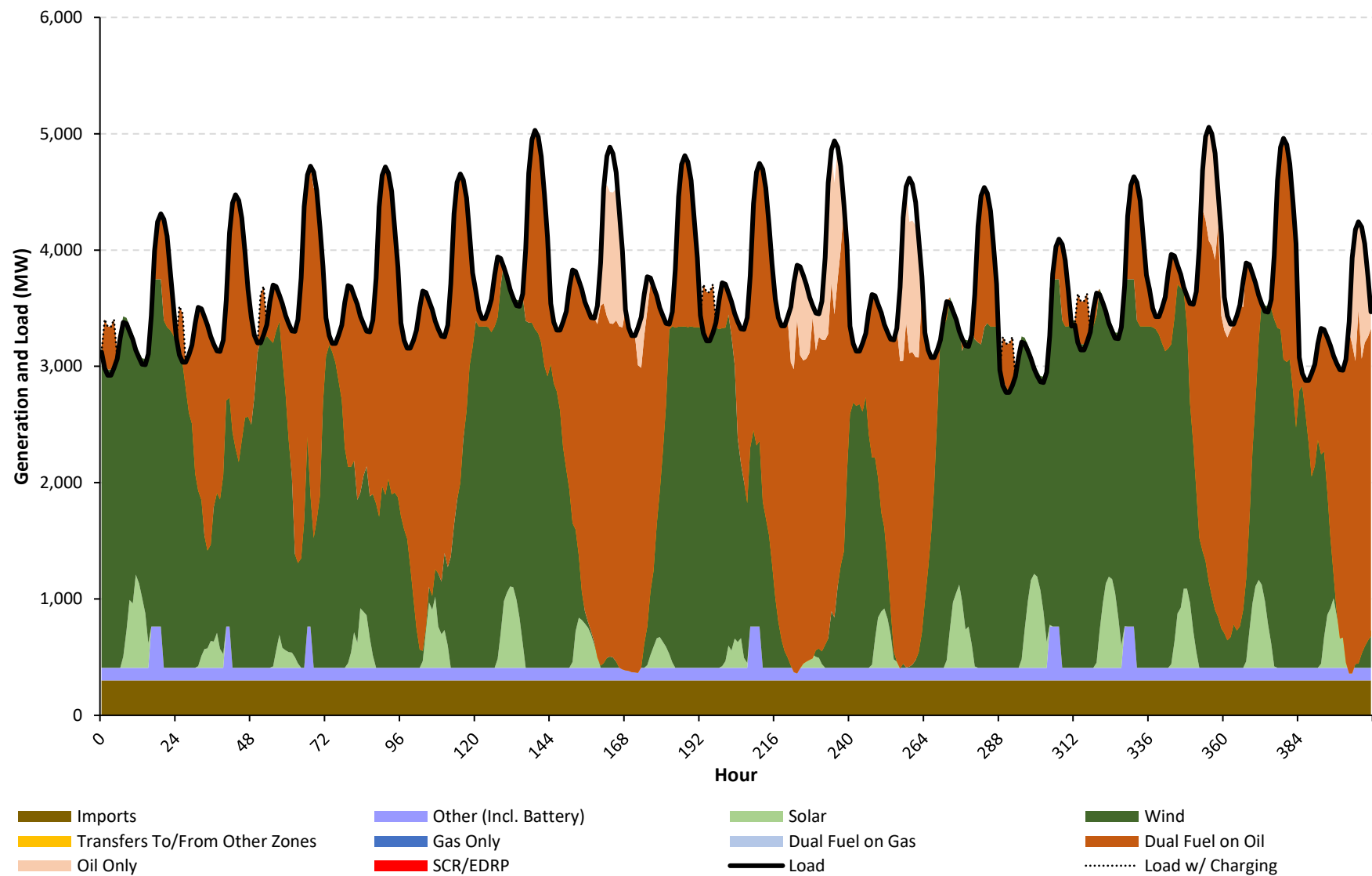
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

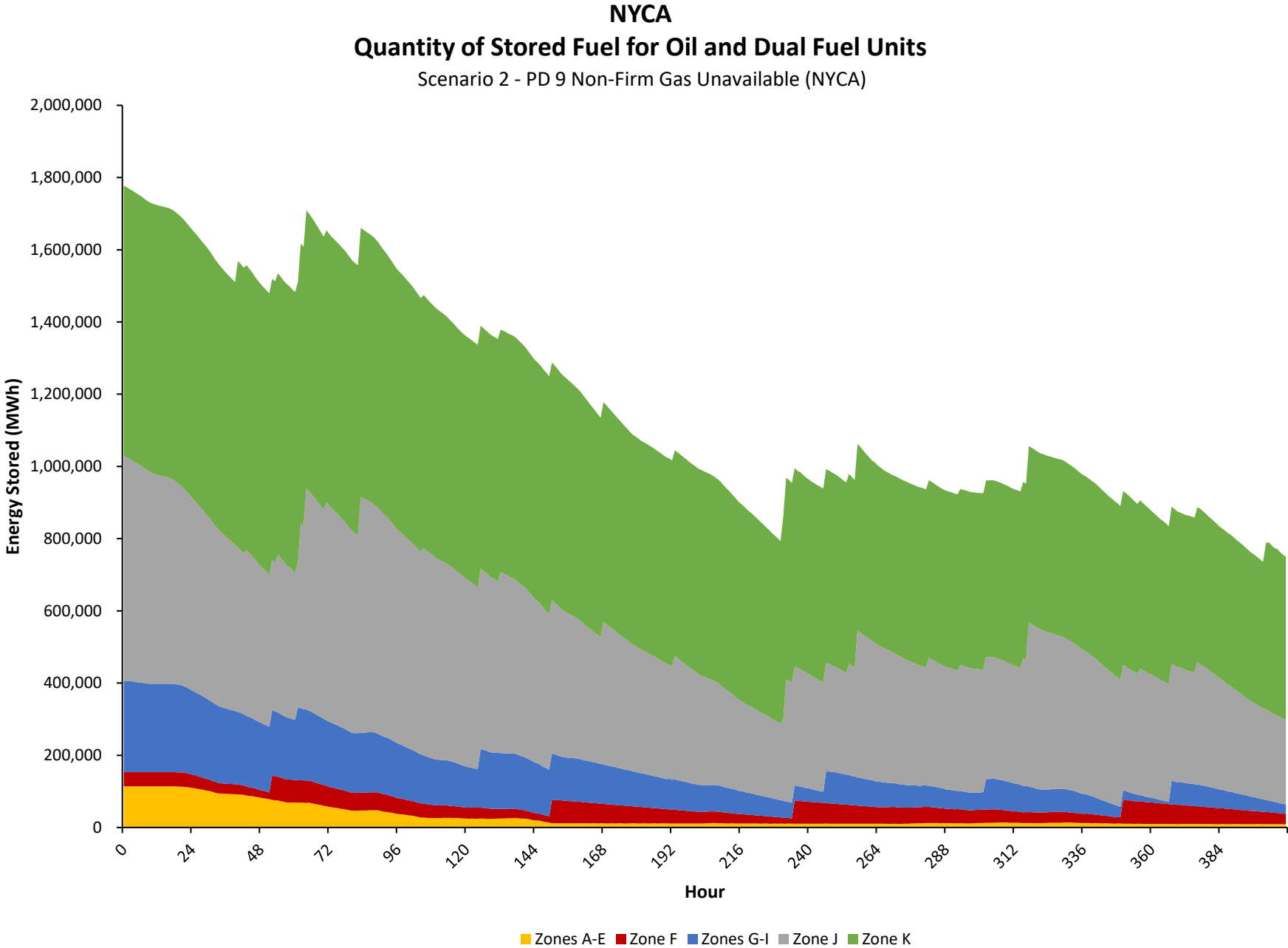


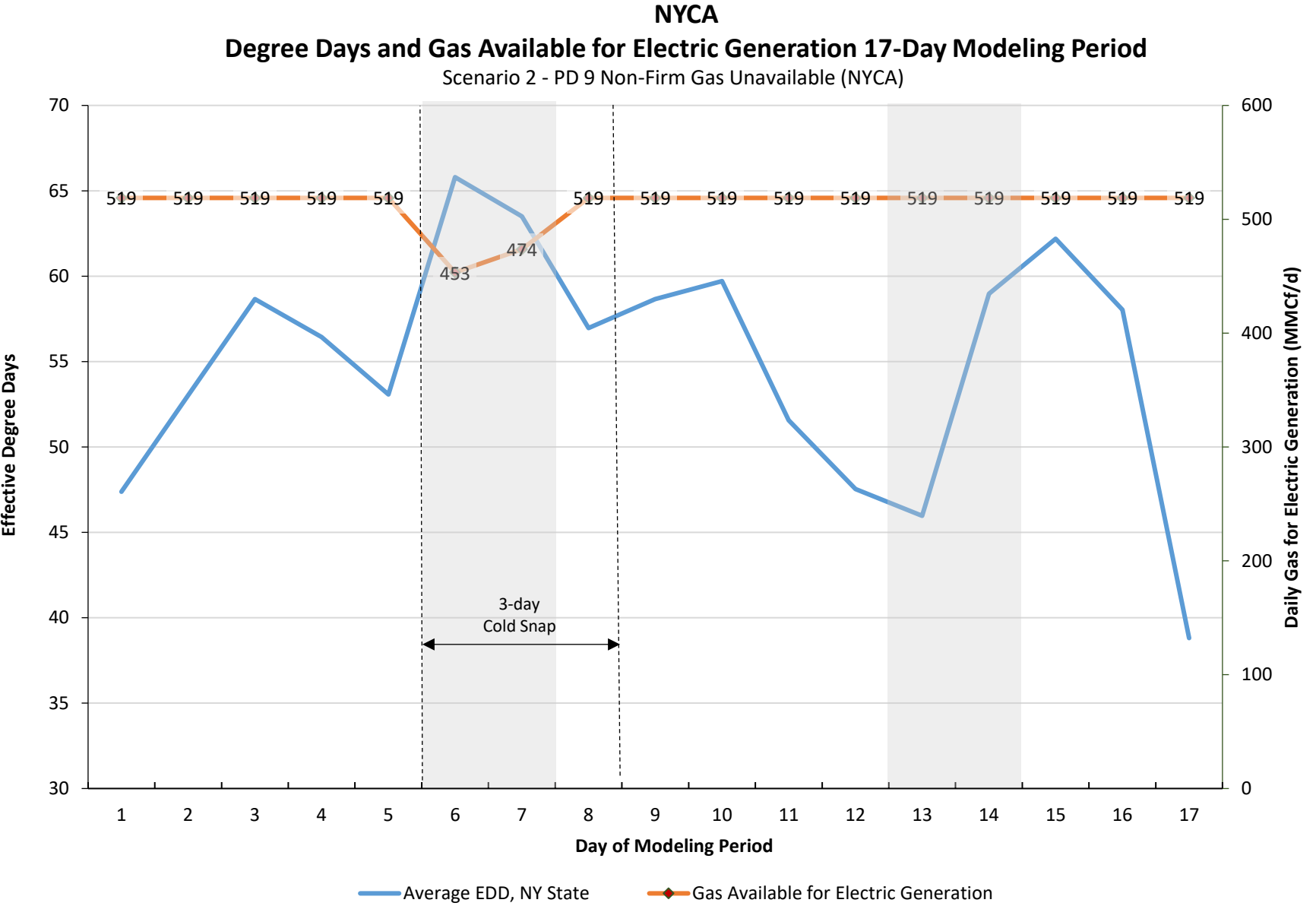




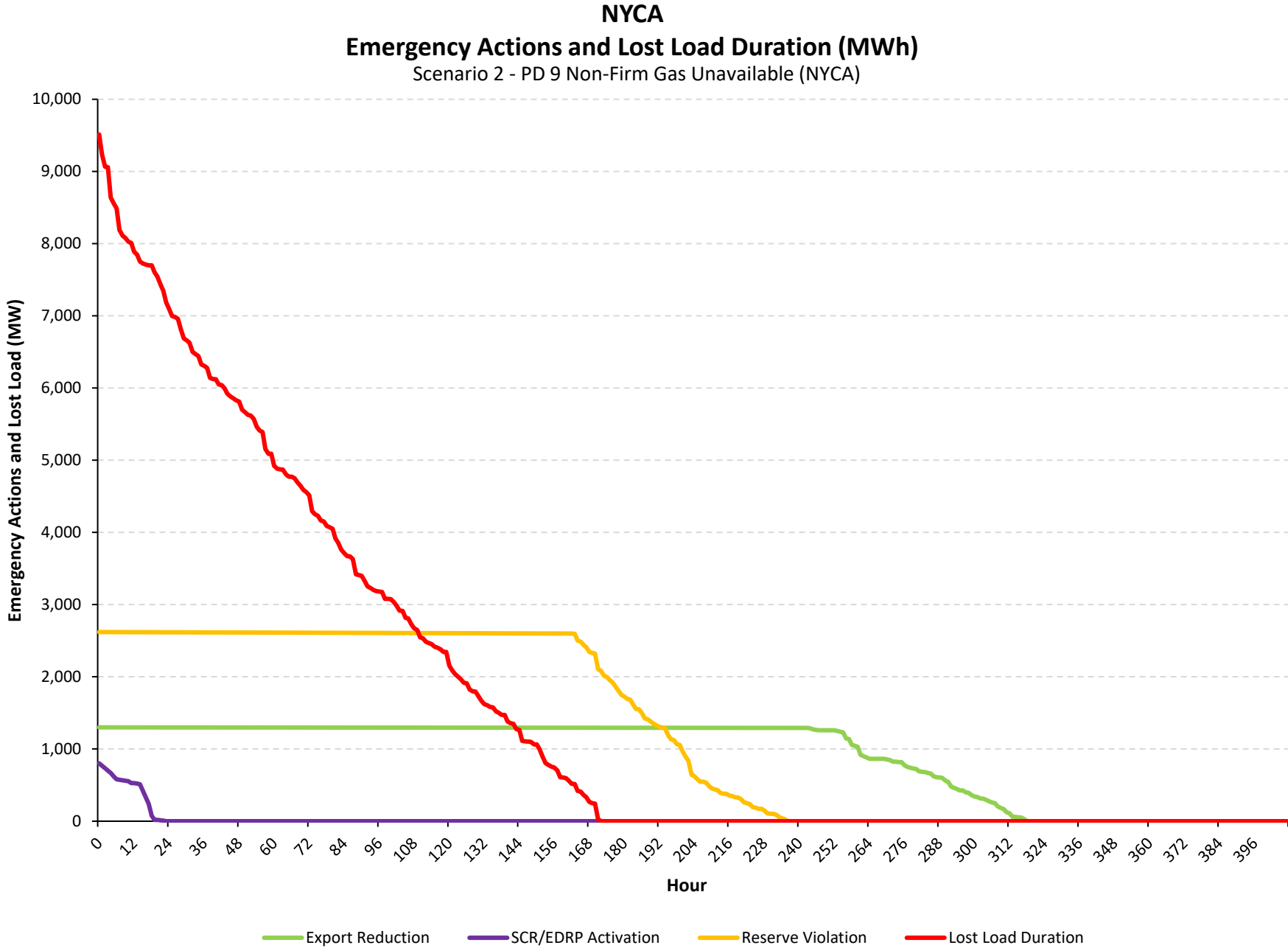
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 2 - PD 9 Non-Firm Gas Unavailable (NYCA)

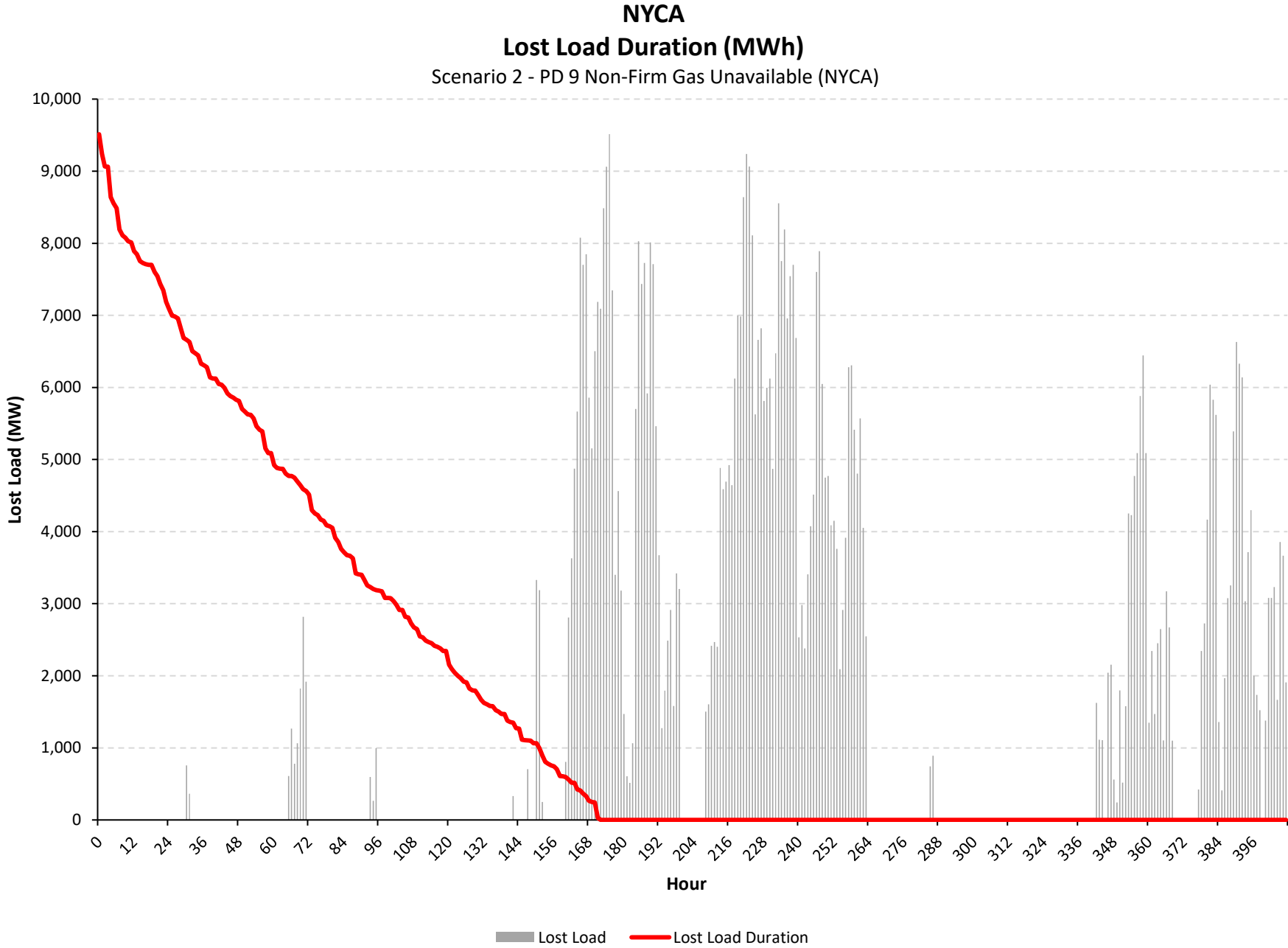






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



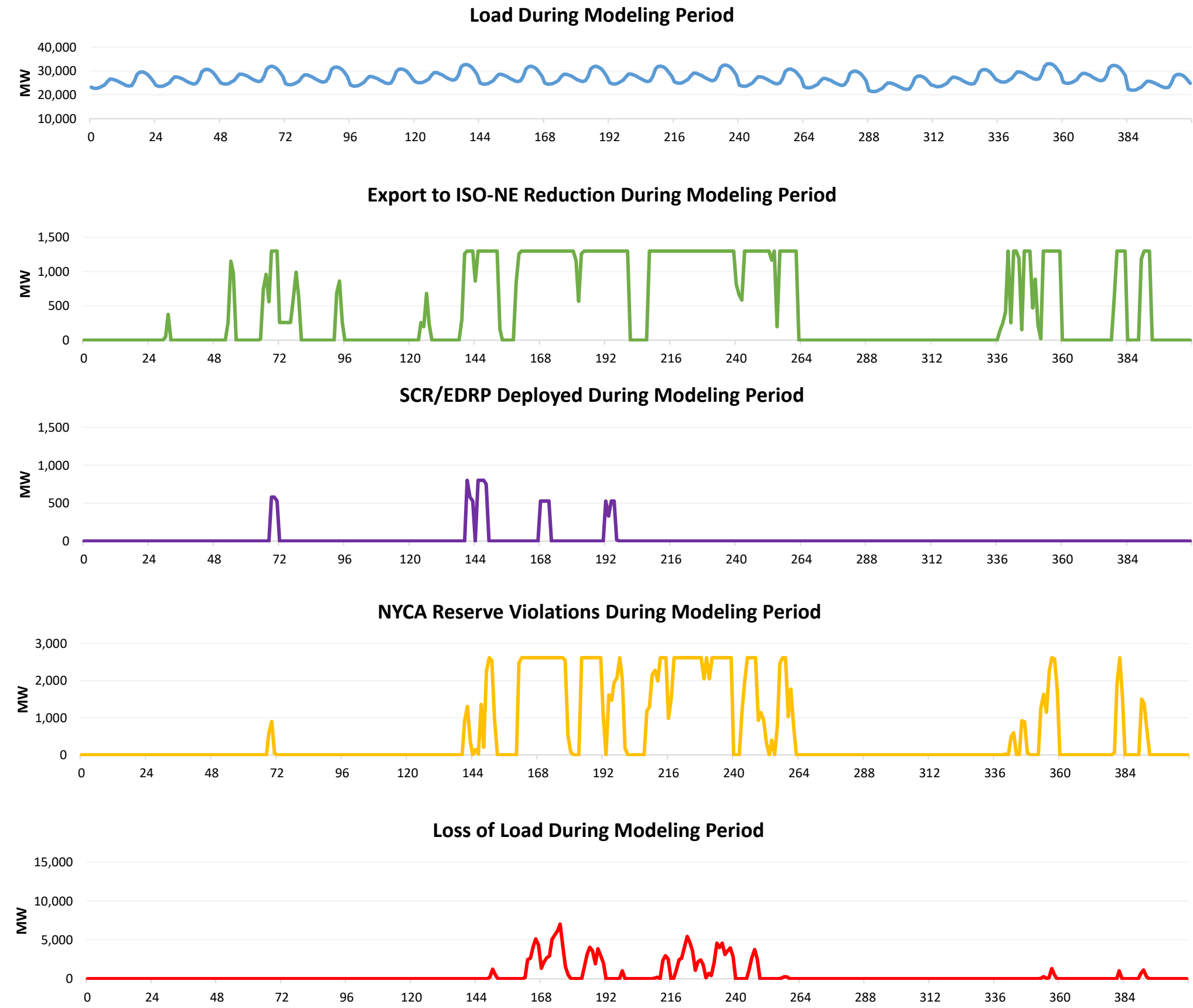


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 2 - PD 10 Non-Firm Gas Unavailable (4 days) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 2 - PD 10 Non-Firm Gas Unavailable (4 days)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	171
Total MWh	186,030
Avg. MW	456.0

SCR Deployment	
Total Hrs.	19
Total MWh	10,780
Avg. MW	26.4

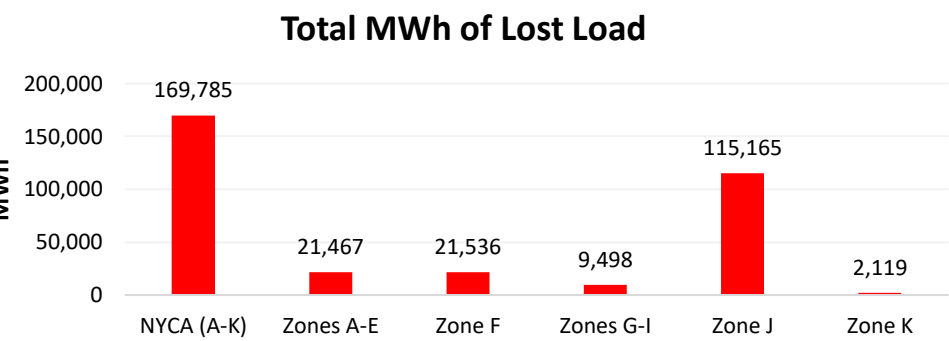
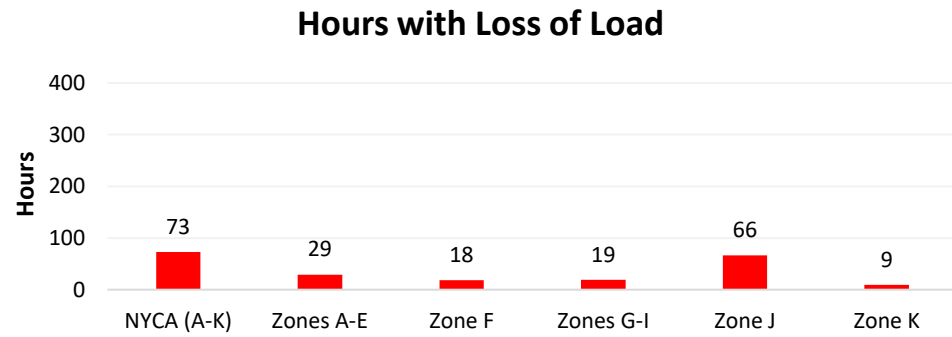
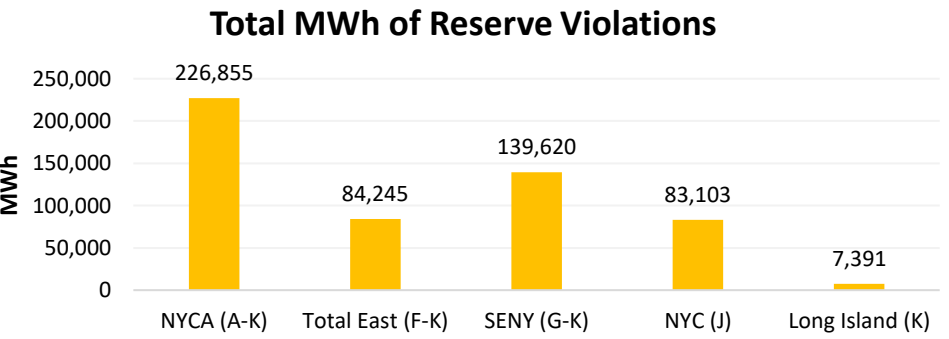
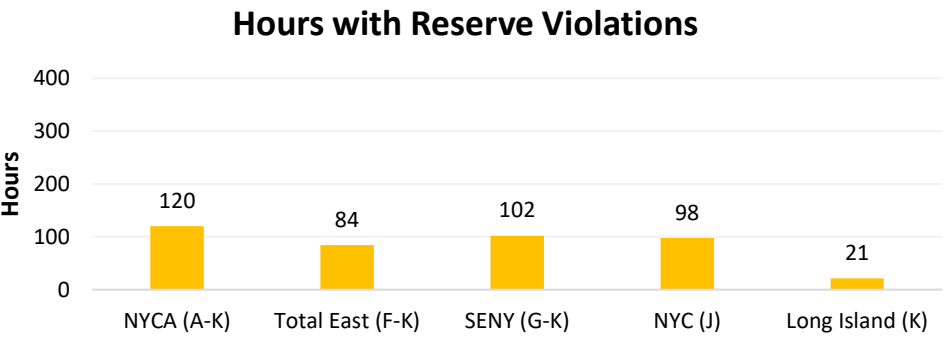
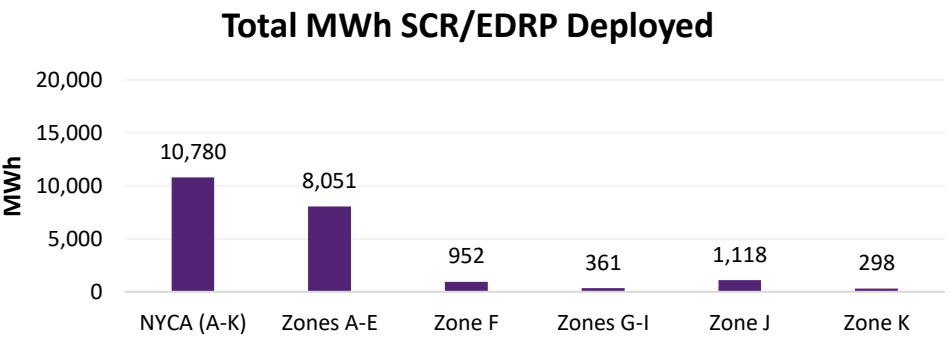
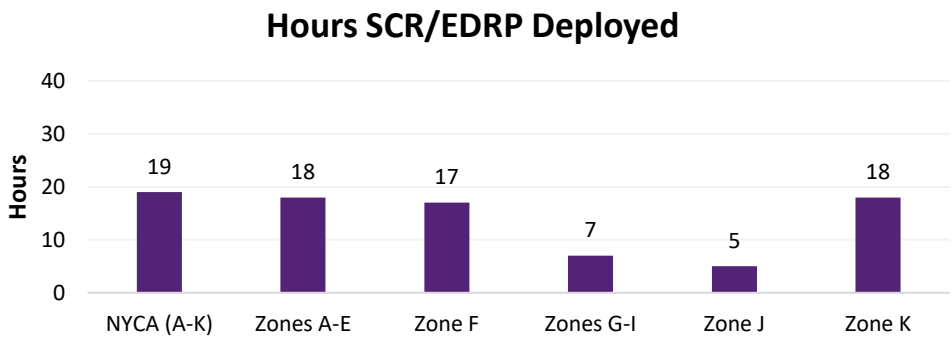
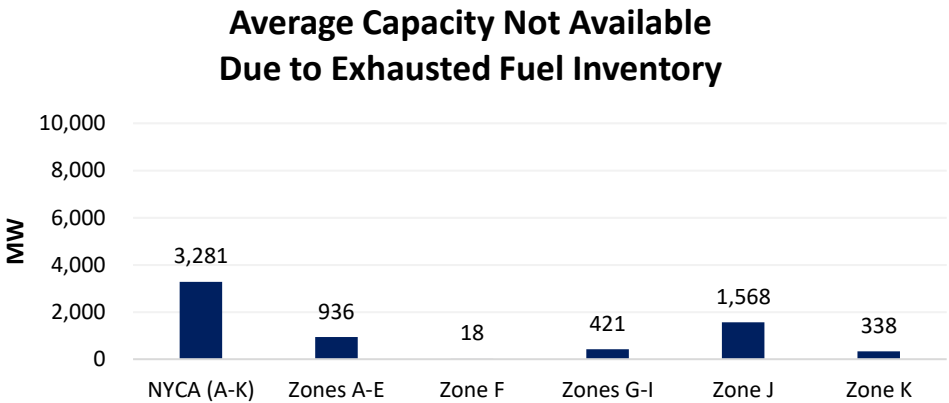
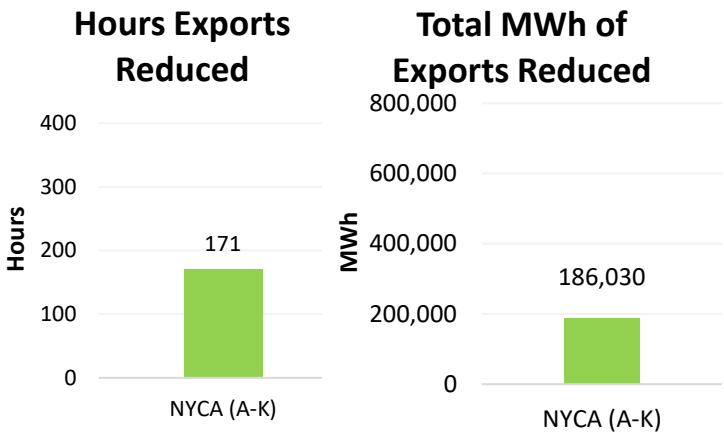
Reserve Violations	
Total Hrs.	120
Total MWh	226,855
Avg. MW	556.0
First Hour with Viol.	69

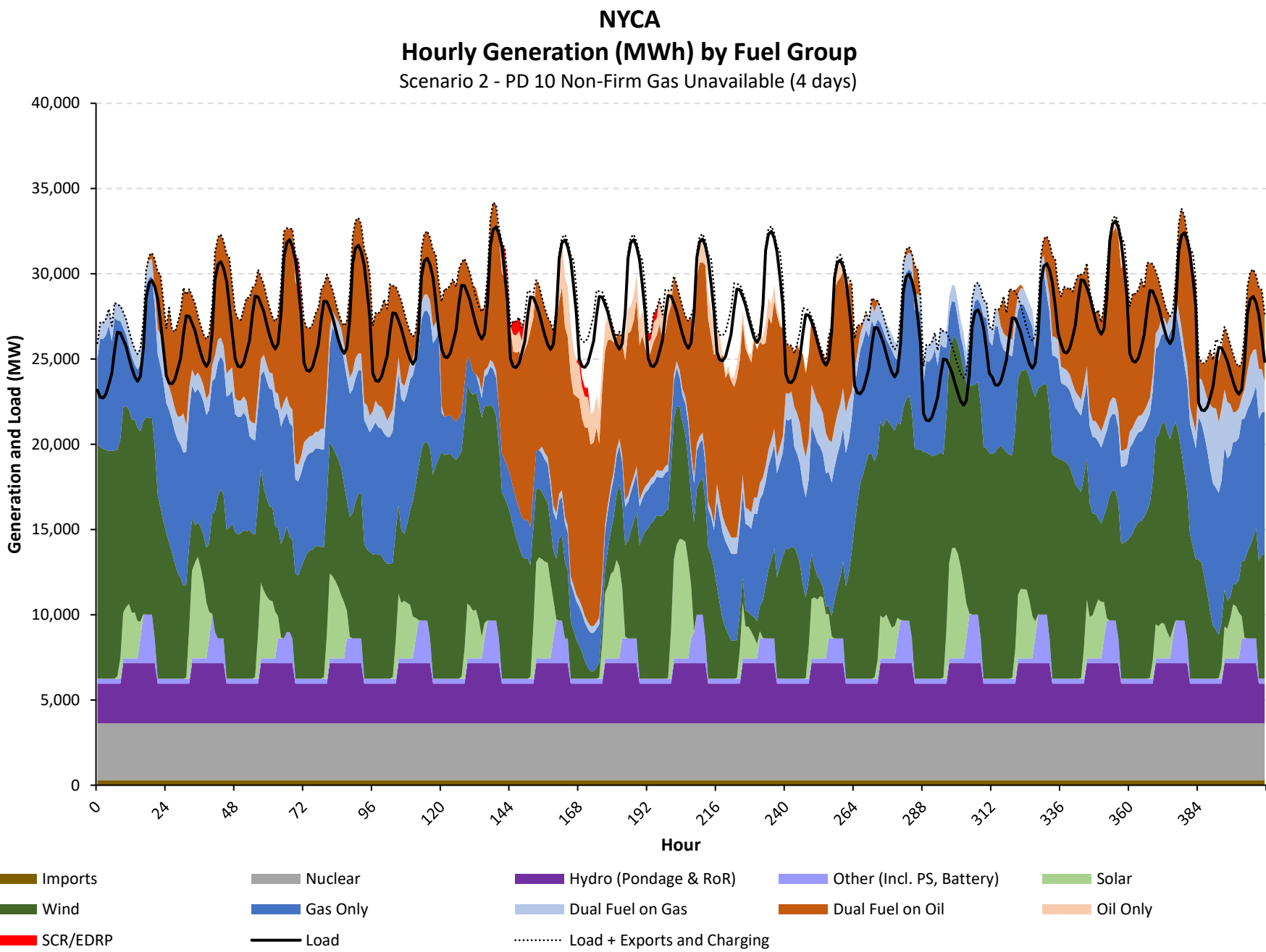
Loss of Load	
Total Hrs.	73
Total MWh	169,785
Avg. MW	416.1
First Hour with Losses	149

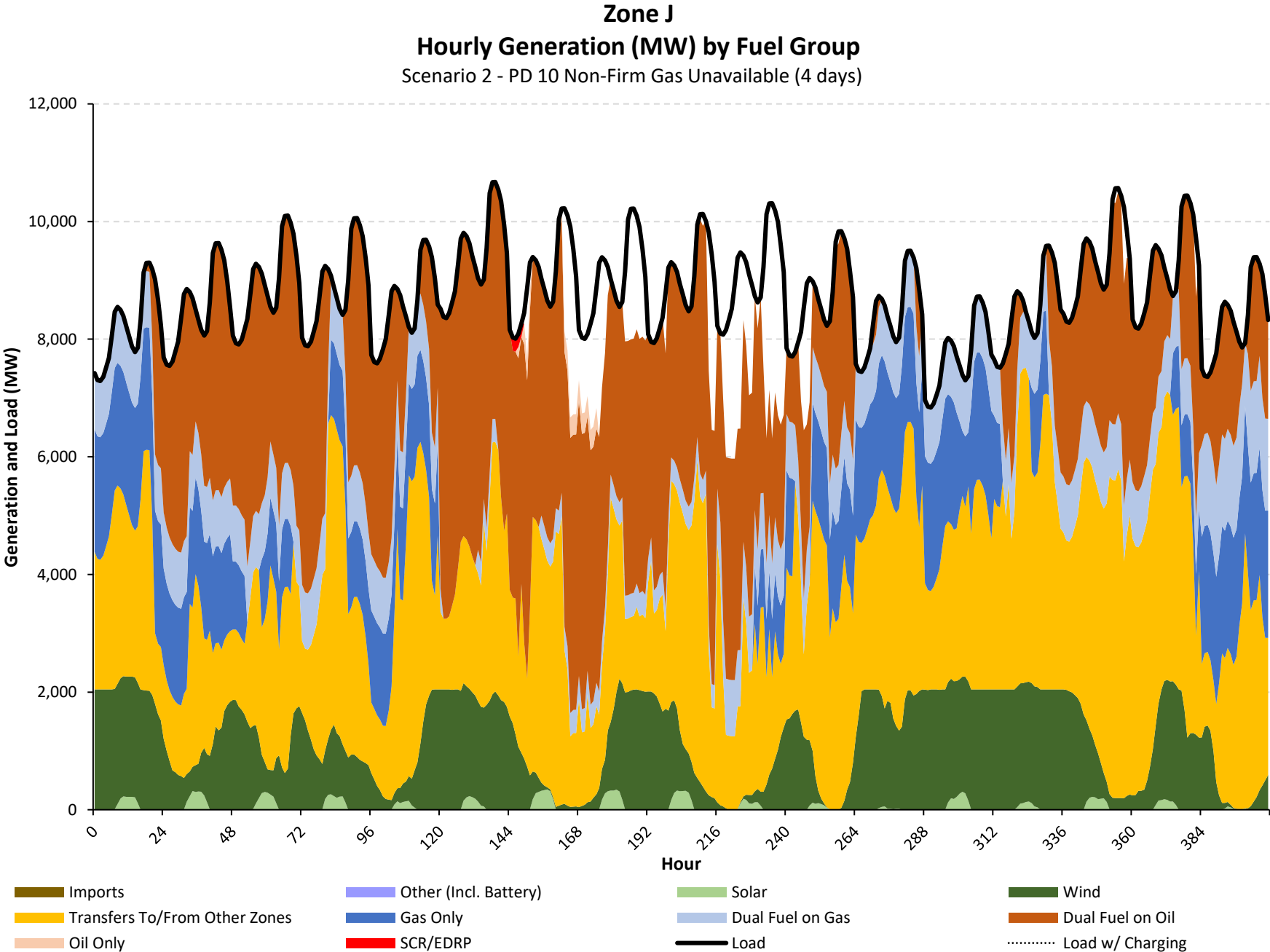
Full Period Results Summary

Case Name: Scenario 2 - PD 10 Non-Firm Gas Unavailable (4 days)

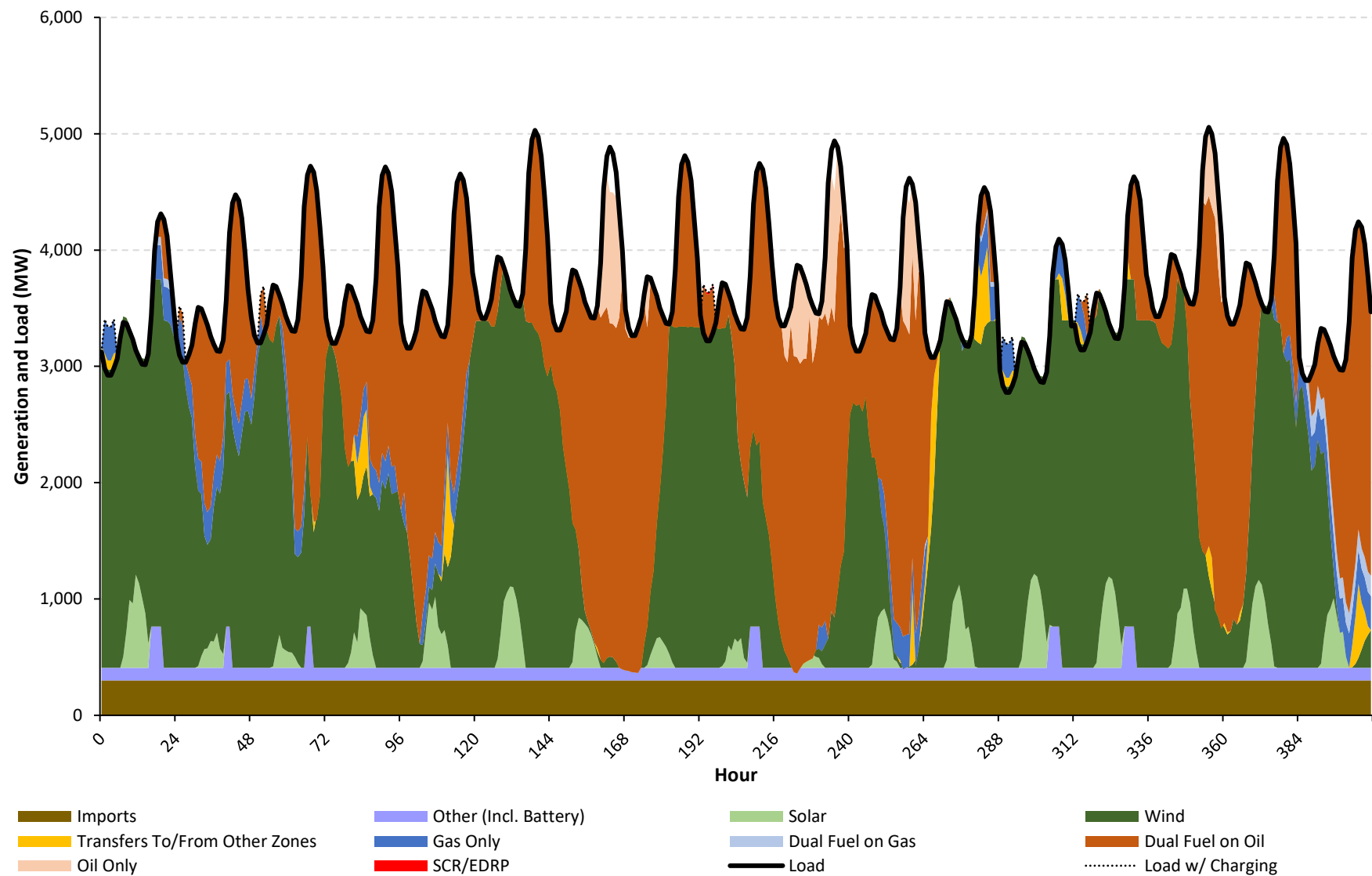
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

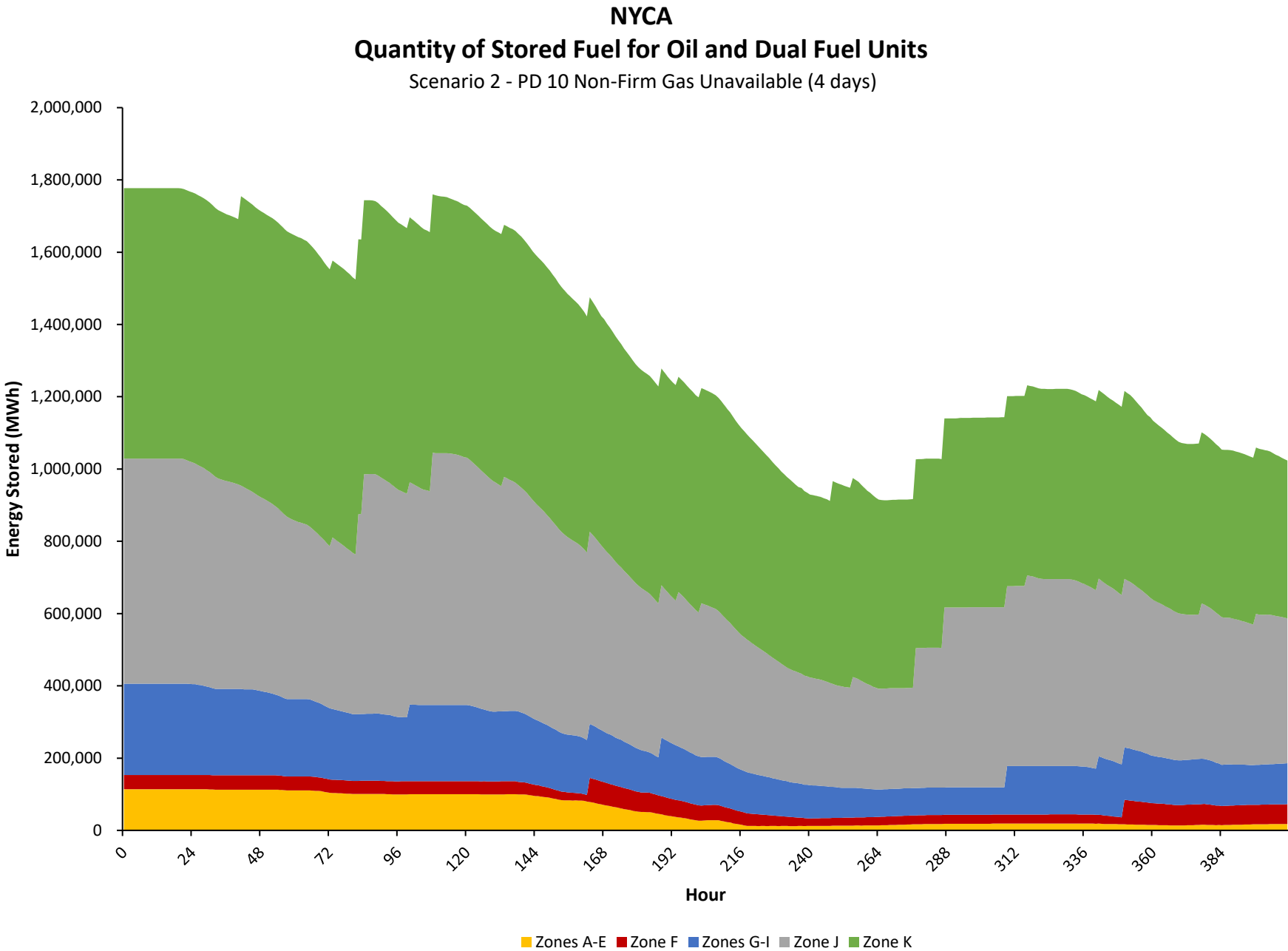


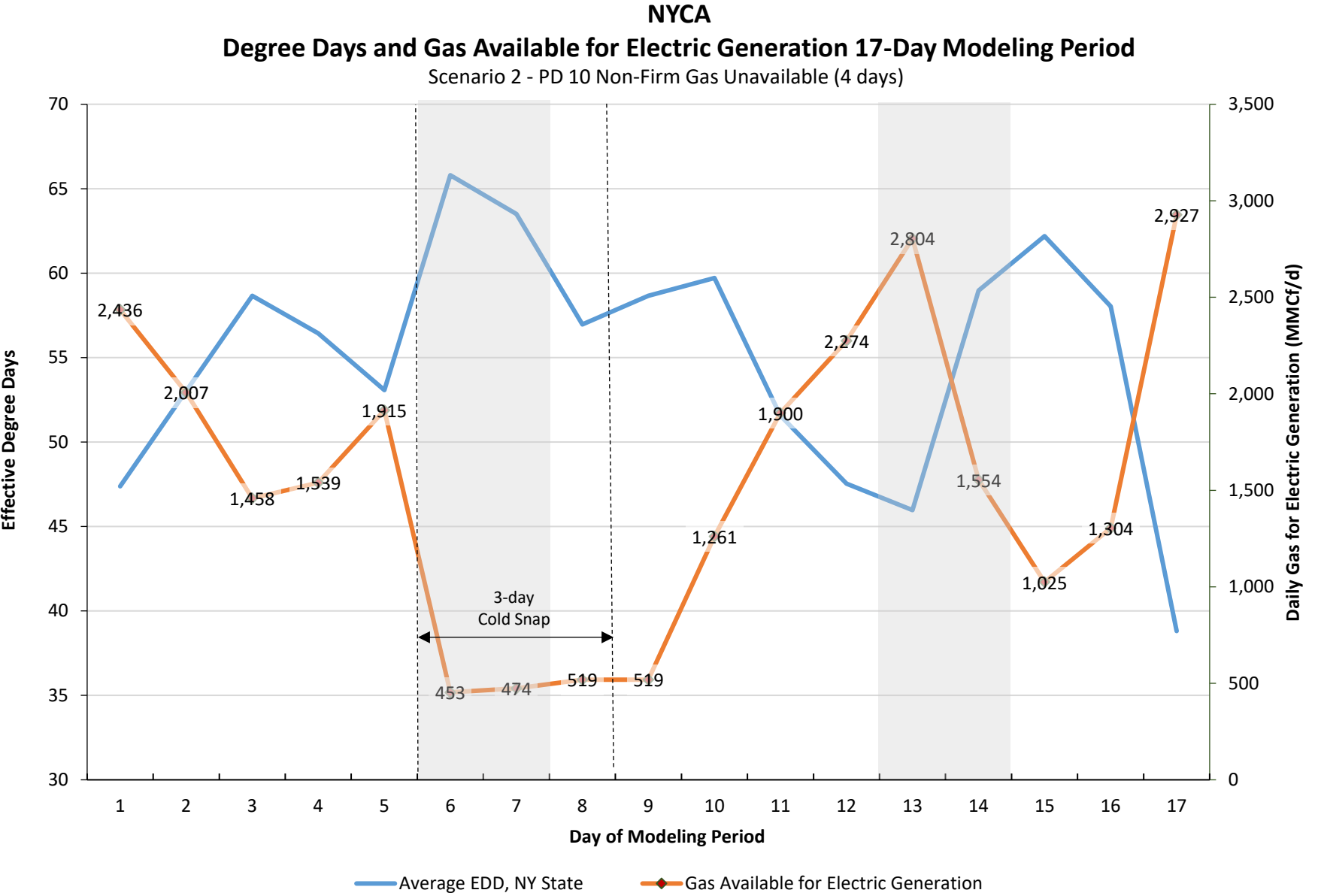




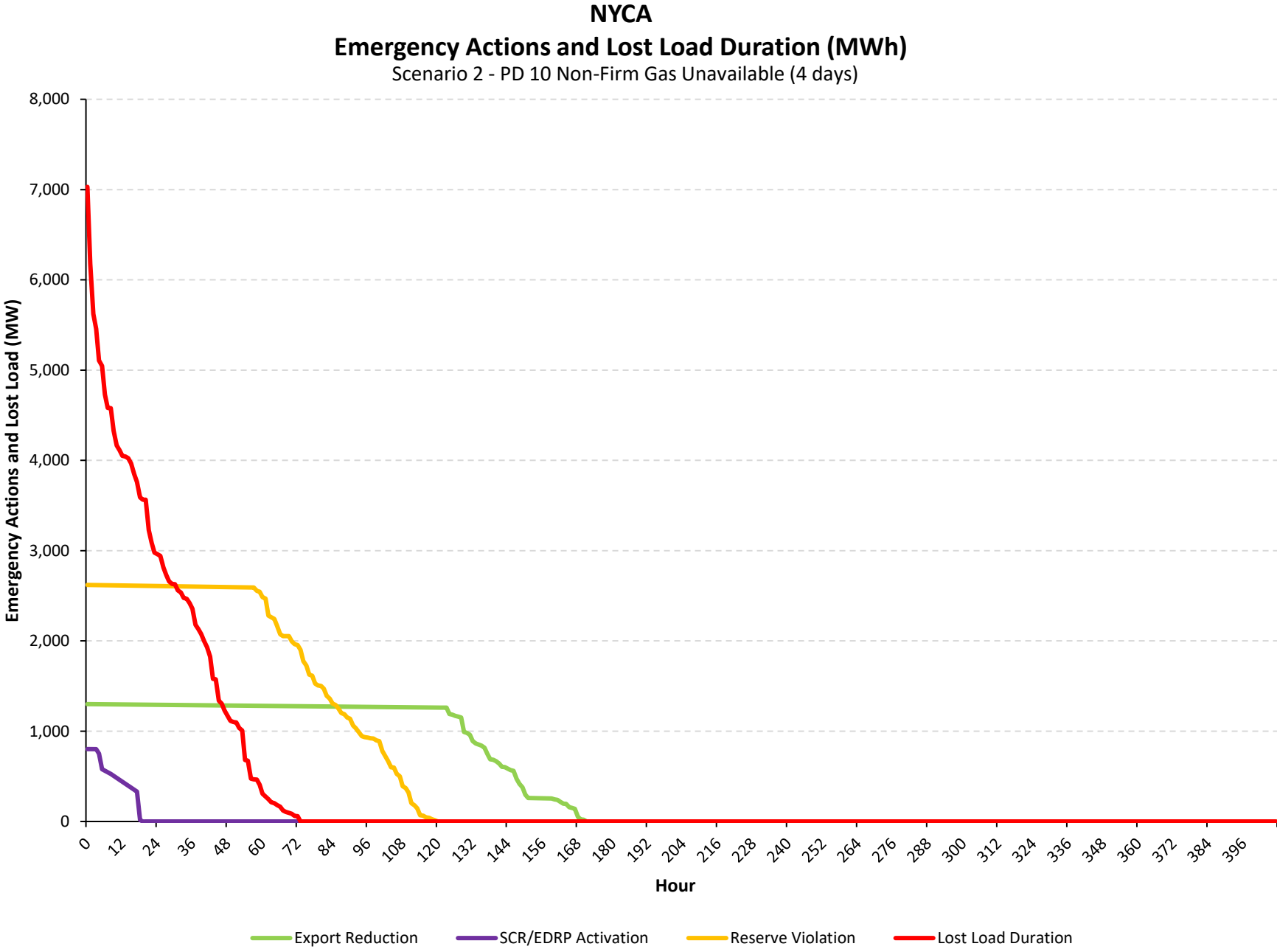
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 2 - PD 10 Non-Firm Gas Unavailable (4 days)

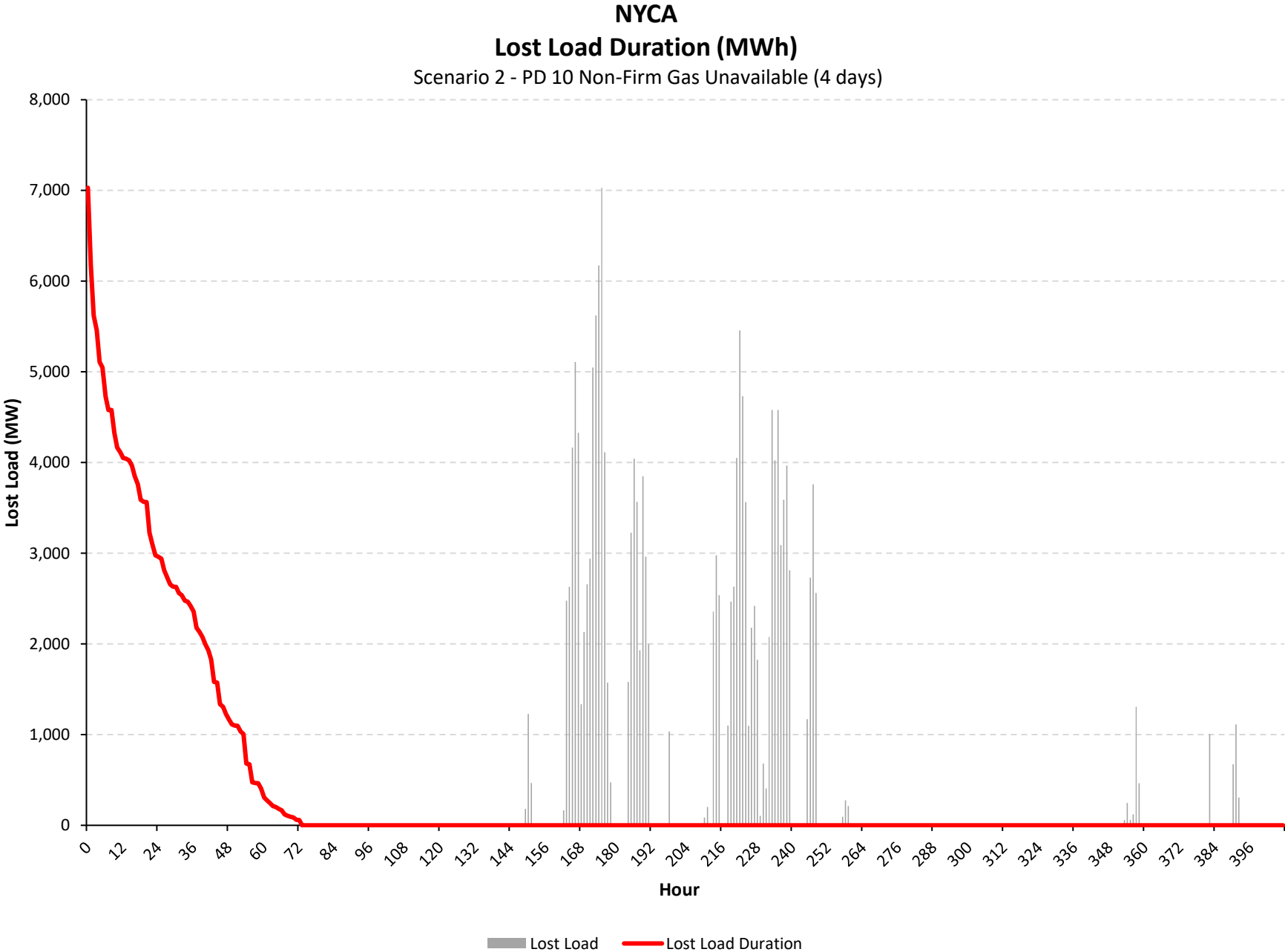






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



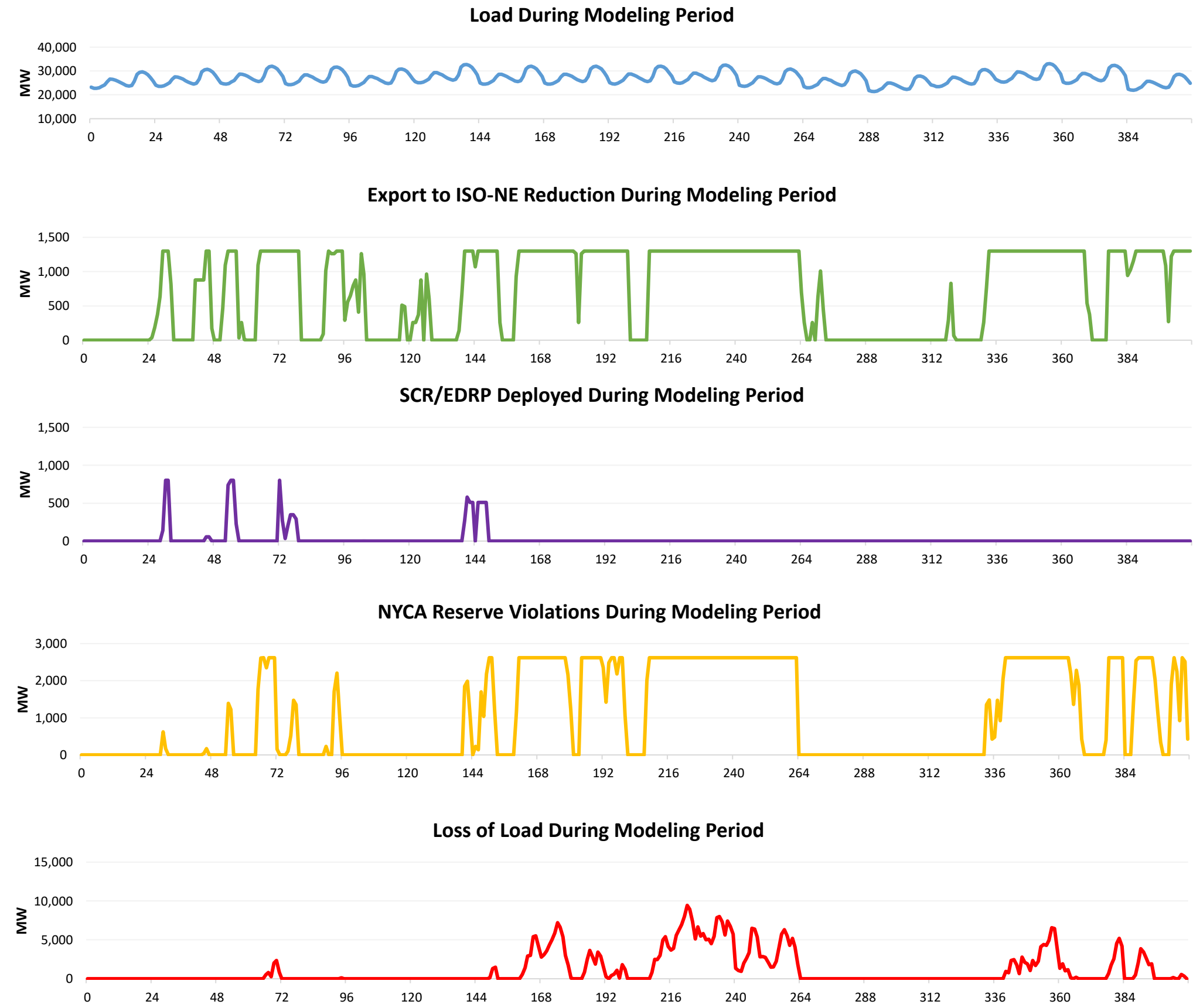


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 2 - PD 11 Combination Disruption (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 2 - PD 11 Combination Disruption



Case Summary	
Derate (EFORD) Increase:	High
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	259
Total MWh	293,958
Avg. MW	720.5

SCR Deployment	
Total Hrs.	24
Total MWh	10,640
Avg. MW	26.1

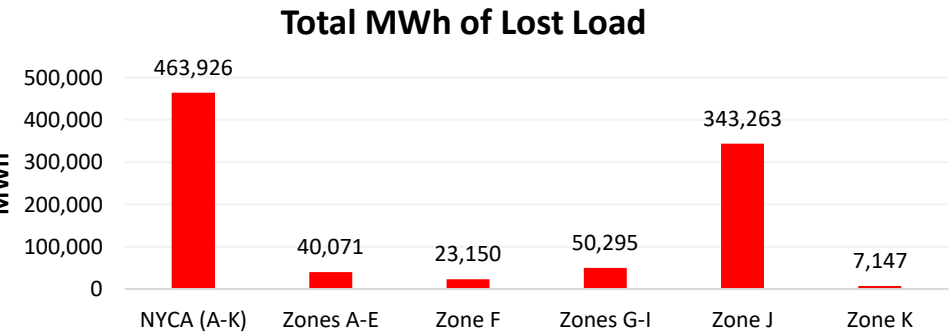
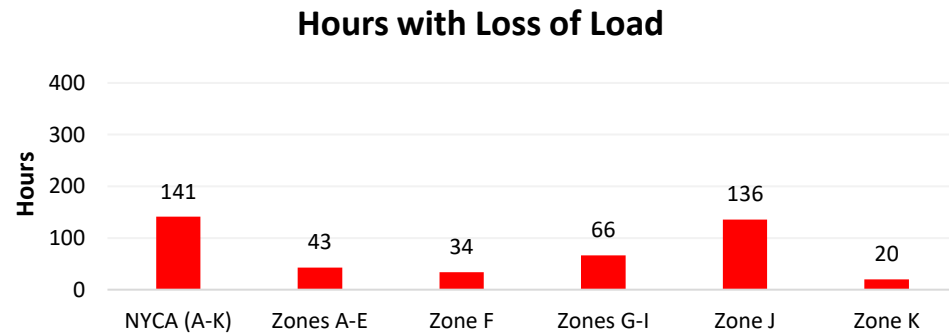
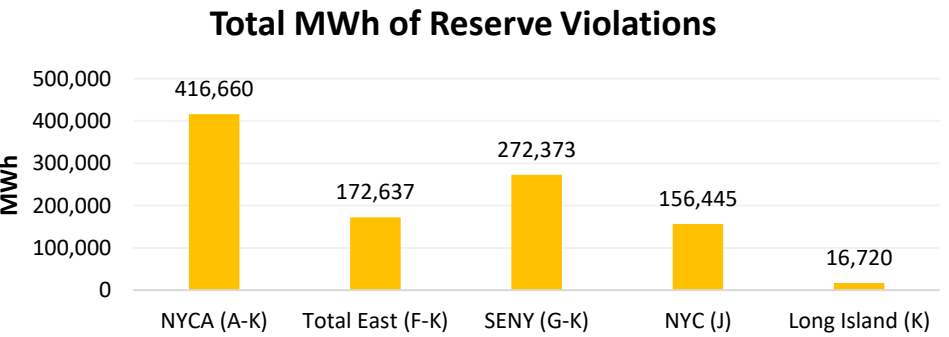
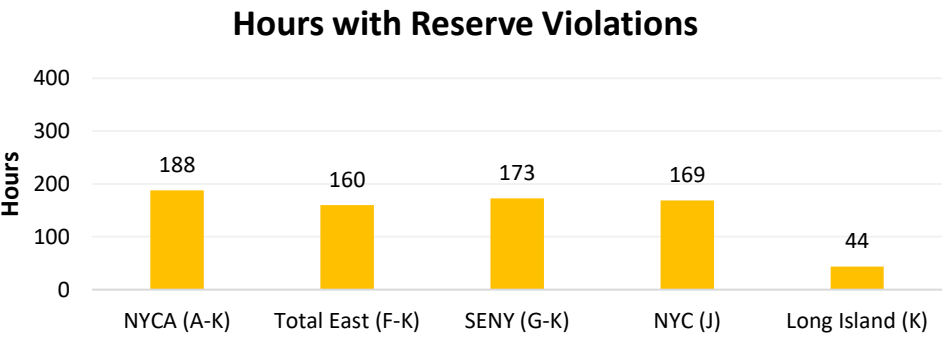
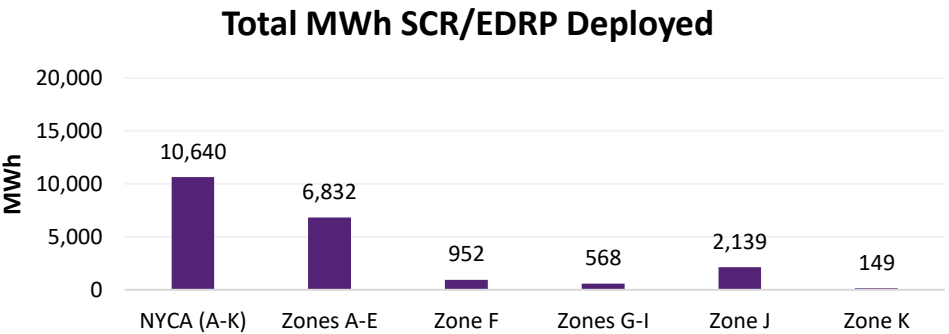
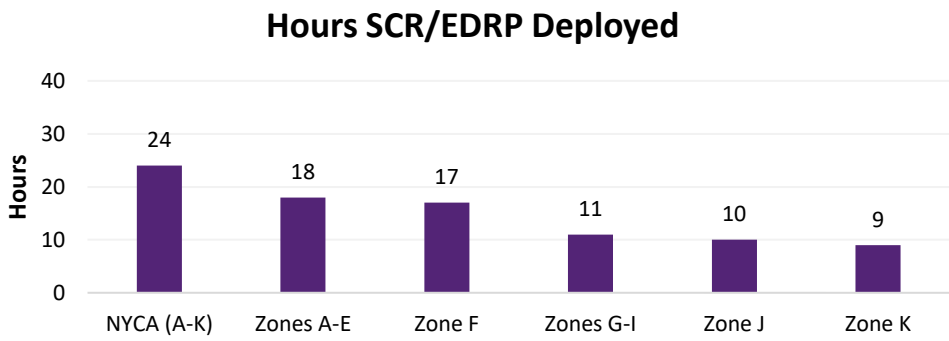
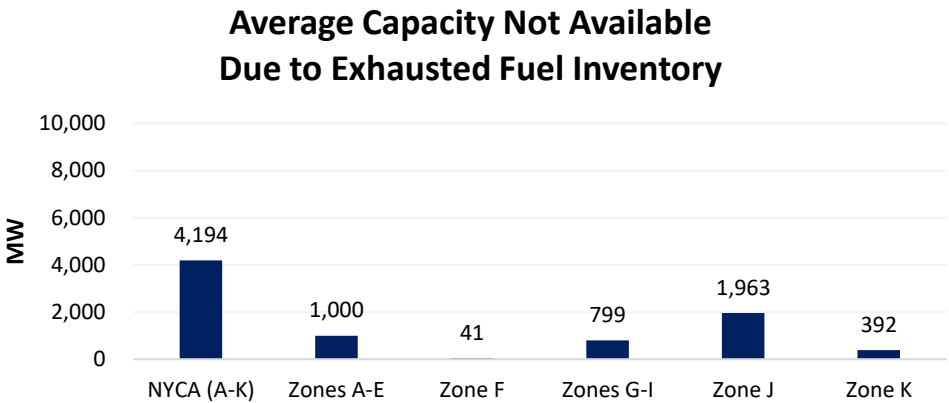
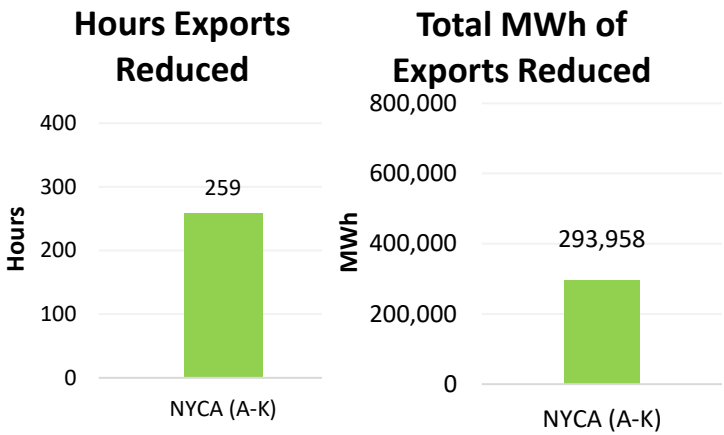
Reserve Violations	
Total Hrs.	188
Total MWh	416,660
Avg. MW	1,021.2
First Hour with Viol.	30

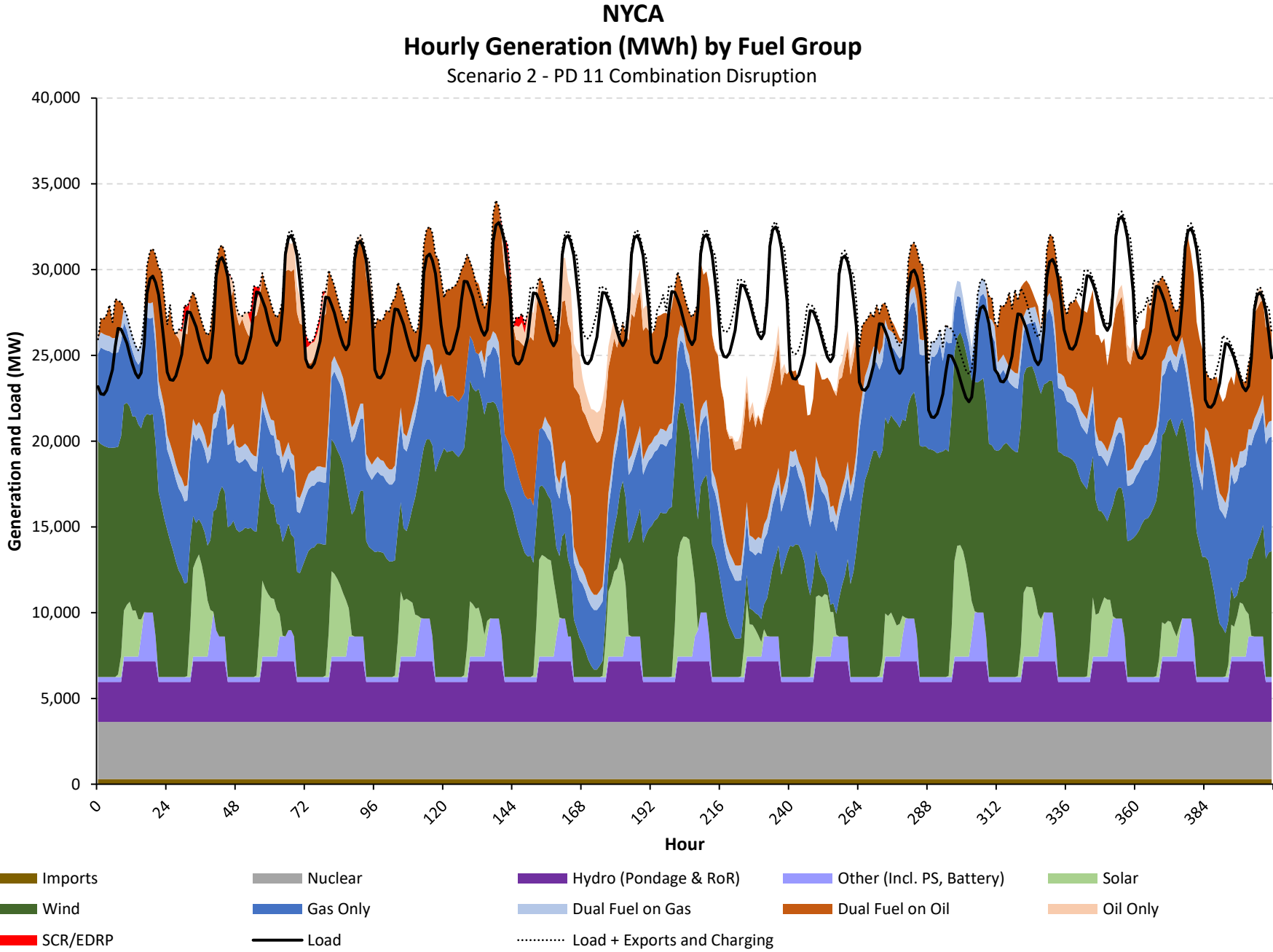
Loss of Load	
Total Hrs.	141
Total MWh	463,926
Avg. MW	1,137.1
First Hour with Losses	66

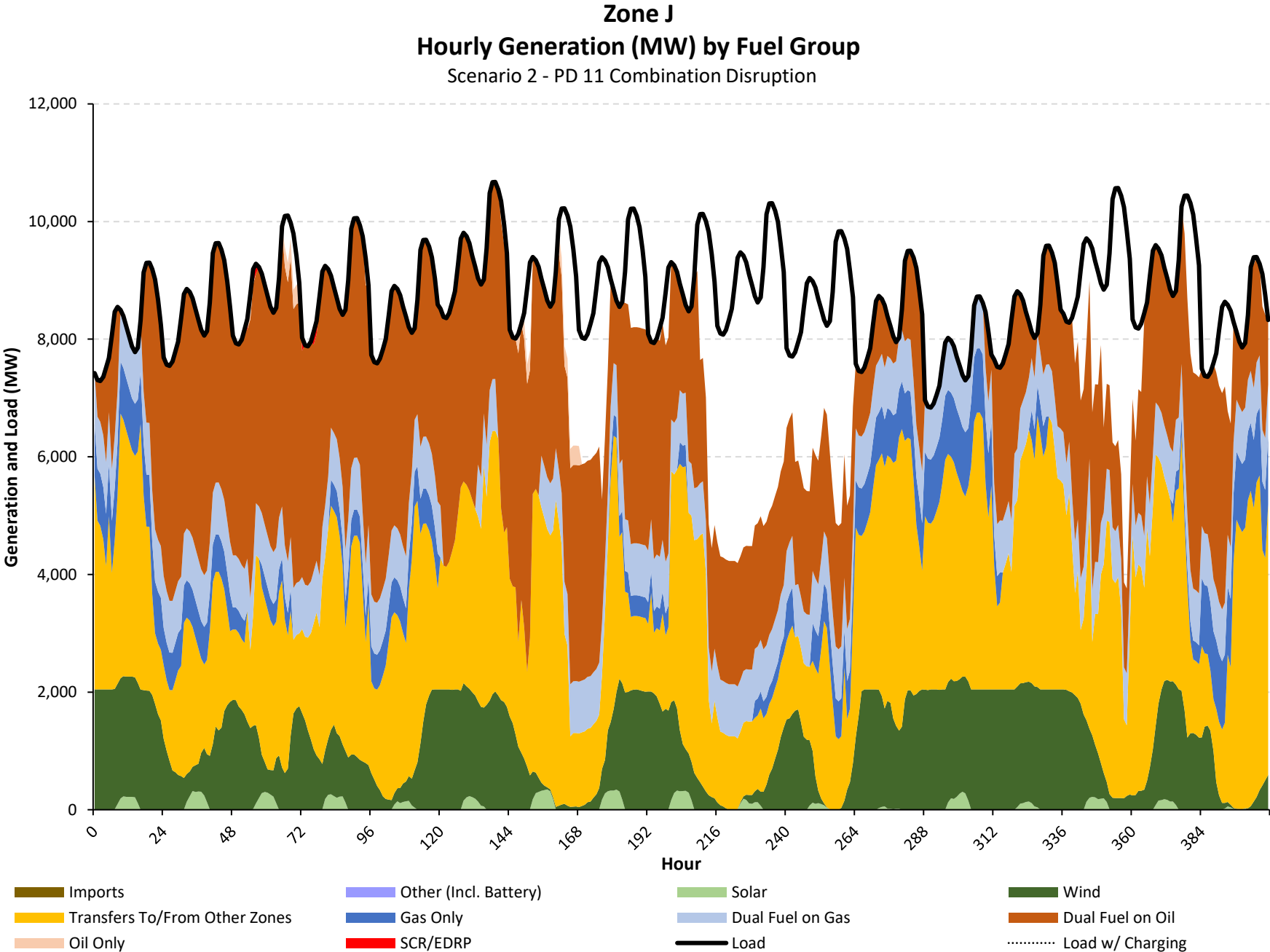
Full Period Results Summary

Case Name: Scenario 2 - PD 11 Combination Disruption

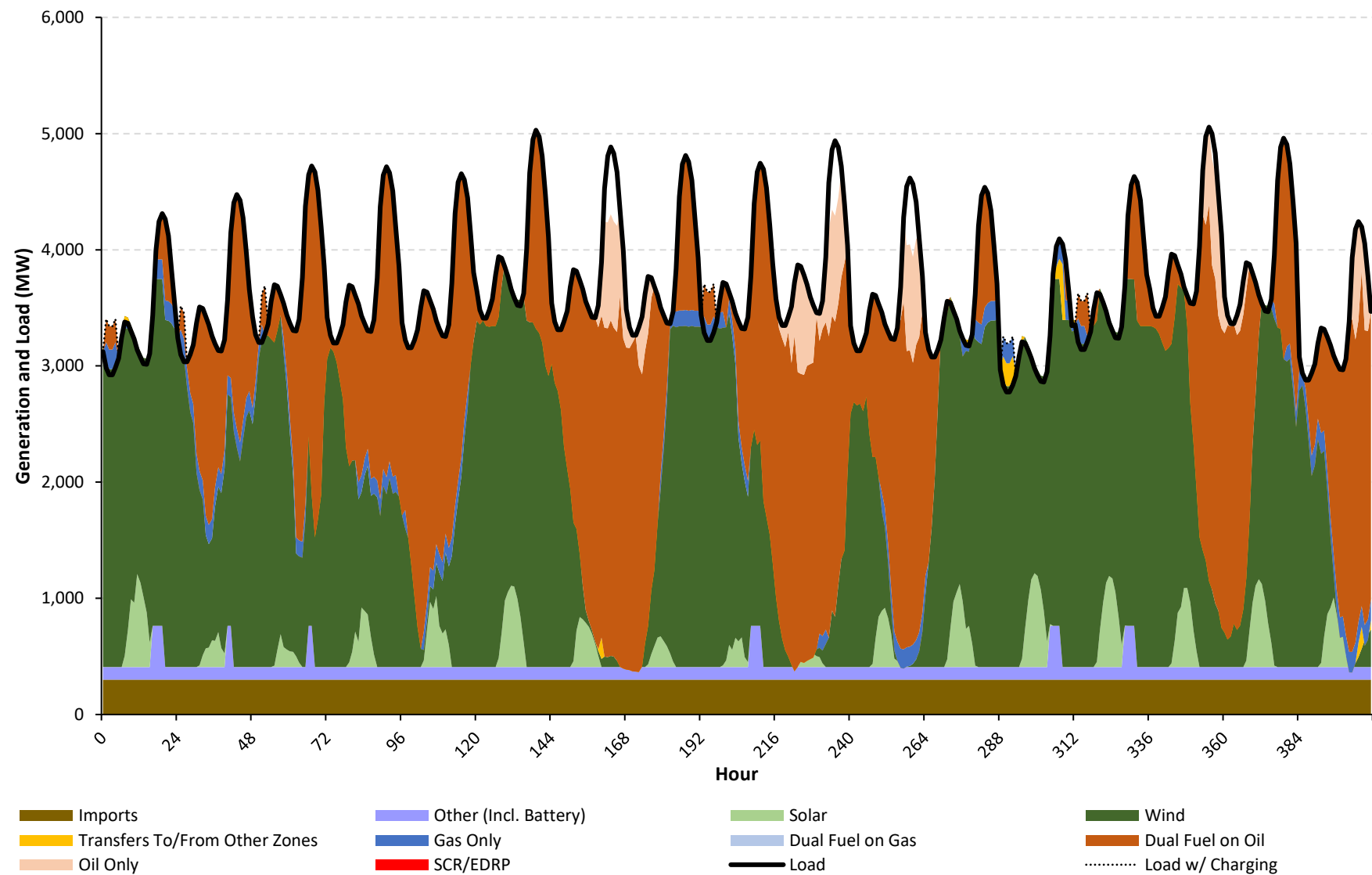
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	Historical
Renewables:	Base Case
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

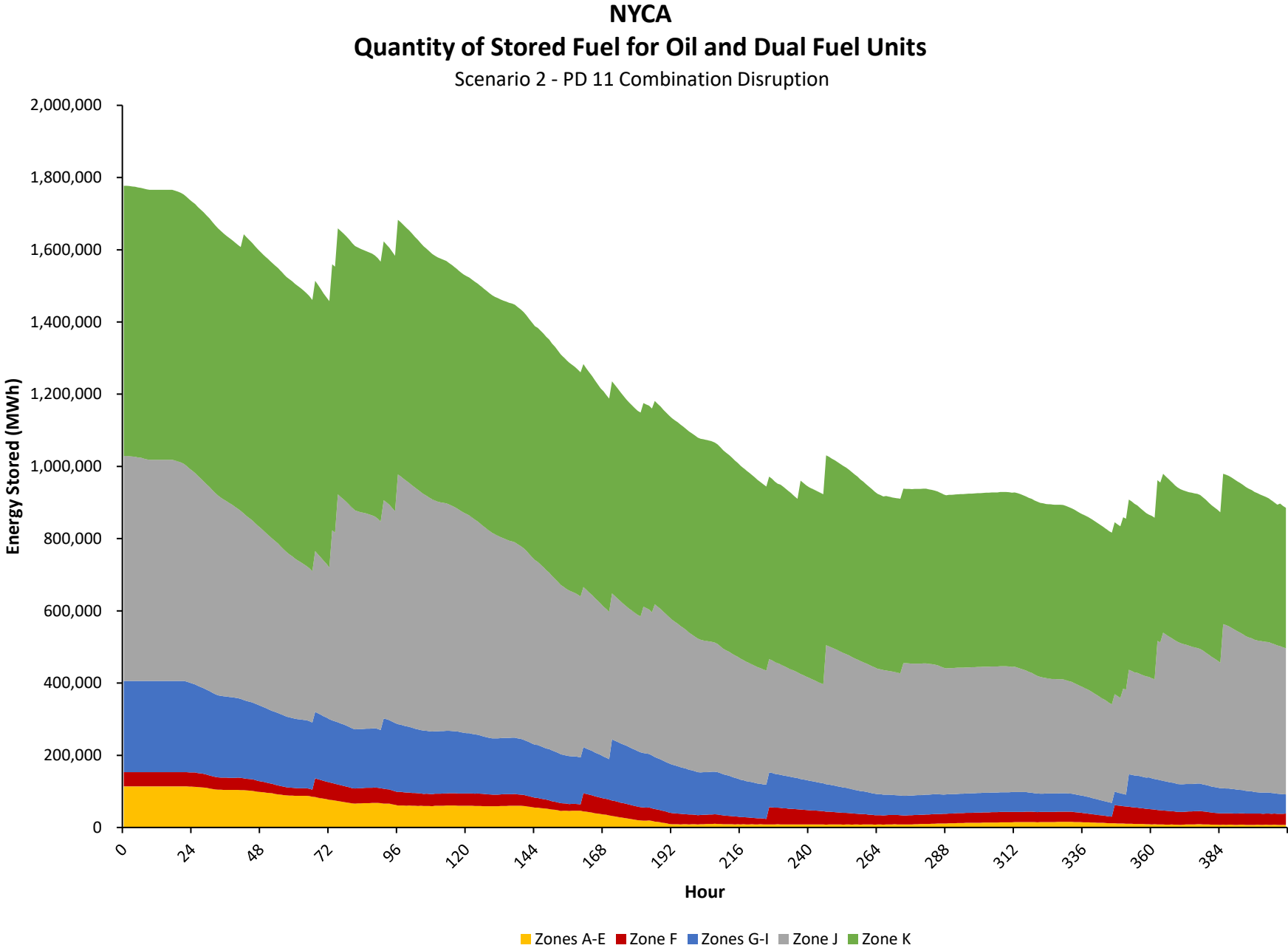


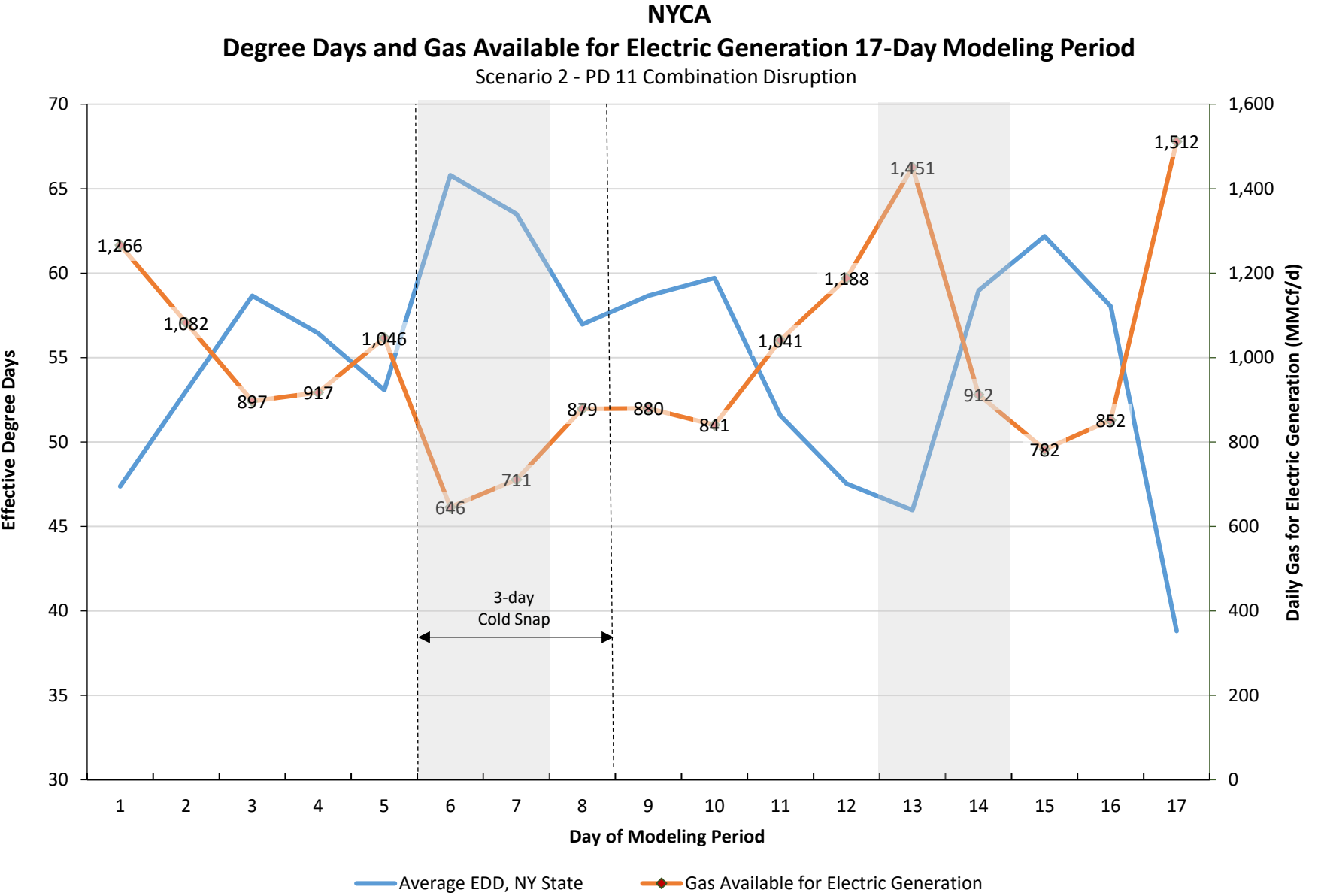




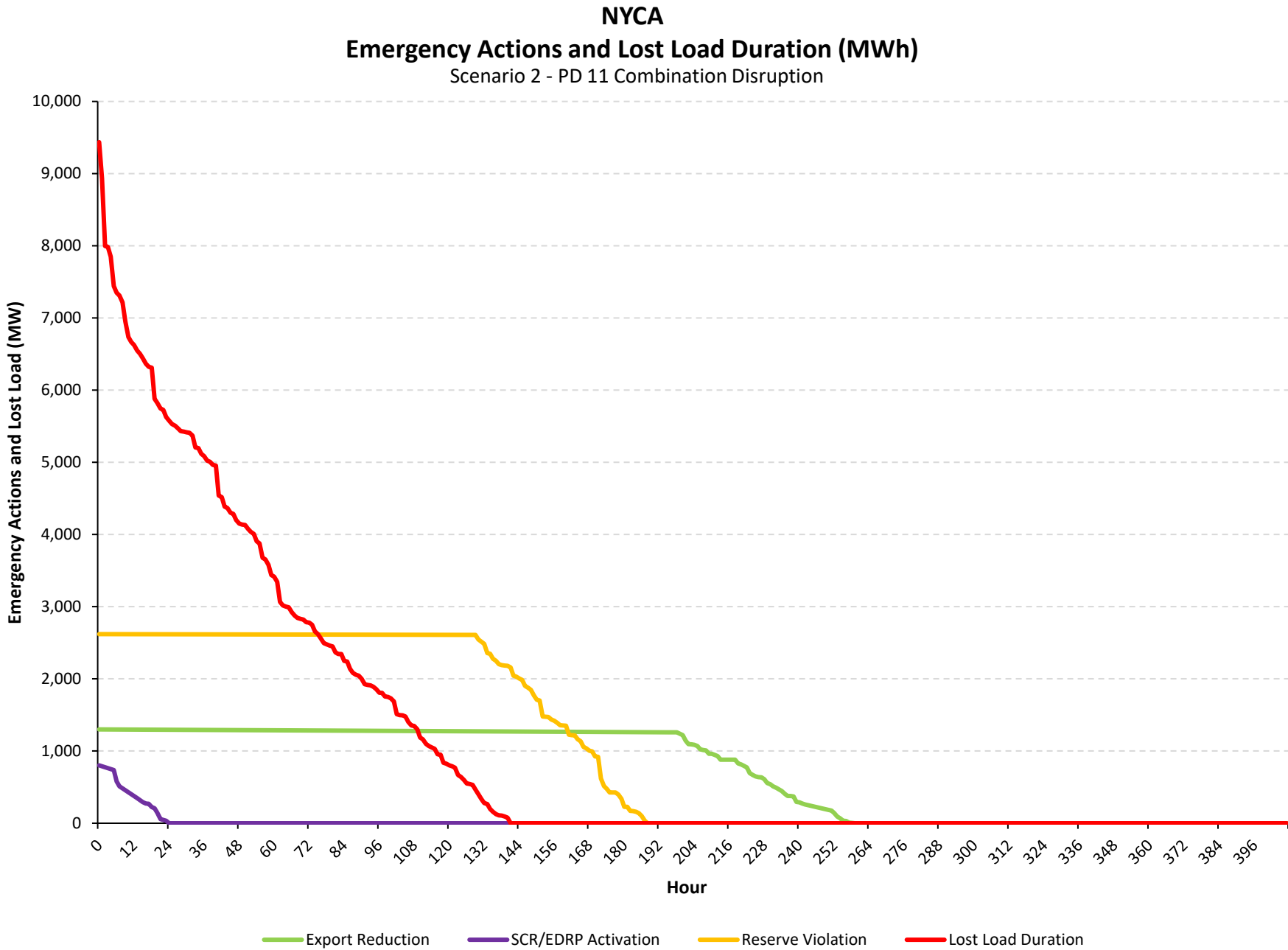
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 2 - PD 11 Combination Disruption

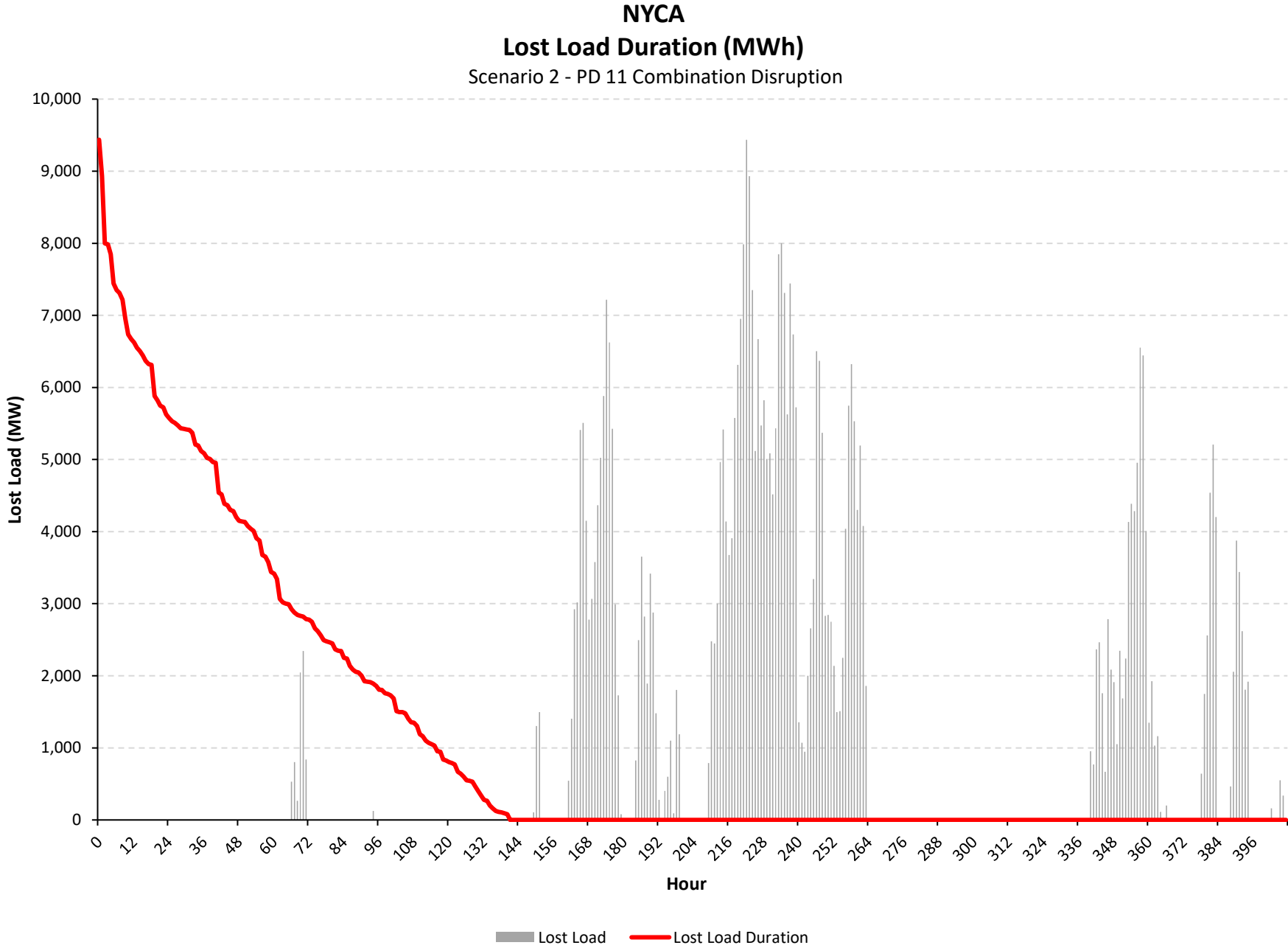






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



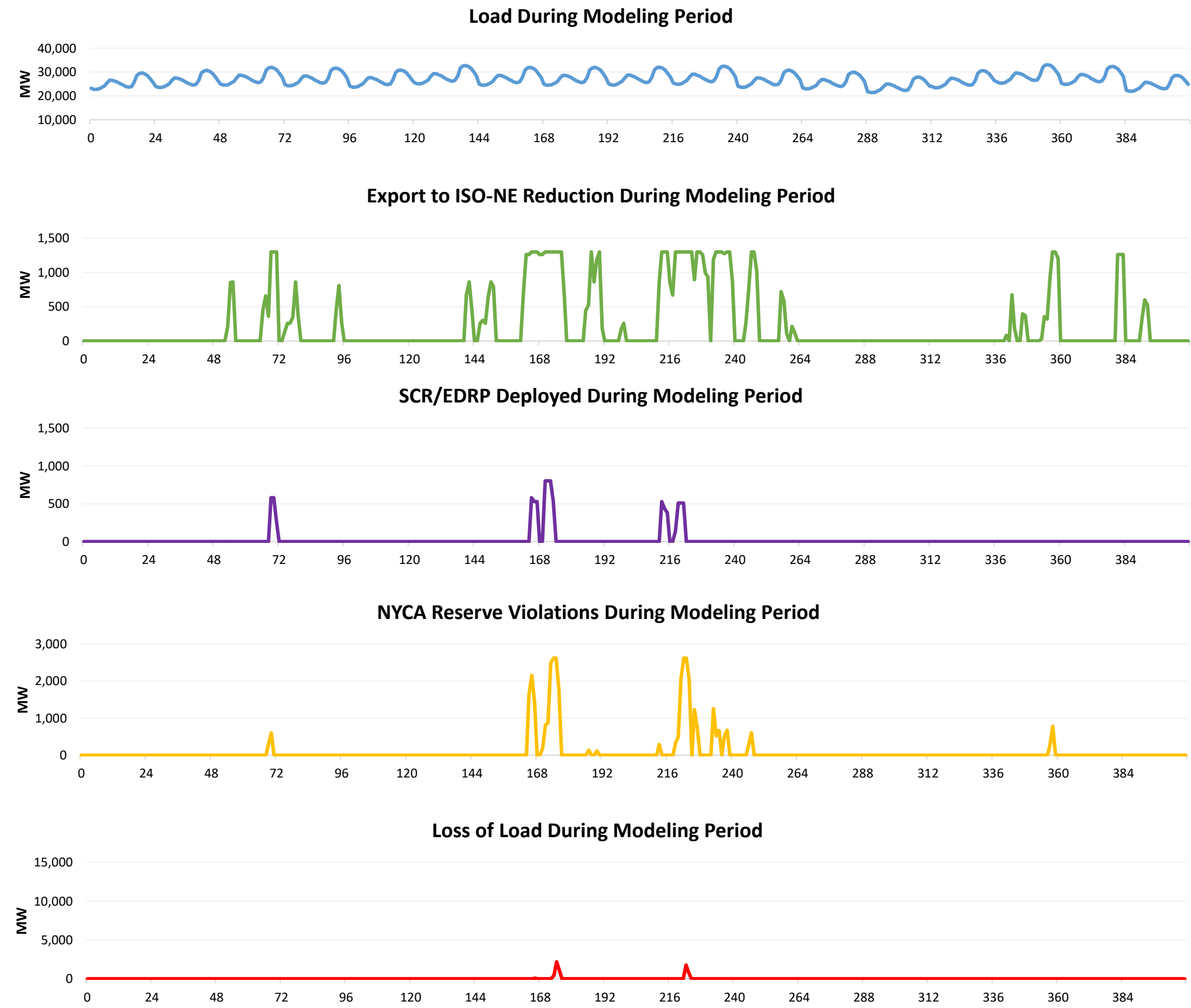


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 3 - PD 1 No Disruptions (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 3 - PD 1 No Disruptions



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	107
Total MWh	92,453
Avg. MW	226.6

SCR Deployment	
Total Hrs.	17
Total MWh	8,982
Avg. MW	22.0

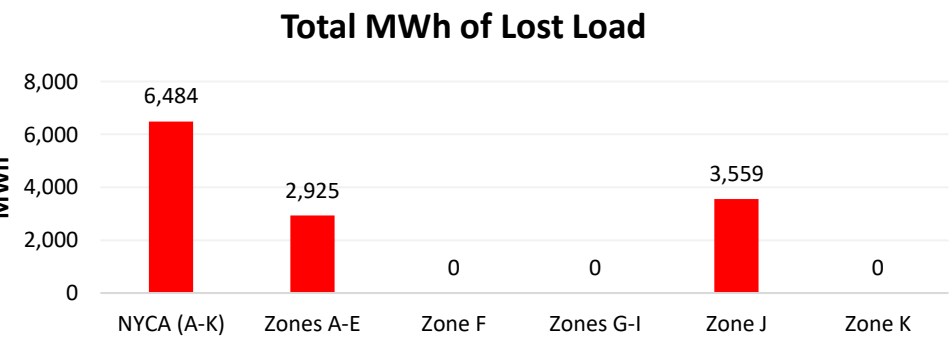
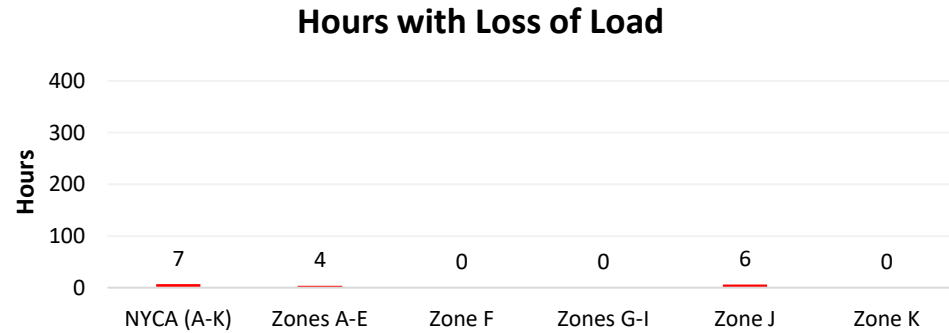
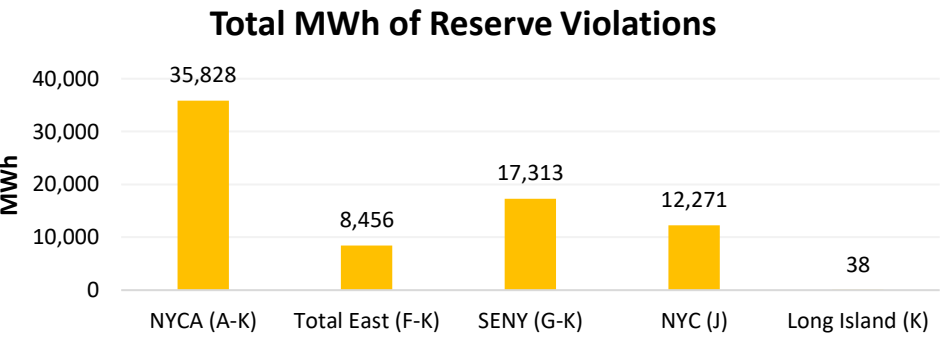
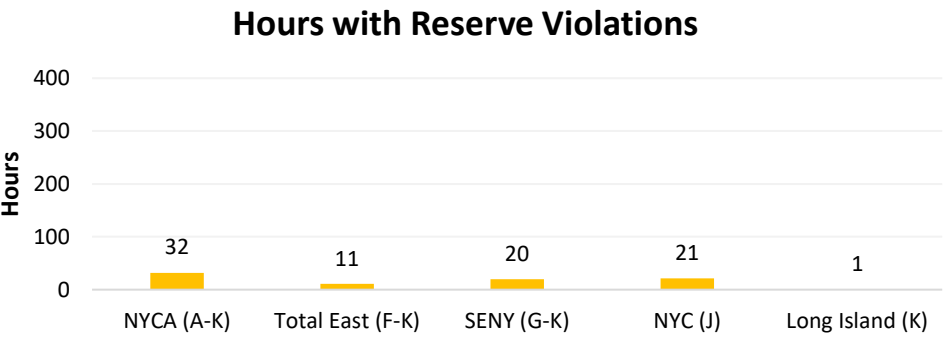
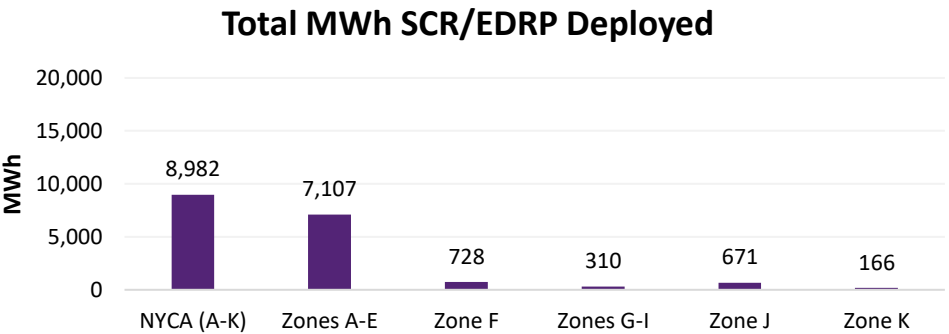
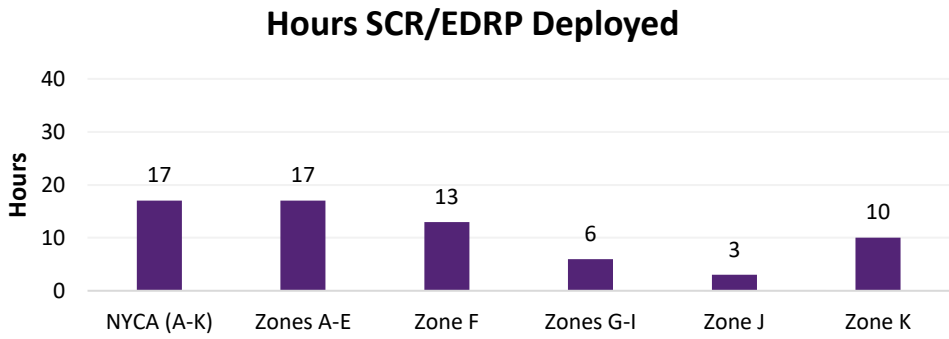
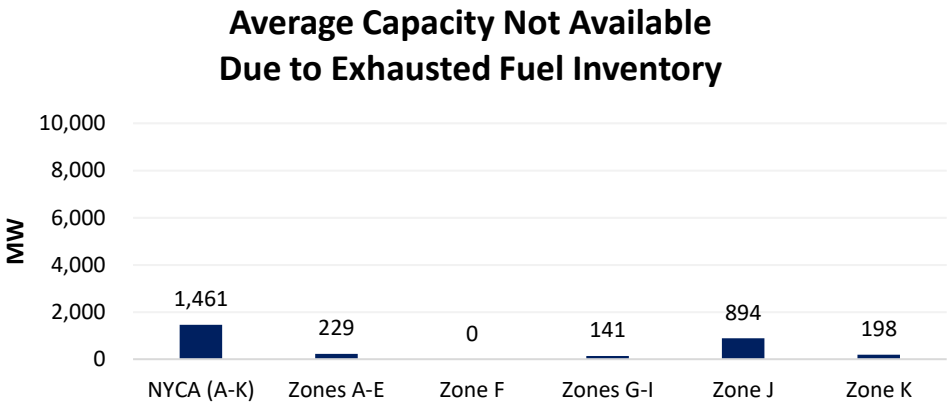
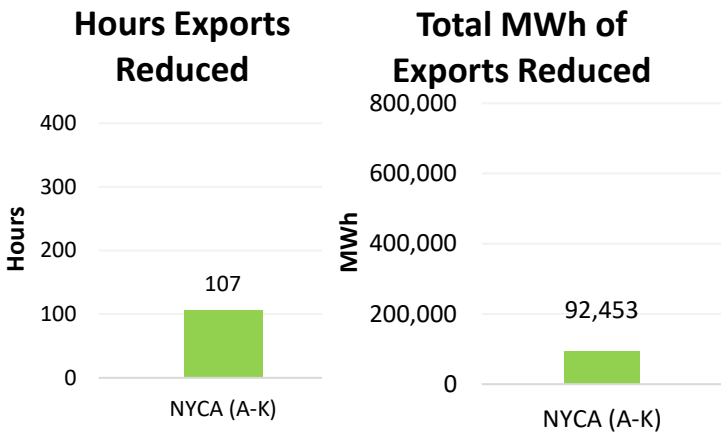
Reserve Violations	
Total Hrs.	32
Total MWh	35,828
Avg. MW	87.8
First Hour with Viol.	69

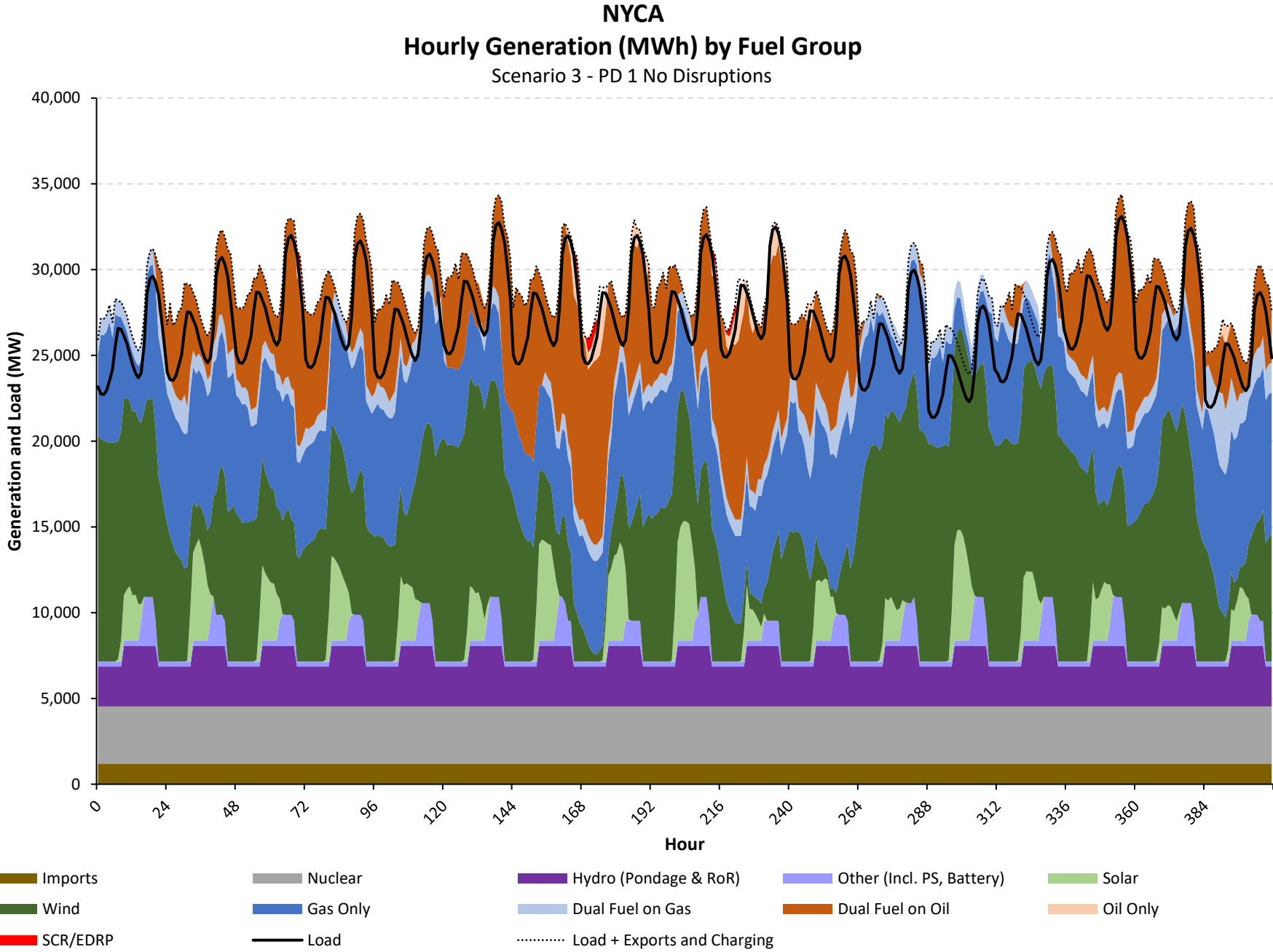
Loss of Load	
Total Hrs.	7
Total MWh	6,484
Avg. MW	15.9
First Hour with Losses	166

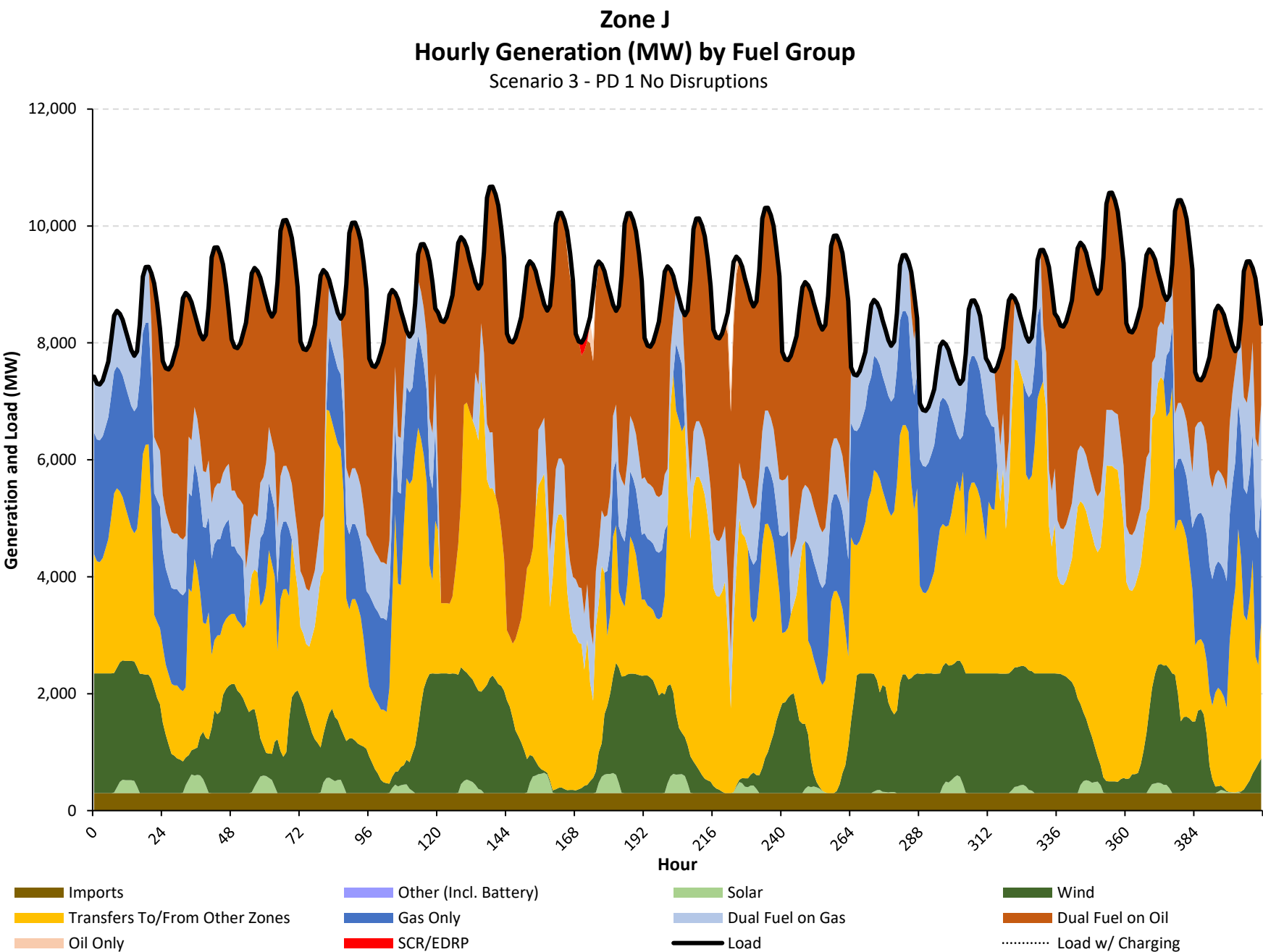
Full Period Results Summary

Case Name: Scenario 3 - PD 1 No Disruptions

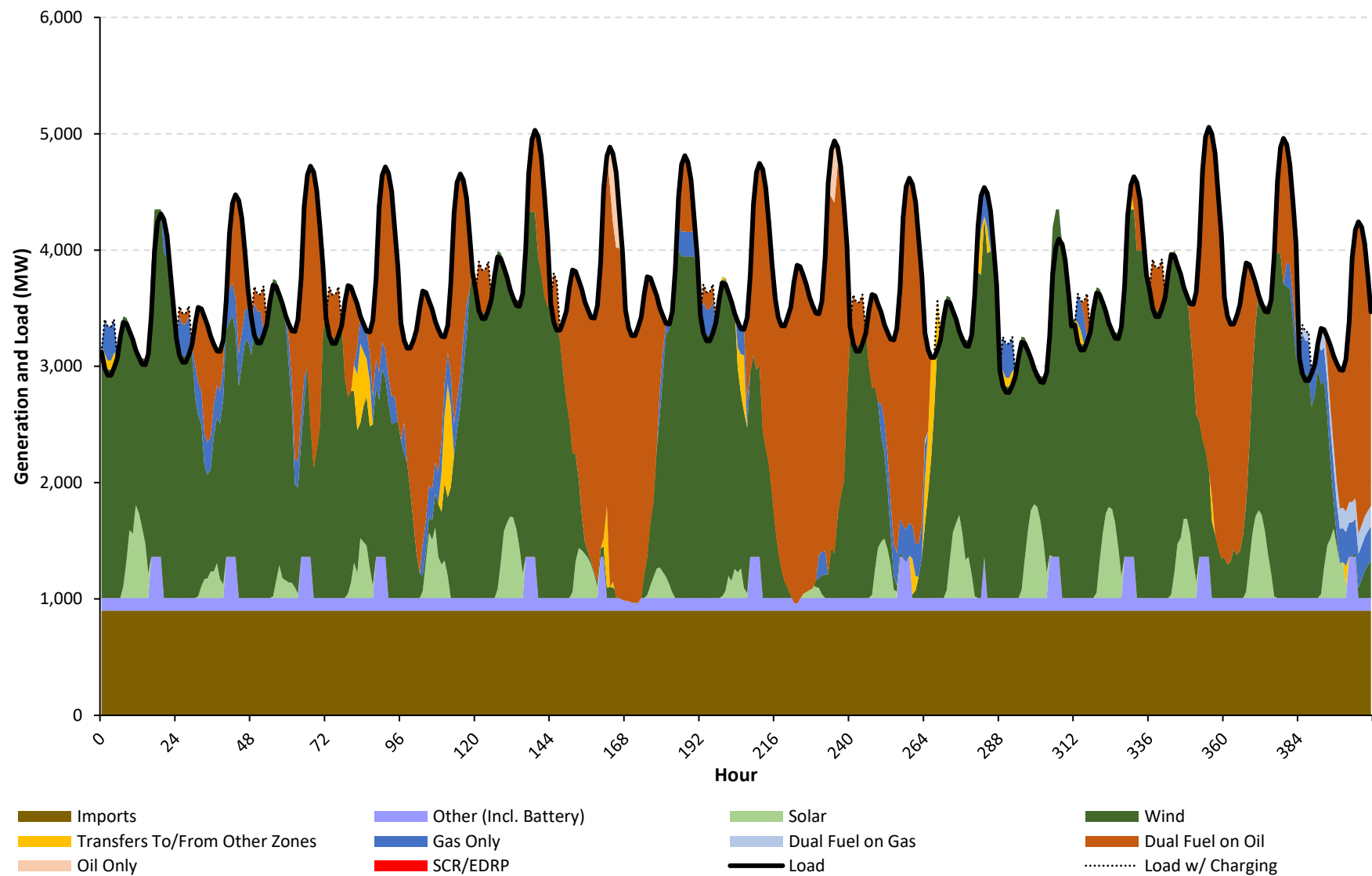
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All



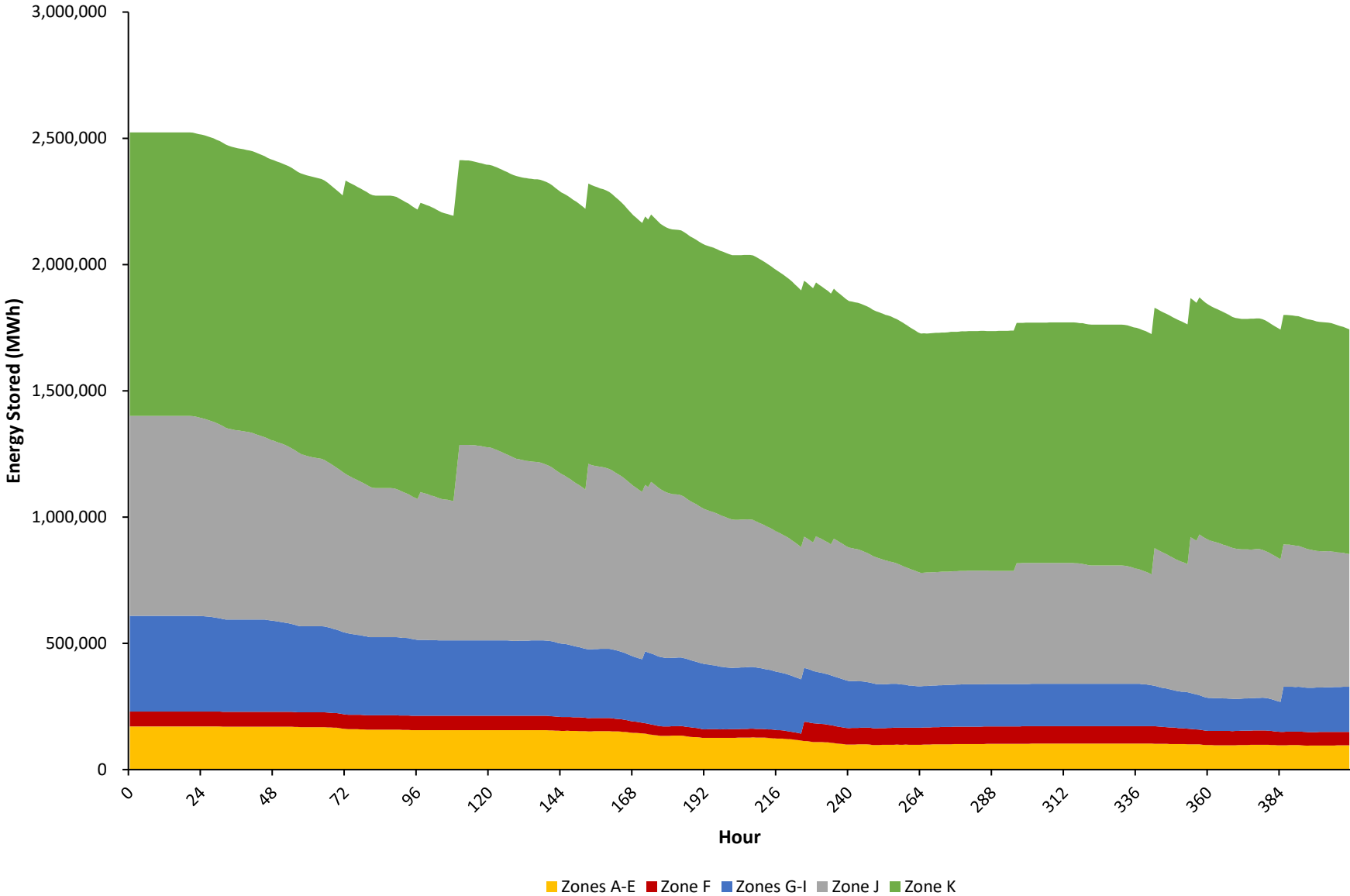


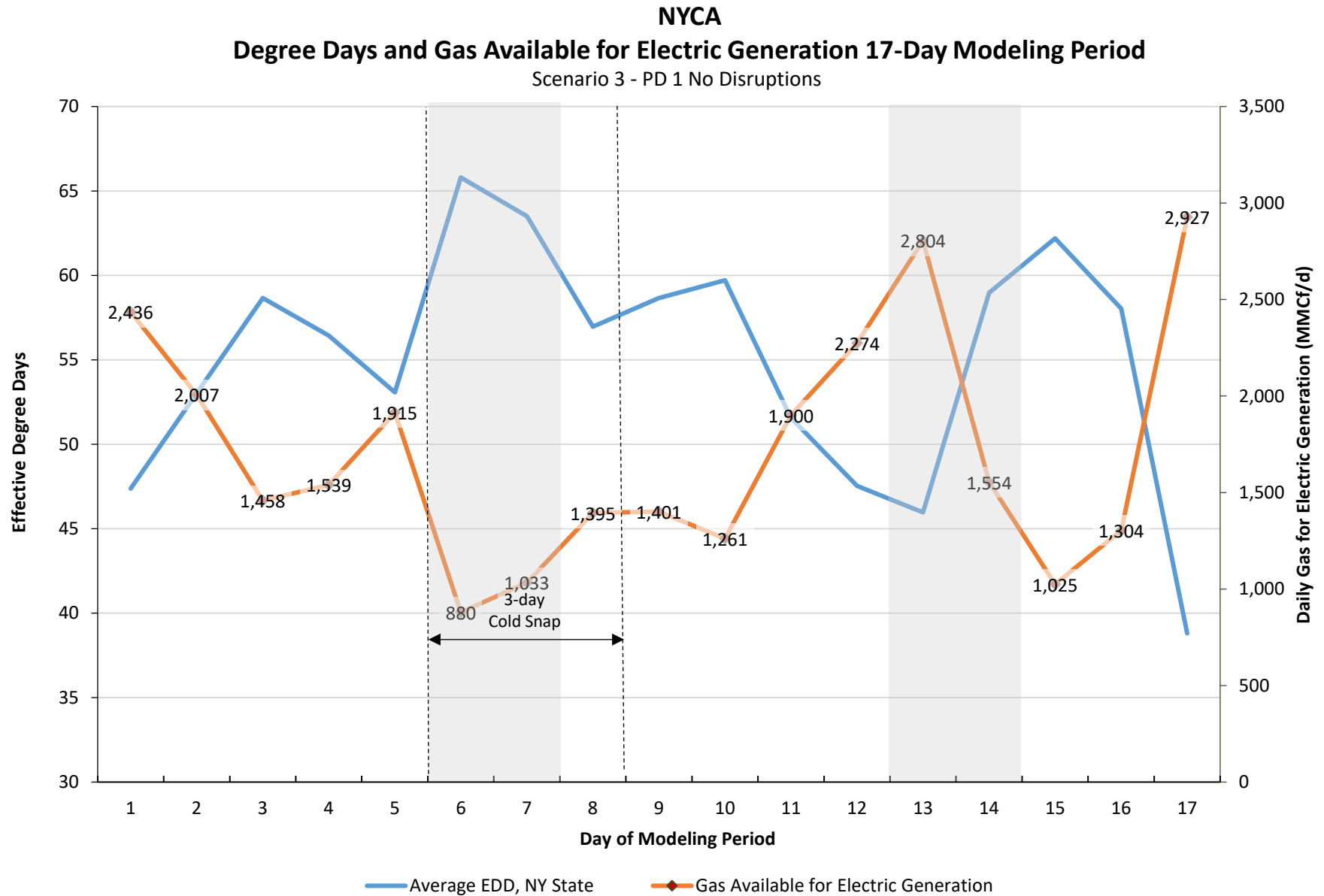


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 3 - PD 1 No Disruptions



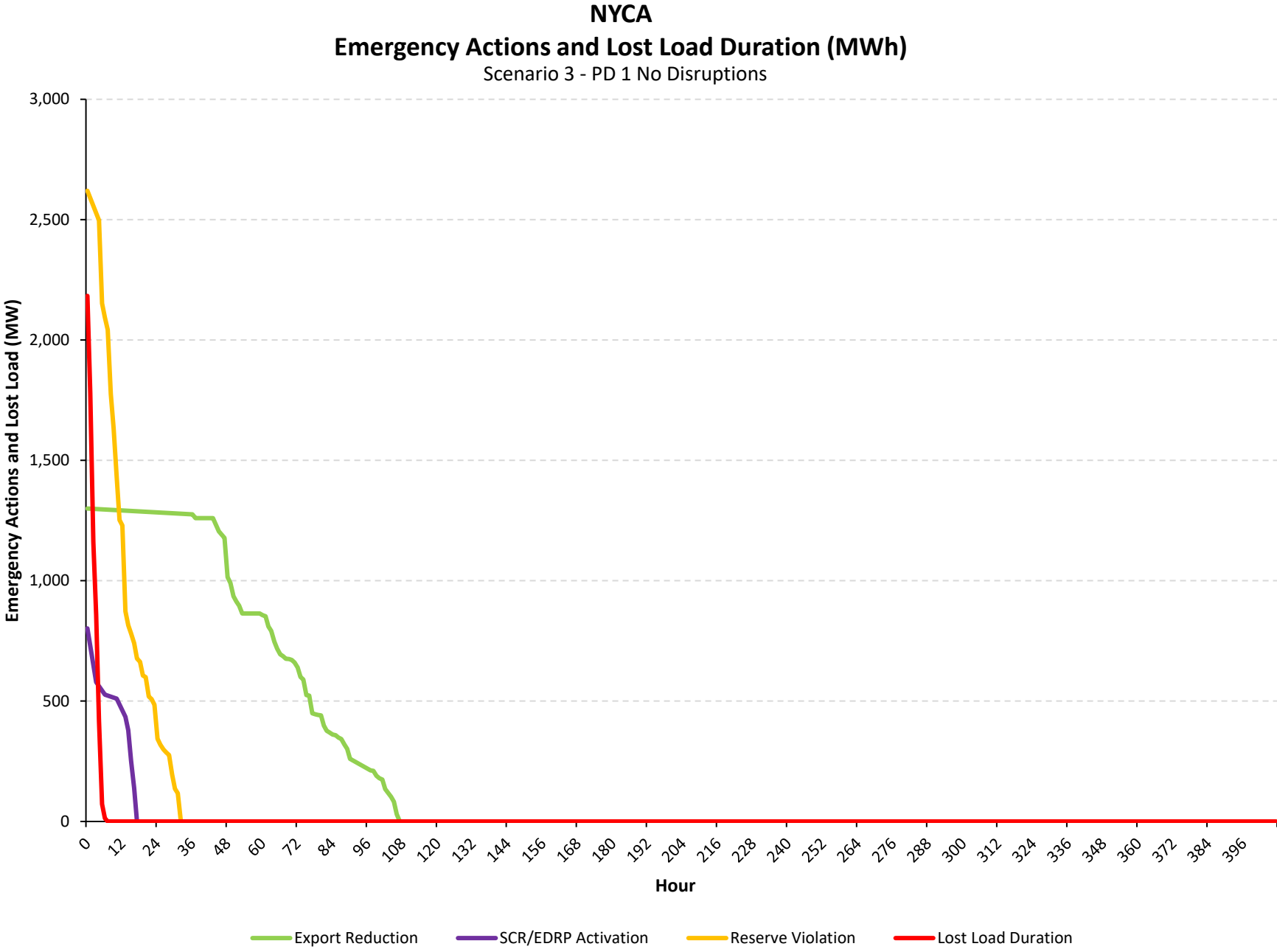
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 3 - PD 1 No Disruptions

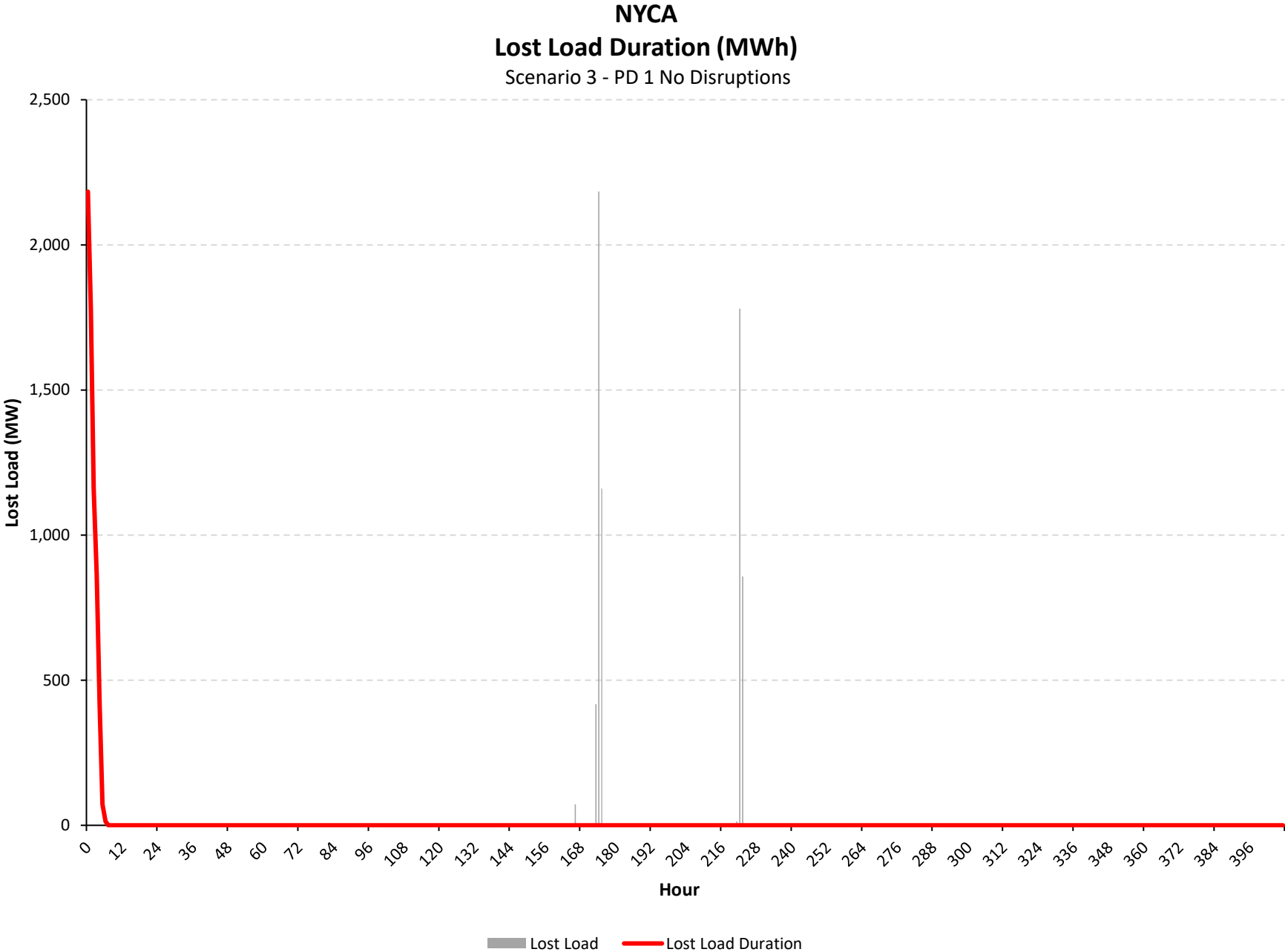




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



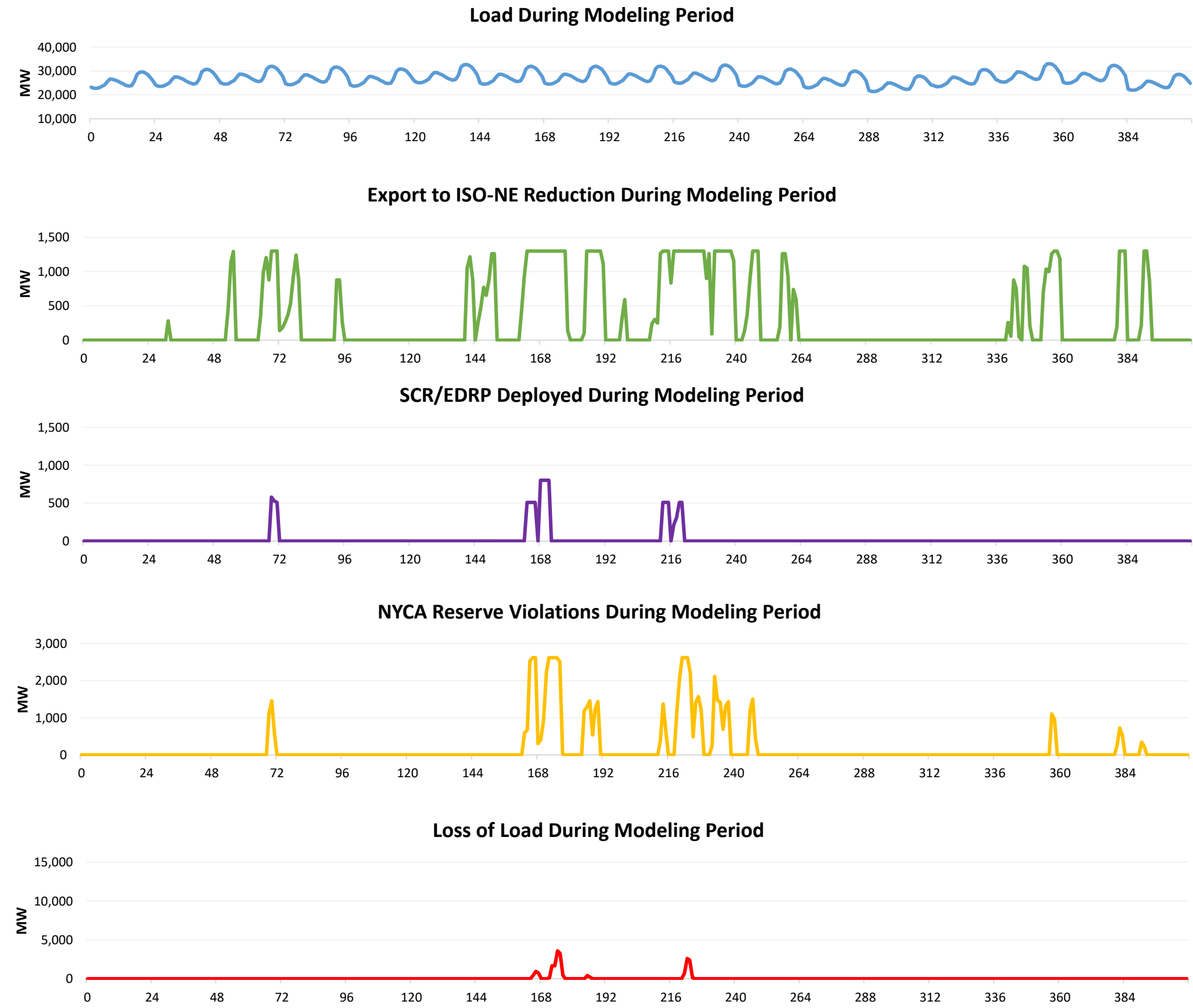


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 3 - PD 2 High Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 3 - PD 2 High Outage



Case Summary	
Derate (EFORD) Increase:	High
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	126
Total MWh	121,776
Avg. MW	298.5

SCR Deployment	
Total Hrs.	18
Total MWh	9,939
Avg. MW	24.4

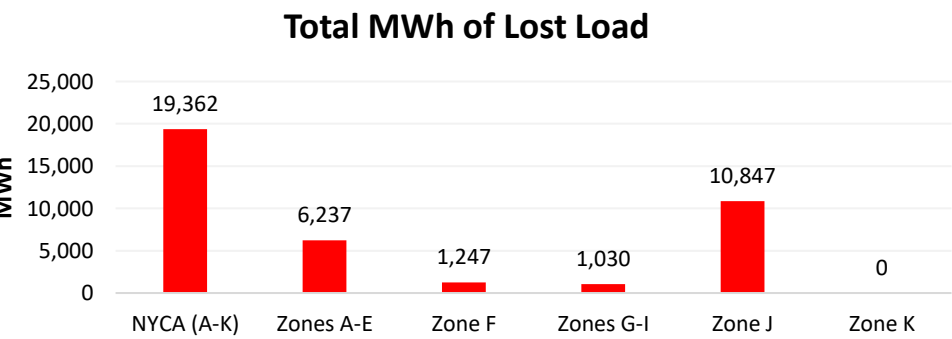
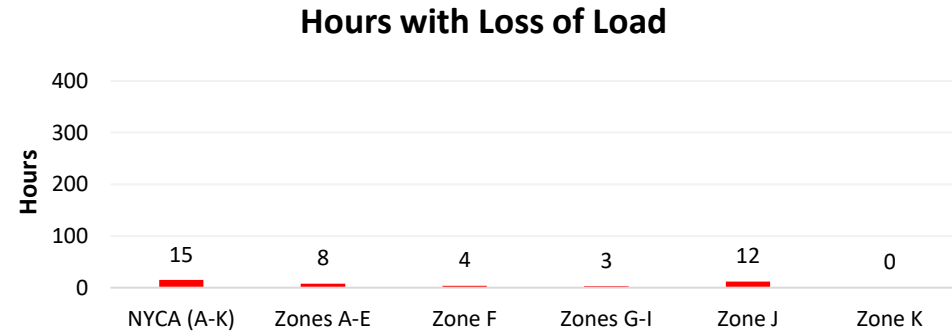
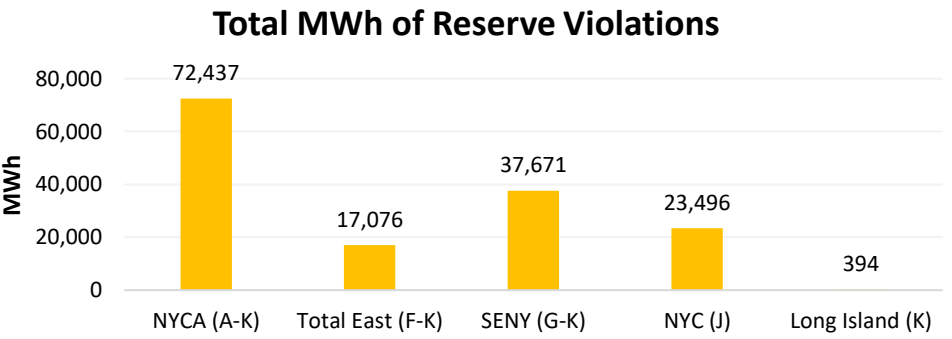
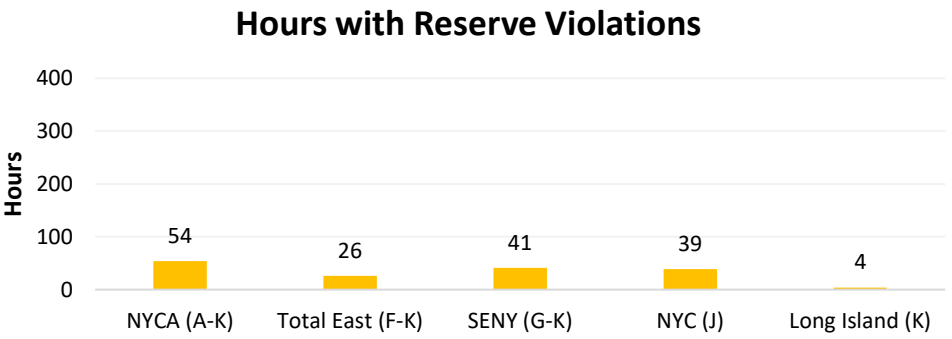
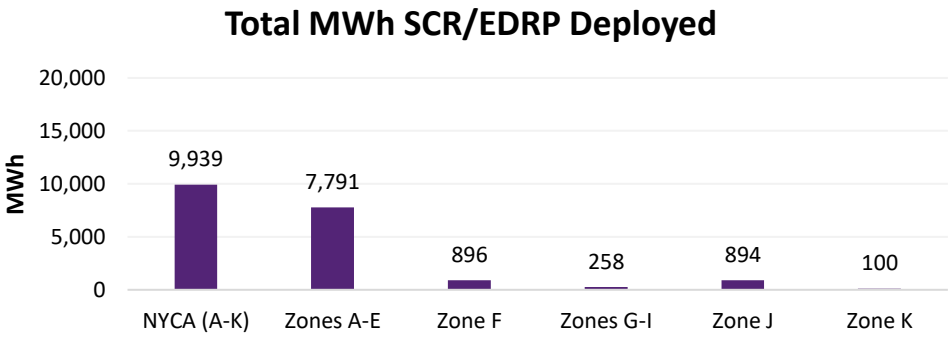
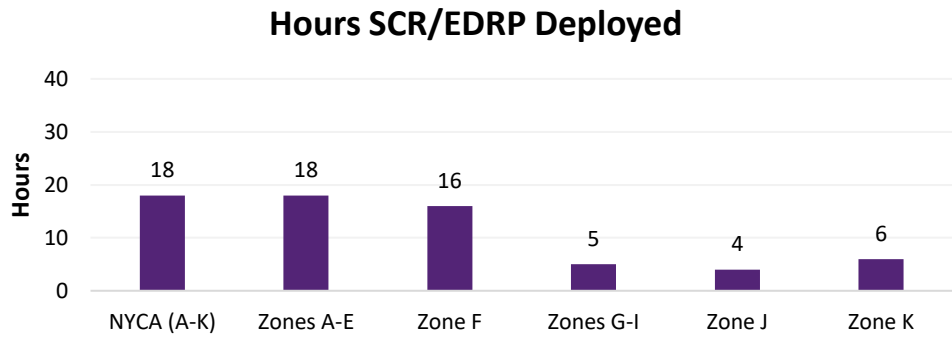
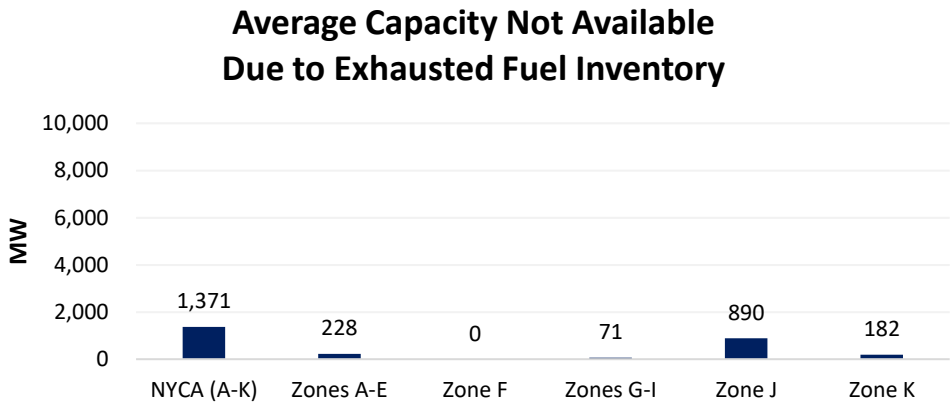
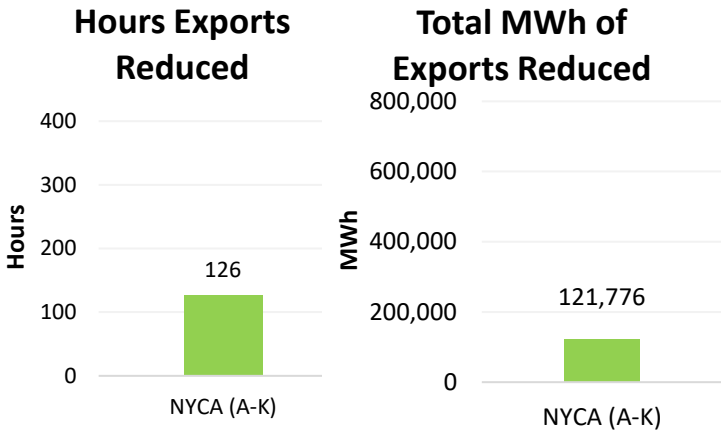
Reserve Violations	
Total Hrs.	54
Total MWh	72,437
Avg. MW	177.5
First Hour with Viol.	69

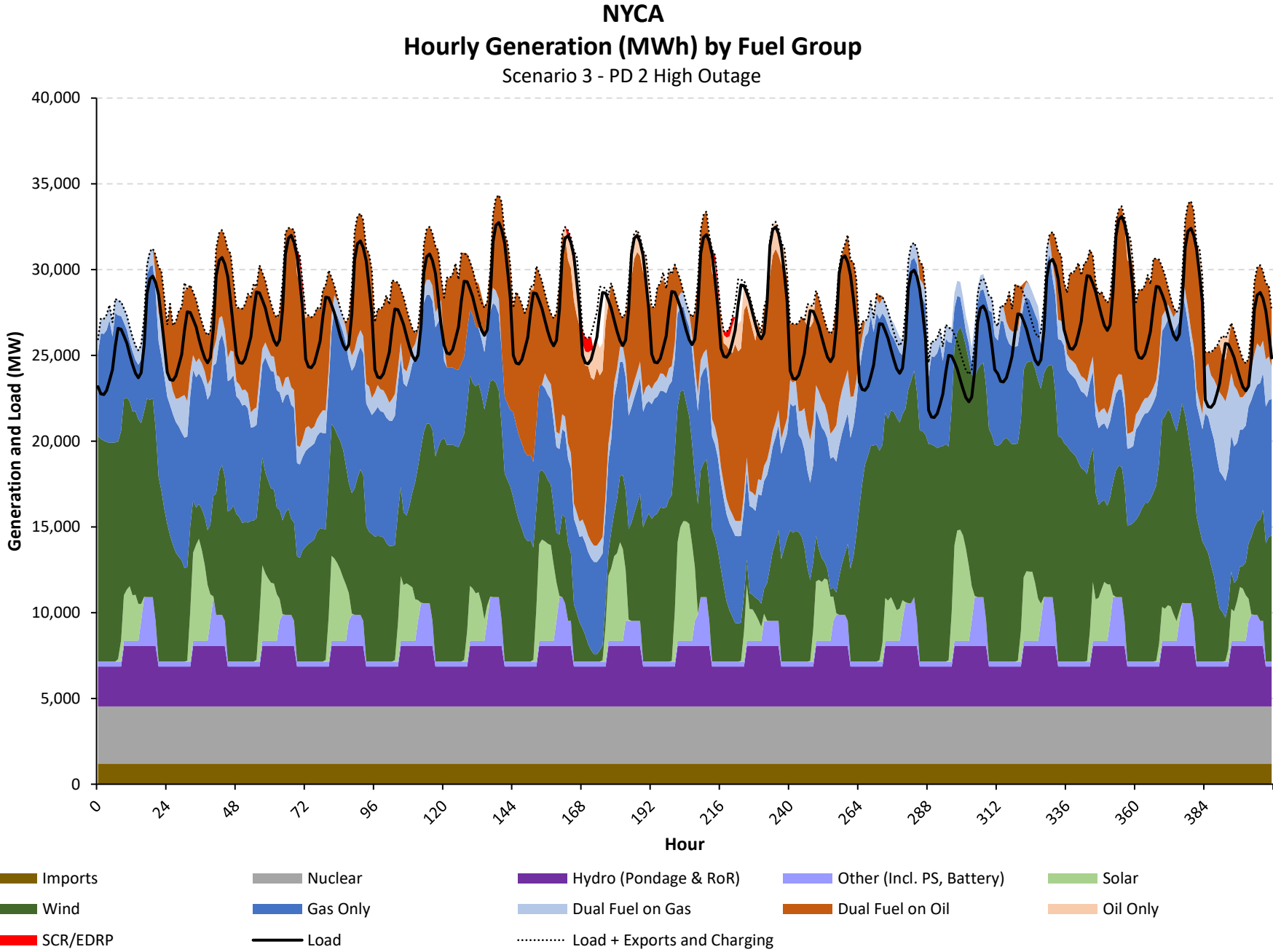
Loss of Load	
Total Hrs.	15
Total MWh	19,362
Avg. MW	47.5
First Hour with Losses	165

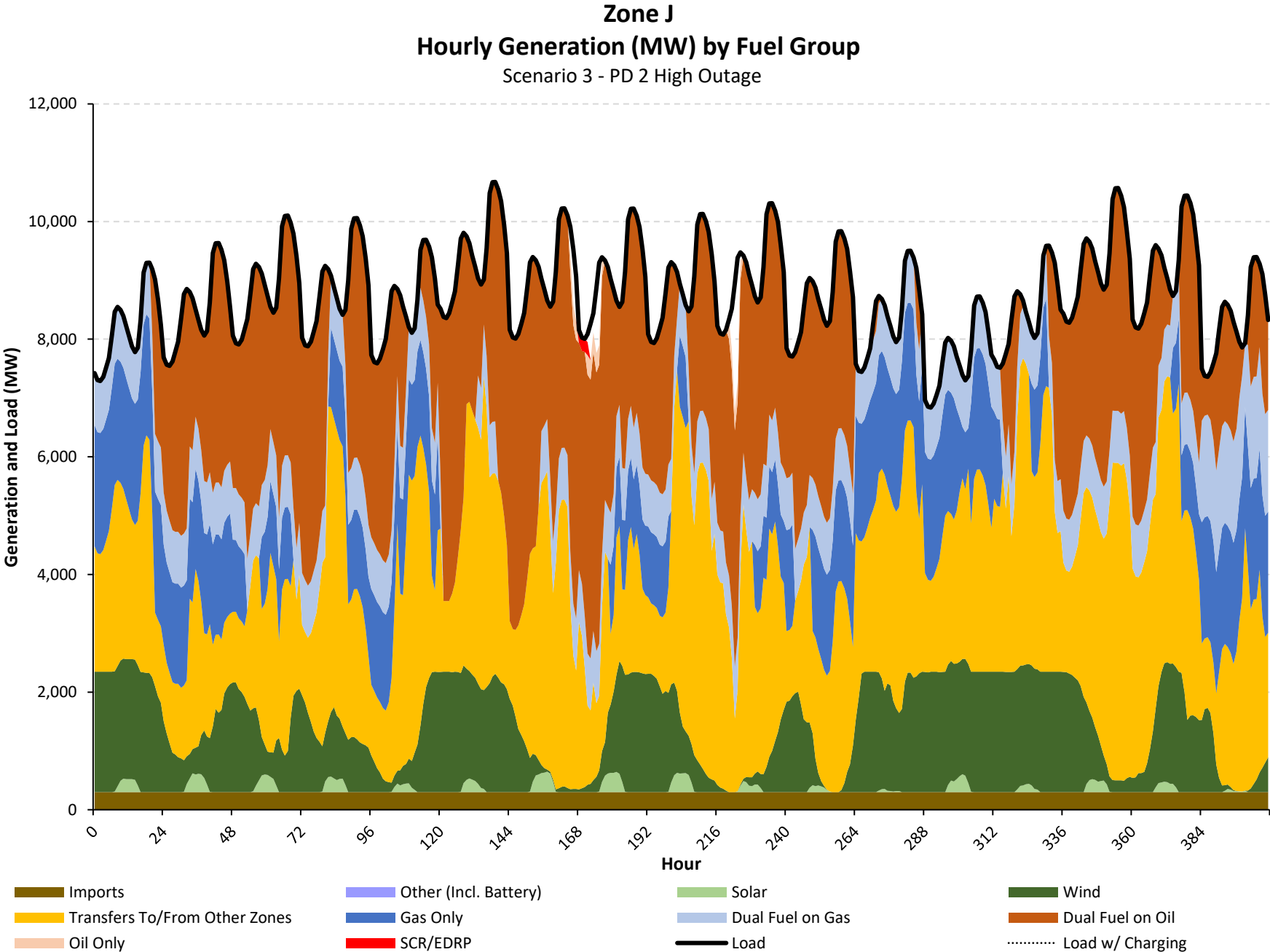
Full Period Results Summary

Case Name: Scenario 3 - PD 2 High Outage

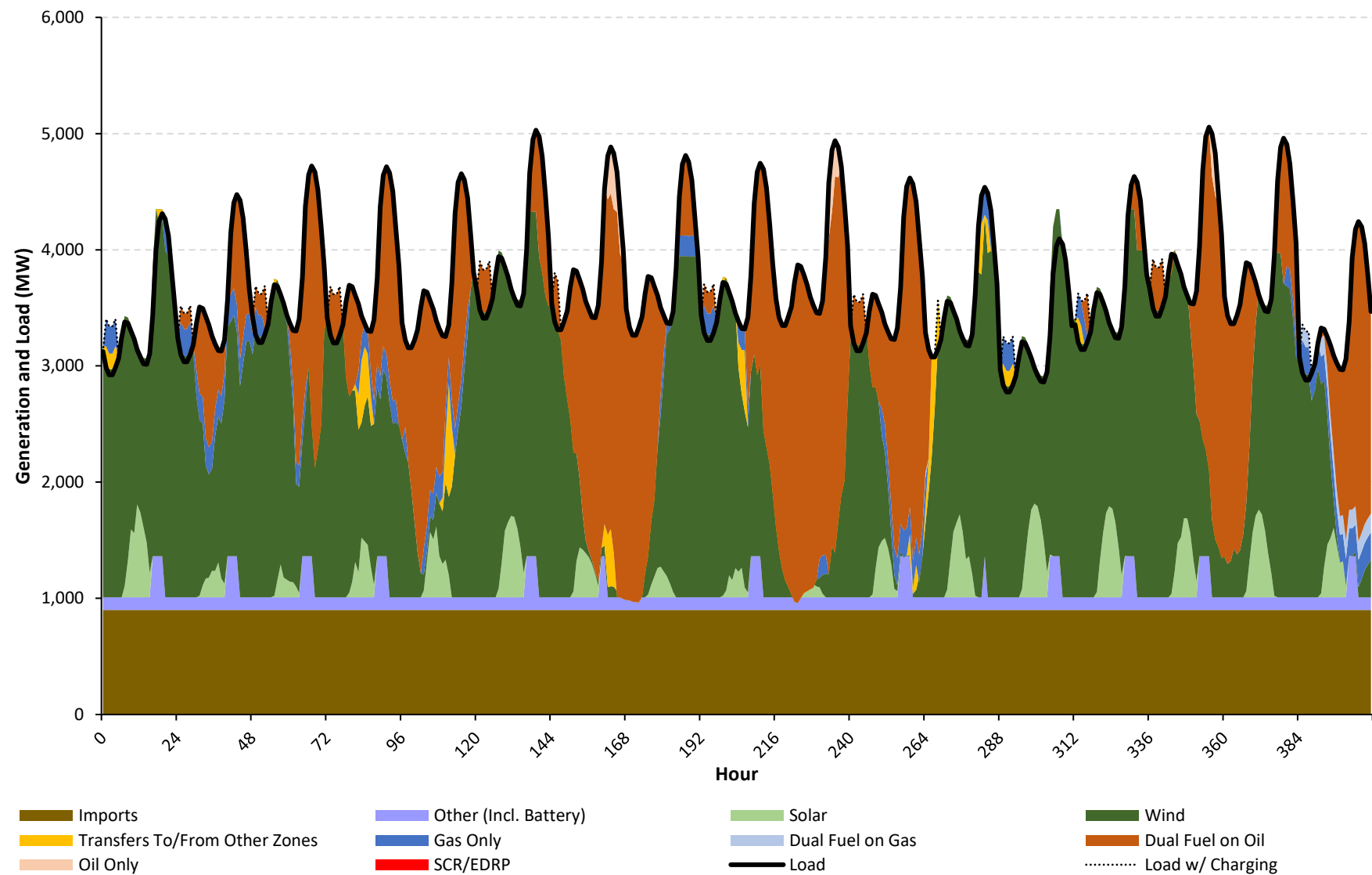
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

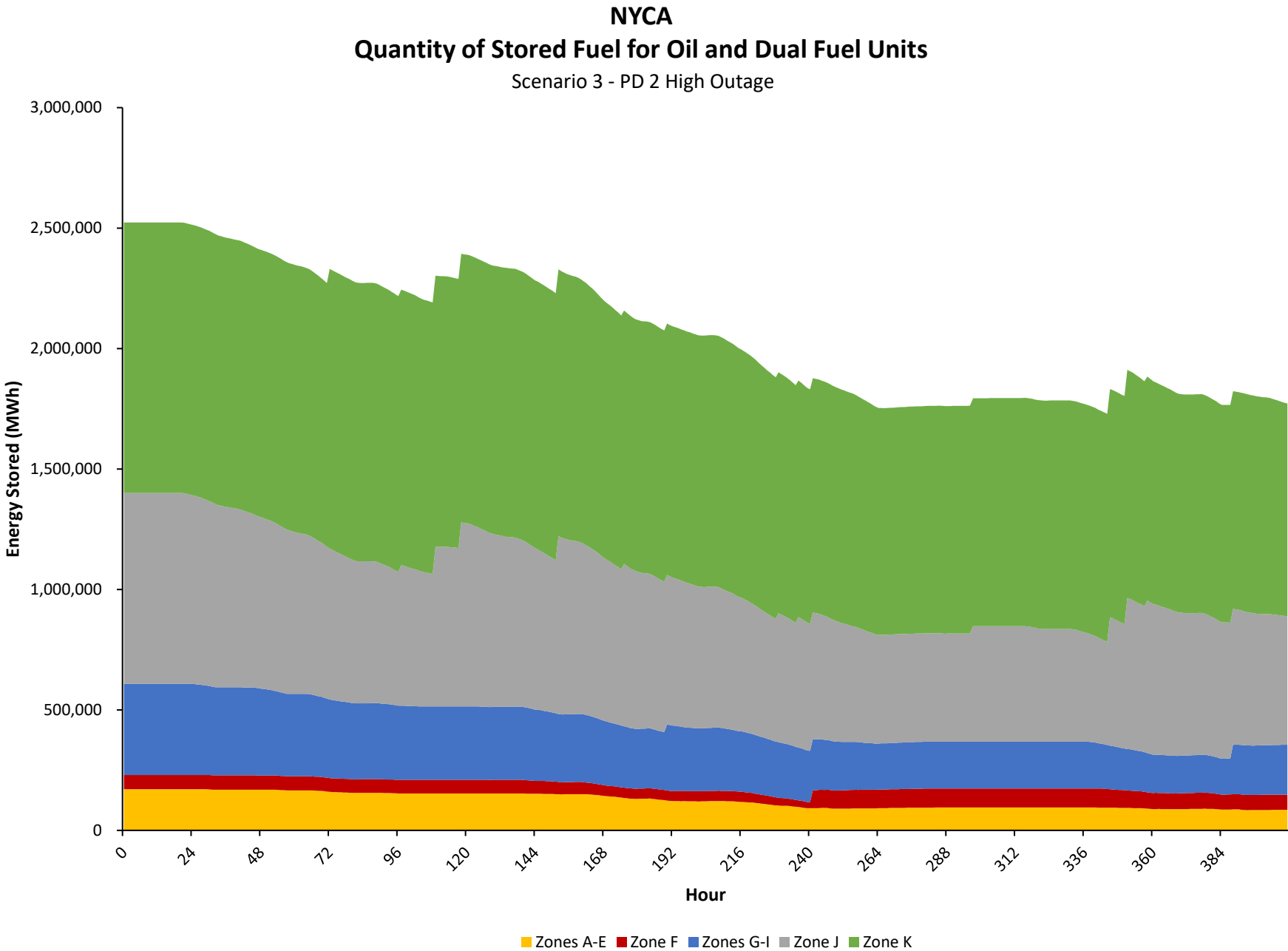


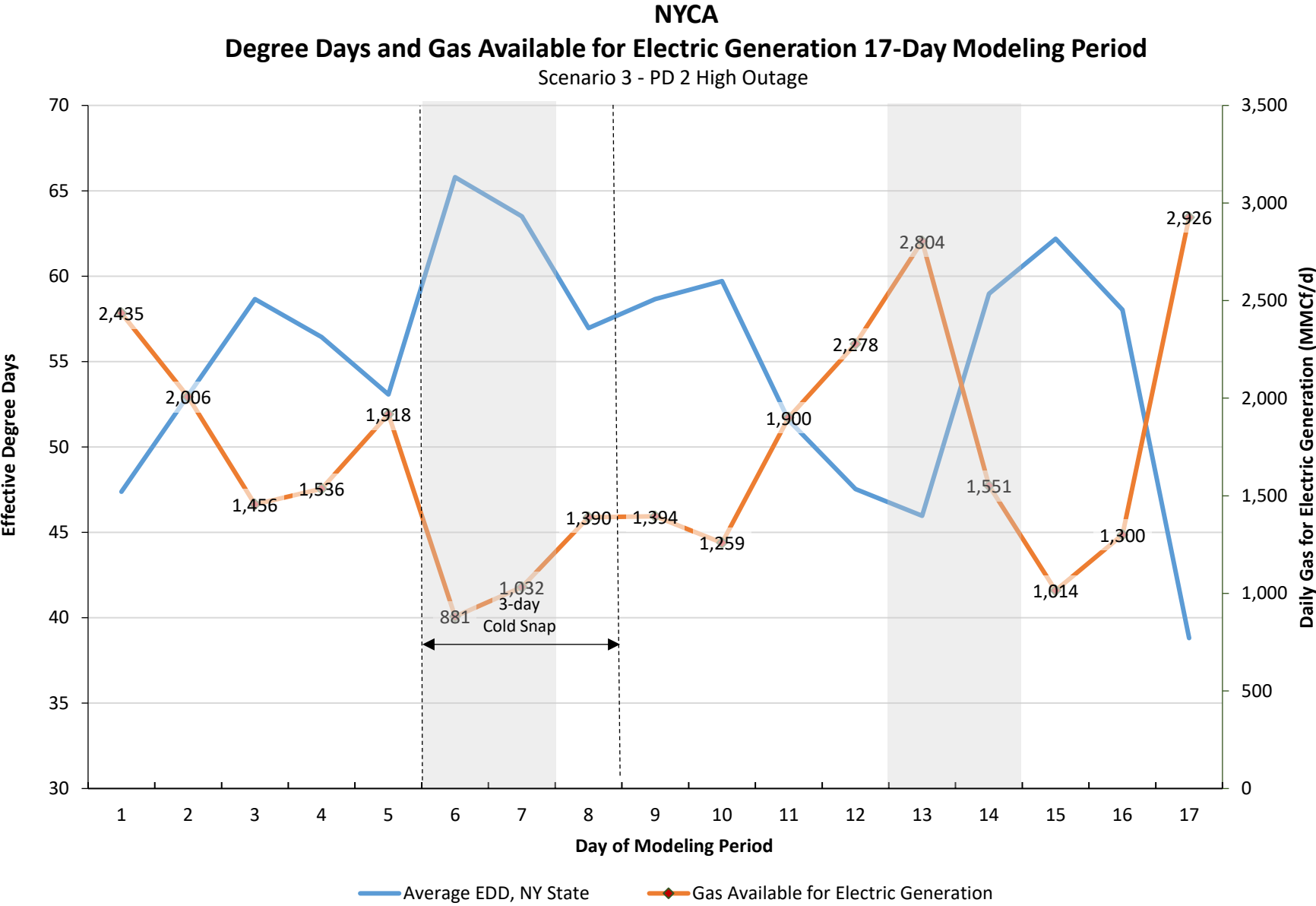




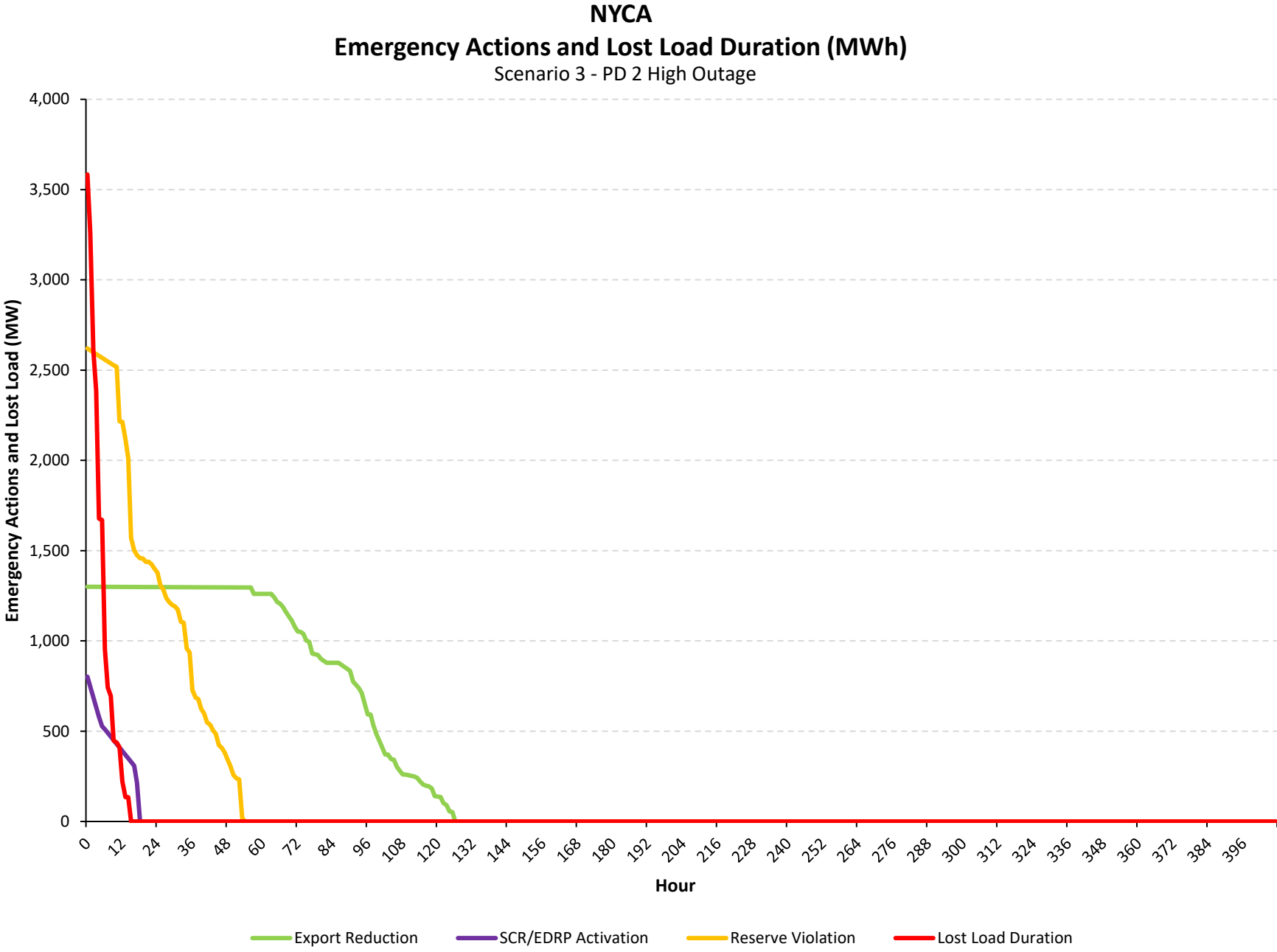
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 3 - PD 2 High Outage

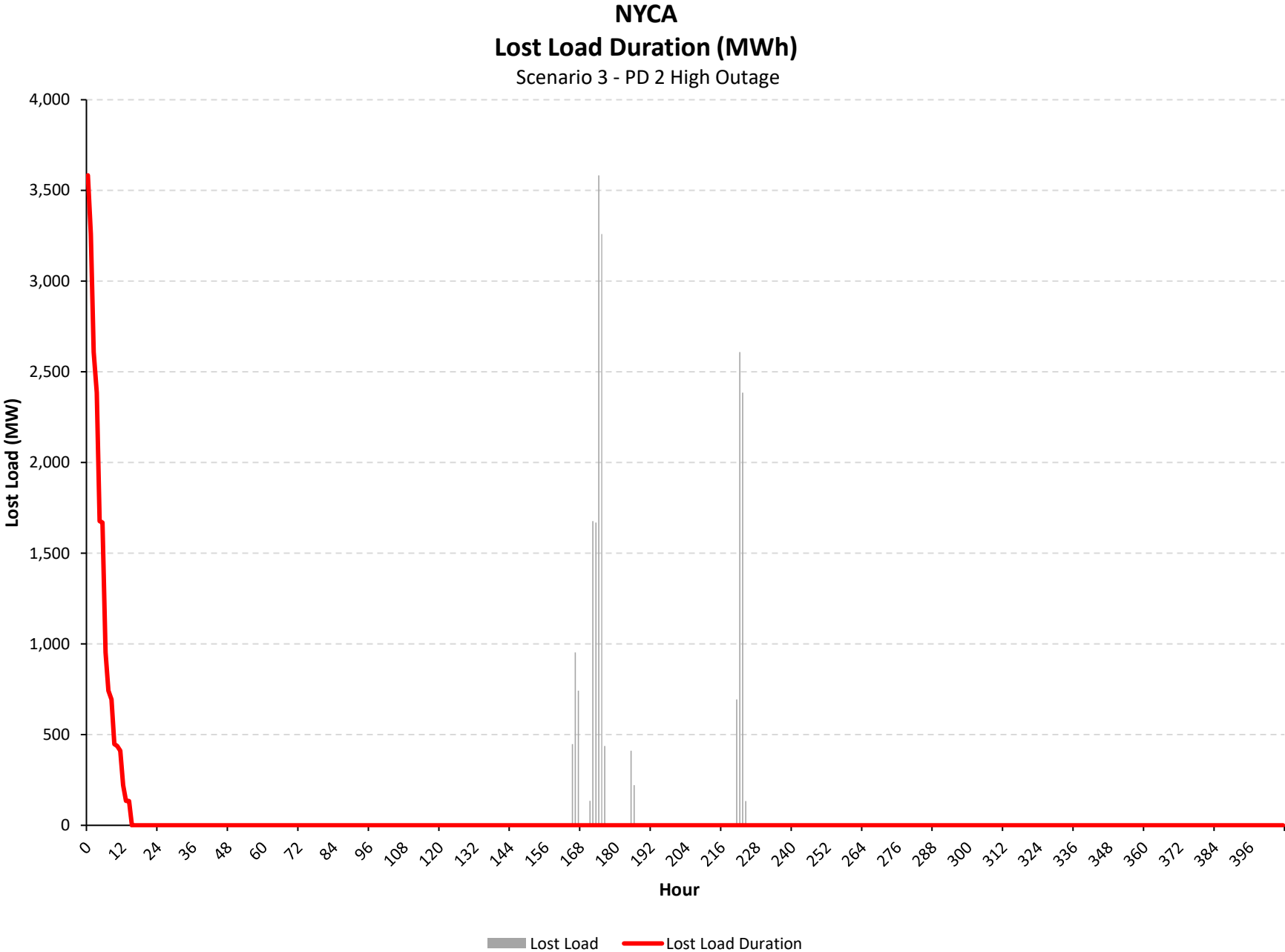






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



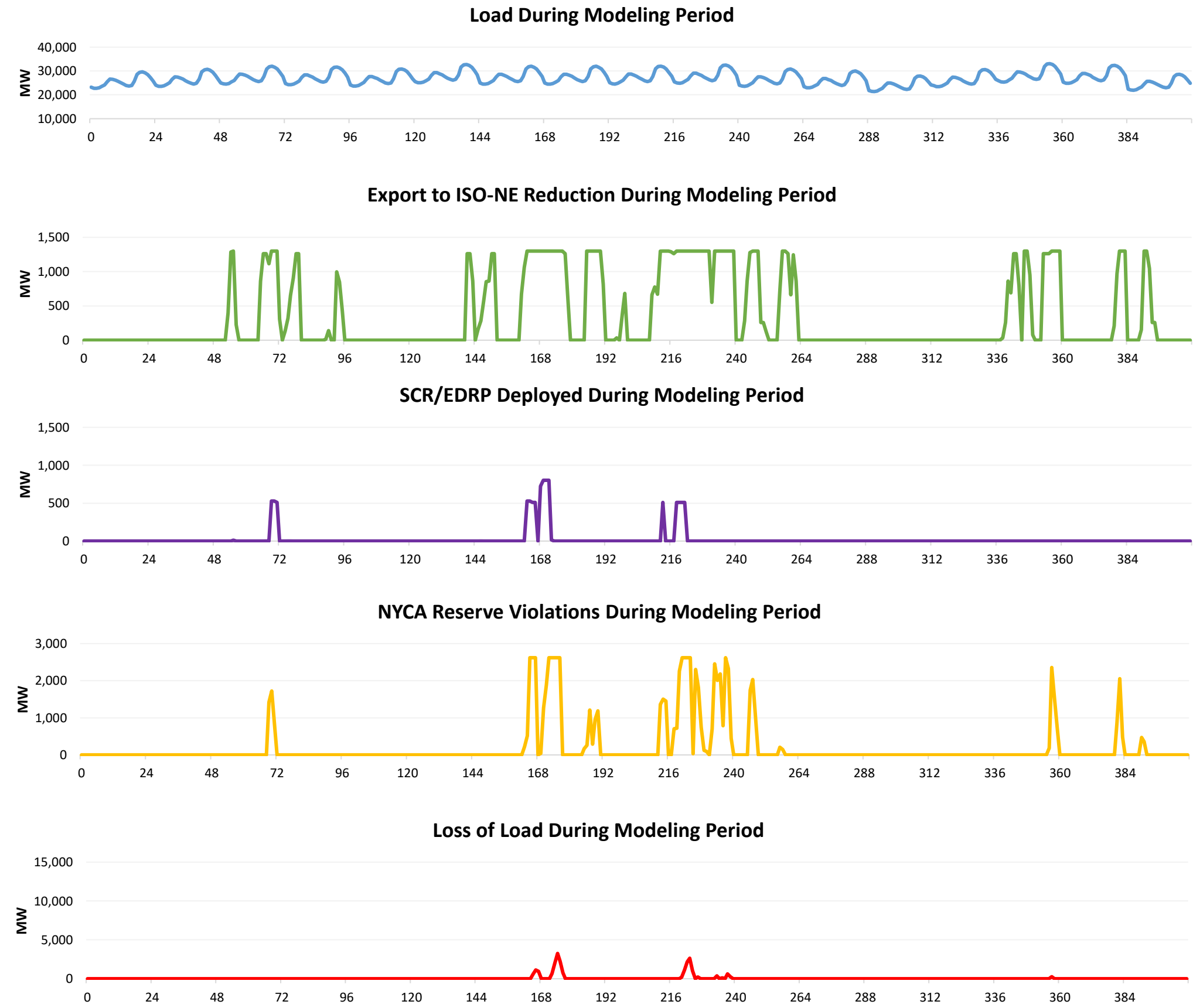


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 3 - PD 3 SENY Deactivation (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 3 - PD 3 SENY Deactivation



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	All

Export Reductions	
Total Hrs.	137
Total MWh	138,279
Avg. MW	338.9

SCR Deployment	
Total Hrs.	18
Total MWh	9,346
Avg. MW	22.9

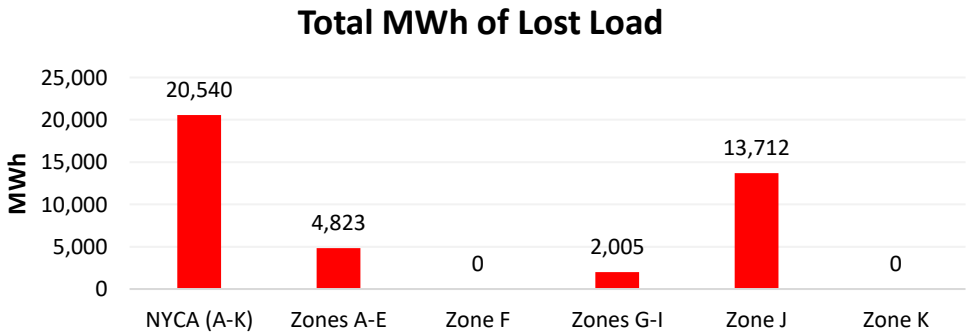
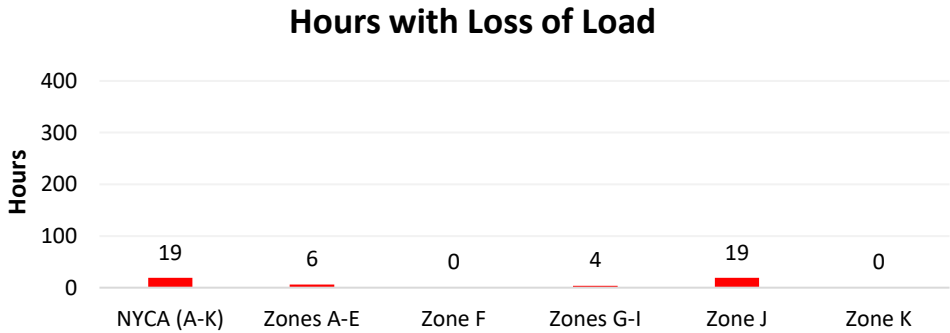
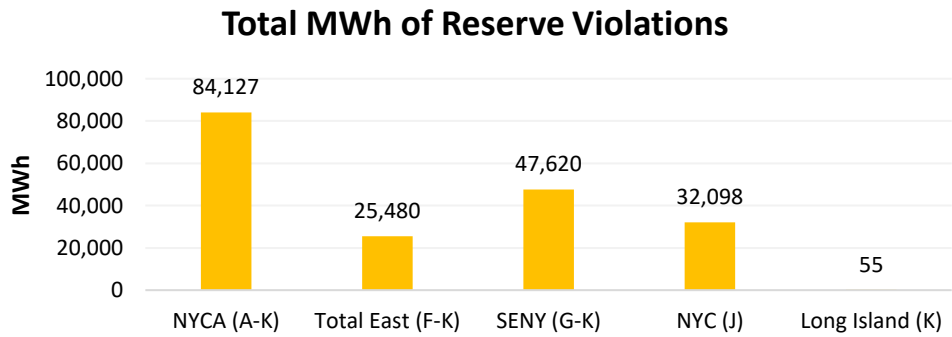
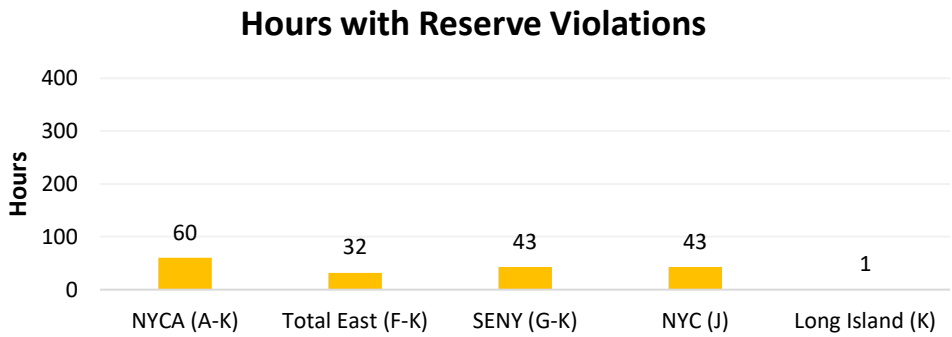
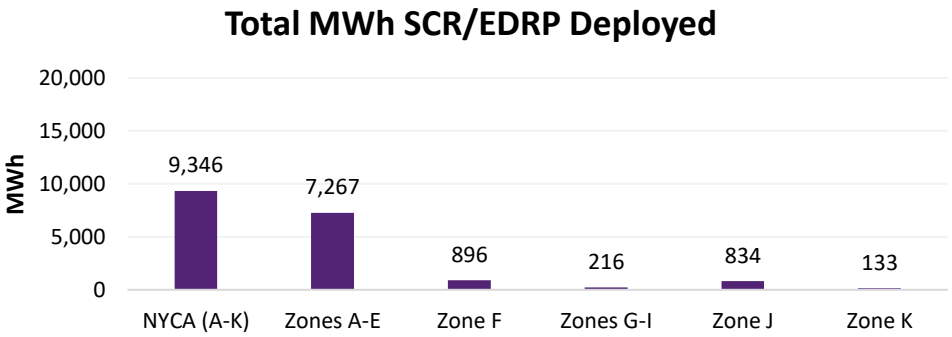
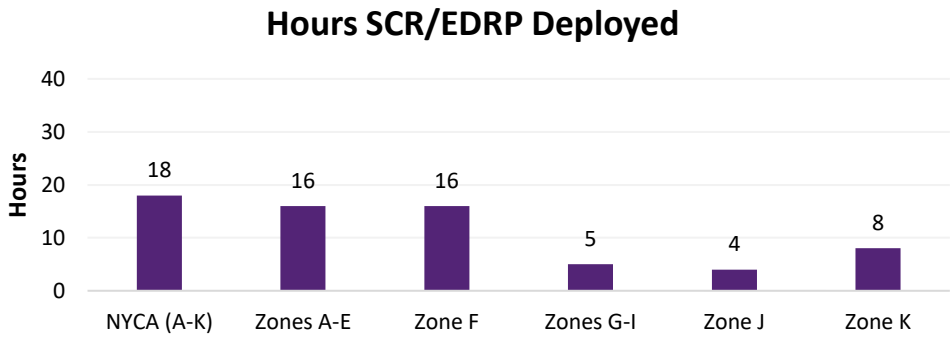
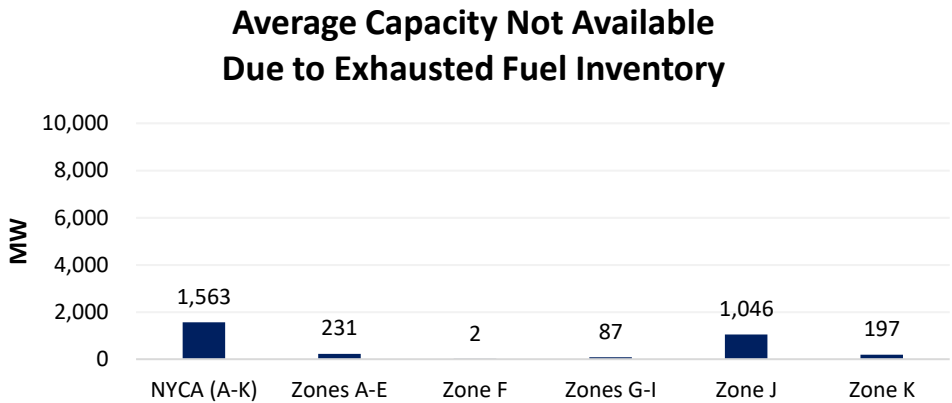
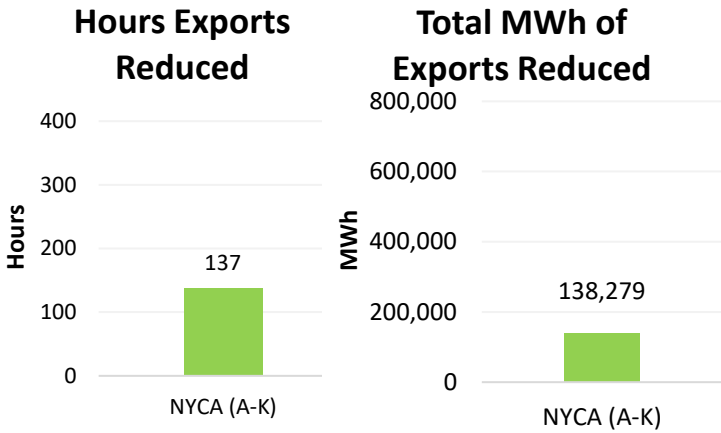
Reserve Violations	
Total Hrs.	60
Total MWh	84,127
Avg. MW	206.2
First Hour with Viol.	69

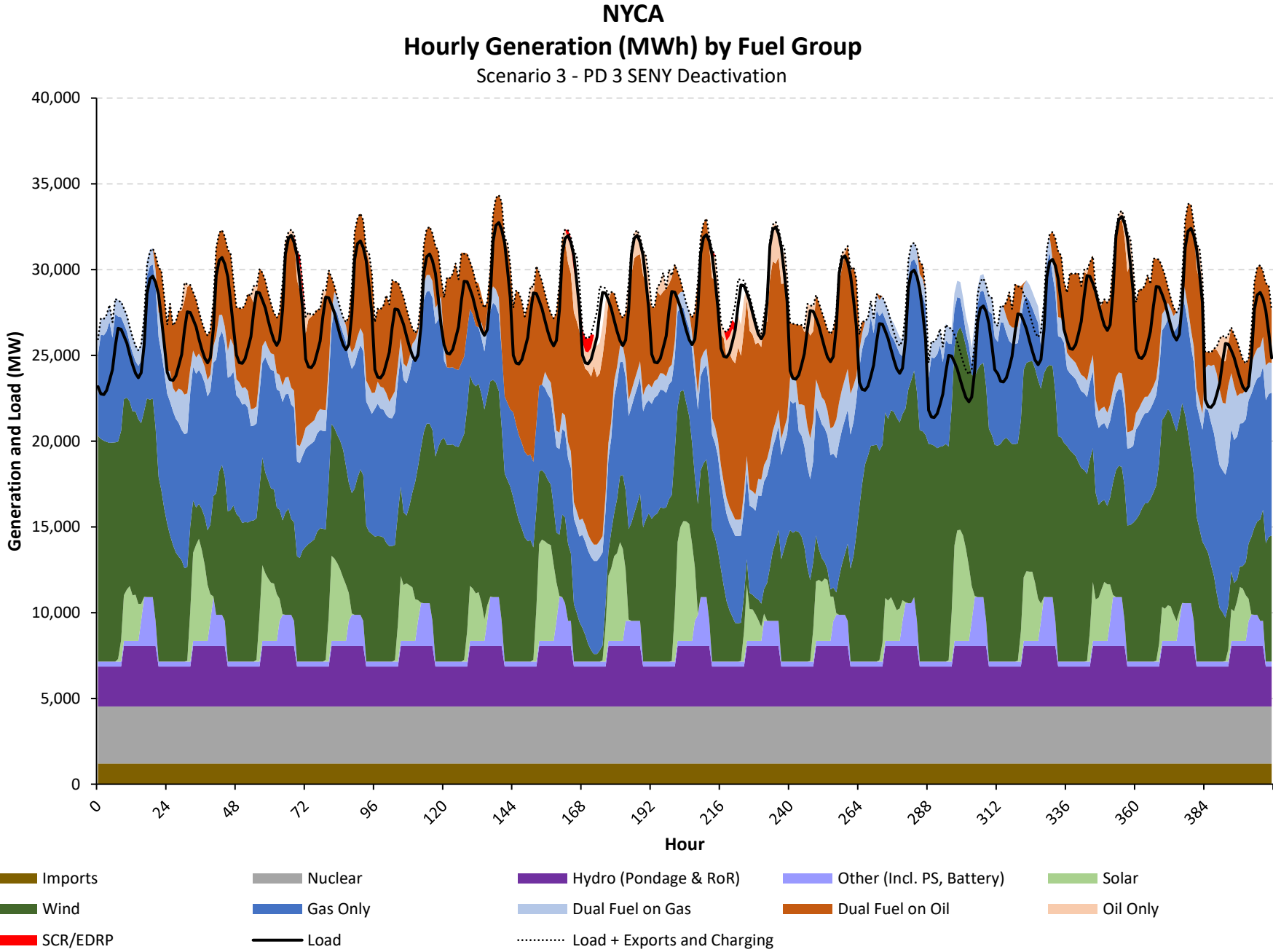
Loss of Load	
Total Hrs.	19
Total MWh	20,540
Avg. MW	50.3
First Hour with Losses	165

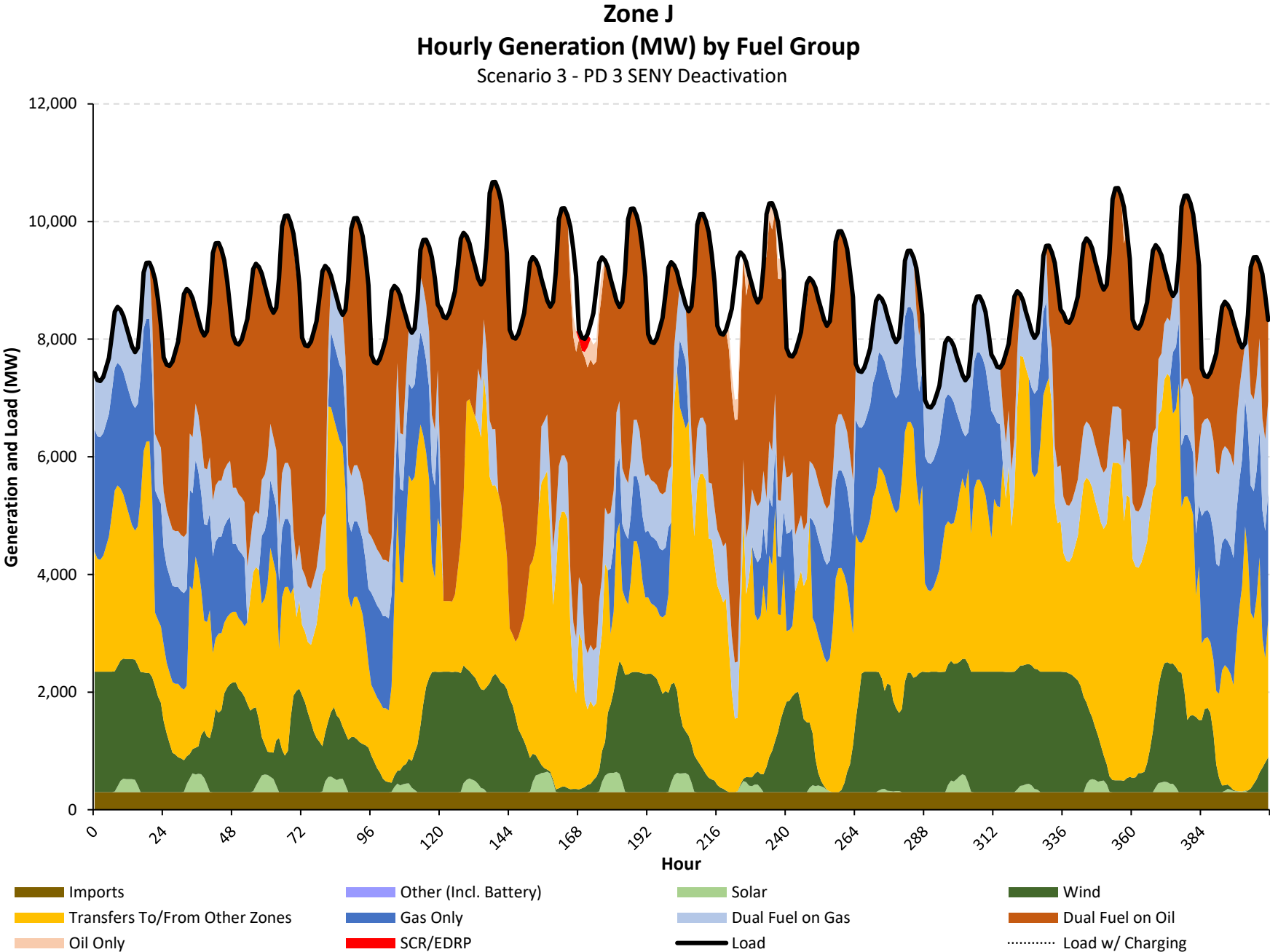
Full Period Results Summary

Case Name: Scenario 3 - PD 3 SENY Deactivation

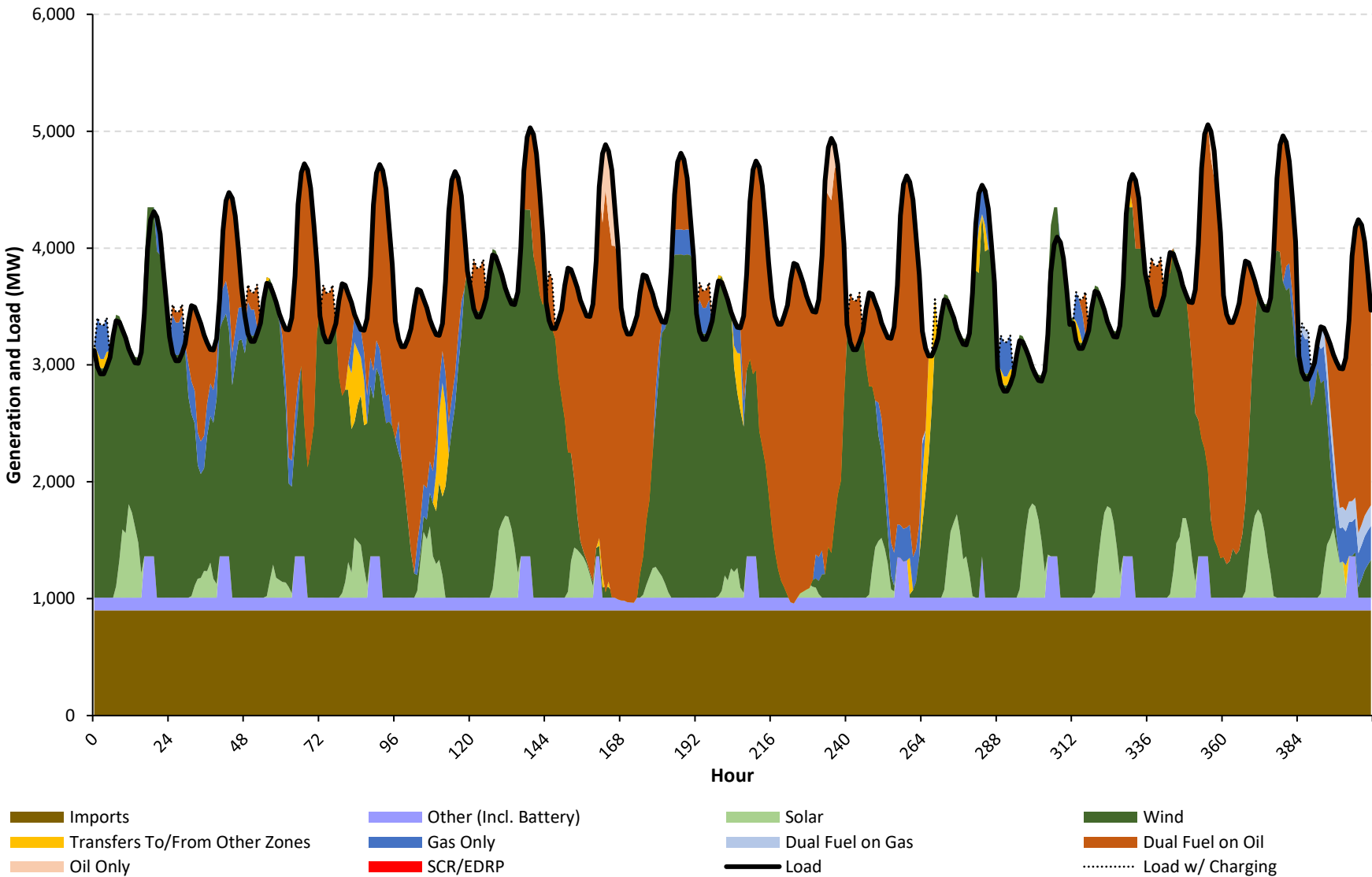
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	All

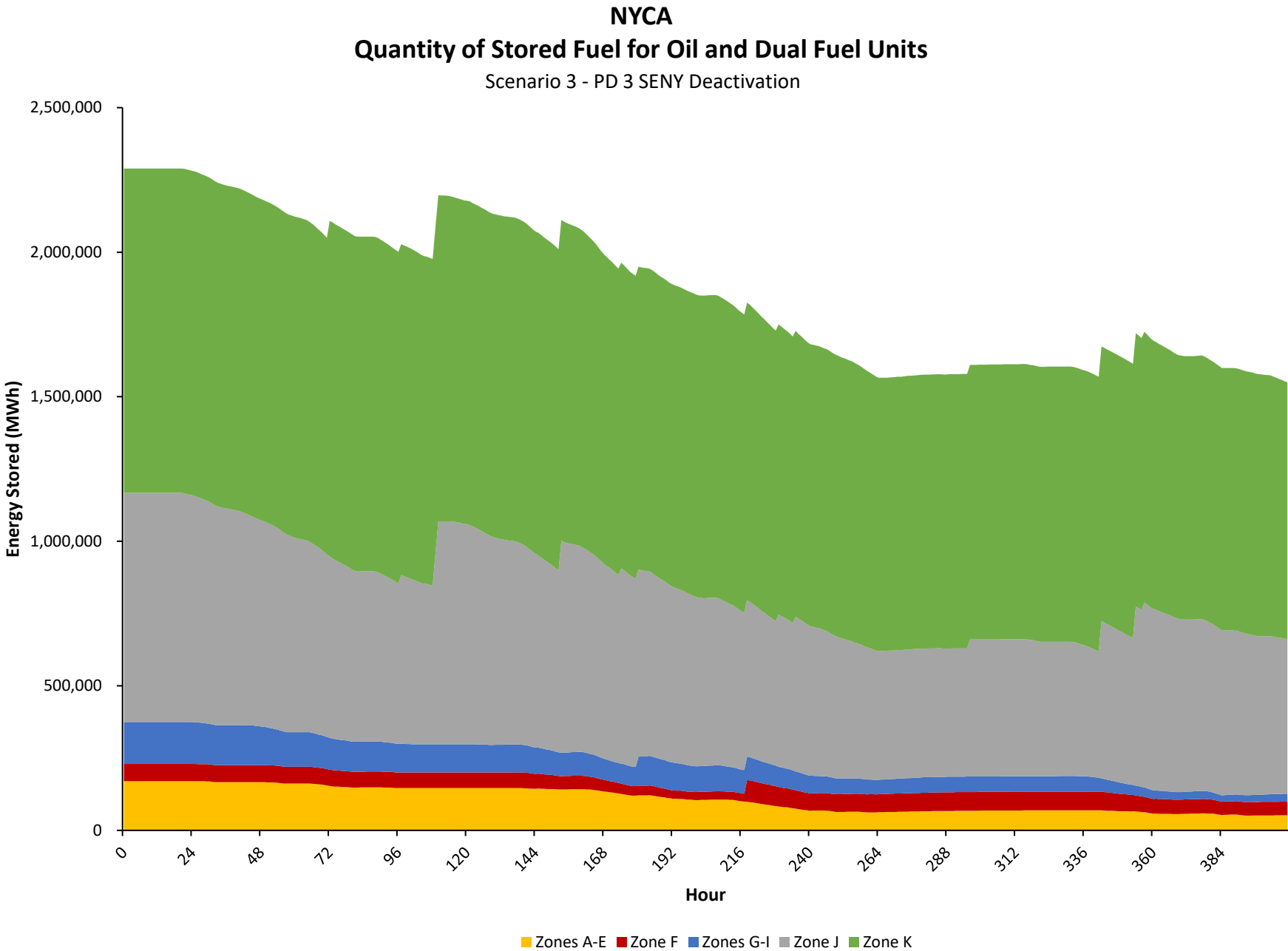


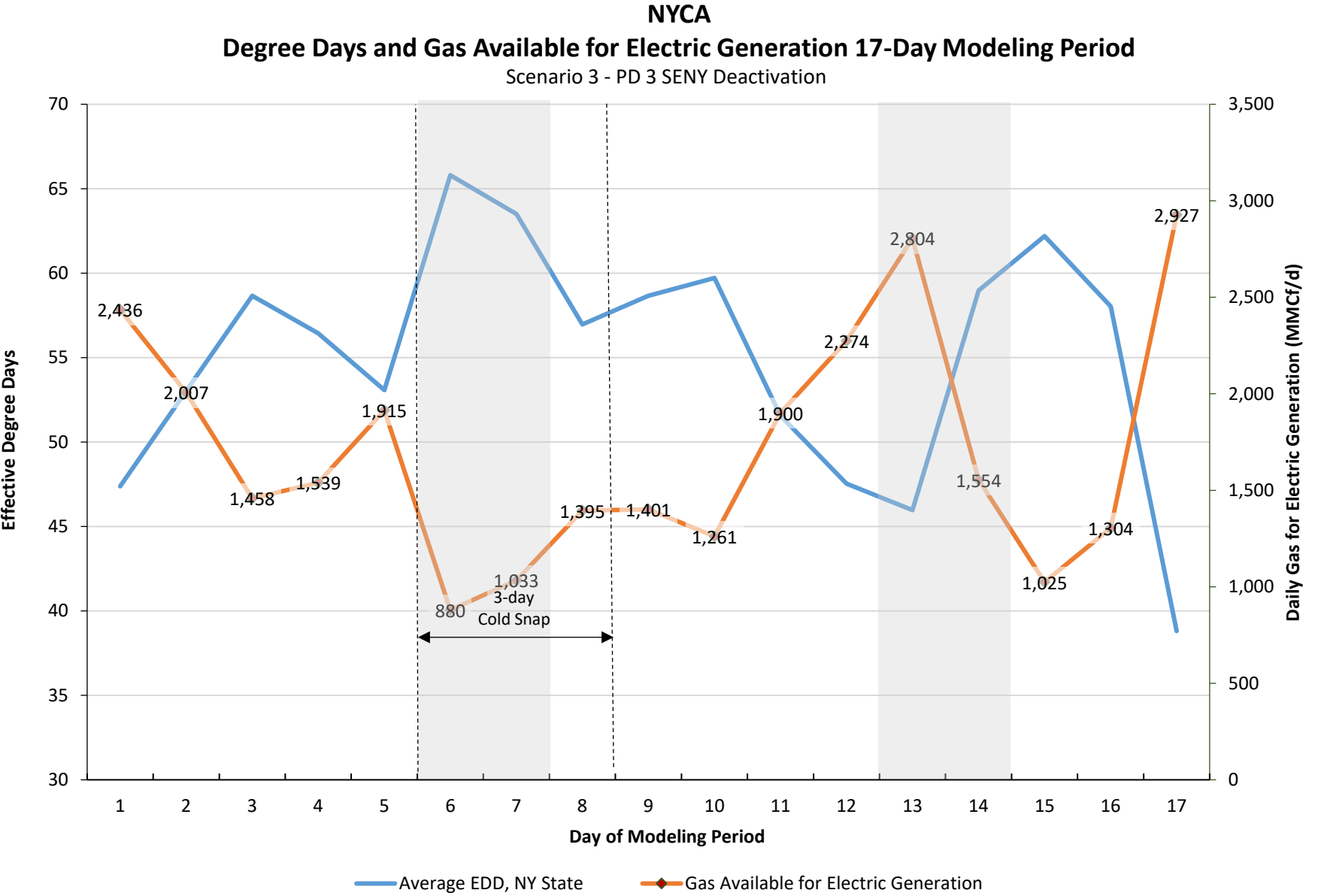




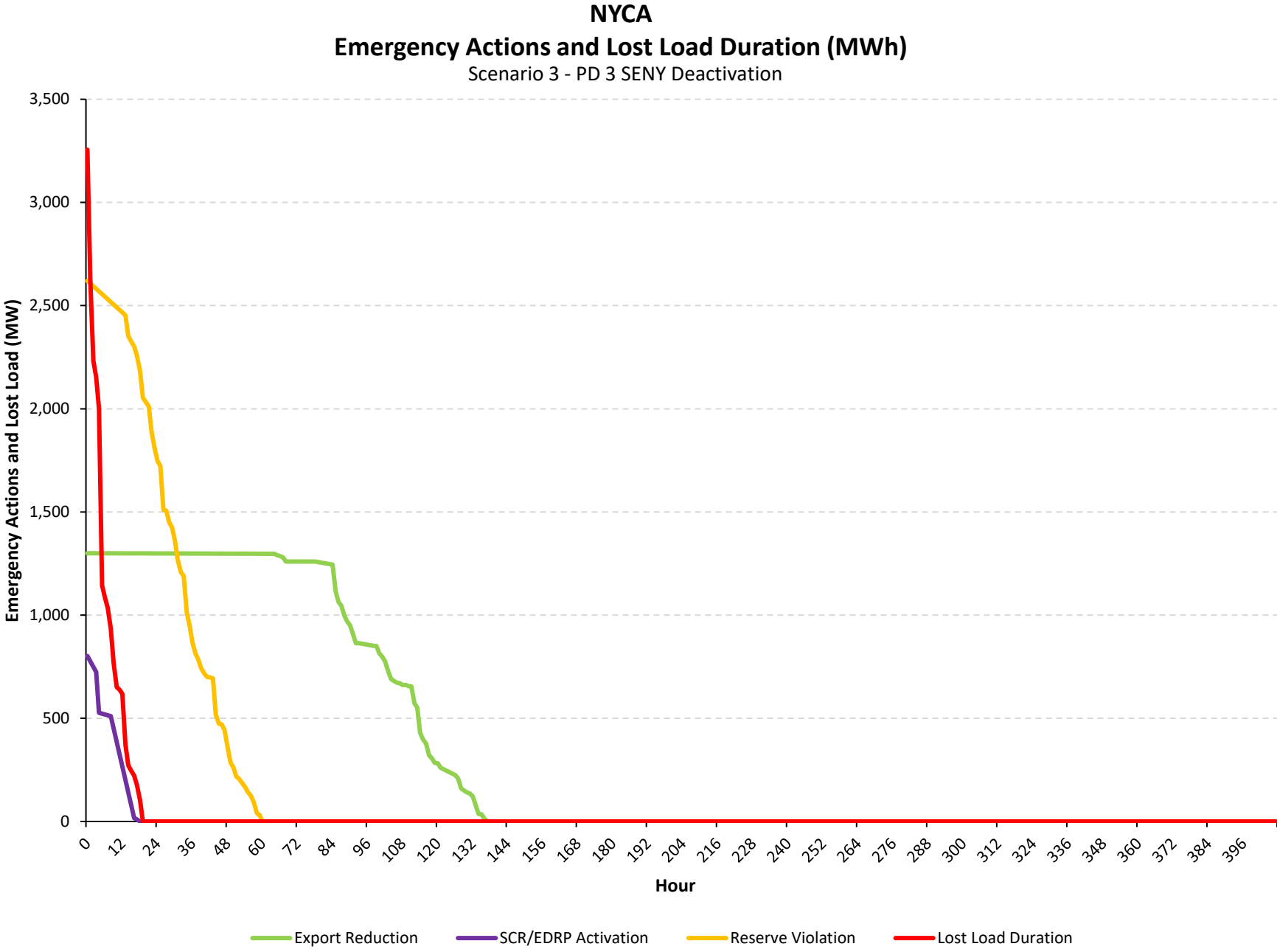
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 3 - PD 3 SENY Deactivation

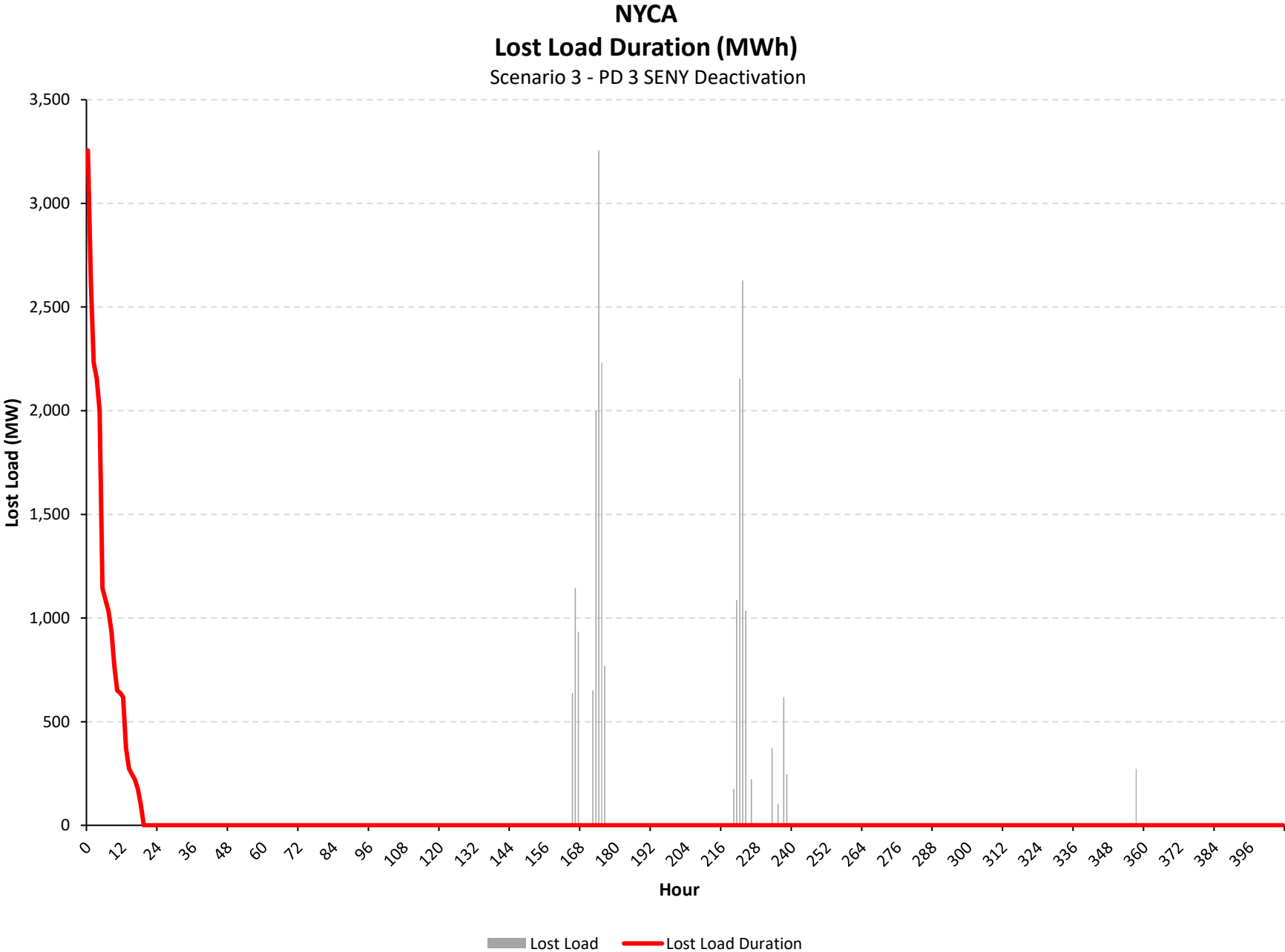






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



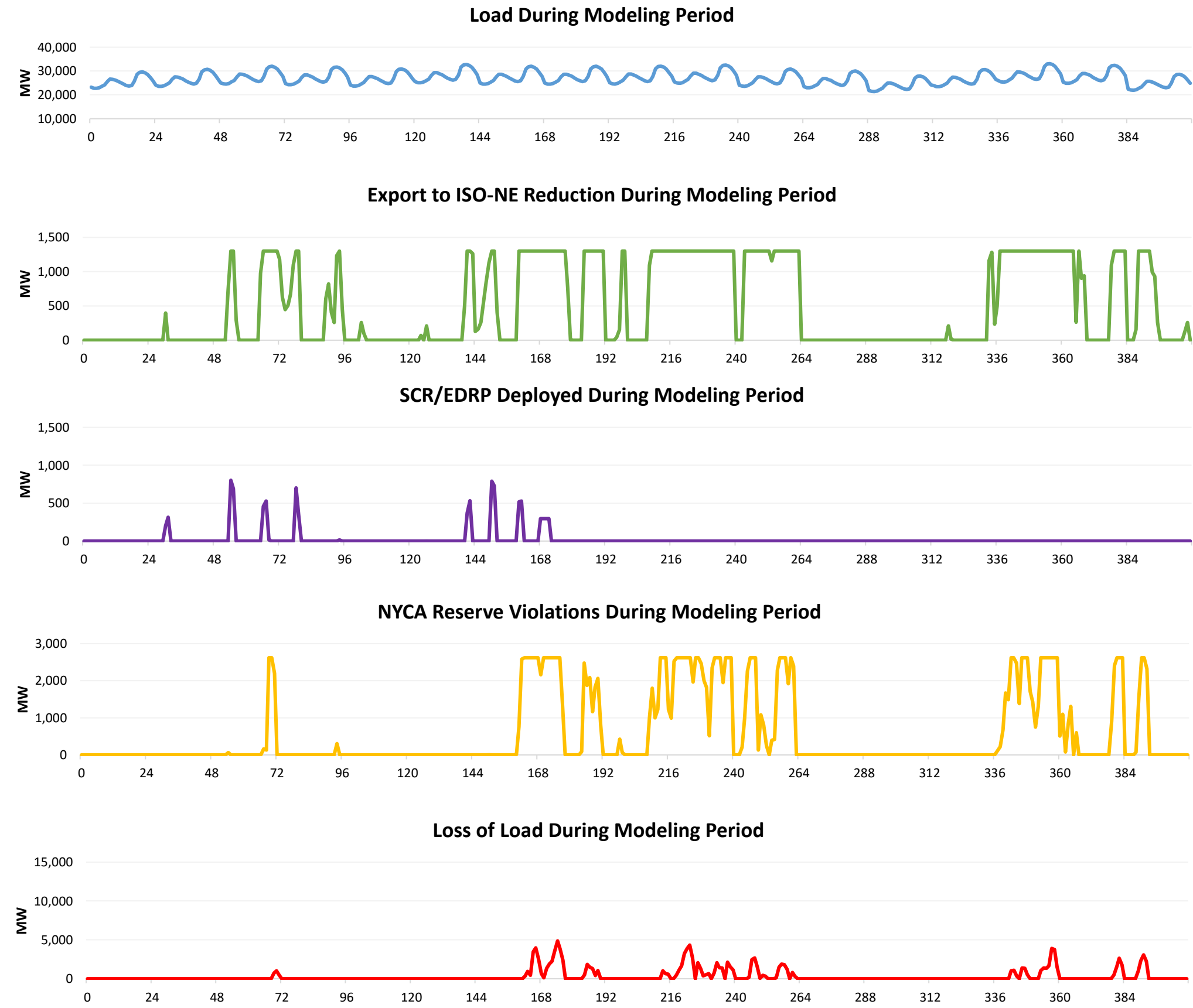


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 3 - PD 4 Nuclear Station Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 3 - PD 4 Nuclear Station Outage



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	184
Total MWh	202,045
Avg. MW	495.2

SCR Deployment	
Total Hrs.	20
Total MWh	8,731
Avg. MW	21.4

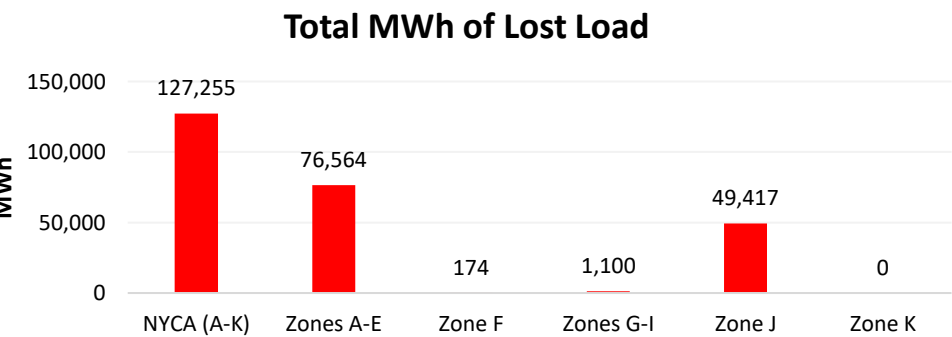
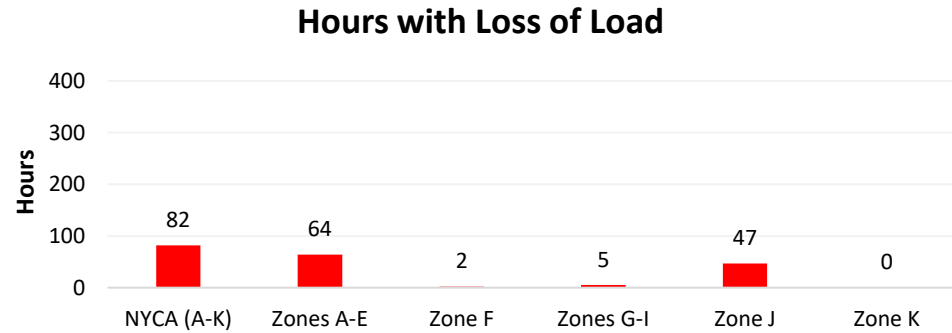
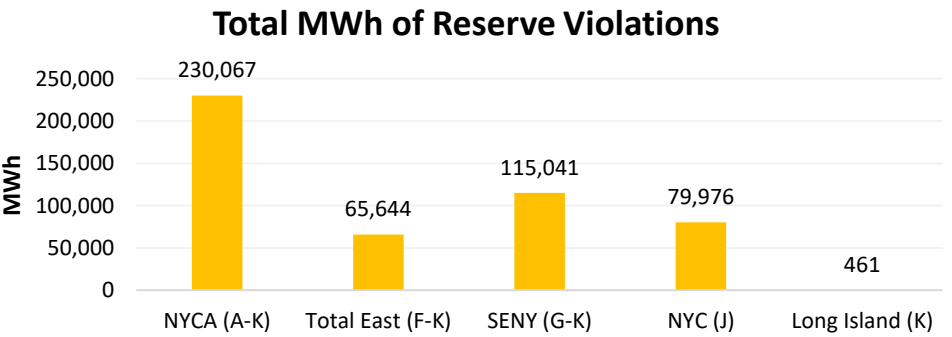
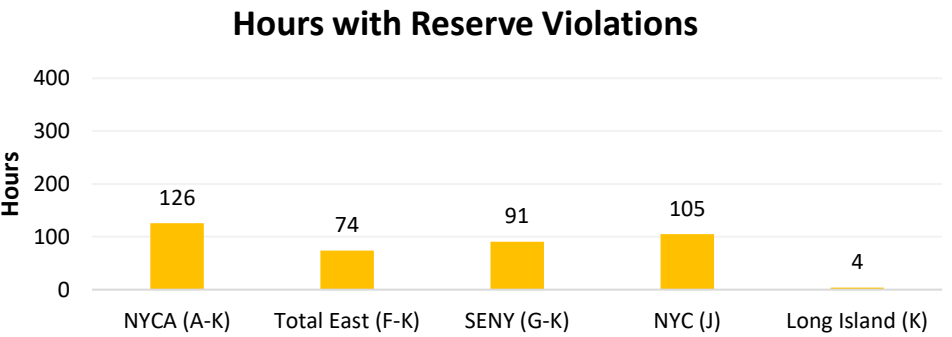
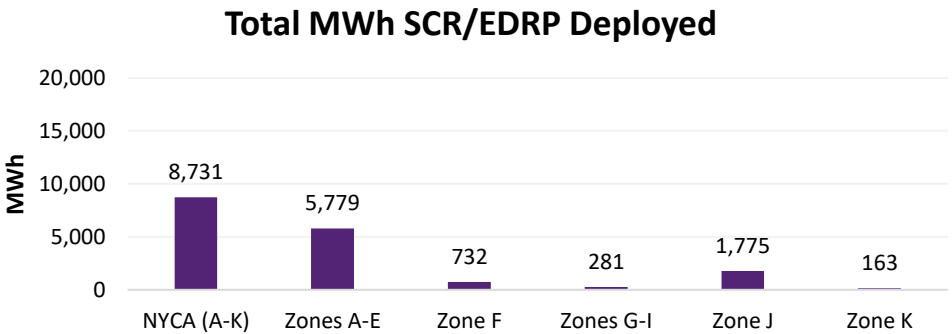
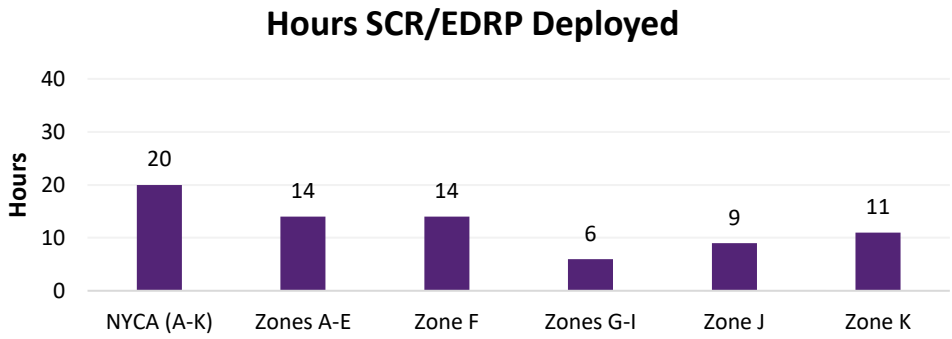
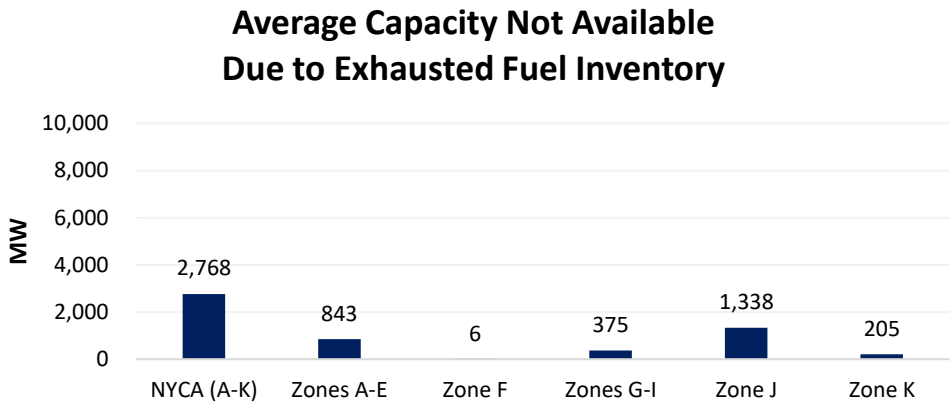
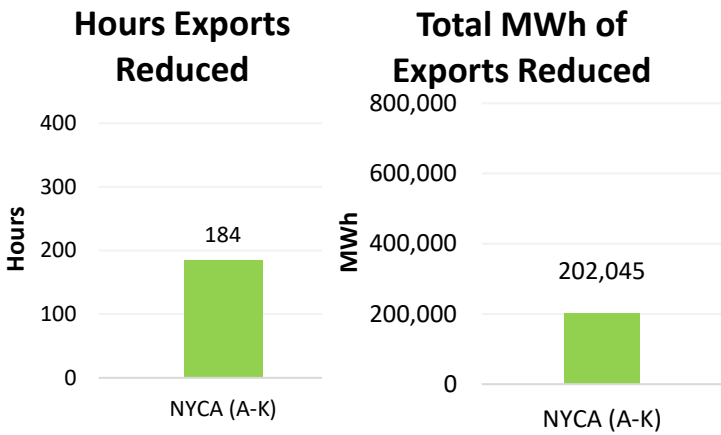
Reserve Violations	
Total Hrs.	126
Total MWh	230,067
Avg. MW	563.9
First Hour with Viol.	54

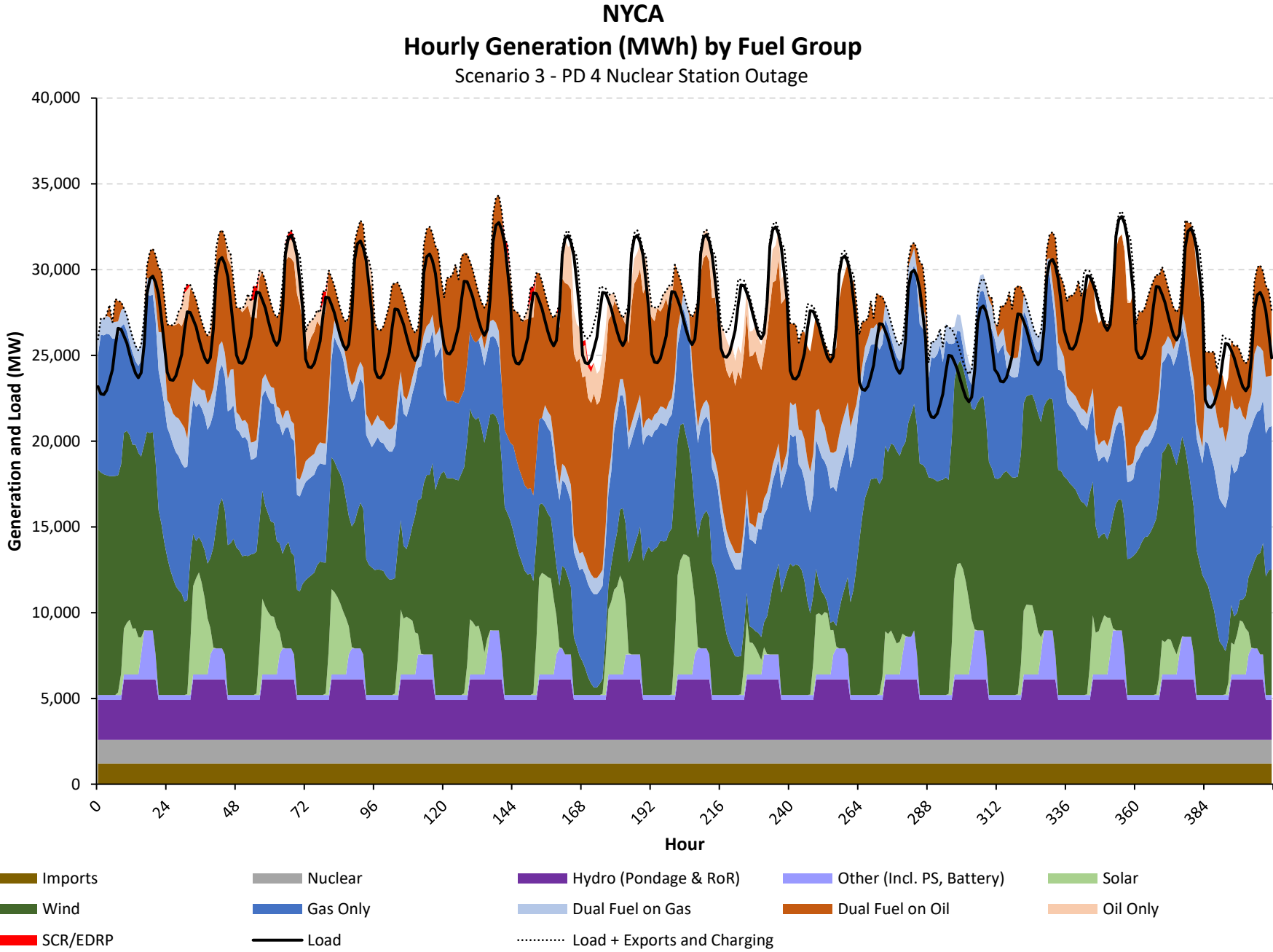
Loss of Load	
Total Hrs.	82
Total MWh	127,255
Avg. MW	311.9
First Hour with Losses	69

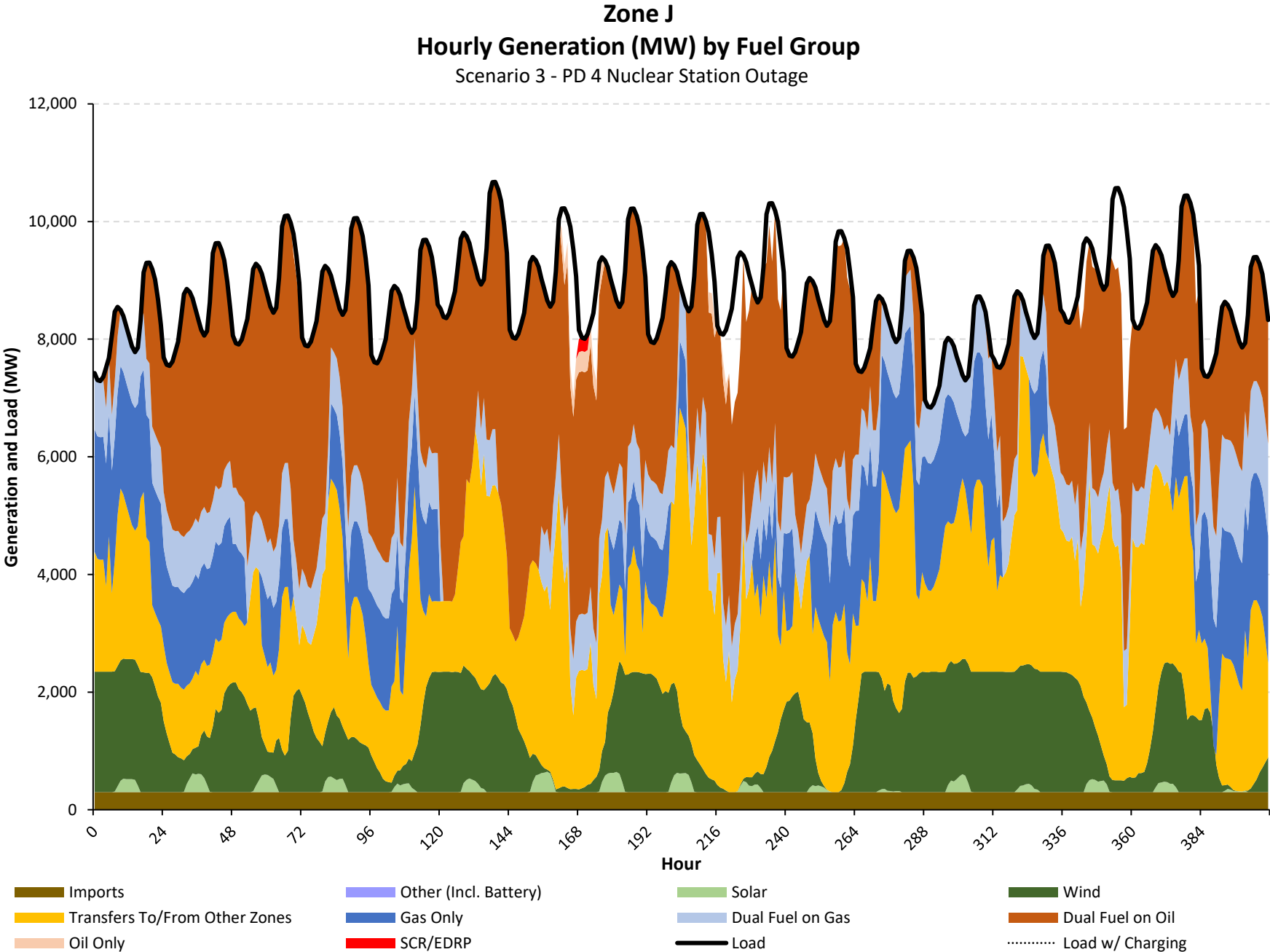
Full Period Results Summary

Case Name: Scenario 3 - PD 4 Nuclear Station Outage

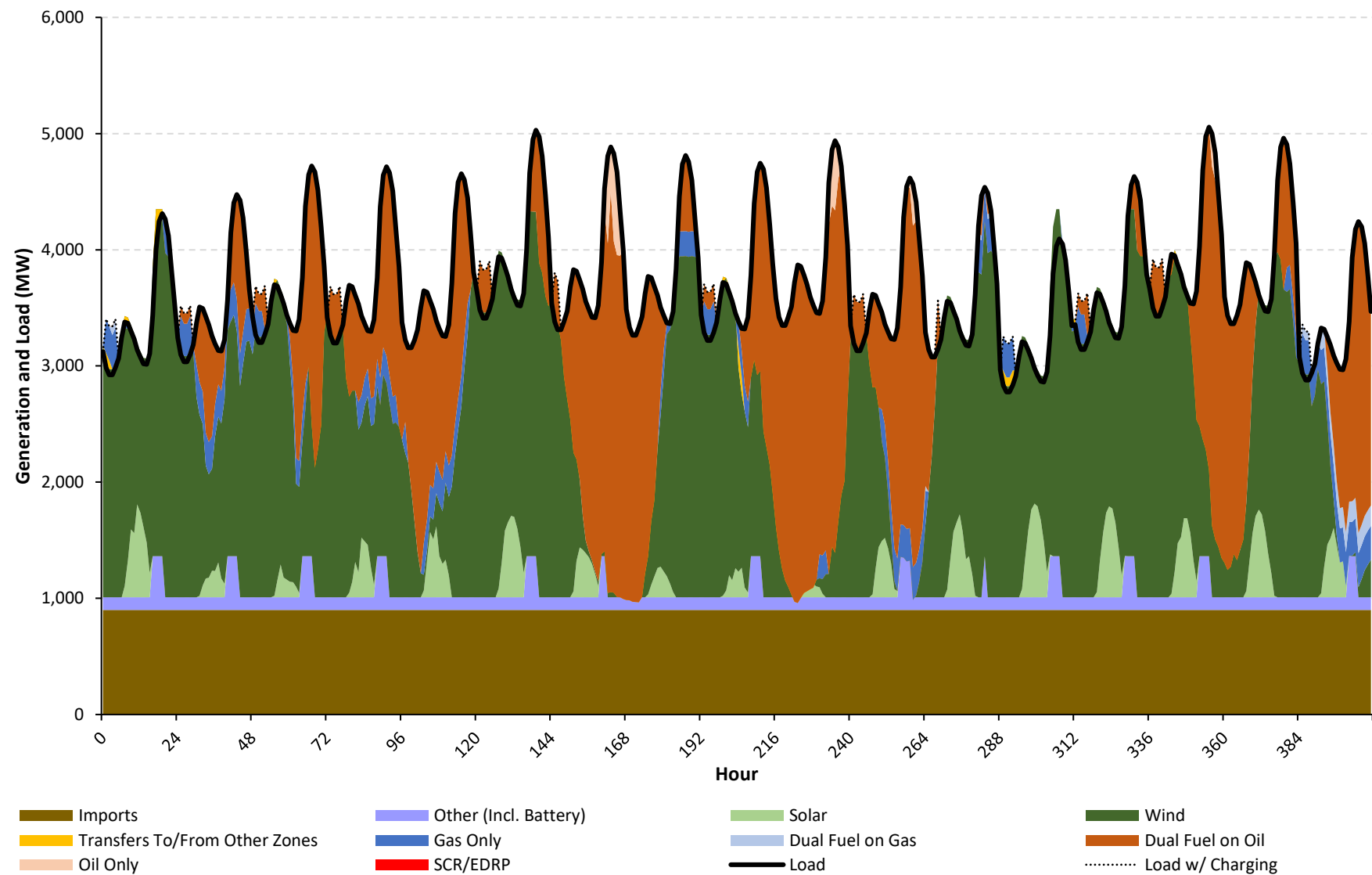
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	All



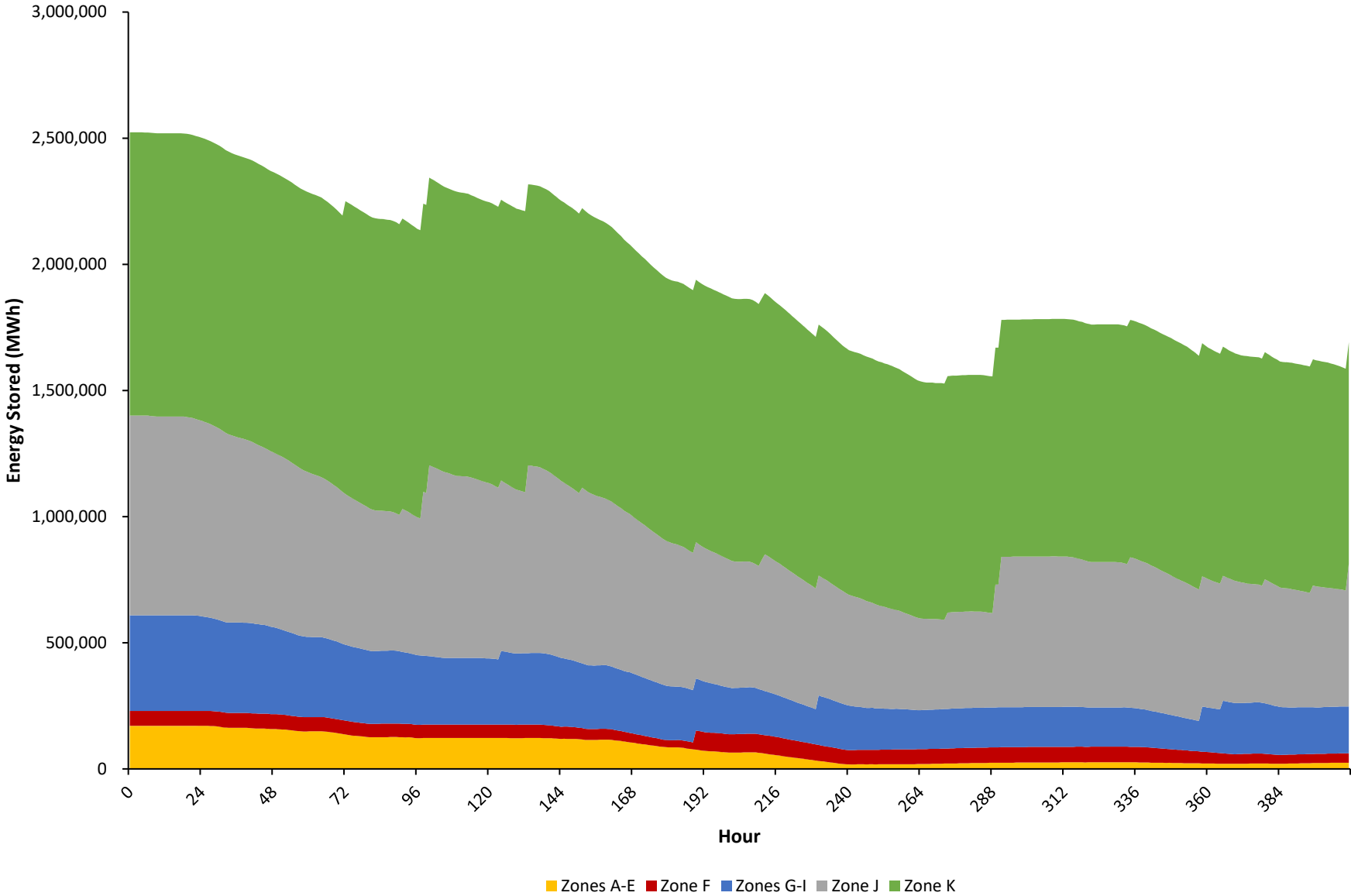


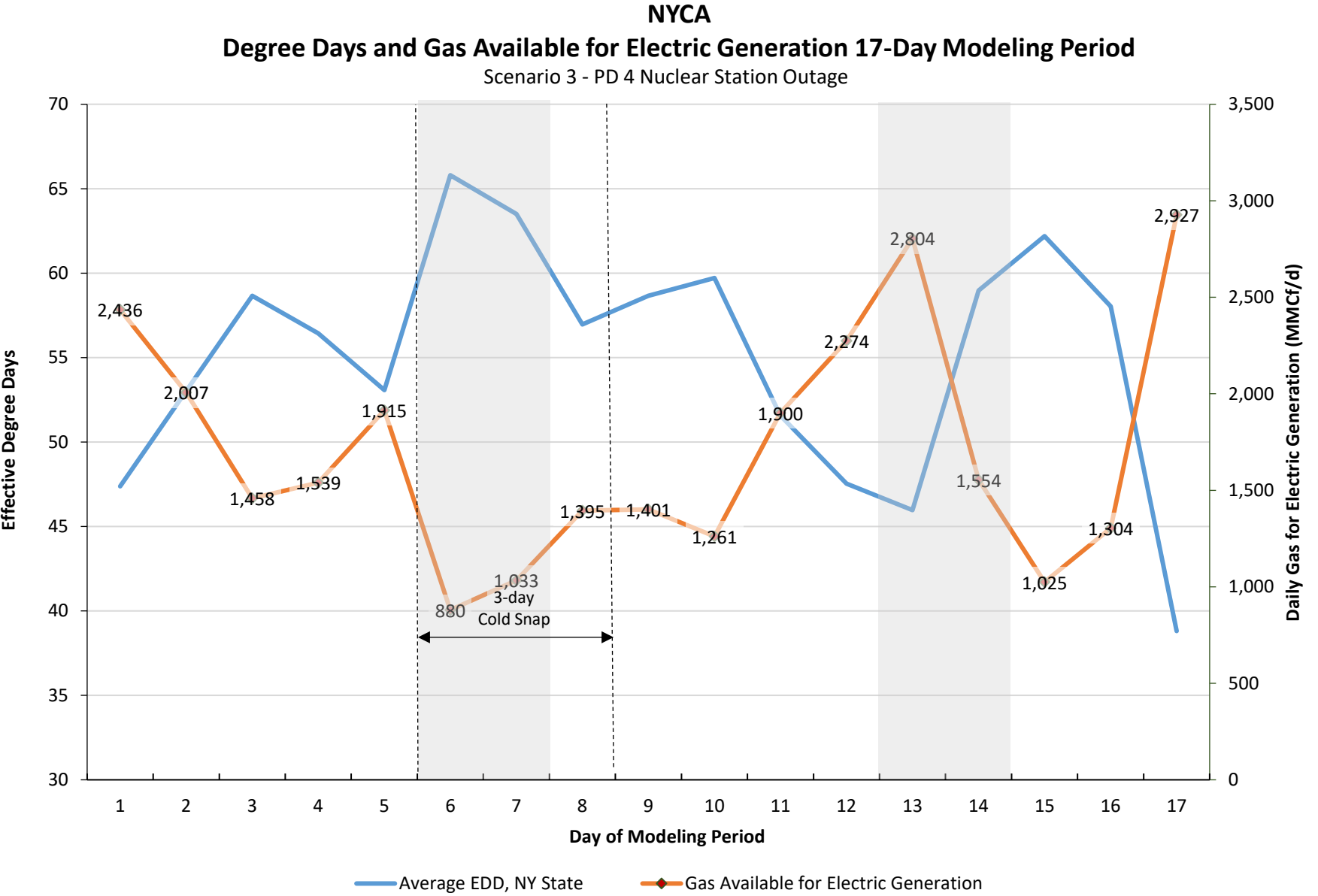


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 3 - PD 4 Nuclear Station Outage

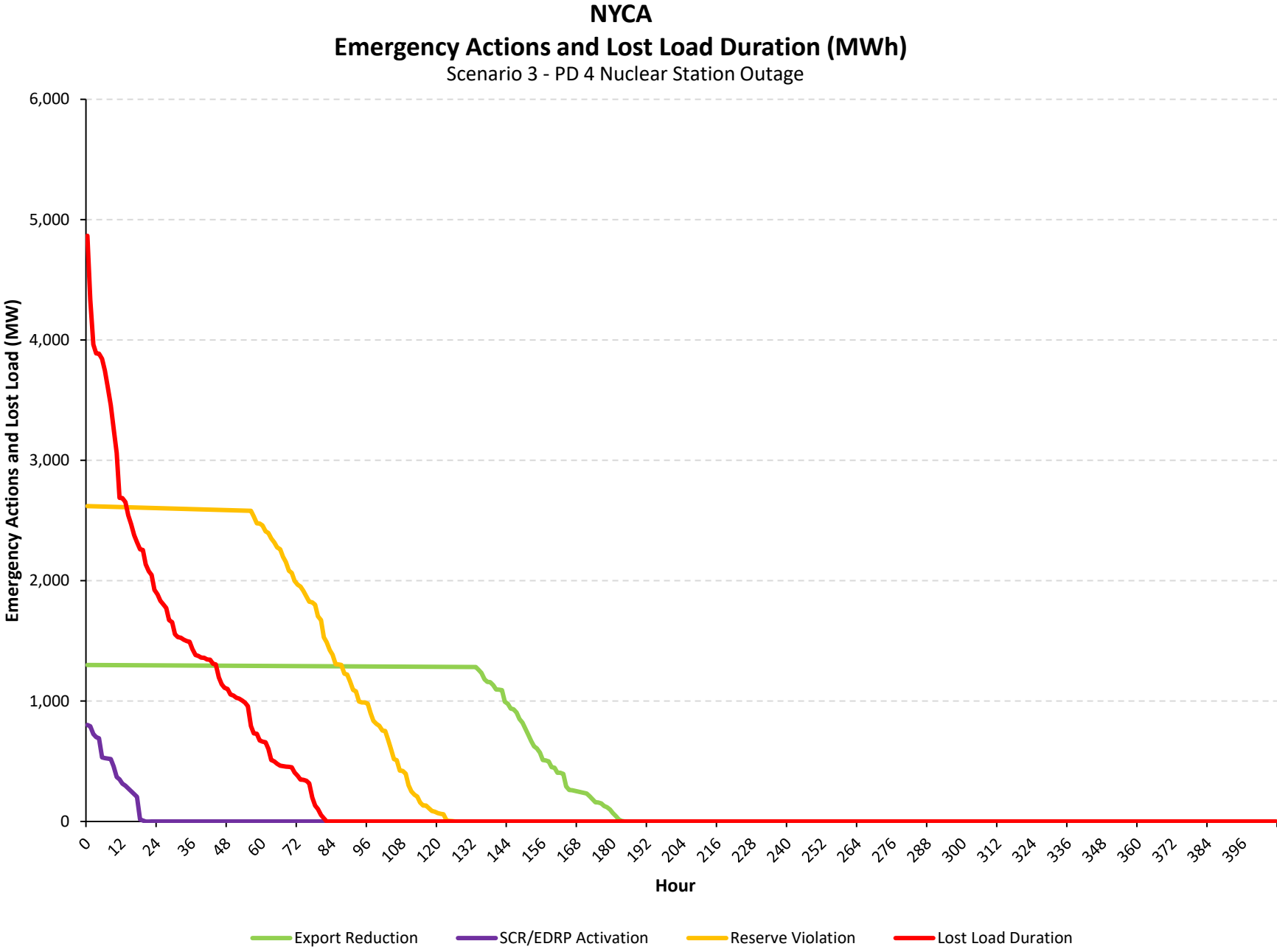


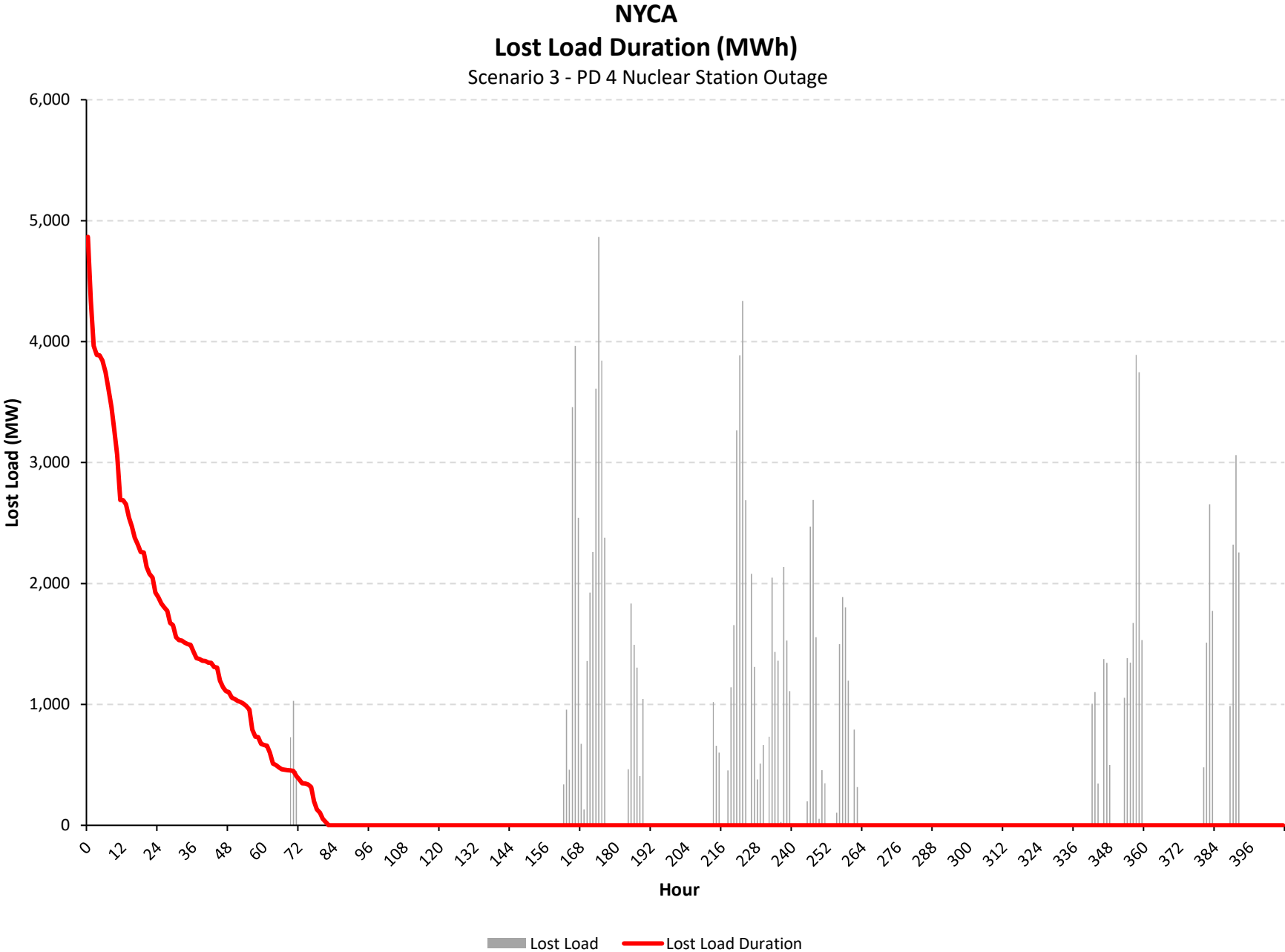
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 3 - PD 4 Nuclear Station Outage





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



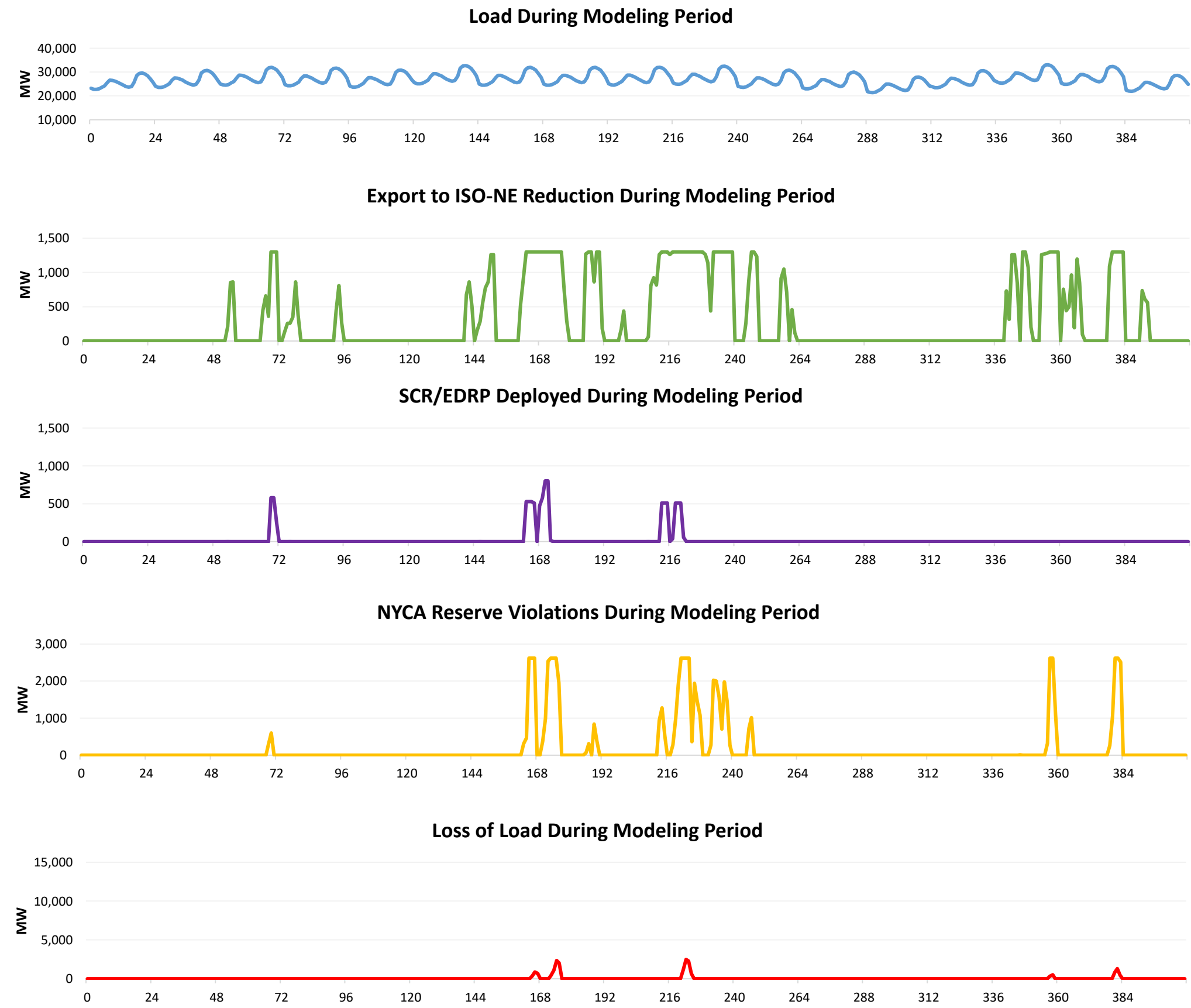


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 3 - PD 5 No Truck Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 3 - PD 5 No Truck Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	130
Total MWh	124,939
Avg. MW	306.2

SCR Deployment	
Total Hrs.	20
Total MWh	9,321
Avg. MW	22.8

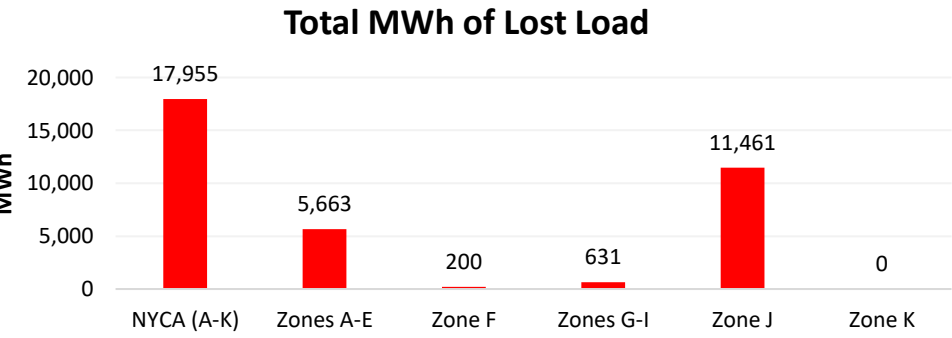
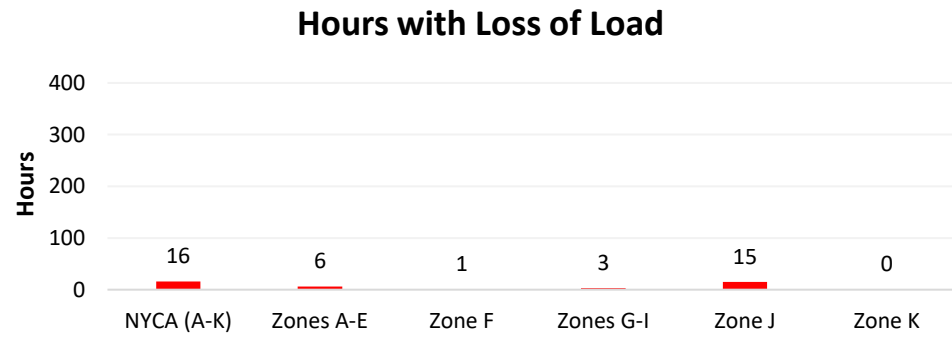
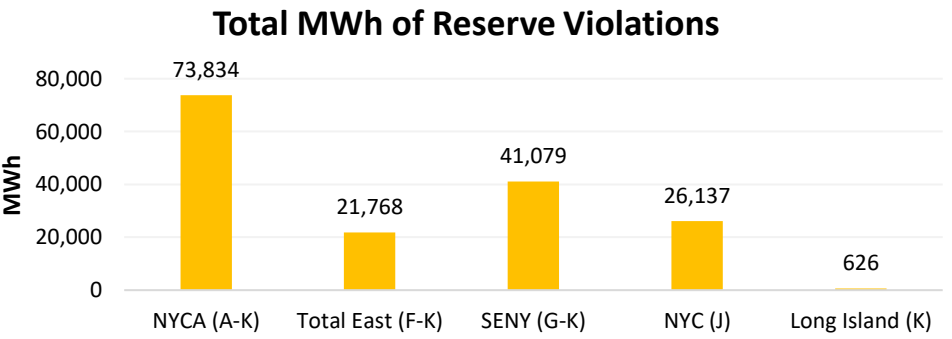
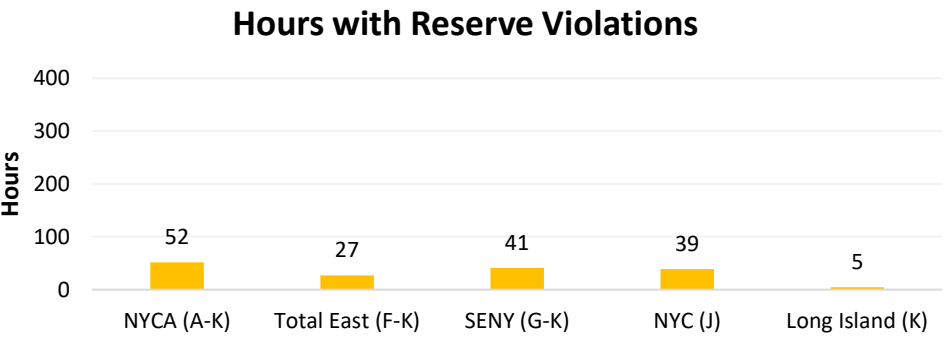
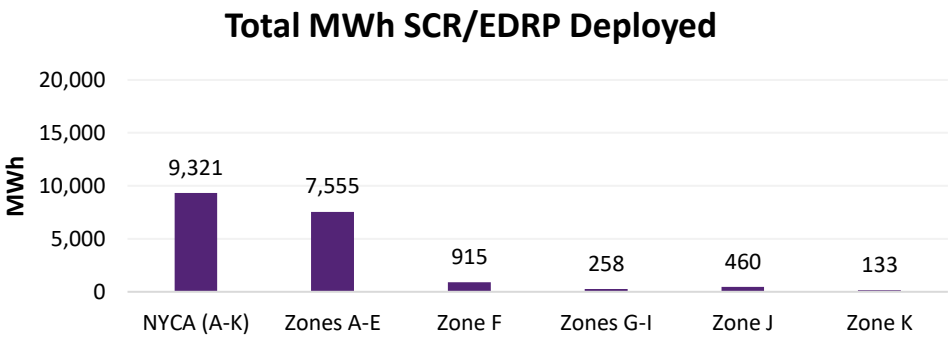
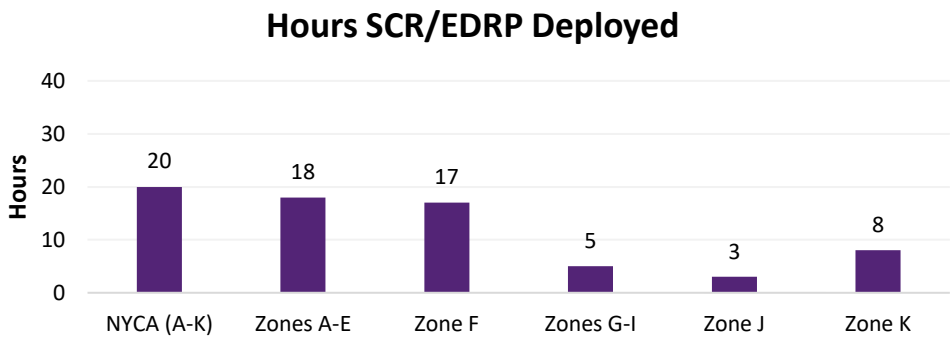
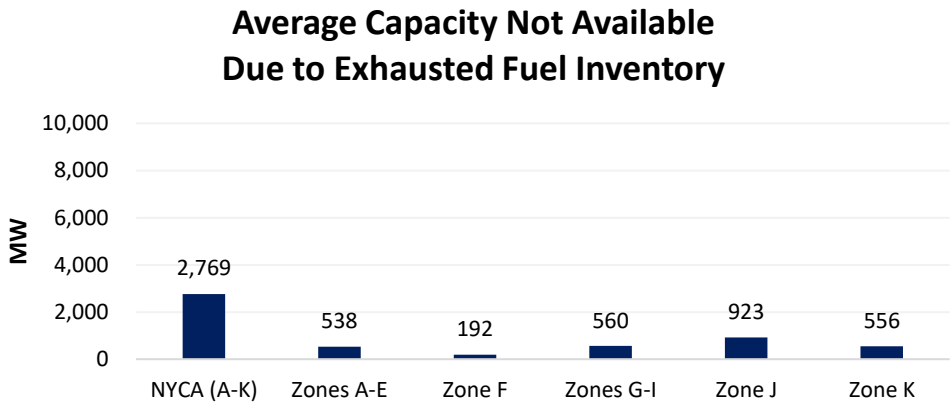
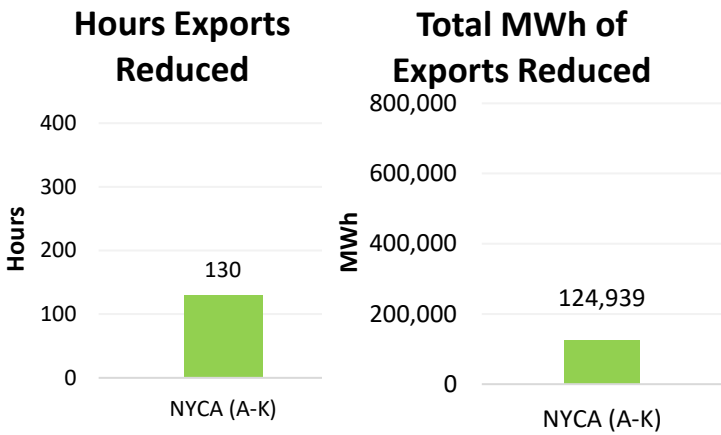
Reserve Violations	
Total Hrs.	52
Total MWh	73,834
Avg. MW	181.0
First Hour with Viol.	69

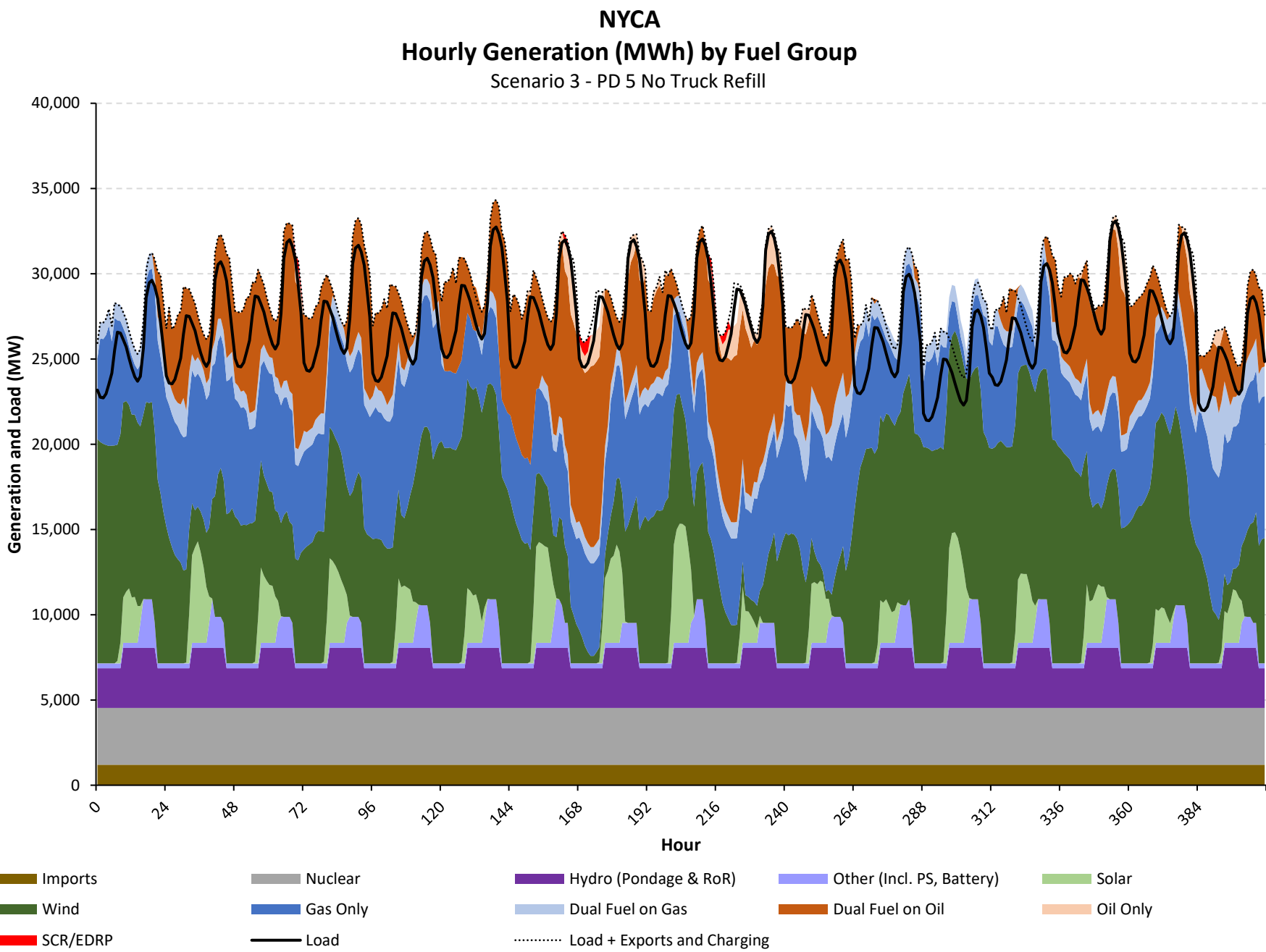
Loss of Load	
Total Hrs.	16
Total MWh	17,955
Avg. MW	44.0
First Hour with Losses	165

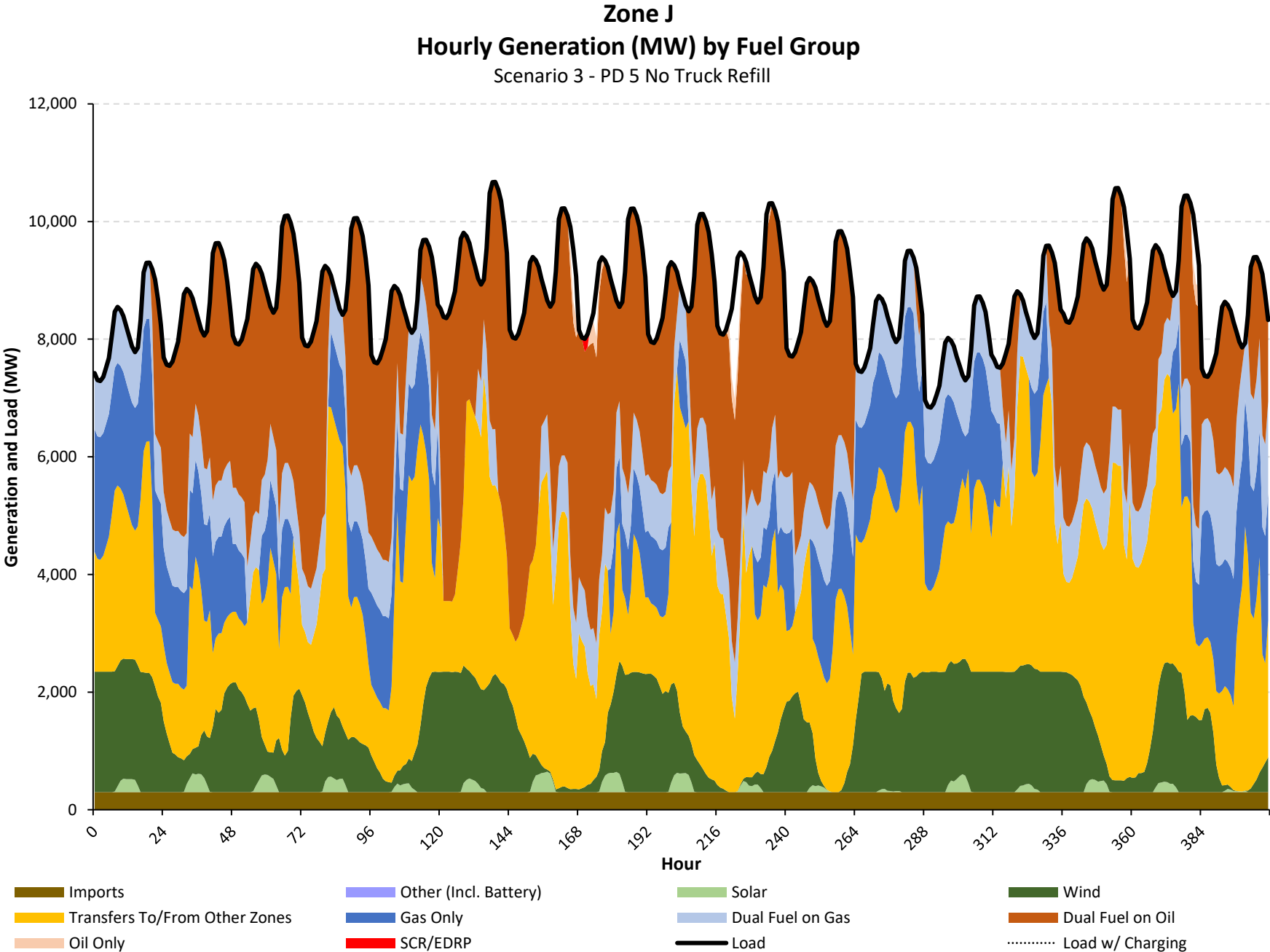
Full Period Results Summary

Case Name: Scenario 3 - PD 5 No Truck Refill

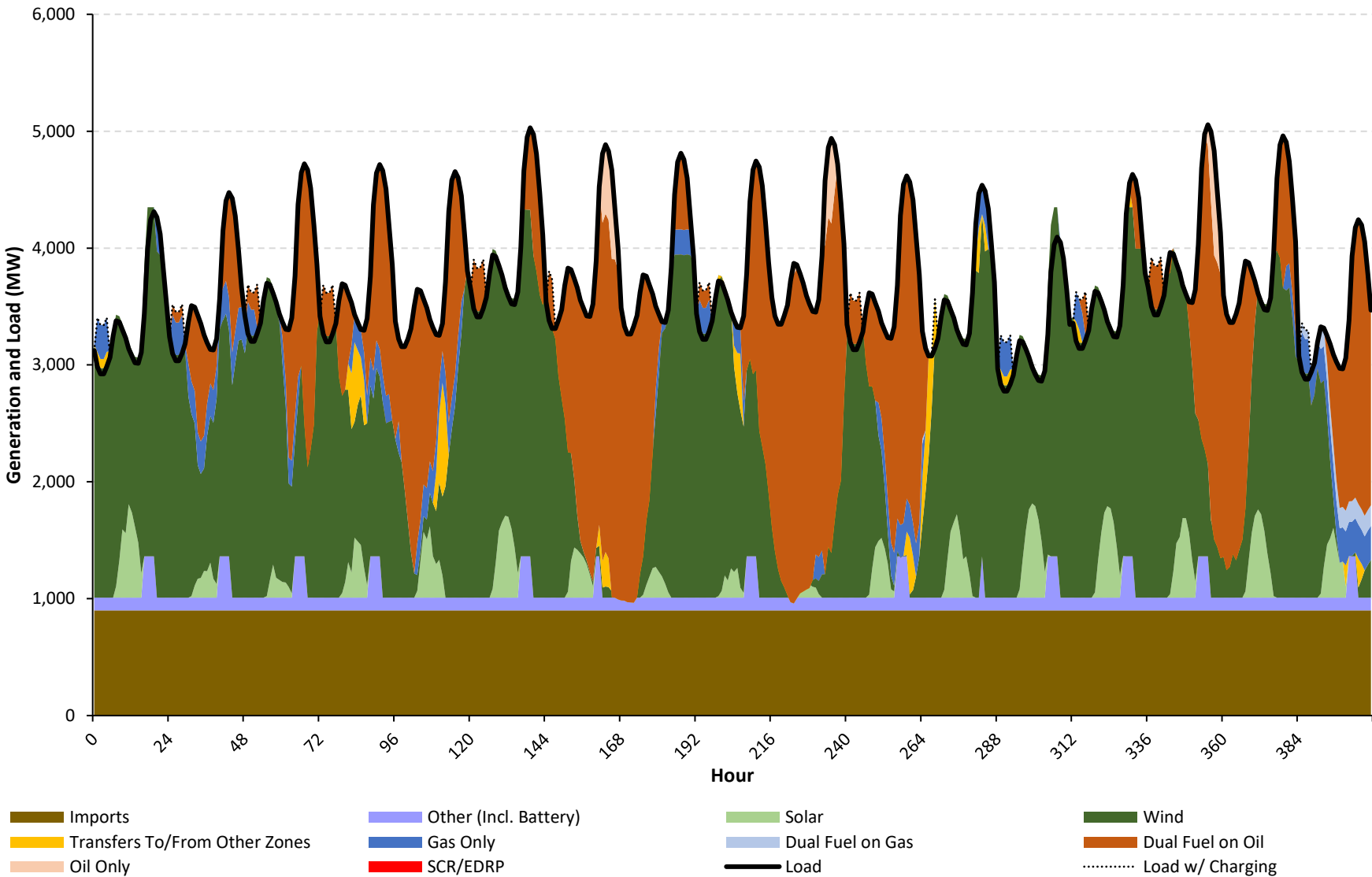
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All



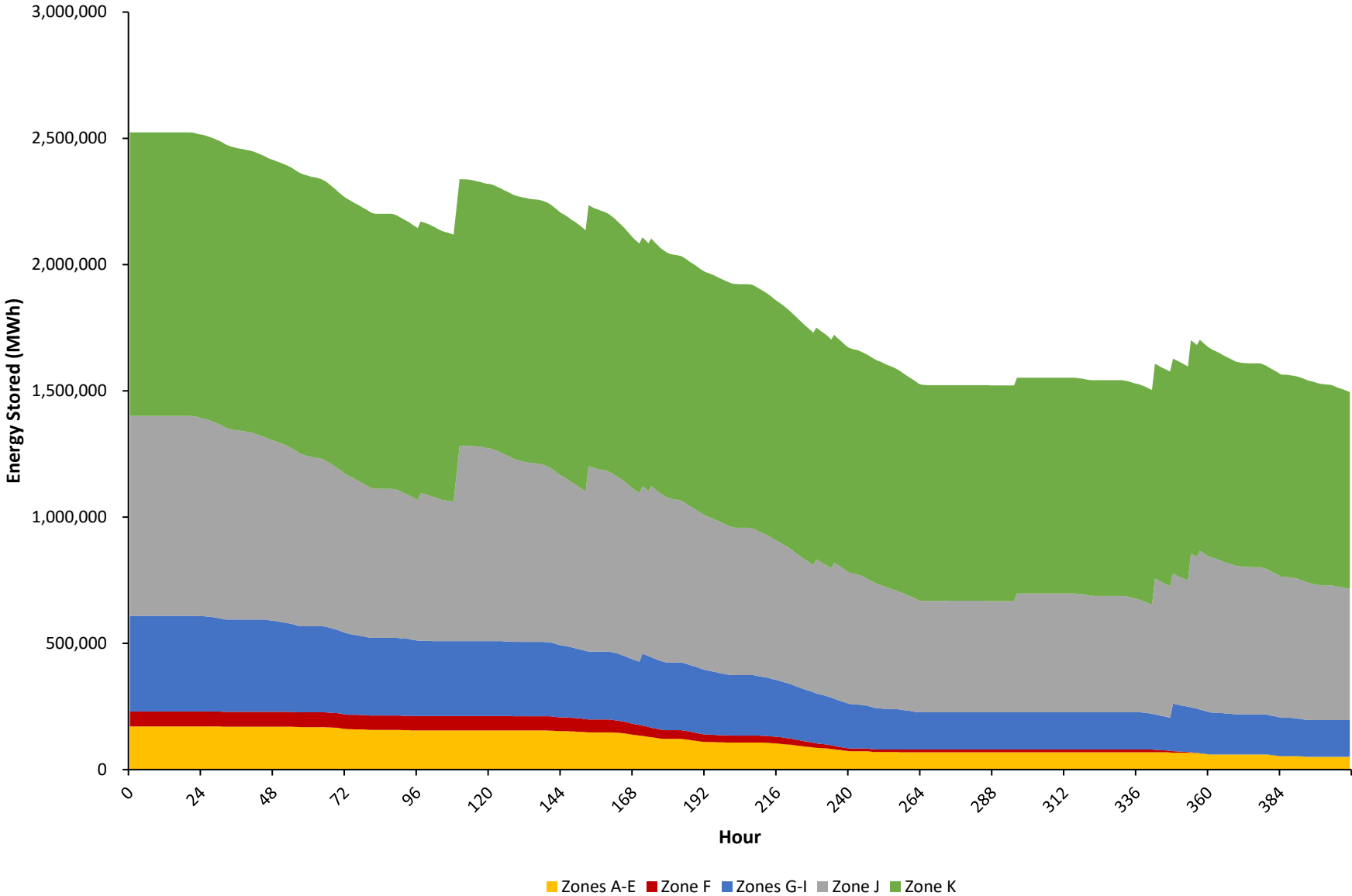


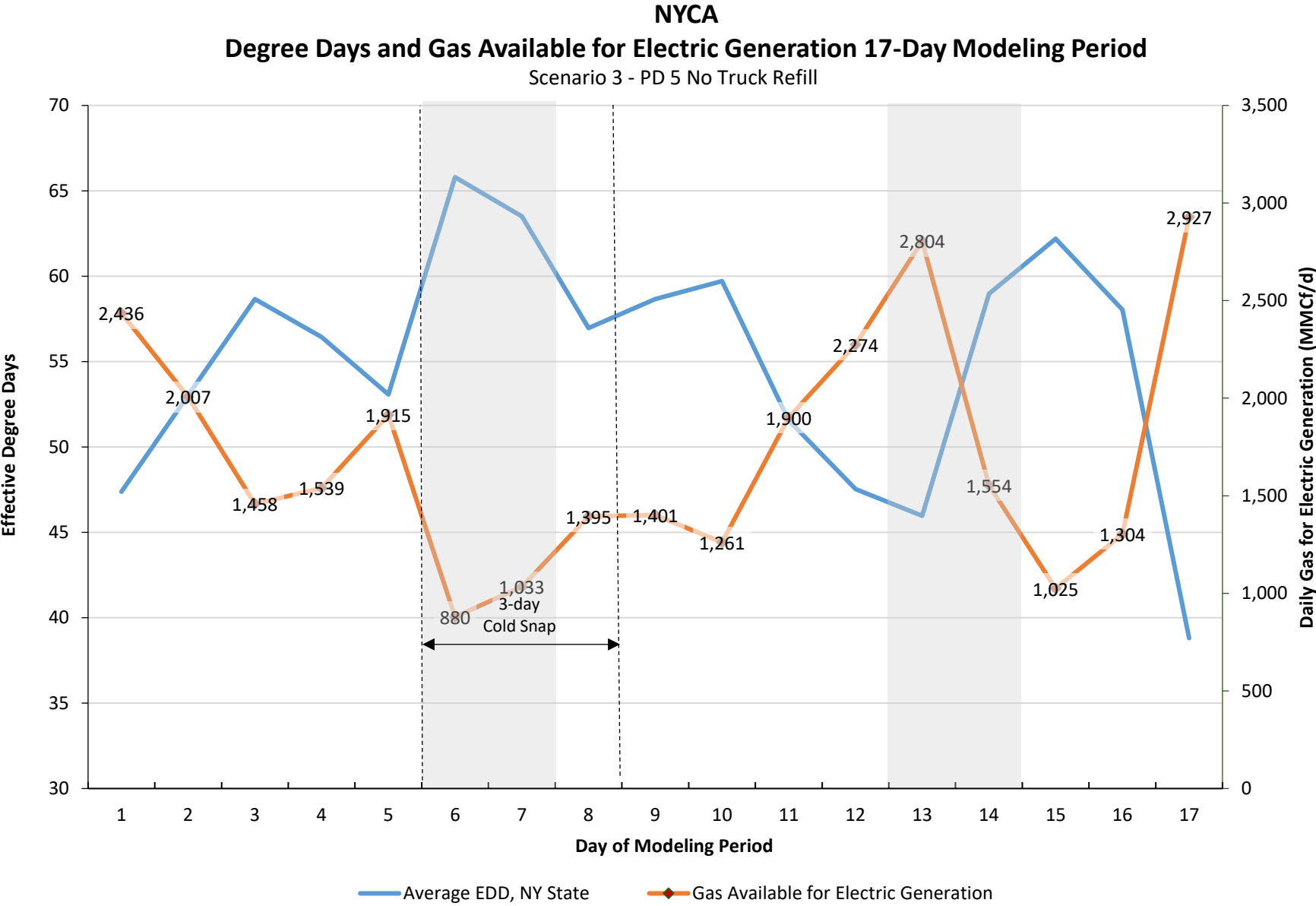


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 3 - PD 5 No Truck Refill

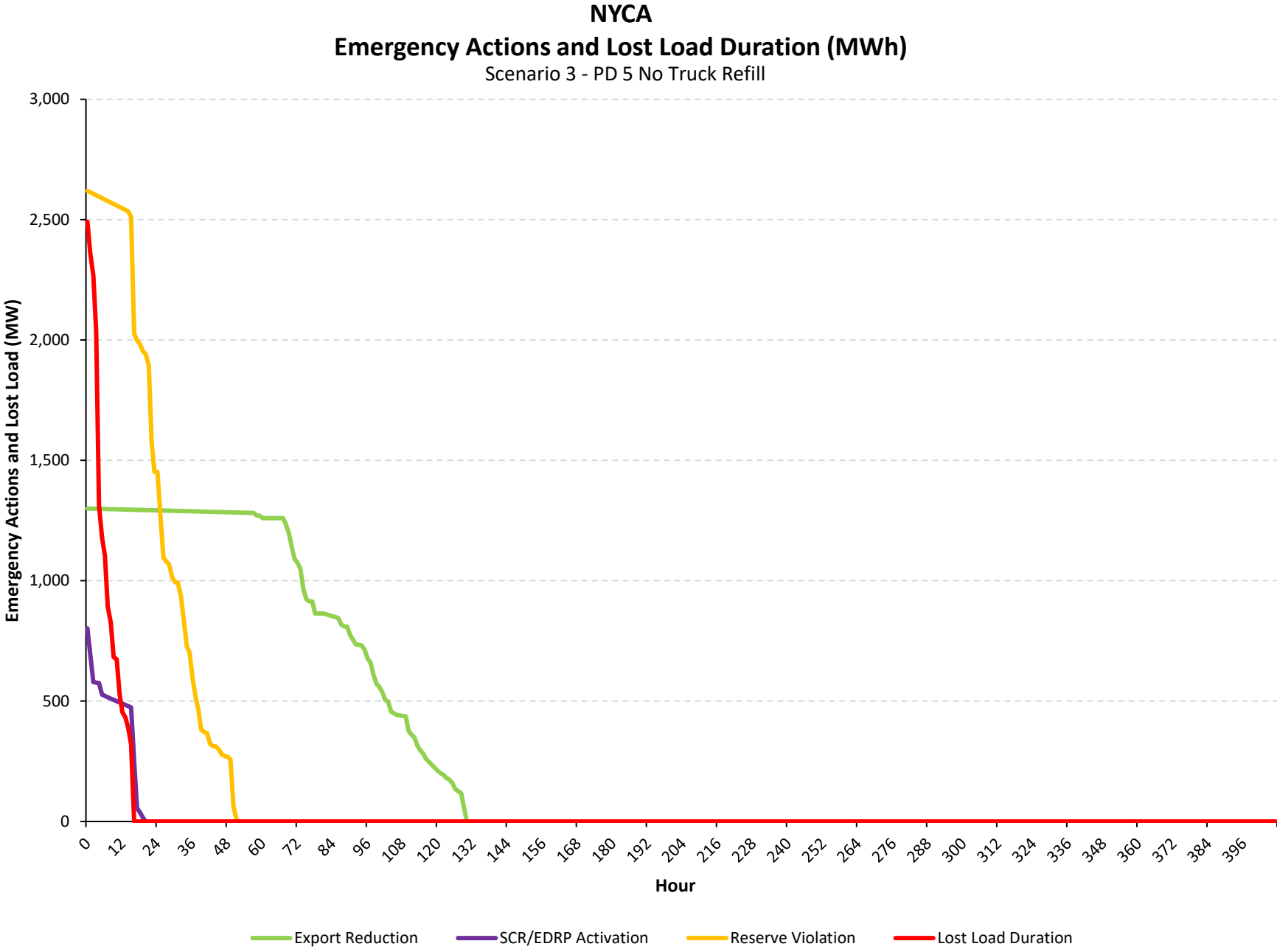


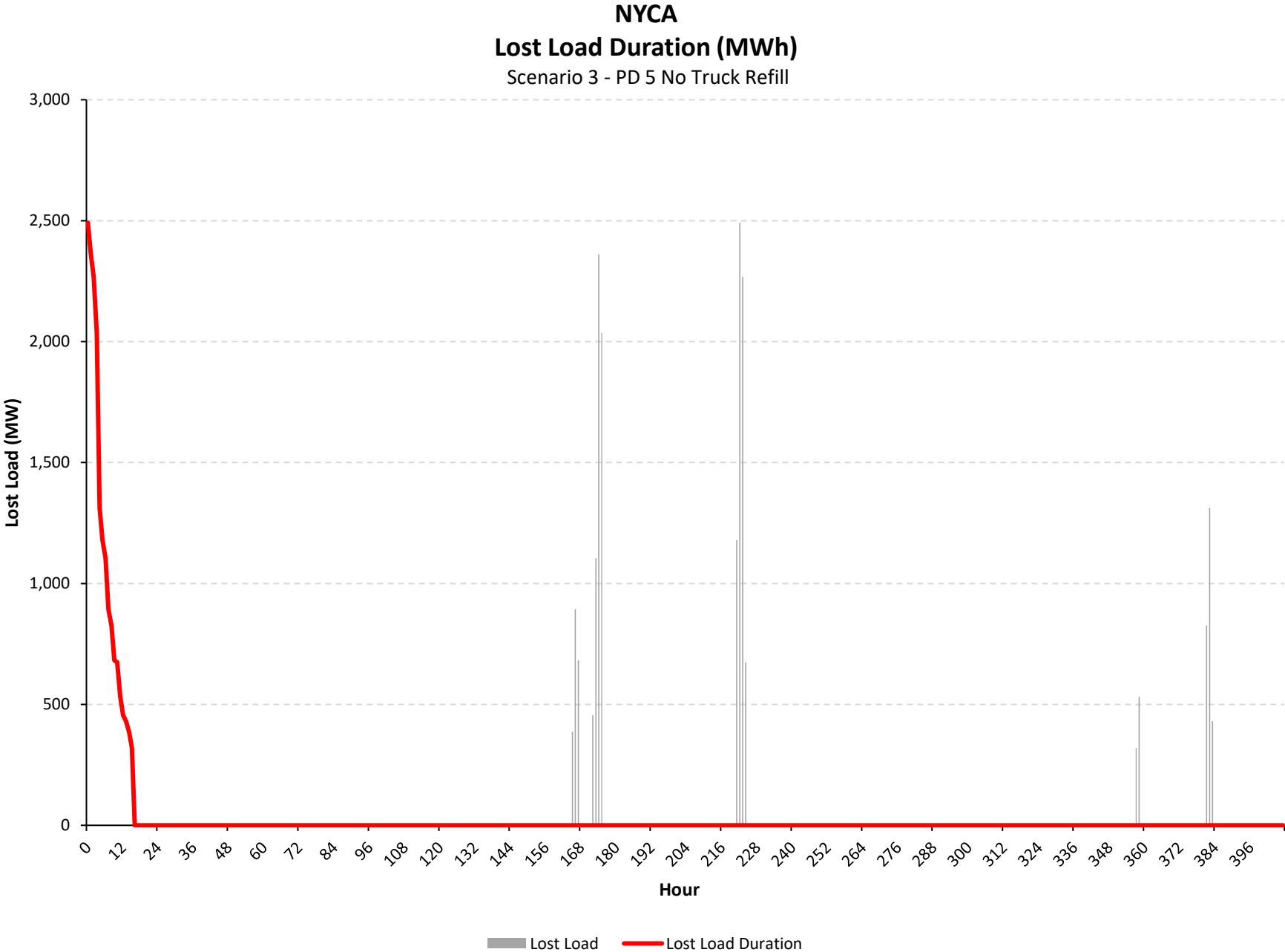
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 3 - PD 5 No Truck Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



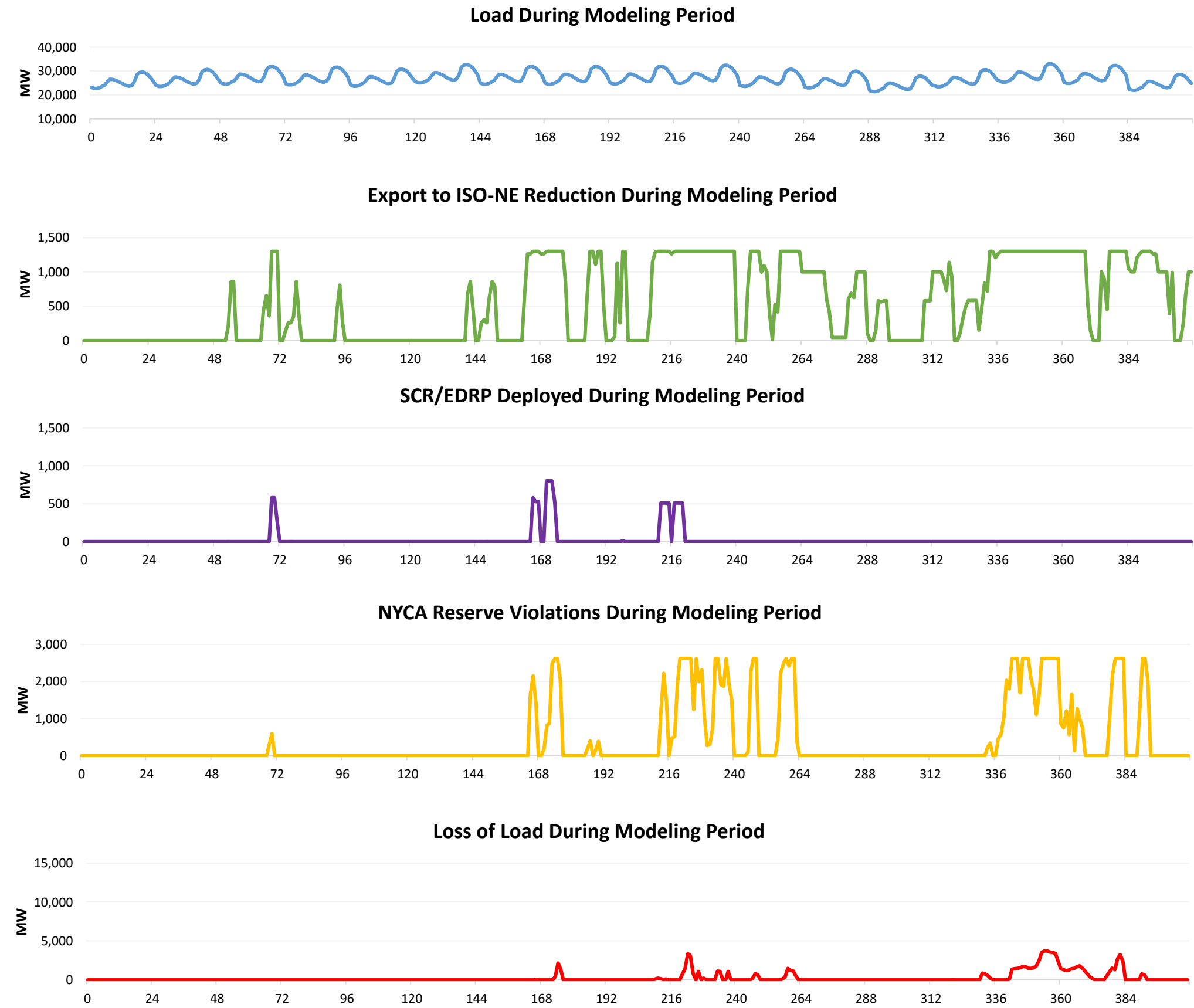


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 3 - PD 6 No Barge Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 3 - PD 6 No Barge Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	228
Total MWh	222,470
Avg. MW	545.3

SCR Deployment	
Total Hrs.	19
Total MWh	10,064
Avg. MW	24.7

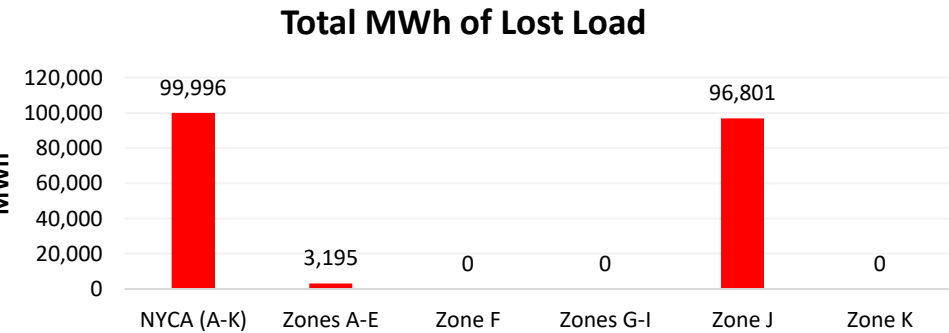
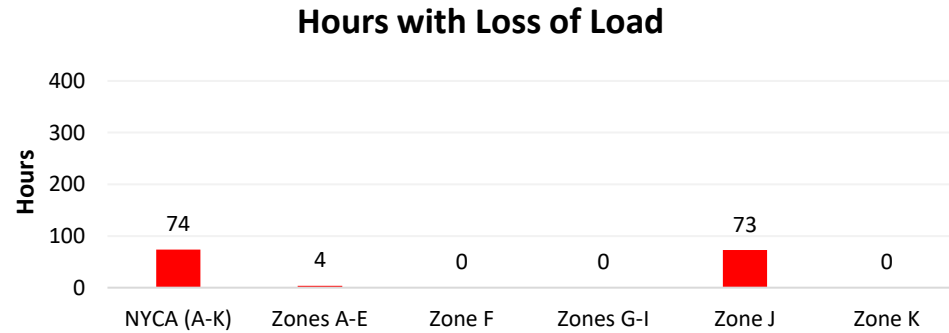
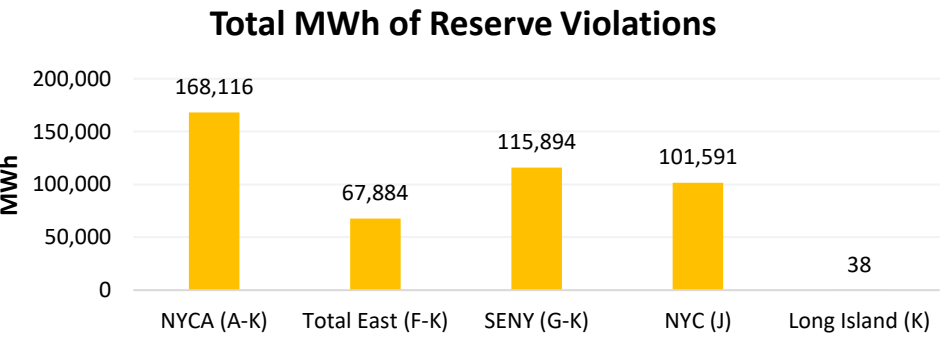
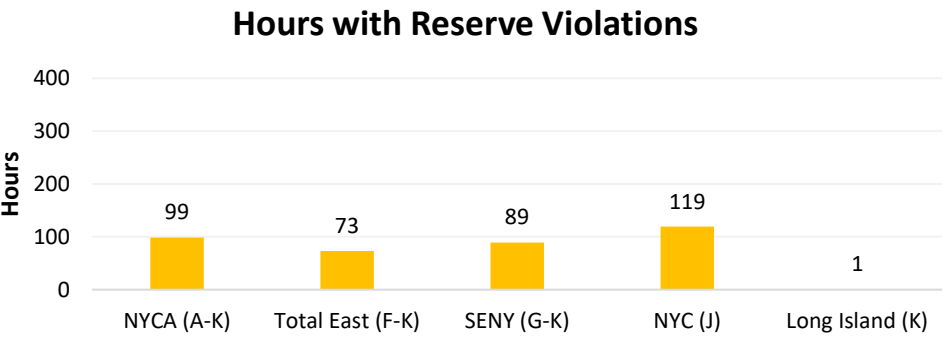
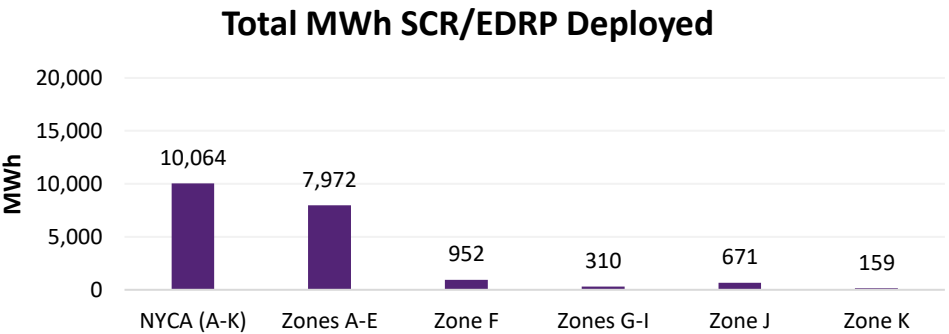
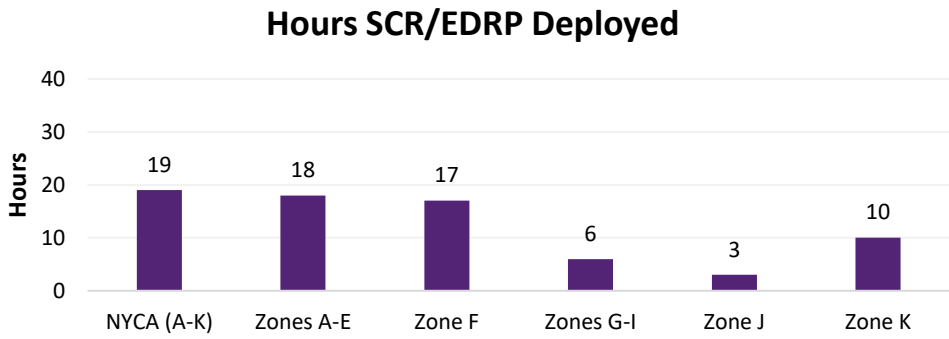
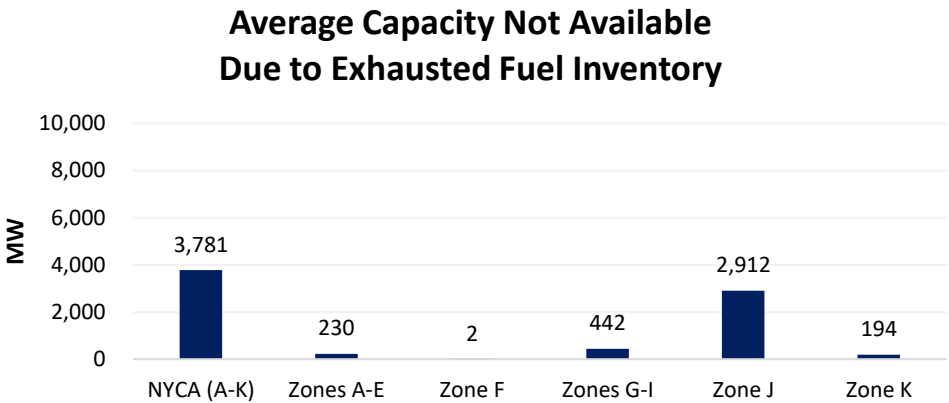
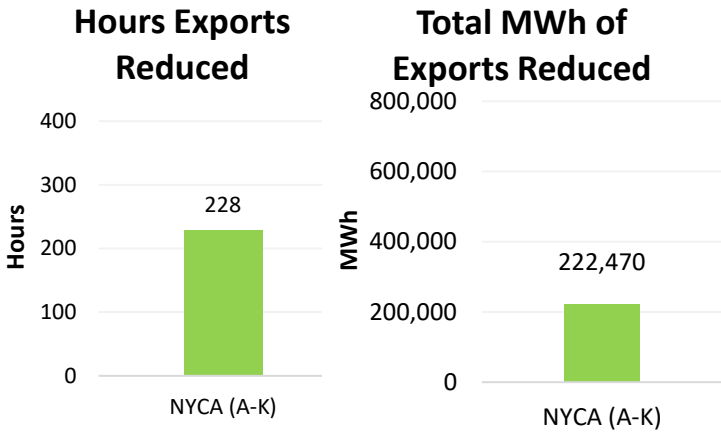
Reserve Violations	
Total Hrs.	99
Total MWh	168,116
Avg. MW	412.1
First Hour with Viol.	69

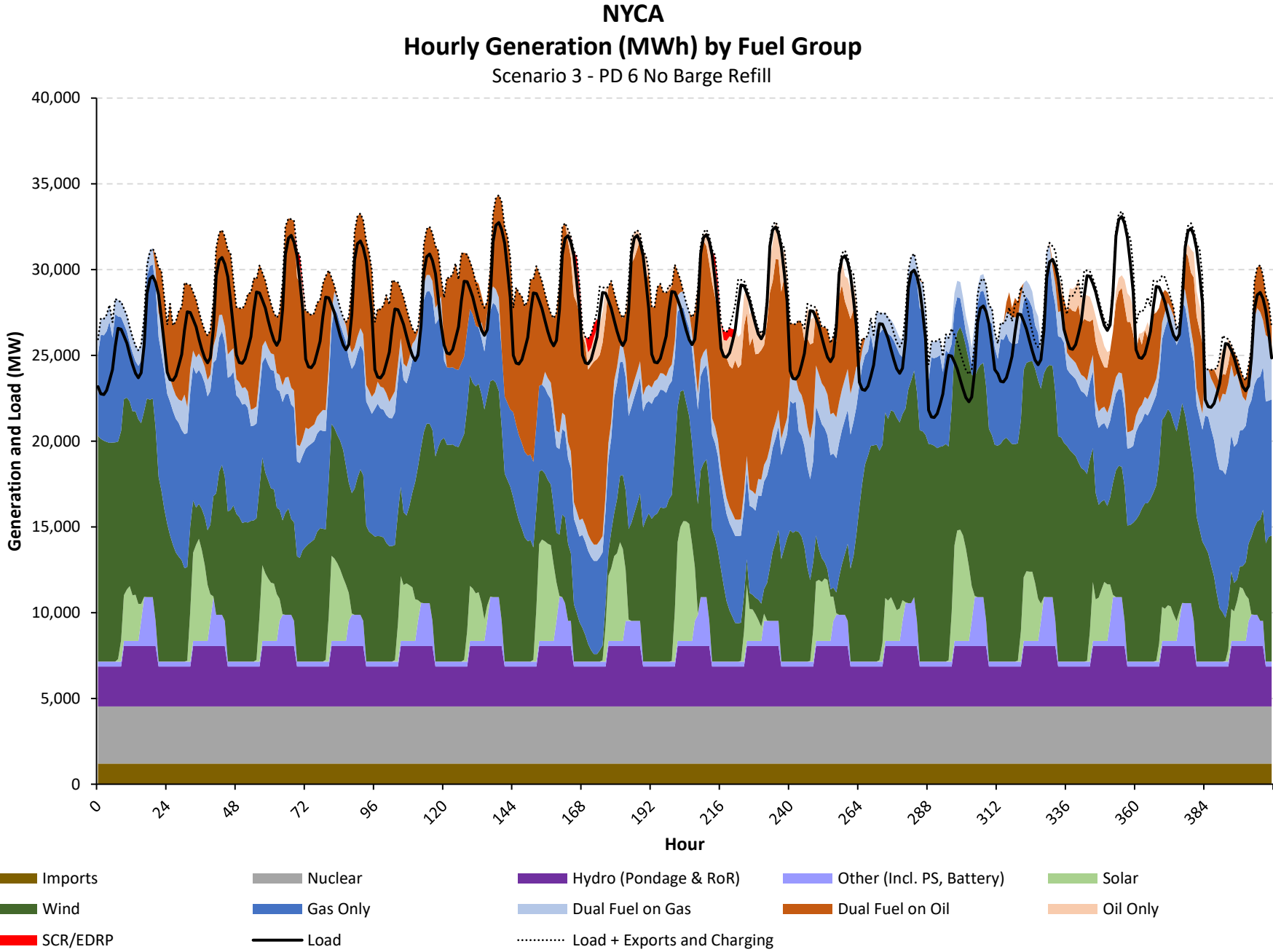
Loss of Load	
Total Hrs.	74
Total MWh	99,996
Avg. MW	245.1
First Hour with Losses	166

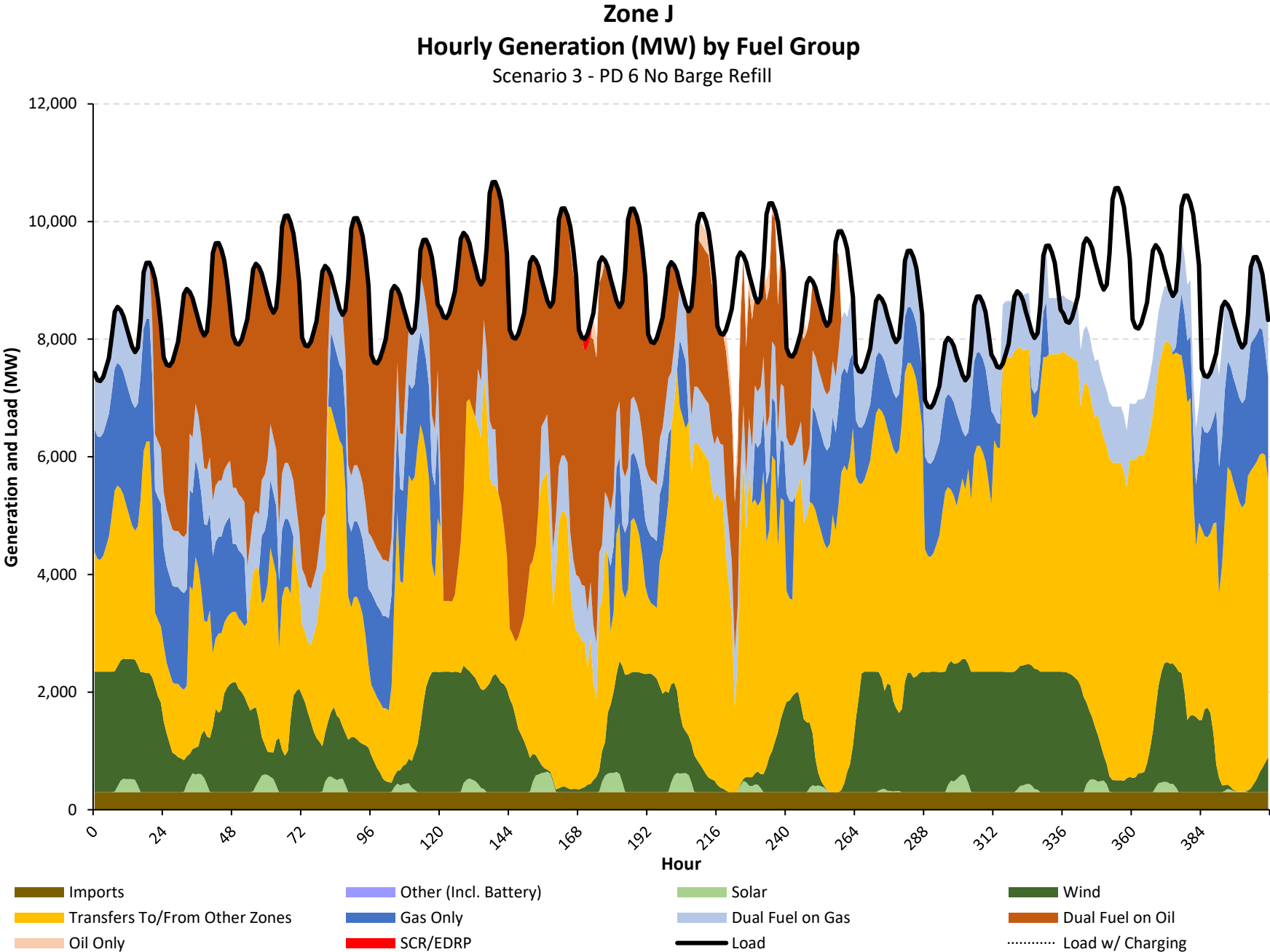
Full Period Results Summary

Case Name: Scenario 3 - PD 6 No Barge Refill

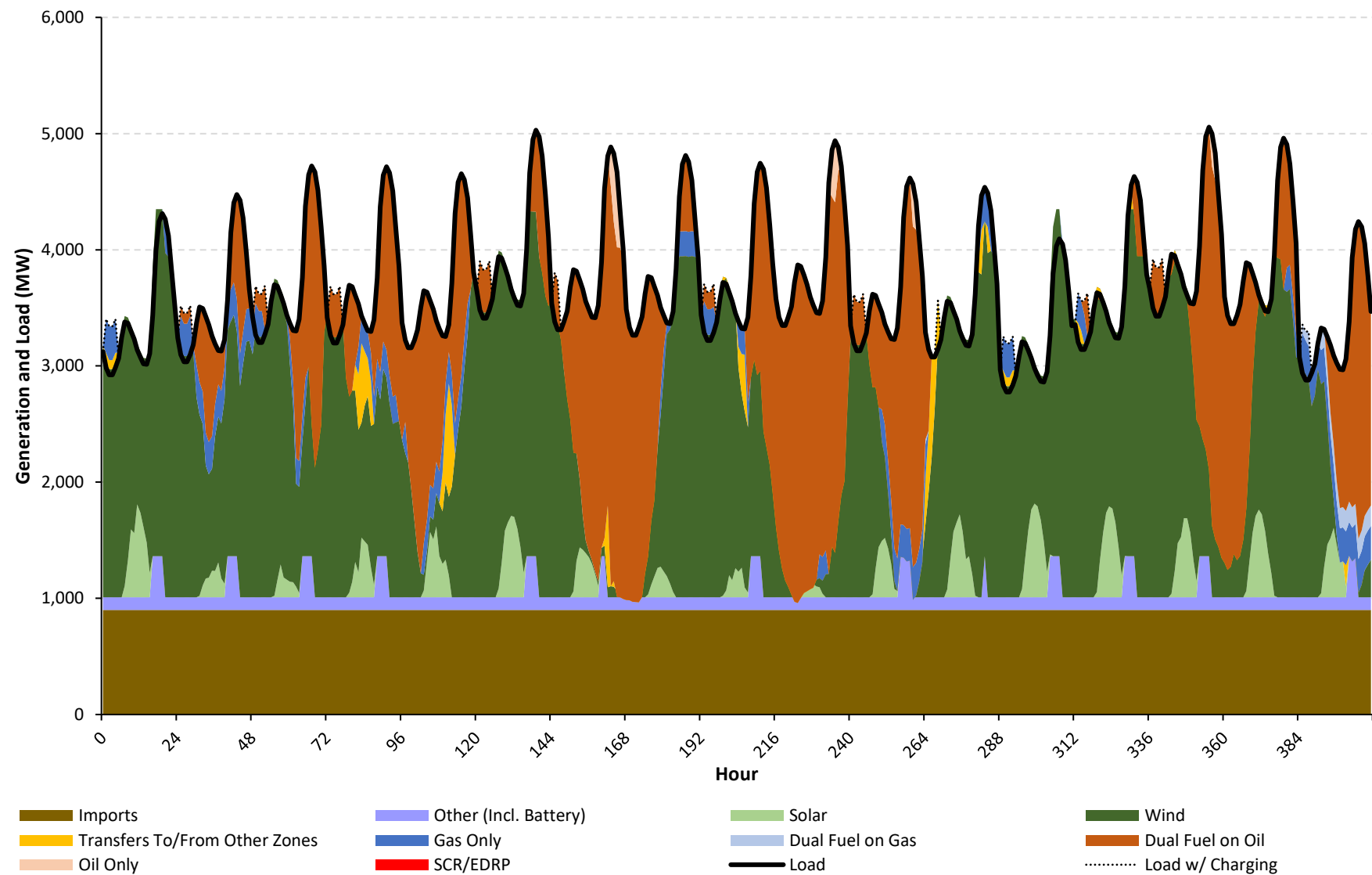
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All



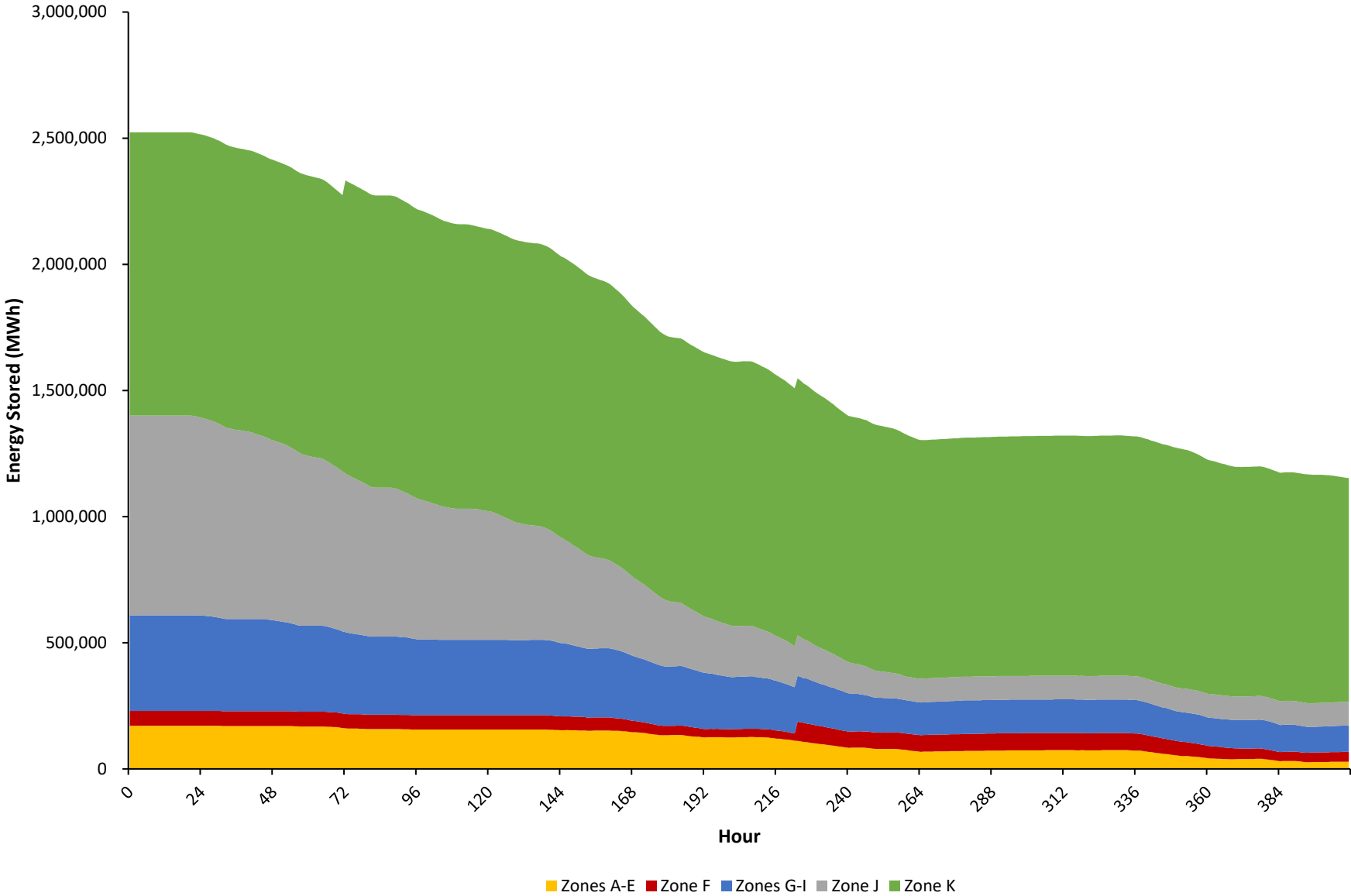


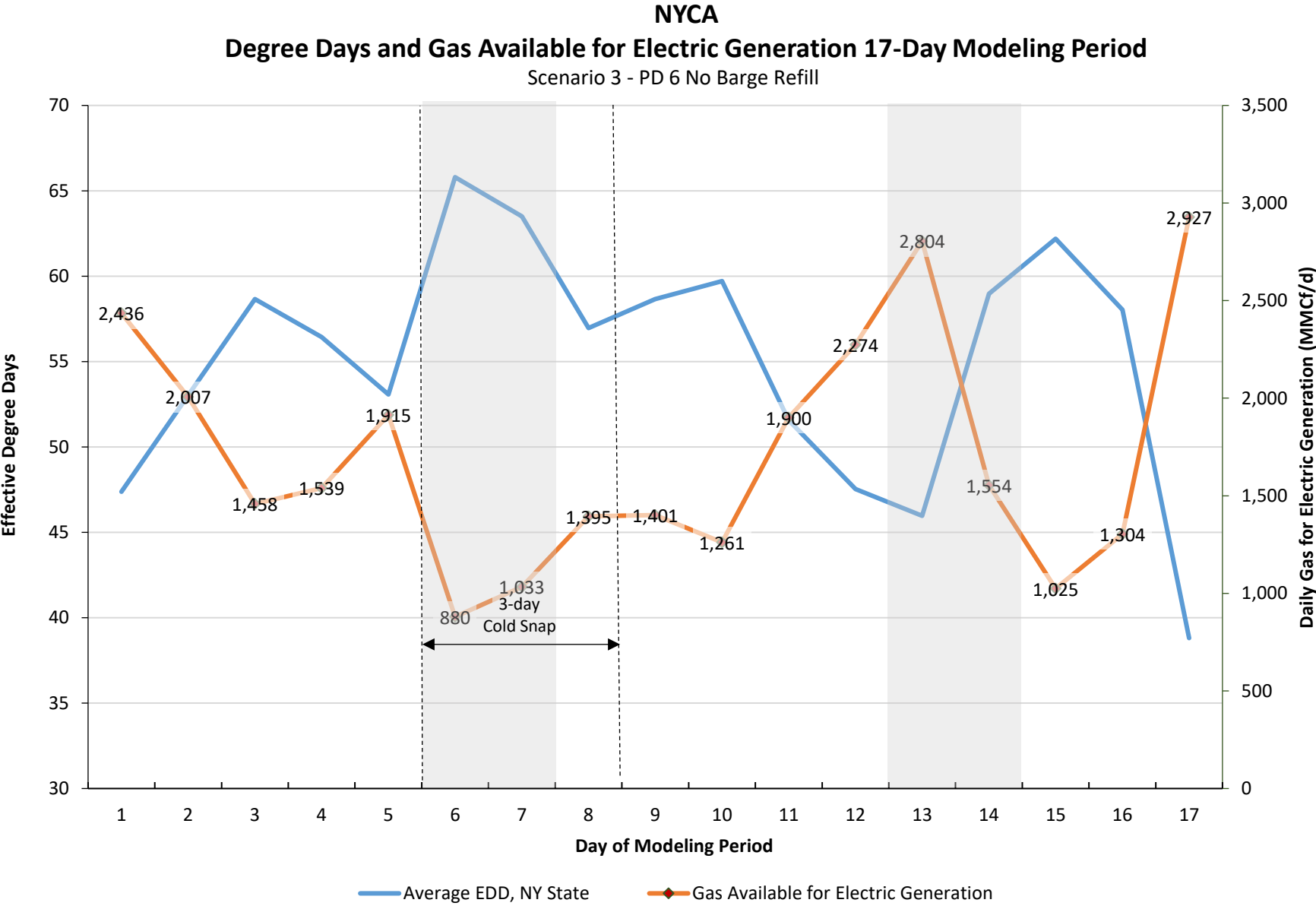


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 3 - PD 6 No Barge Refill

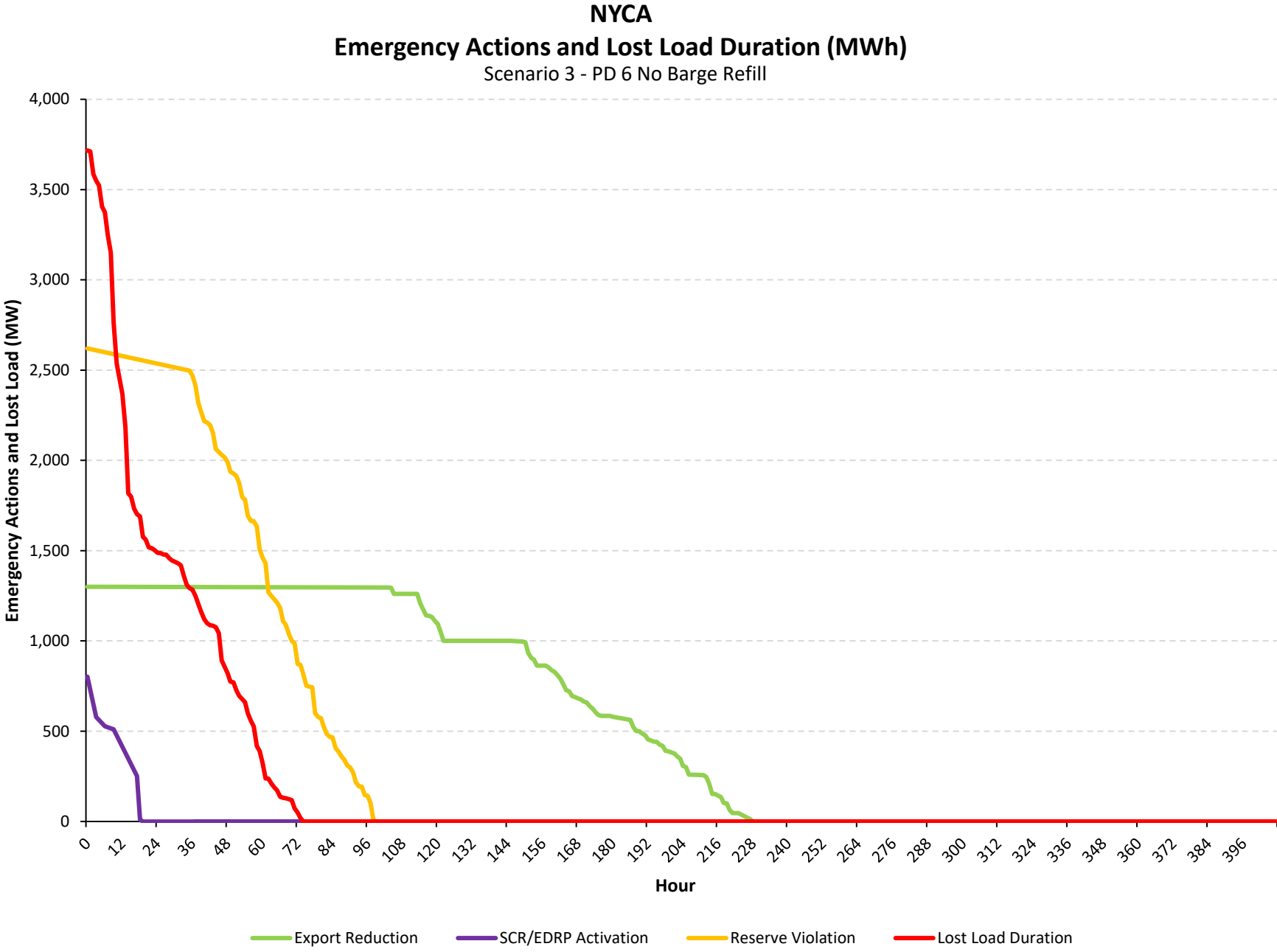


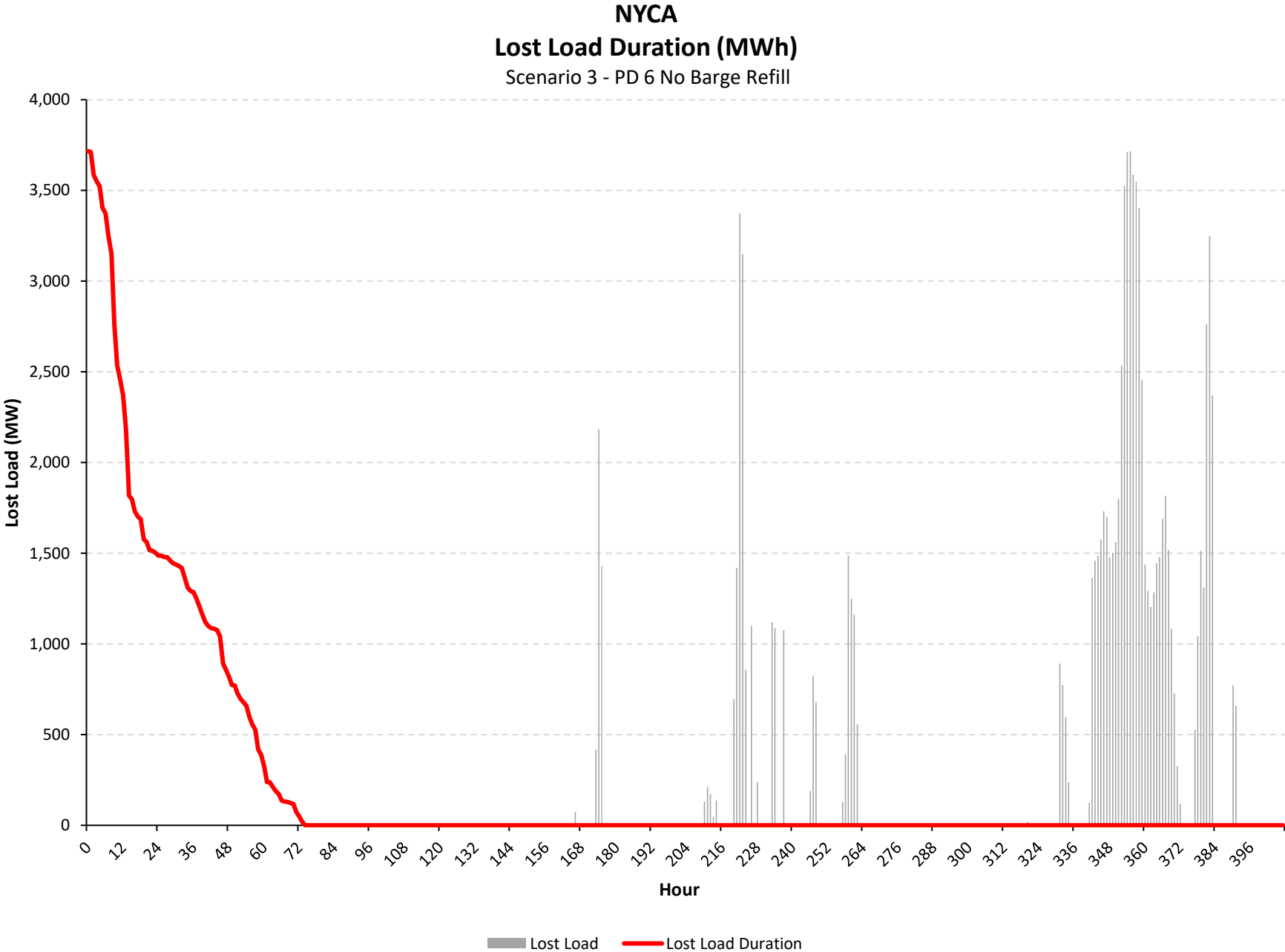
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 3 - PD 6 No Barge Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



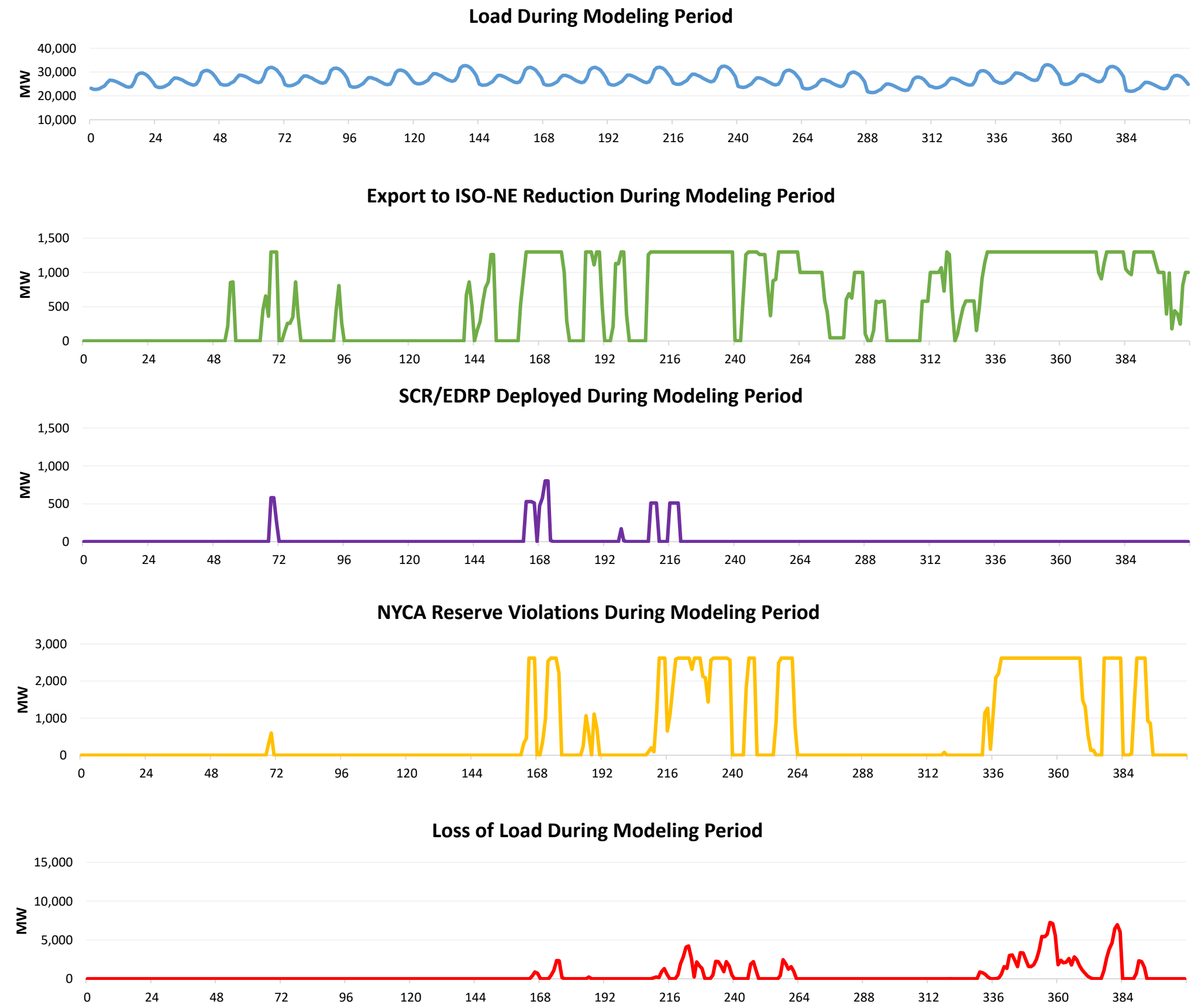


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 3 - PD 7 No Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 3 - PD 7 No Refill



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	241
Total MWh	242,388
Avg. MW	594.1

SCR Deployment	
Total Hrs.	21
Total MWh	9,920
Avg. MW	24.3

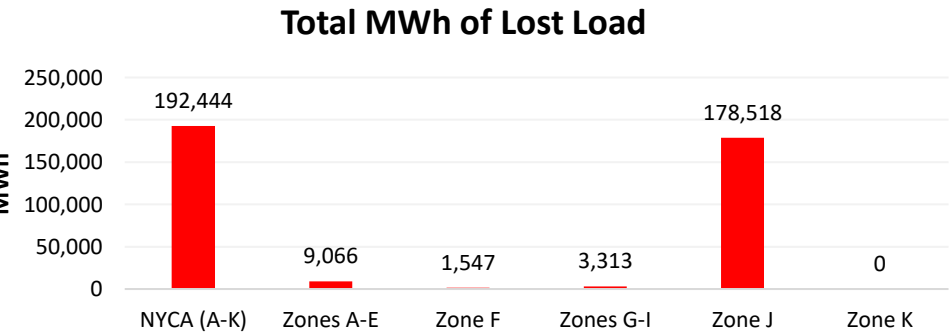
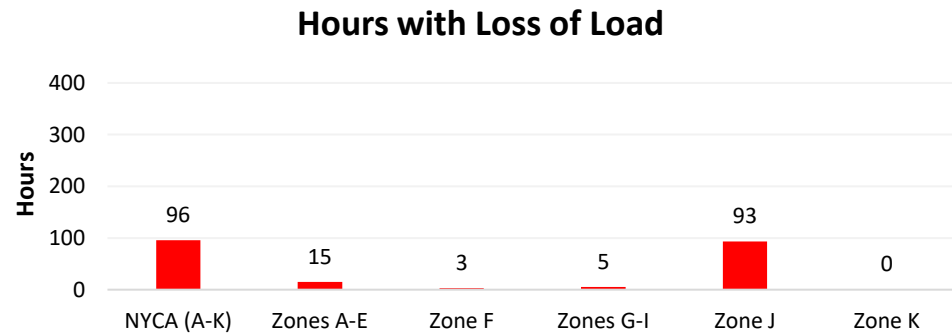
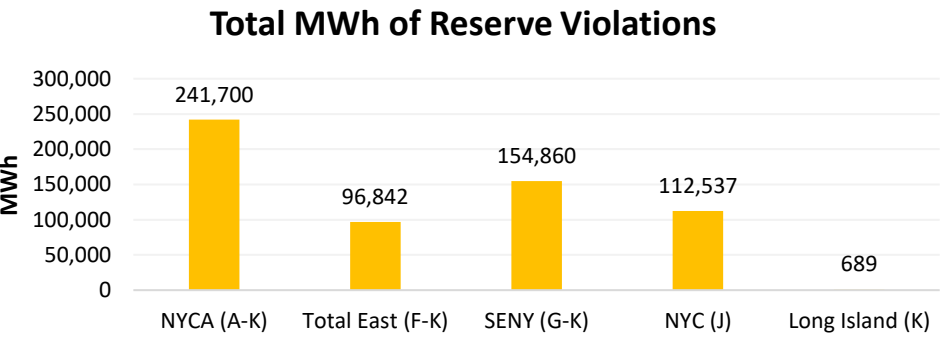
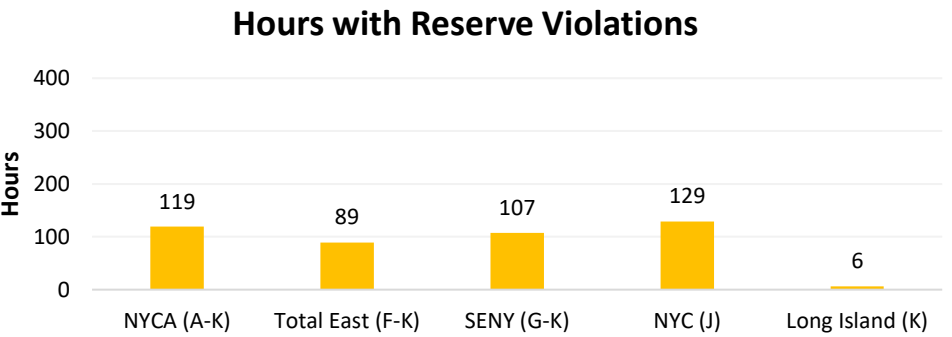
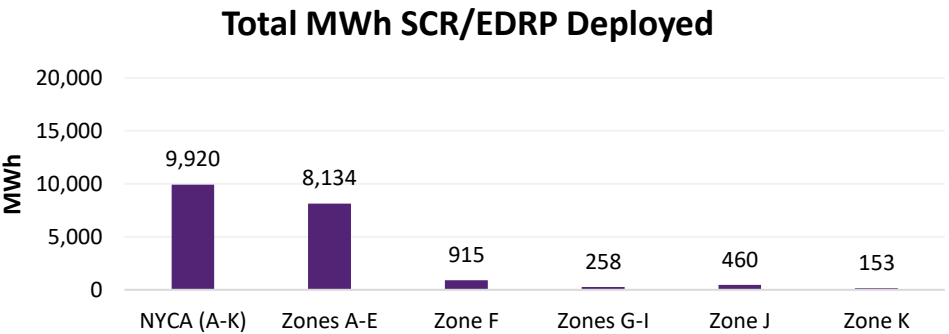
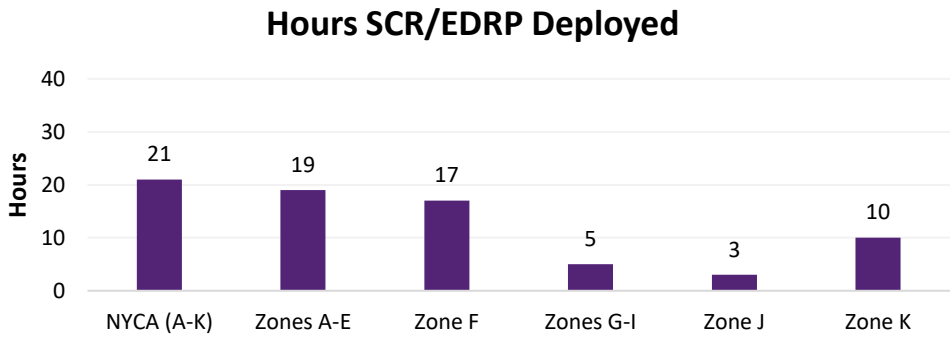
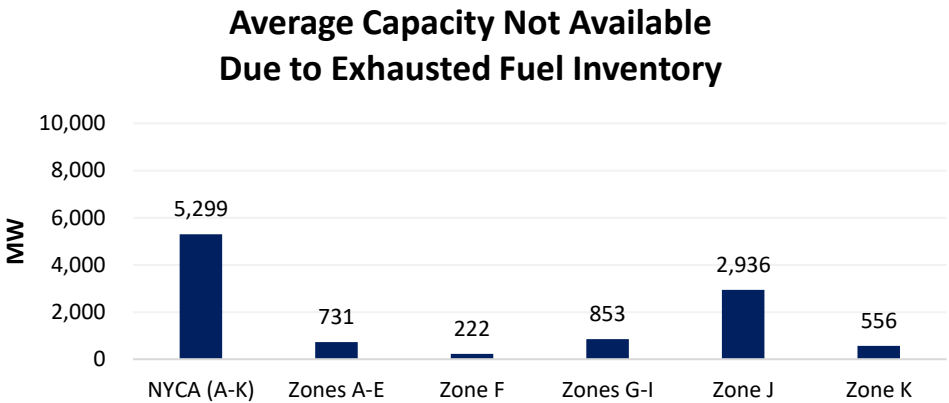
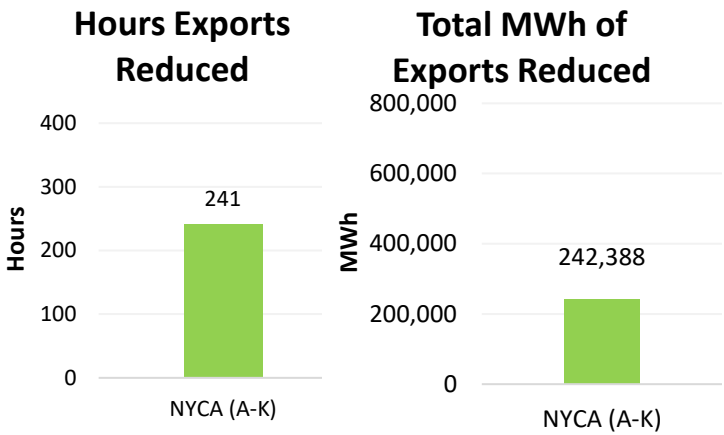
Reserve Violations	
Total Hrs.	119
Total MWh	241,700
Avg. MW	592.4
First Hour with Viol.	69

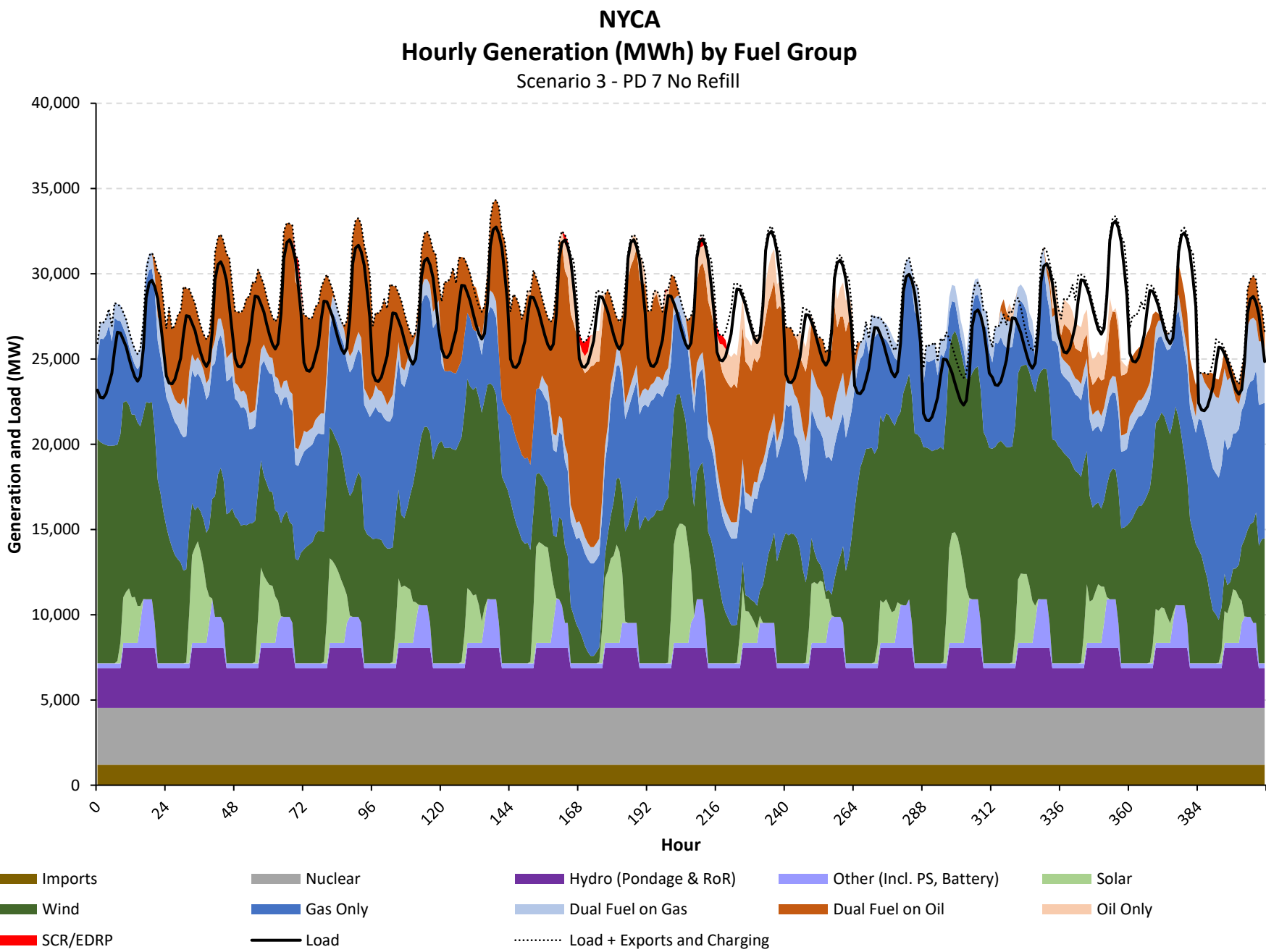
Loss of Load	
Total Hrs.	96
Total MWh	192,444
Avg. MW	471.7
First Hour with Losses	165

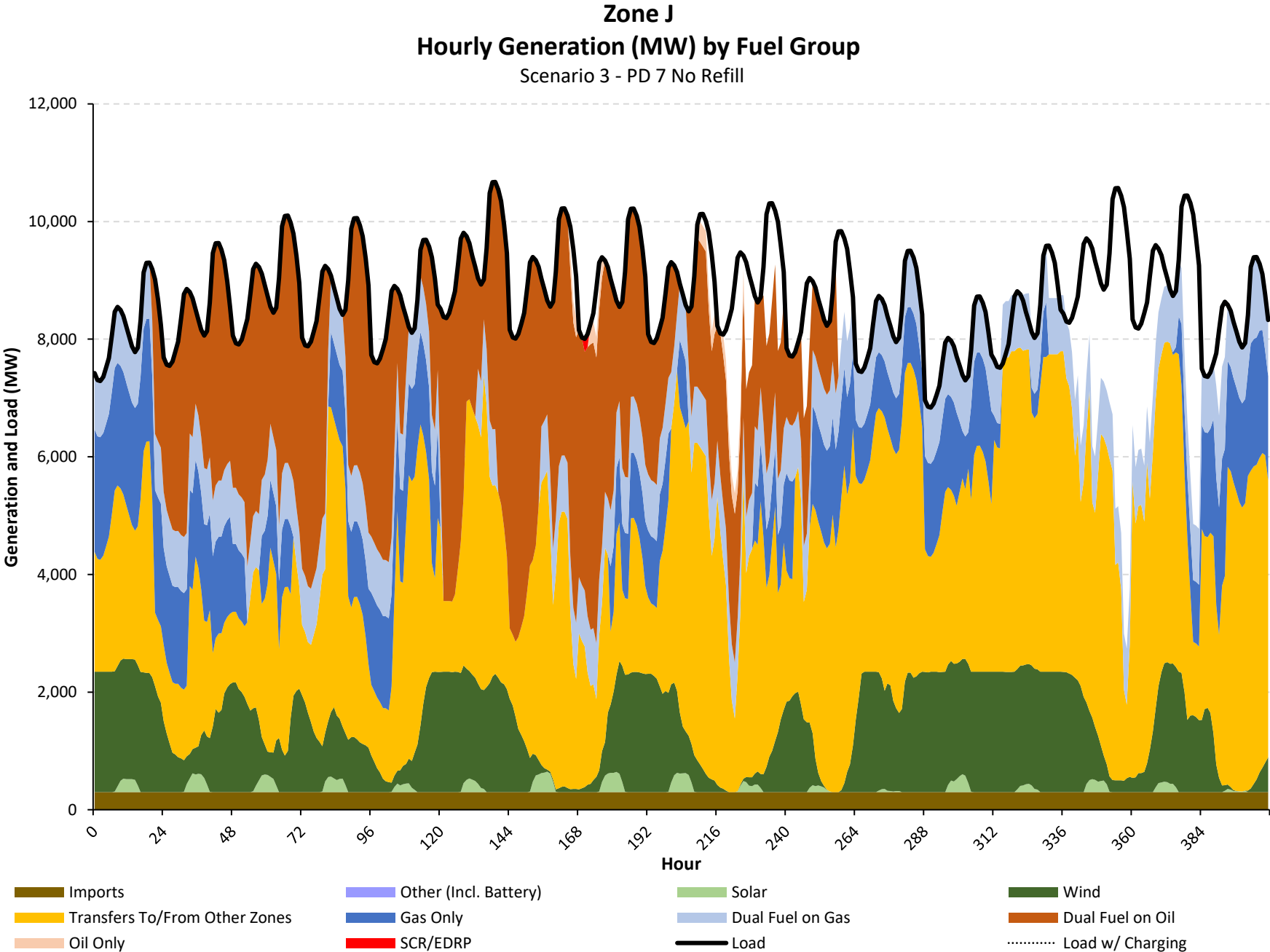
Full Period Results Summary

Case Name: Scenario 3 - PD 7 No Refill

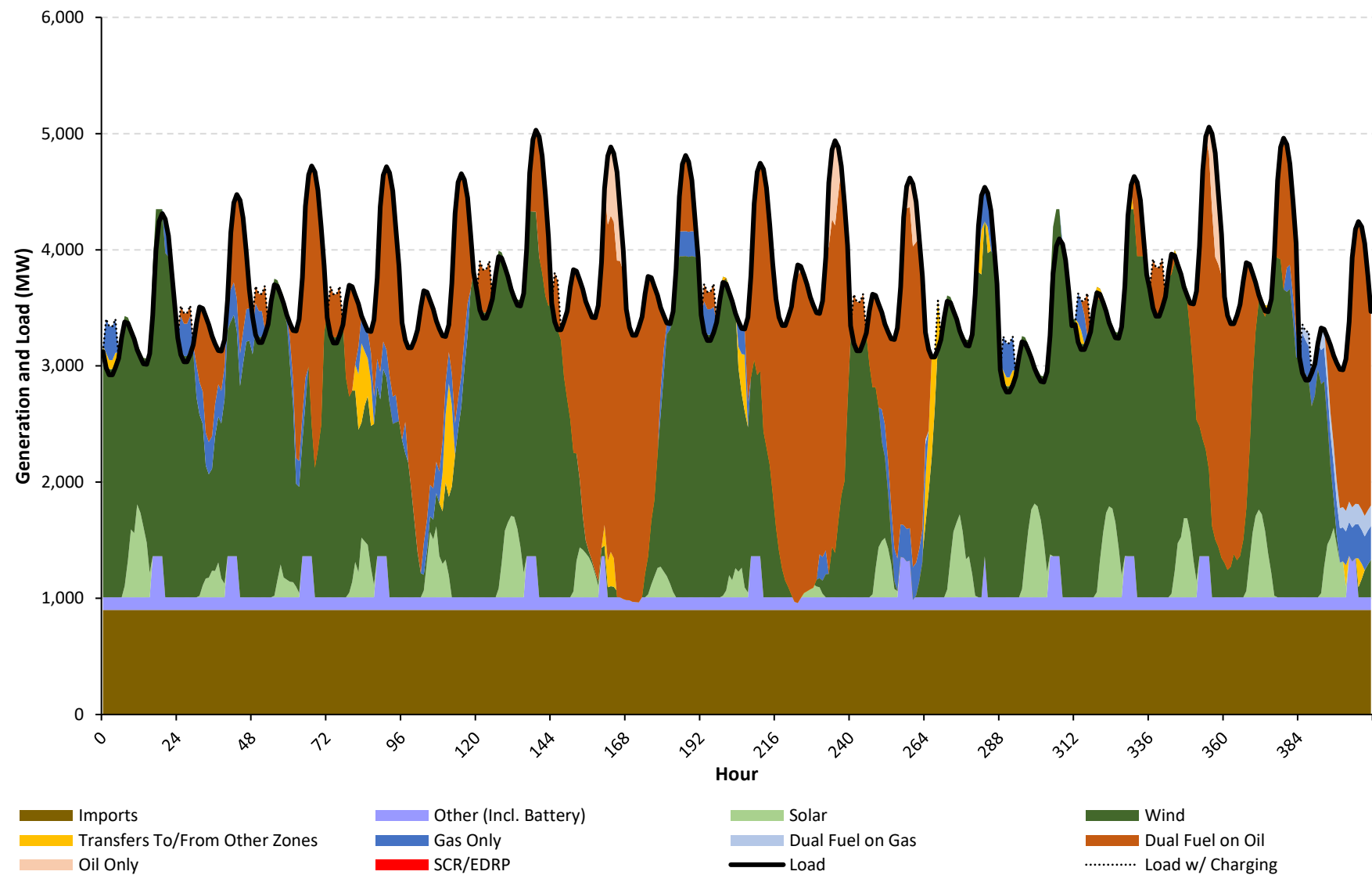
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All



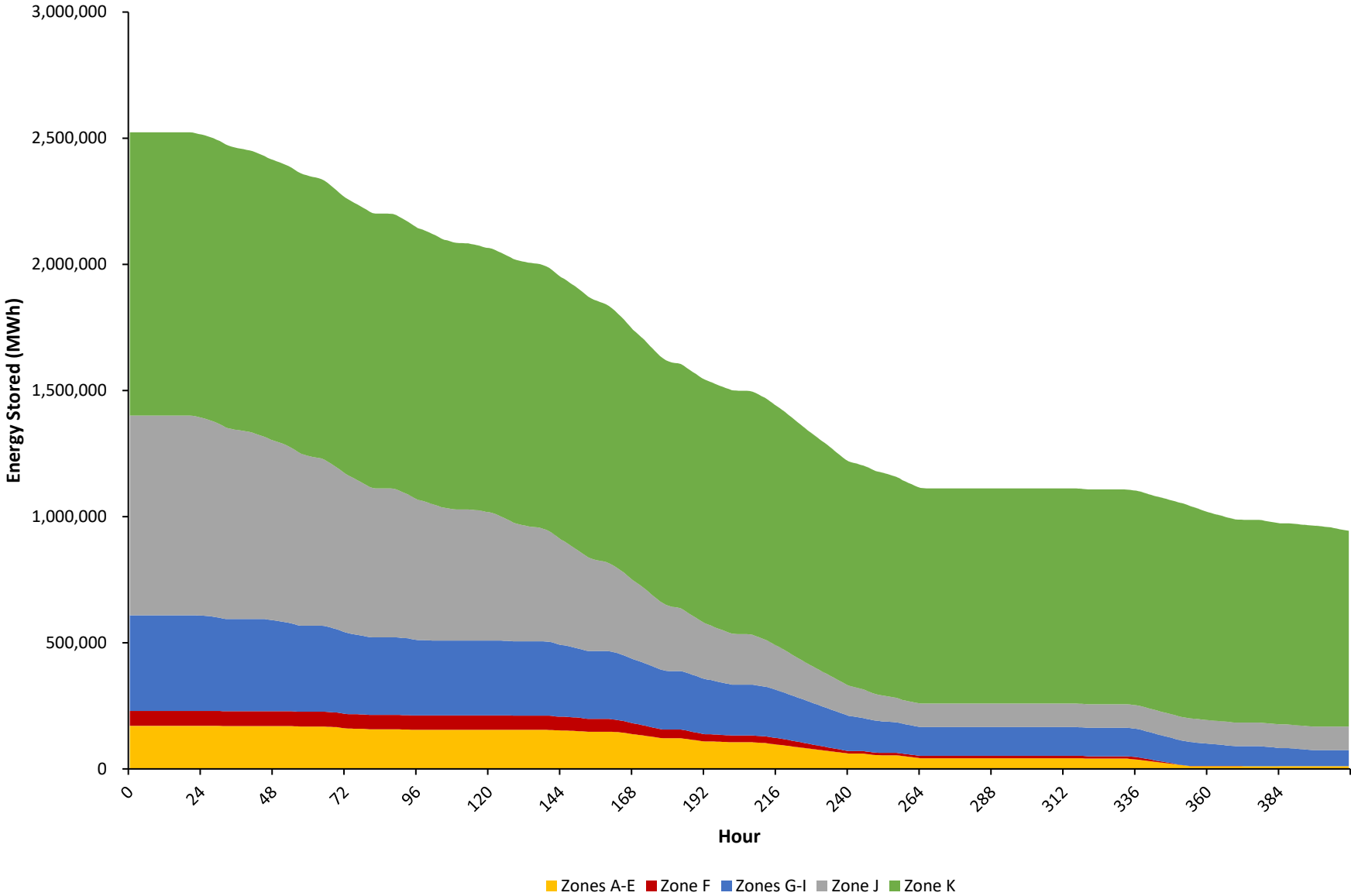


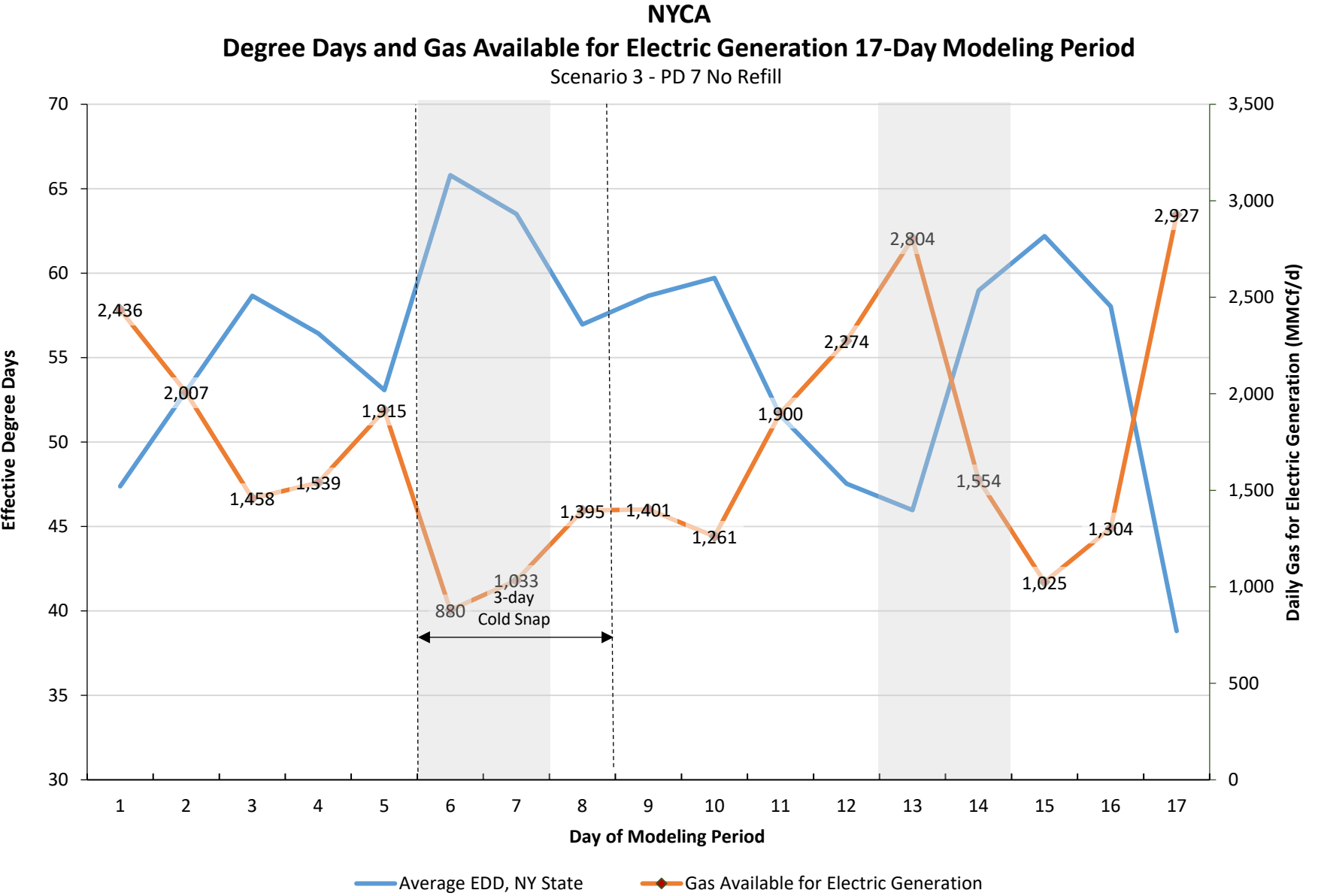


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 3 - PD 7 No Refill

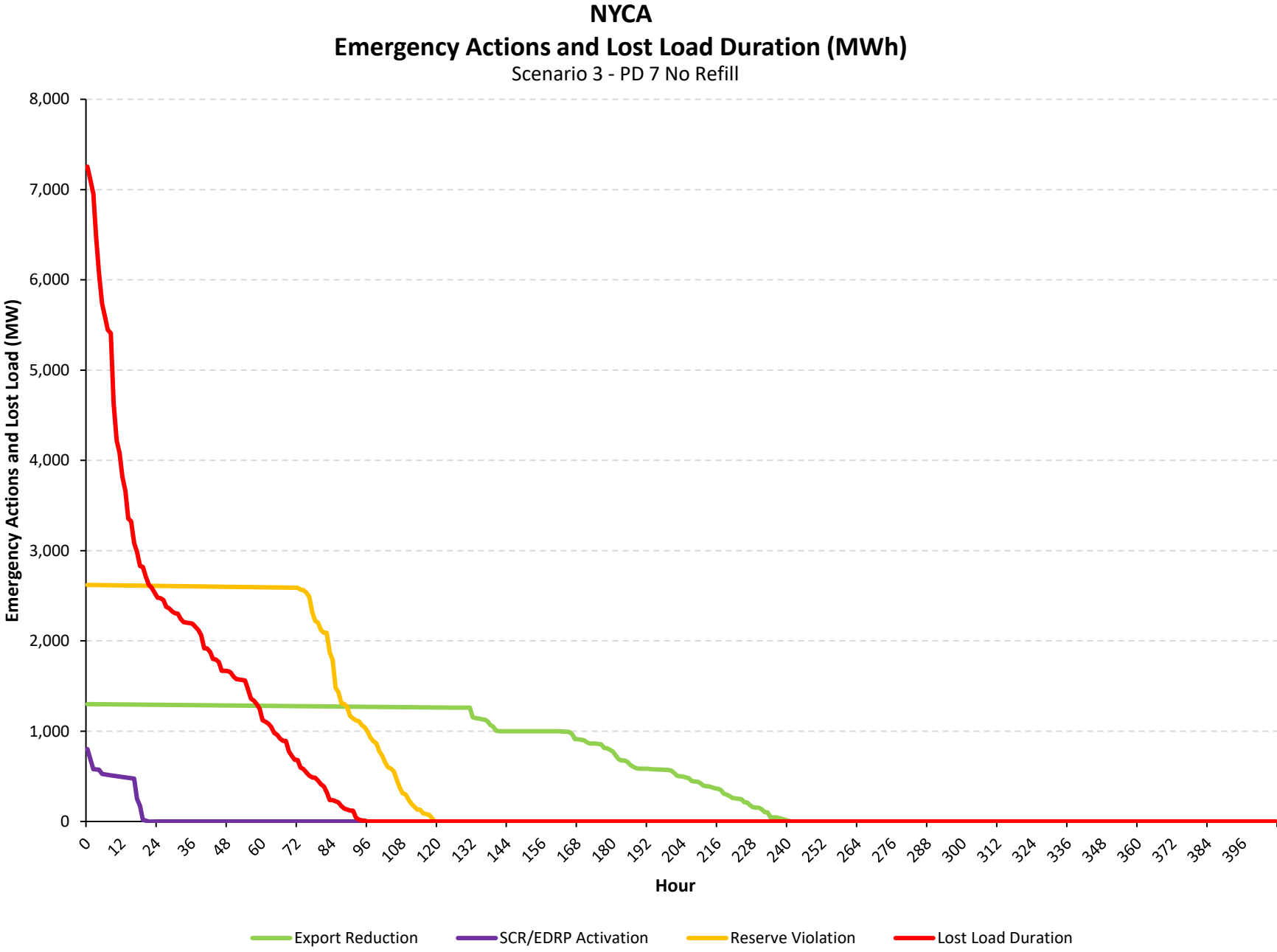


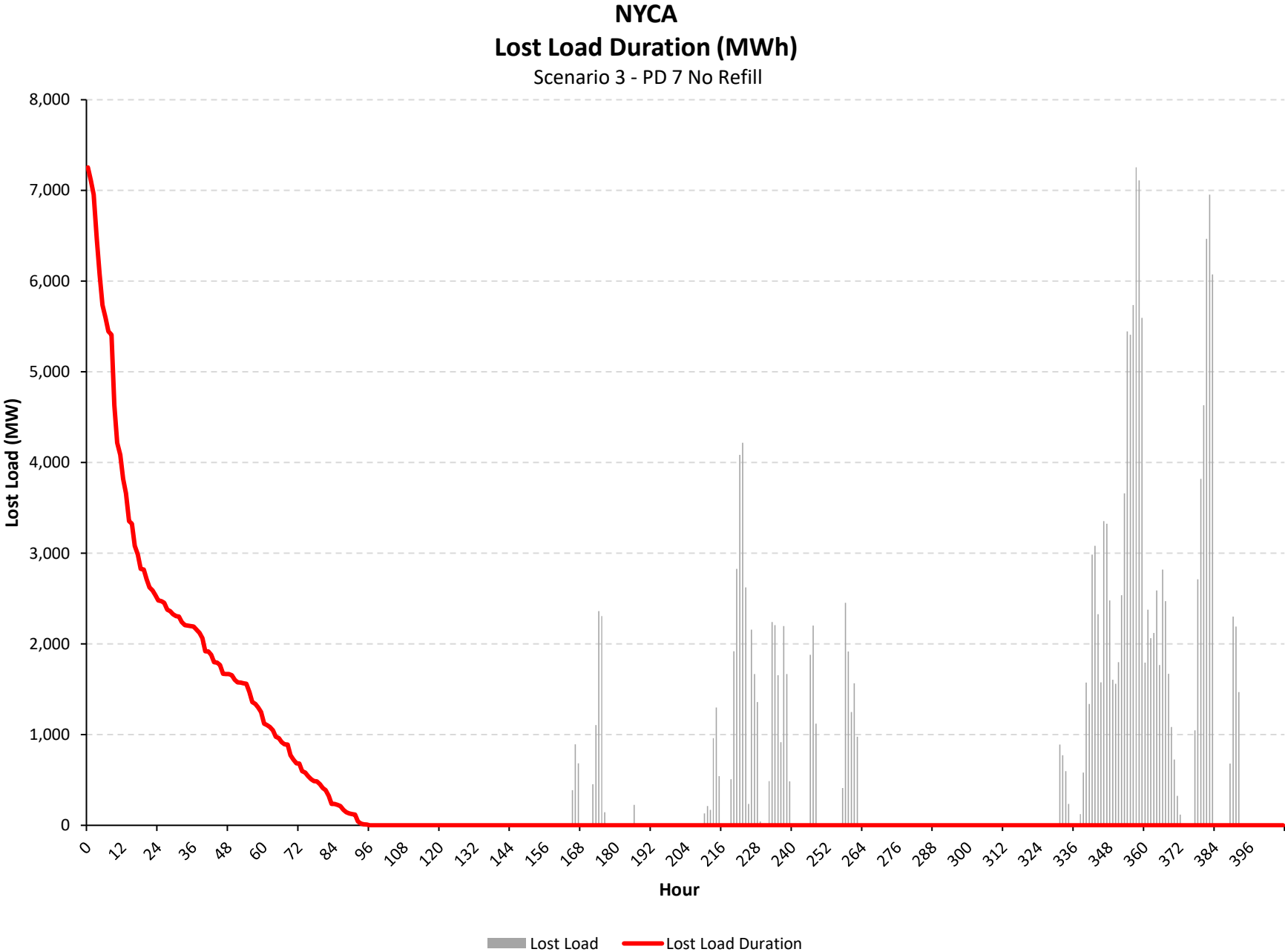
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 3 - PD 7 No Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



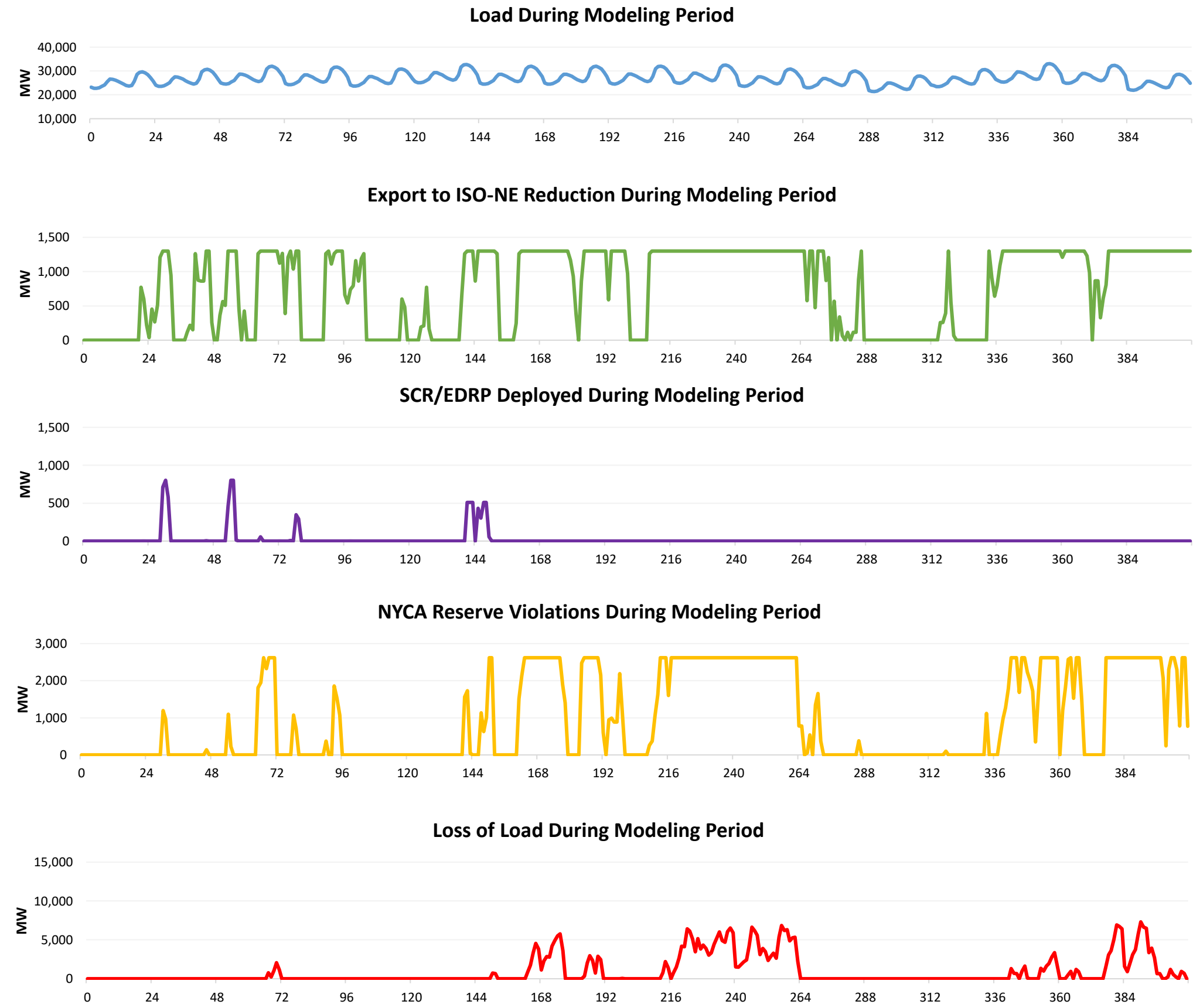


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 3 - PD 8 Non-Firm Gas Unavailable (F-K) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 3 - PD 8 Non-Firm Gas Unavailable (F-K)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	279
Total MWh	309,996
Avg. MW	759.8

SCR Deployment	
Total Hrs.	20
Total MWh	8,212
Avg. MW	20.1

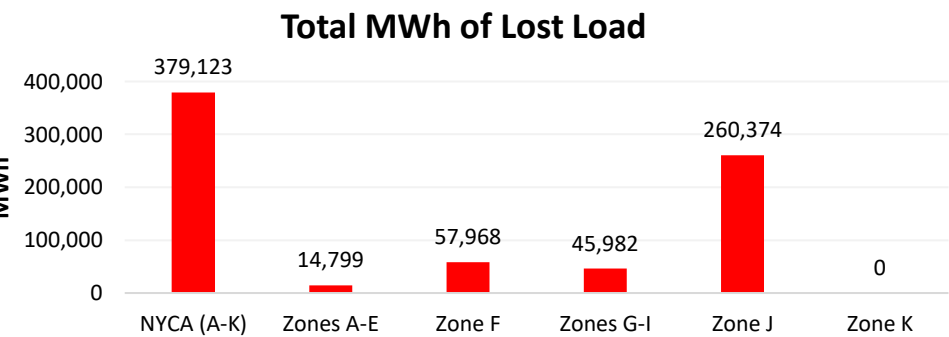
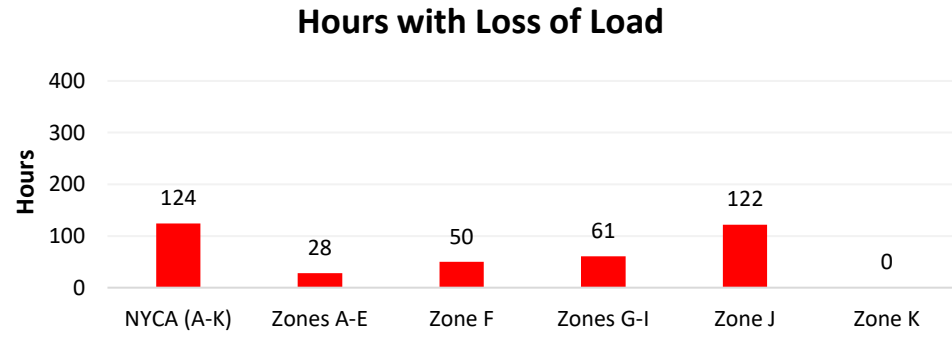
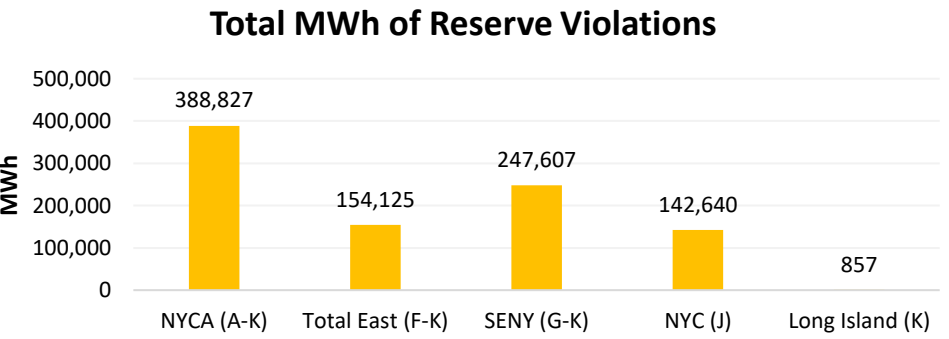
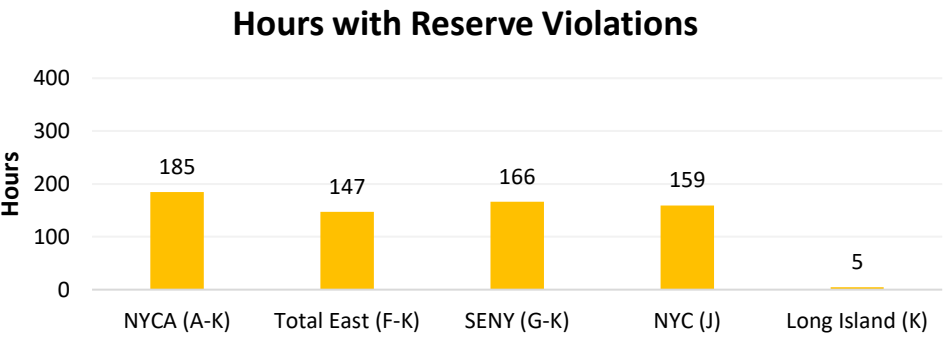
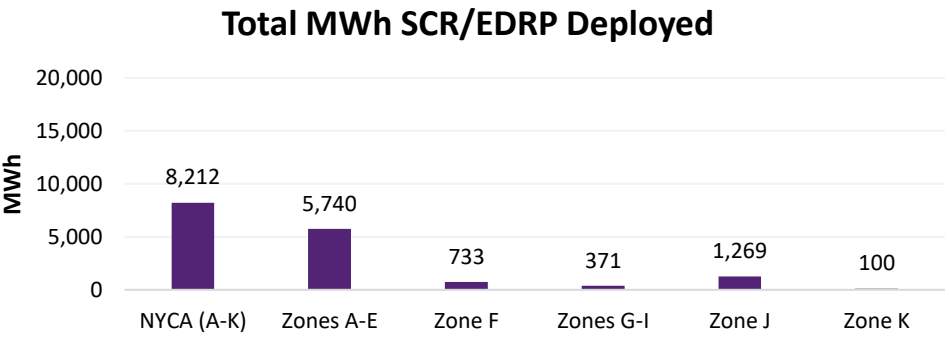
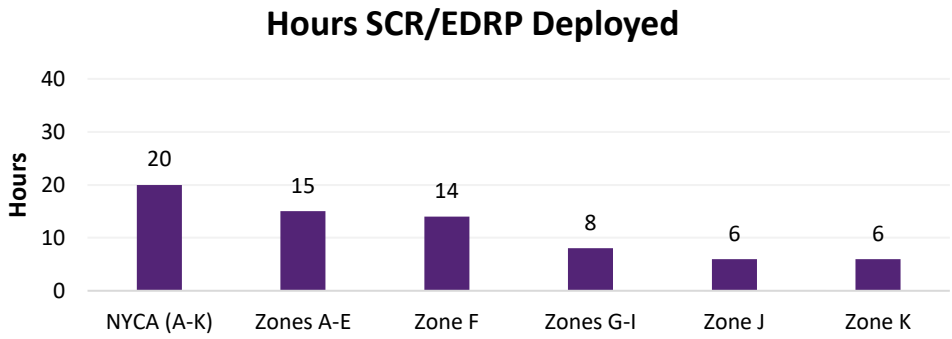
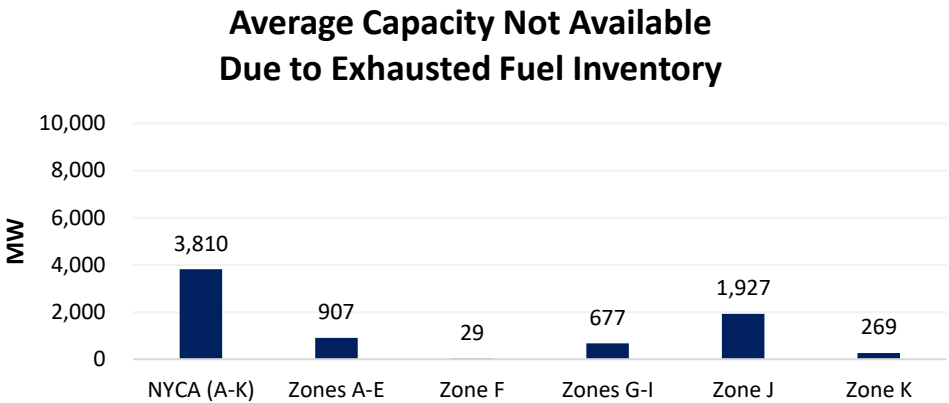
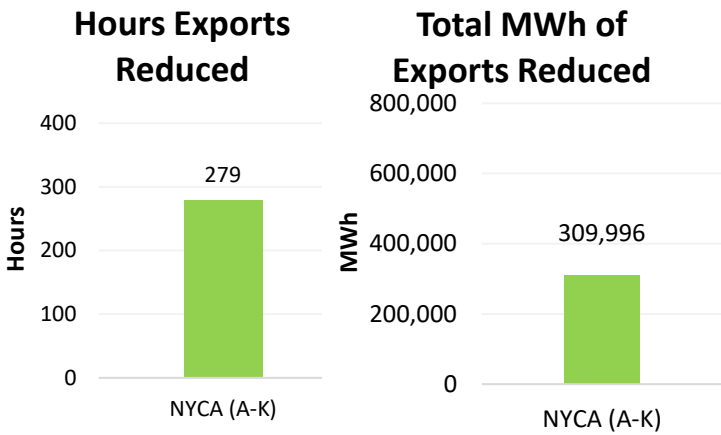
Reserve Violations	
Total Hrs.	185
Total MWh	388,827
Avg. MW	953.0
First Hour with Viol.	30

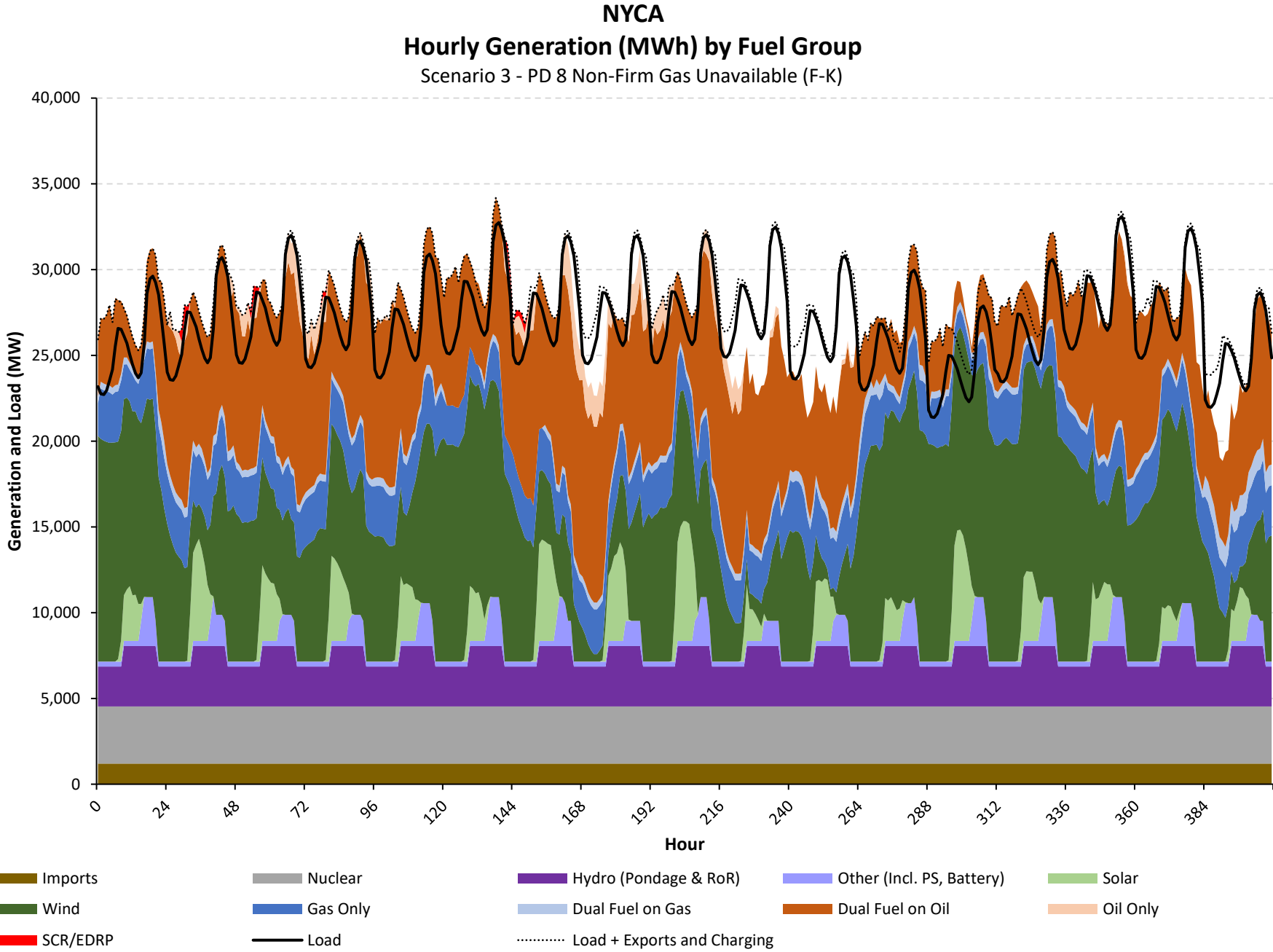
Loss of Load	
Total Hrs.	124
Total MWh	379,123
Avg. MW	929.2
First Hour with Losses	67

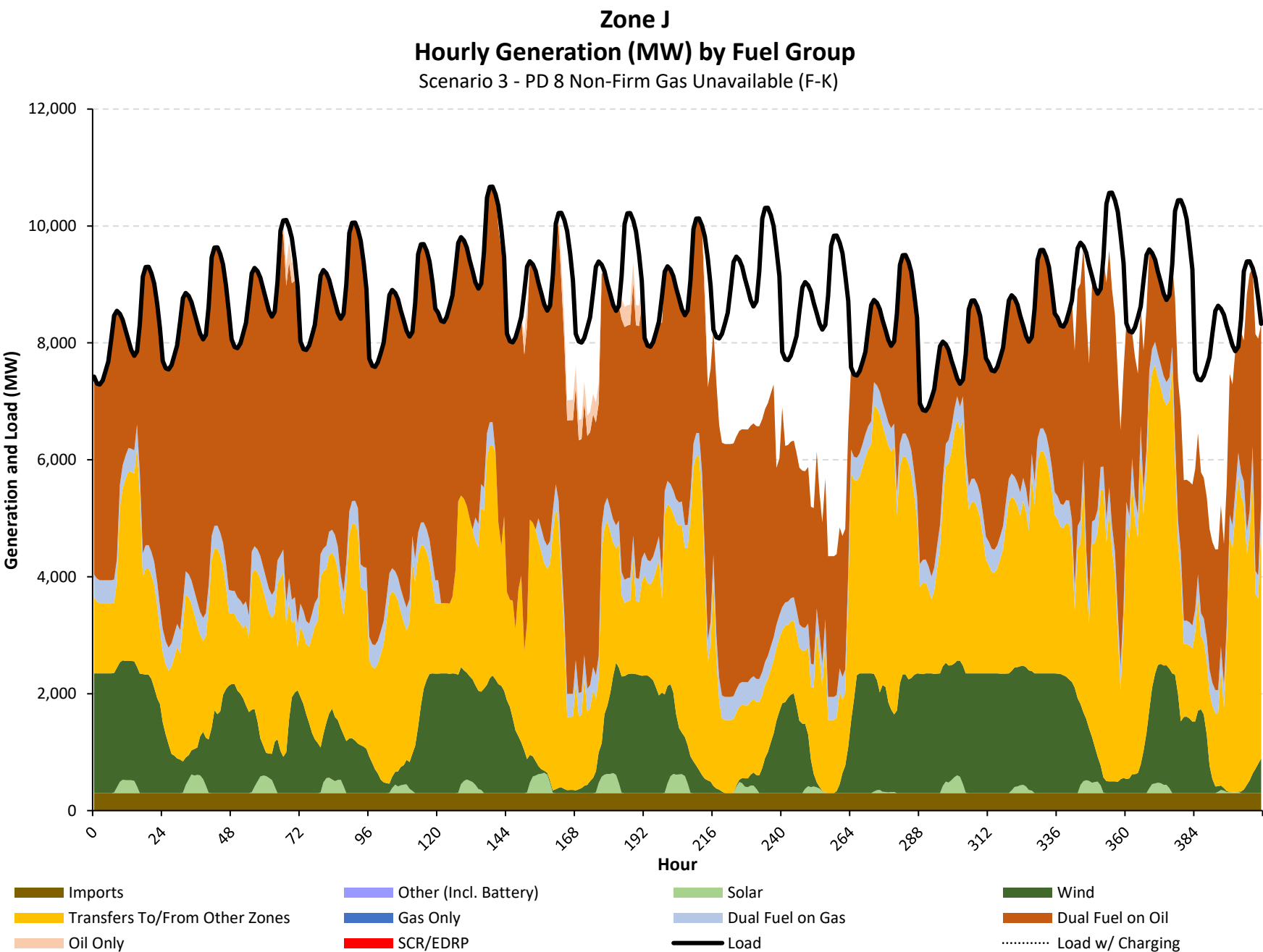
Full Period Results Summary

Case Name: Scenario 3 - PD 8 Non-Firm Gas Unavailable (F-K)

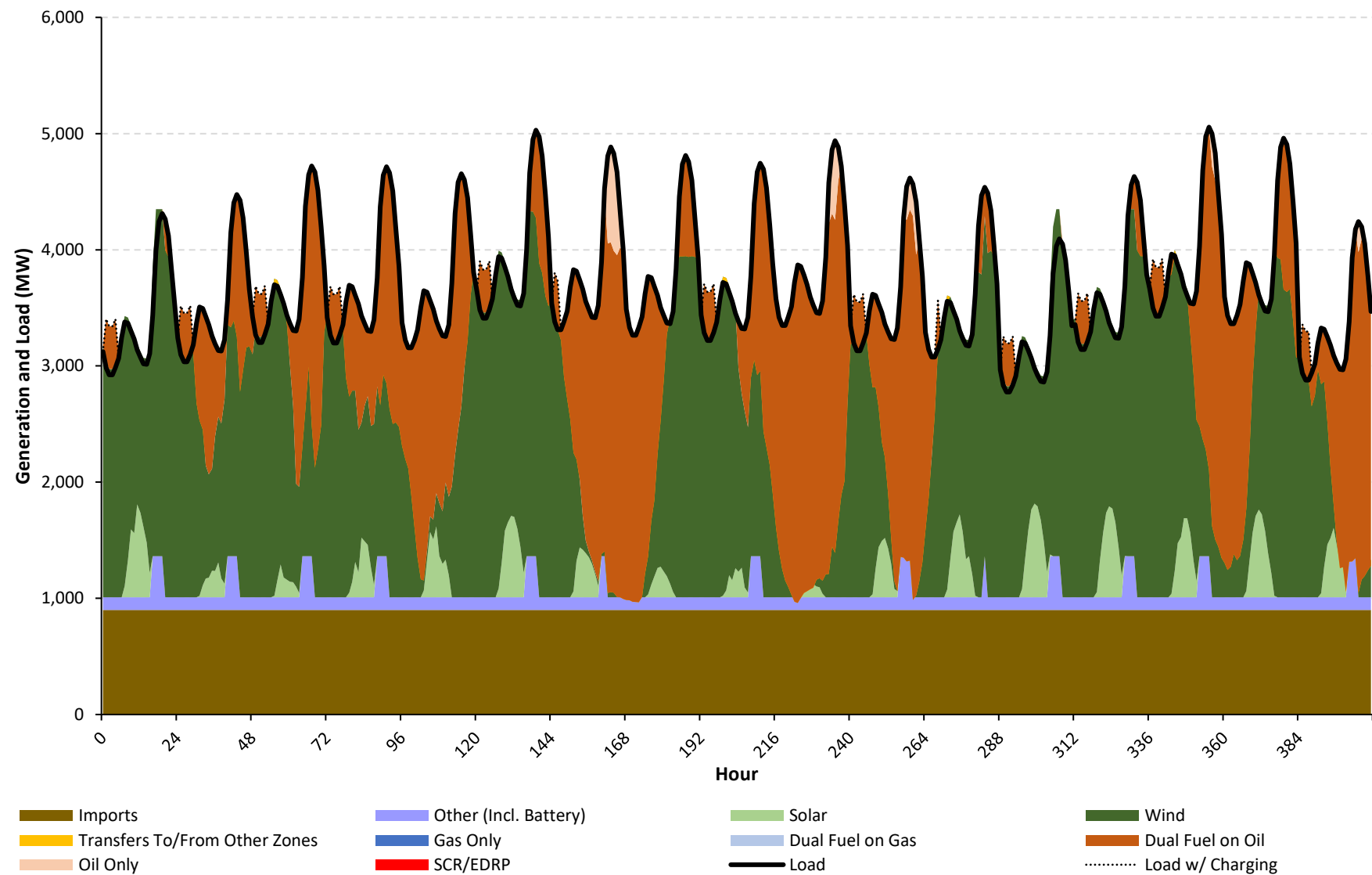
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

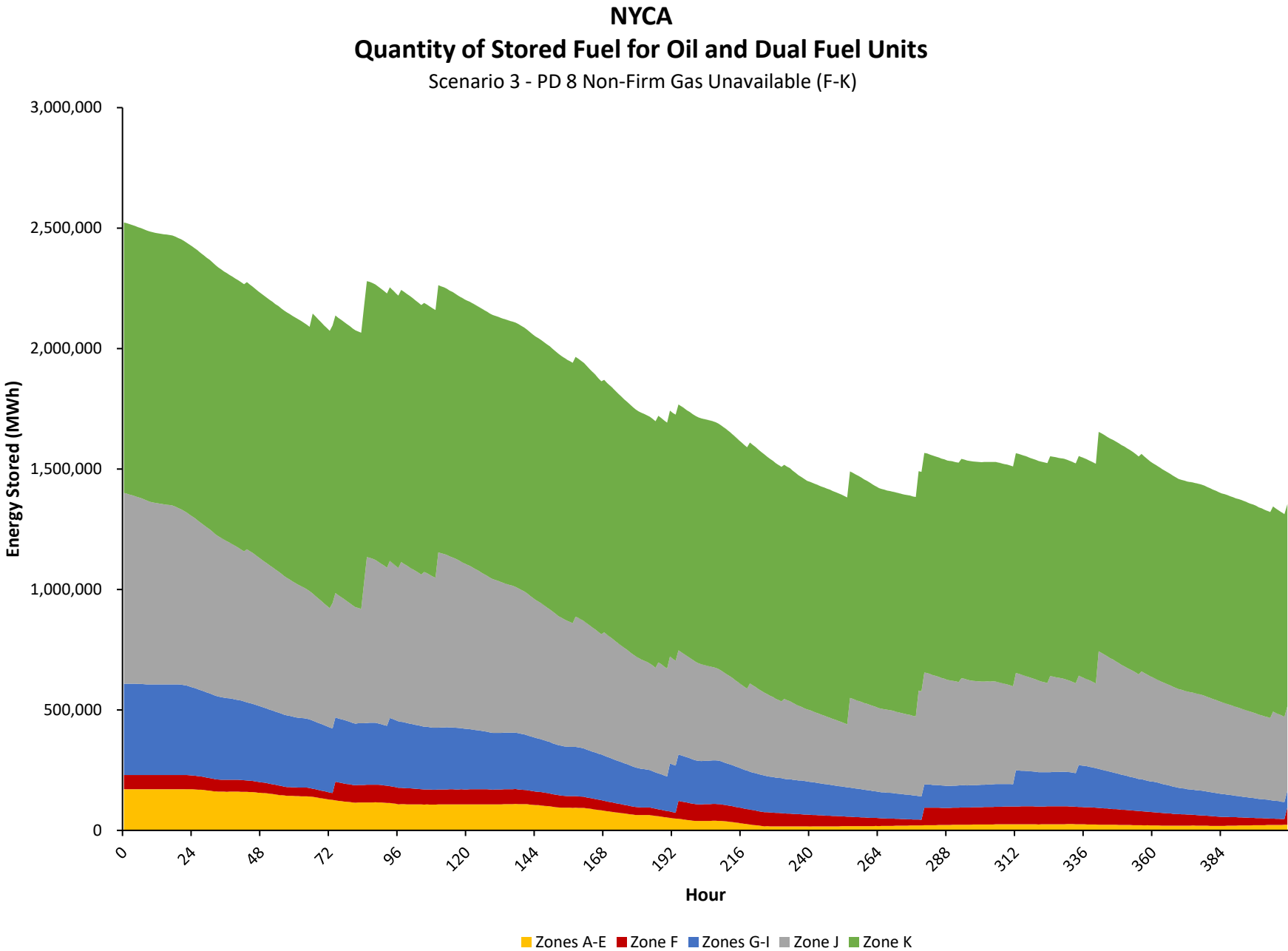


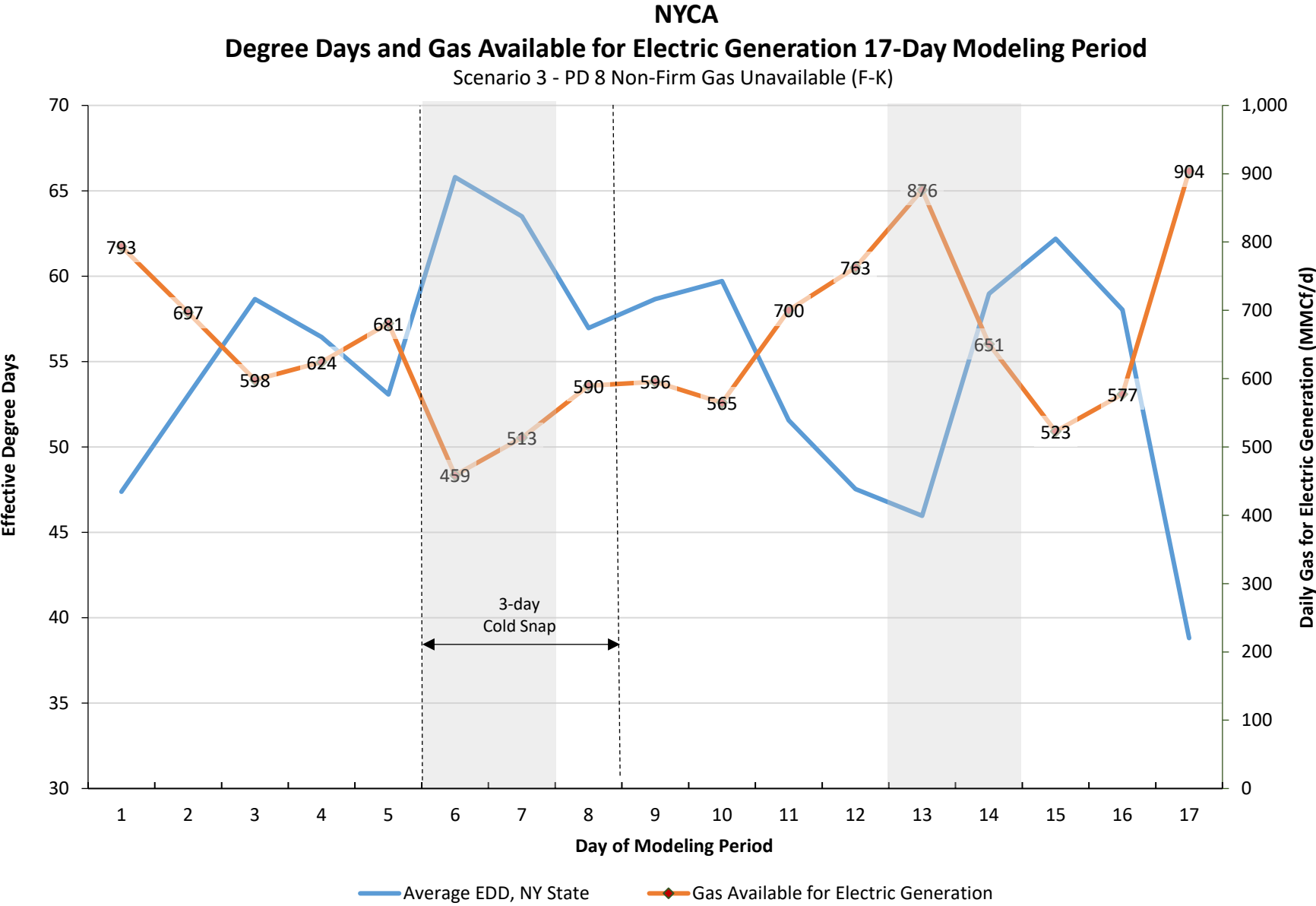




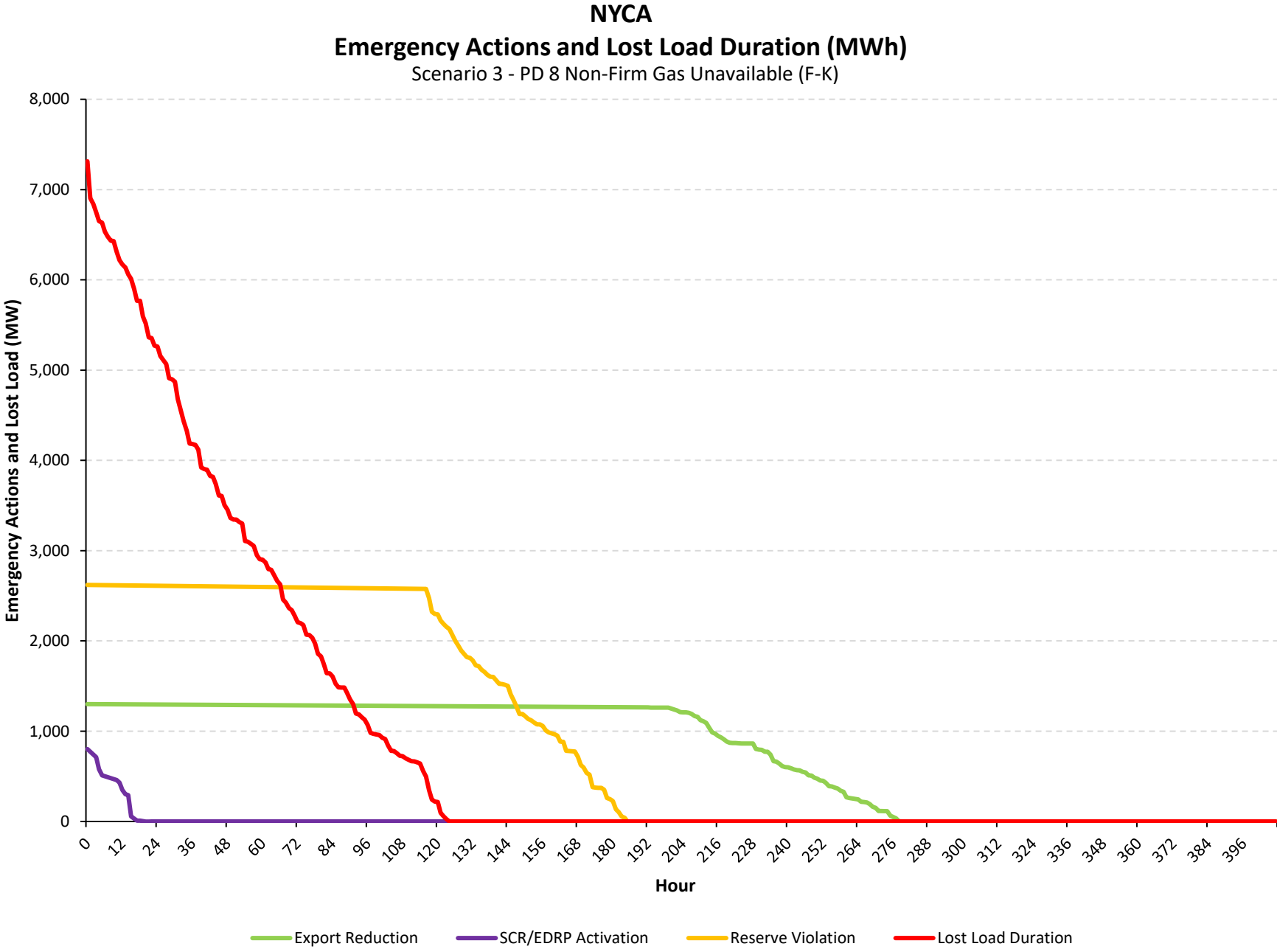
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 3 - PD 8 Non-Firm Gas Unavailable (F-K)

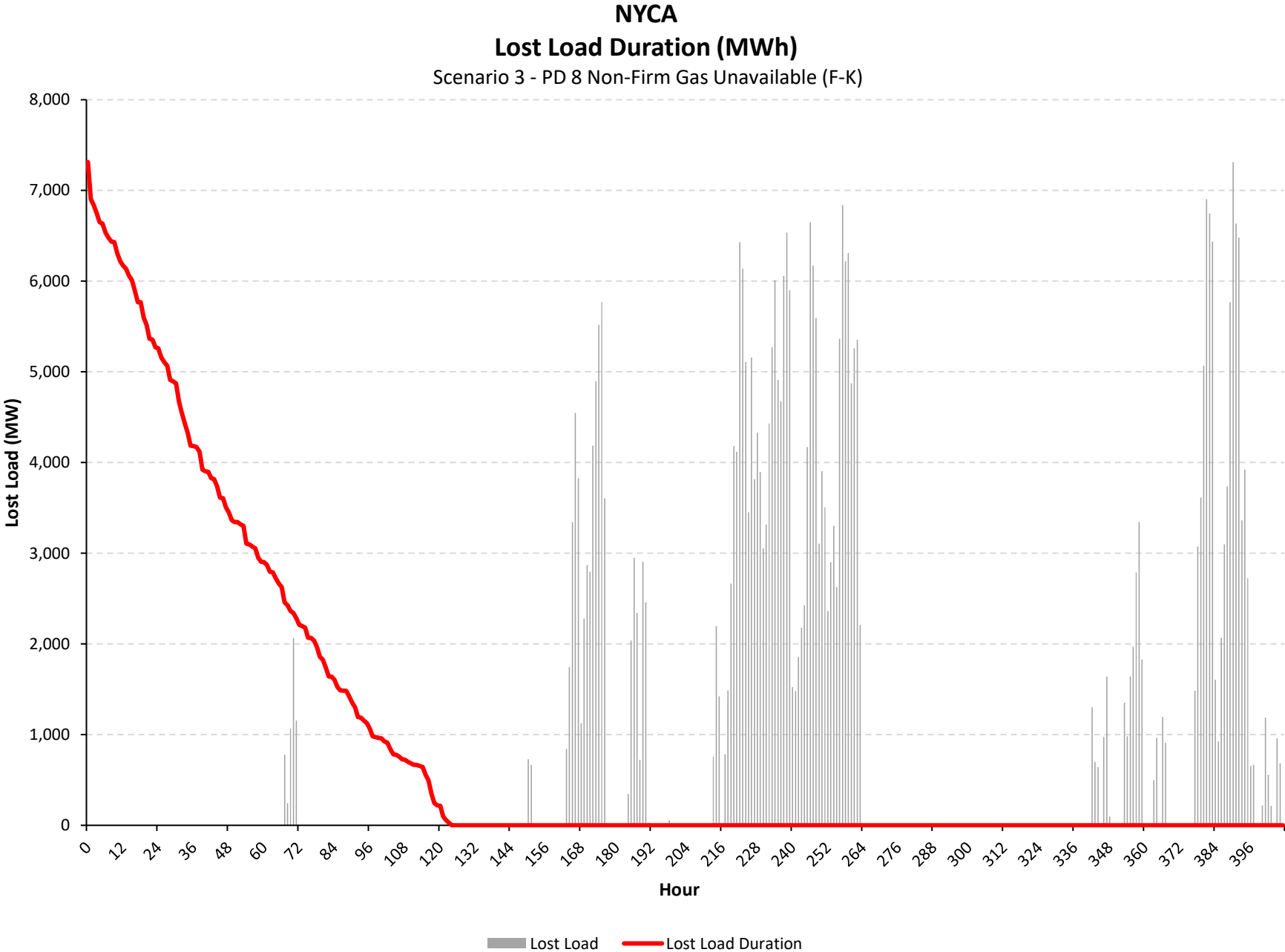






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



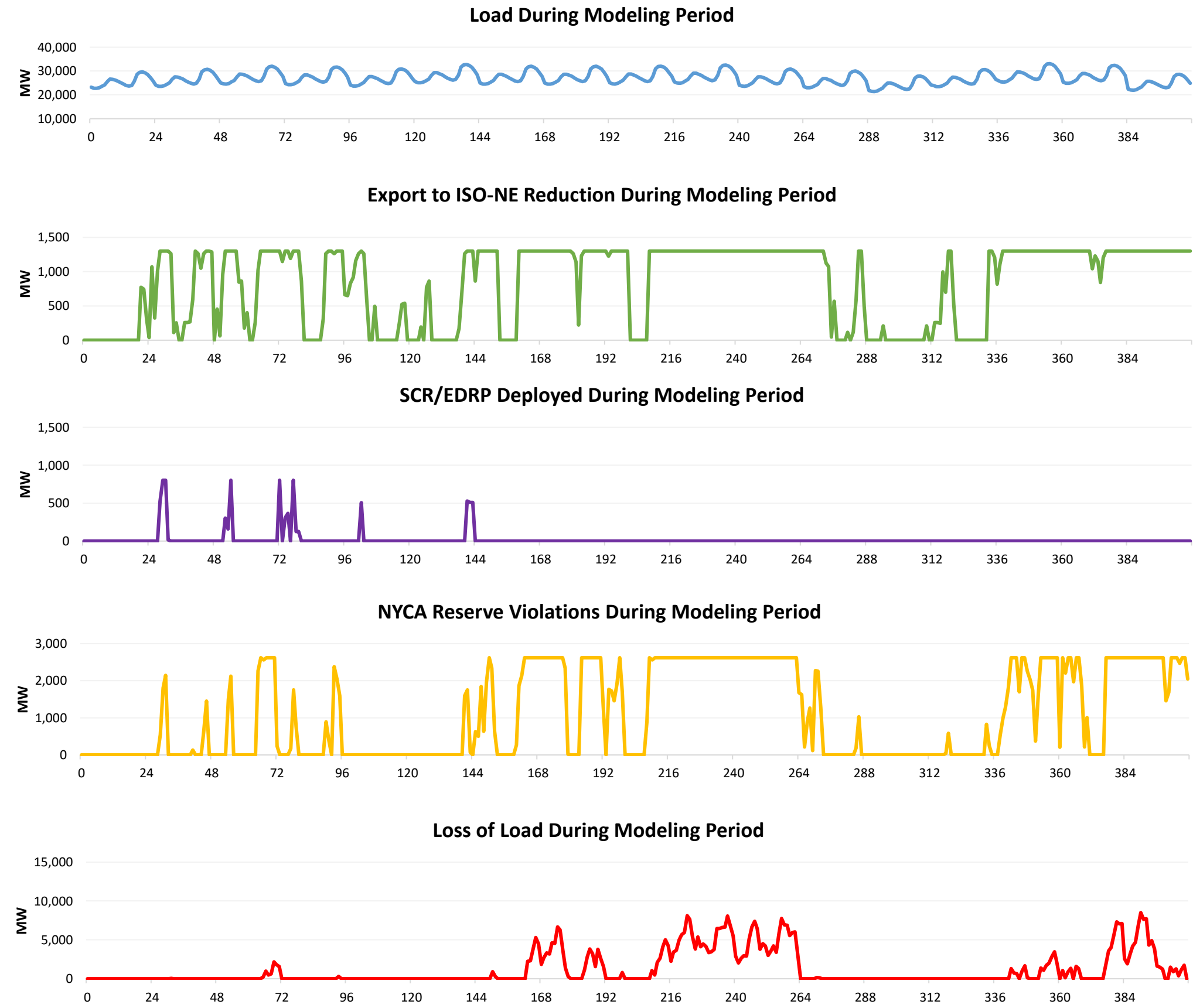


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 3 - PD 9 Non-Firm Gas Unavailable (NYCA) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 3 - PD 9 Non-Firm Gas Unavailable (NYCA)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	296
Total MWh	336,604
Avg. MW	825.0

SCR Deployment	
Total Hrs.	17
Total MWh	7,989
Avg. MW	19.6

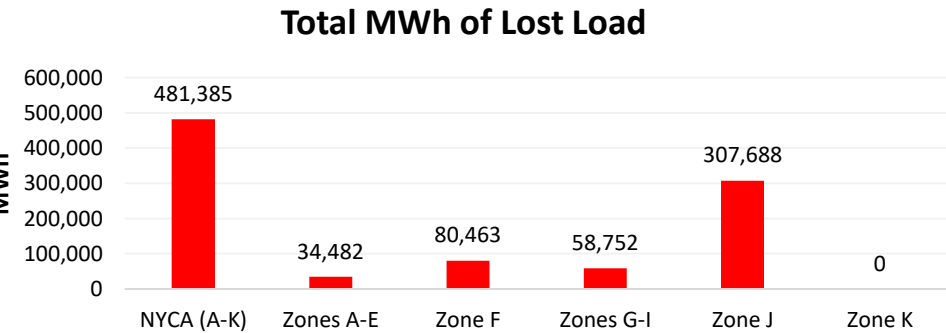
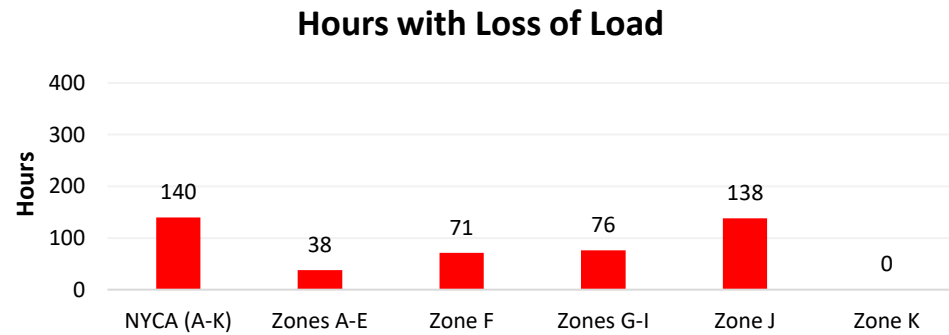
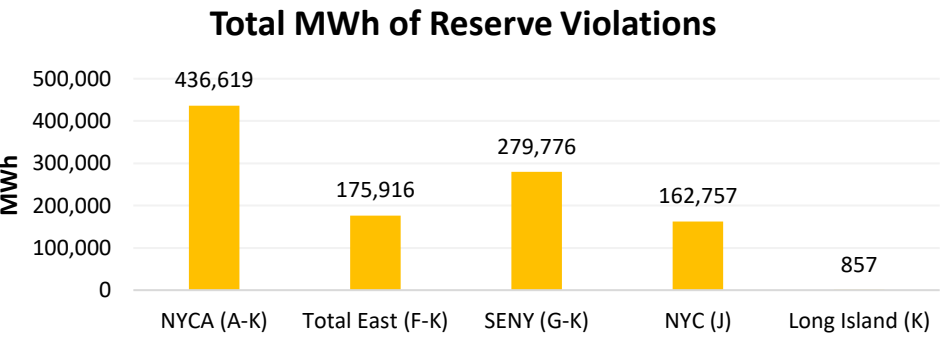
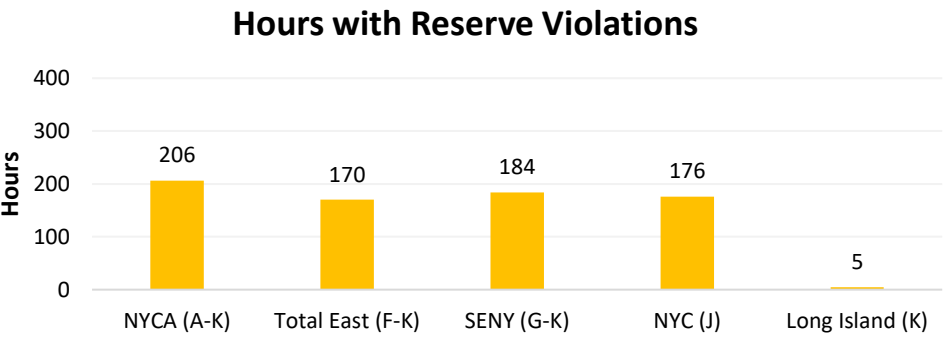
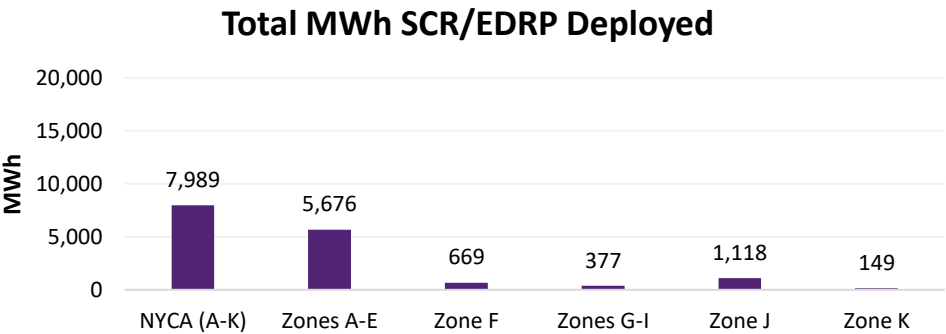
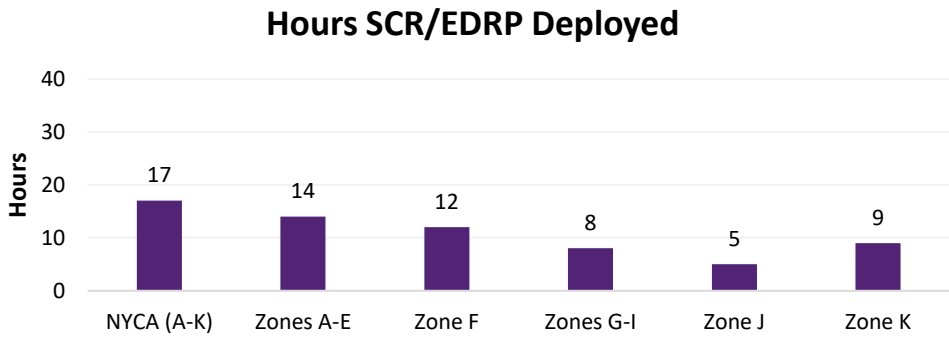
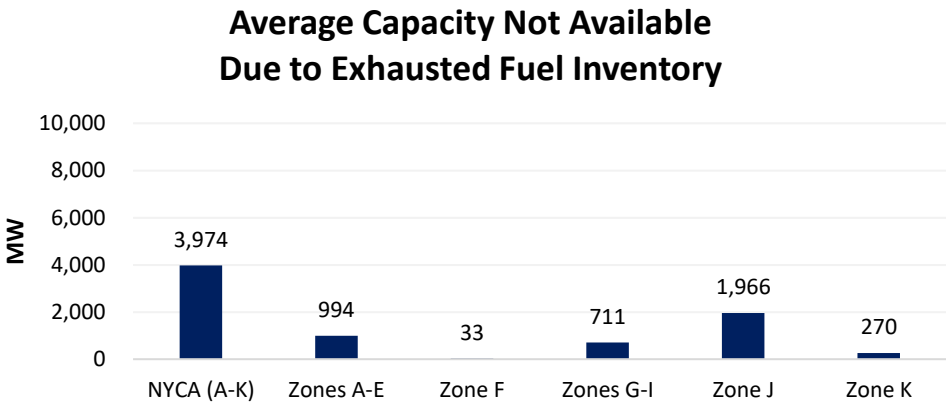
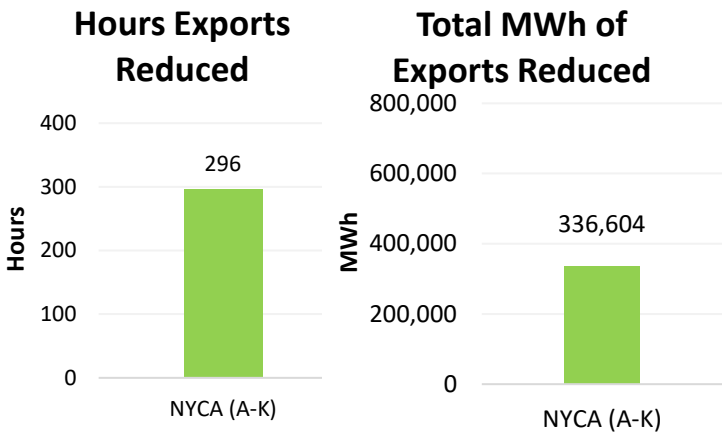
Reserve Violations	
Total Hrs.	206
Total MWh	436,619
Avg. MW	1,070.1
First Hour with Viol.	29

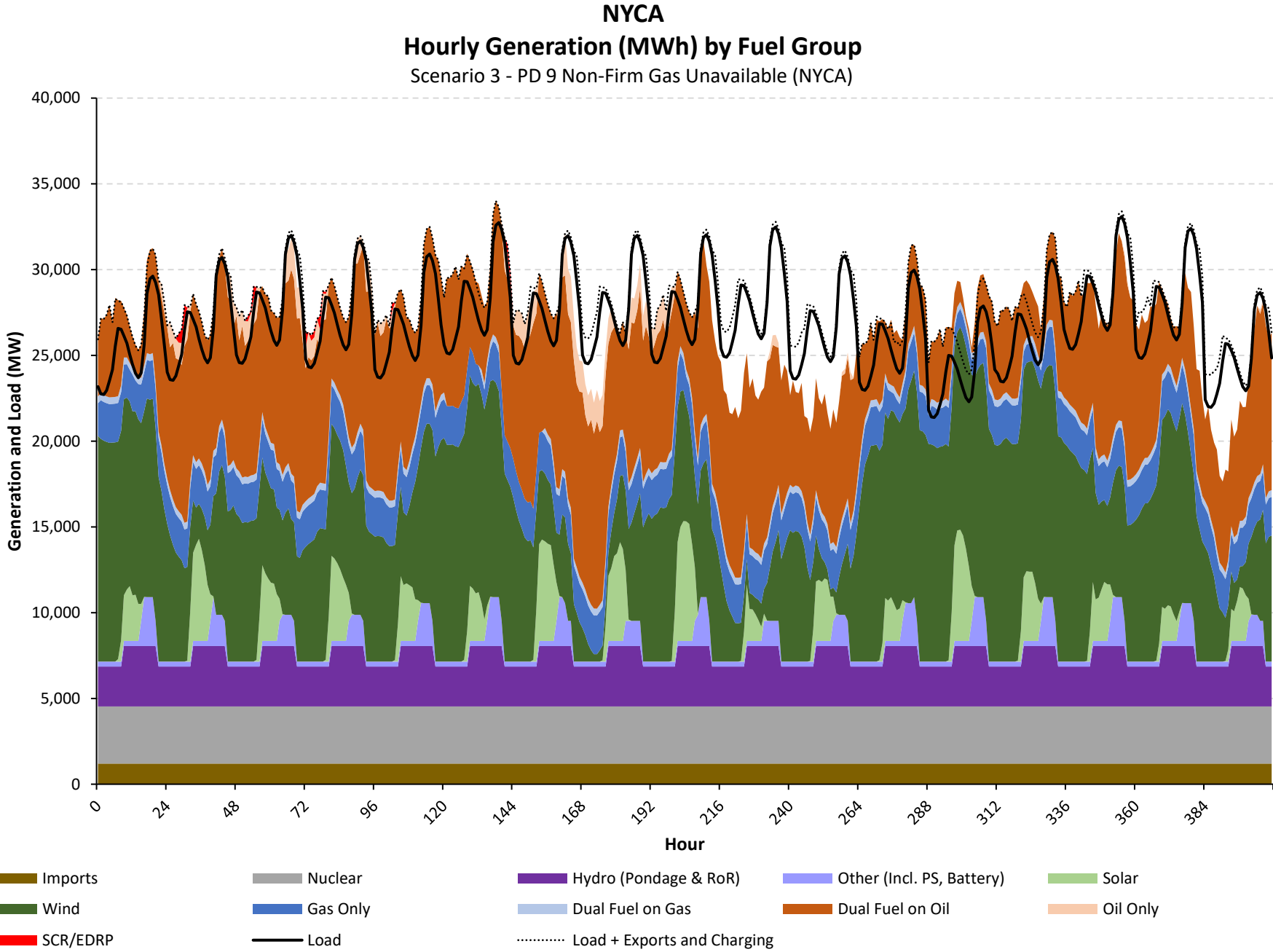
Loss of Load	
Total Hrs.	140
Total MWh	481,385
Avg. MW	1,179.9
First Hour with Losses	31

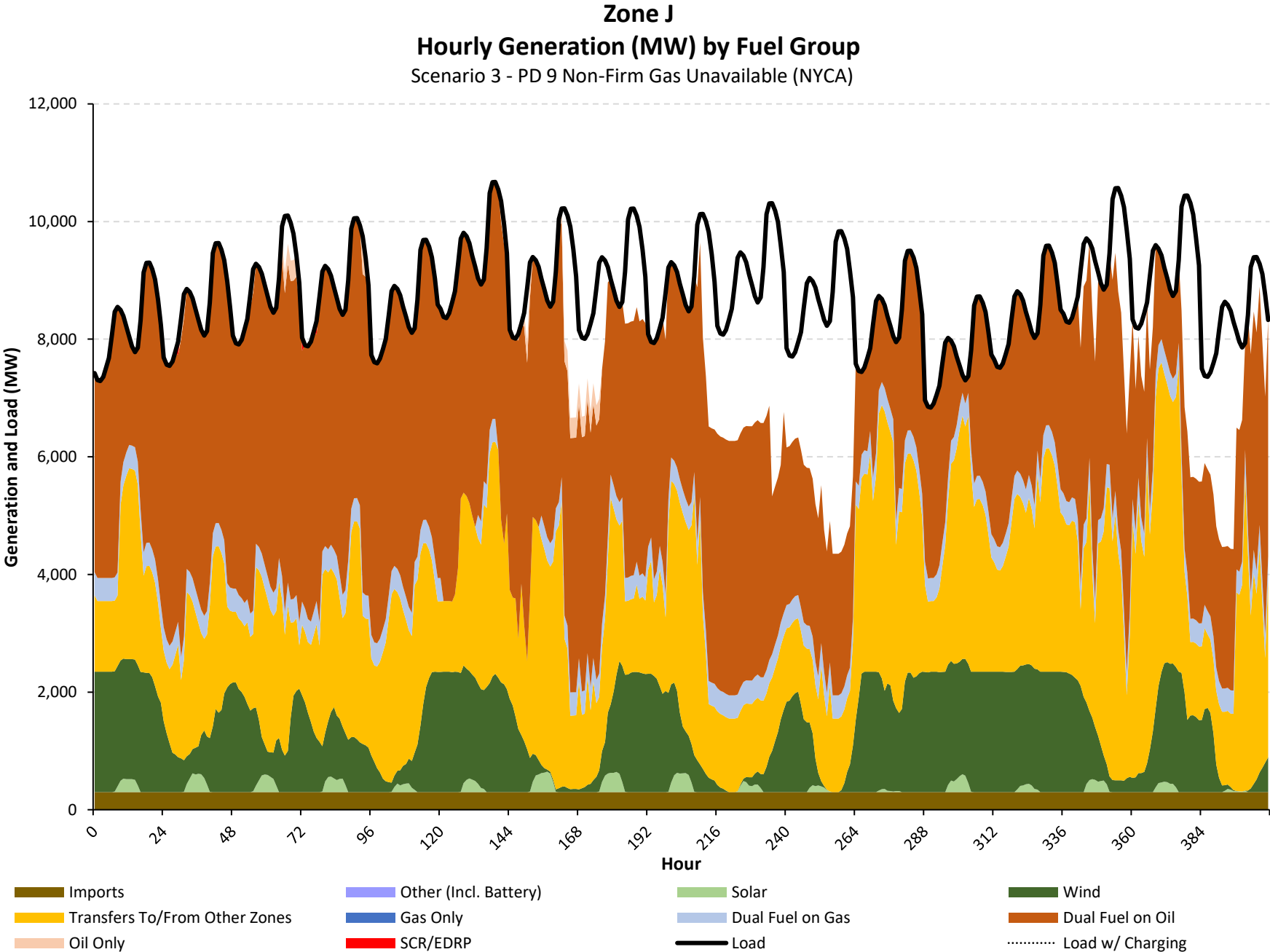
Full Period Results Summary

Case Name: Scenario 3 - PD 9 Non-Firm Gas Unavailable (NYCA)

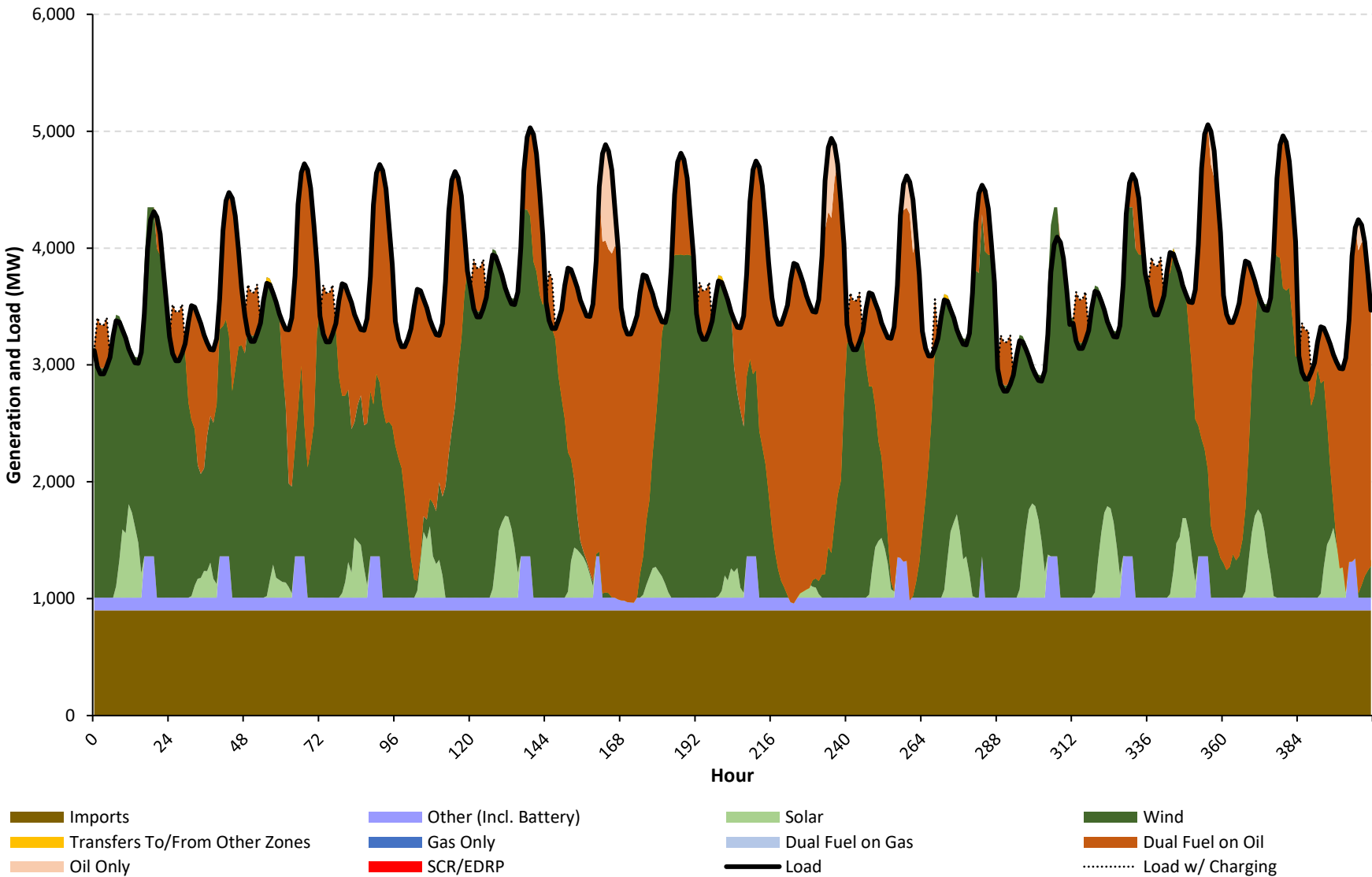
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All



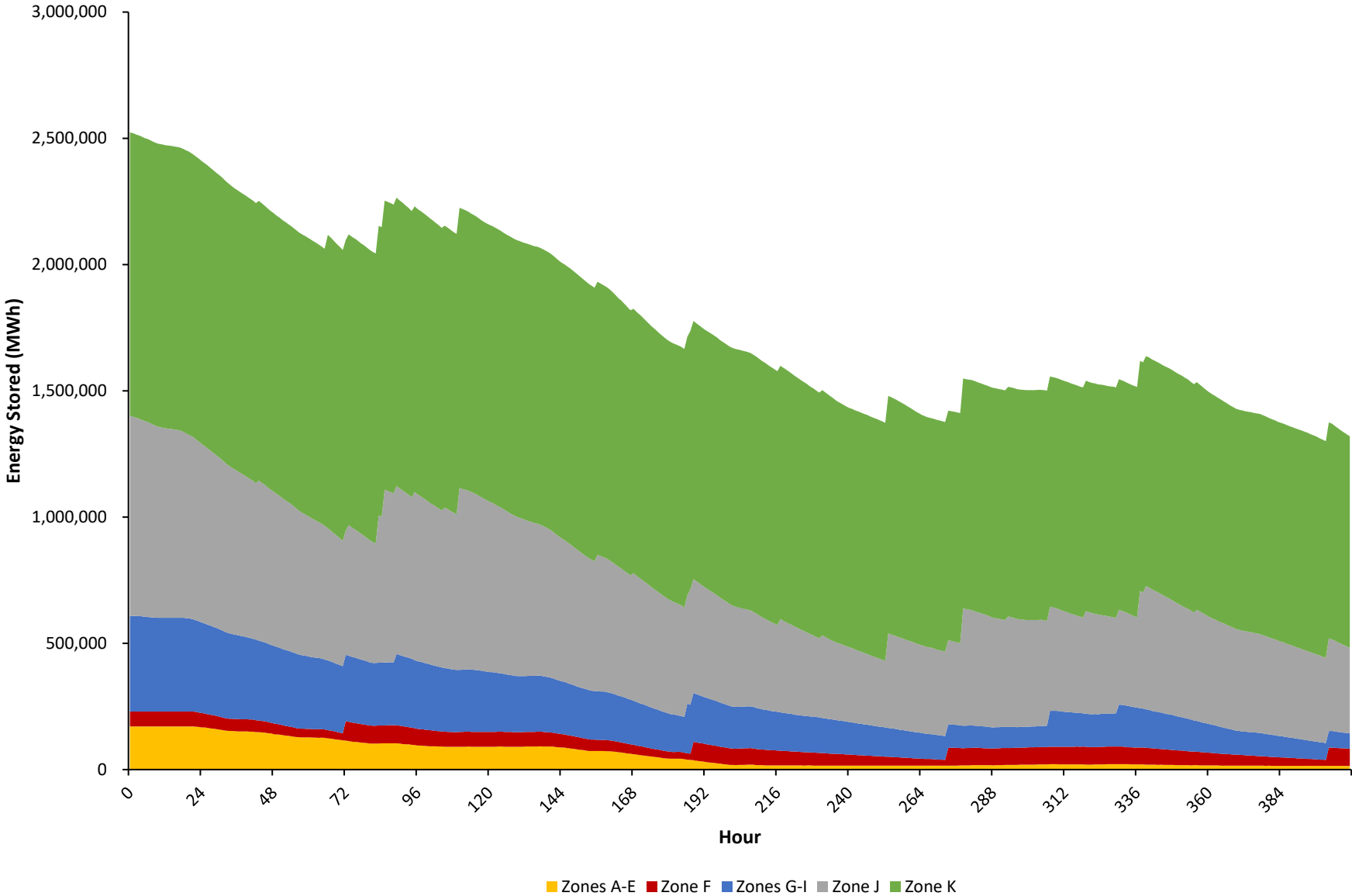


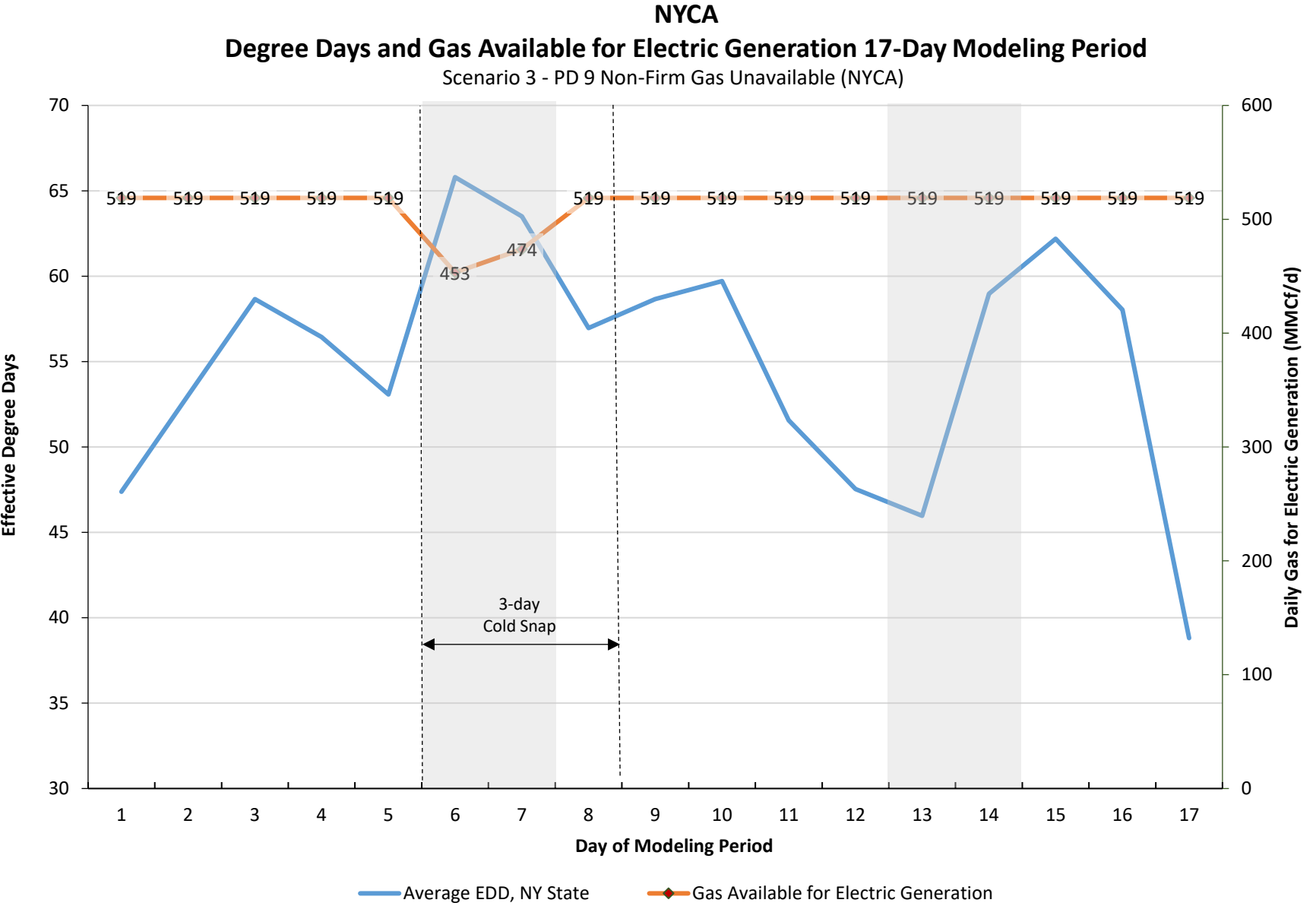


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 3 - PD 9 Non-Firm Gas Unavailable (NYCA)

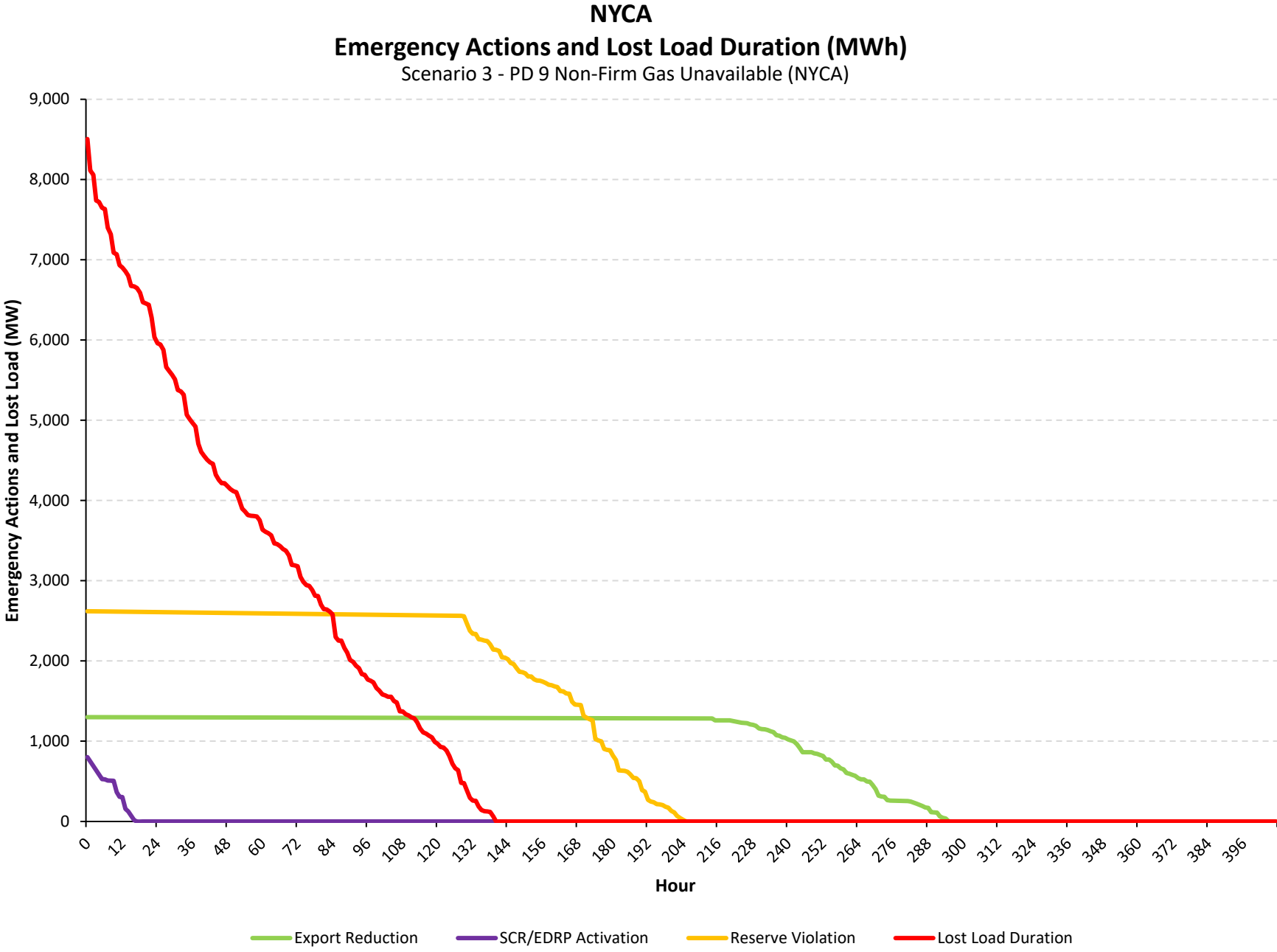


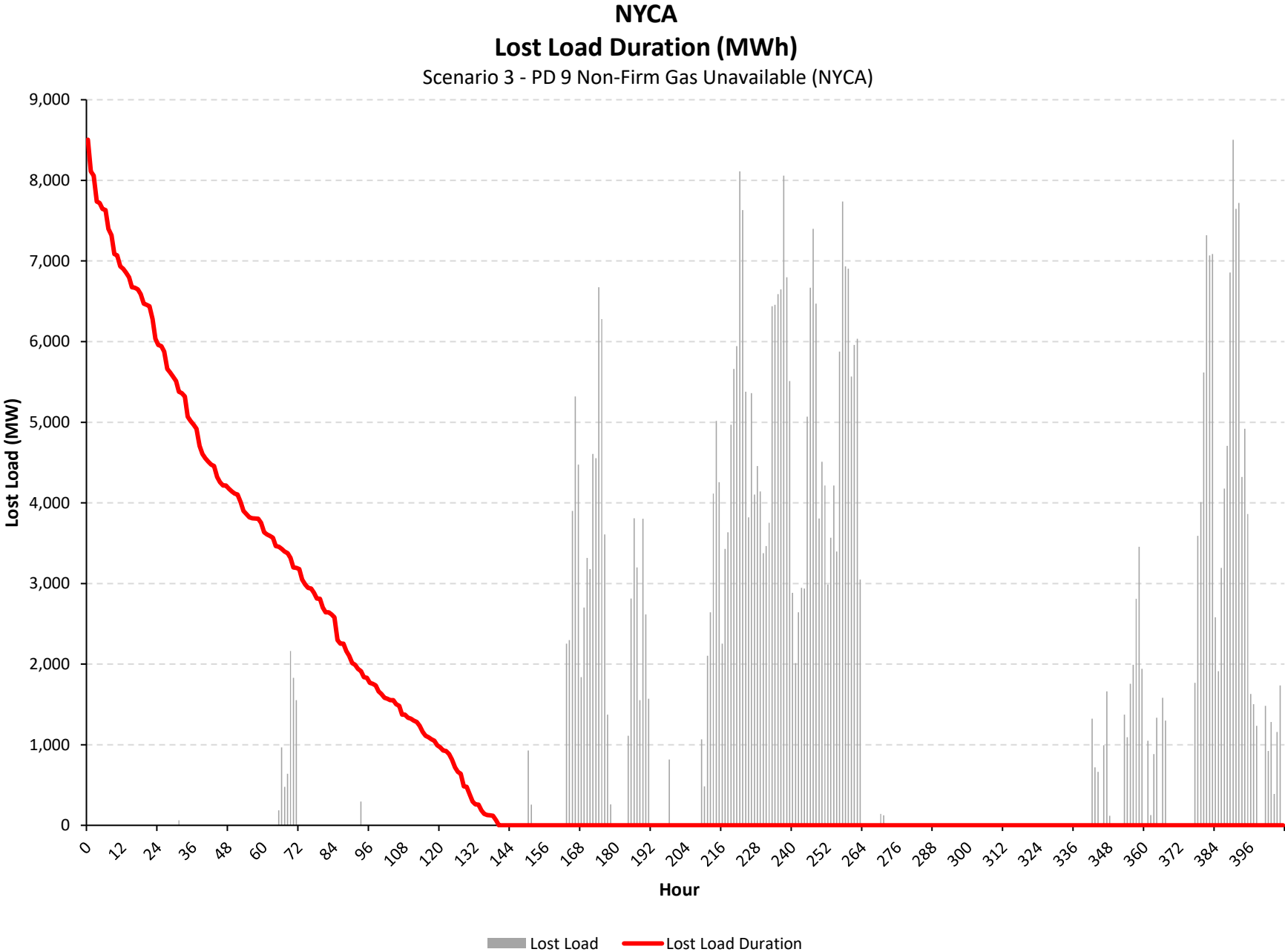
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 3 - PD 9 Non-Firm Gas Unavailable (NYCA)





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



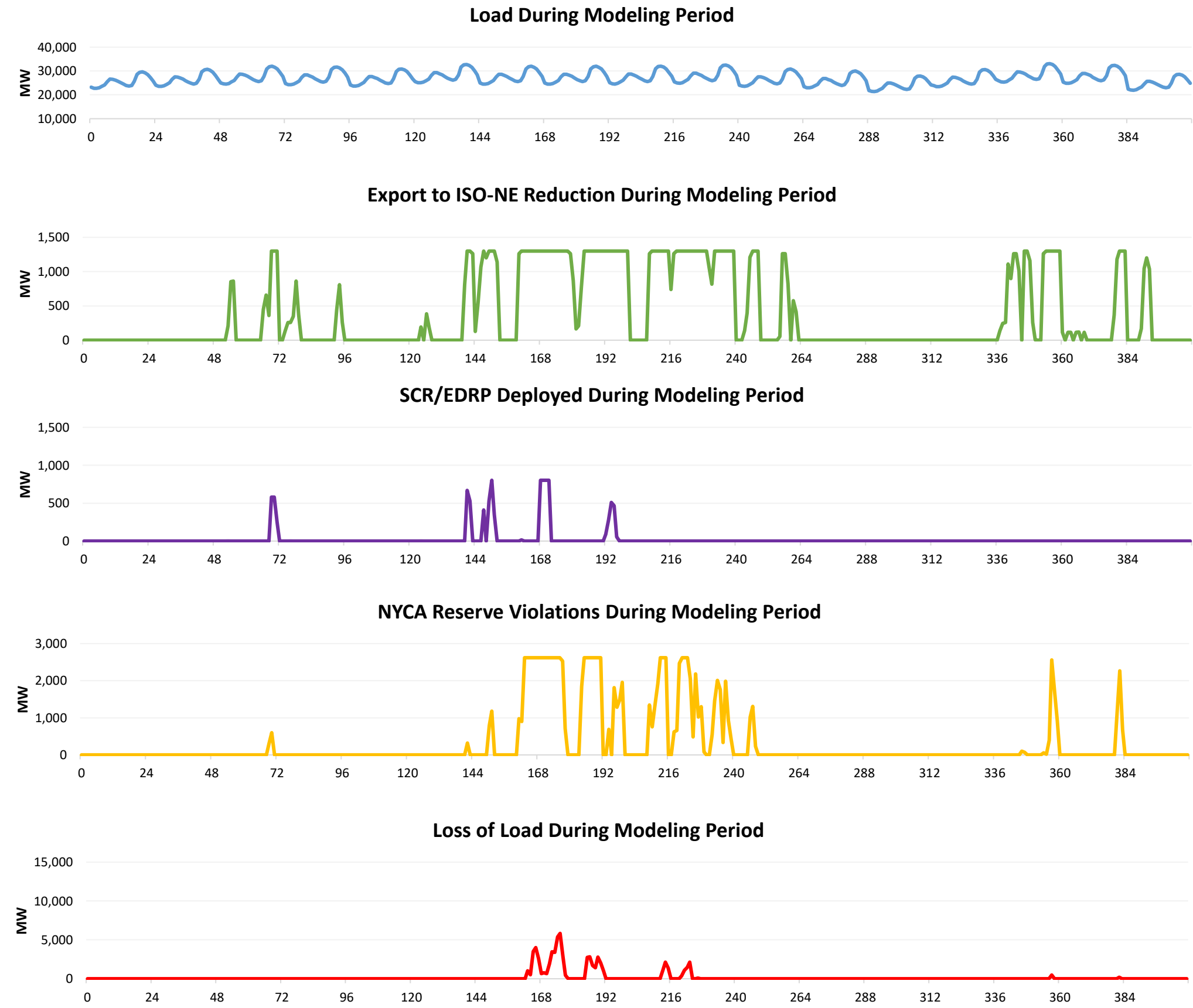


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 3 - PD 10 Non-Firm Gas Unavailable (4 days) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 3 - PD 10 Non-Firm Gas Unavailable (4 days)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	154
Total MWh	154,950
Avg. MW	379.8

SCR Deployment	
Total Hrs.	19
Total MWh	9,315
Avg. MW	22.8

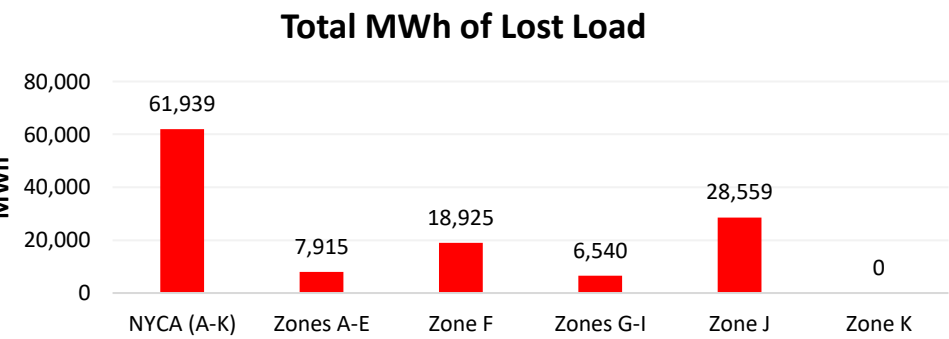
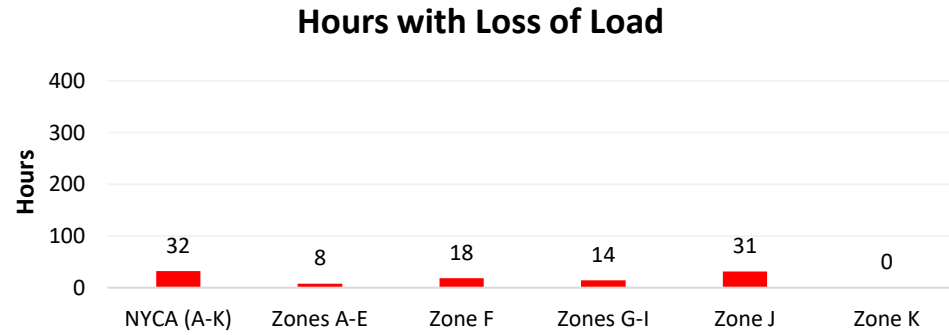
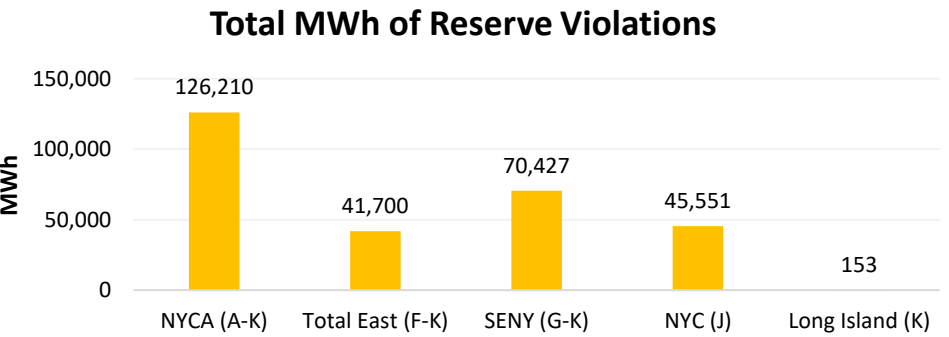
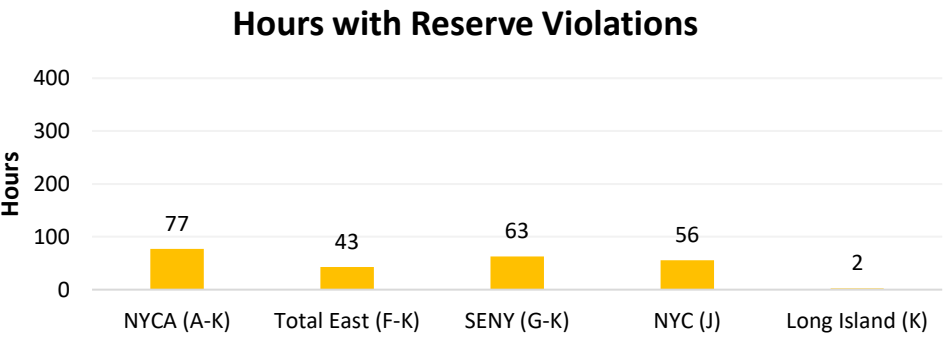
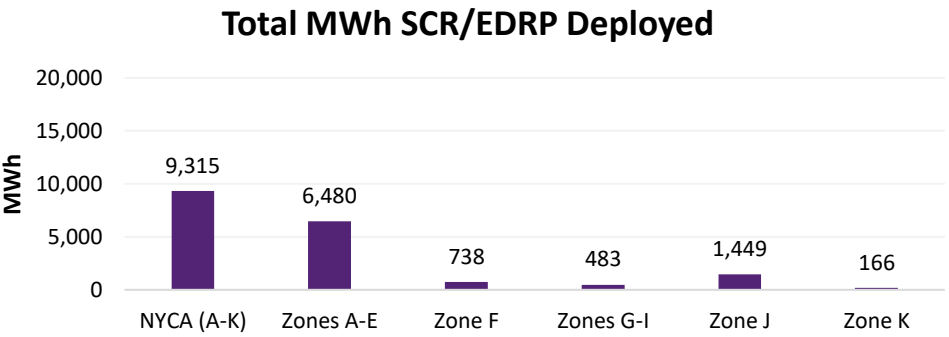
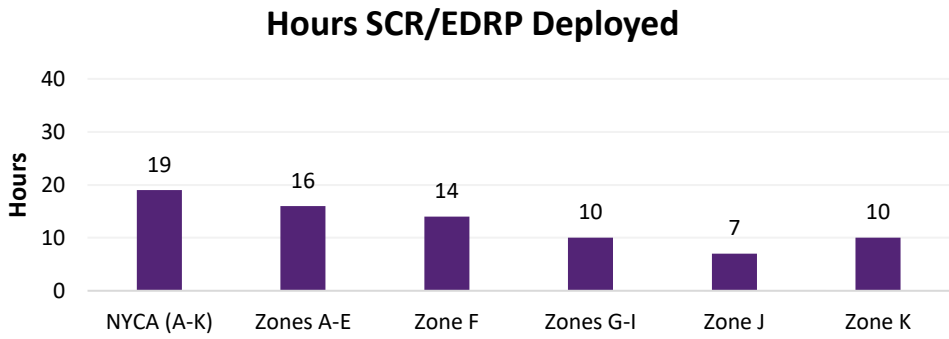
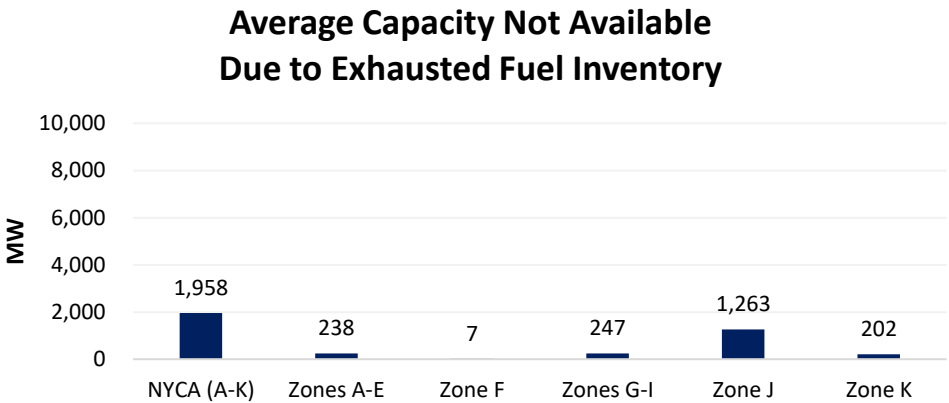
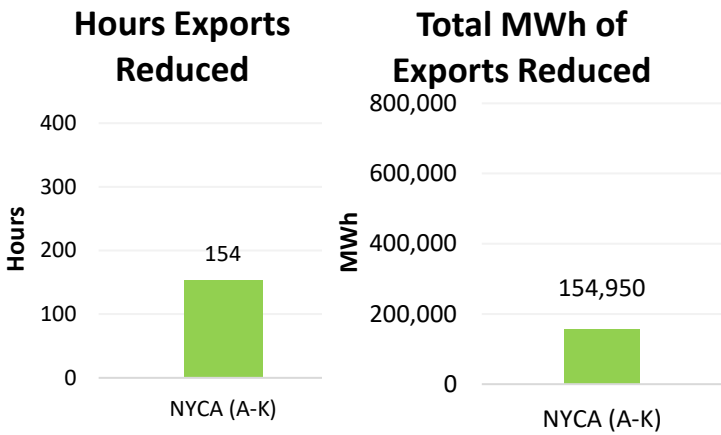
Reserve Violations	
Total Hrs.	77
Total MWh	126,210
Avg. MW	309.3
First Hour with Viol.	69

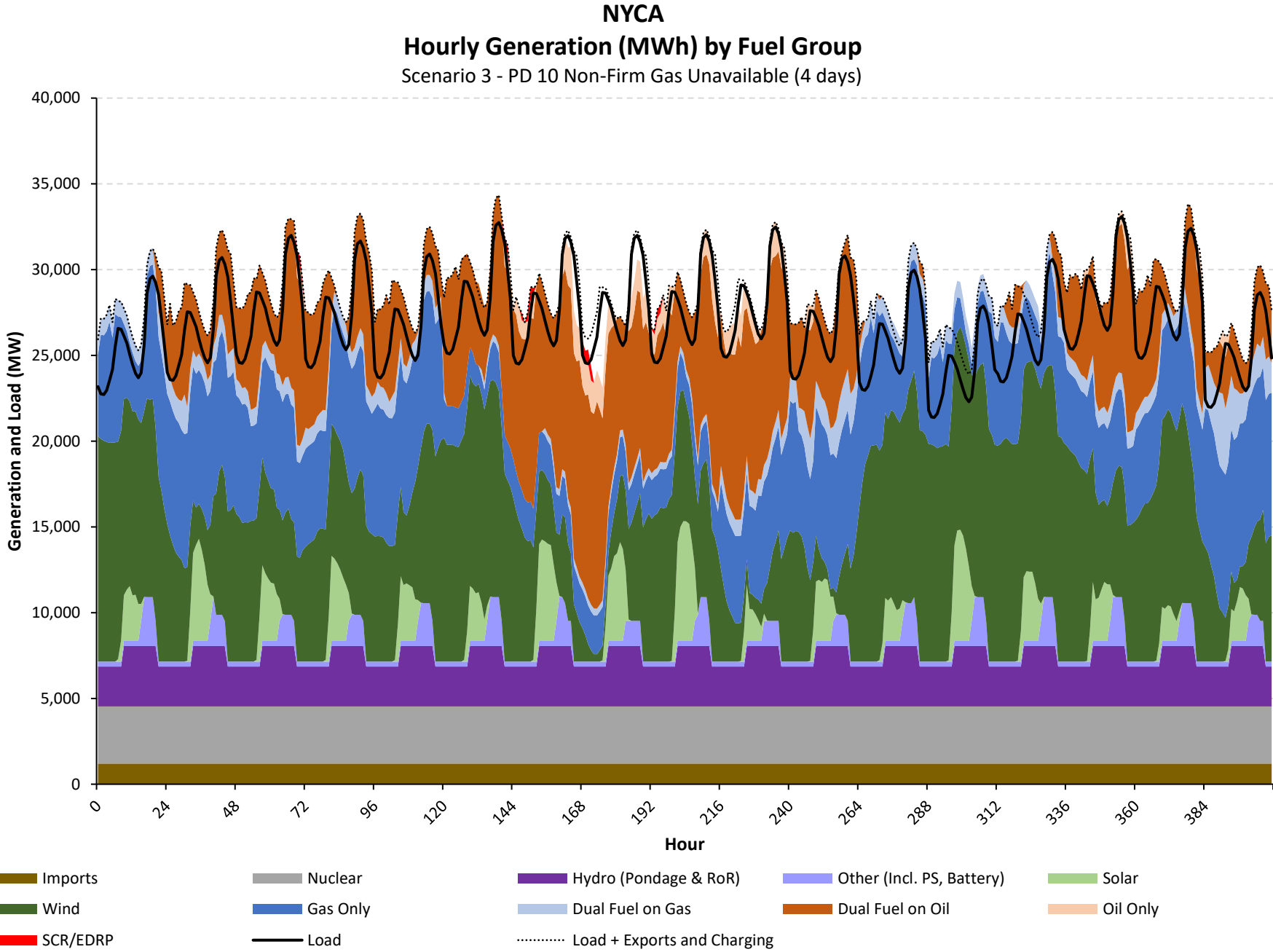
Loss of Load	
Total Hrs.	32
Total MWh	61,939
Avg. MW	151.8
First Hour with Losses	163

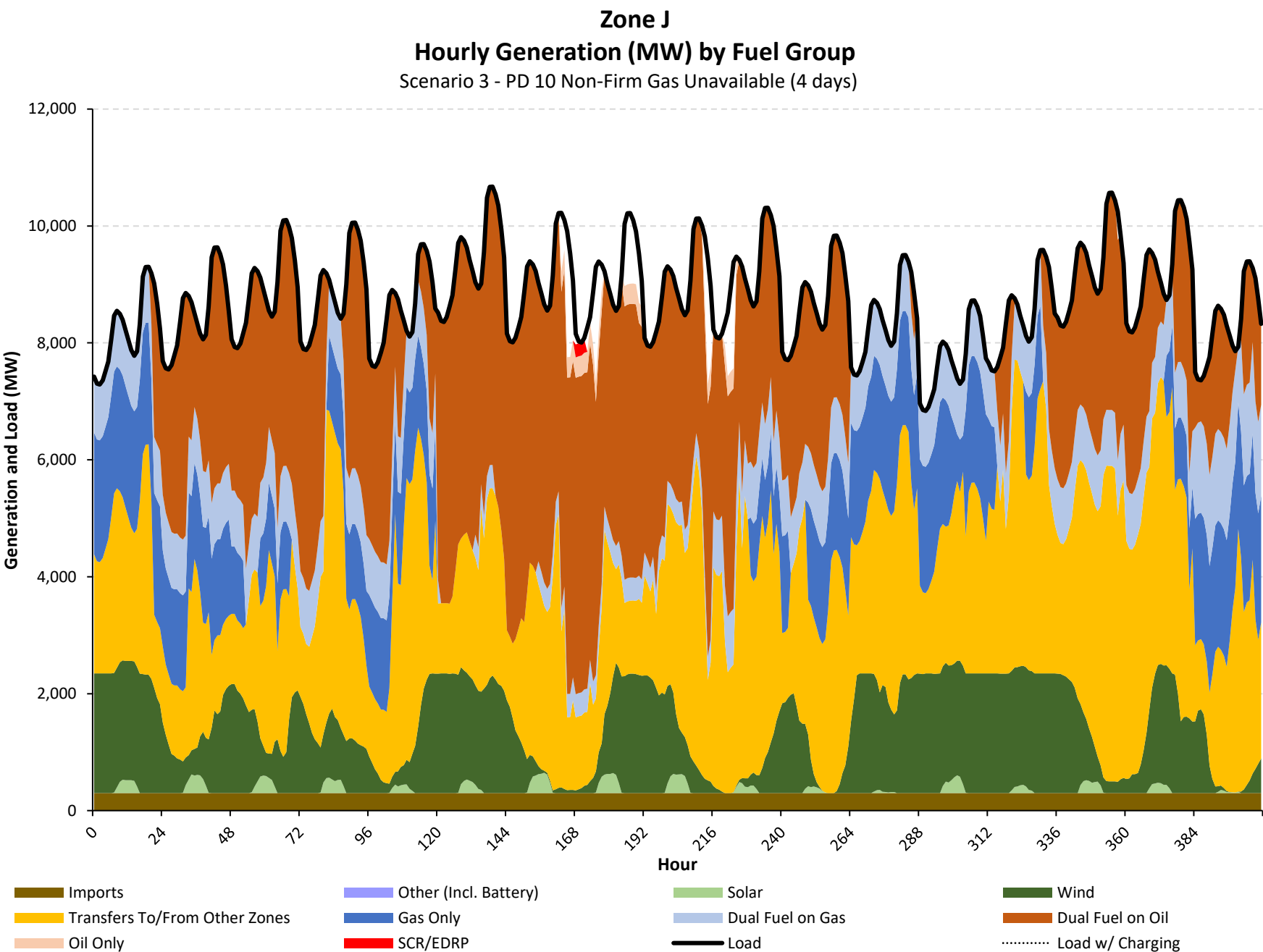
Full Period Results Summary

Case Name: Scenario 3 - PD 10 Non-Firm Gas Unavailable (4 days)

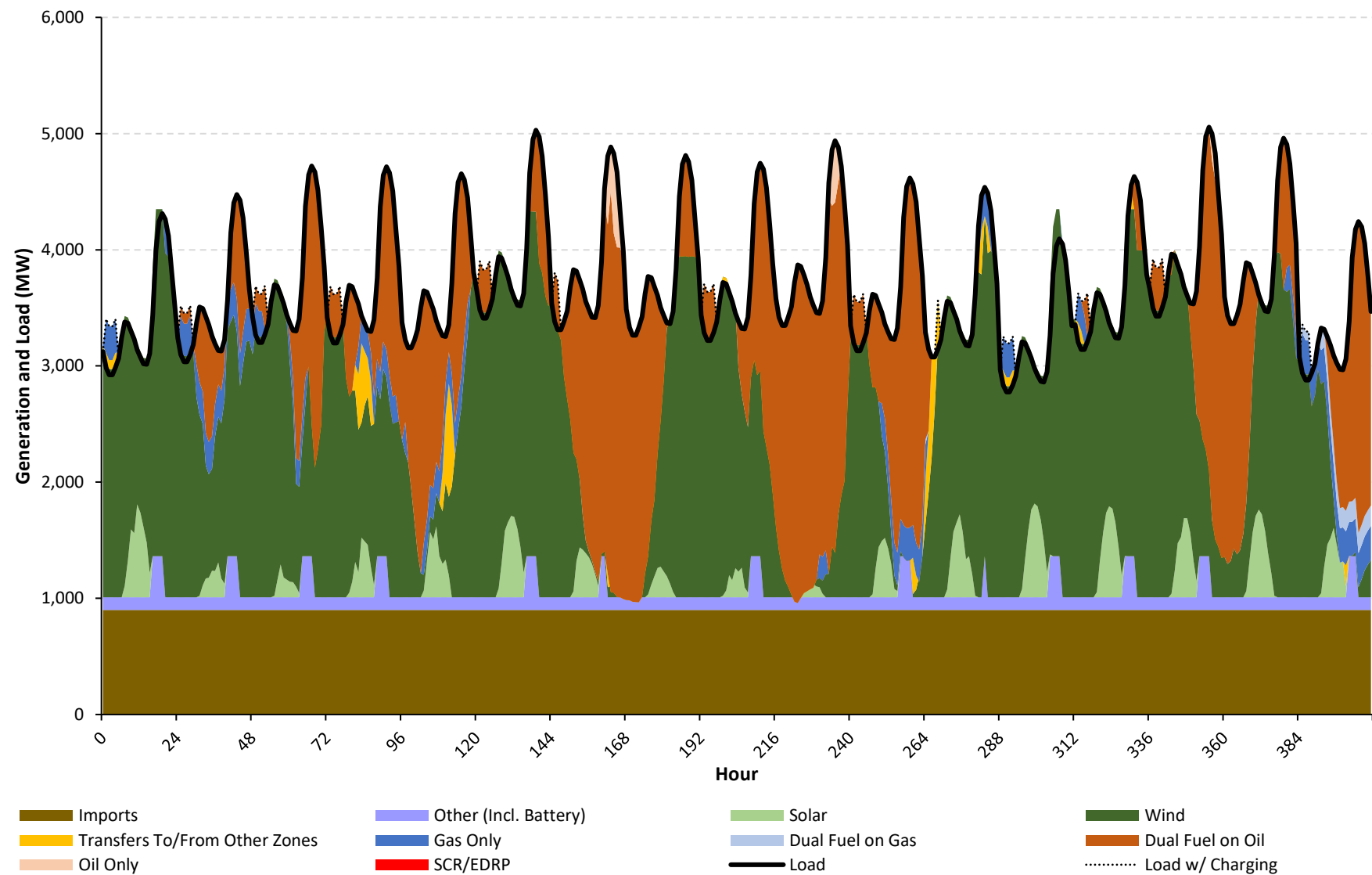
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

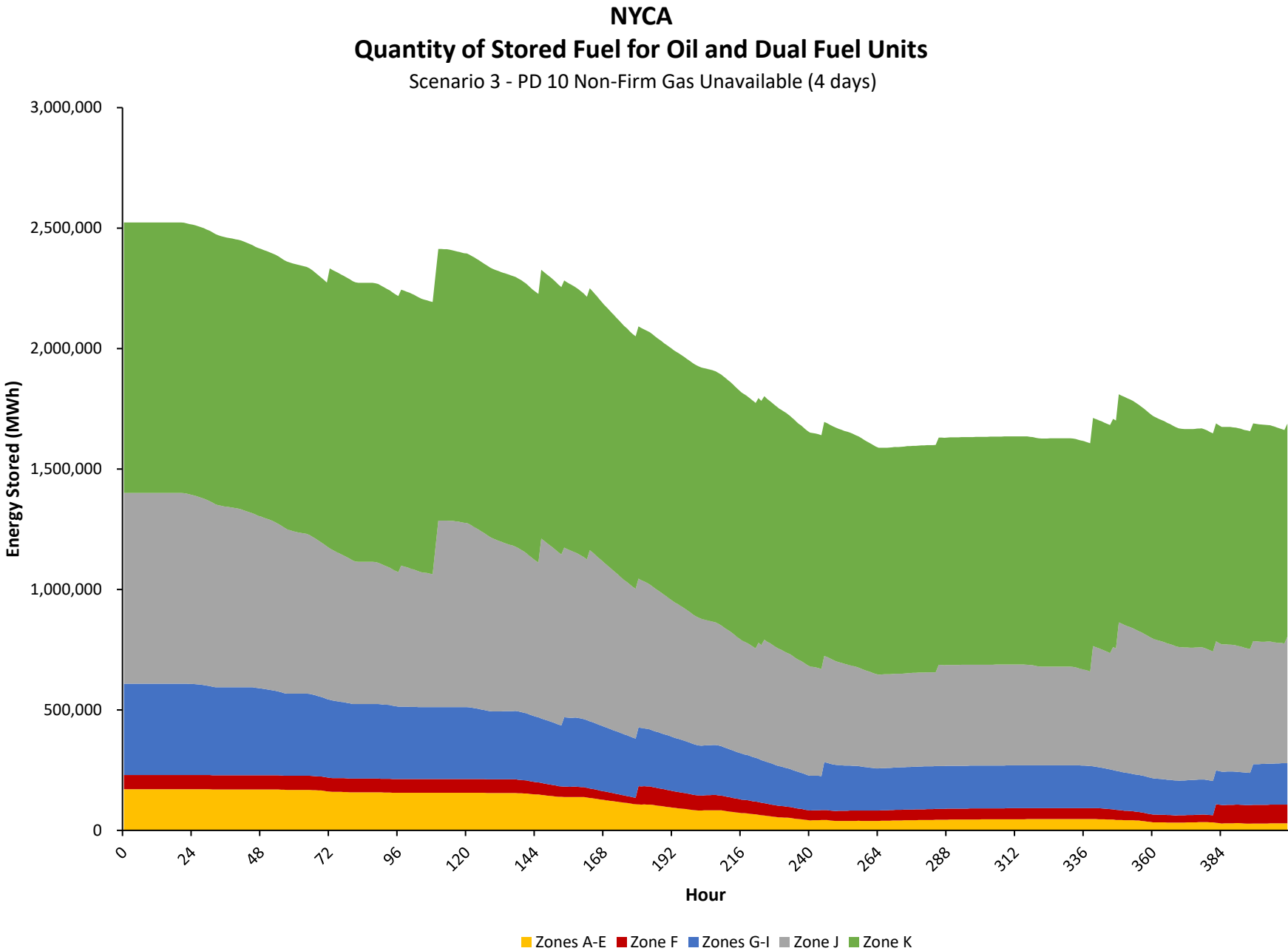


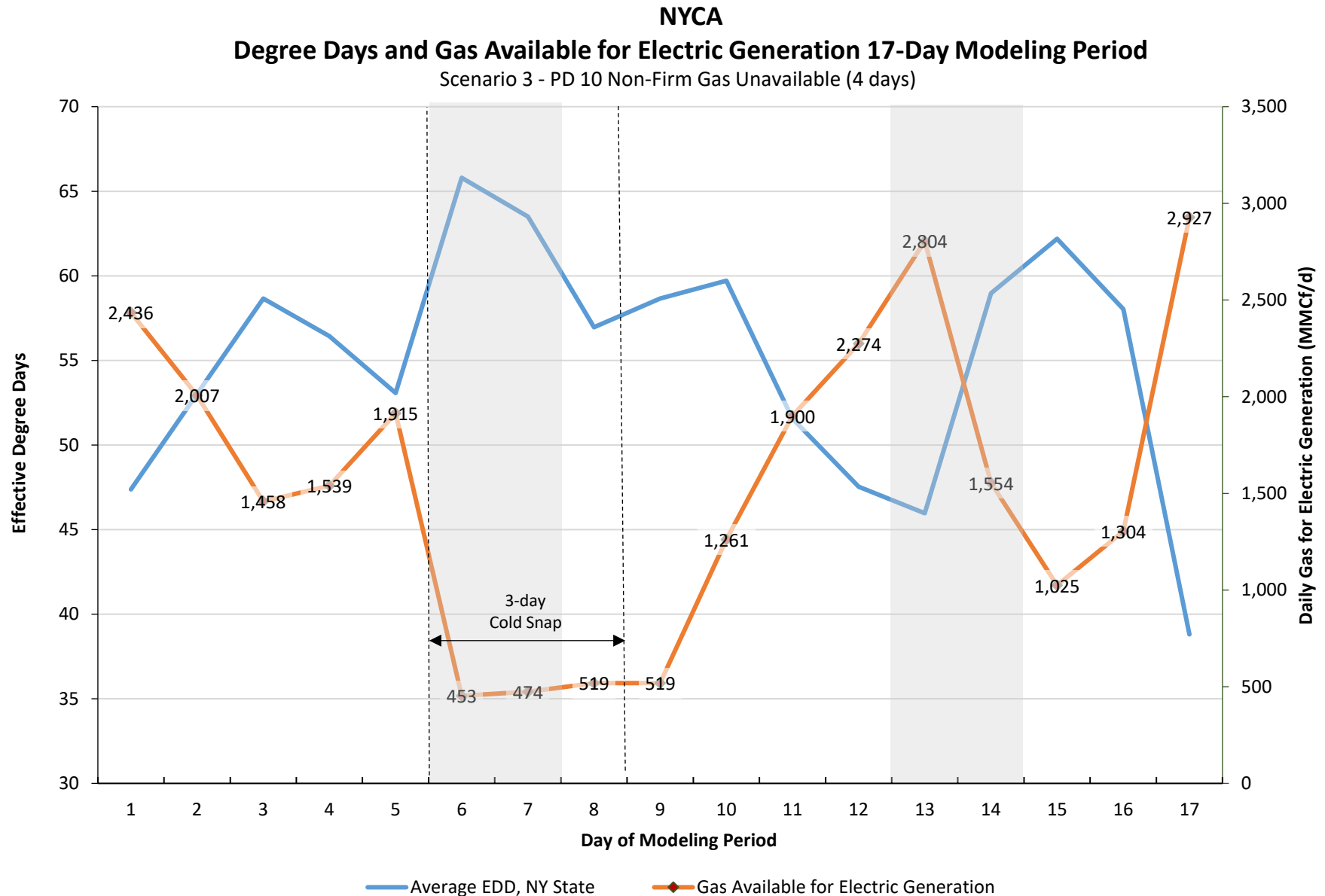




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 3 - PD 10 Non-Firm Gas Unavailable (4 days)

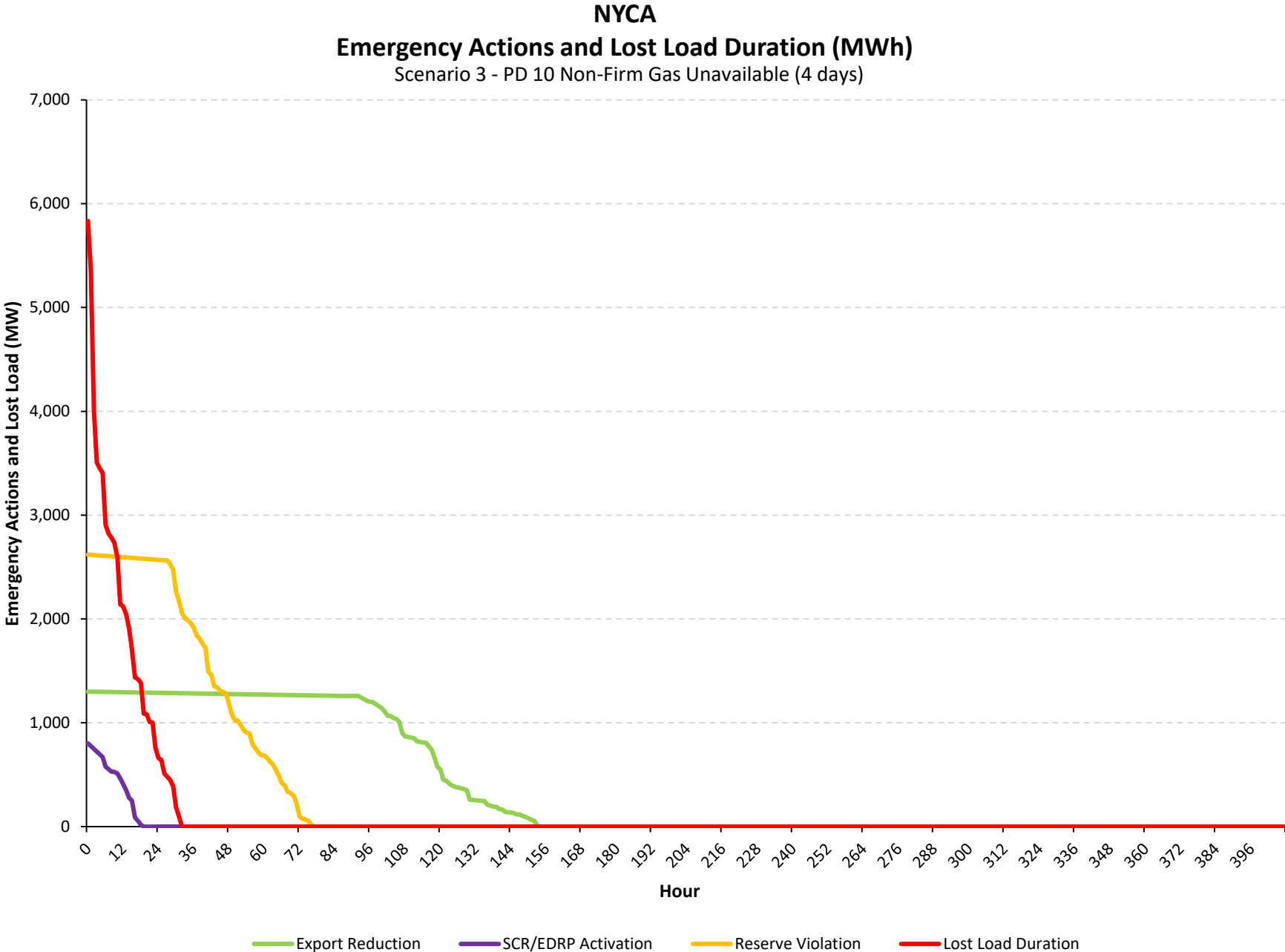


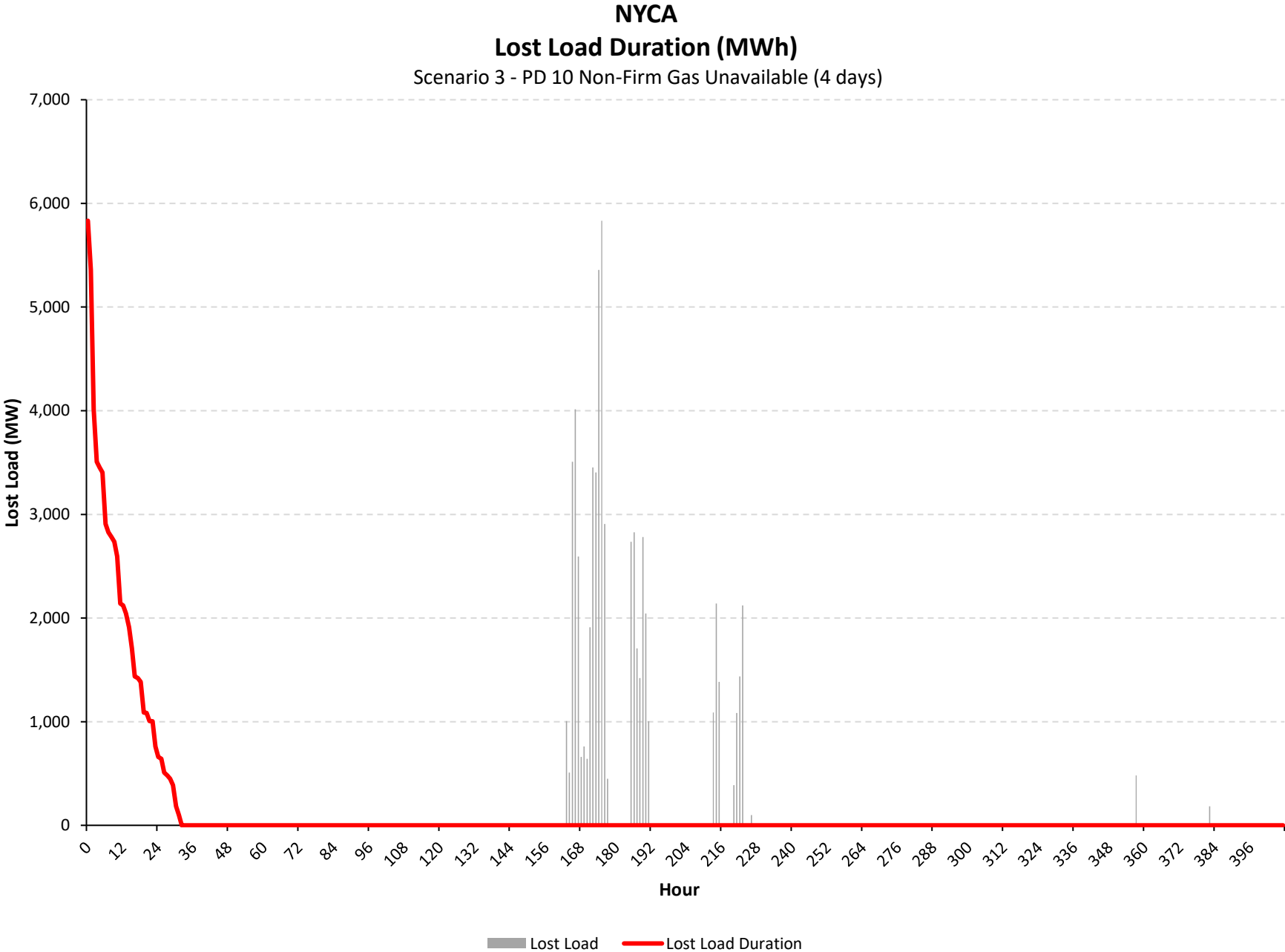




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



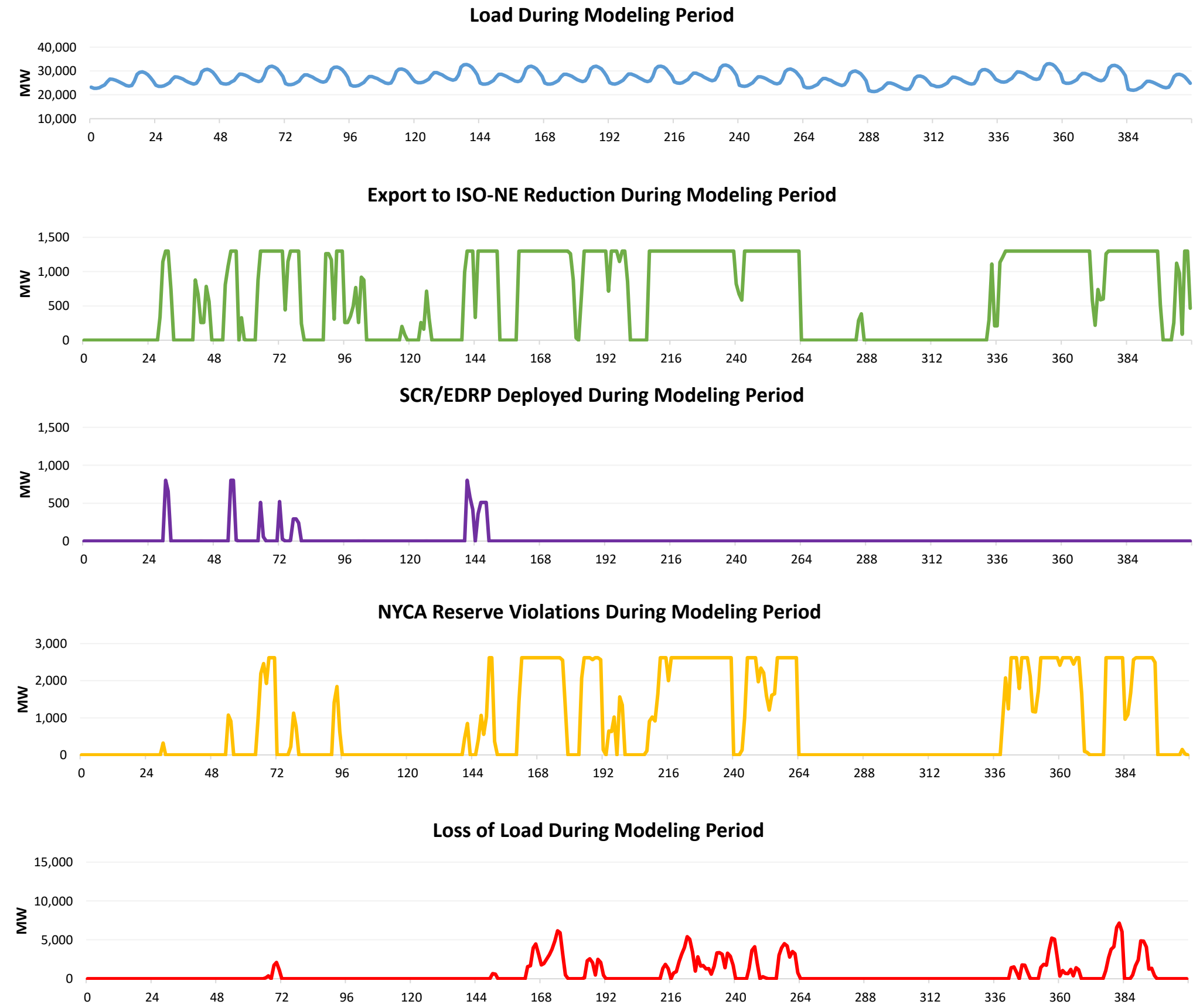


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 3 - PD 11 Combination Disruption (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 3 - PD 11 Combination Disruption



Case Summary	
Derate (EFORD) Increase:	High
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	238
Total MWh	263,962
Avg. MW	647.0

SCR Deployment	
Total Hrs.	20
Total MWh	8,708
Avg. MW	21.3

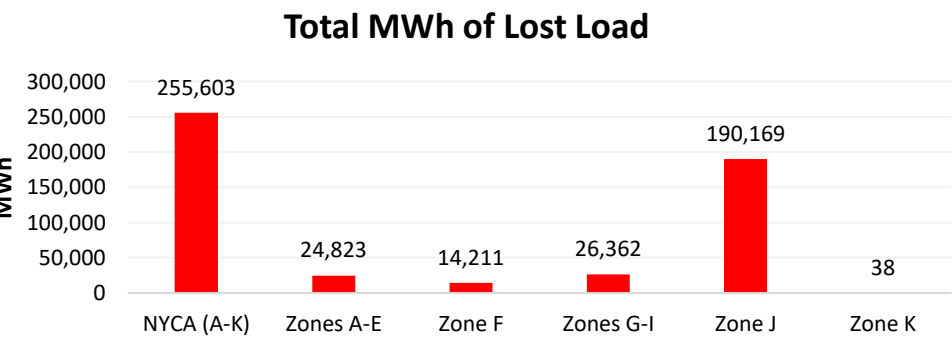
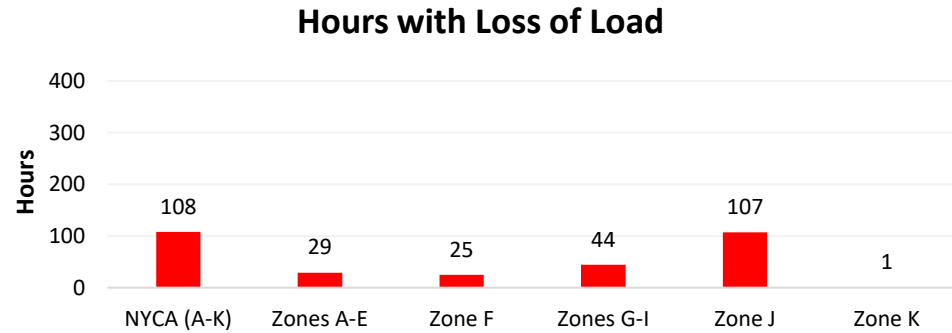
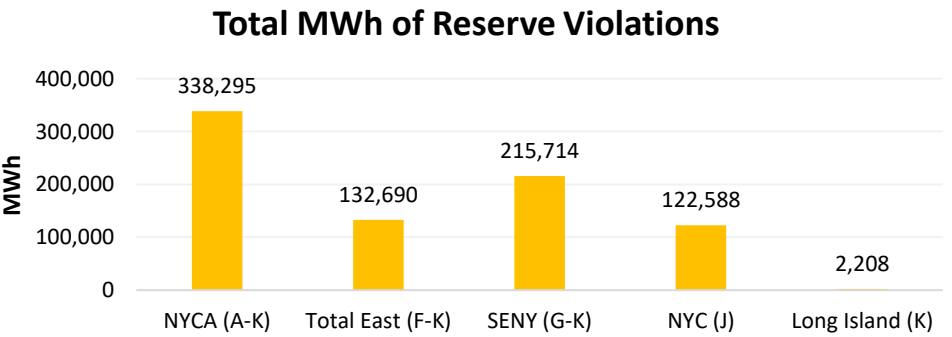
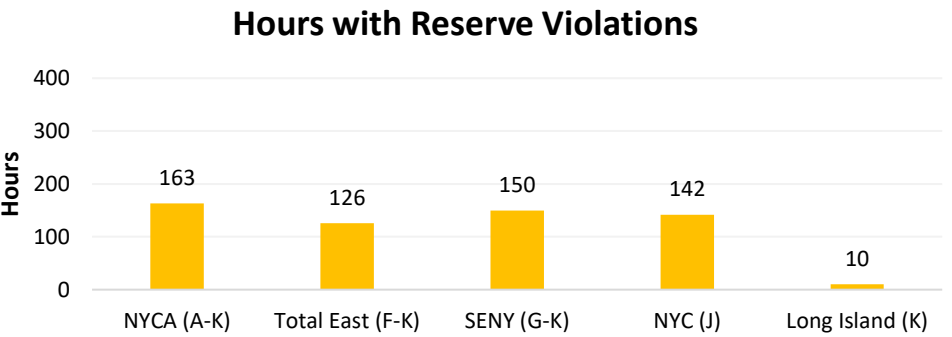
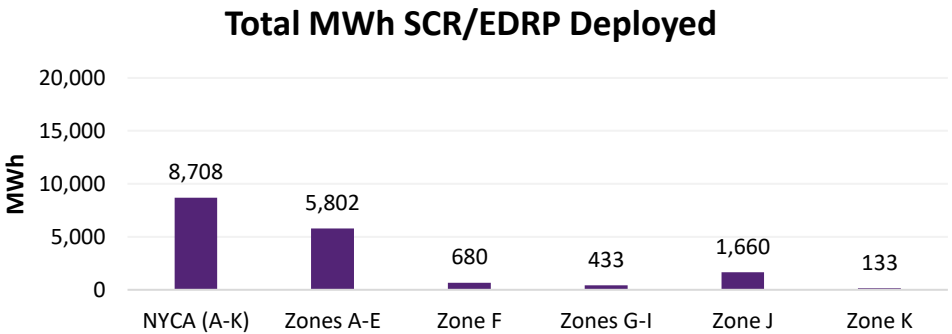
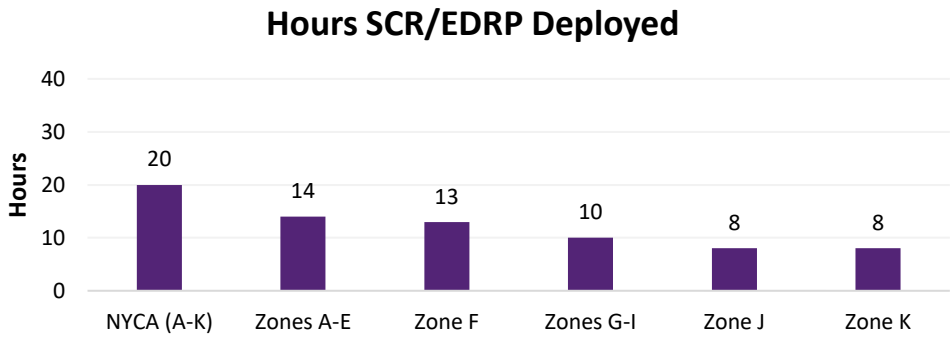
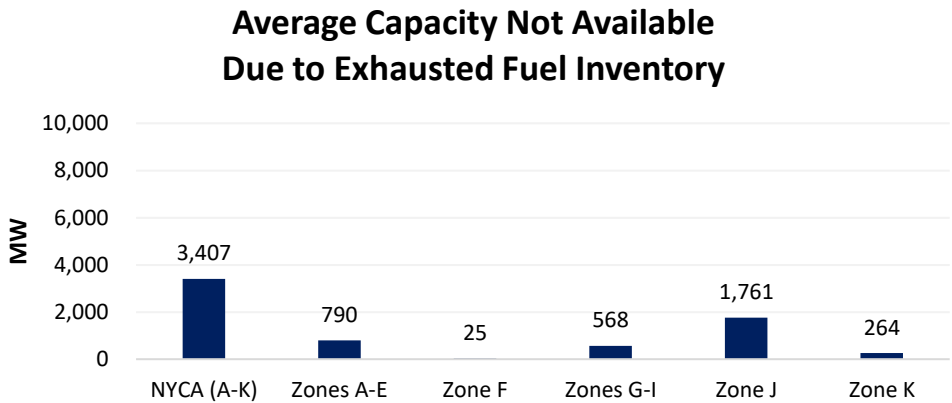
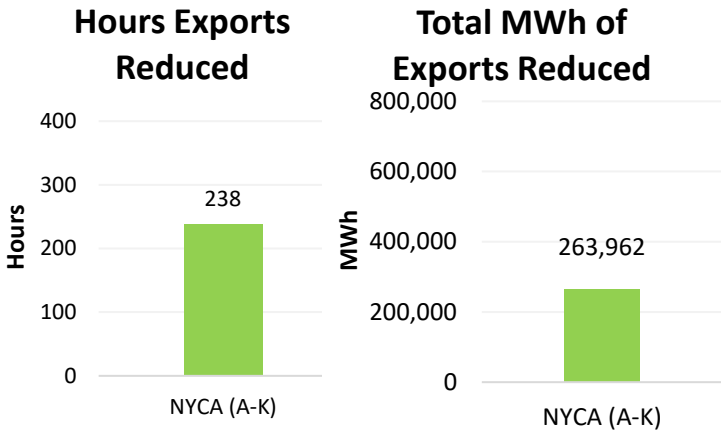
Reserve Violations	
Total Hrs.	163
Total MWh	338,295
Avg. MW	829.2
First Hour with Viol.	30

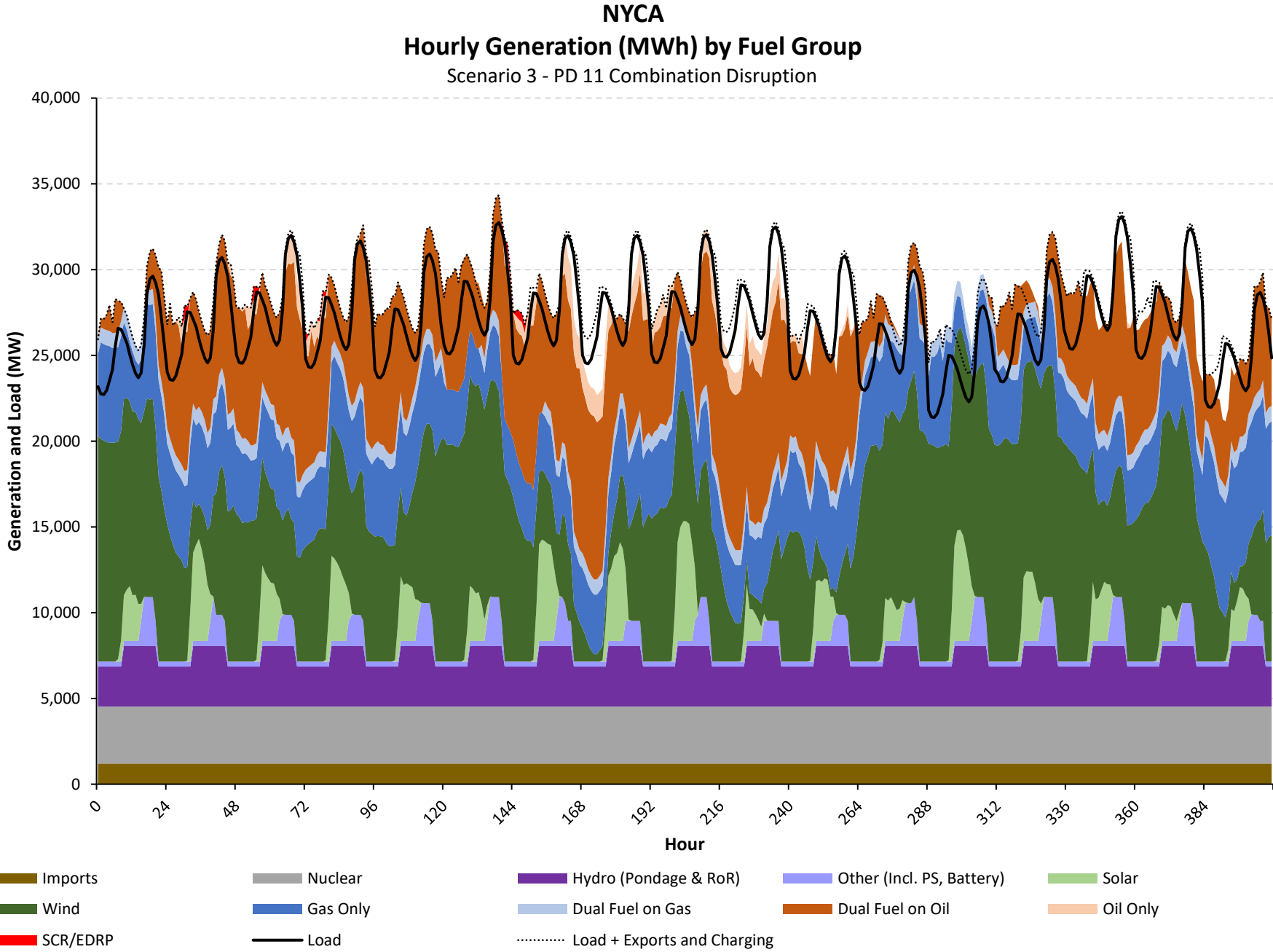
Loss of Load	
Total Hrs.	108
Total MWh	255,603
Avg. MW	626.5
First Hour with Losses	66

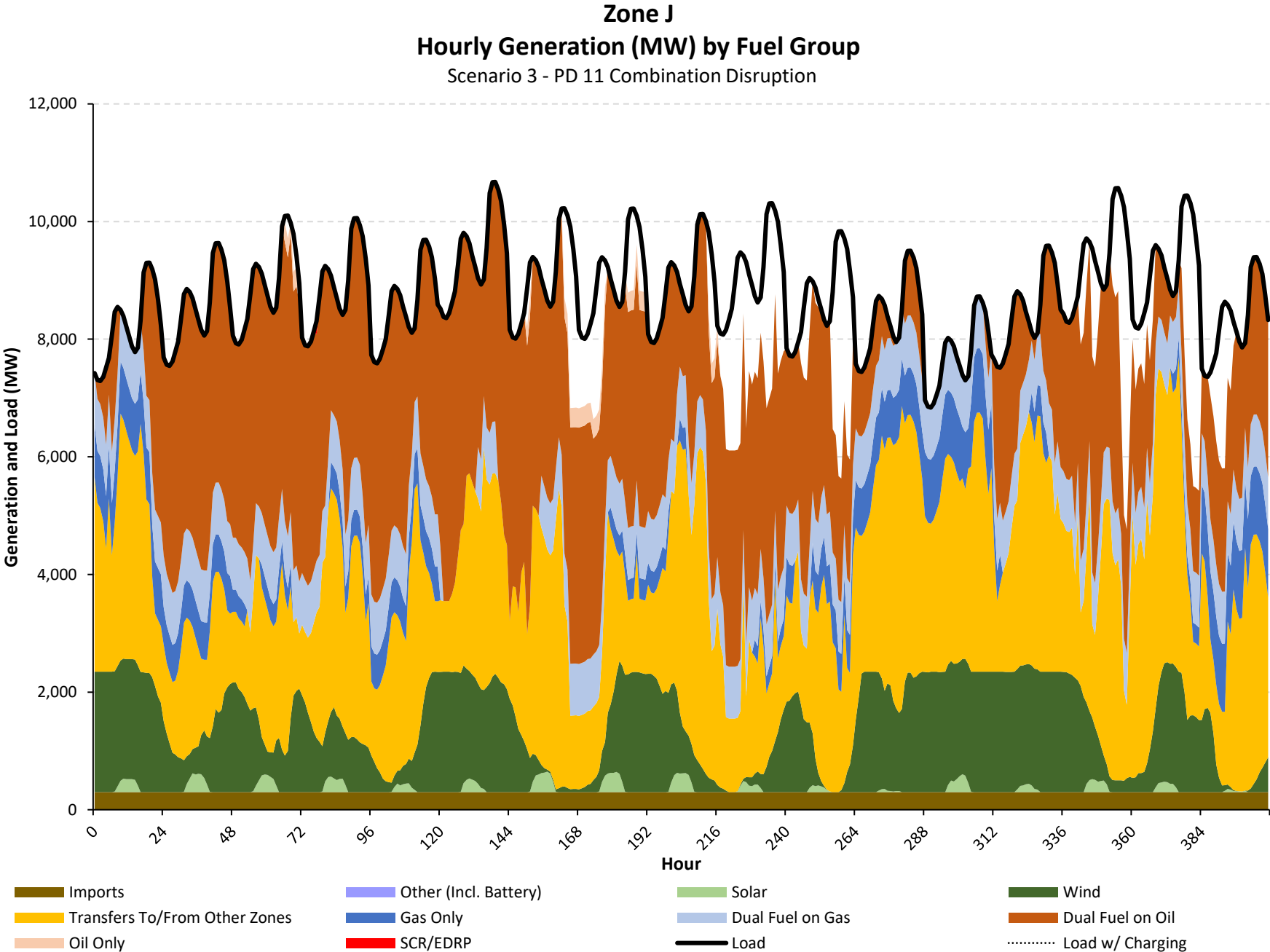
Full Period Results Summary

Case Name: Scenario 3 - PD 11 Combination Disruption

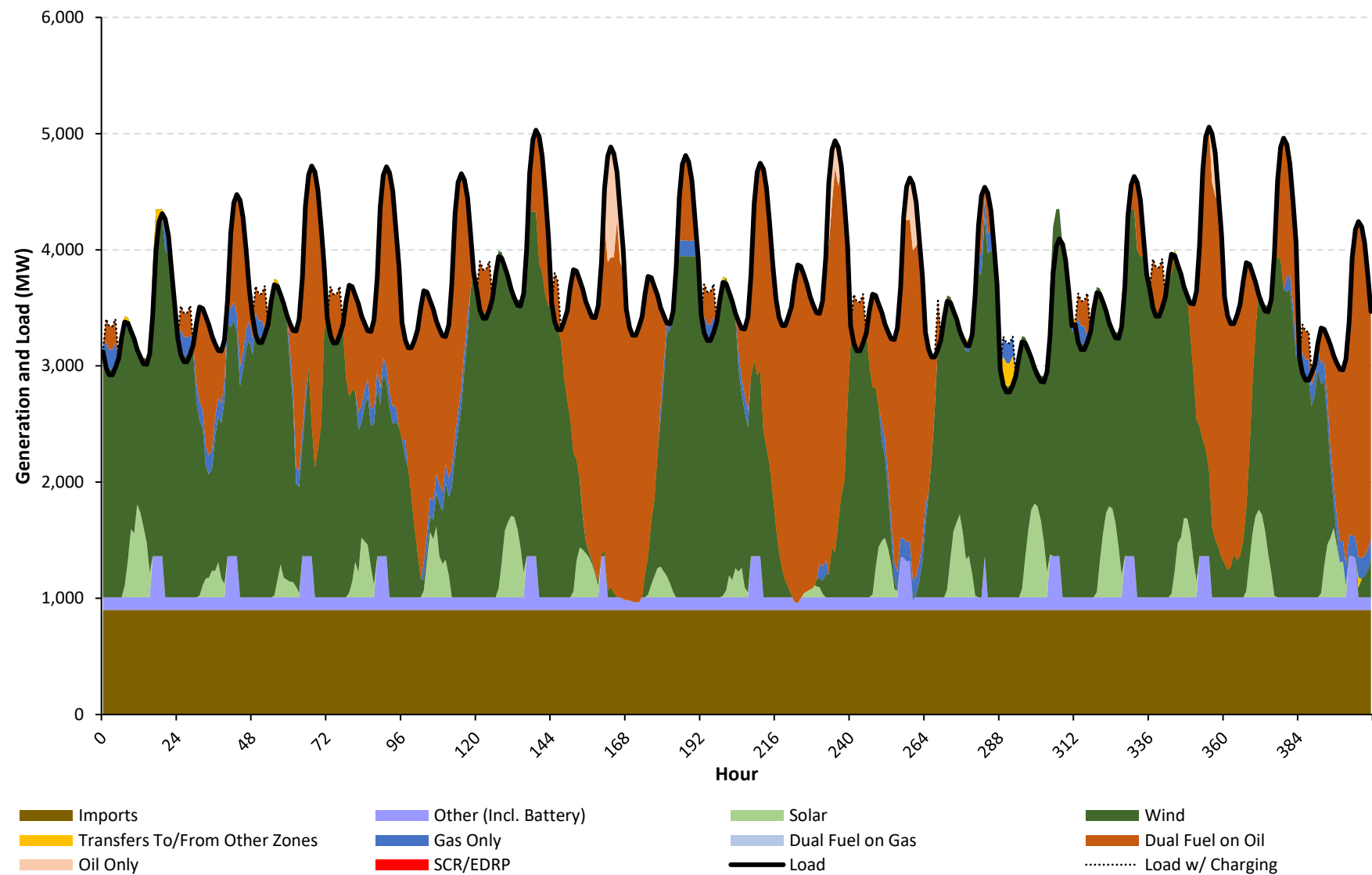
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All



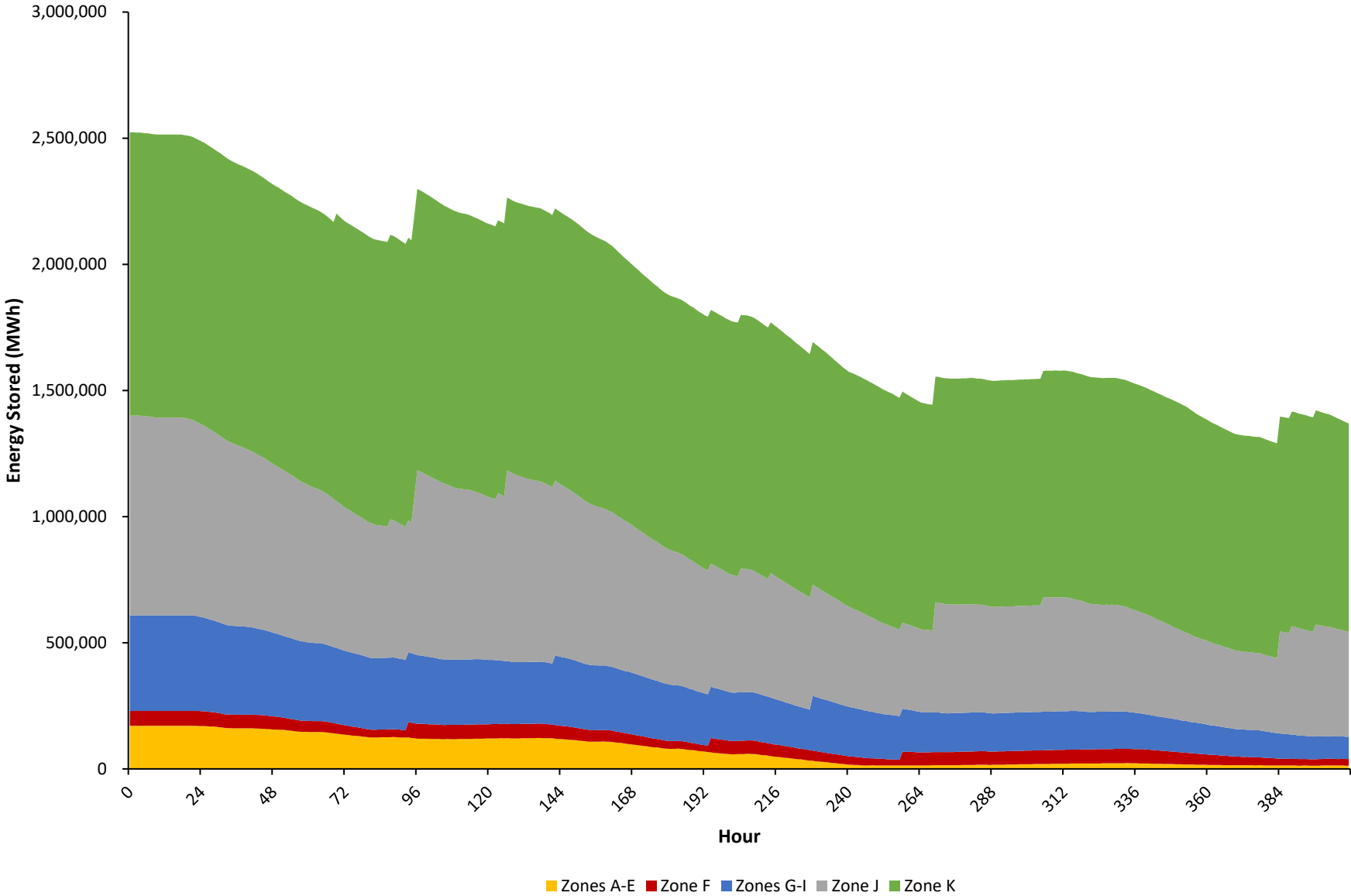


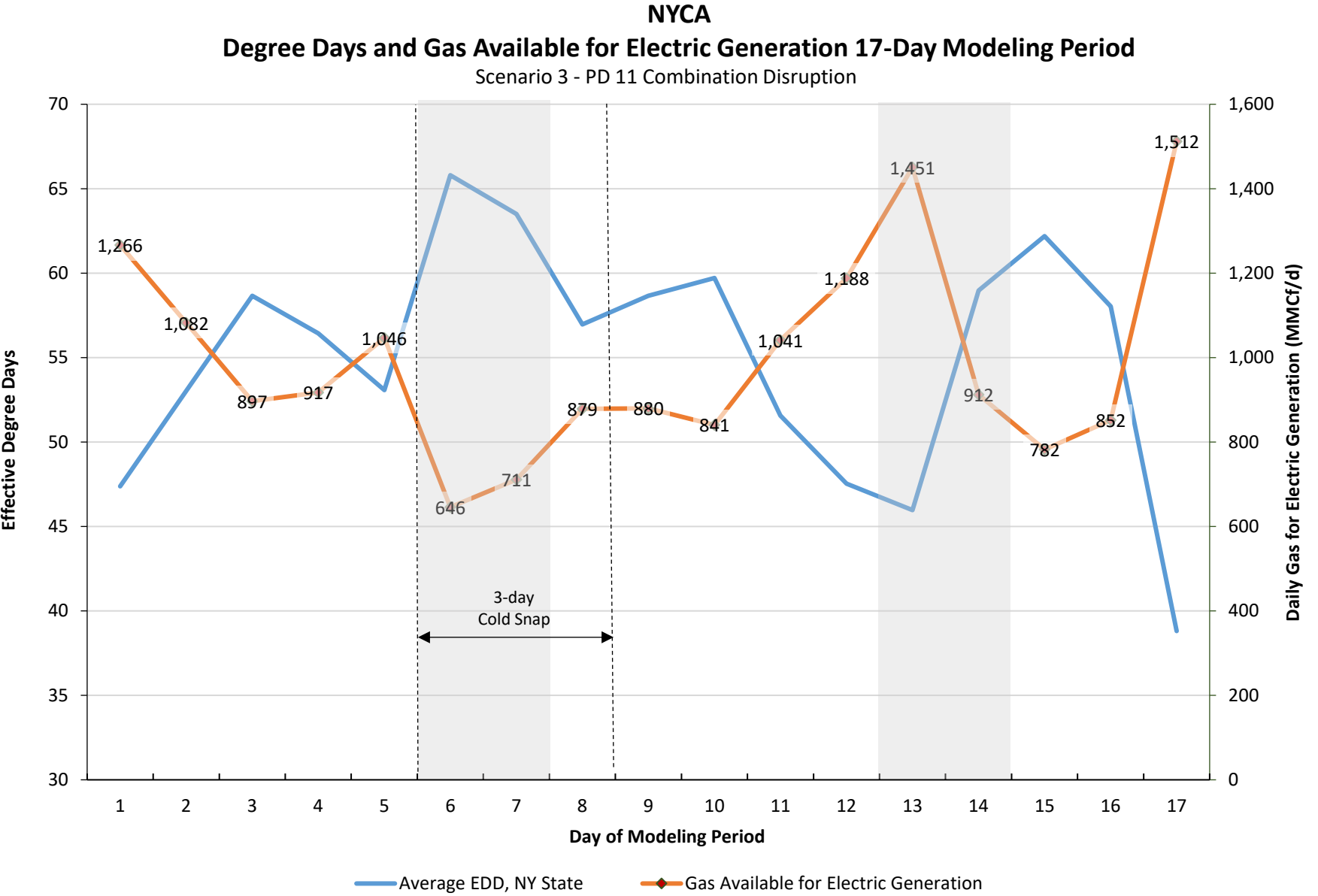


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 3 - PD 11 Combination Disruption

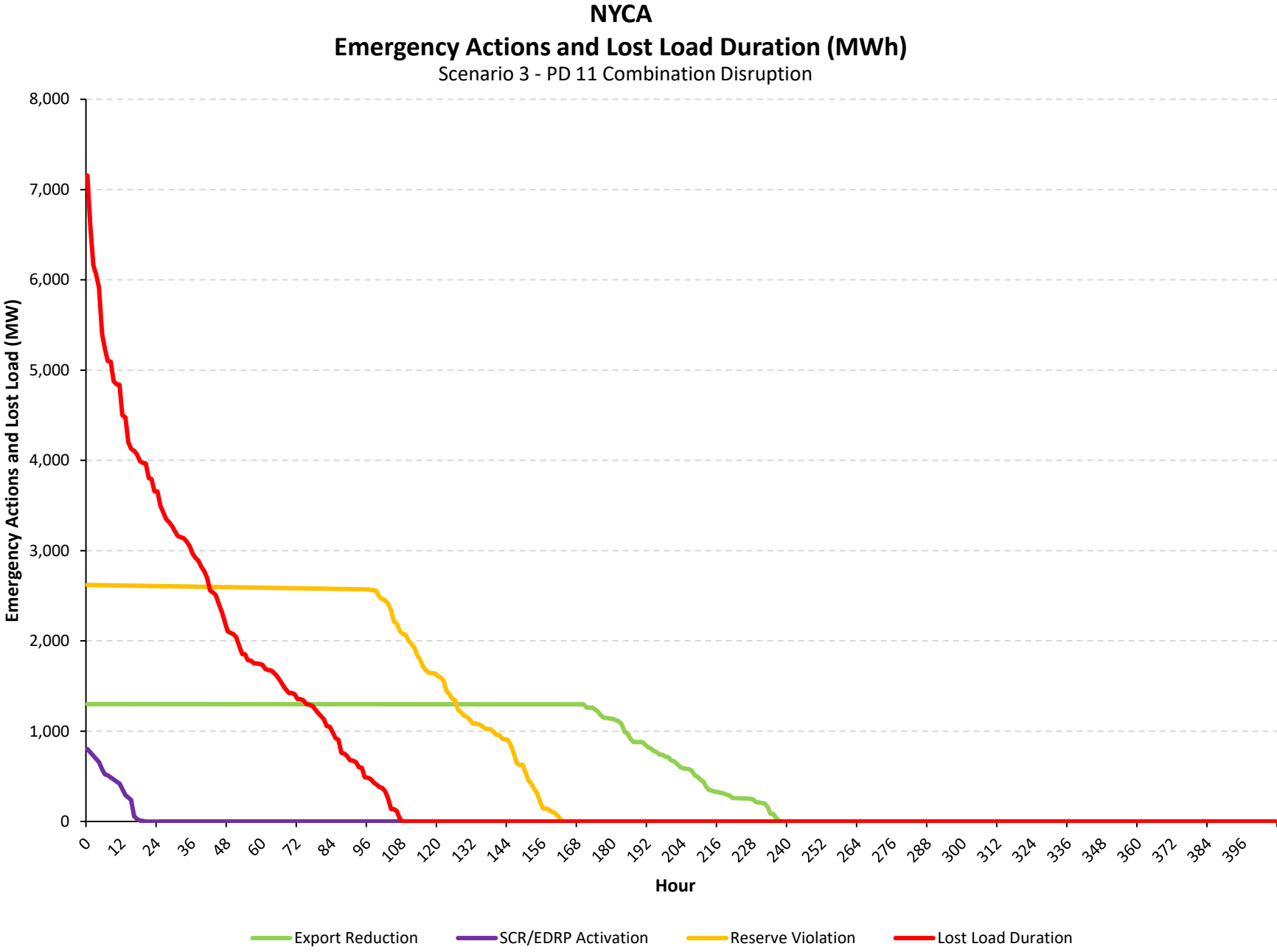


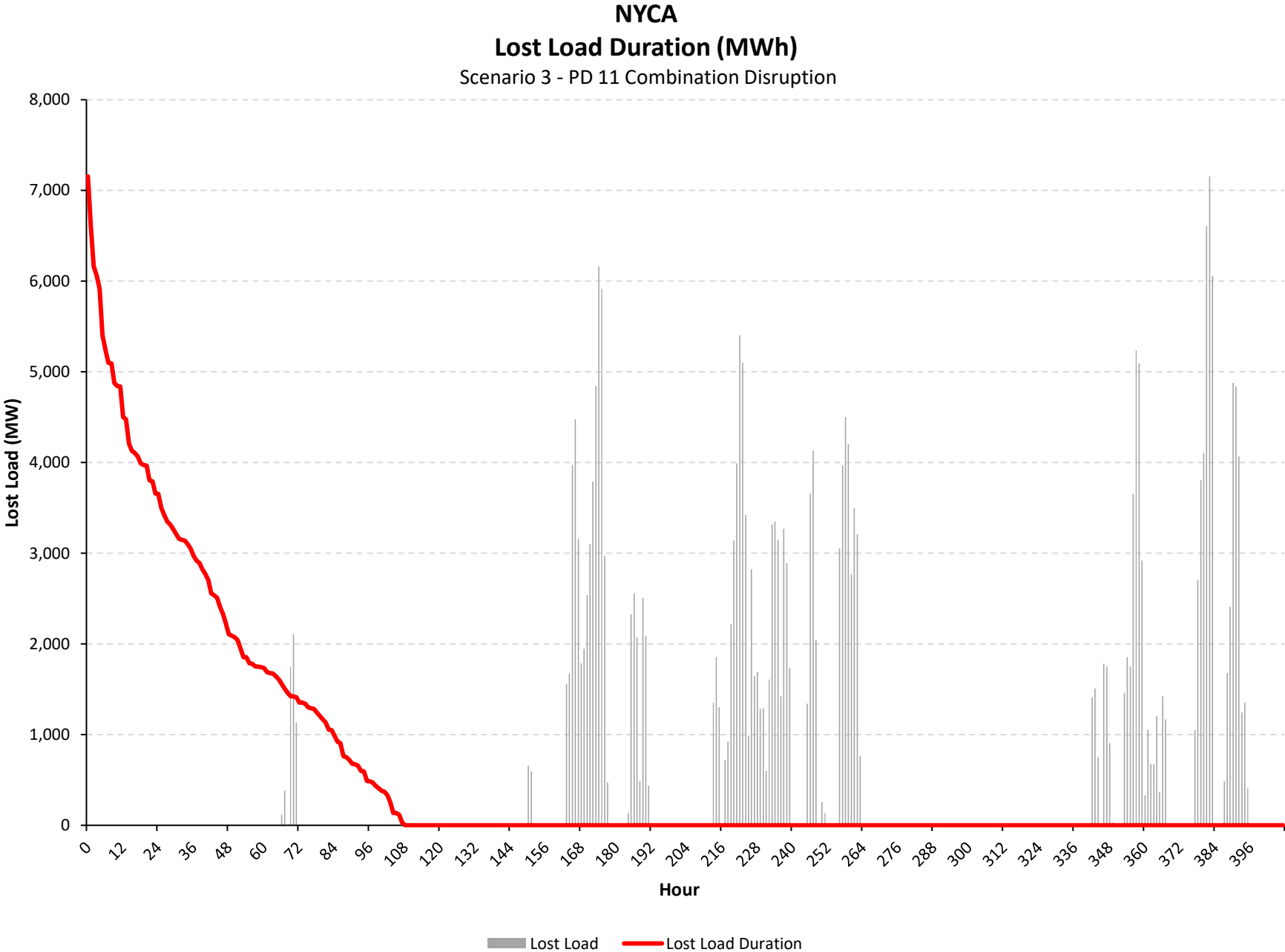
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 3 - PD 11 Combination Disruption





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



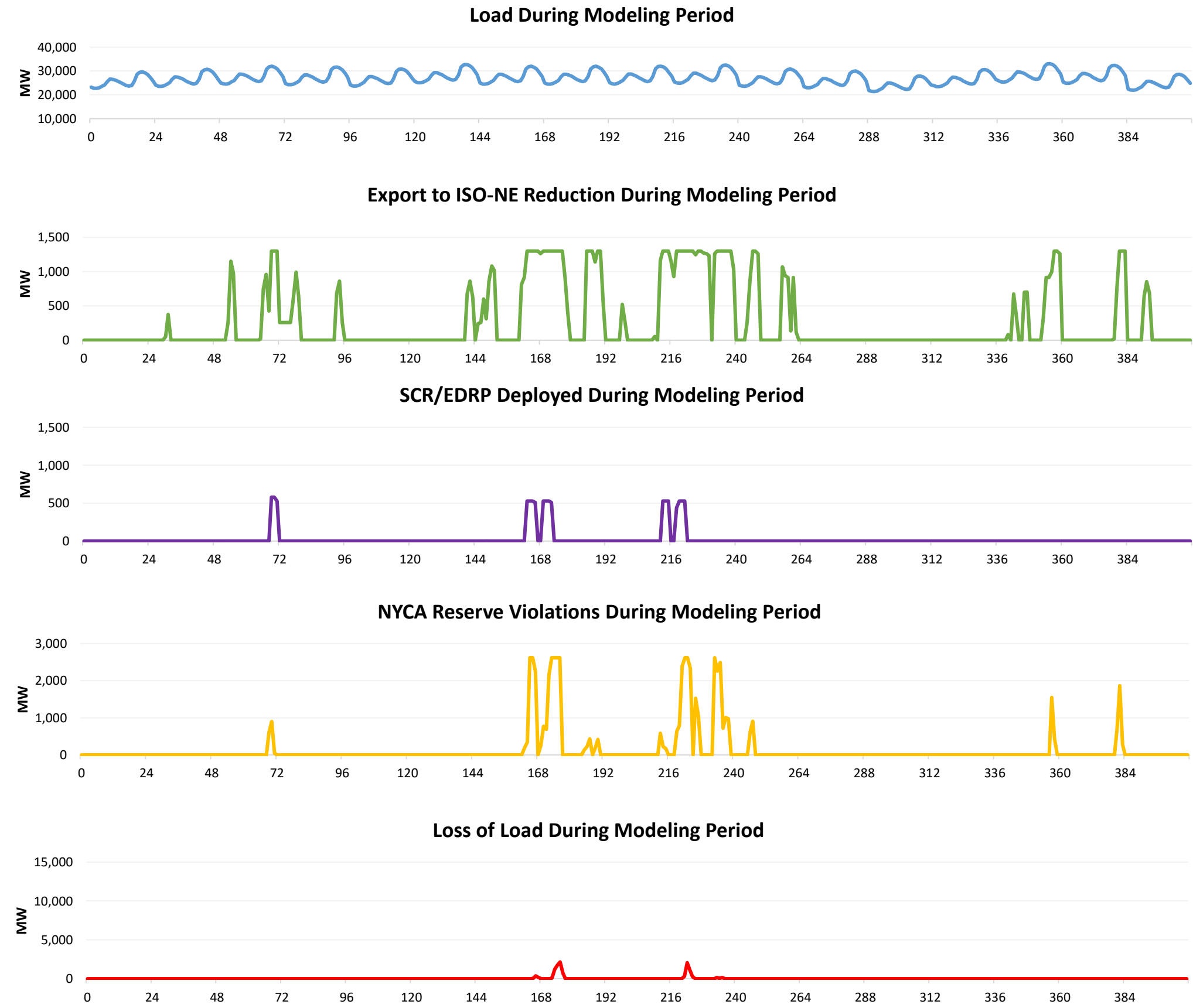


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 4 - PD 1 No Disruptions (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 4 - PD 1 No Disruptions



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	119
Total MWh	110,458
Avg. MW	270.7

SCR Deployment	
Total Hrs.	18
Total MWh	9,464
Avg. MW	23.2

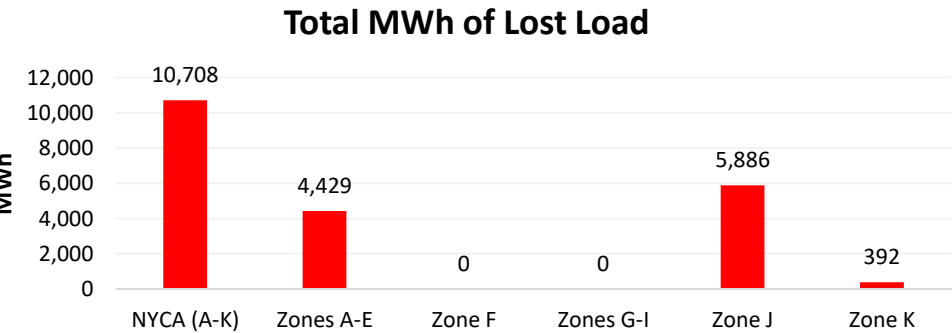
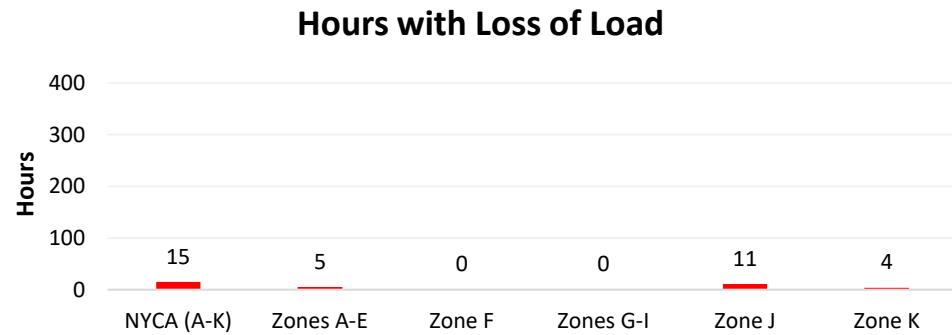
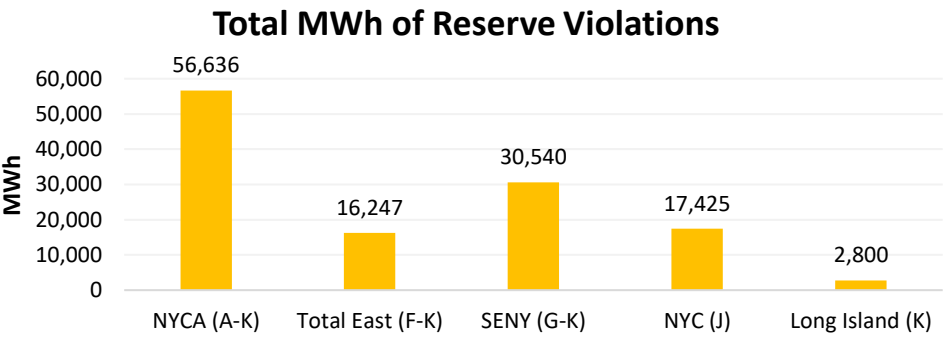
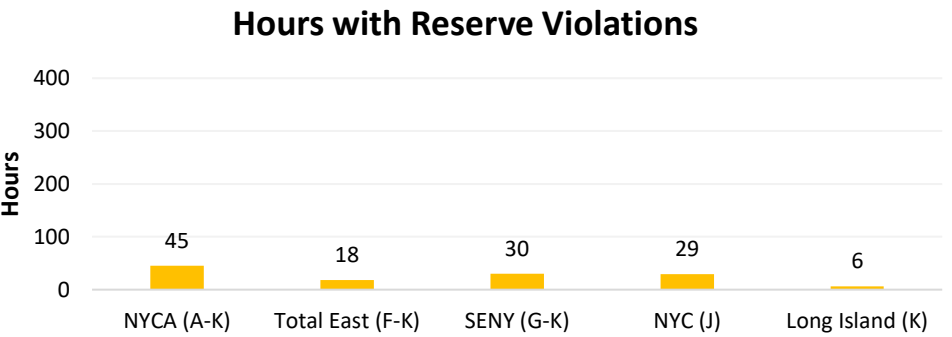
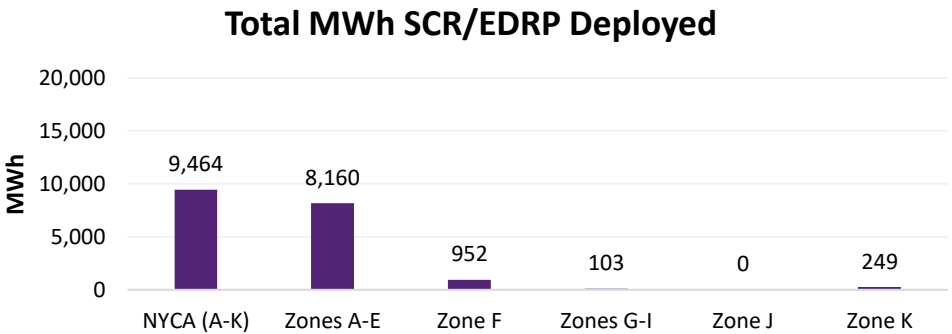
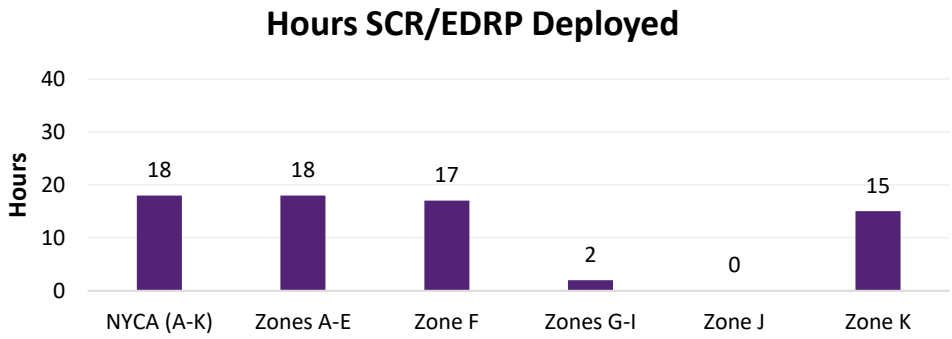
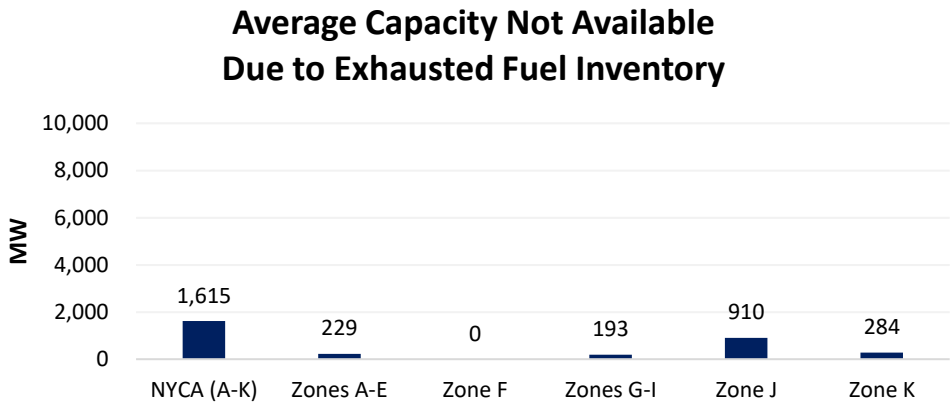
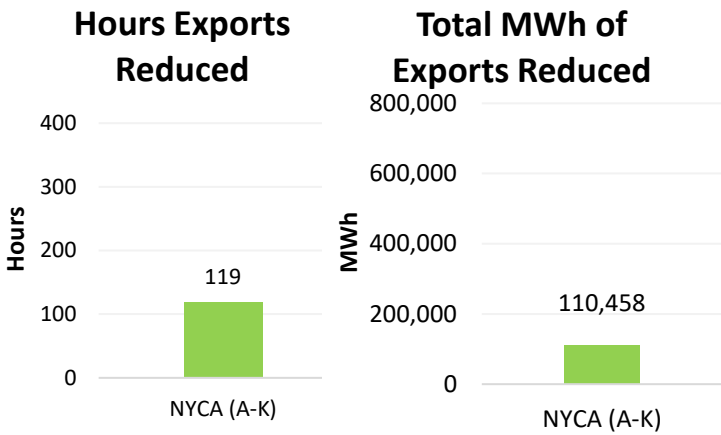
Reserve Violations	
Total Hrs.	45
Total MWh	56,636
Avg. MW	138.8
First Hour with Viol.	69

Loss of Load	
Total Hrs.	15
Total MWh	10,708
Avg. MW	26.2
First Hour with Losses	165

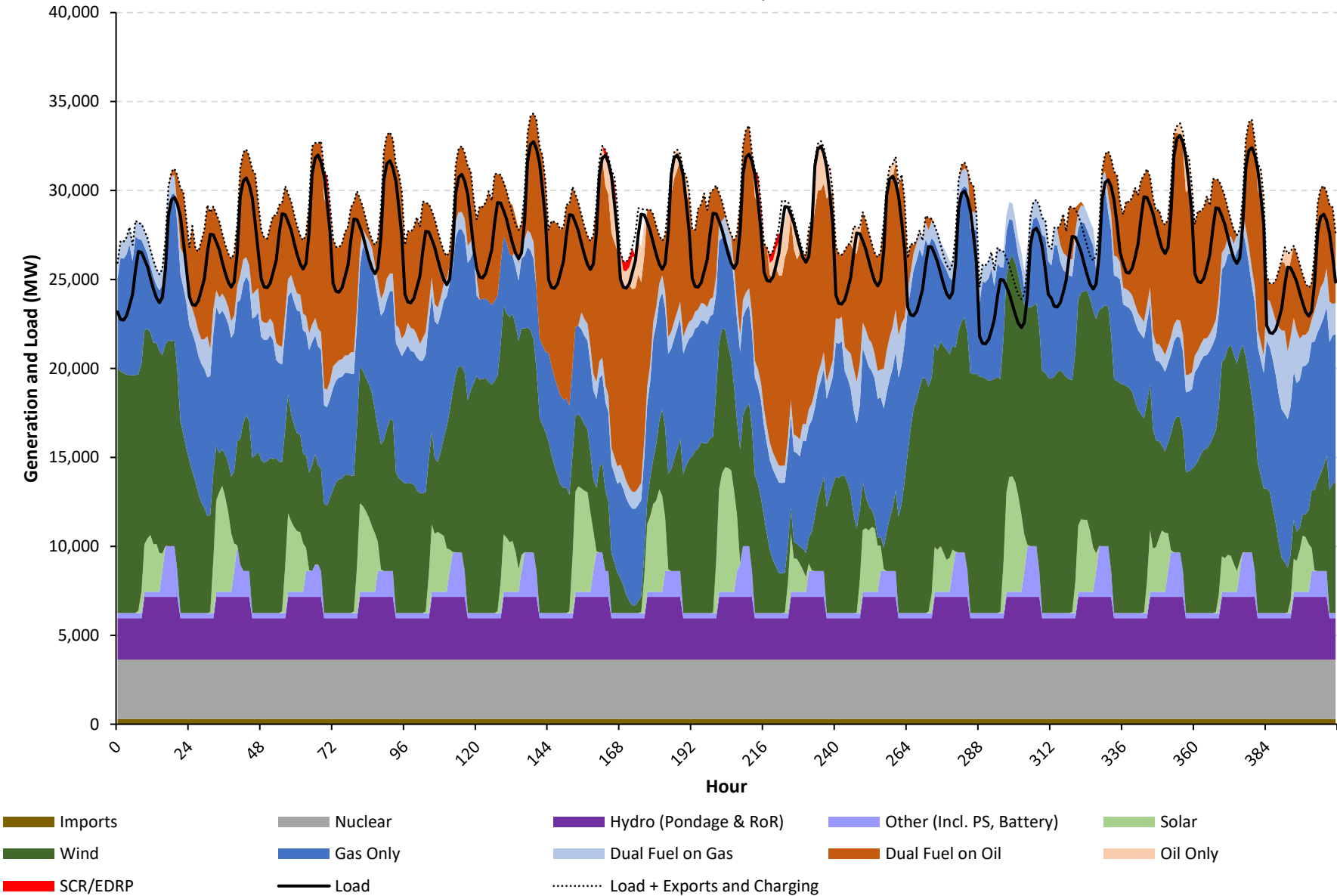
Full Period Results Summary

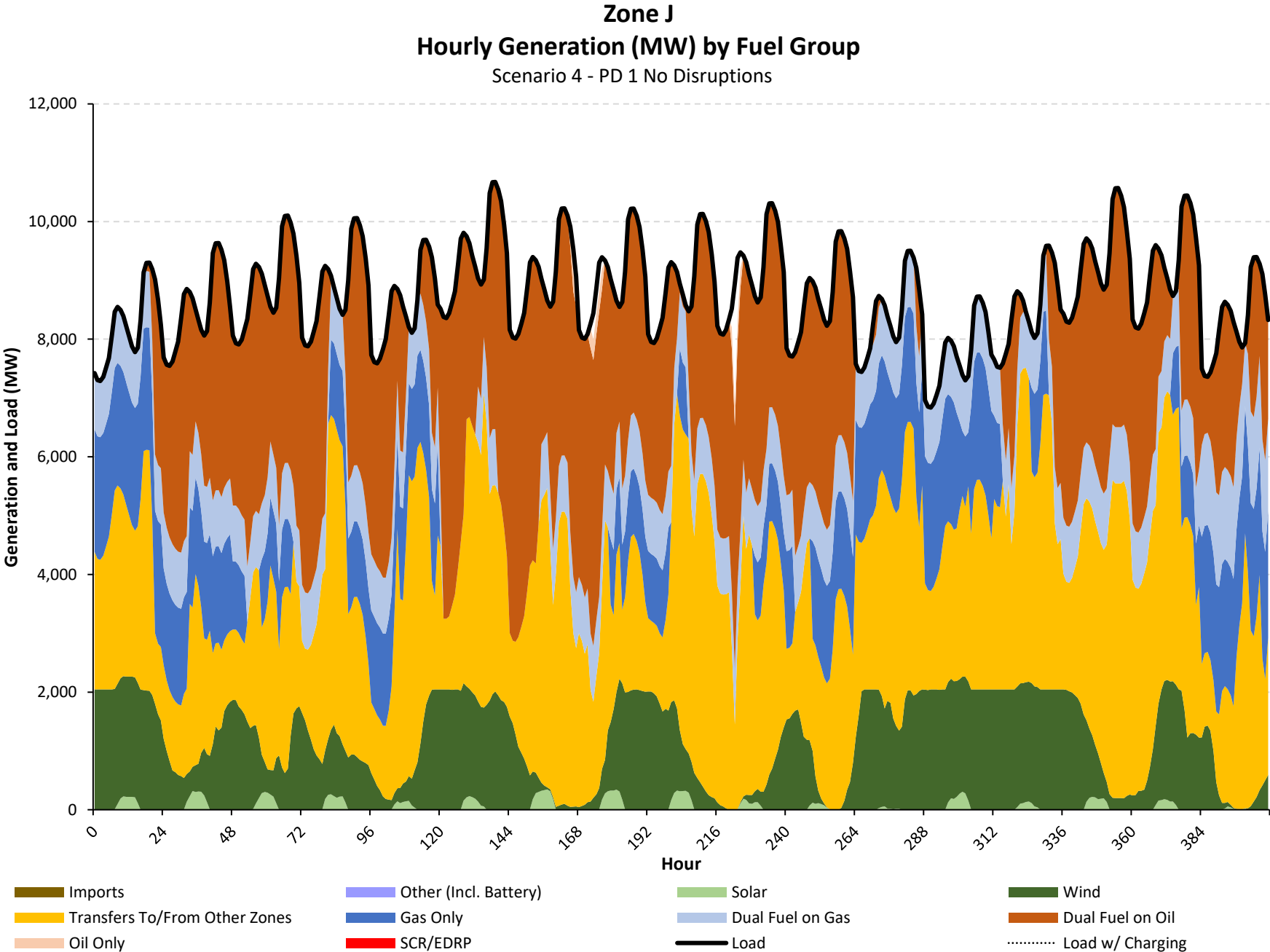
Case Name: Scenario 4 - PD 1 No Disruptions

Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

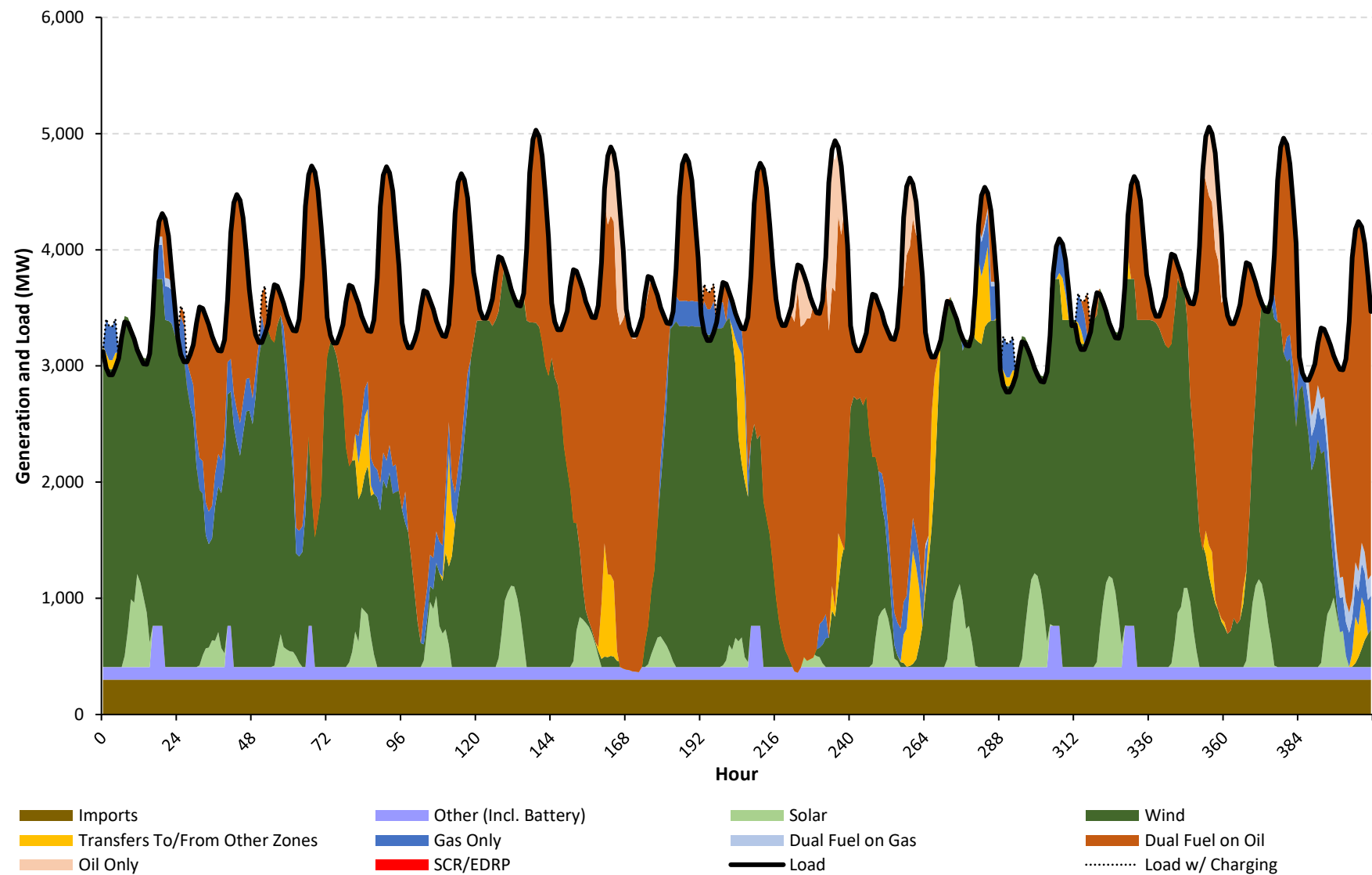


NYCA
Hourly Generation (MWh) by Fuel Group
Scenario 4 - PD 1 No Disruptions

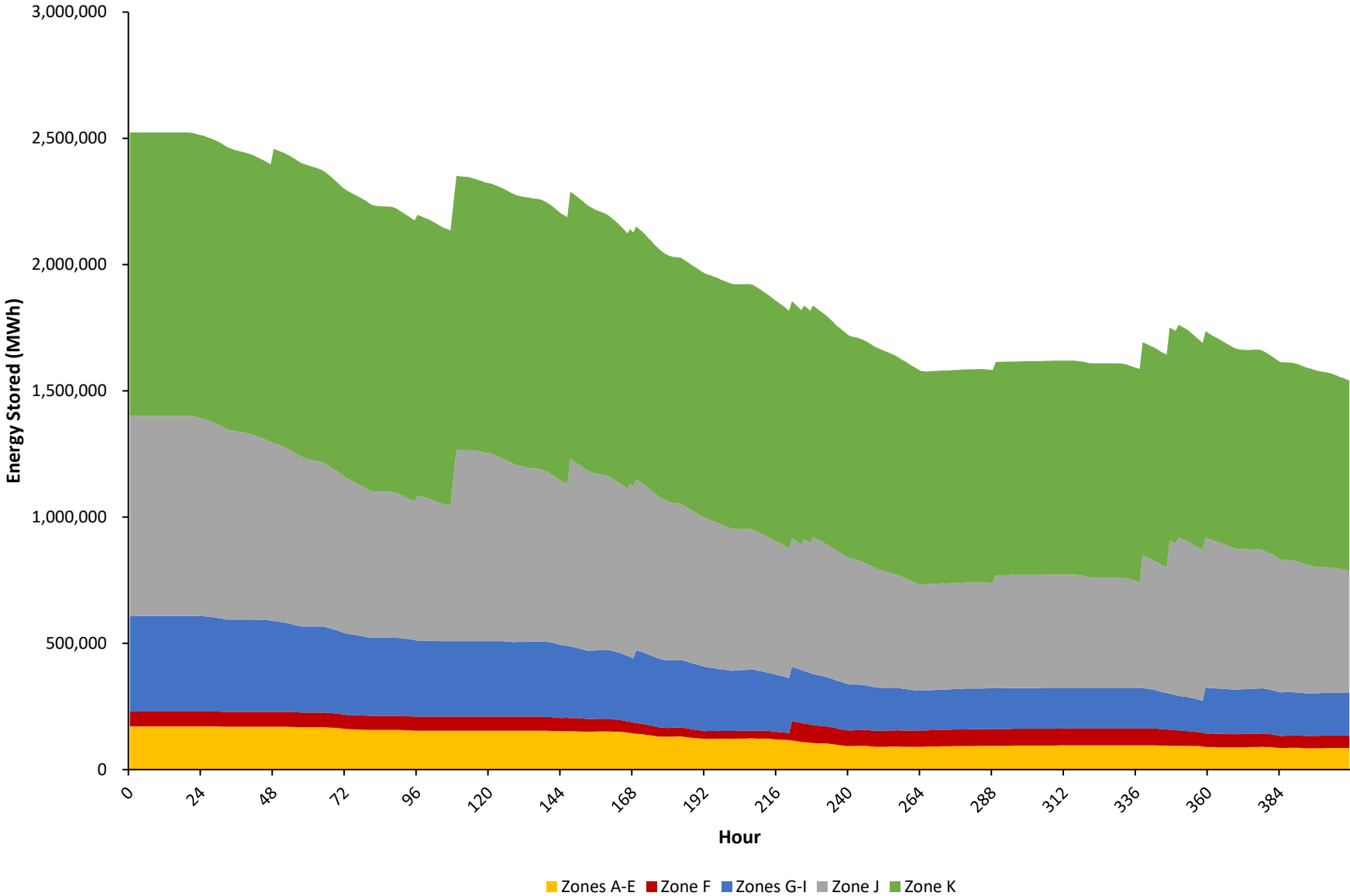


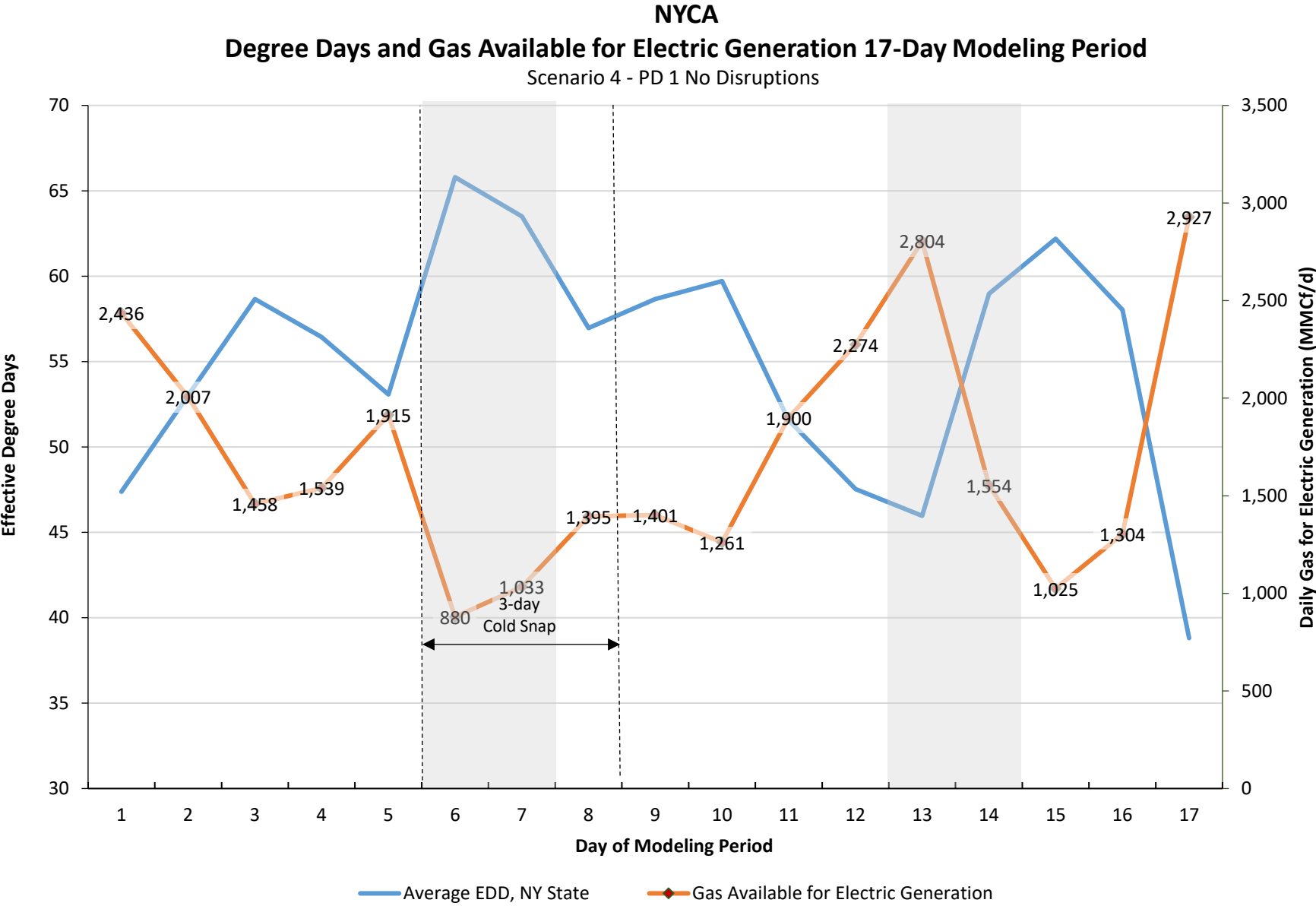


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 4 - PD 1 No Disruptions

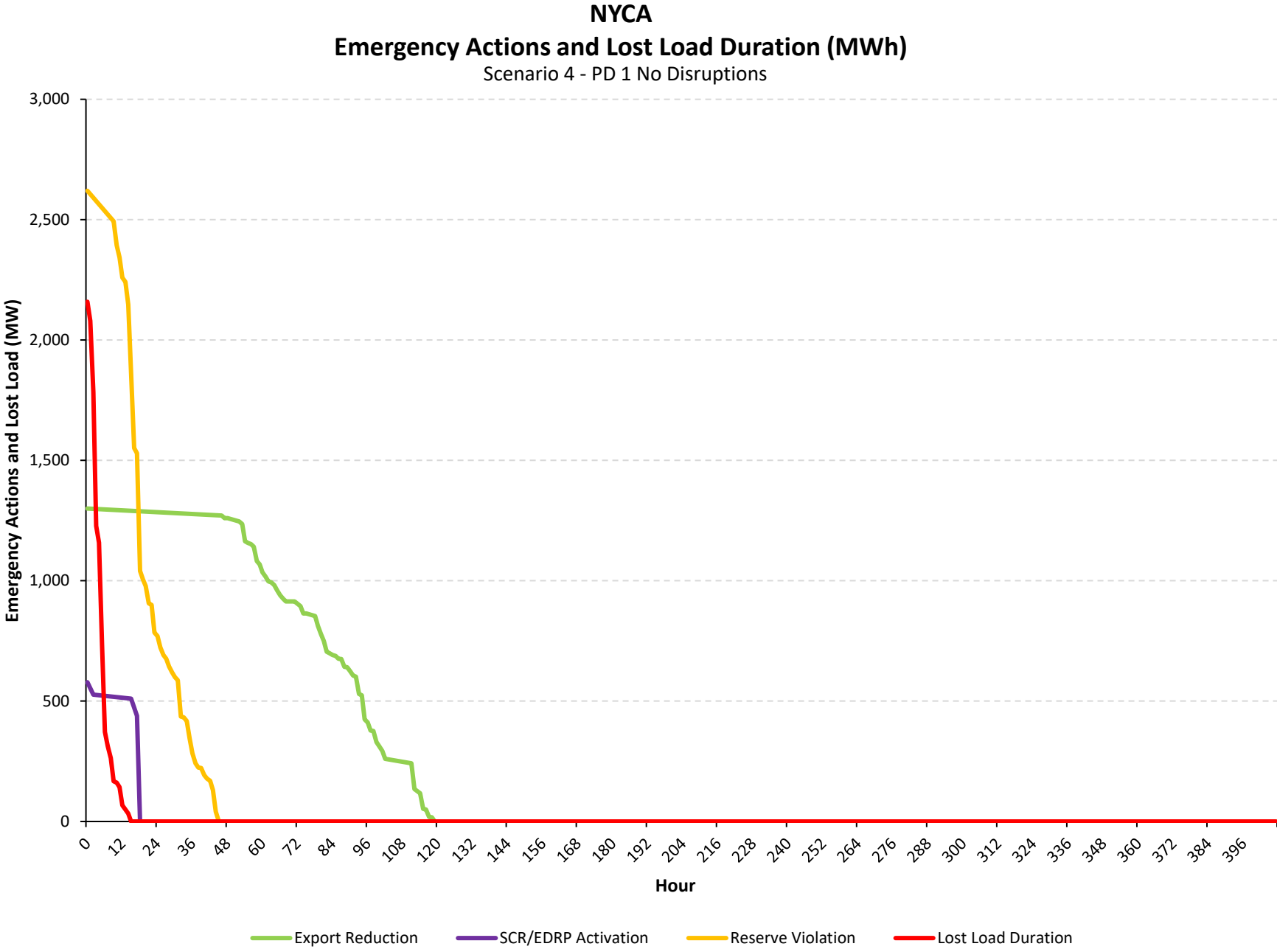


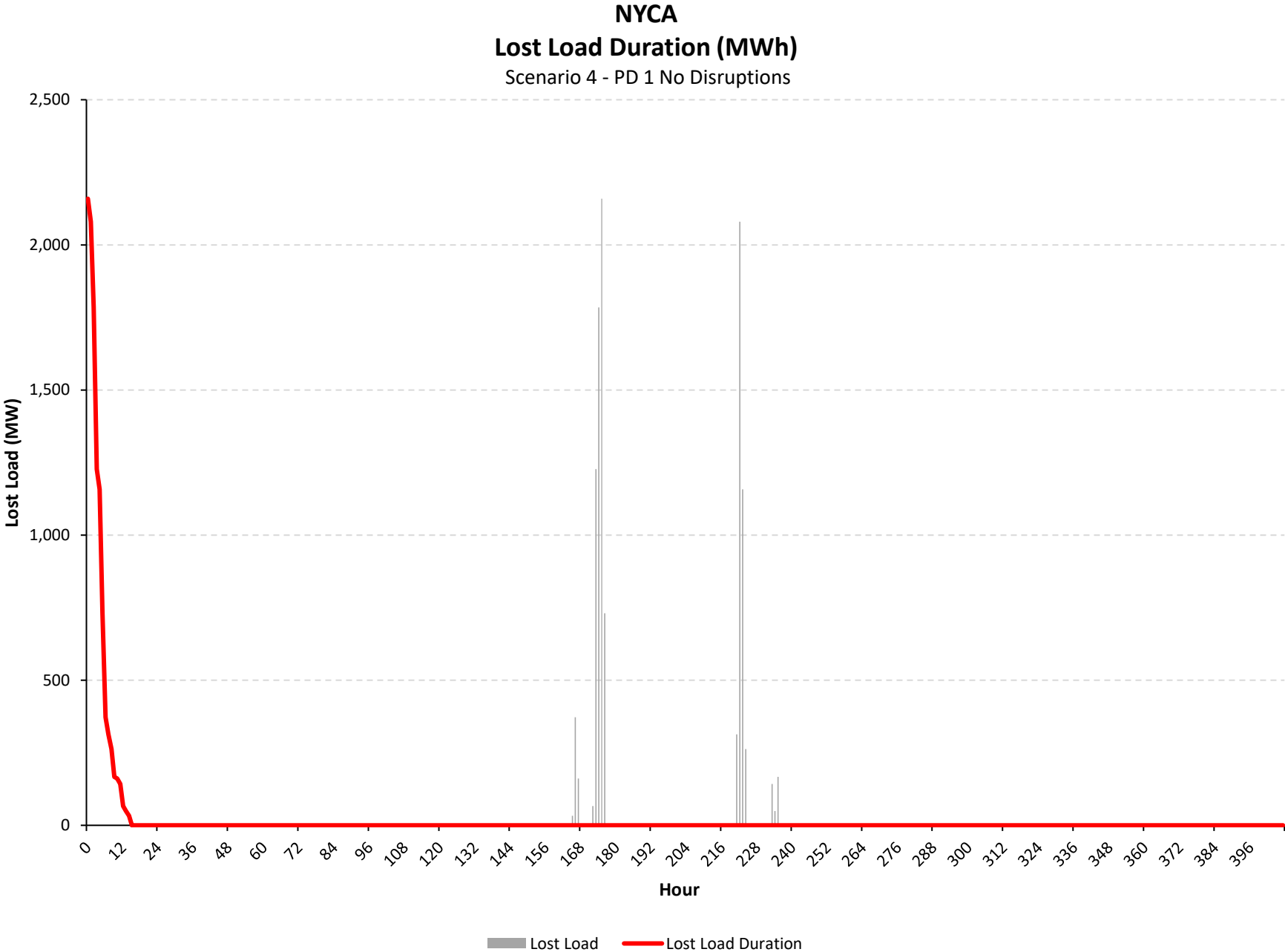
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 4 - PD 1 No Disruptions





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



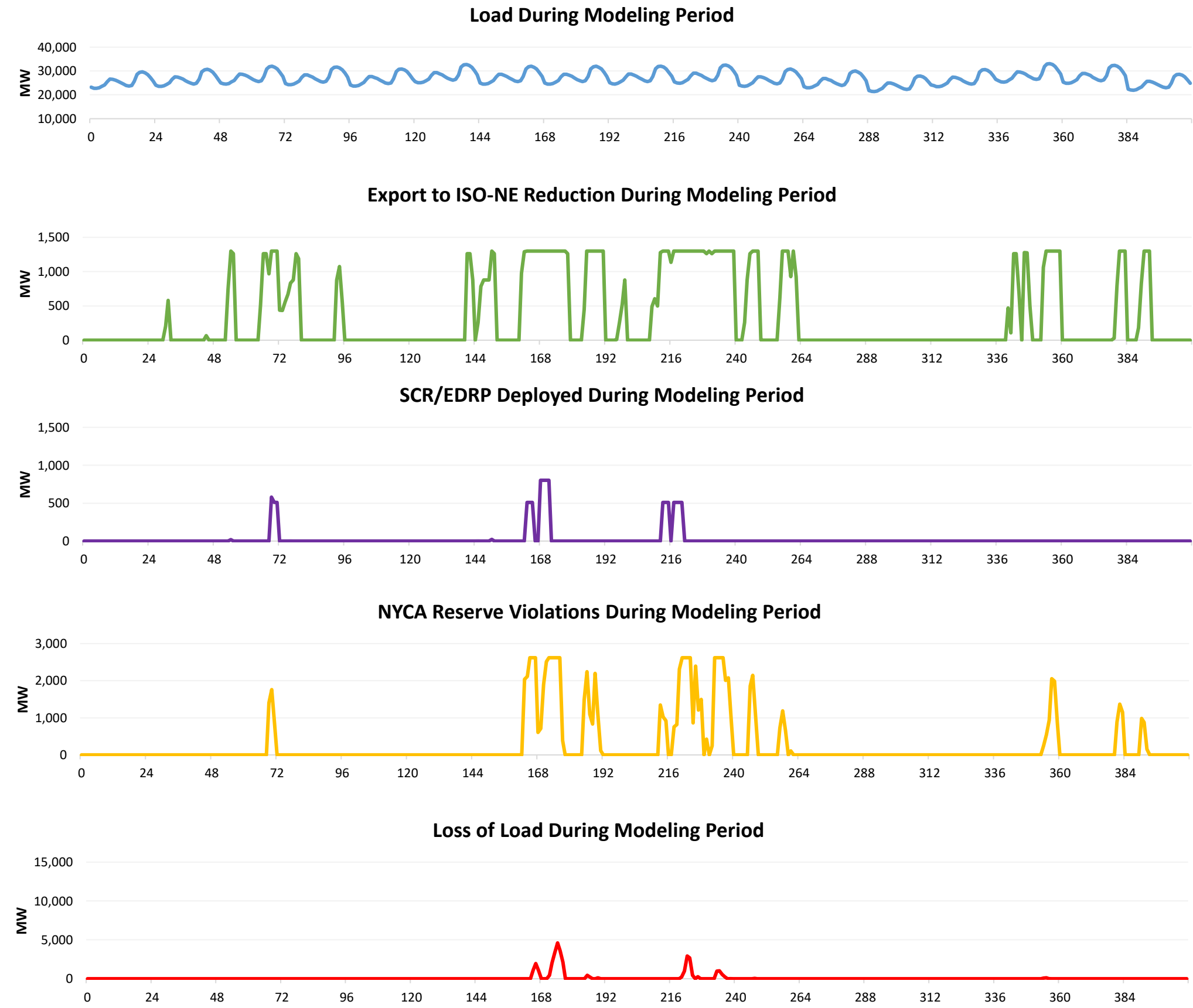


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 4 - PD 2 High Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 4 - PD 2 High Outage



Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	134
Total MWh	141,769
Avg. MW	347.5

SCR Deployment	
Total Hrs.	19
Total MWh	9,954
Avg. MW	24.4

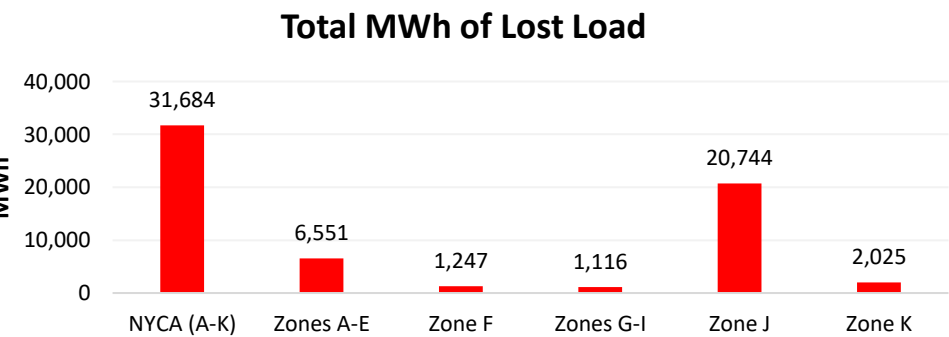
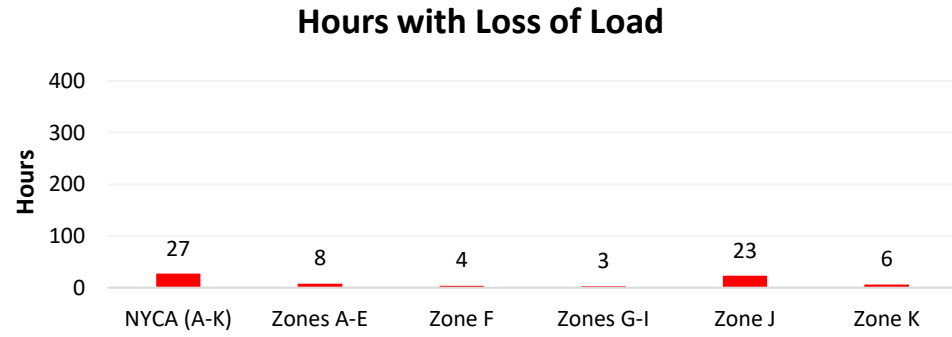
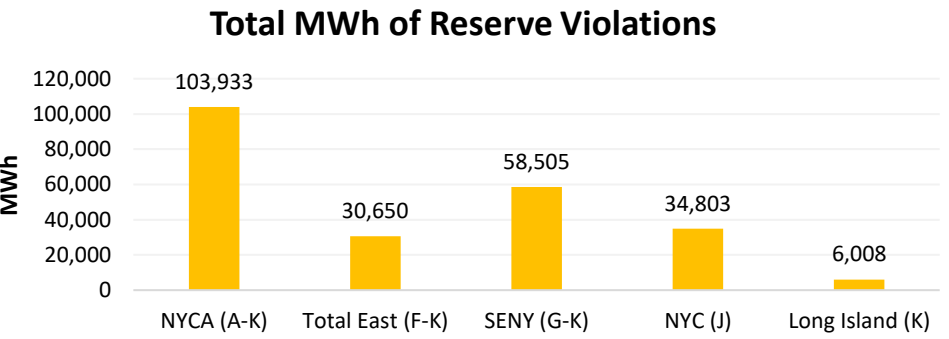
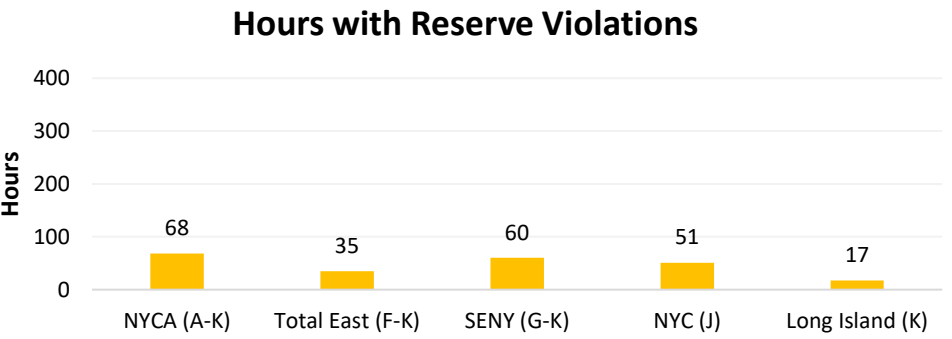
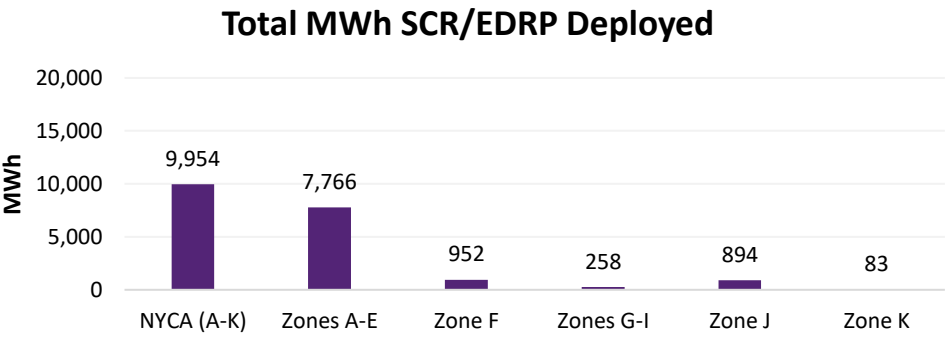
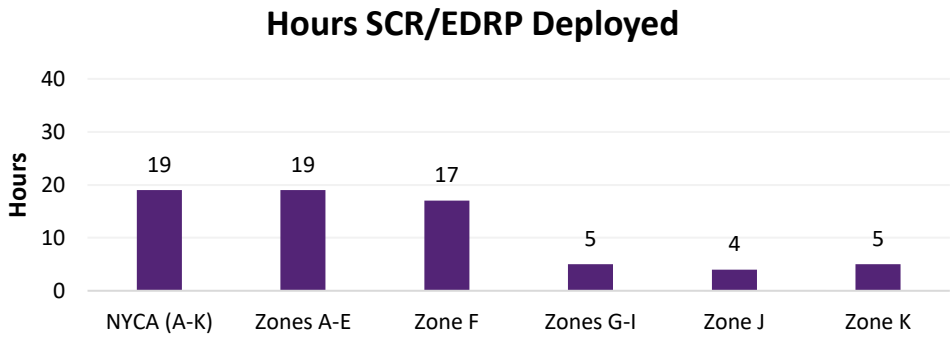
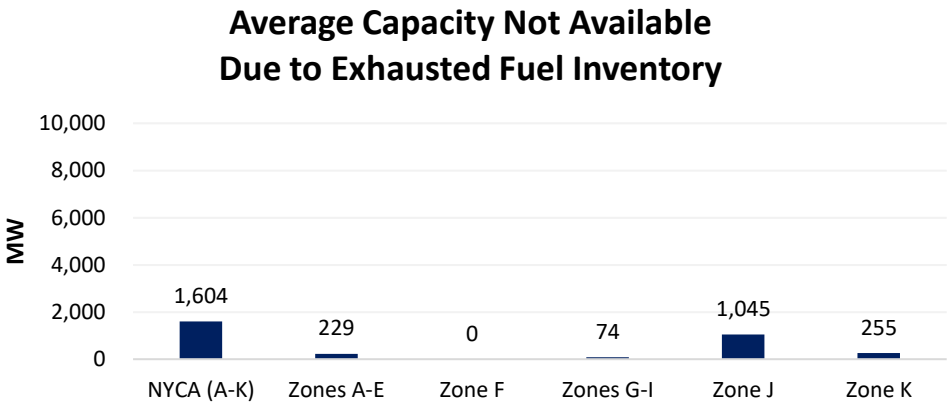
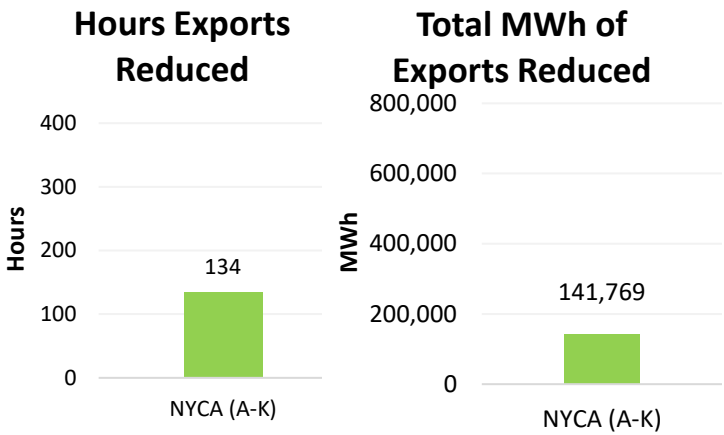
Reserve Violations	
Total Hrs.	68
Total MWh	103,933
Avg. MW	254.7
First Hour with Viol.	69

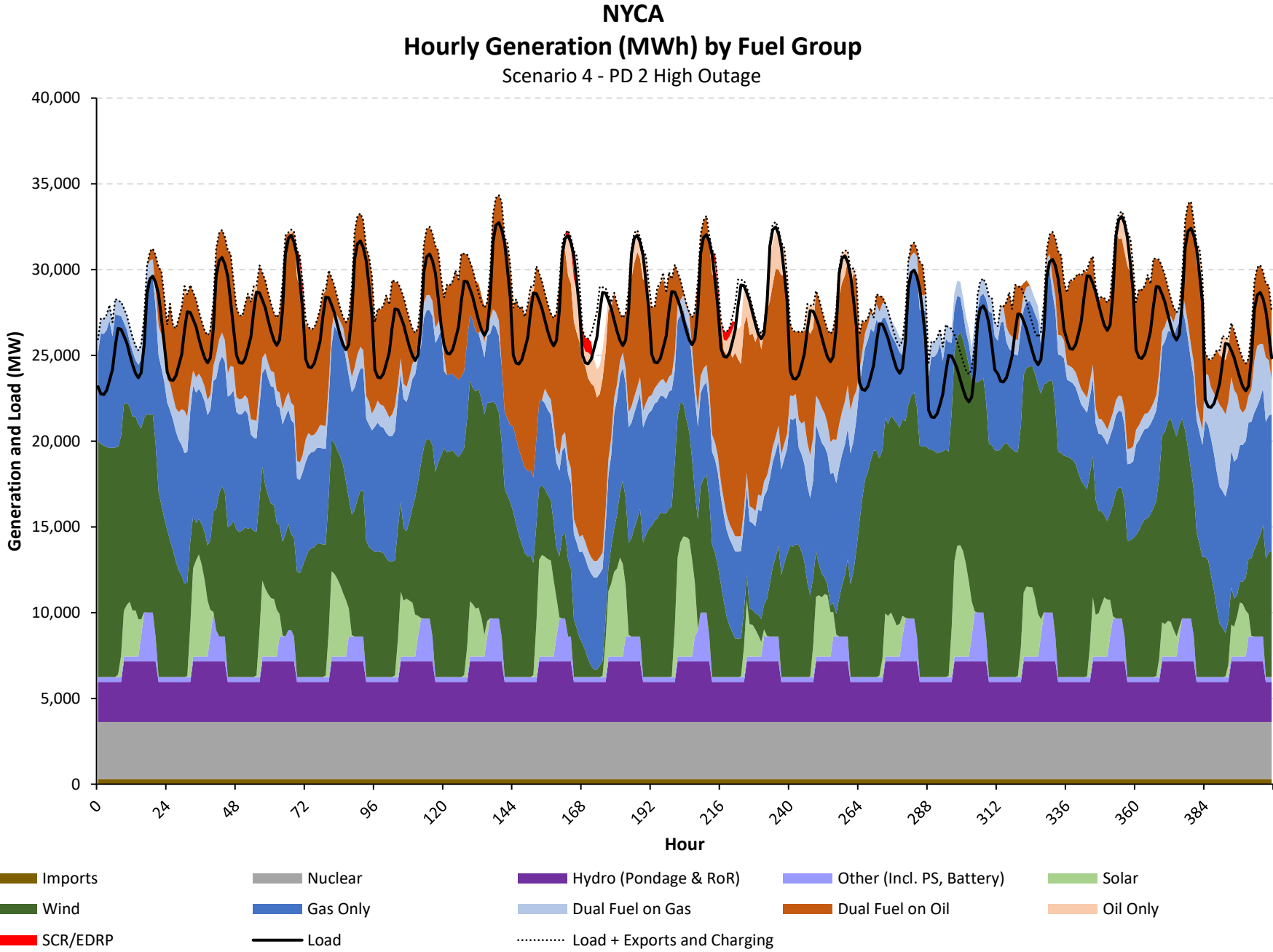
Loss of Load	
Total Hrs.	27
Total MWh	31,684
Avg. MW	77.7
First Hour with Losses	165

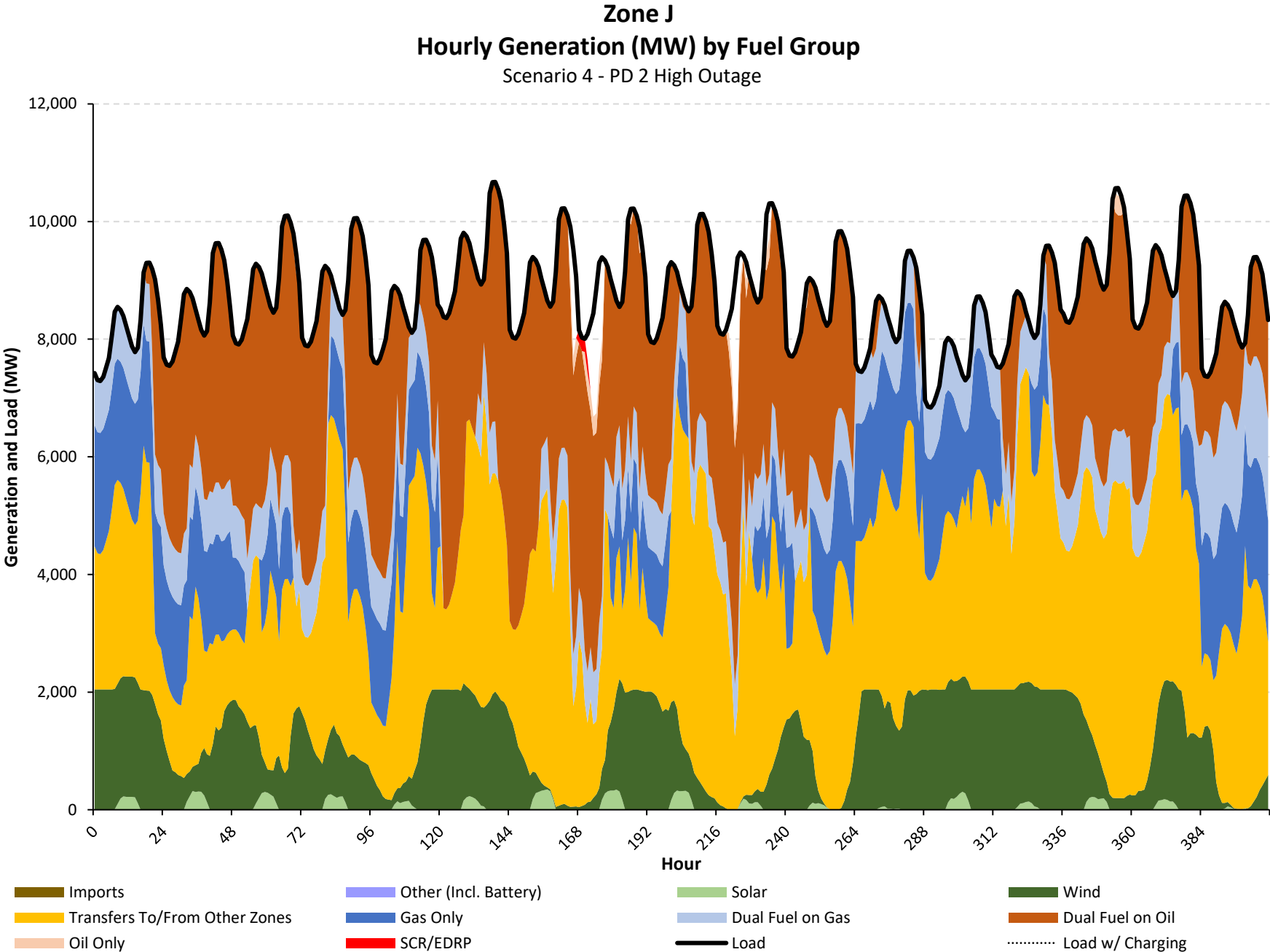
Full Period Results Summary

Case Name: Scenario 4 - PD 2 High Outage

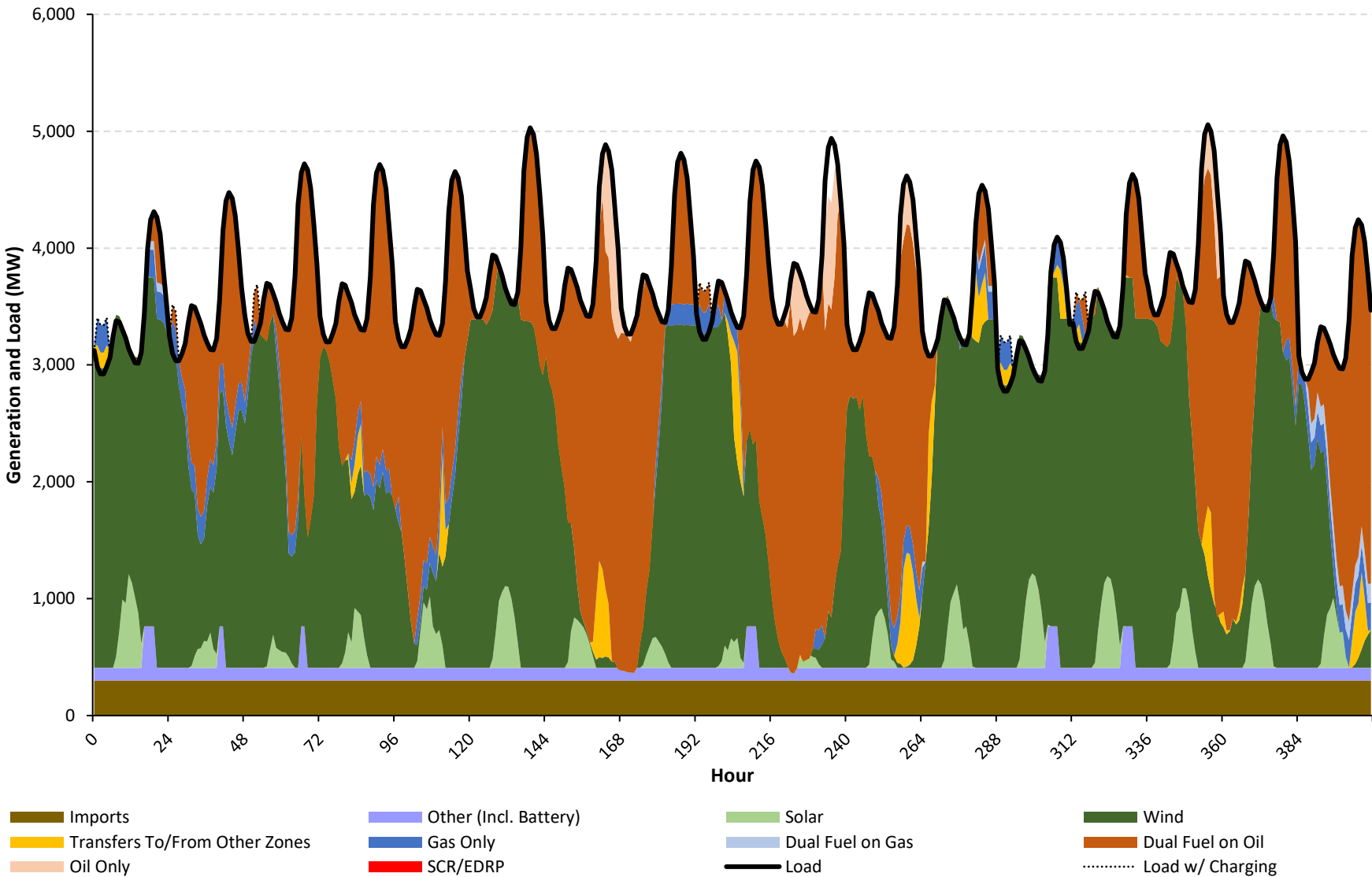
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

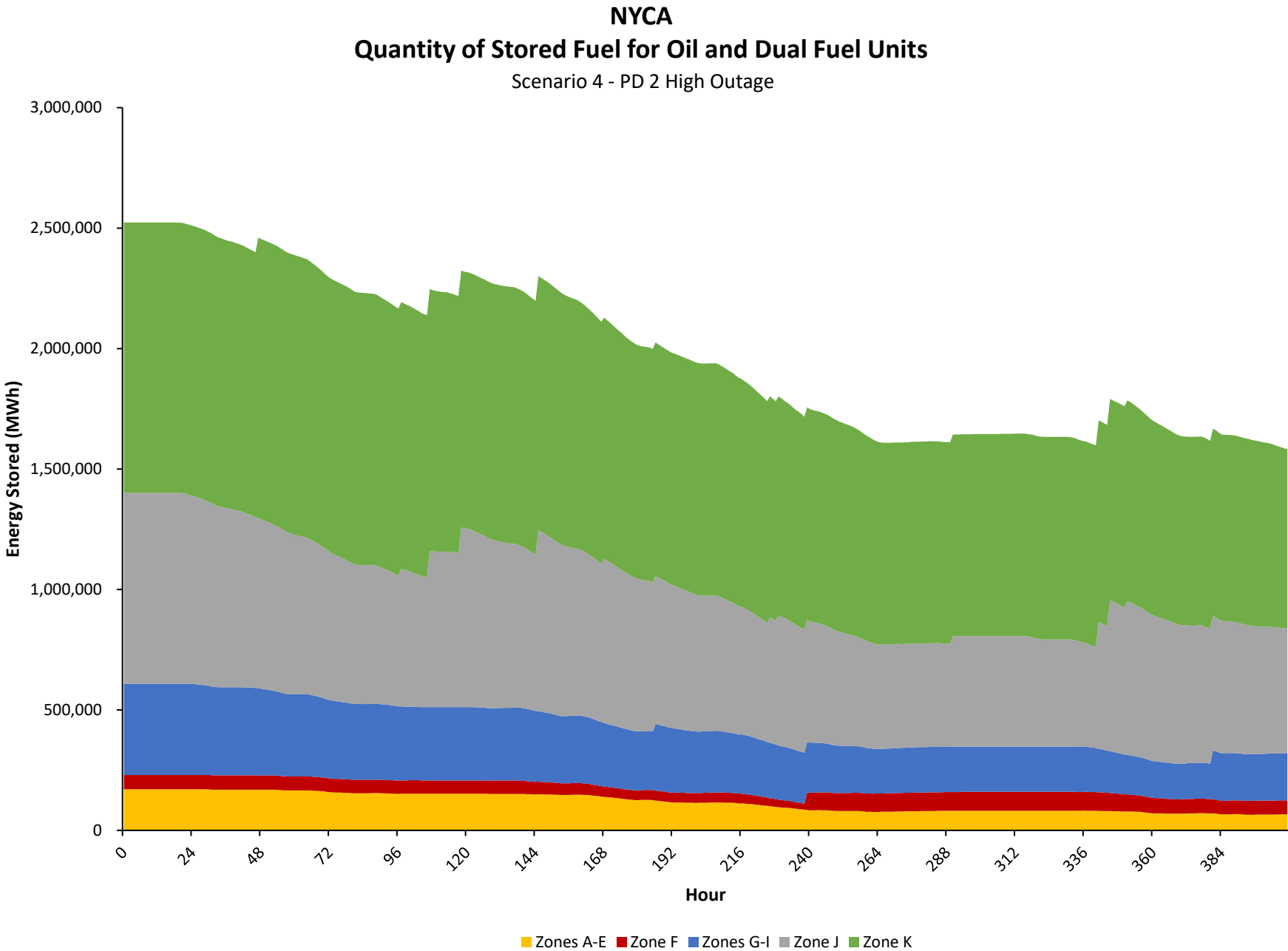


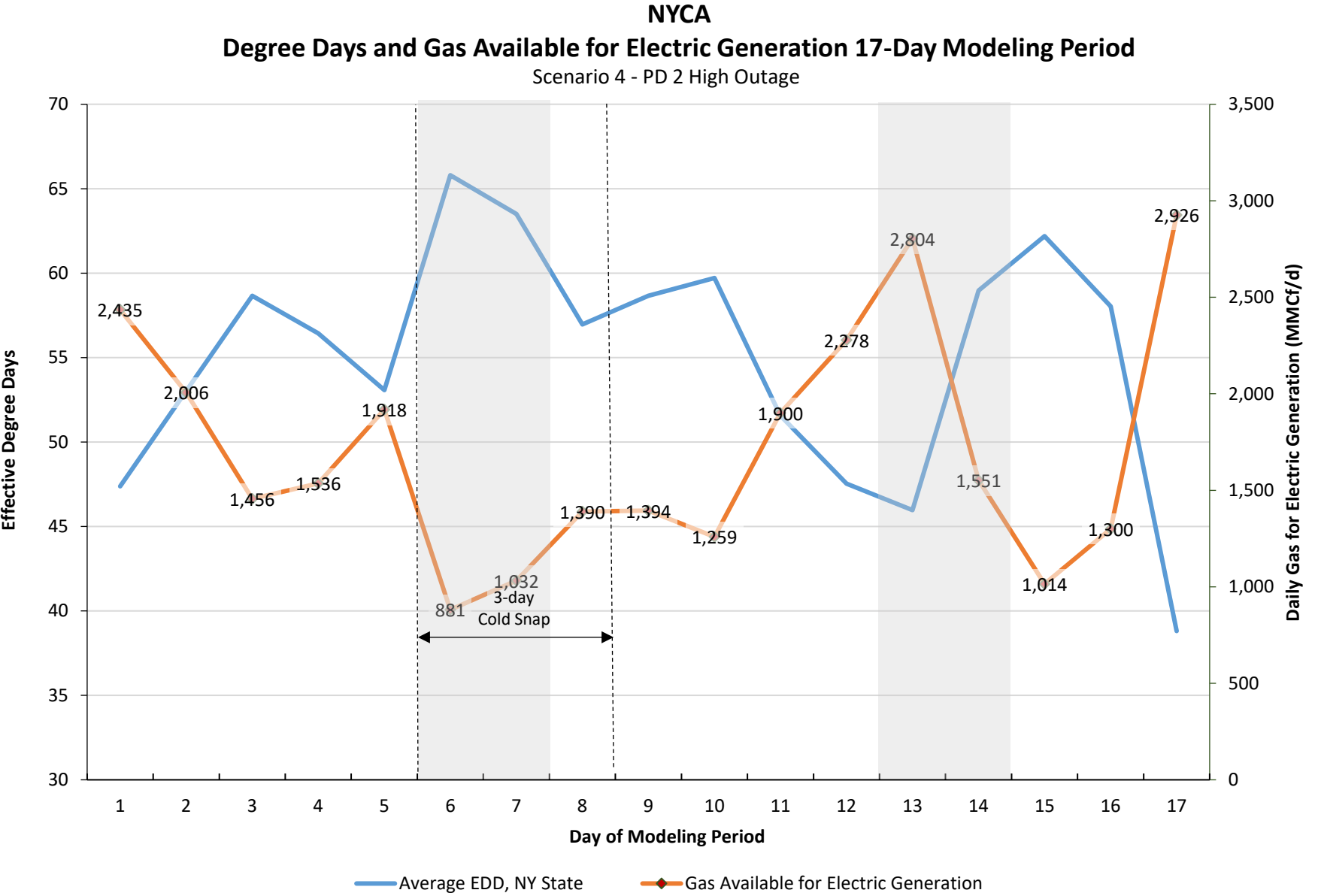




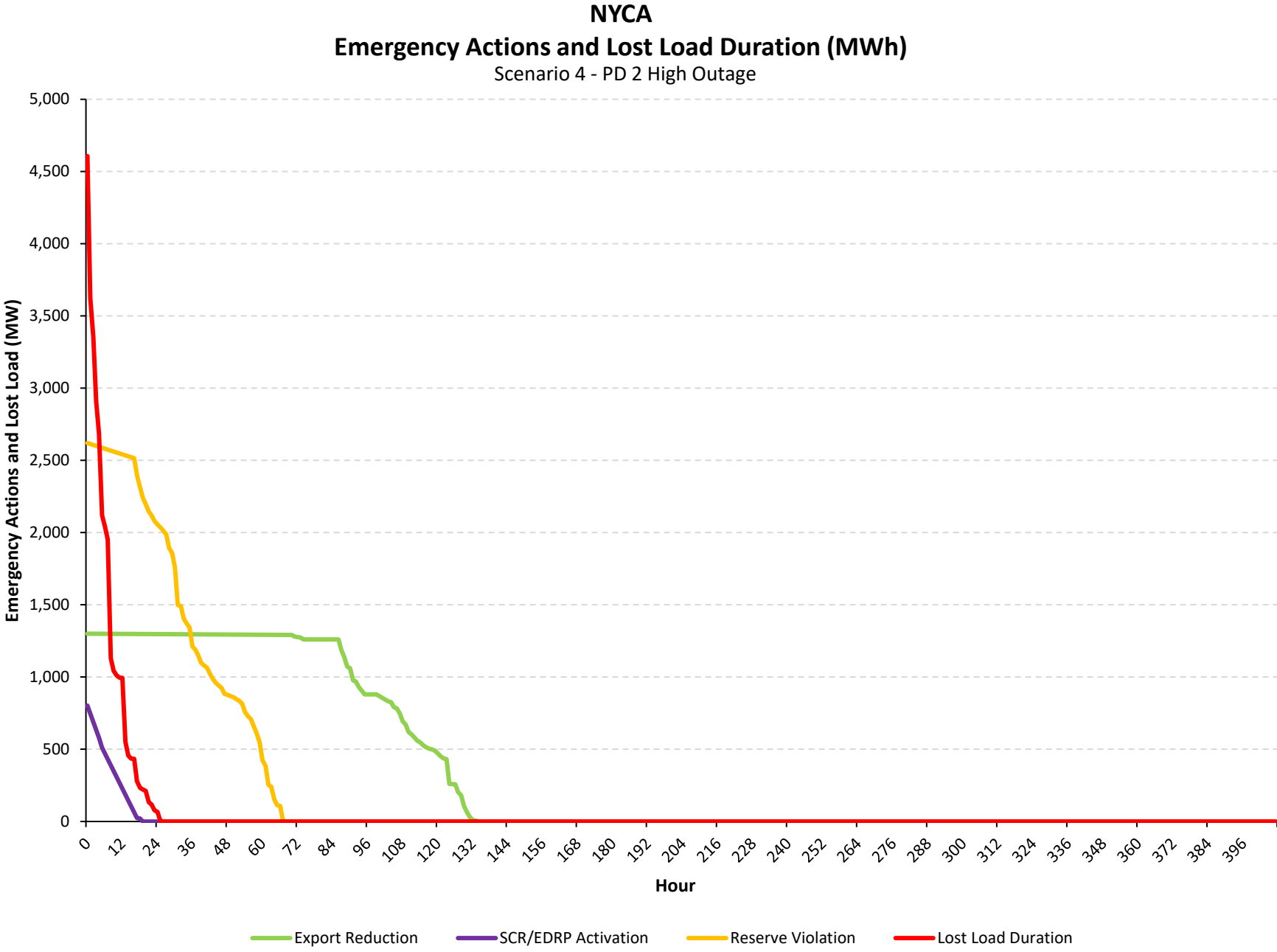
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 4 - PD 2 High Outage

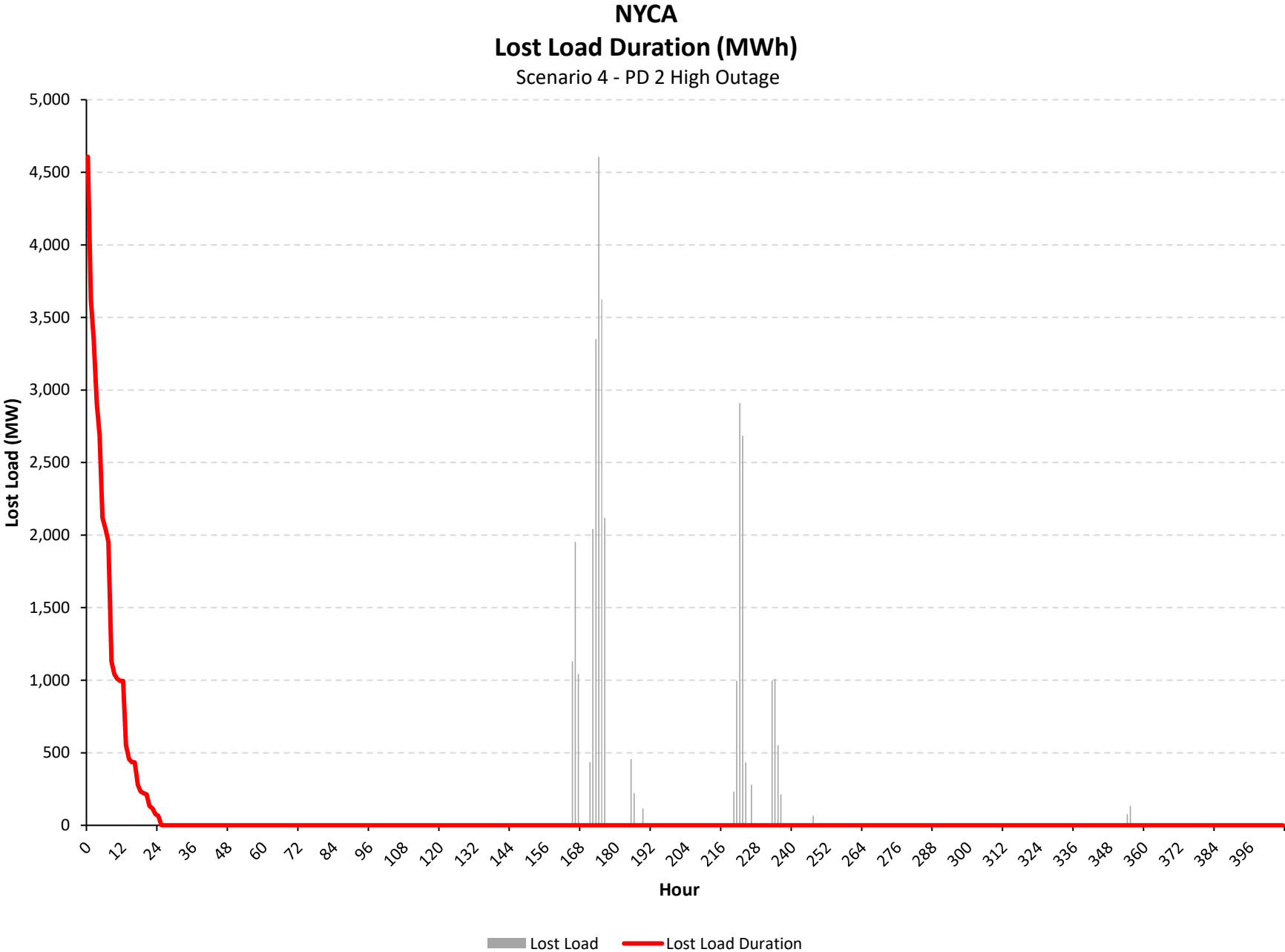






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



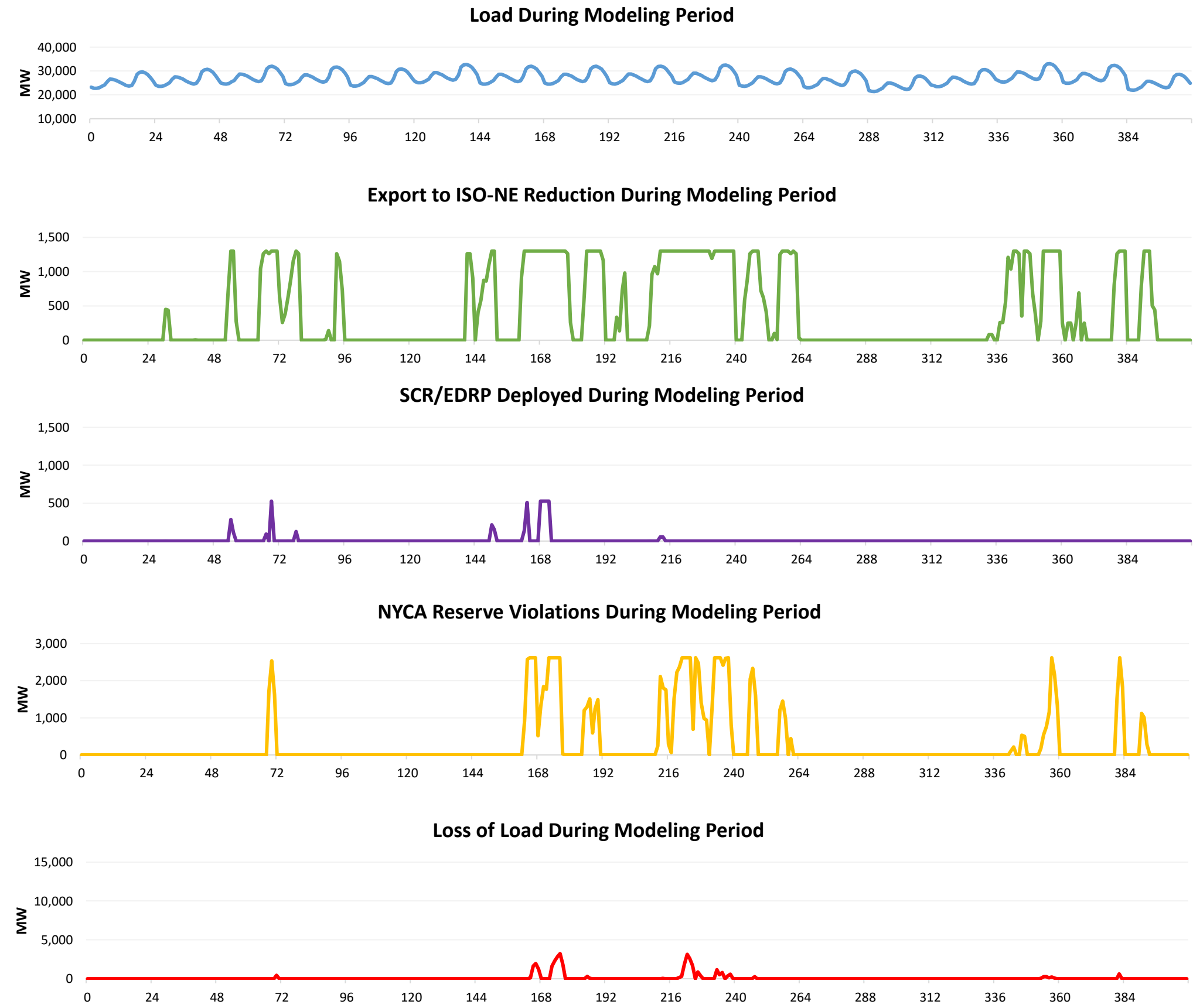


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 4 - PD 3 SENY Deactivation (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 4 - PD 3 SENY Deactivation



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	161
Total MWh	160,422
Avg. MW	393.2

SCR Deployment	
Total Hrs.	15
Total MWh	4,381
Avg. MW	10.7

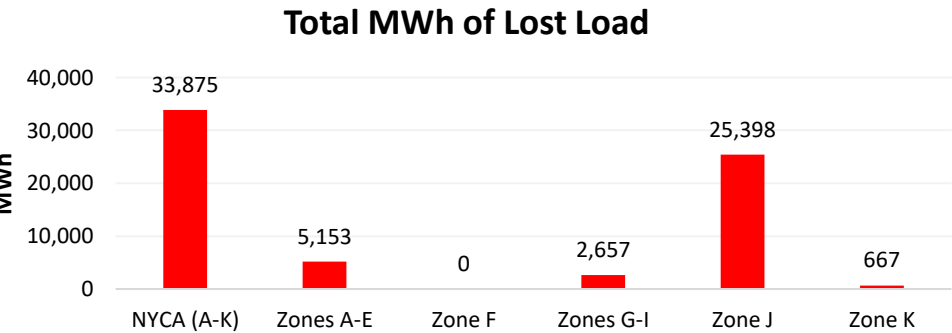
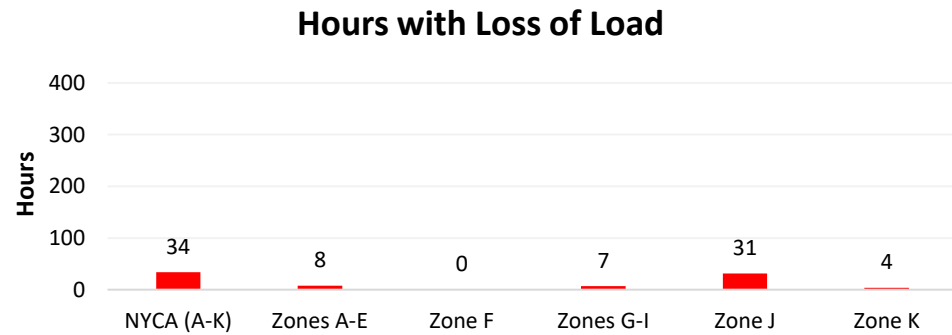
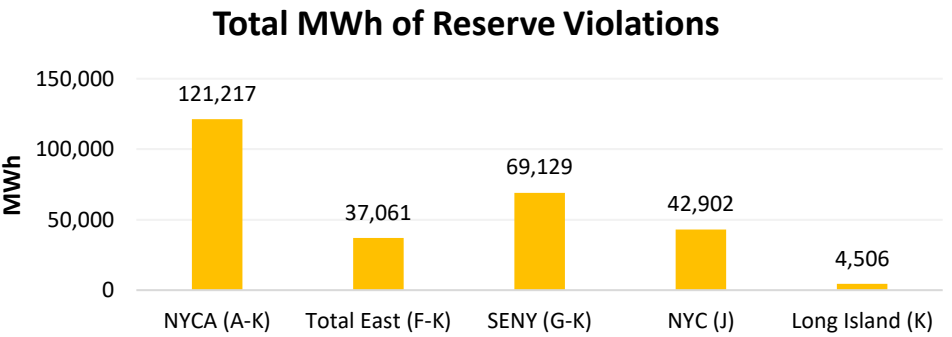
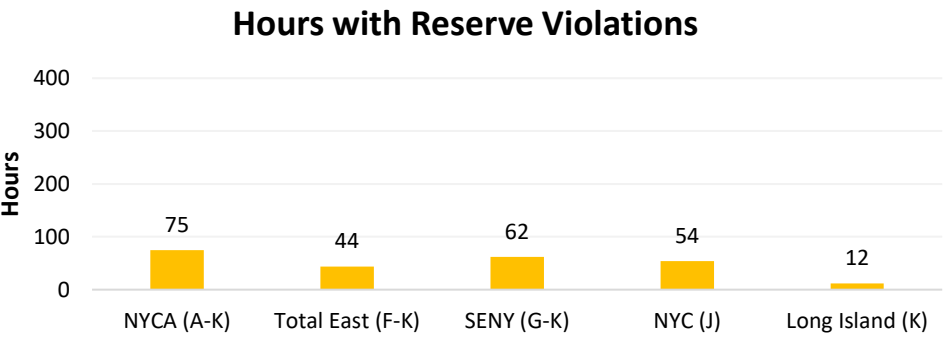
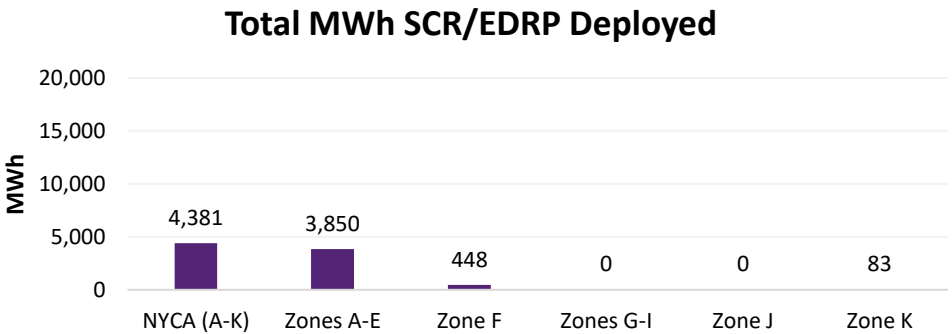
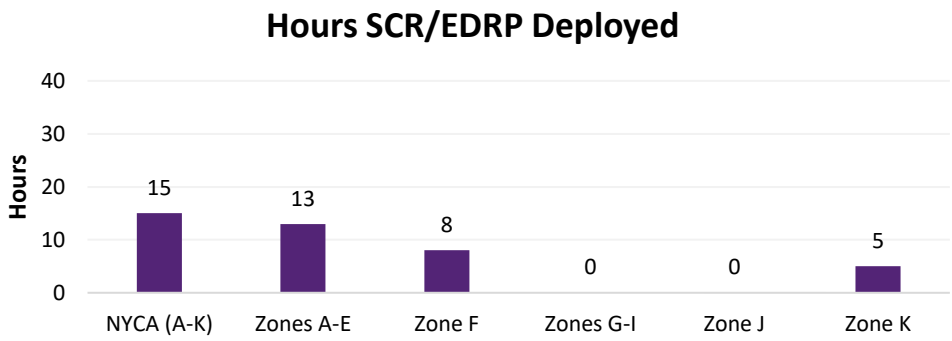
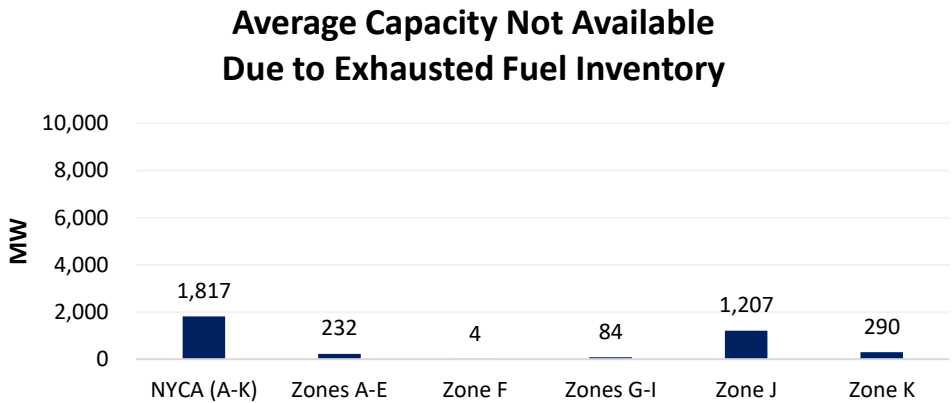
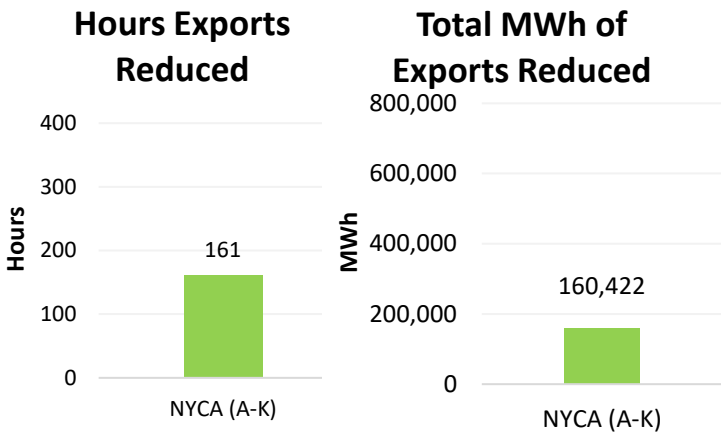
Reserve Violations	
Total Hrs.	75
Total MWh	121,217
Avg. MW	297.1
First Hour with Viol.	69

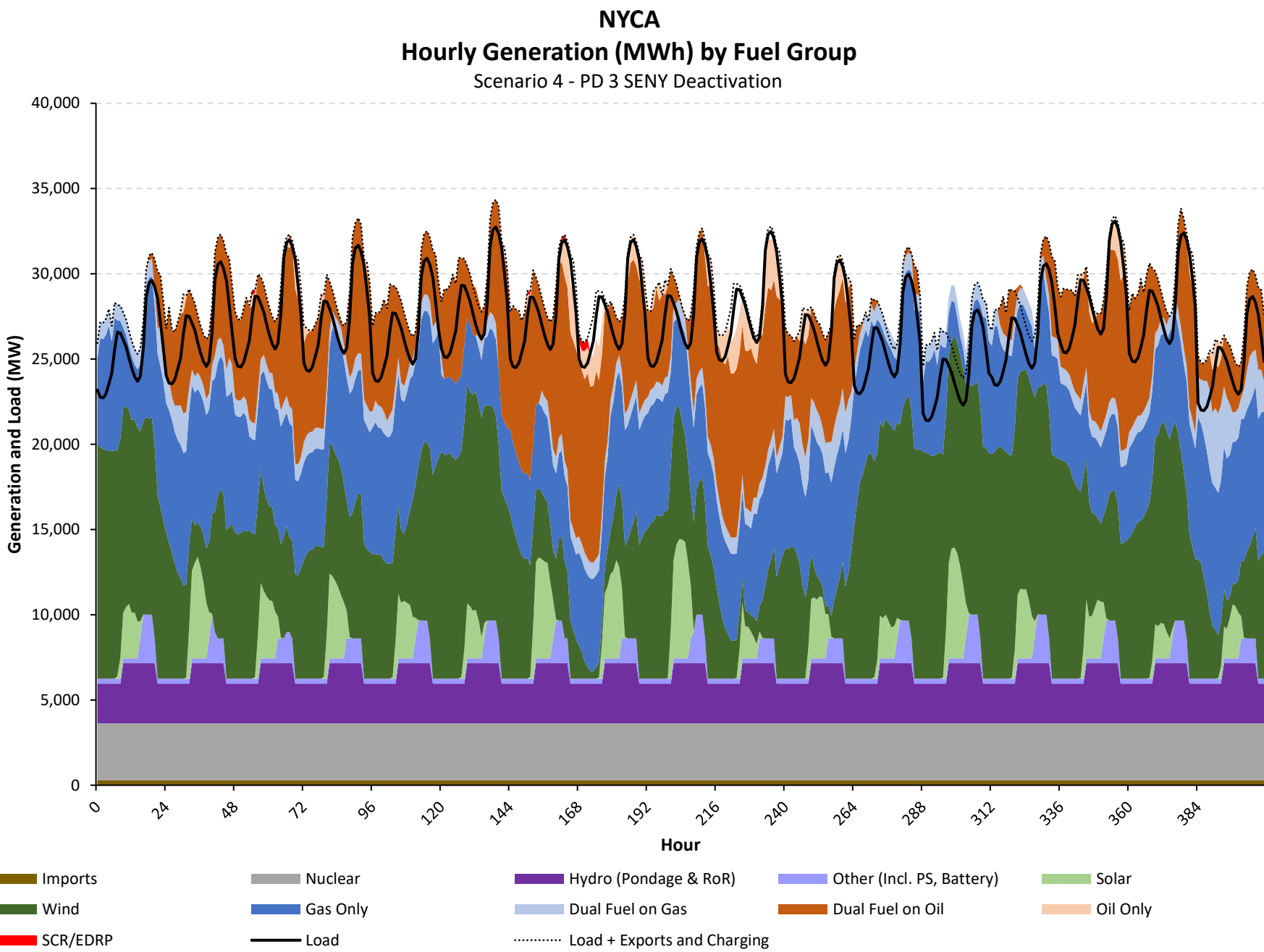
Loss of Load	
Total Hrs.	34
Total MWh	33,875
Avg. MW	83.0
First Hour with Losses	70

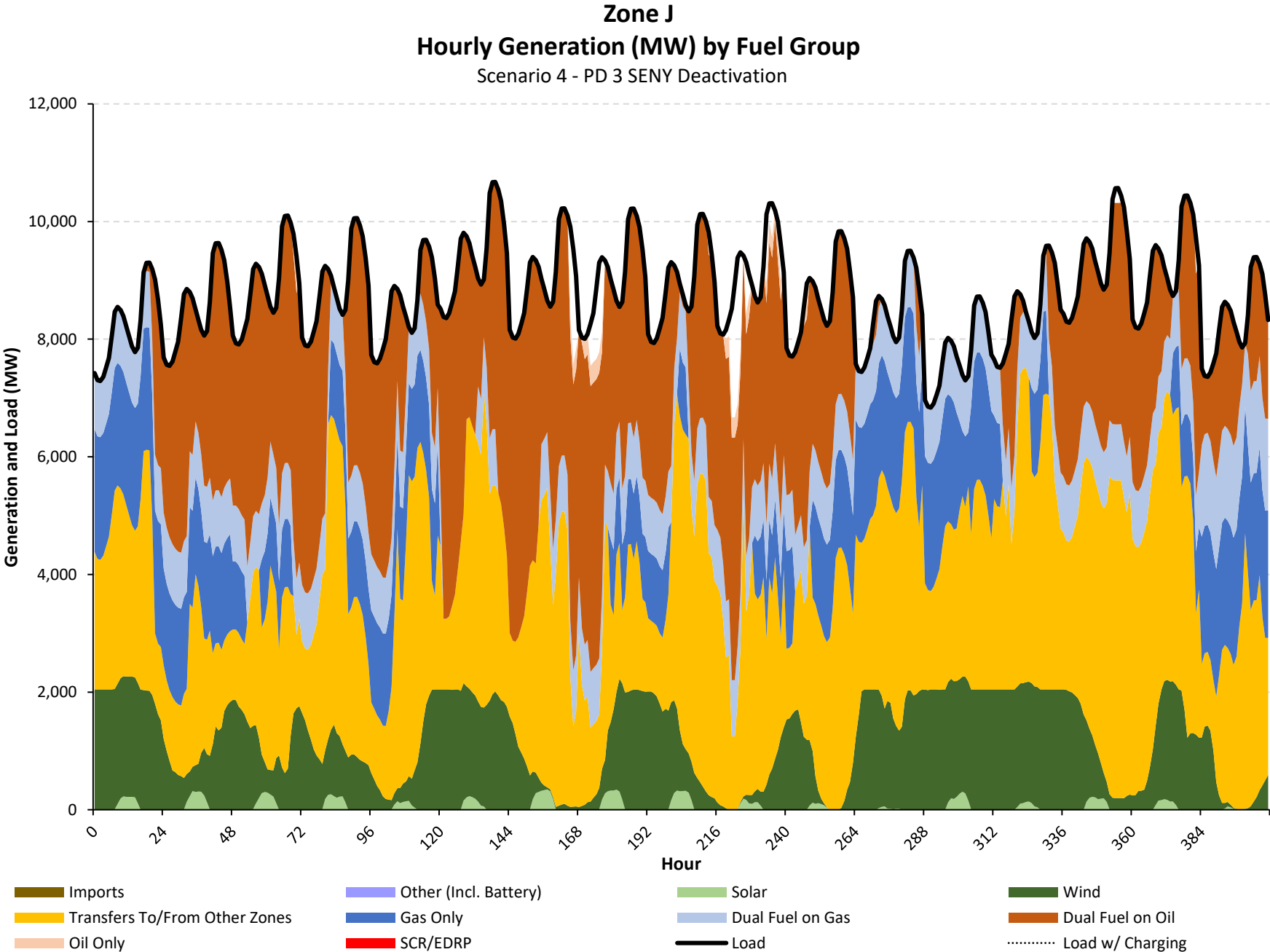
Full Period Results Summary

Case Name: Scenario 4 - PD 3 SENY Deactivation

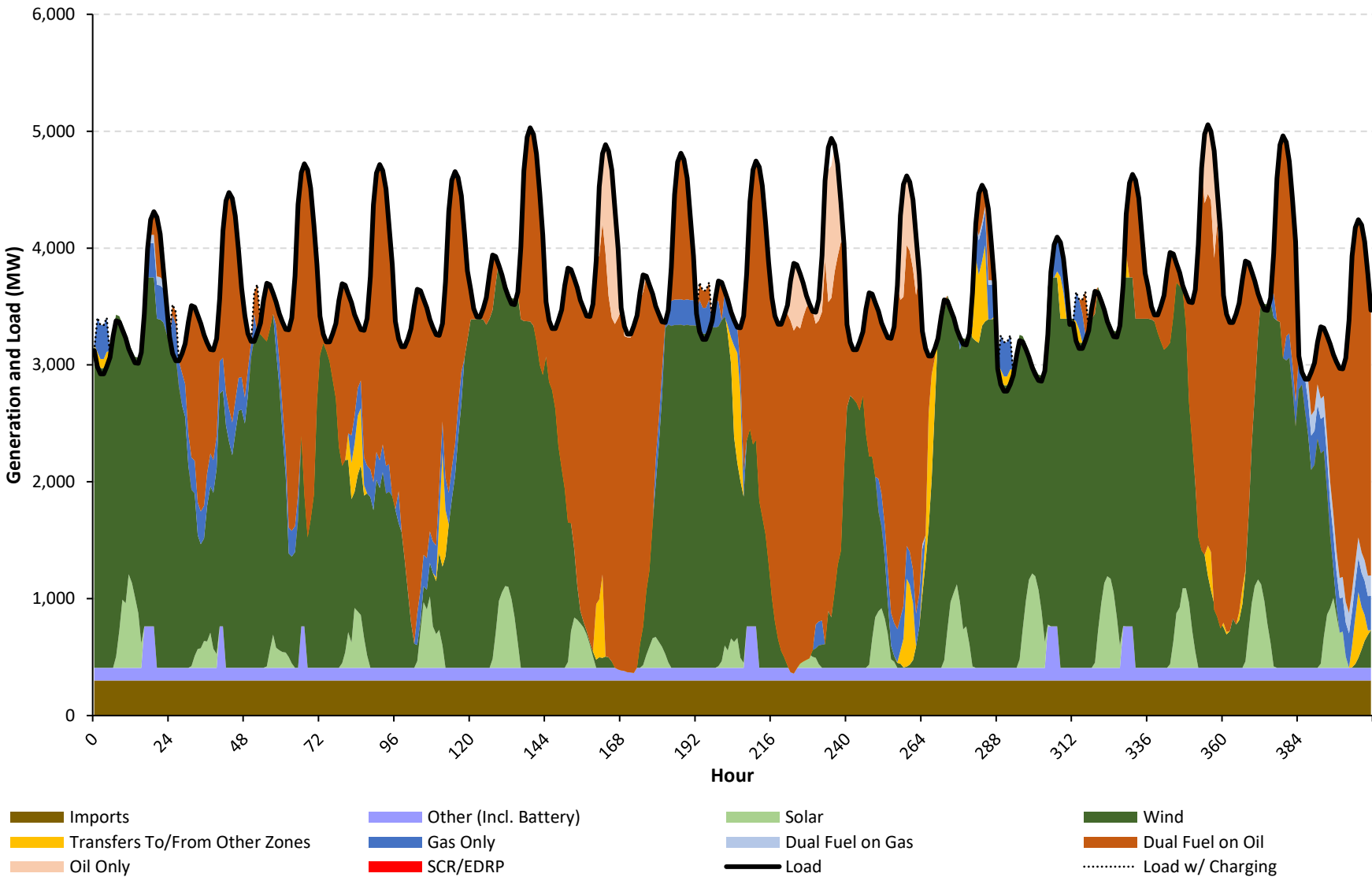
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	Net Zero

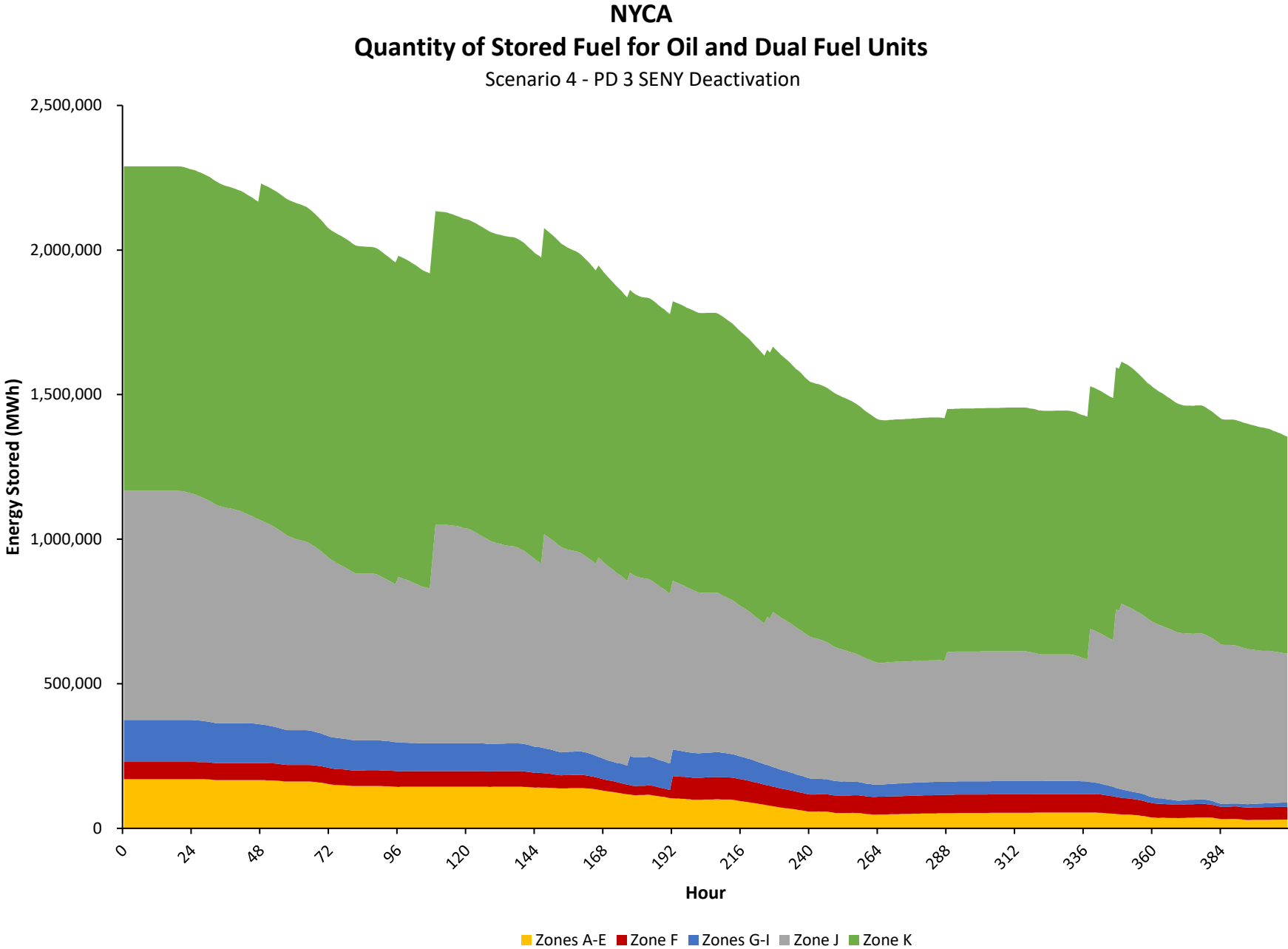


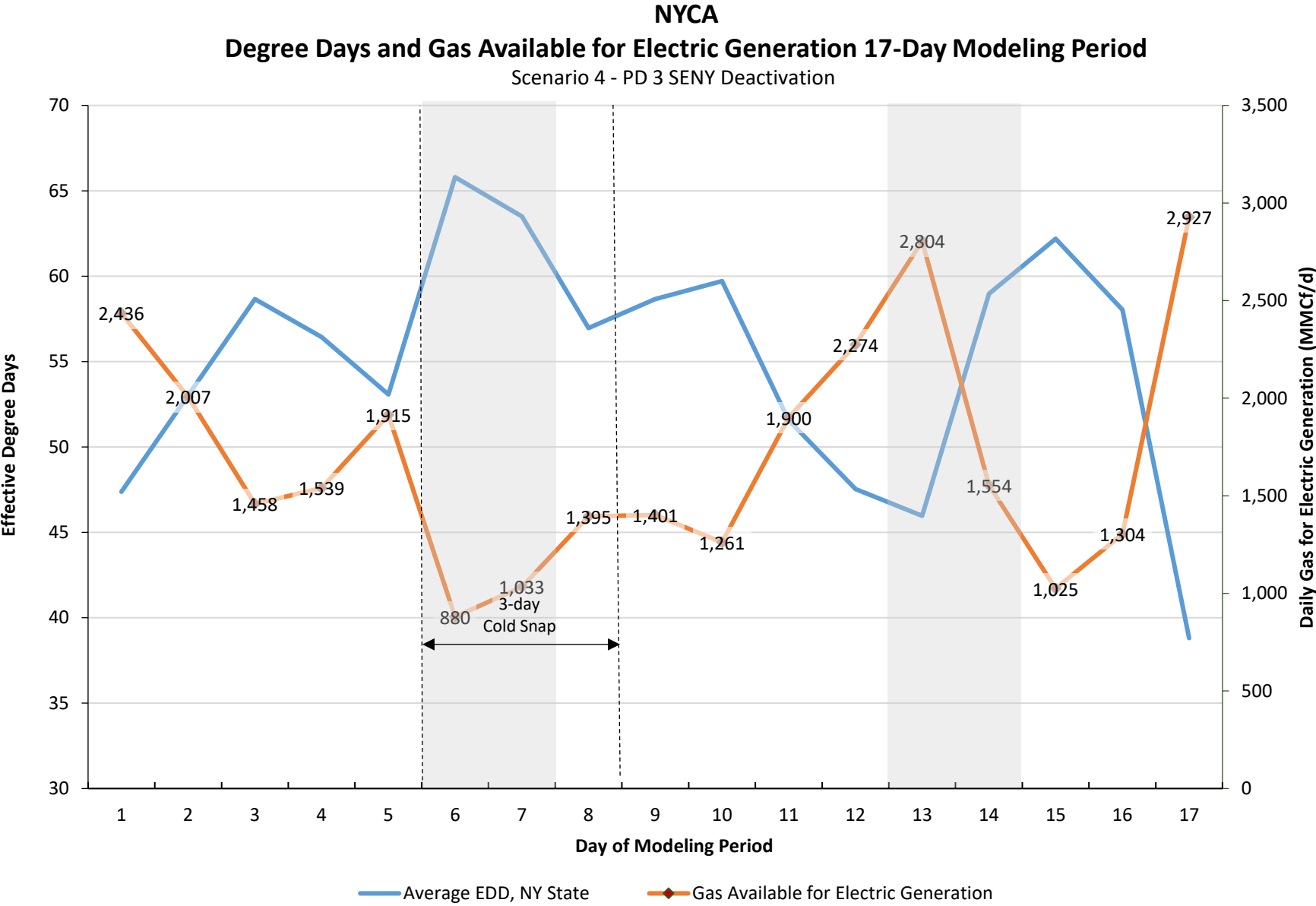




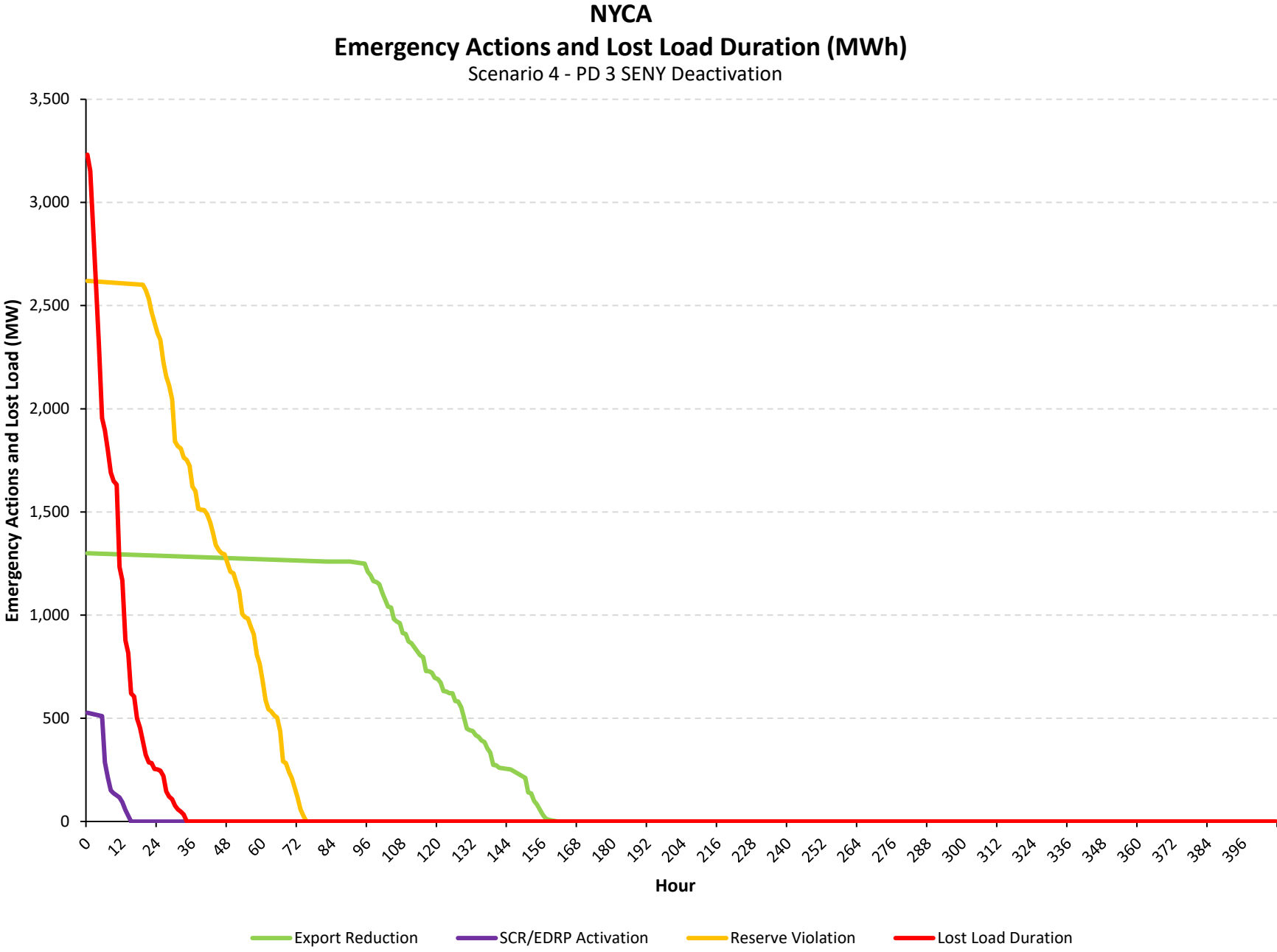
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 4 - PD 3 SENY Deactivation

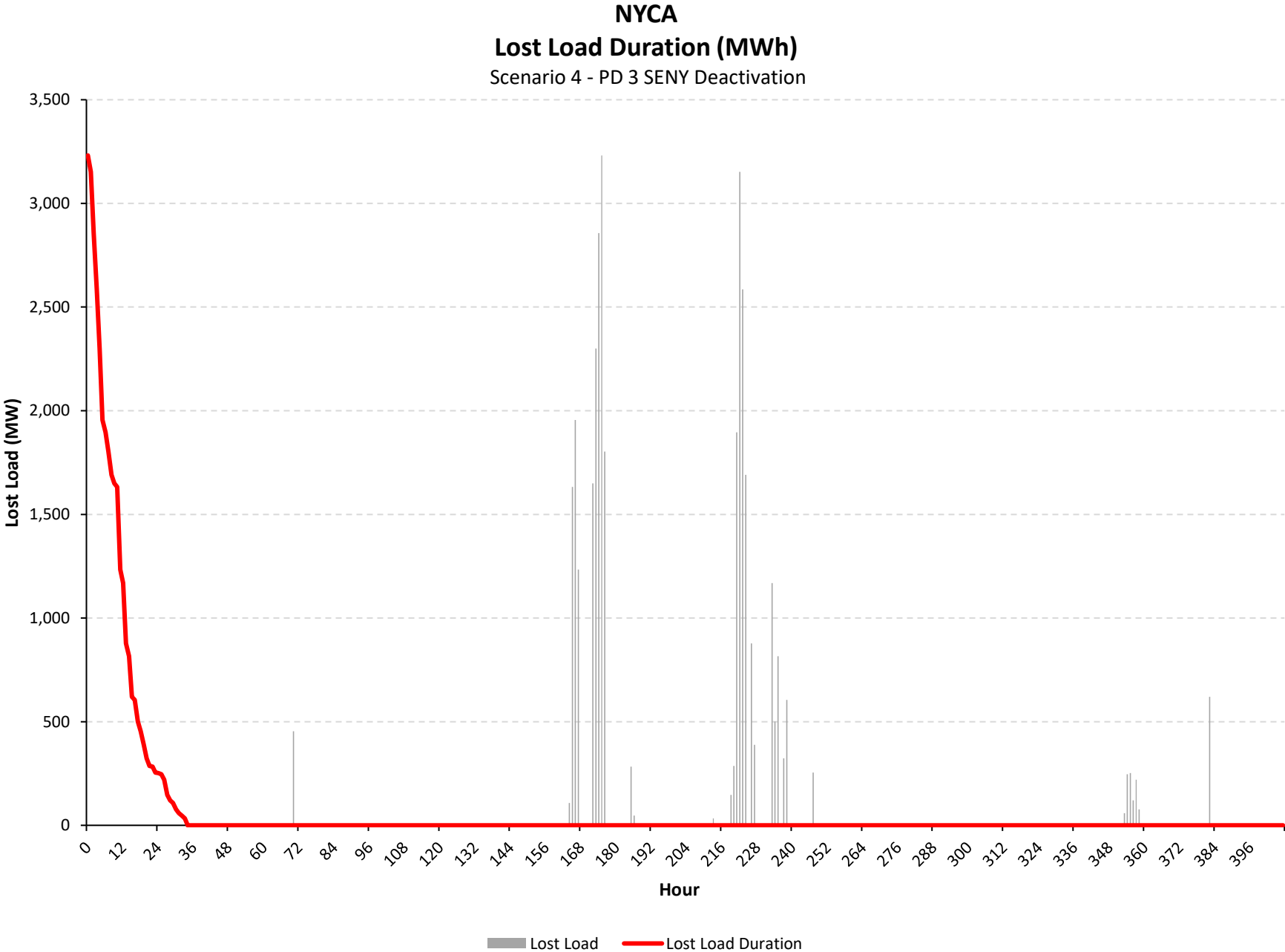






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



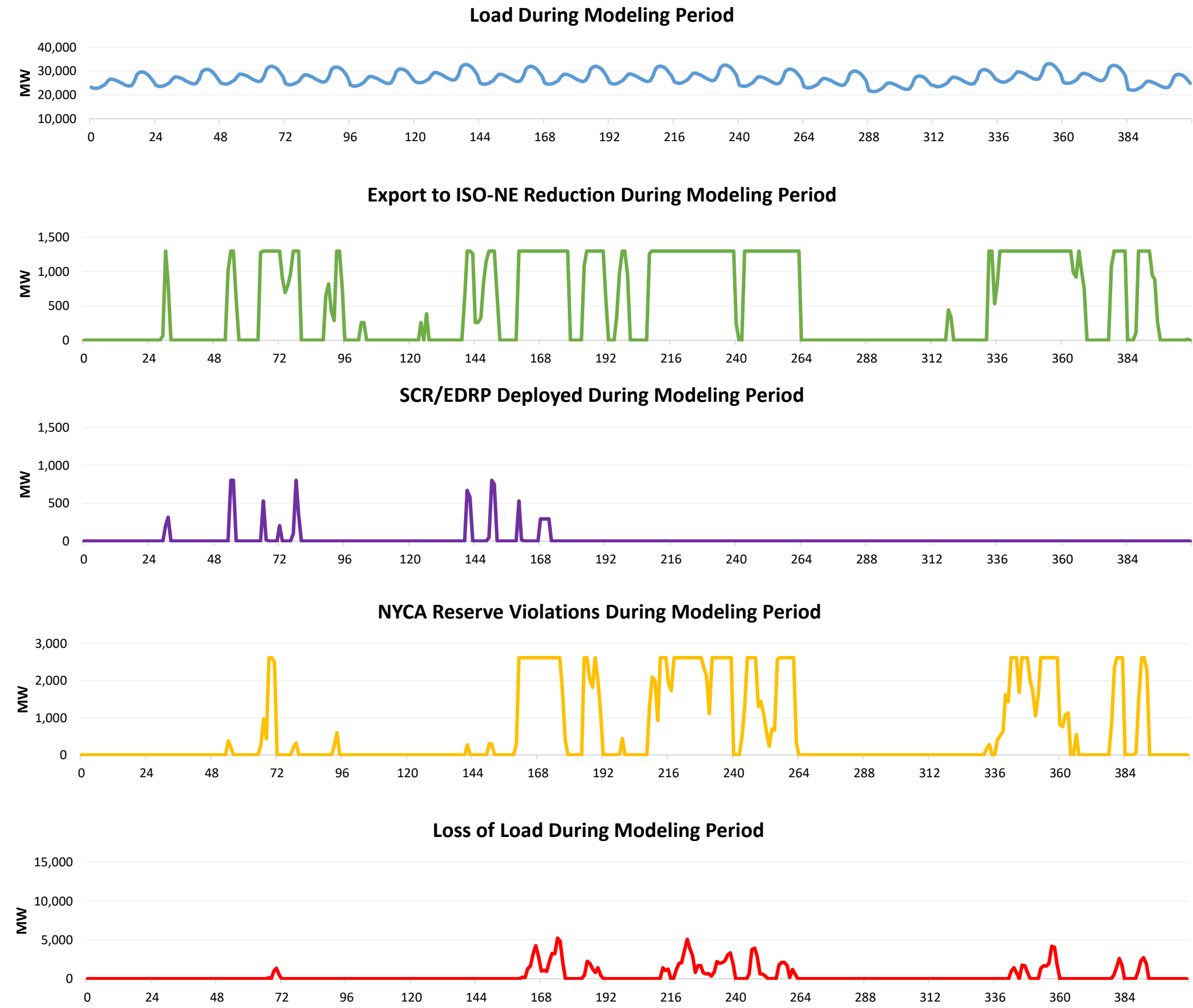


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 4 - PD 4 Nuclear Station Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 4 - PD 4 Nuclear Station Outage



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	187
Total MWh	213,192
Avg. MW	522.5

SCR Deployment	
Total Hrs.	21
Total MWh	8,673
Avg. MW	21.3

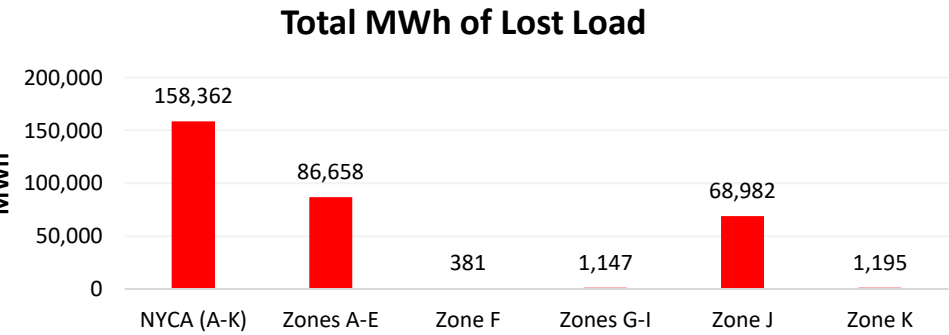
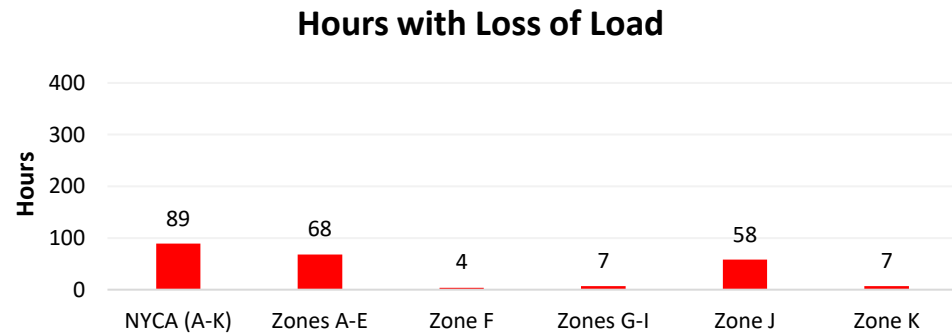
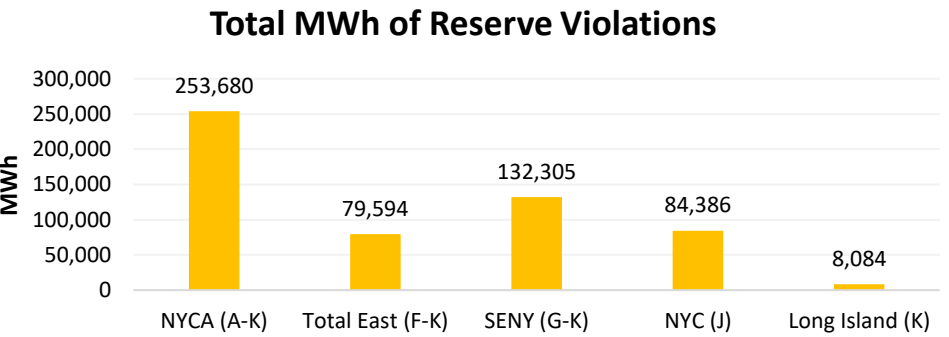
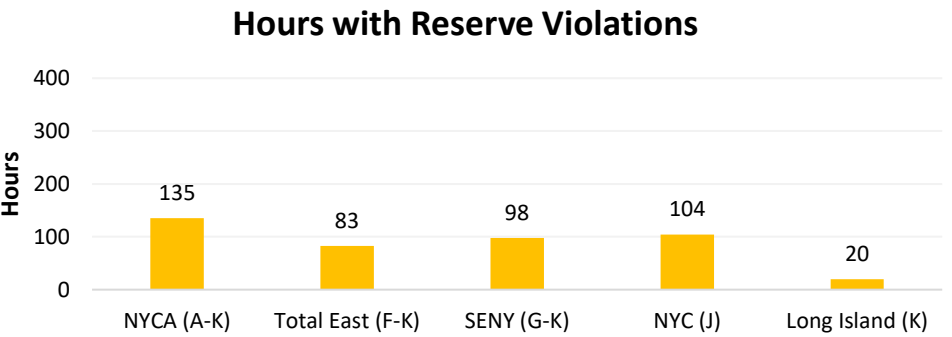
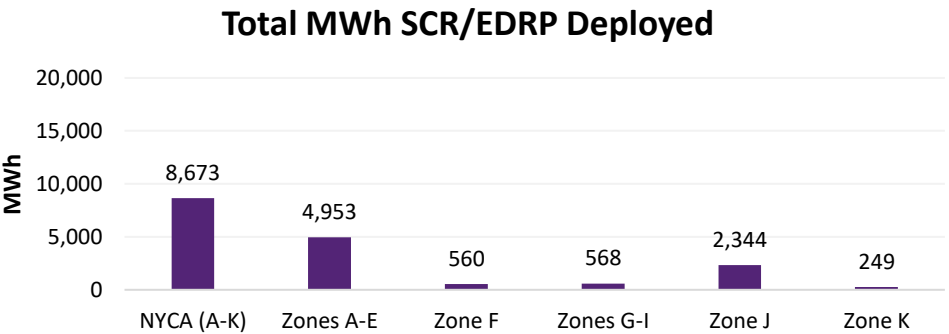
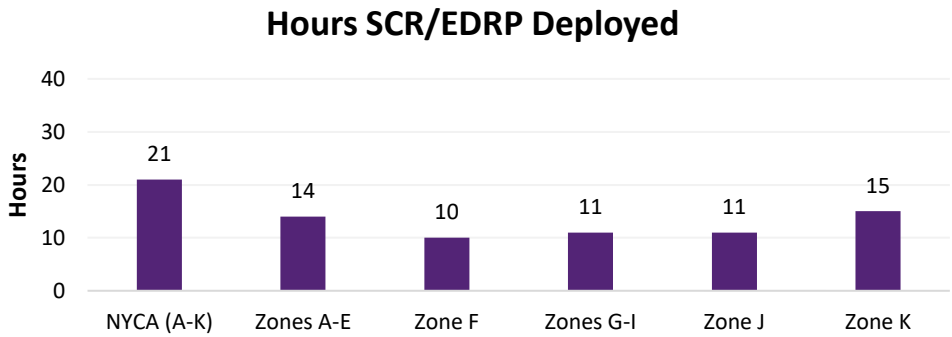
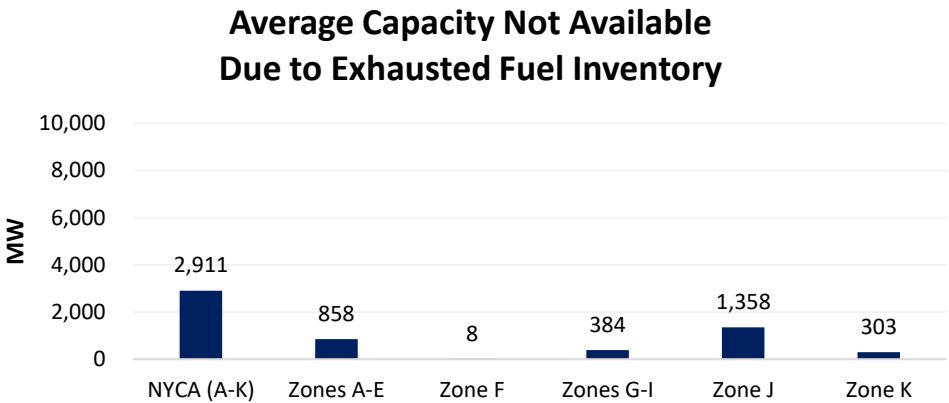
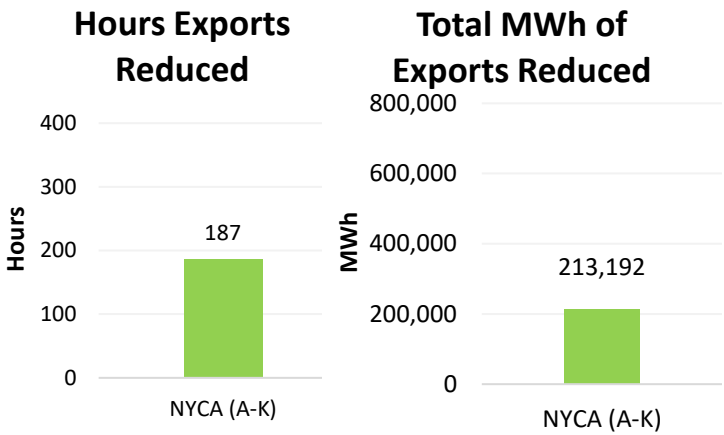
Reserve Violations	
Total Hrs.	135
Total MWh	253,680
Avg. MW	621.8
First Hour with Viol.	54

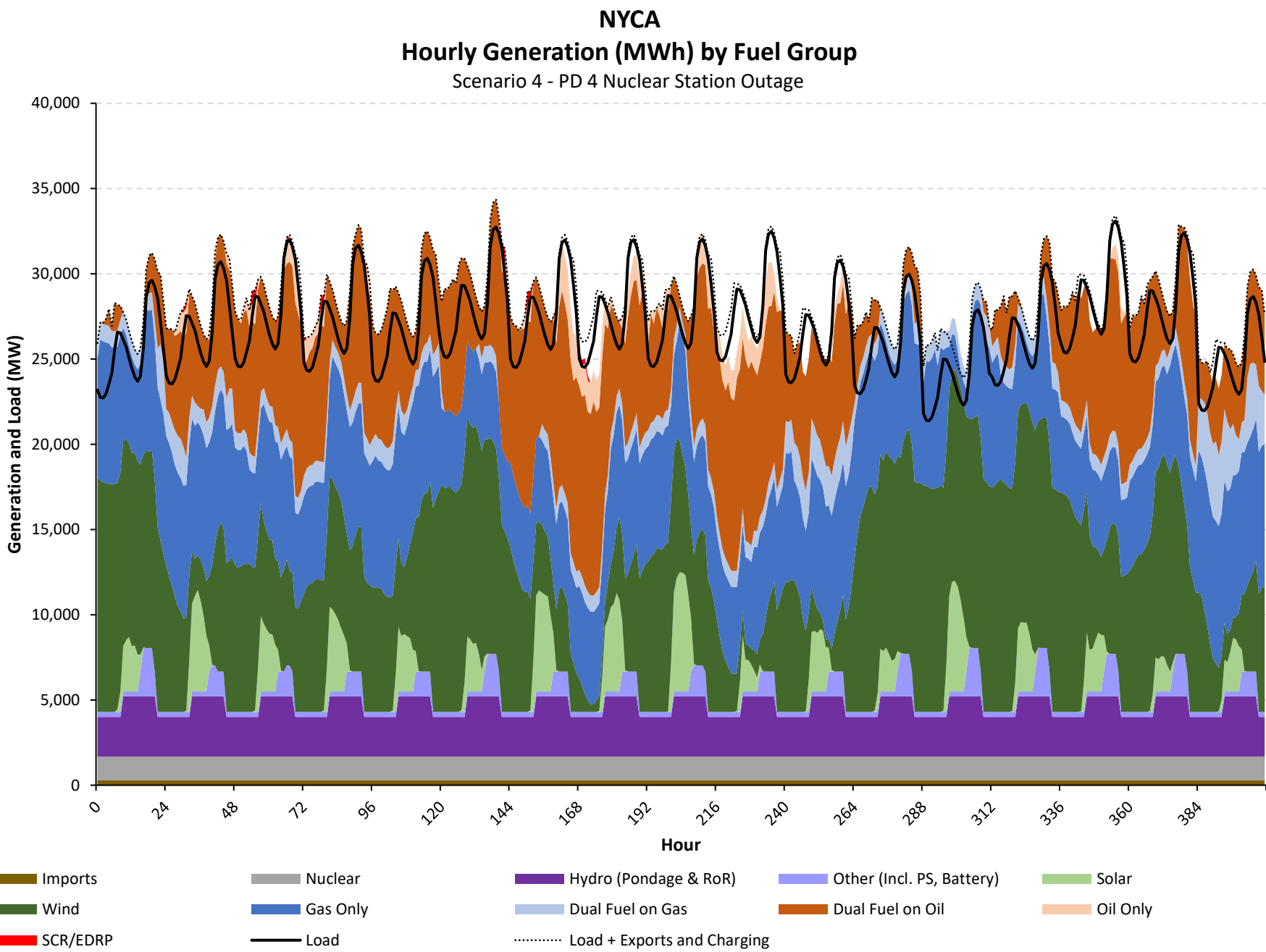
Loss of Load	
Total Hrs.	89
Total MWh	158,362
Avg. MW	388.1
First Hour with Losses	67

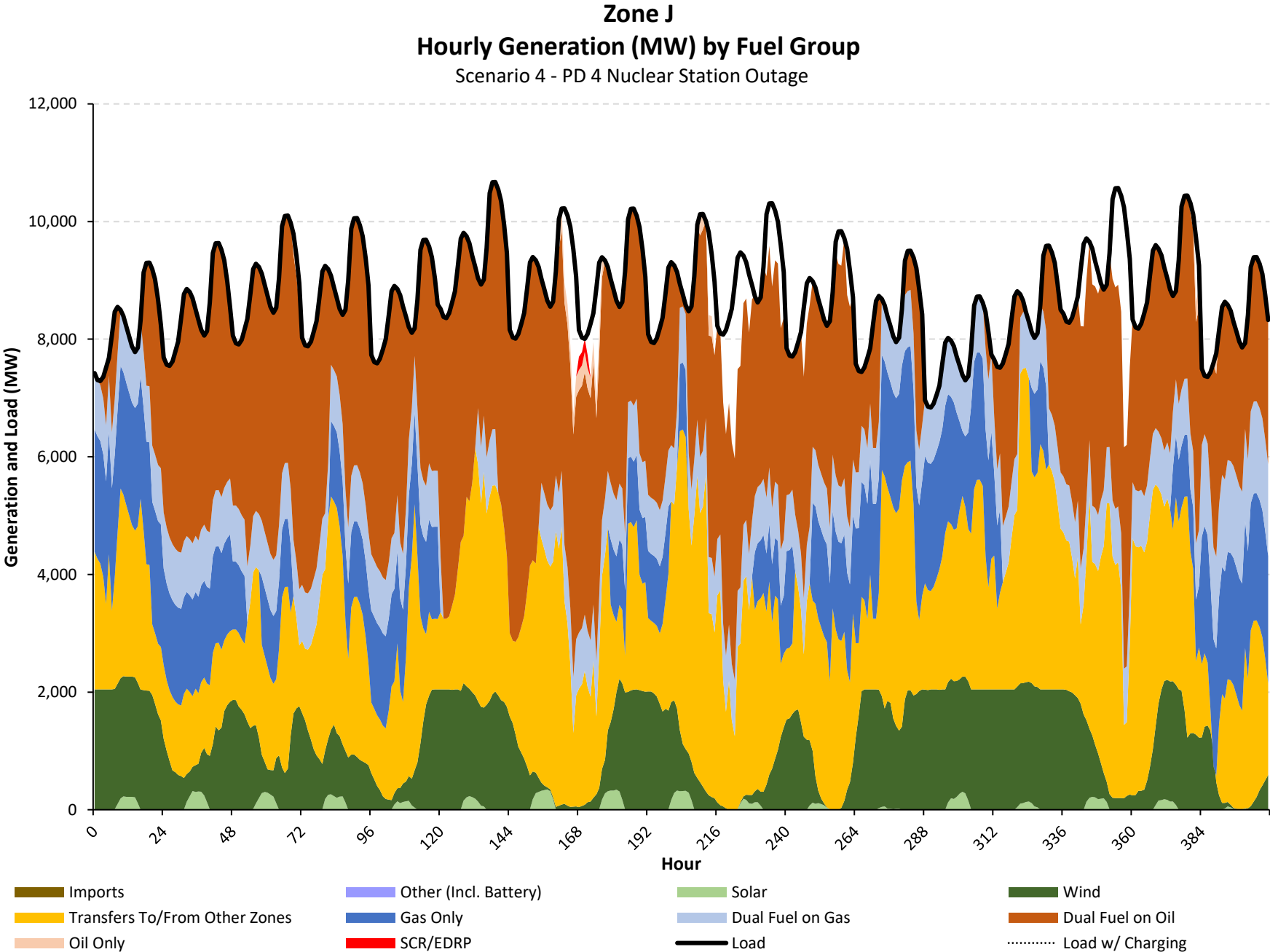
Full Period Results Summary

Case Name: Scenario 4 - PD 4 Nuclear Station Outage

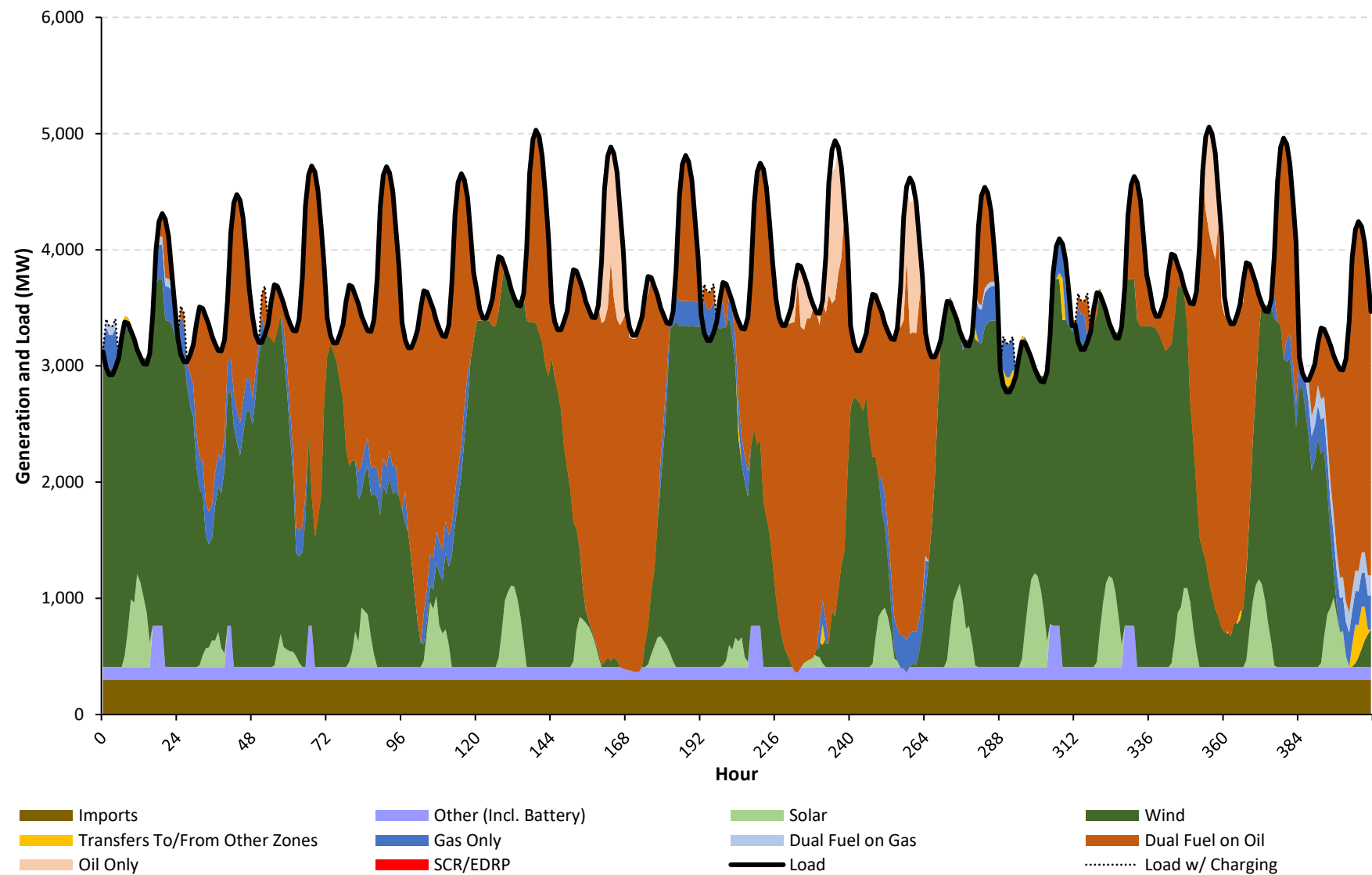
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	Net Zero



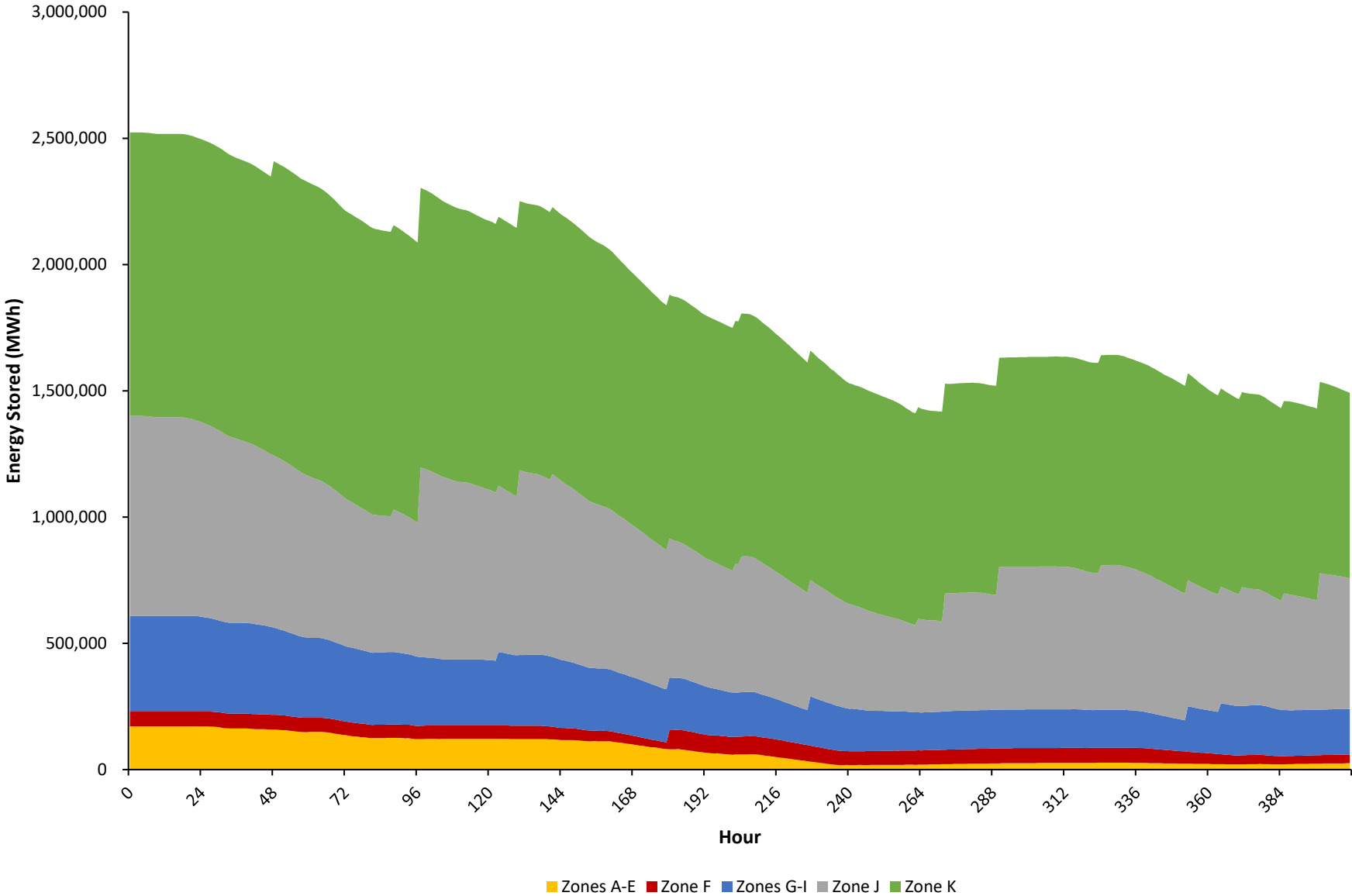


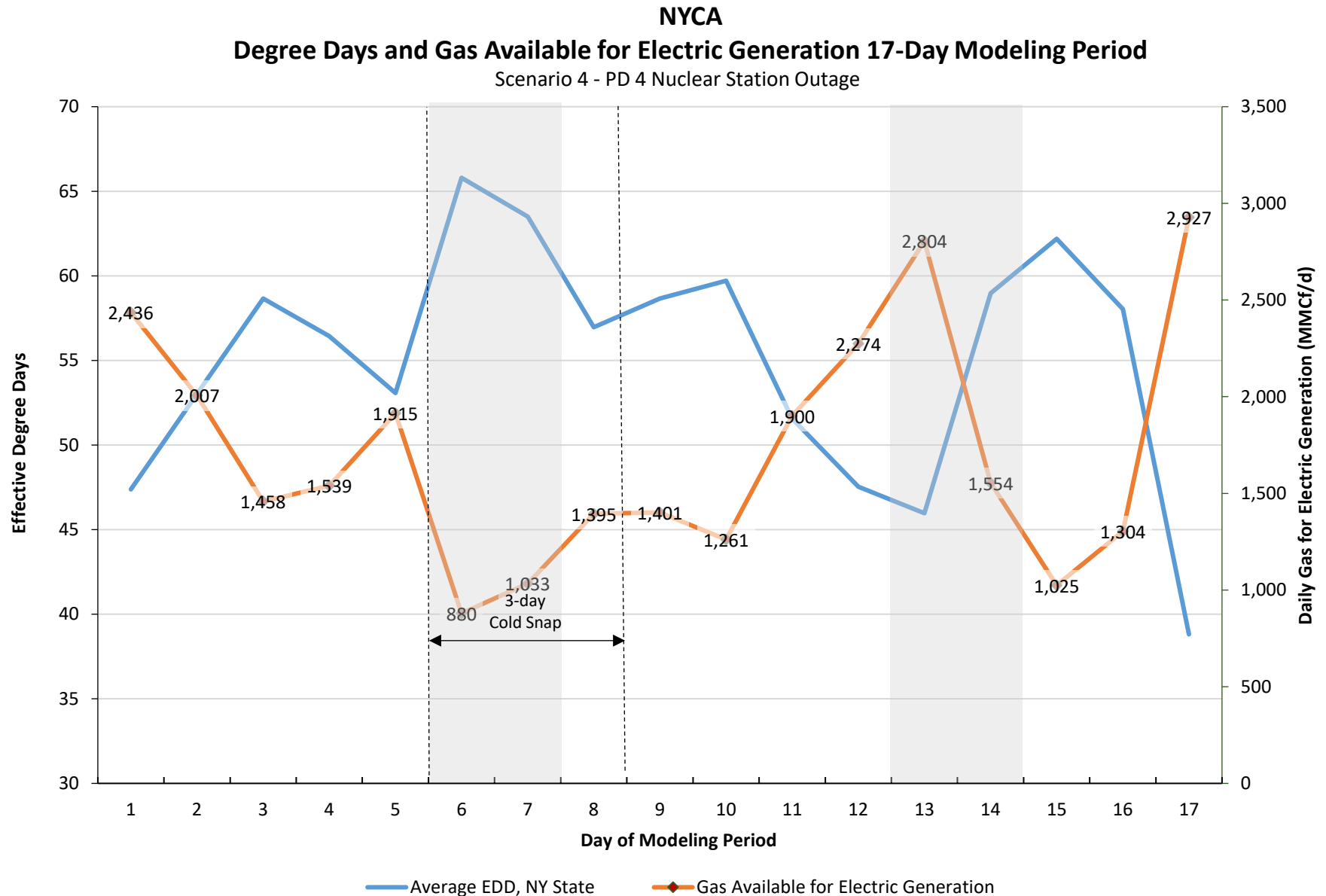


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 4 - PD 4 Nuclear Station Outage



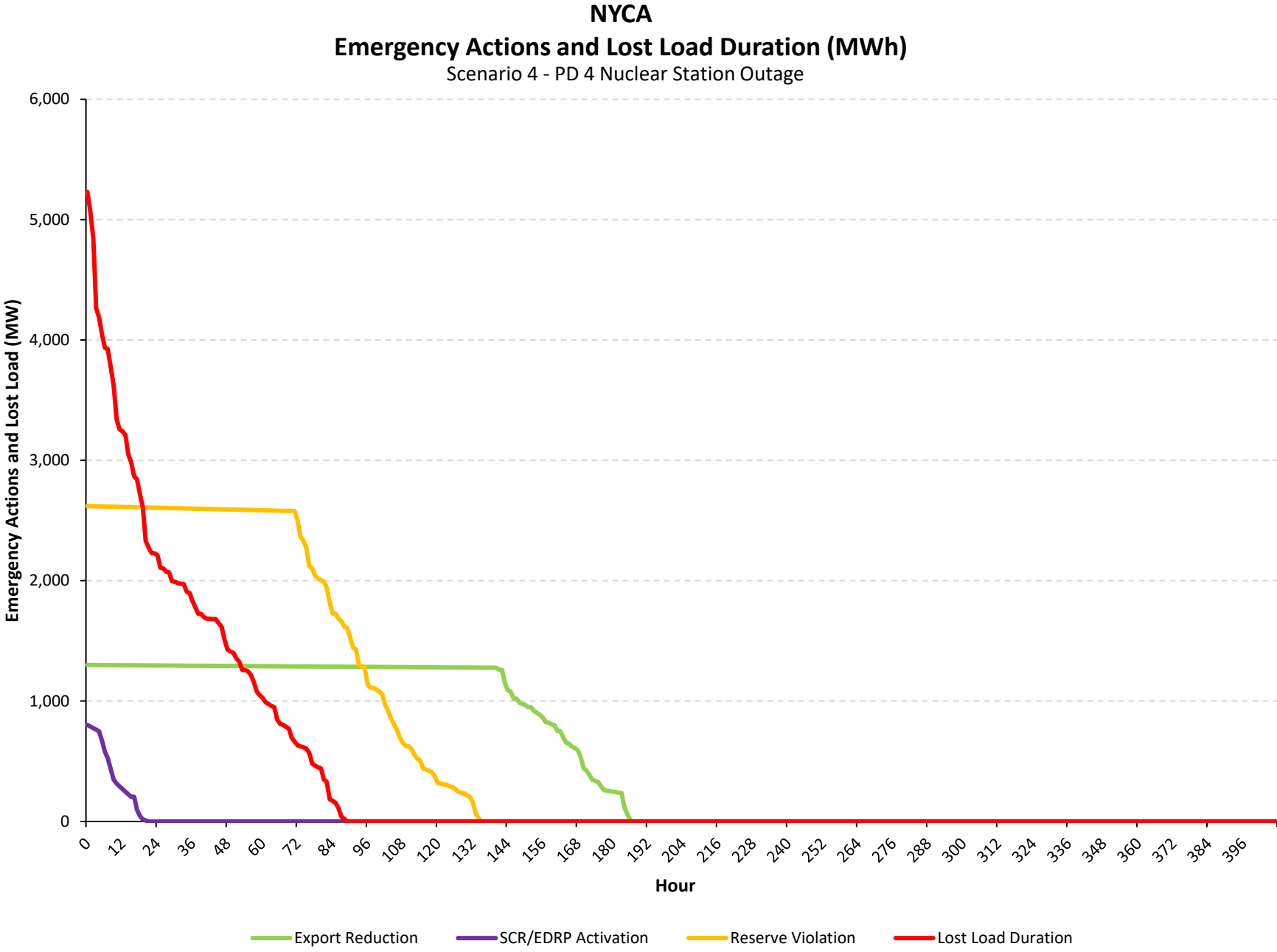
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 4 - PD 4 Nuclear Station Outage

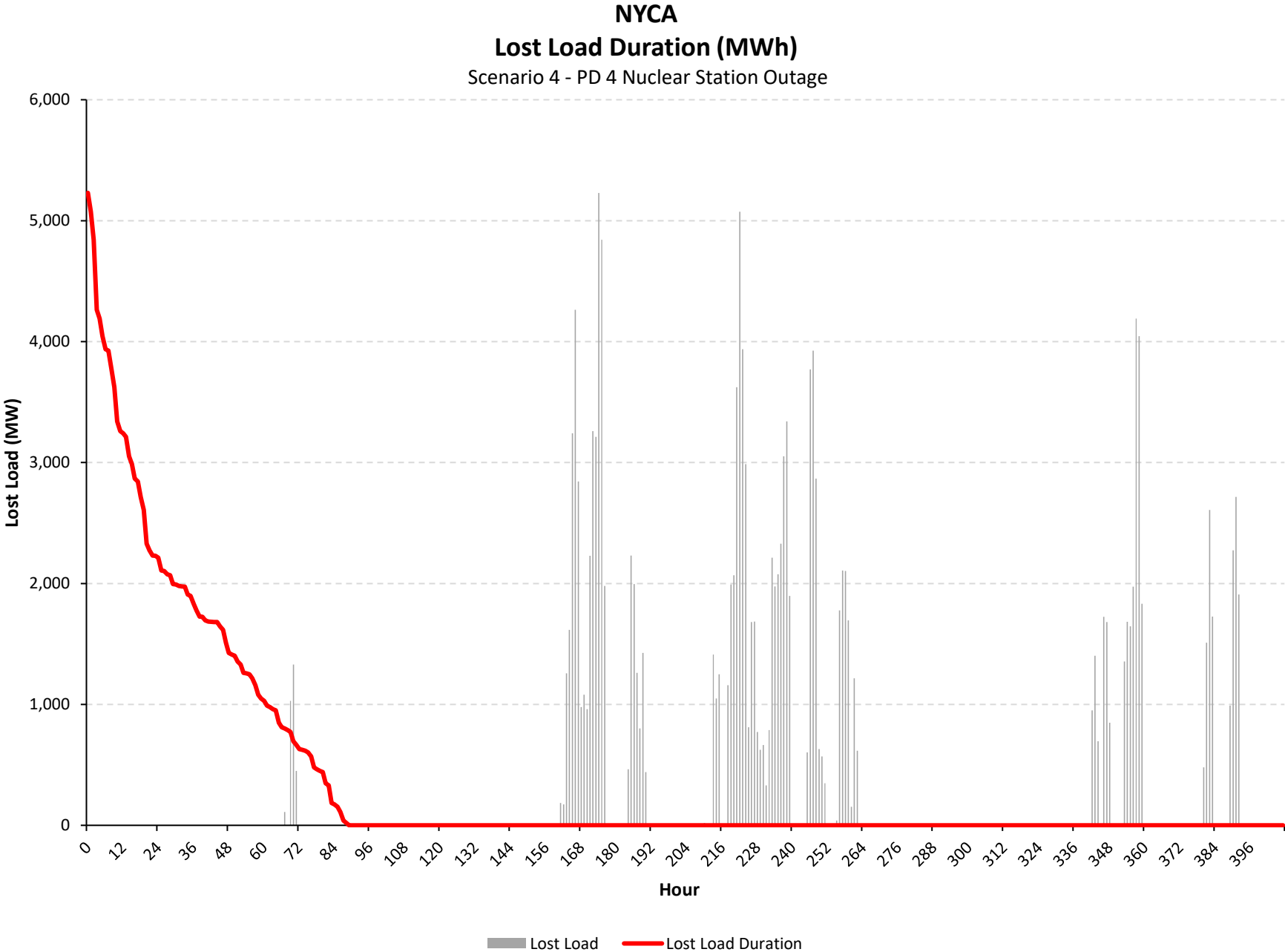




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



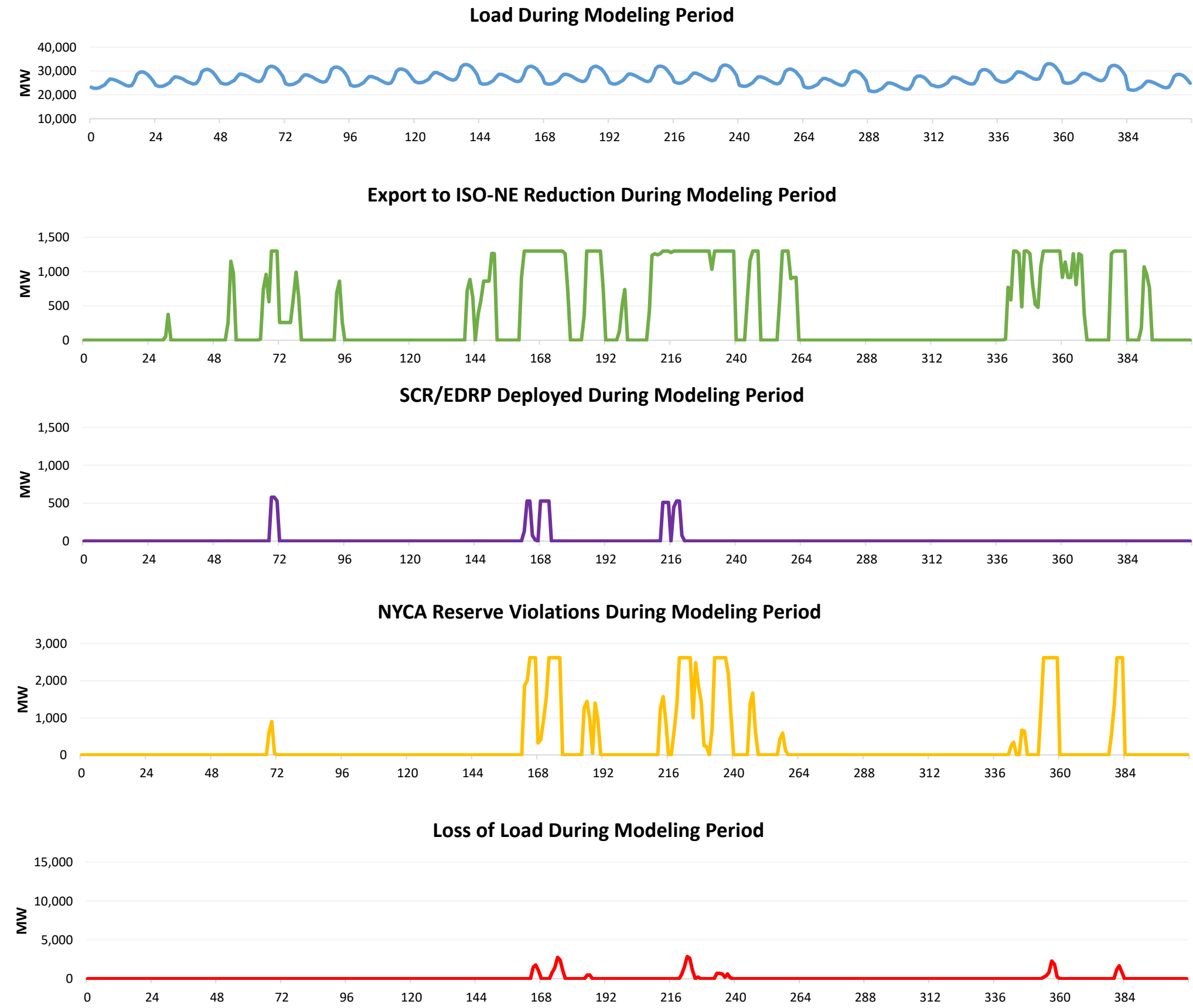


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 4 - PD 5 No Truck Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 4 - PD 5 No Truck Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	146
Total MWh	149,652
Avg. MW	366.8

SCR Deployment	
Total Hrs.	19
Total MWh	8,168
Avg. MW	20.0

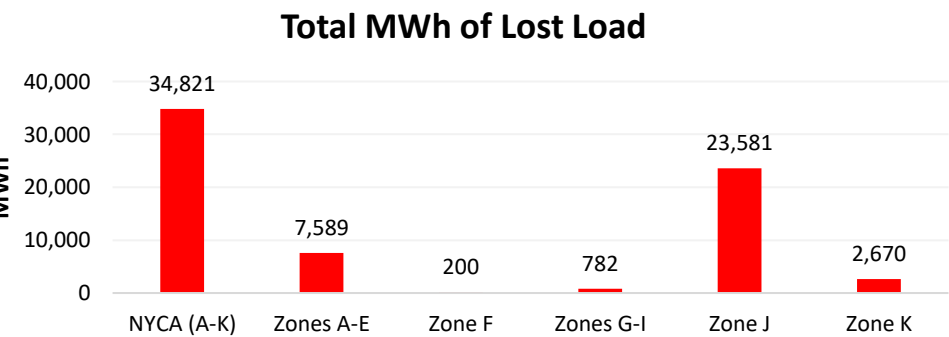
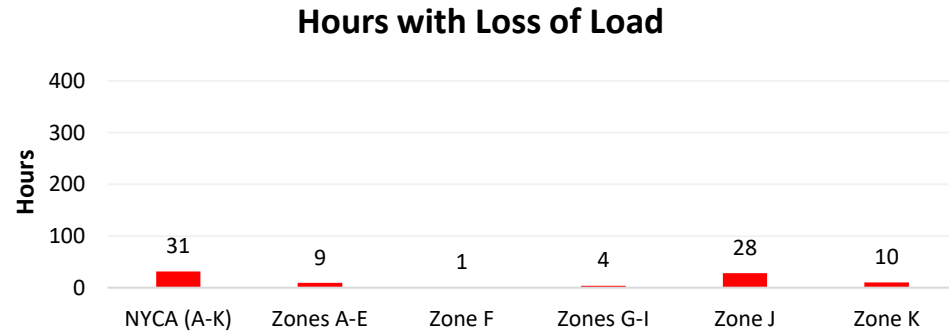
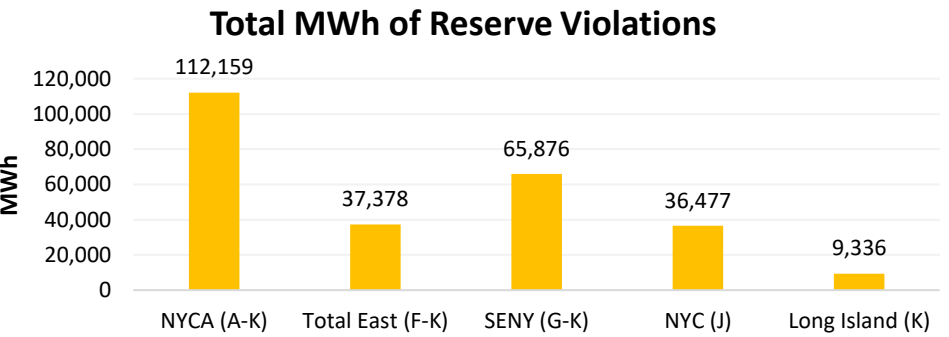
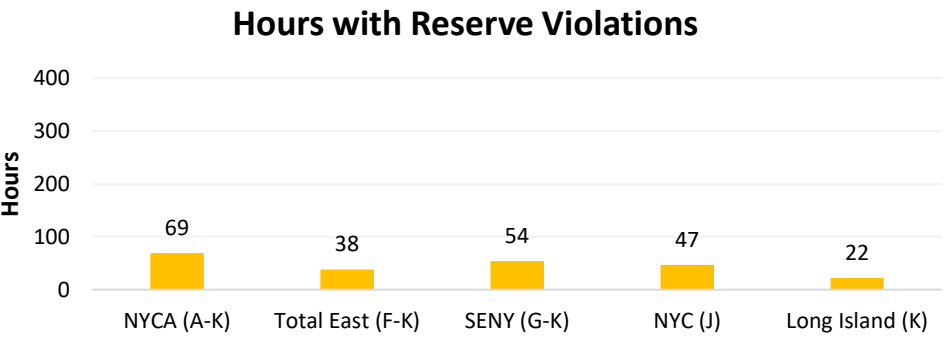
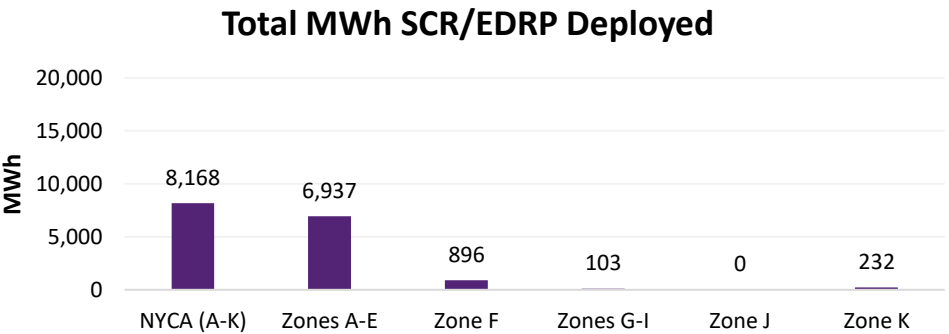
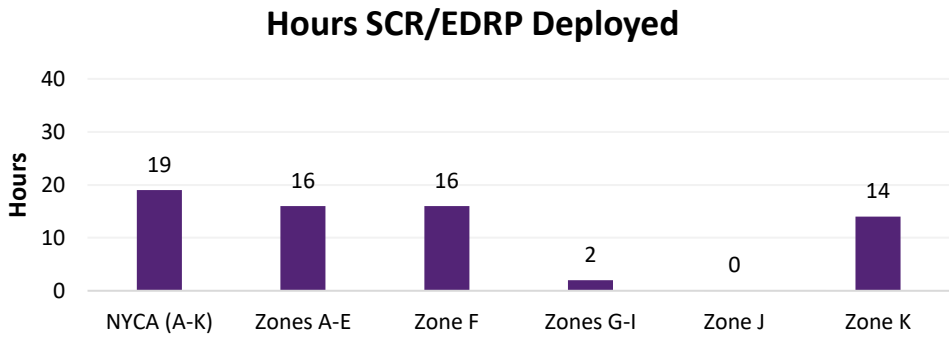
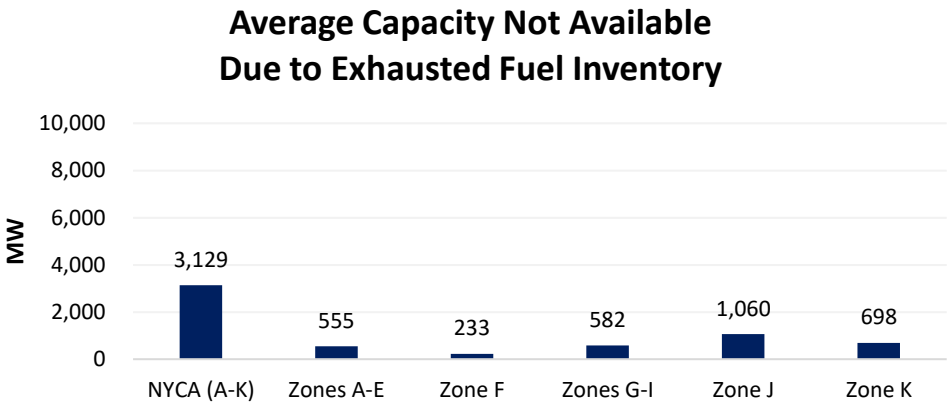
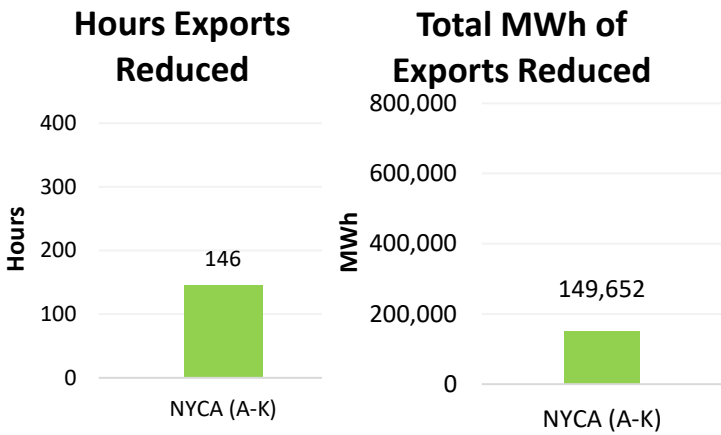
Reserve Violations	
Total Hrs.	69
Total MWh	112,159
Avg. MW	274.9
First Hour with Viol.	69

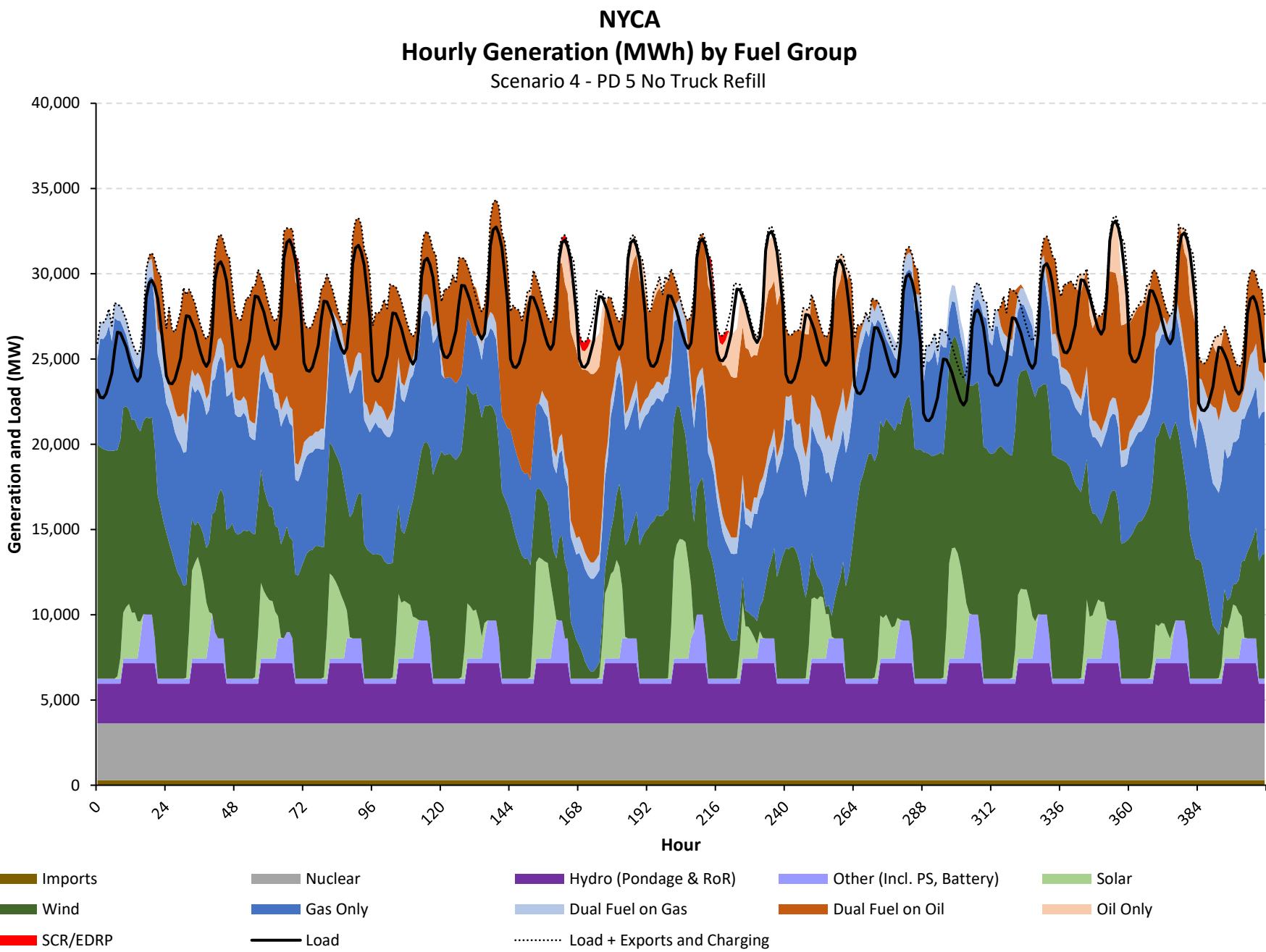
Loss of Load	
Total Hrs.	31
Total MWh	34,821
Avg. MW	85.3
First Hour with Losses	165

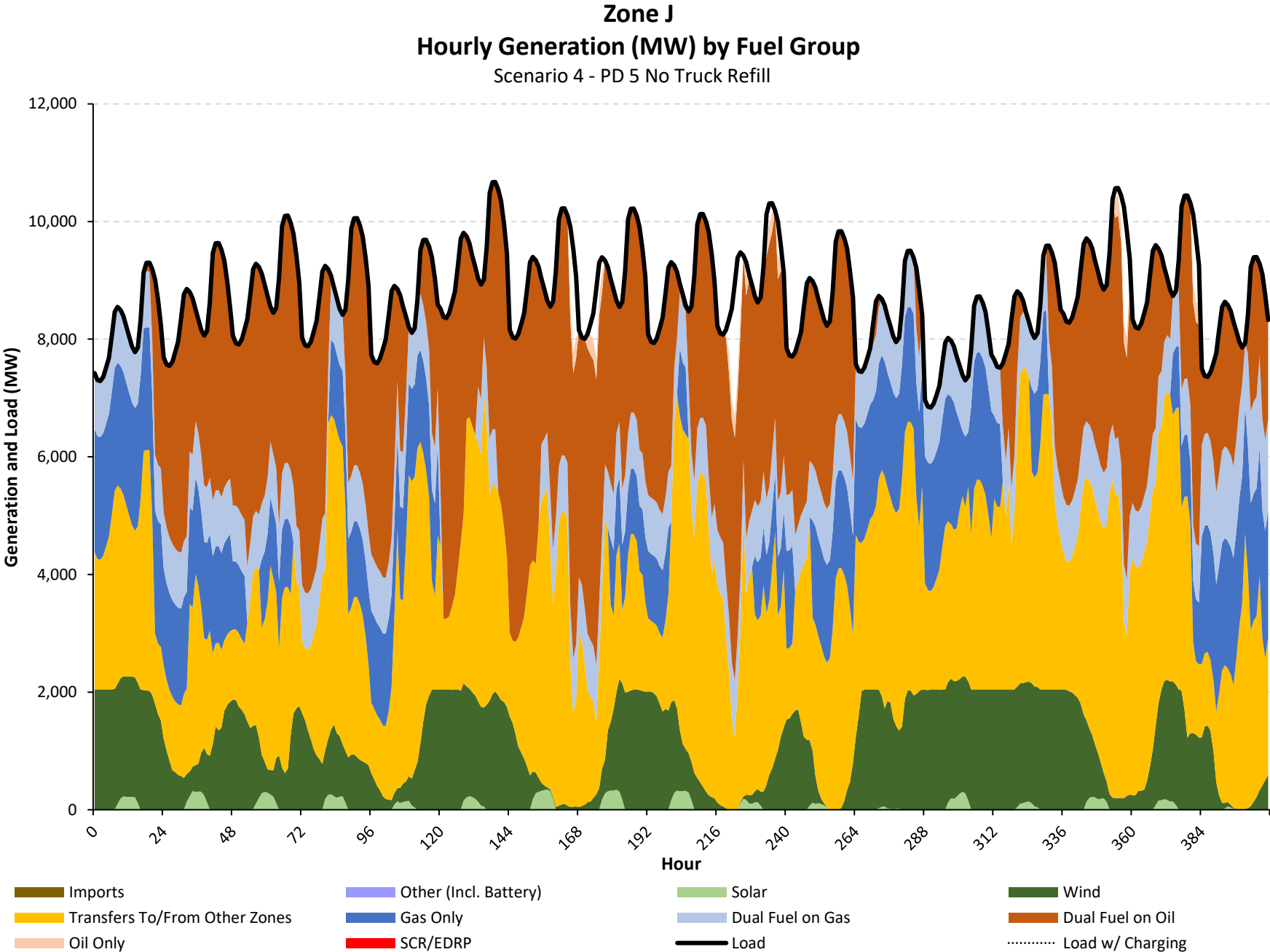
Full Period Results Summary

Case Name: Scenario 4 - PD 5 No Truck Refill

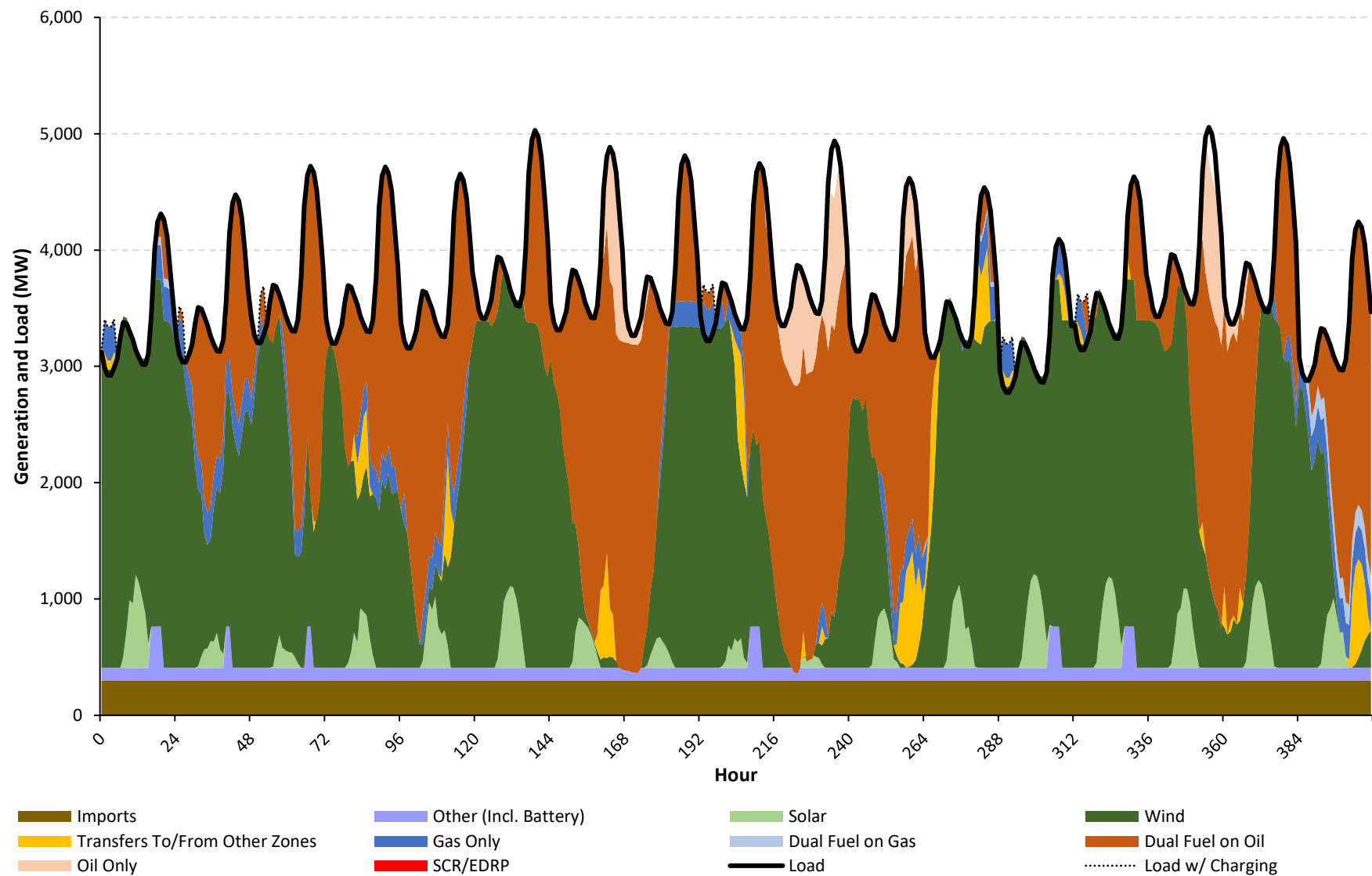
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

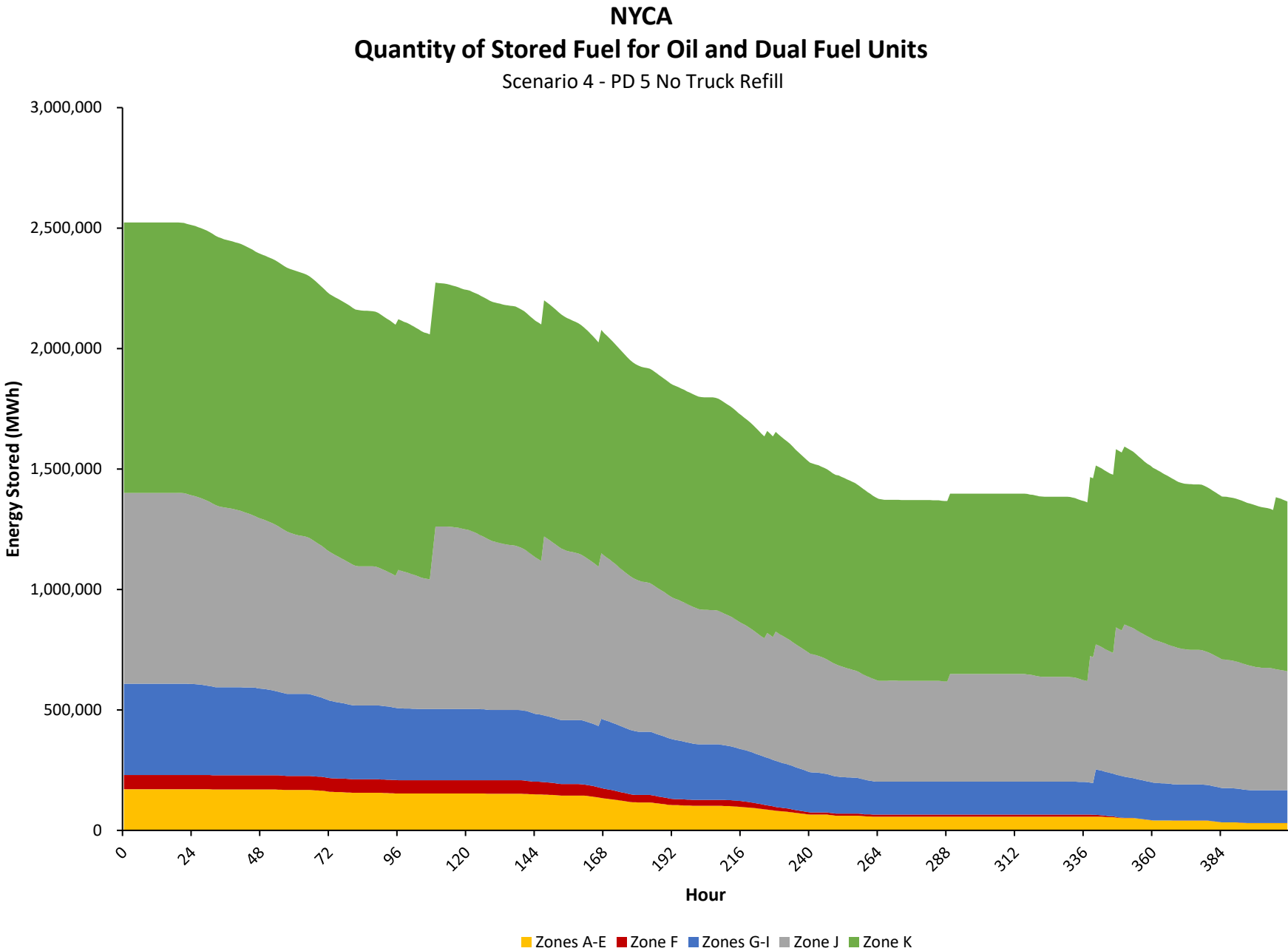


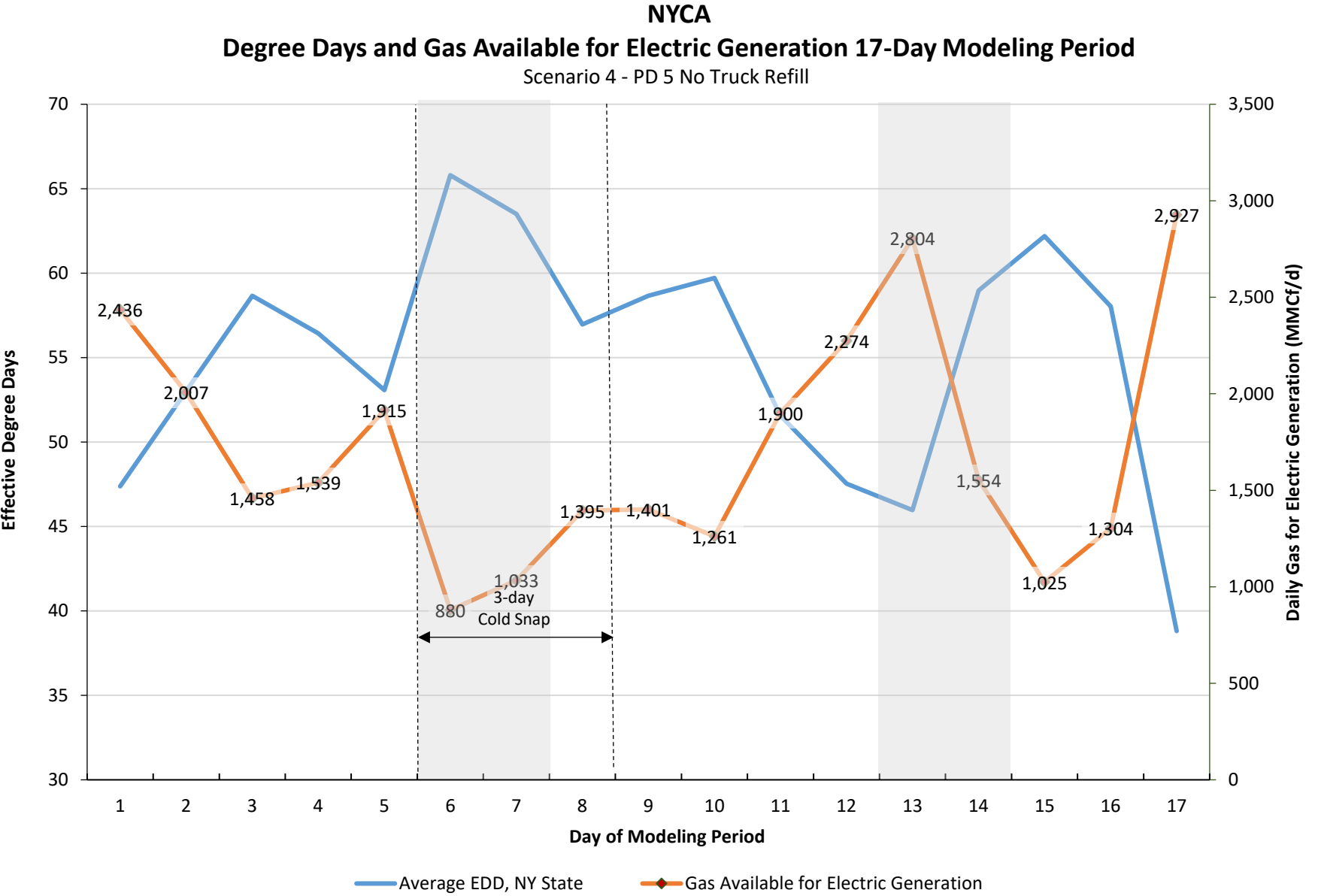




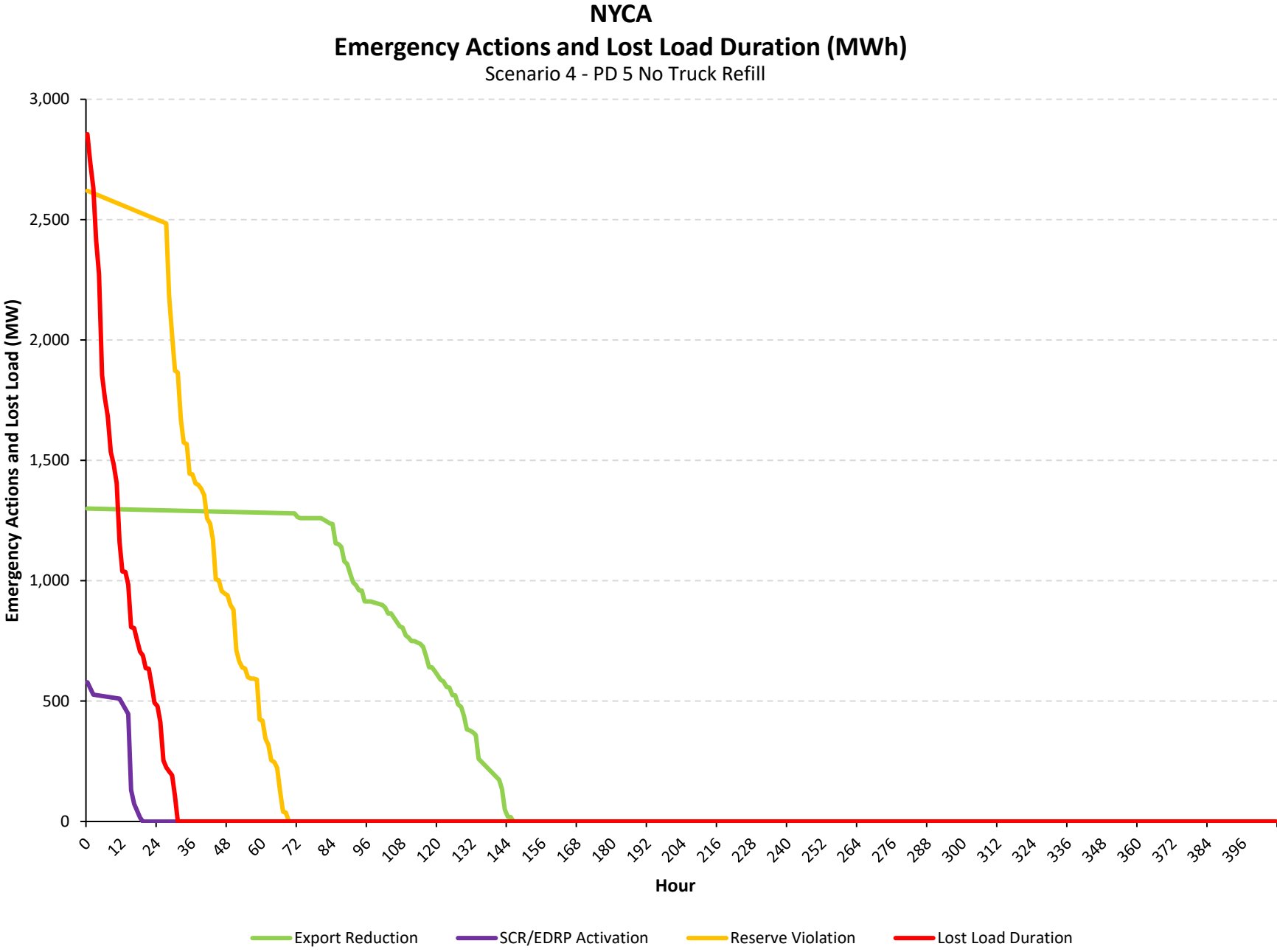
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 4 - PD 5 No Truck Refill

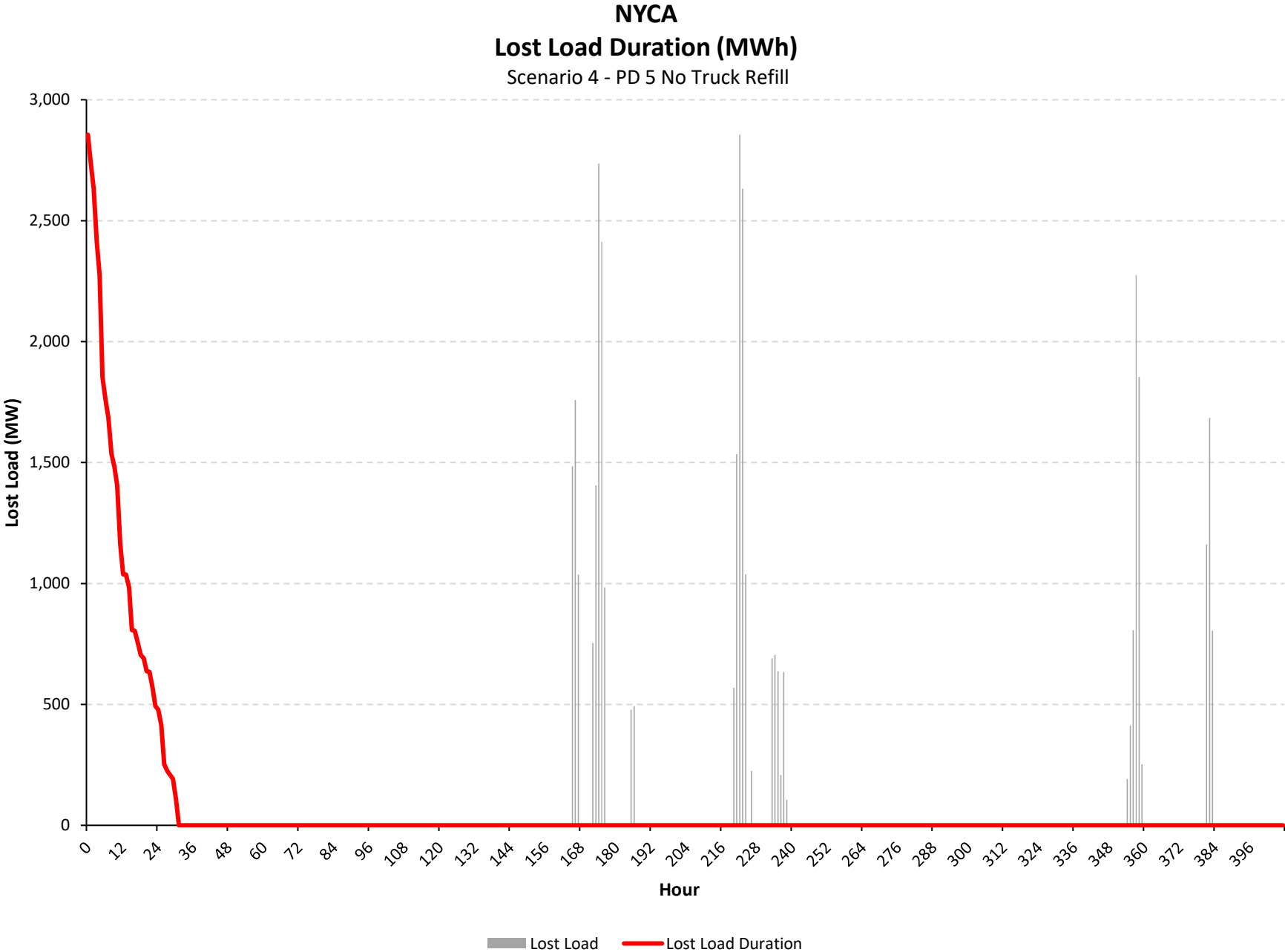






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



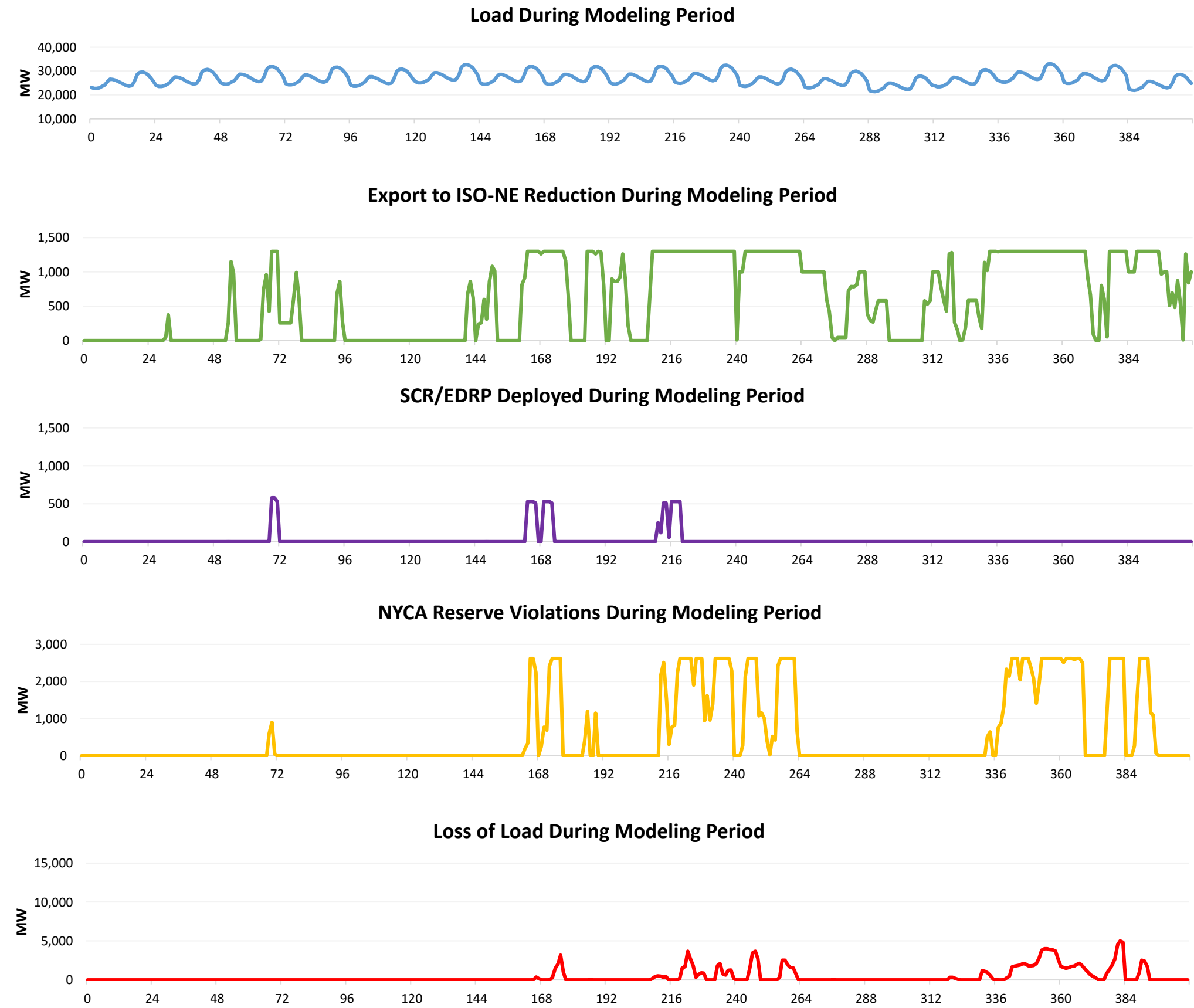


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 4 - PD 6 No Barge Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 4 - PD 6 No Barge Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	248
Total MWh	244,902
Avg. MW	600.2

SCR Deployment	
Total Hrs.	20
Total MWh	9,418
Avg. MW	23.1

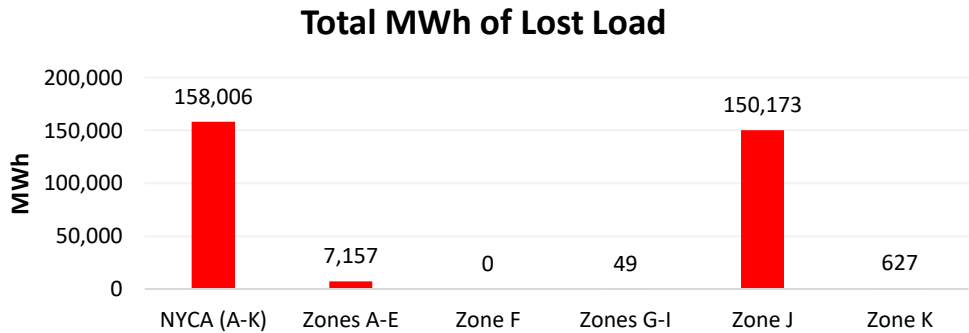
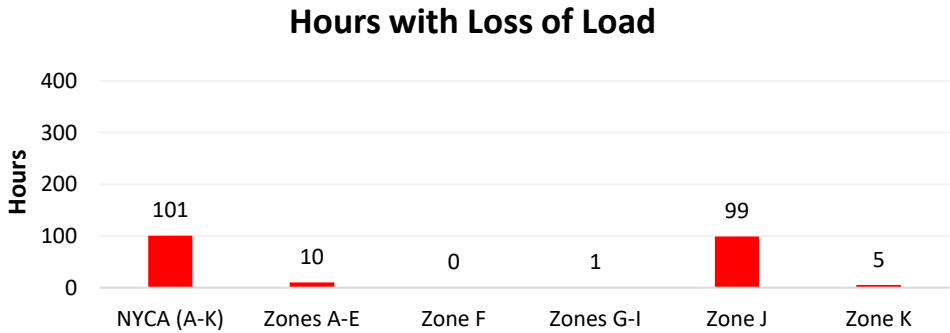
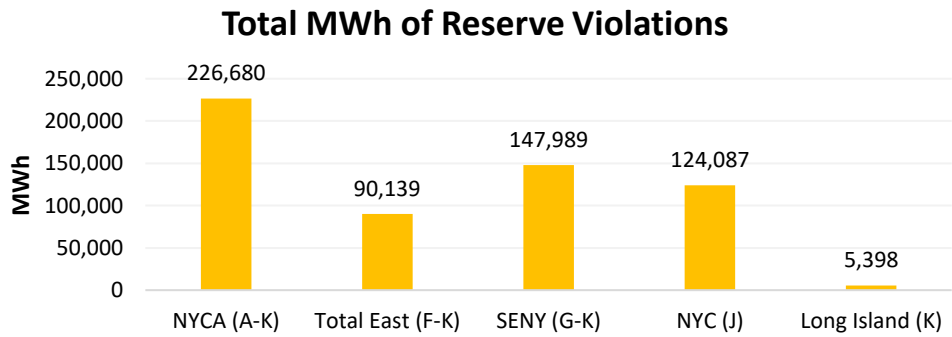
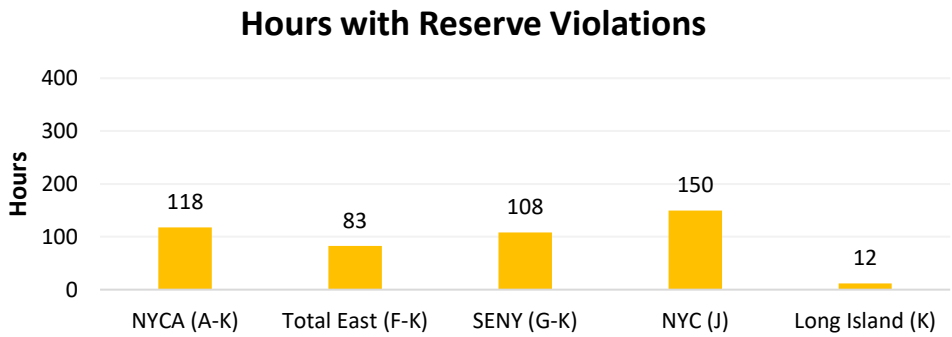
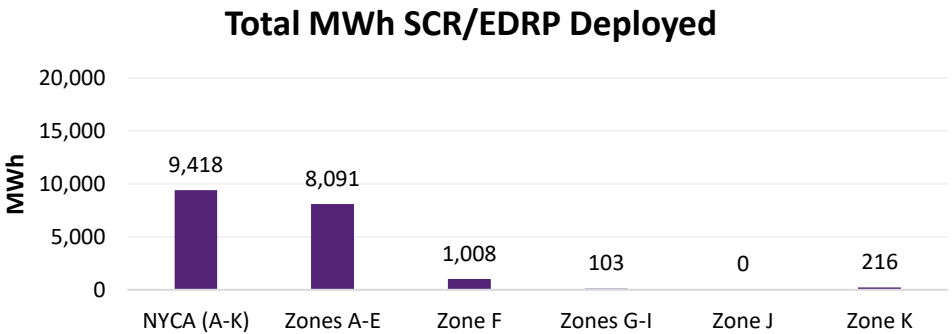
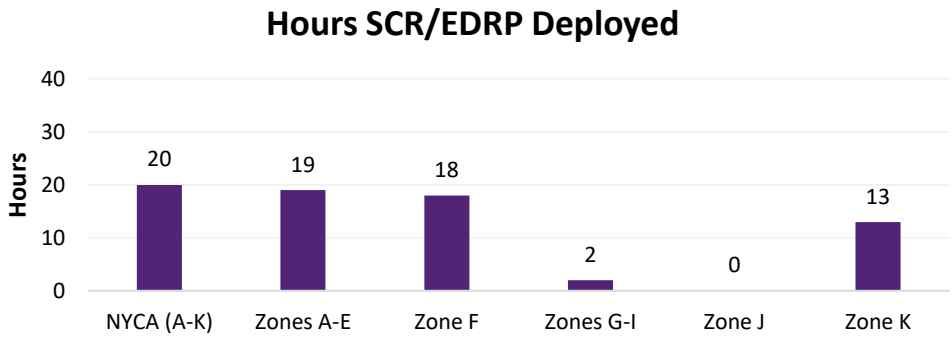
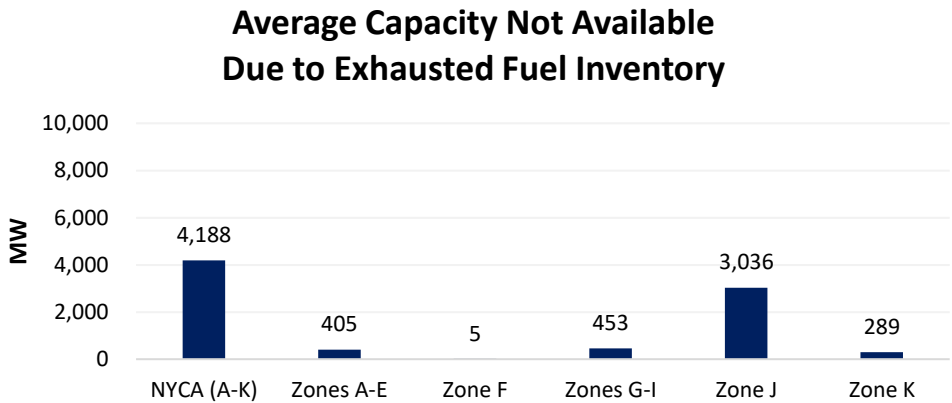
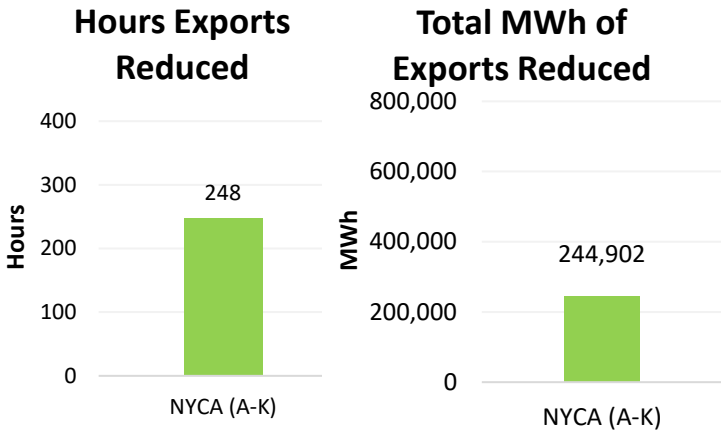
Reserve Violations	
Total Hrs.	118
Total MWh	226,680
Avg. MW	555.6
First Hour with Viol.	69

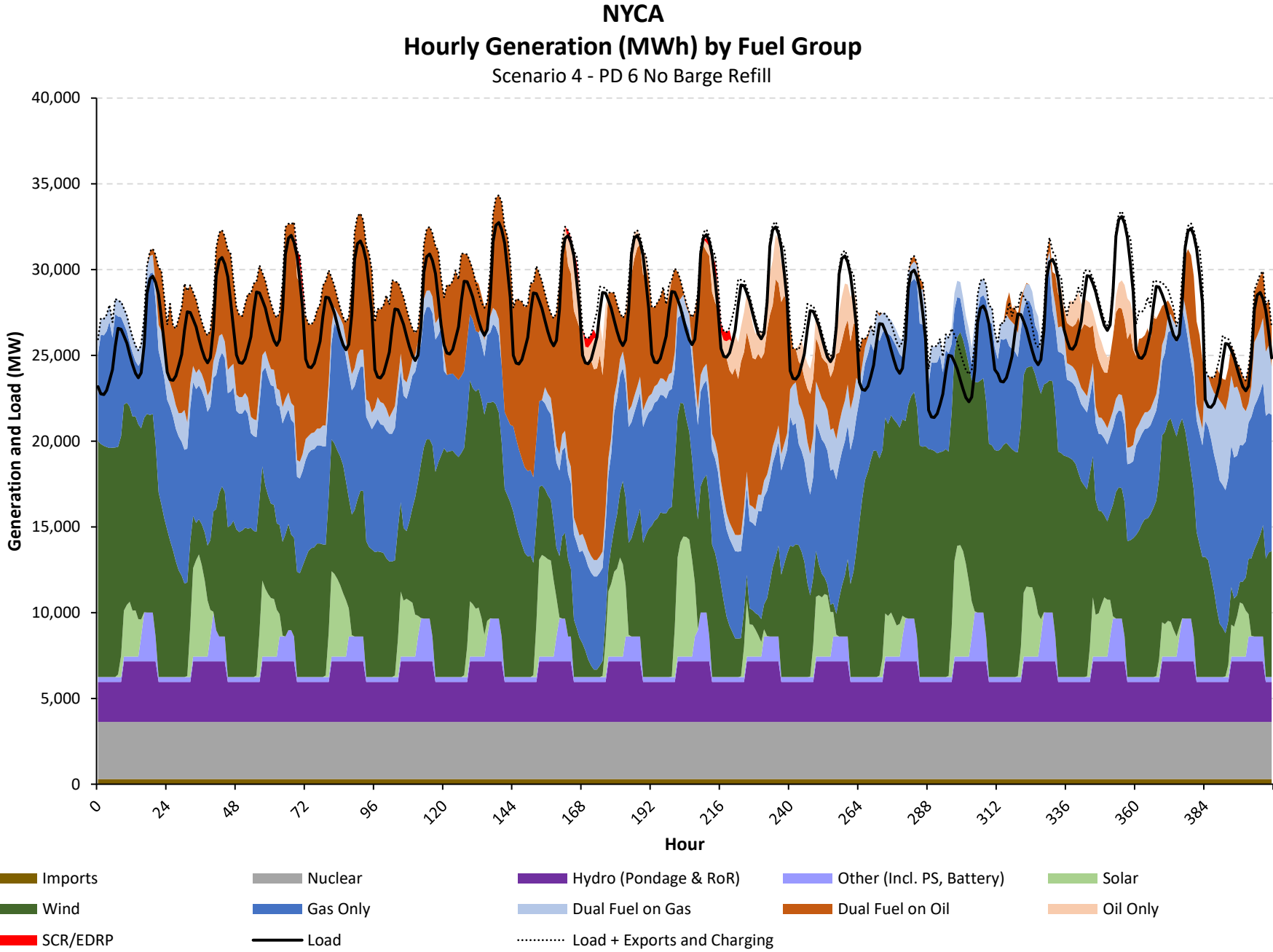
Loss of Load	
Total Hrs.	101
Total MWh	158,006
Avg. MW	387.3
First Hour with Losses	165

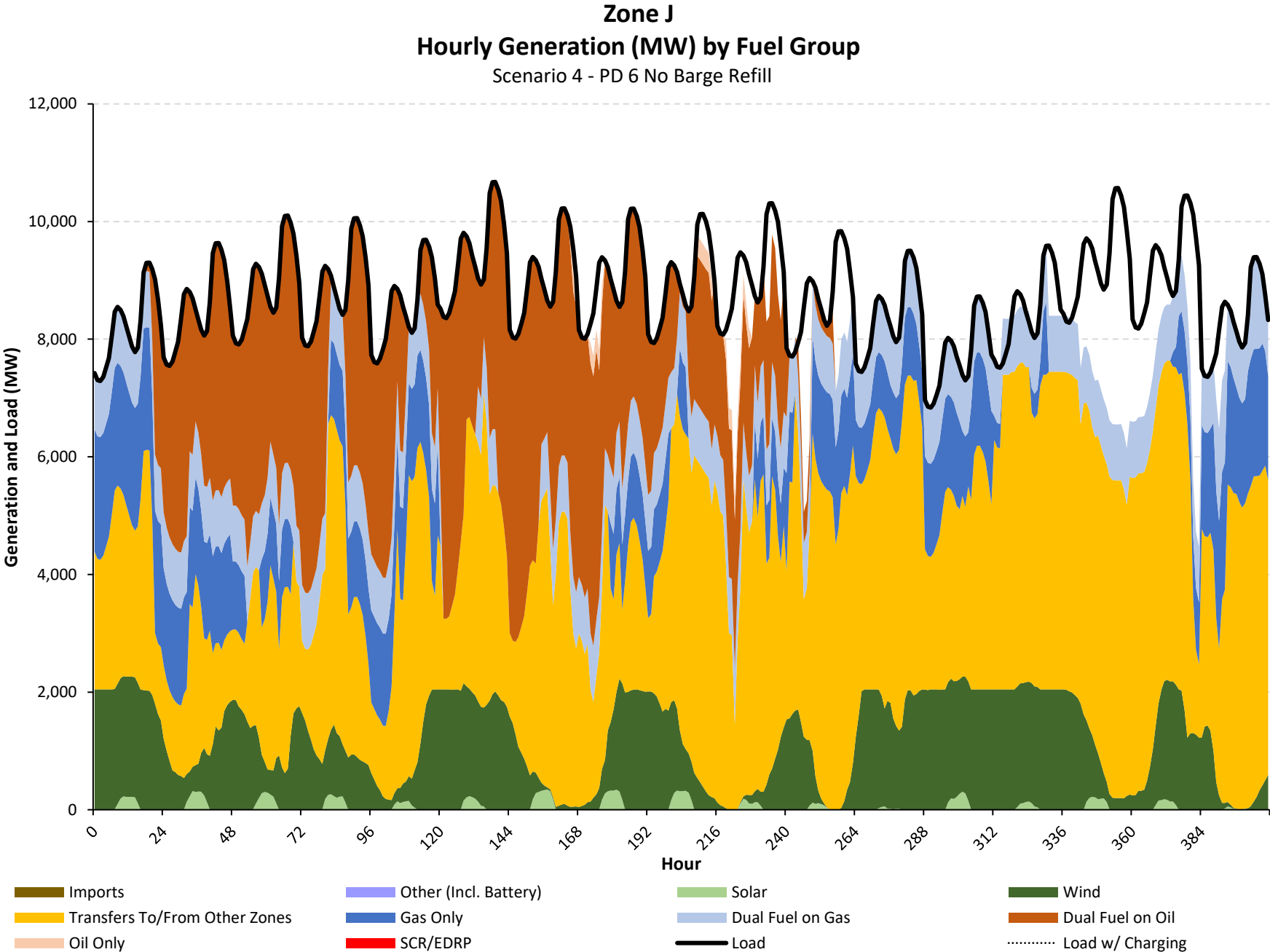
Full Period Results Summary

Case Name: Scenario 4 - PD 6 No Barge Refill

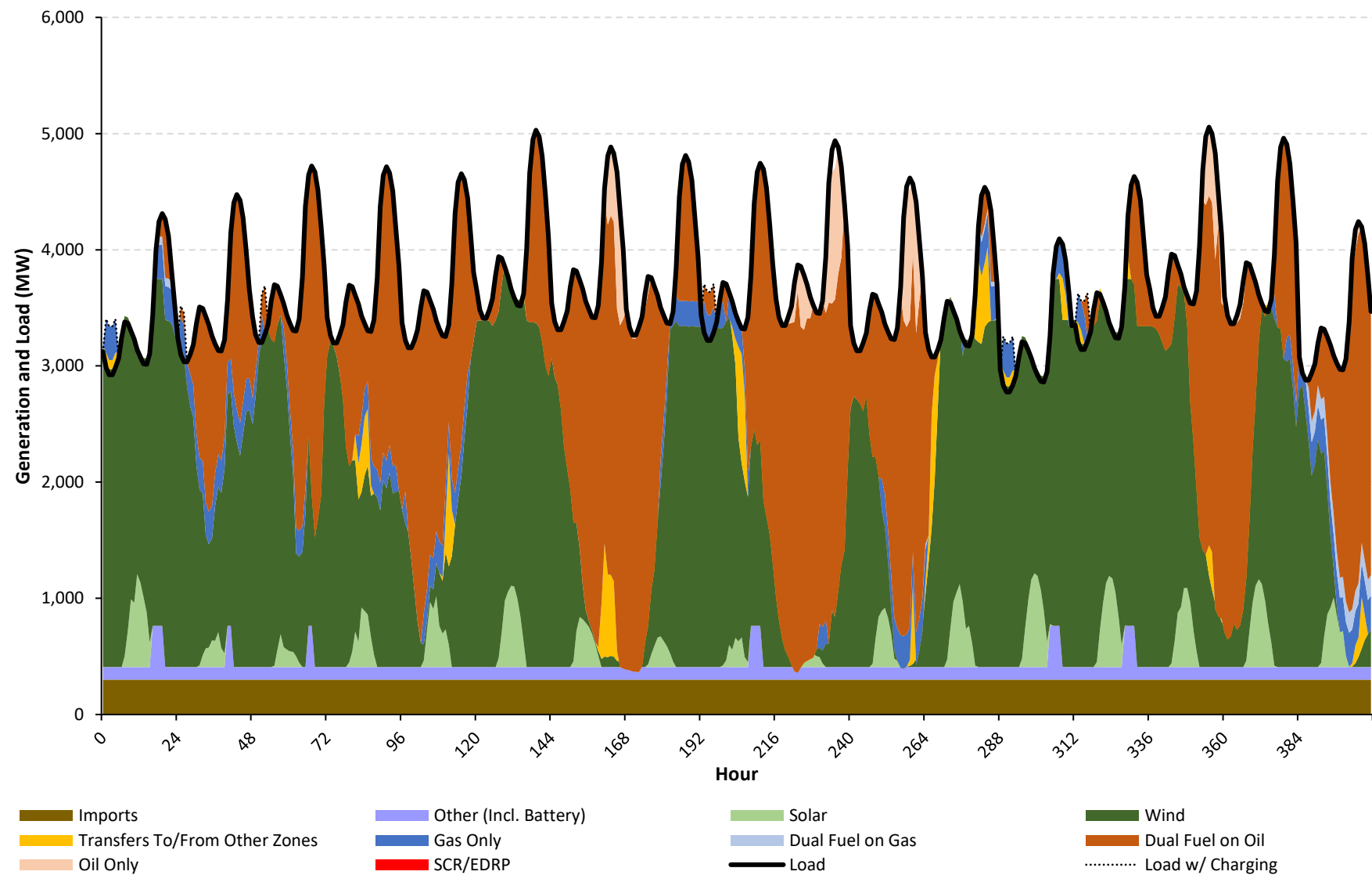
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



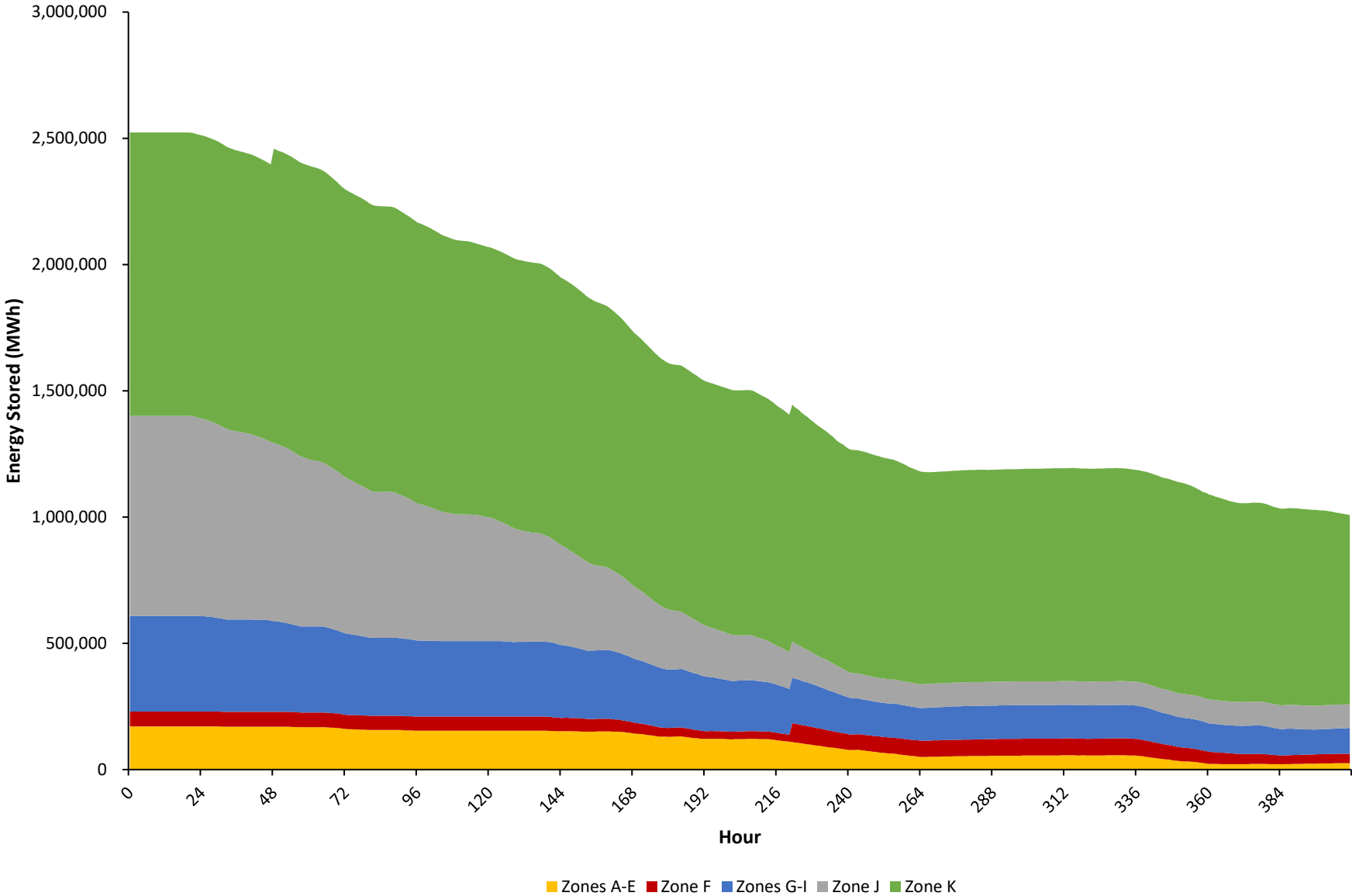


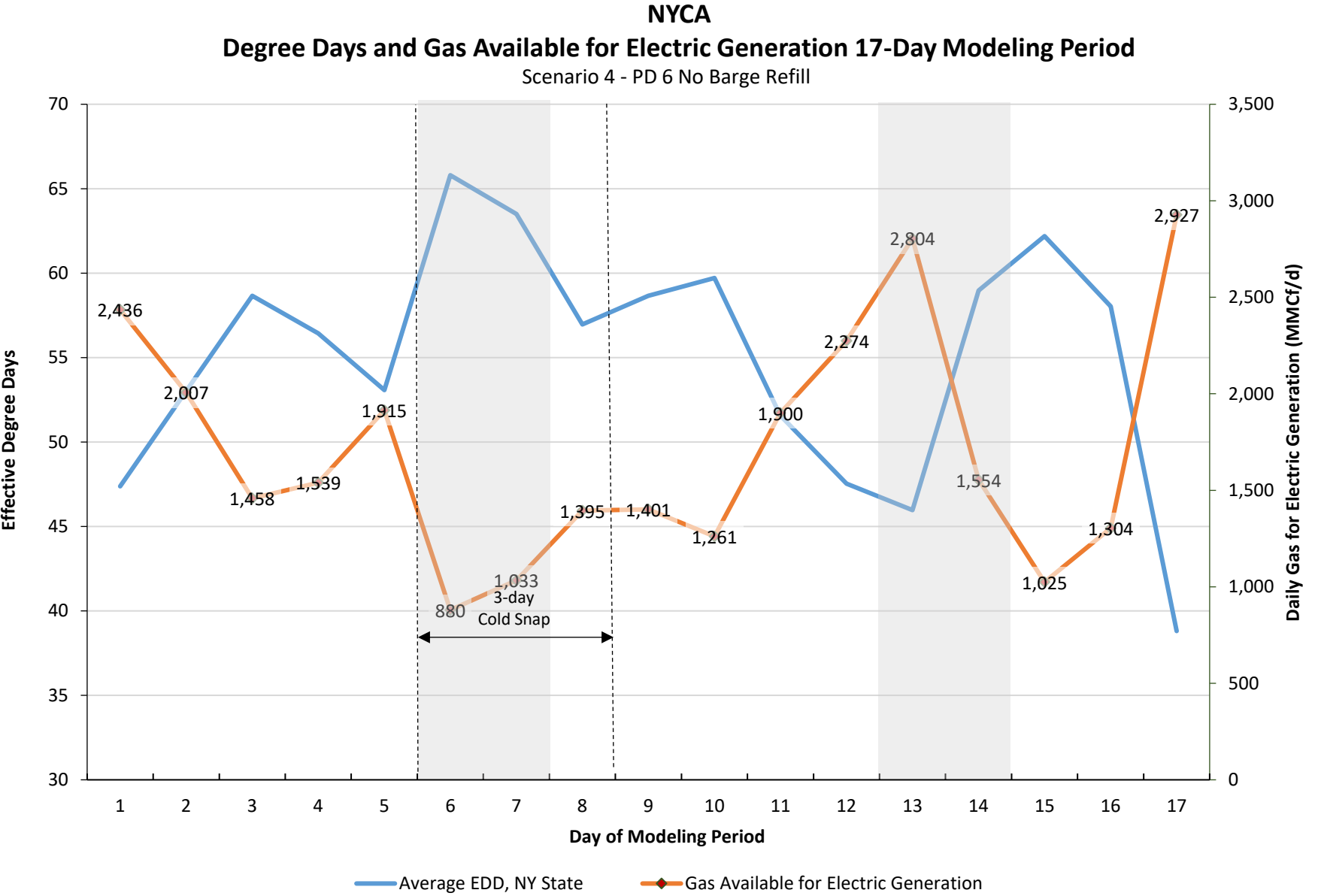


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 4 - PD 6 No Barge Refill

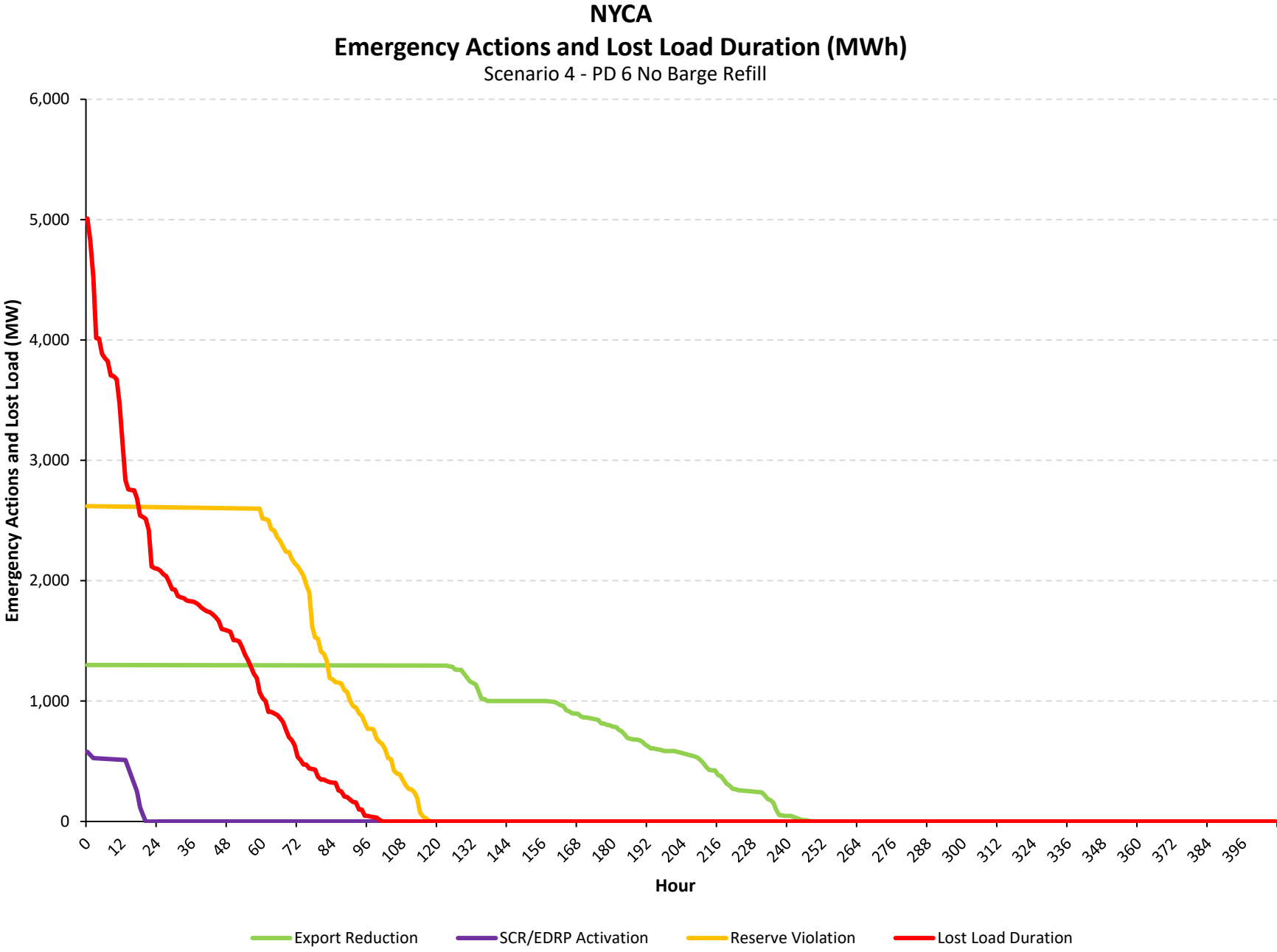


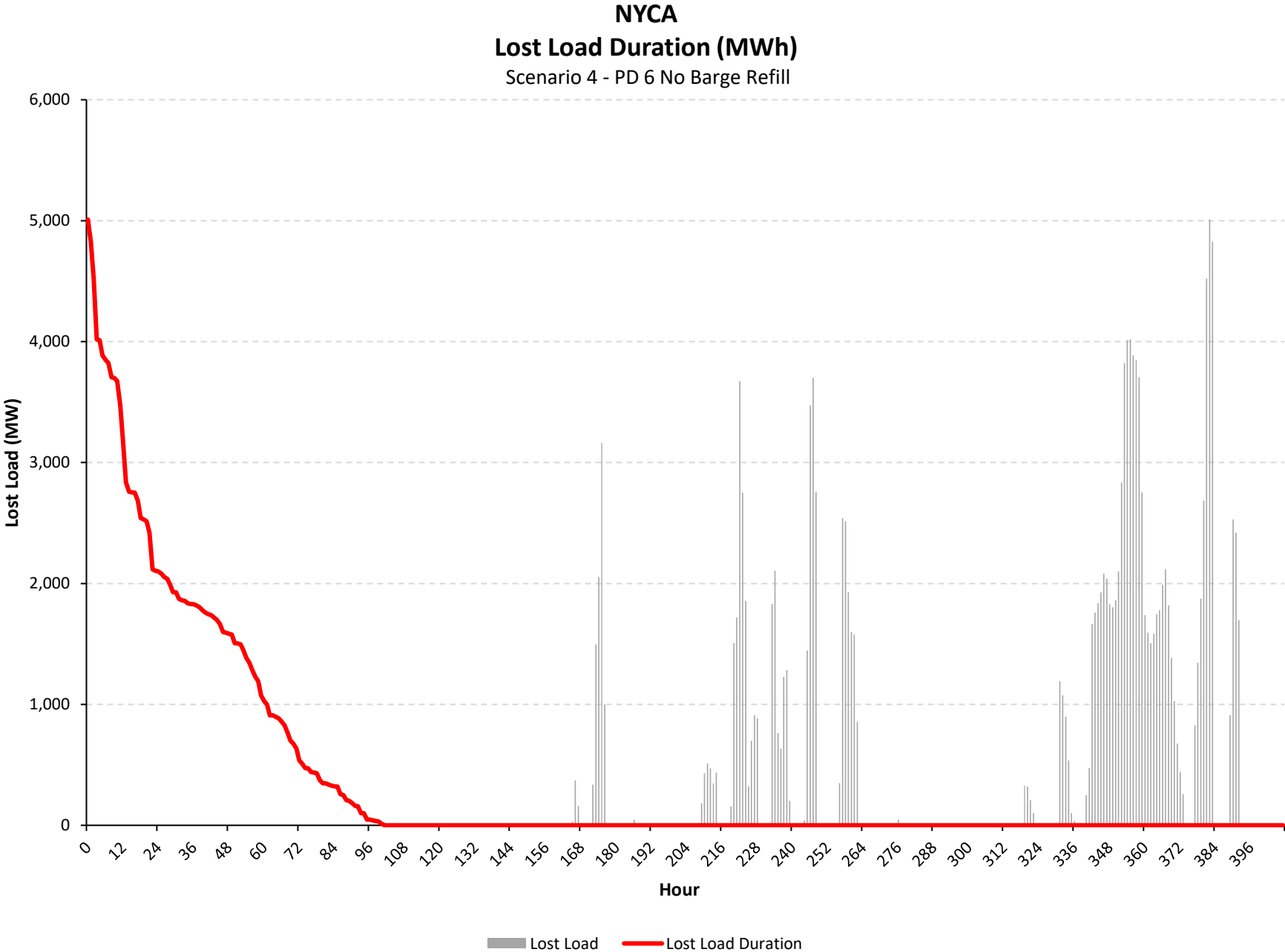
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 4 - PD 6 No Barge Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



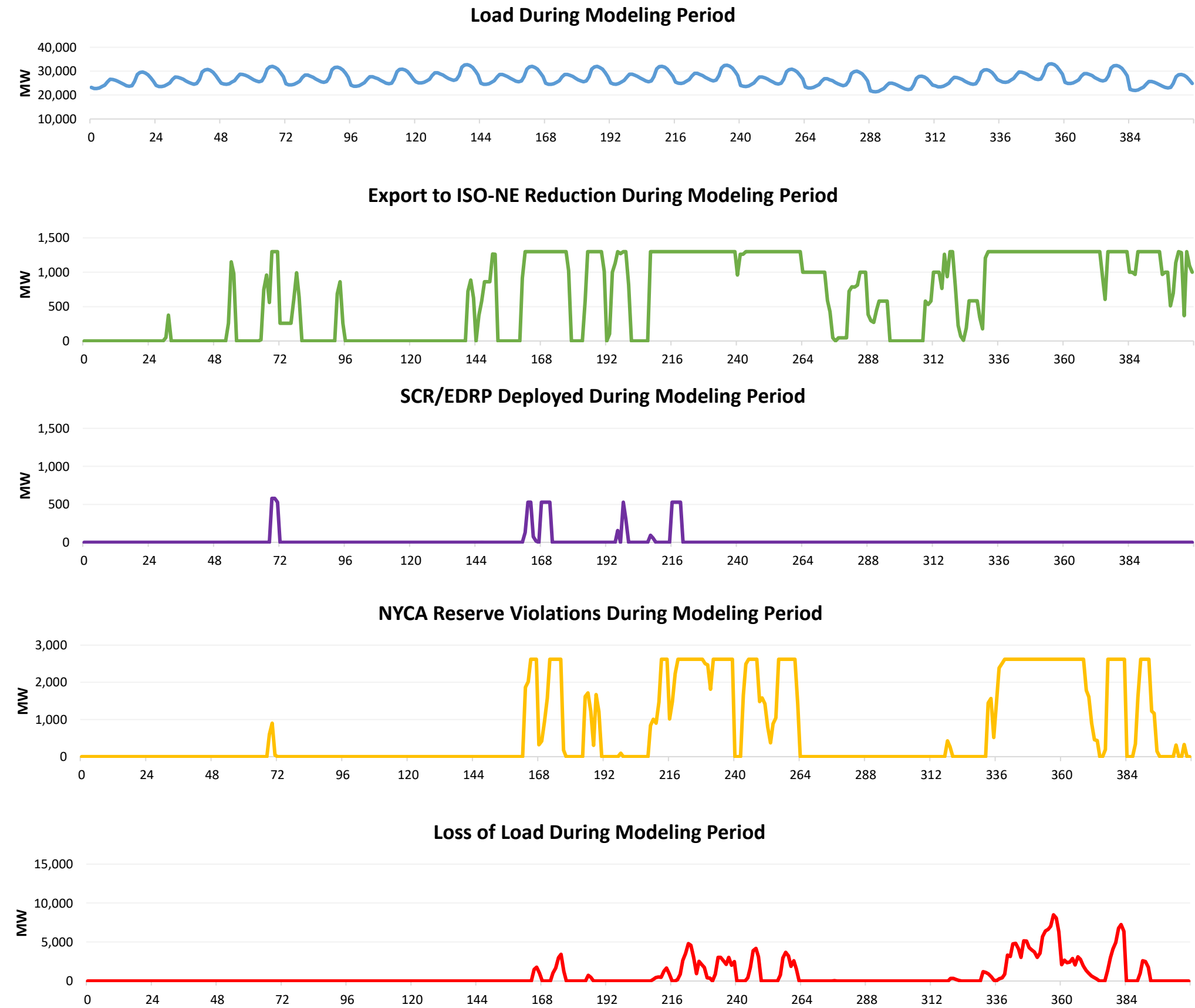


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 4 - PD 7 No Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 4 - PD 7 No Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	253
Total MWh	264,001
Avg. MW	647.1

SCR Deployment	
Total Hrs.	21
Total MWh	8,309
Avg. MW	20.4

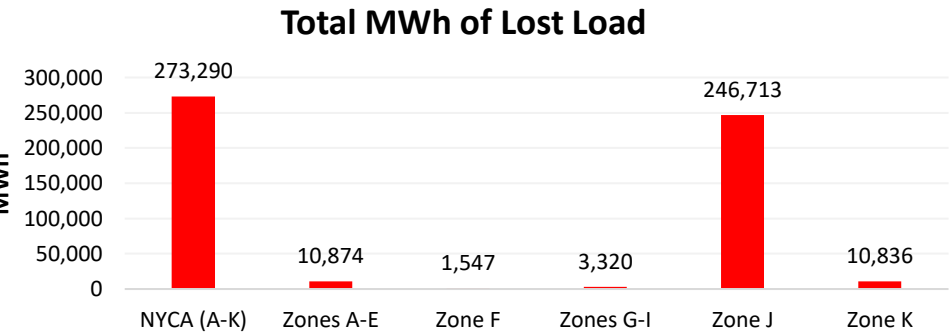
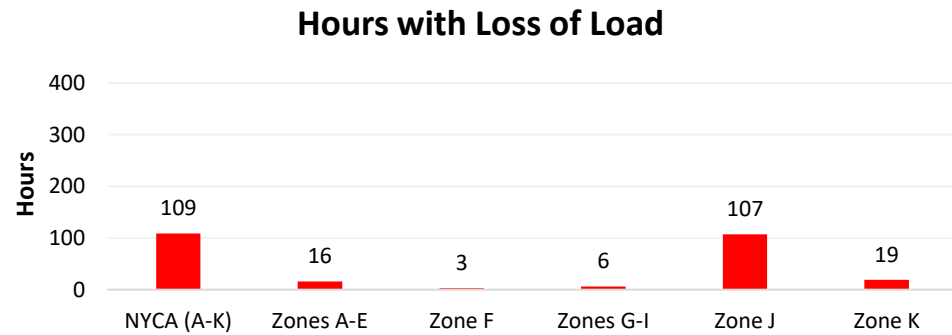
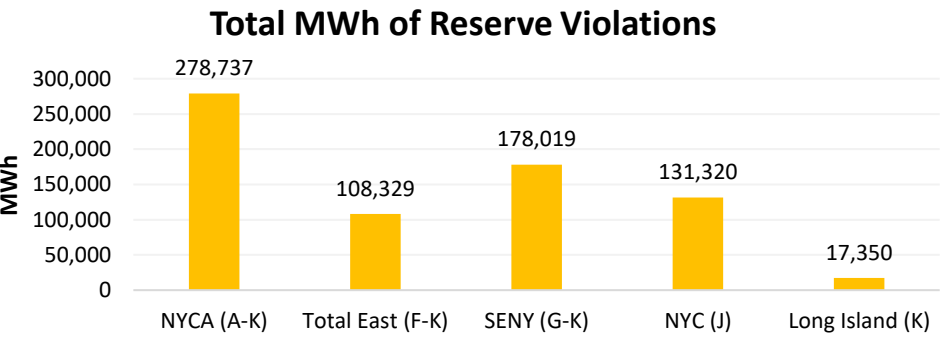
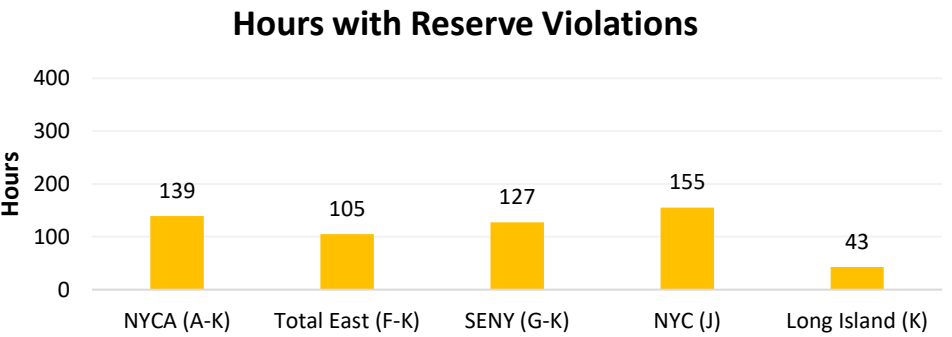
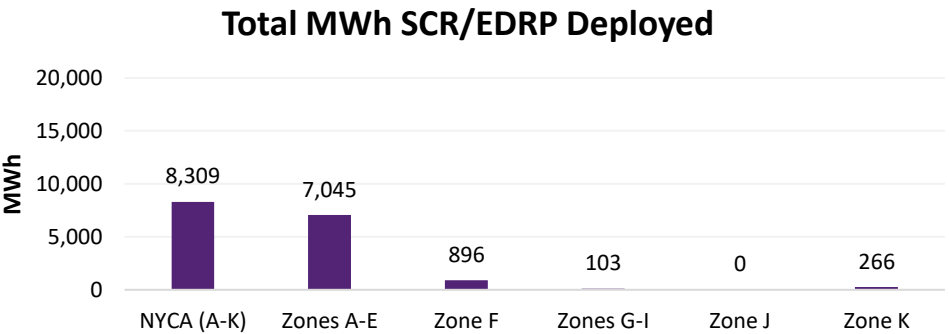
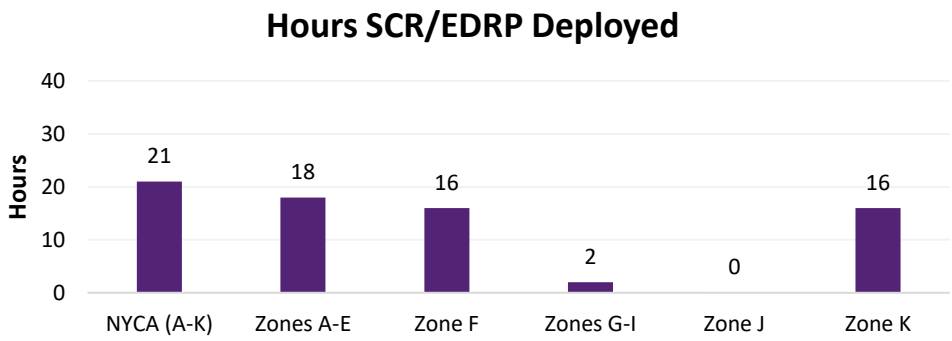
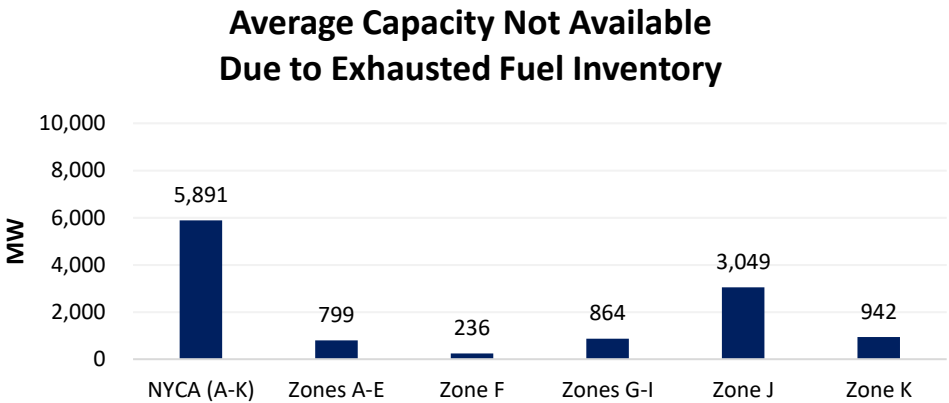
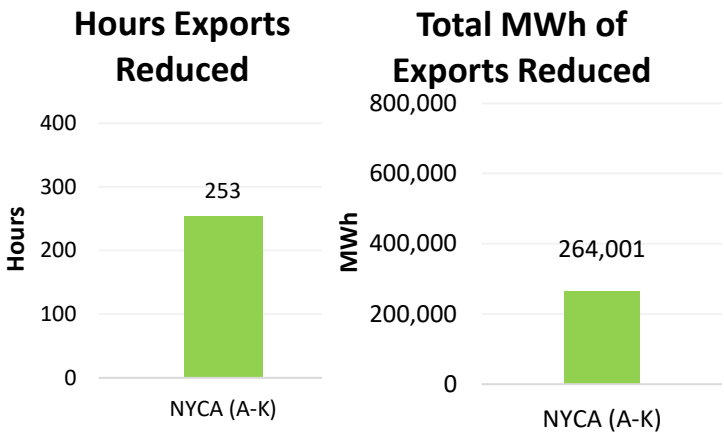
Reserve Violations	
Total Hrs.	139
Total MWh	278,737
Avg. MW	683.2
First Hour with Viol.	69

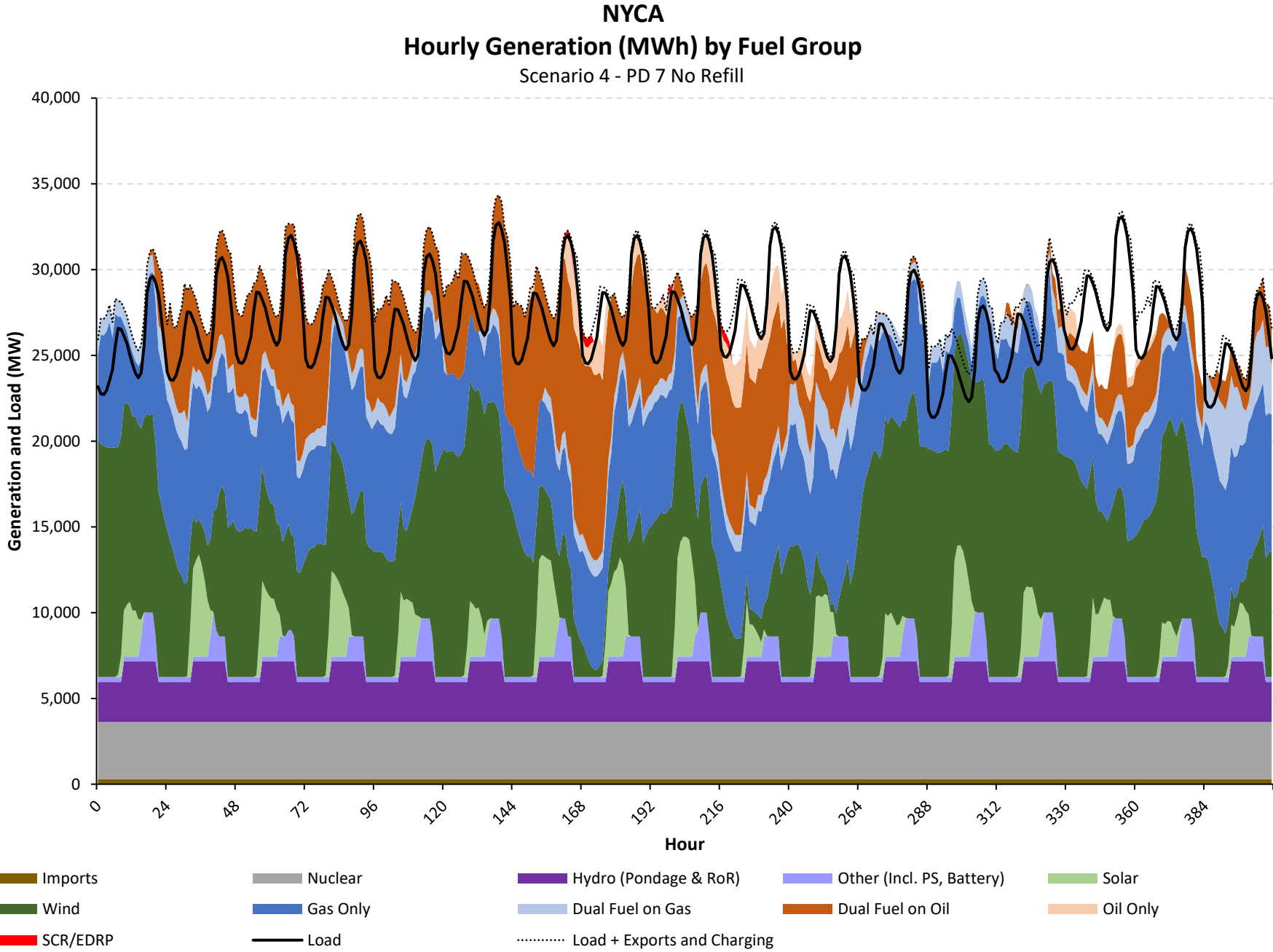
Loss of Load	
Total Hrs.	109
Total MWh	273,290
Avg. MW	669.8
First Hour with Losses	165

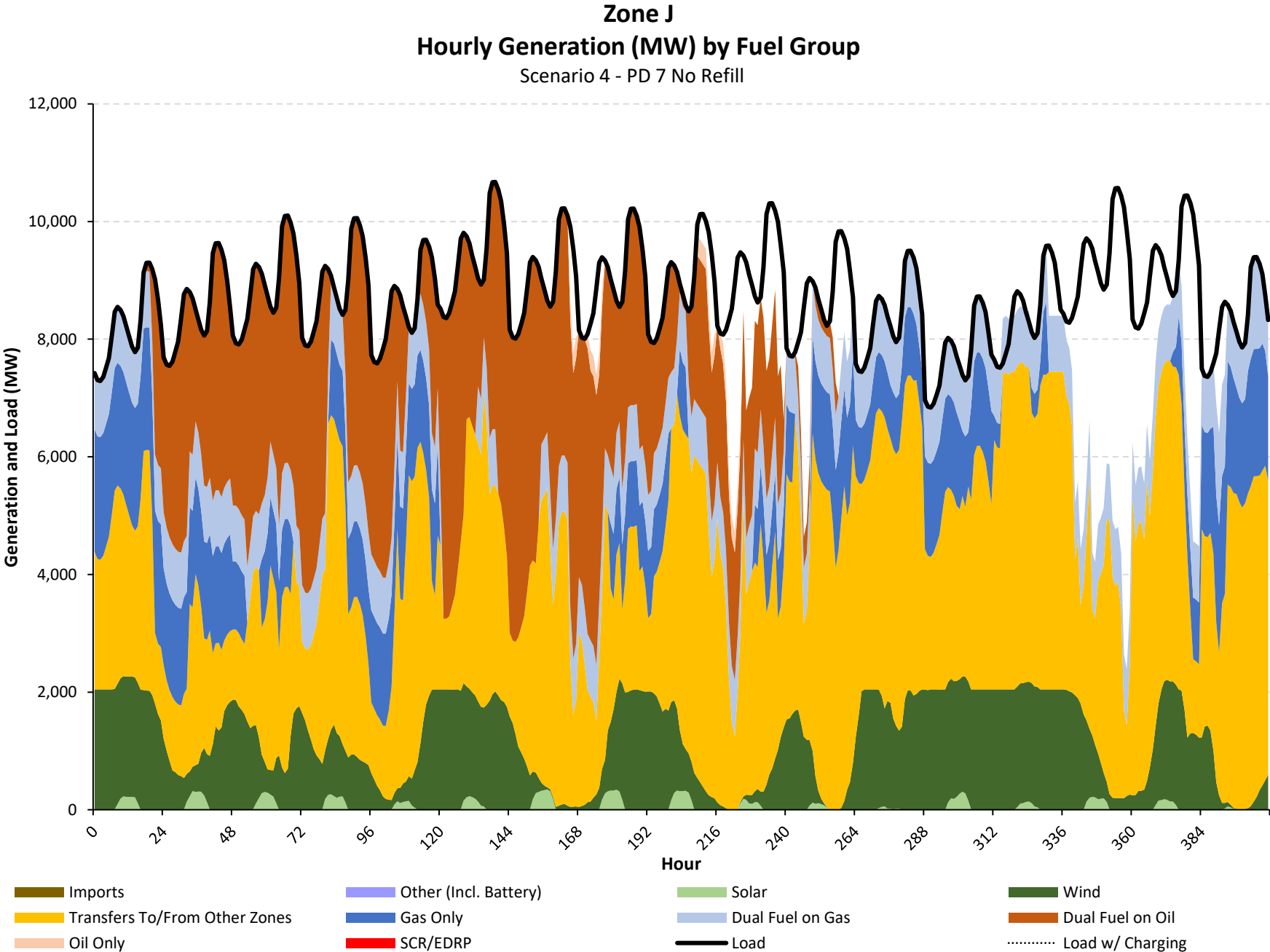
Full Period Results Summary

Case Name: Scenario 4 - PD 7 No Refill

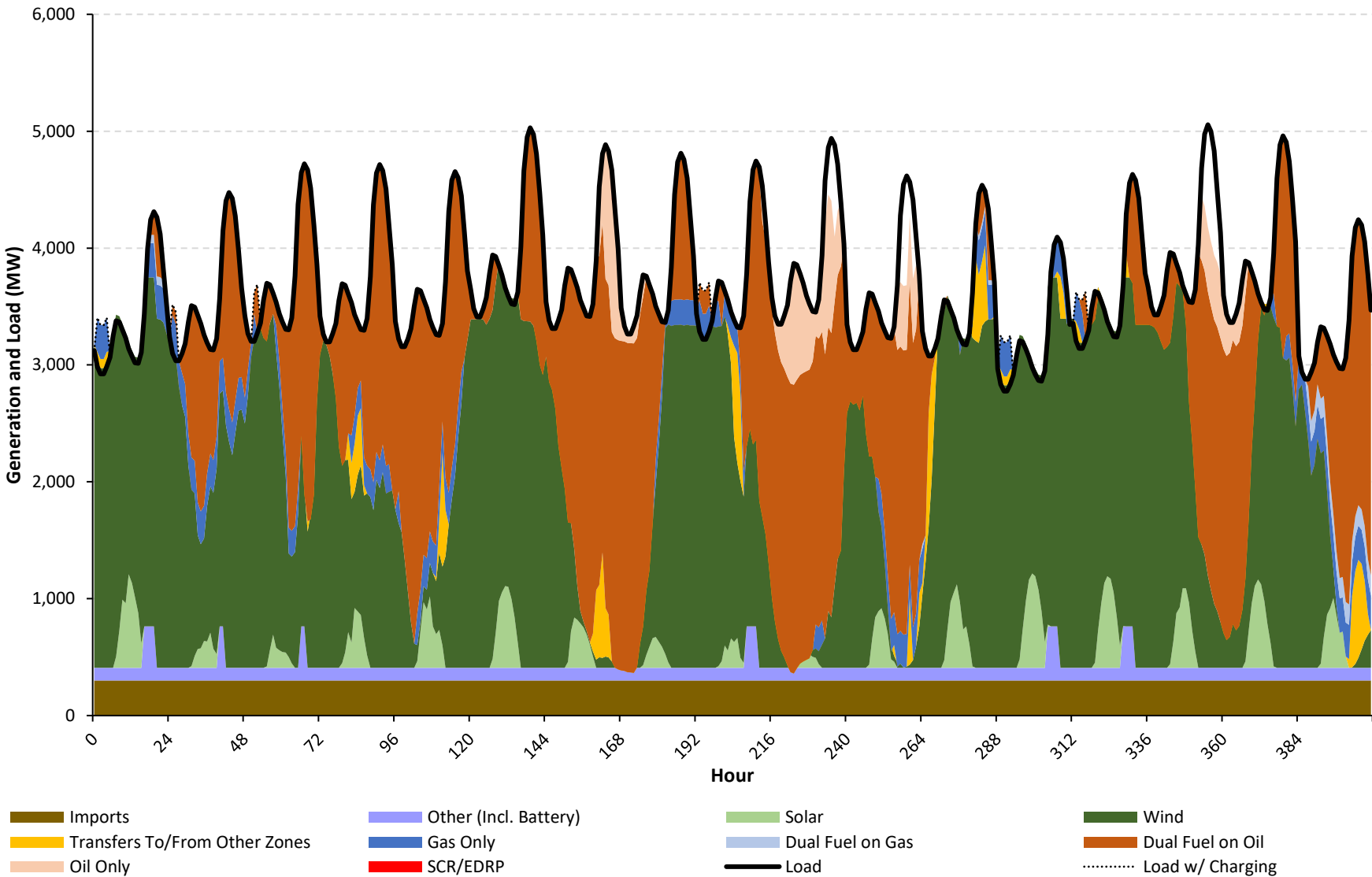
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



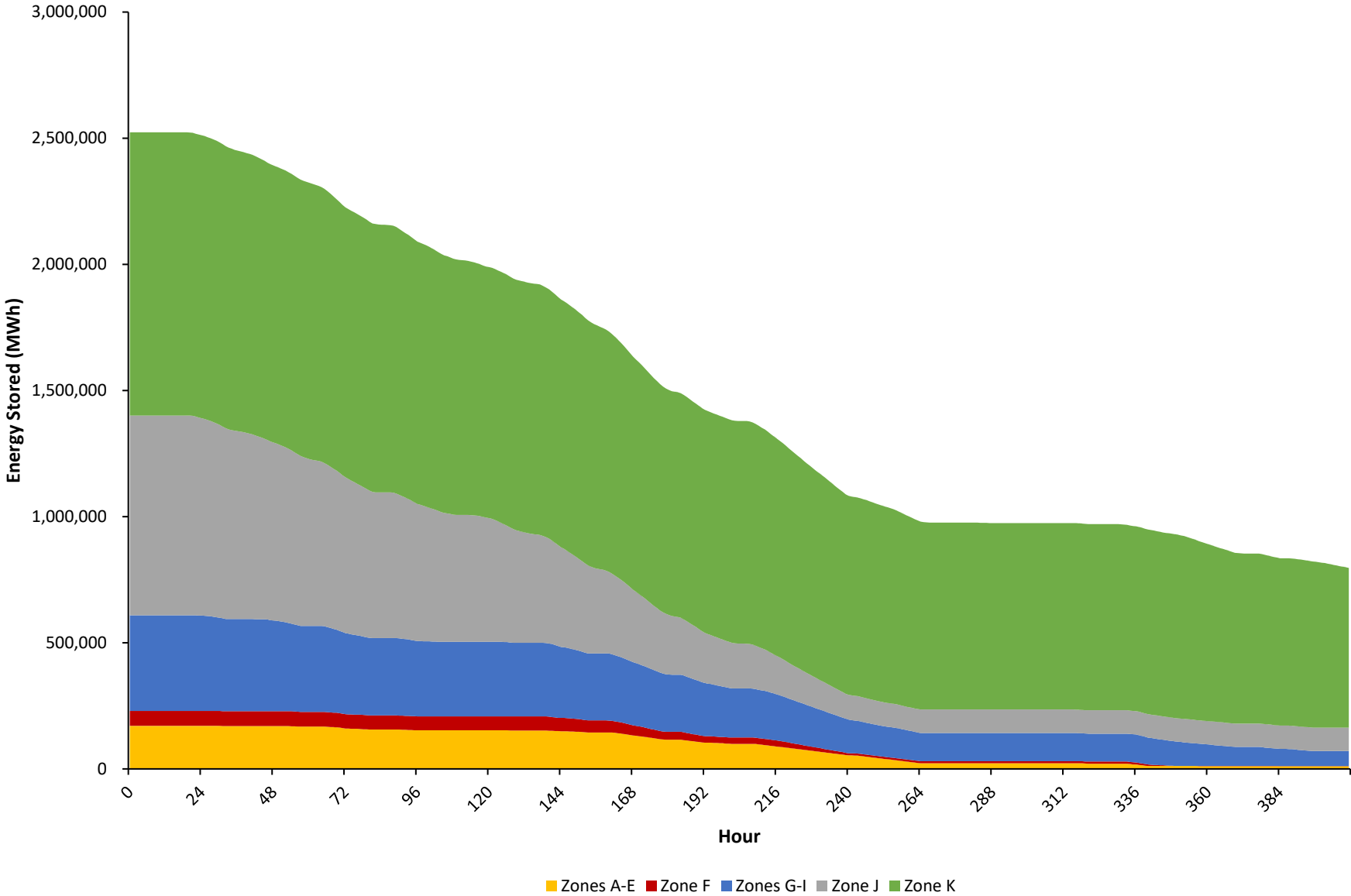


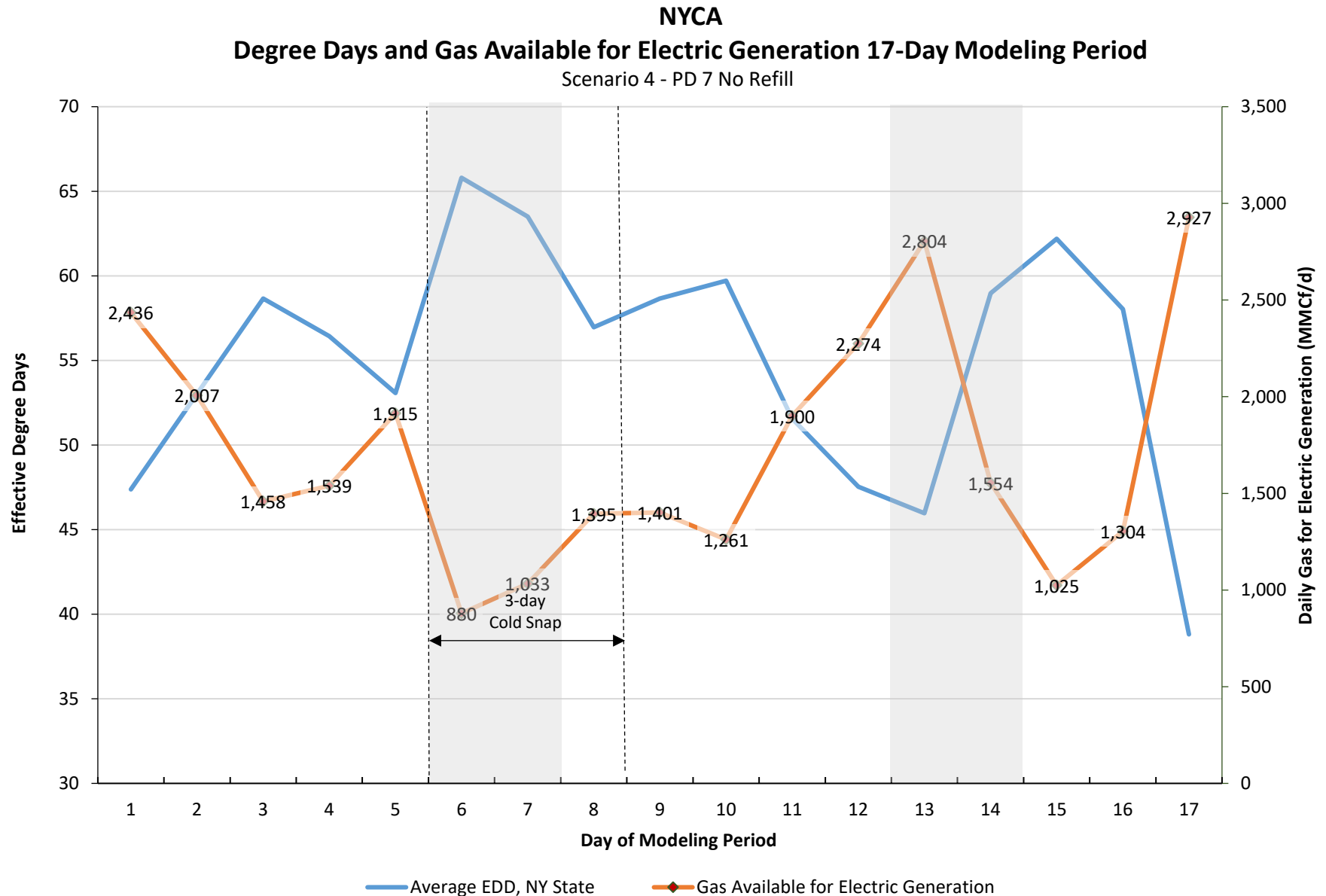


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 4 - PD 7 No Refill



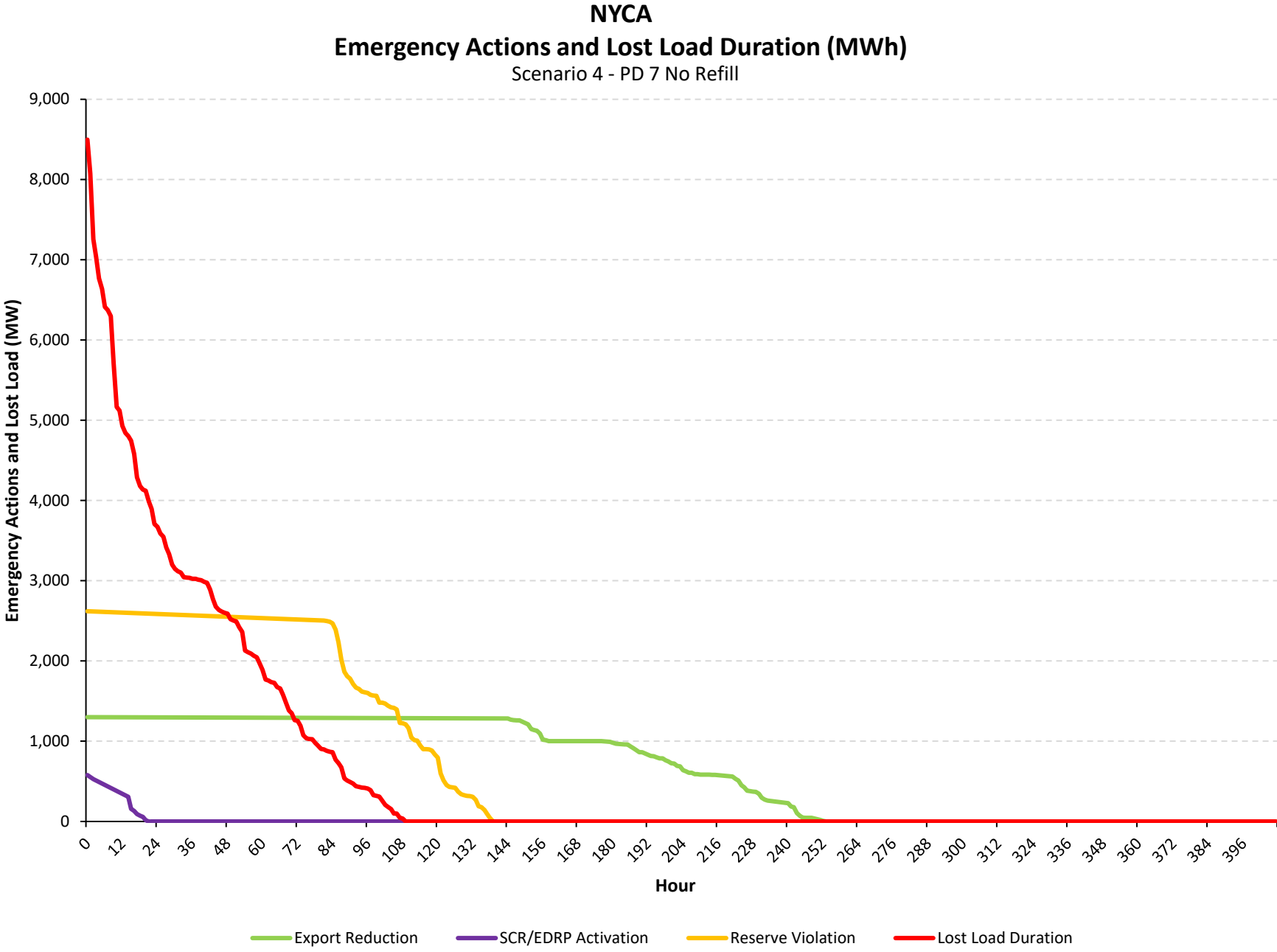
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 4 - PD 7 No Refill

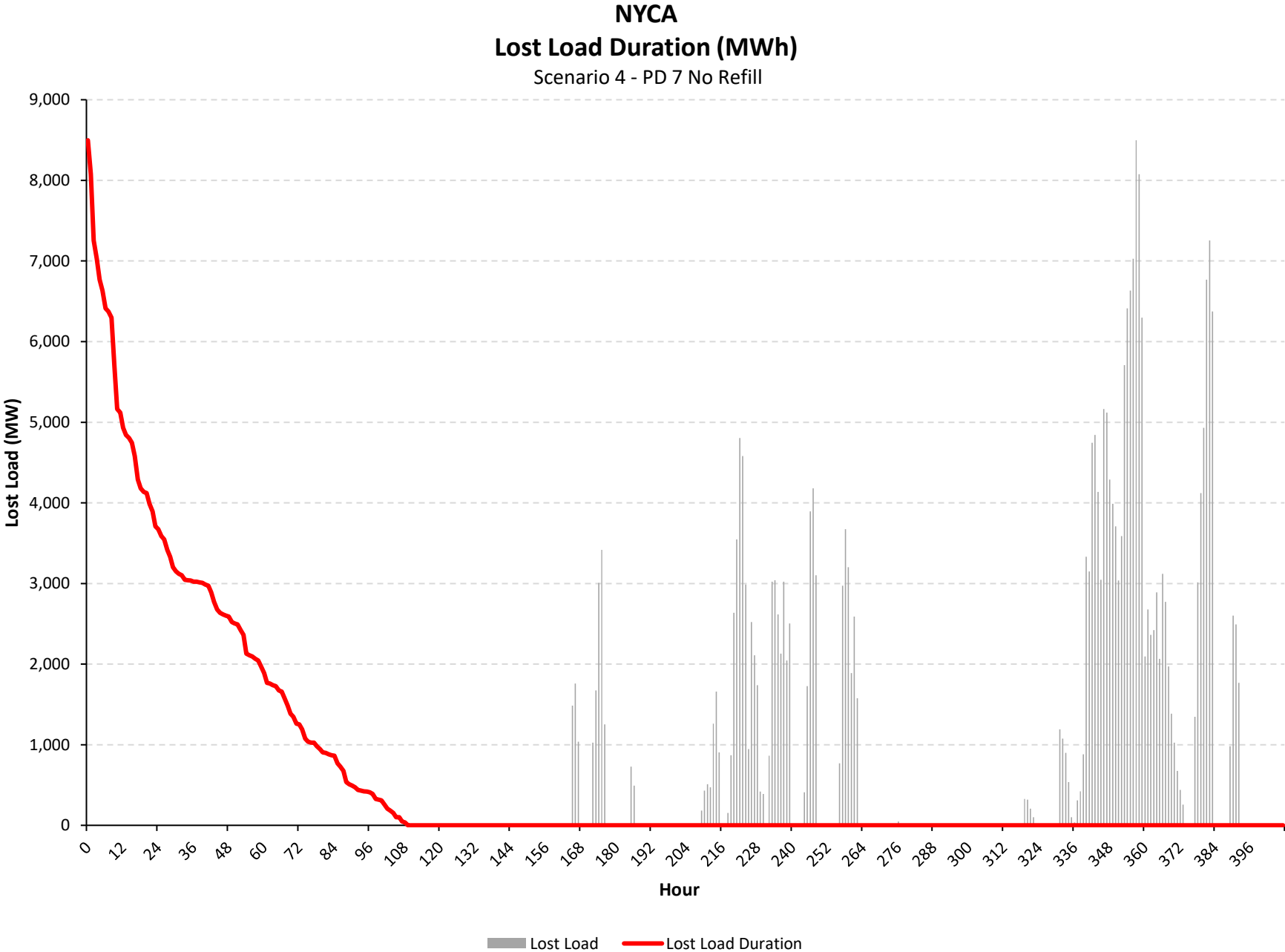




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



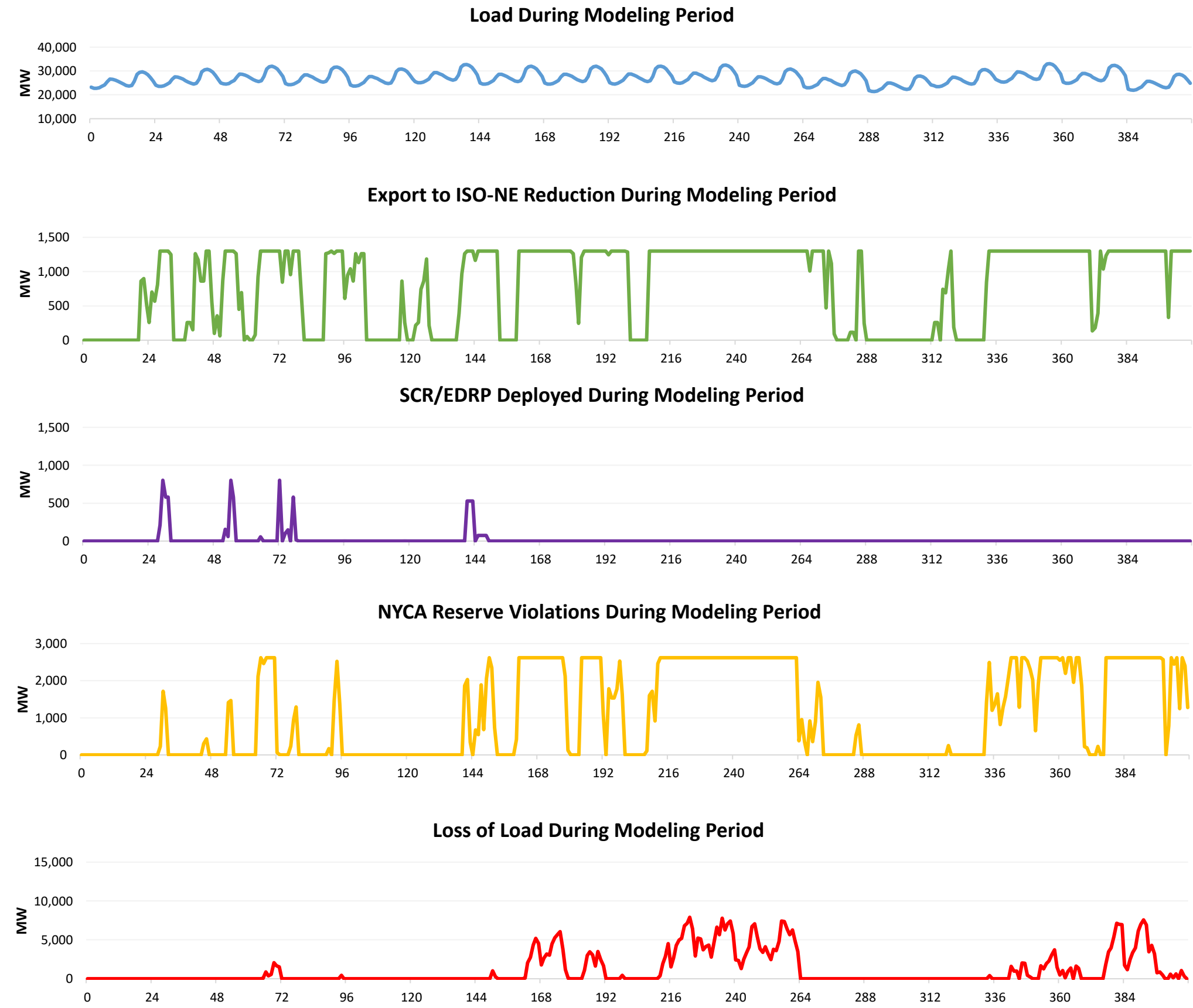


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 4 - PD 8 Non-Firm Gas Unavailable (F-K) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 4 - PD 8 Non-Firm Gas Unavailable (F-K)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	288
Total MWh	328,658
Avg. MW	805.5

SCR Deployment	
Total Hrs.	21
Total MWh	7,335
Avg. MW	18.0

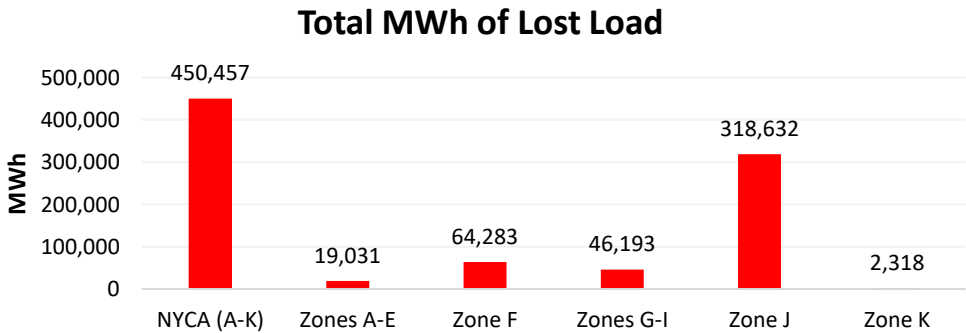
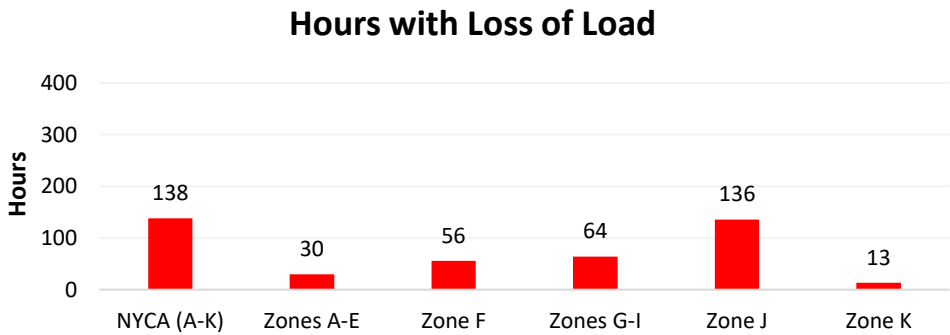
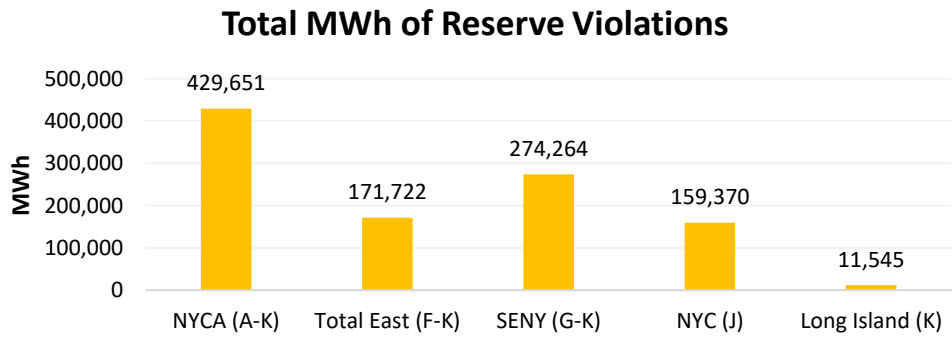
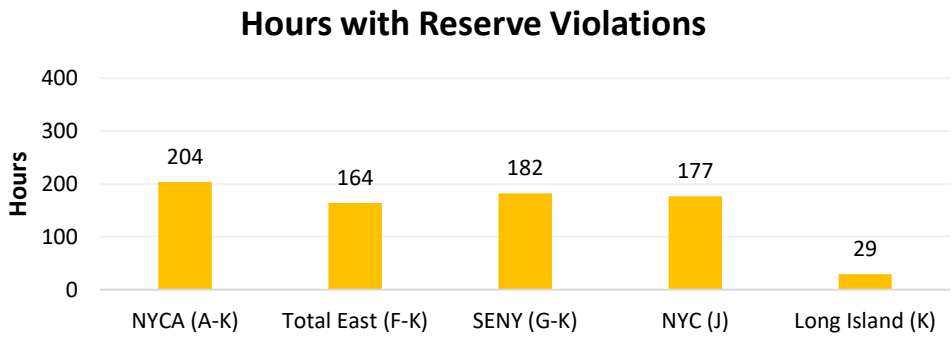
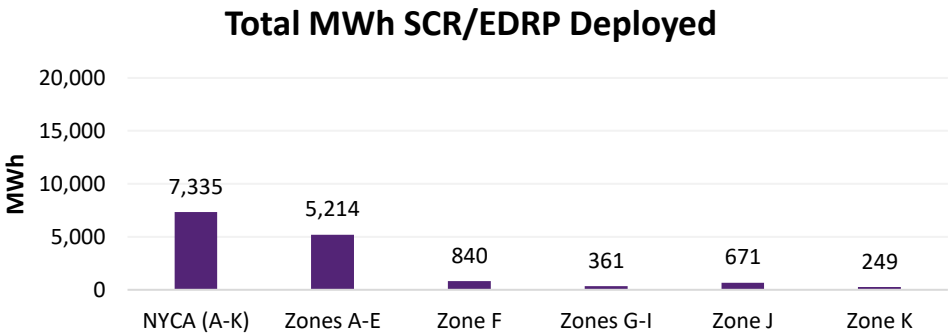
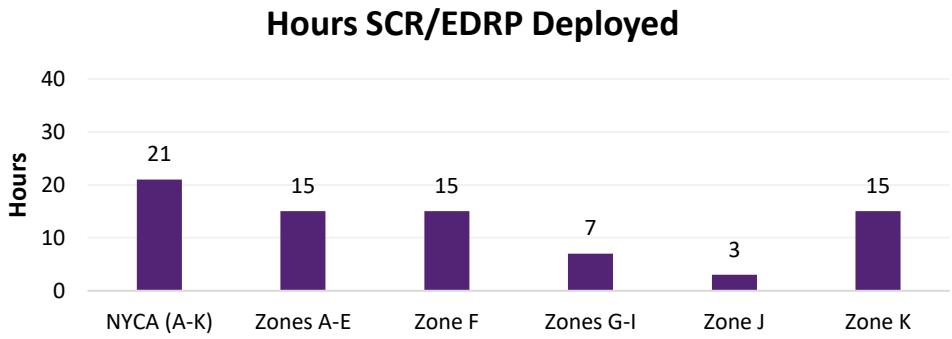
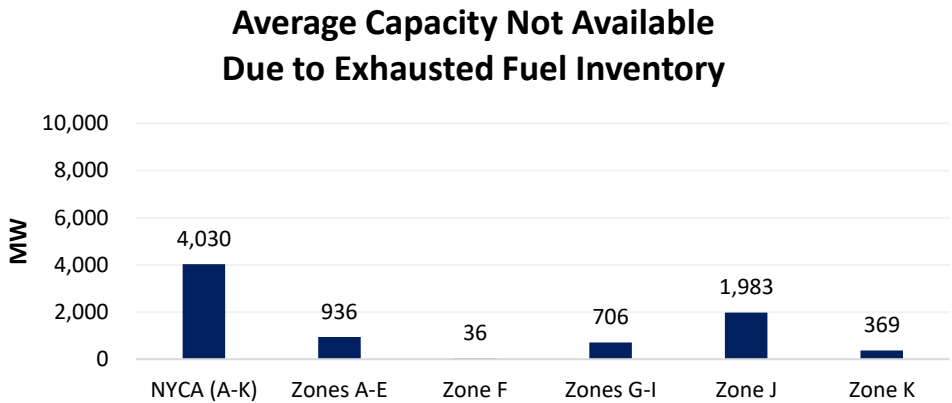
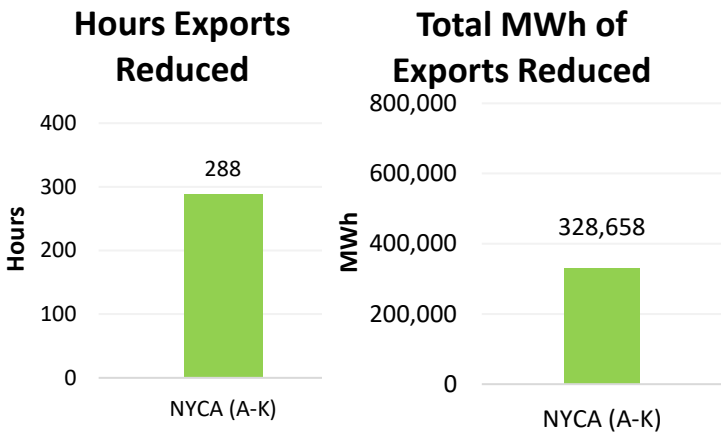
Reserve Violations	
Total Hrs.	204
Total MWh	429,651
Avg. MW	1,053.1
First Hour with Viol.	29

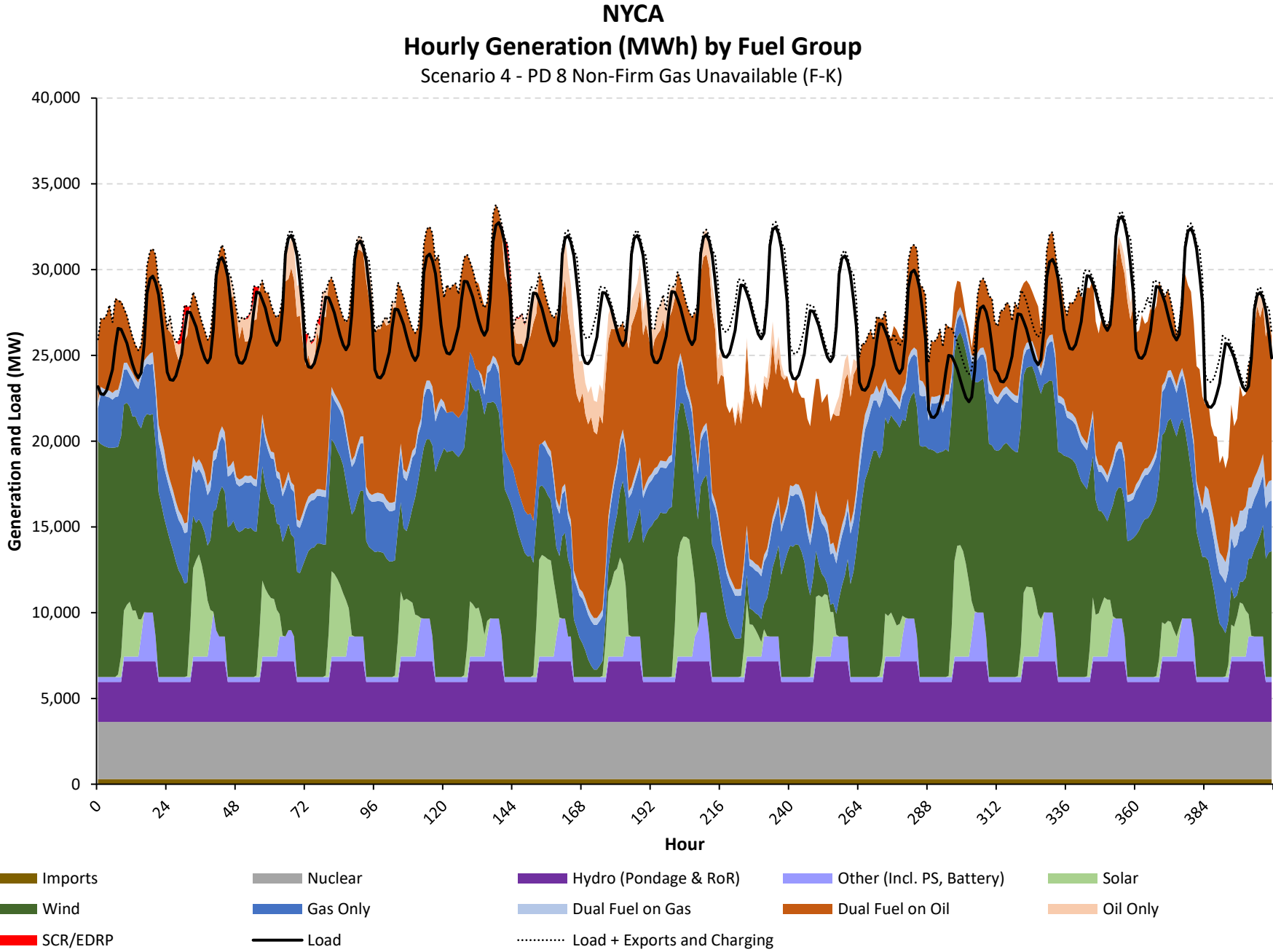
Loss of Load	
Total Hrs.	138
Total MWh	450,457
Avg. MW	1,104.1
First Hour with Losses	65

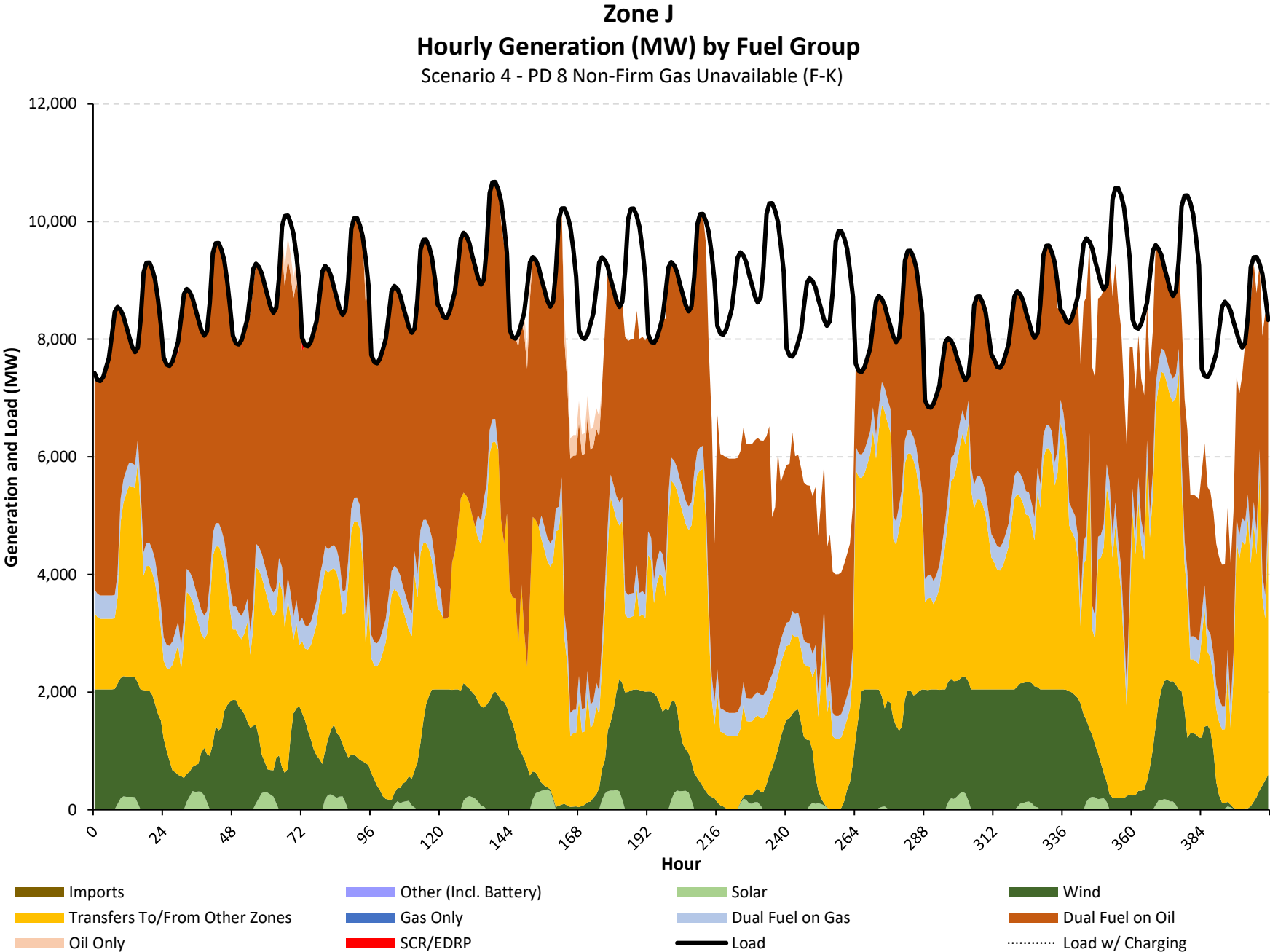
Full Period Results Summary

Case Name: Scenario 4 - PD 8 Non-Firm Gas Unavailable (F-K)

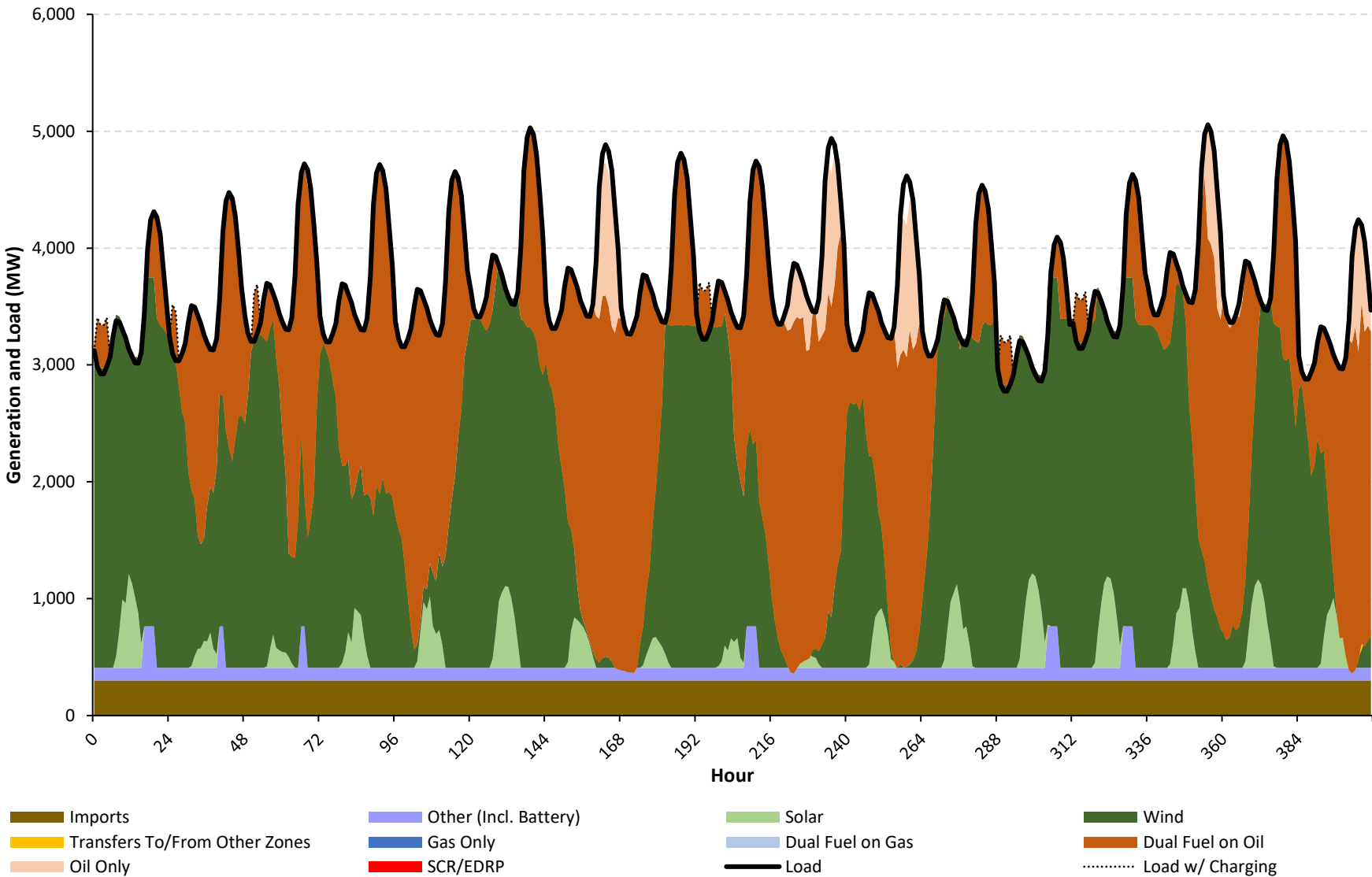
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

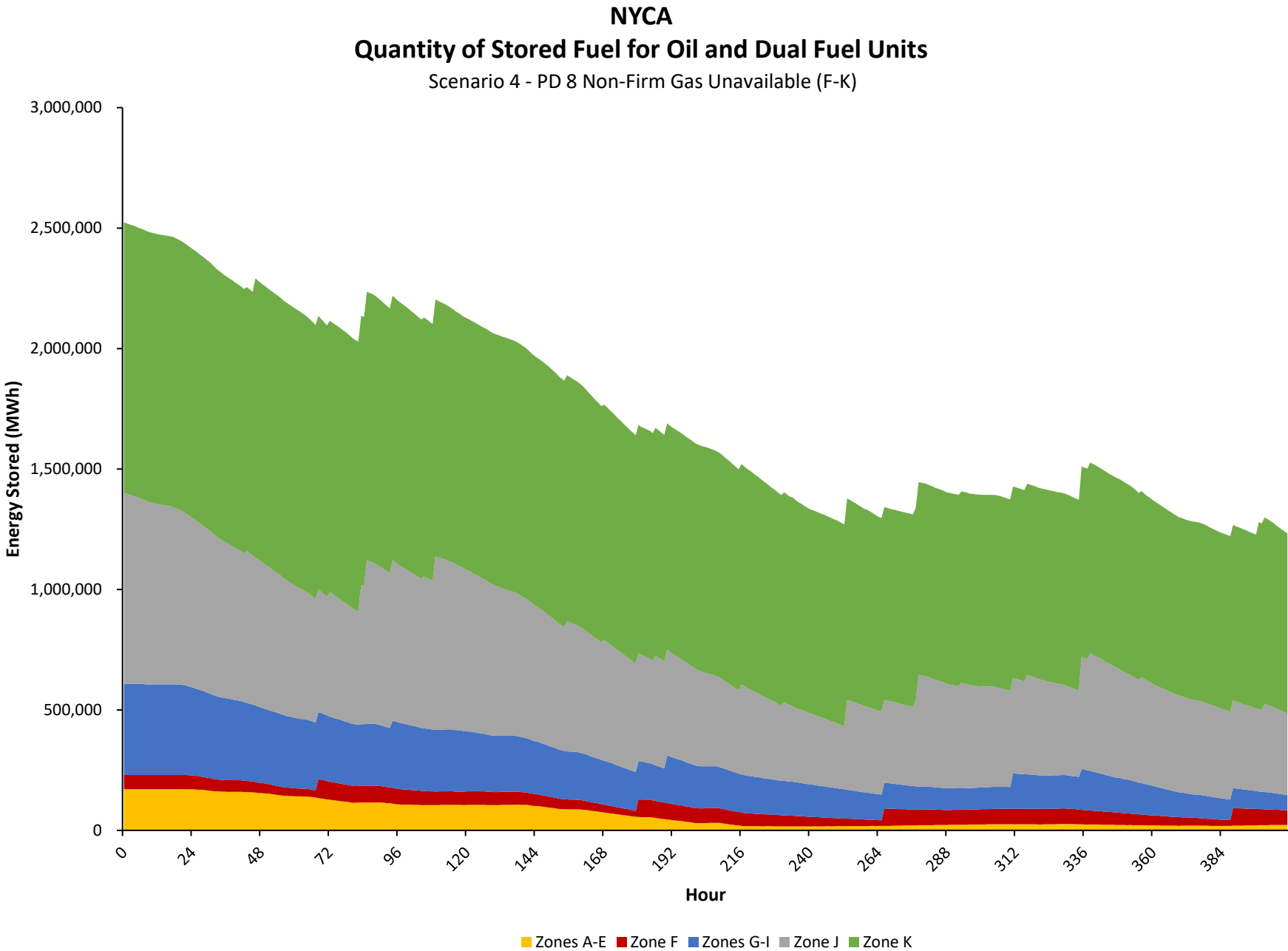


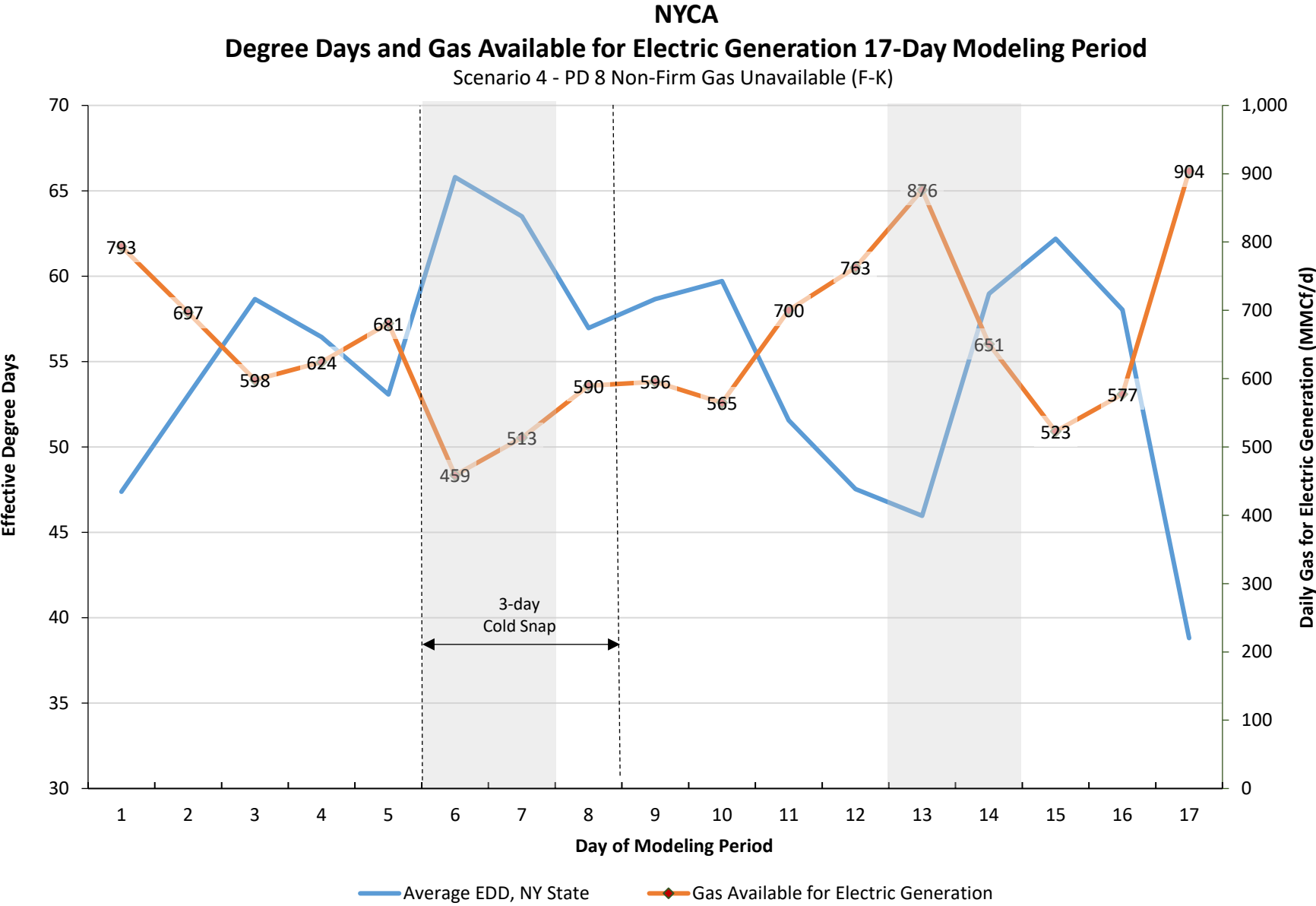




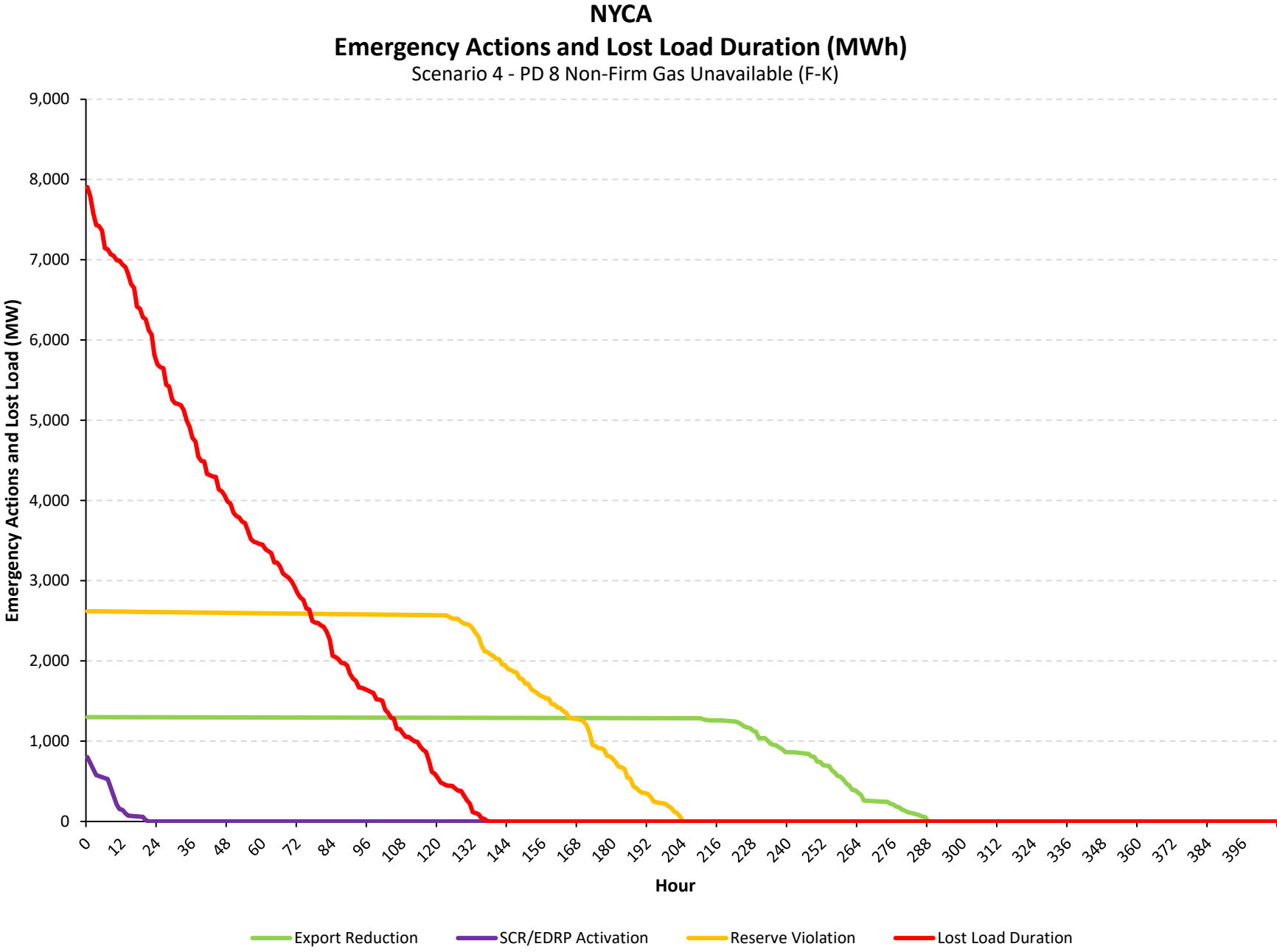
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 4 - PD 8 Non-Firm Gas Unavailable (F-K)

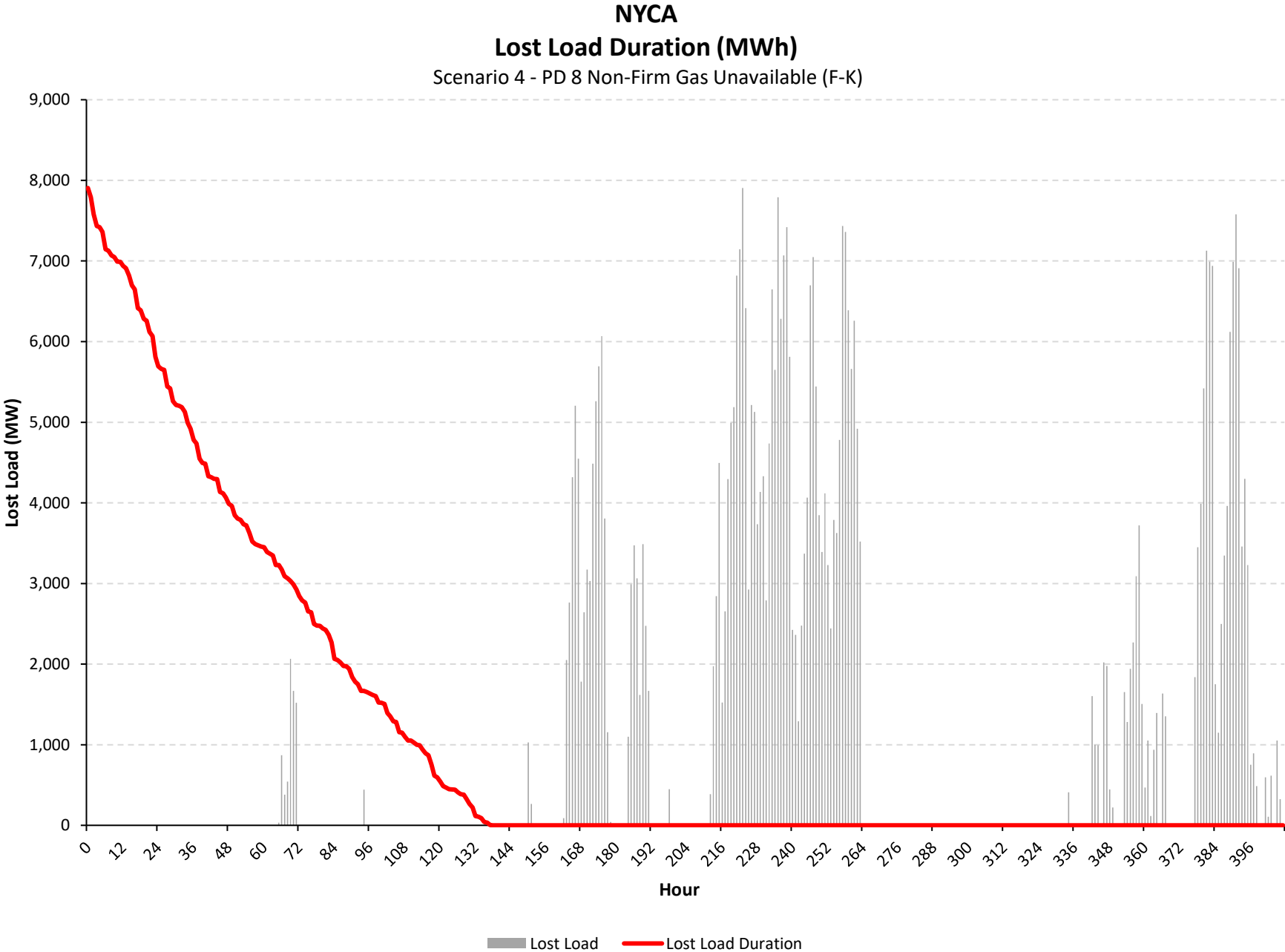






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



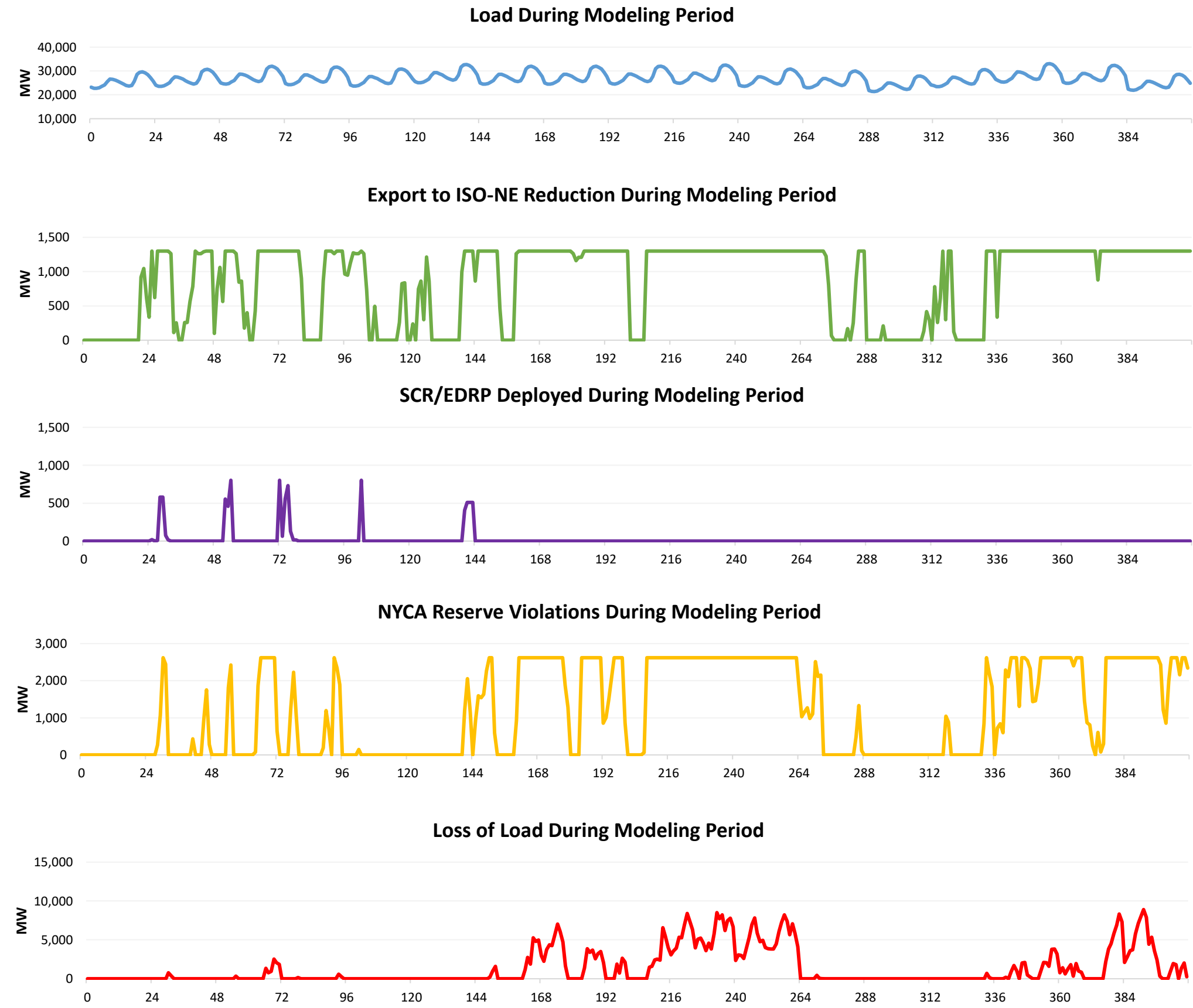


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 4 - PD 9 Non-Firm Gas Unavailable (NYCA) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 4 - PD 9 Non-Firm Gas Unavailable (NYCA)



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	303
Total MWh	353,550
Avg. MW	866.5

SCR Deployment	
Total Hrs.	21
Total MWh	8,141
Avg. MW	20.0

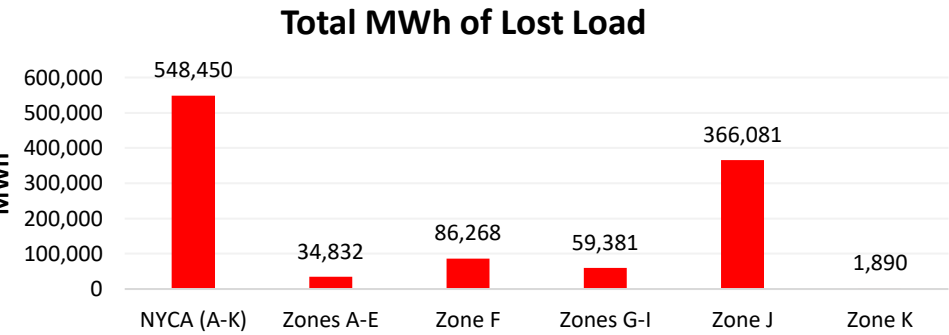
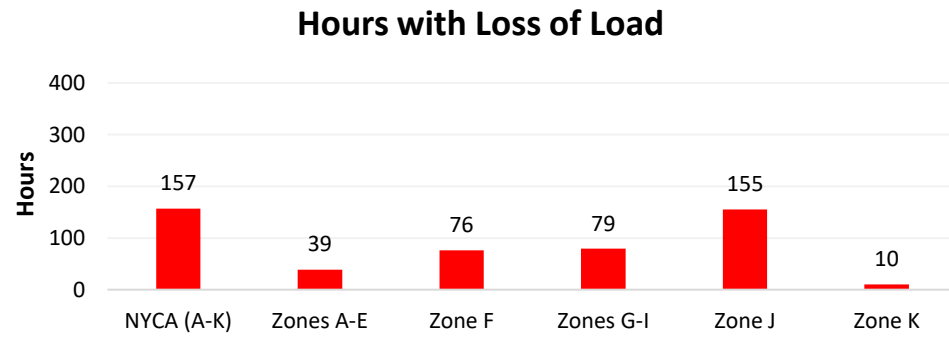
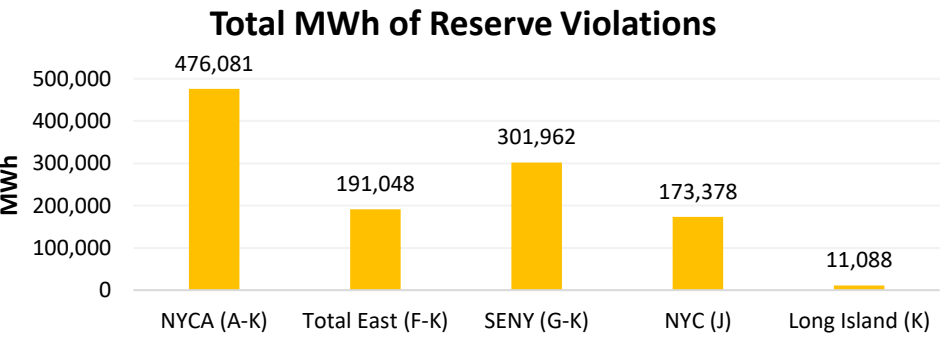
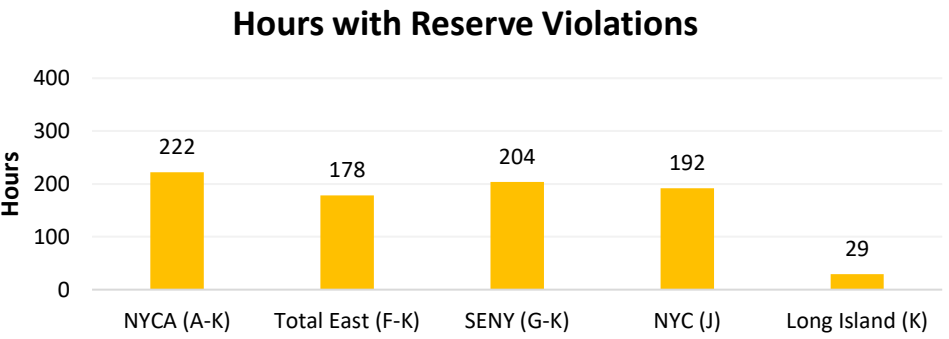
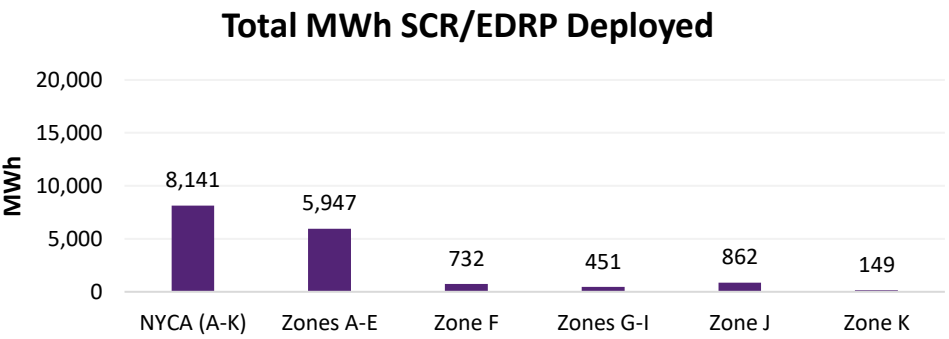
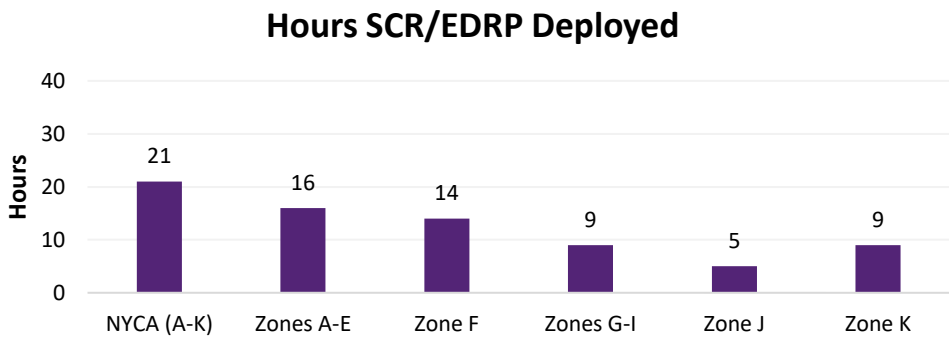
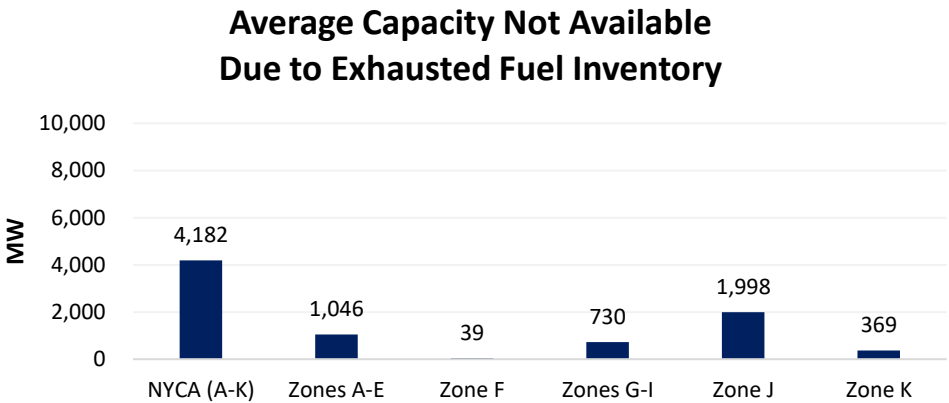
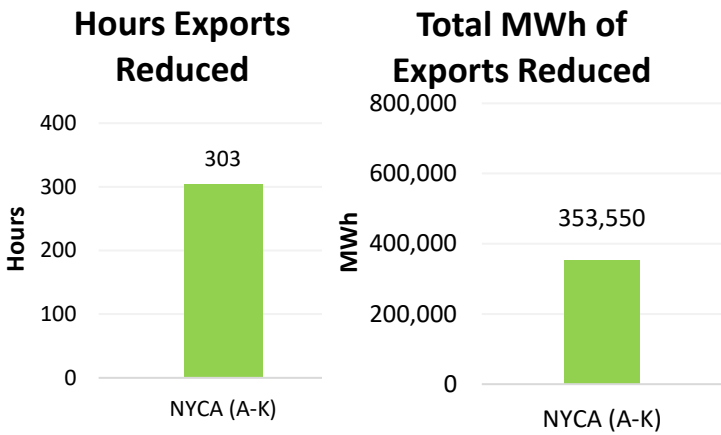
Reserve Violations	
Total Hrs.	222
Total MWh	476,081
Avg. MW	1,166.9
First Hour with Viol.	28

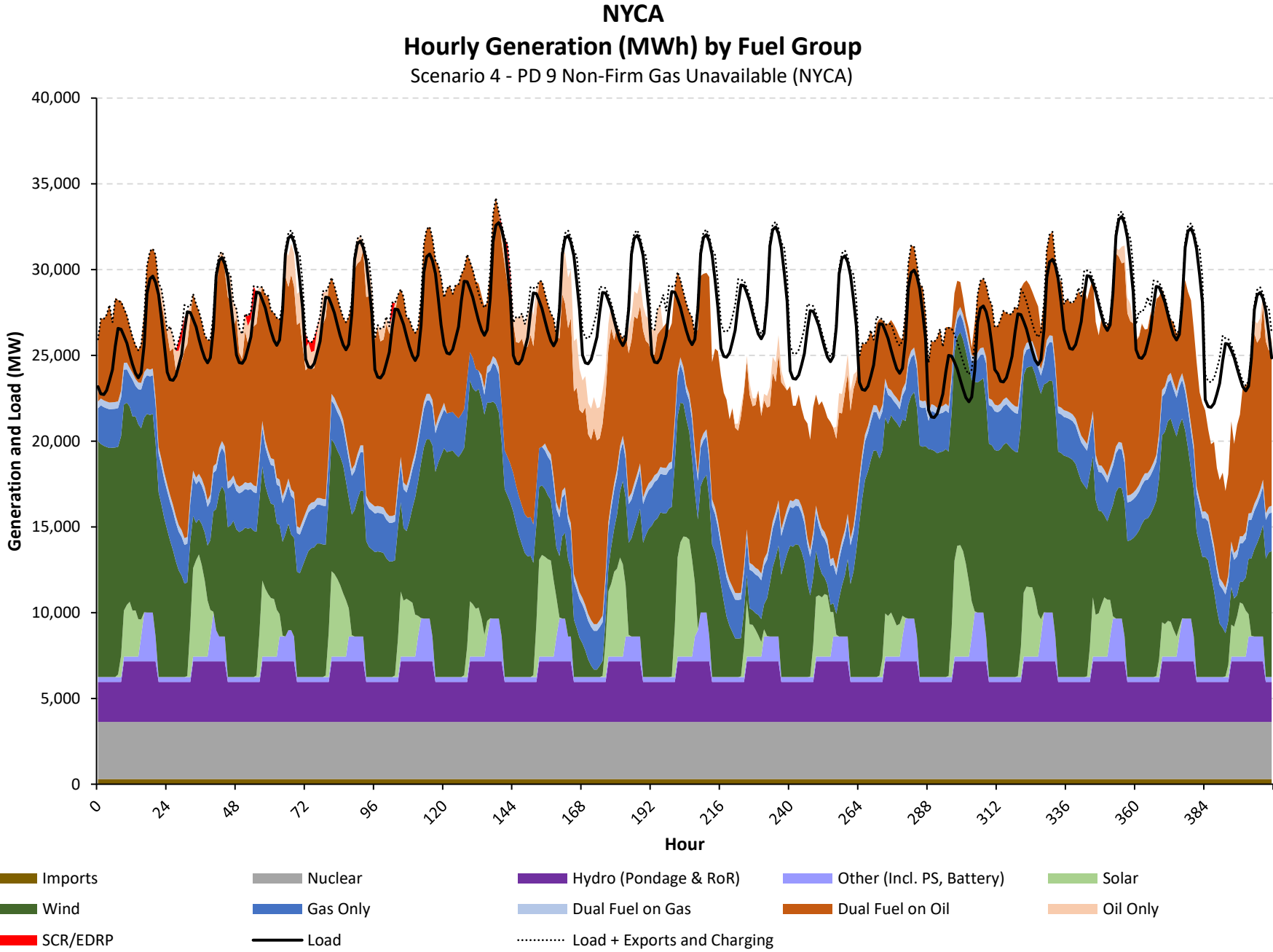
Loss of Load	
Total Hrs.	157
Total MWh	548,450
Avg. MW	1,344.2
First Hour with Losses	30

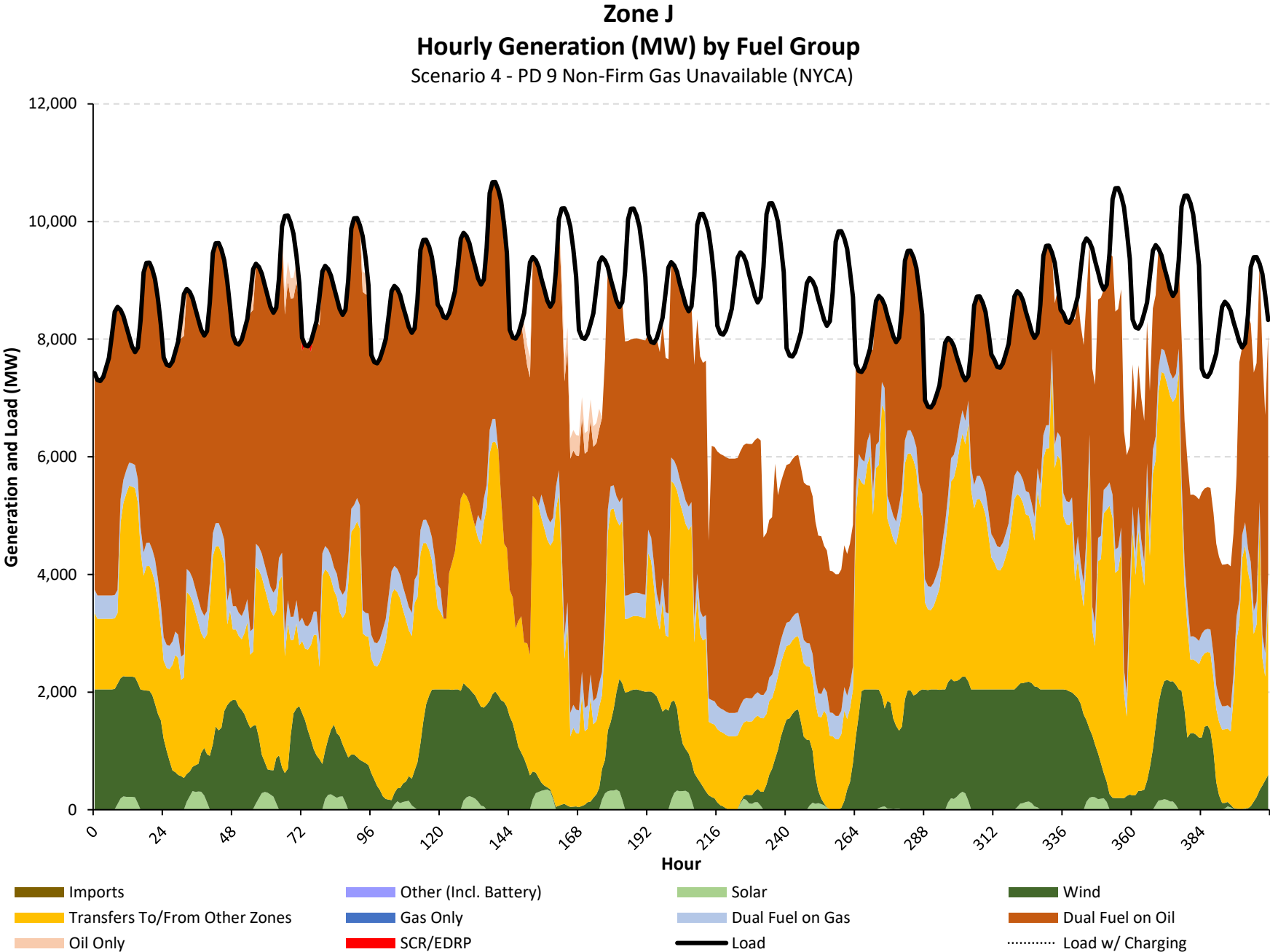
Full Period Results Summary

Case Name: Scenario 4 - PD 9 Non-Firm Gas Unavailable (NYCA)

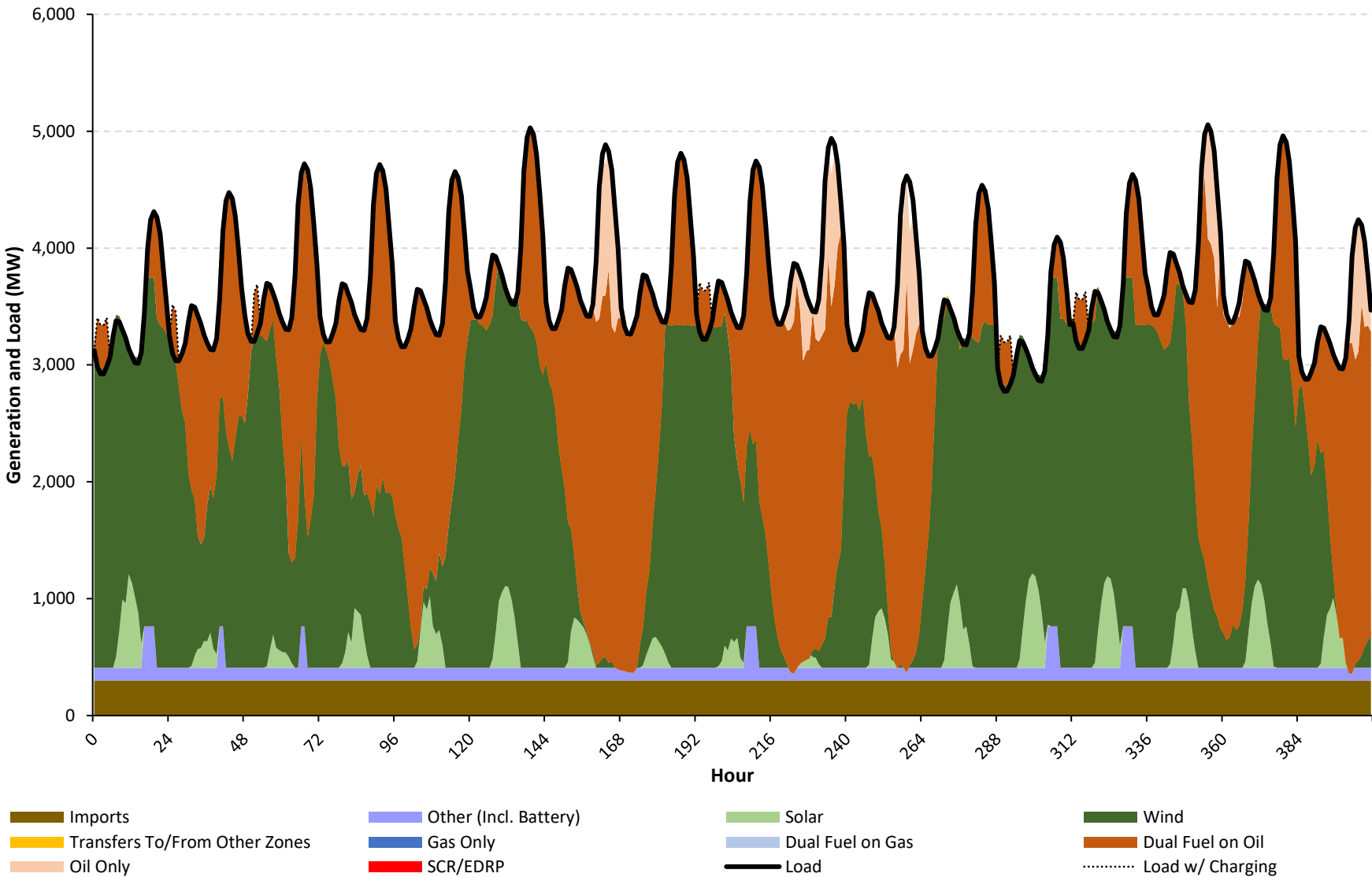
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

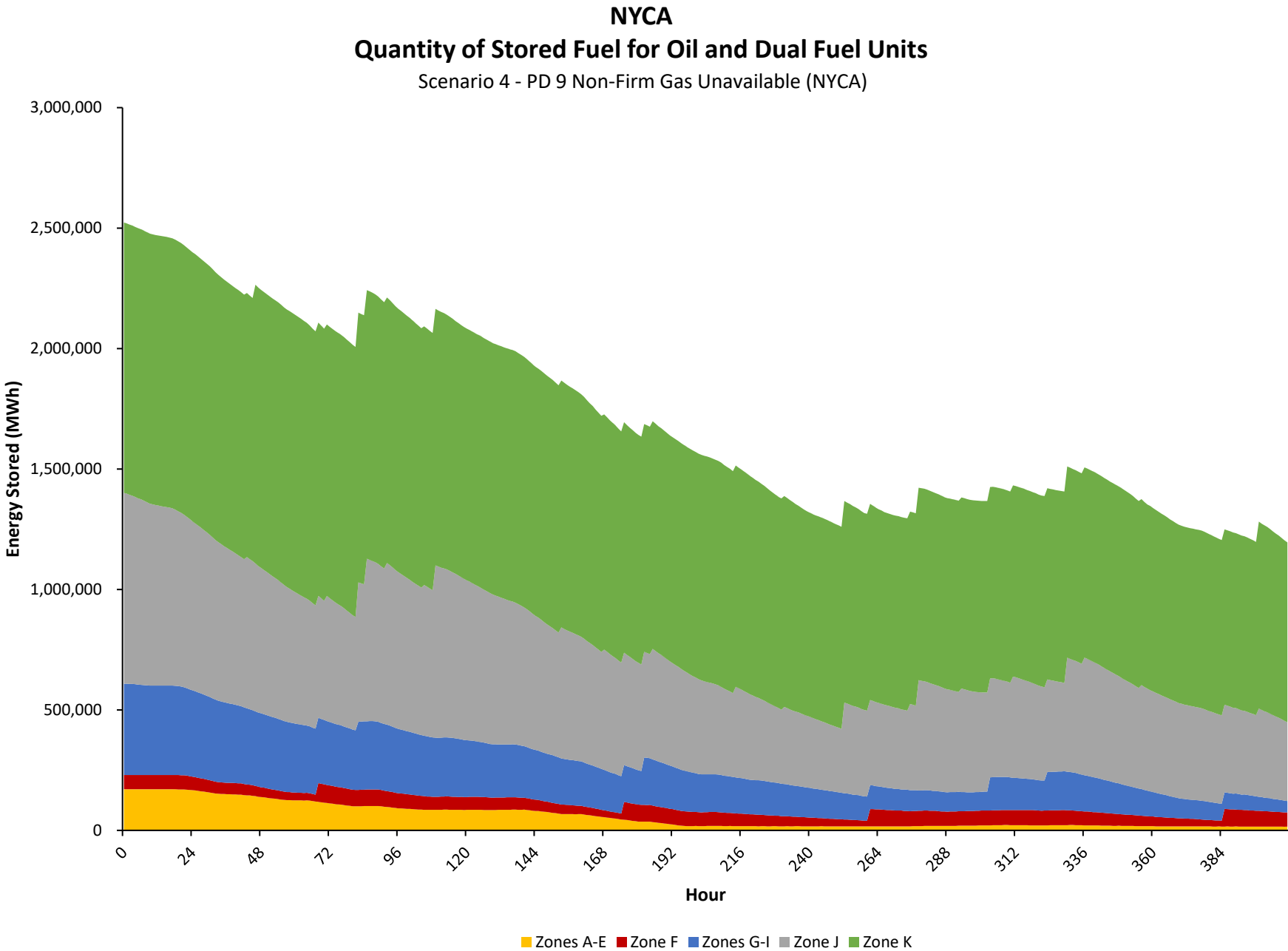


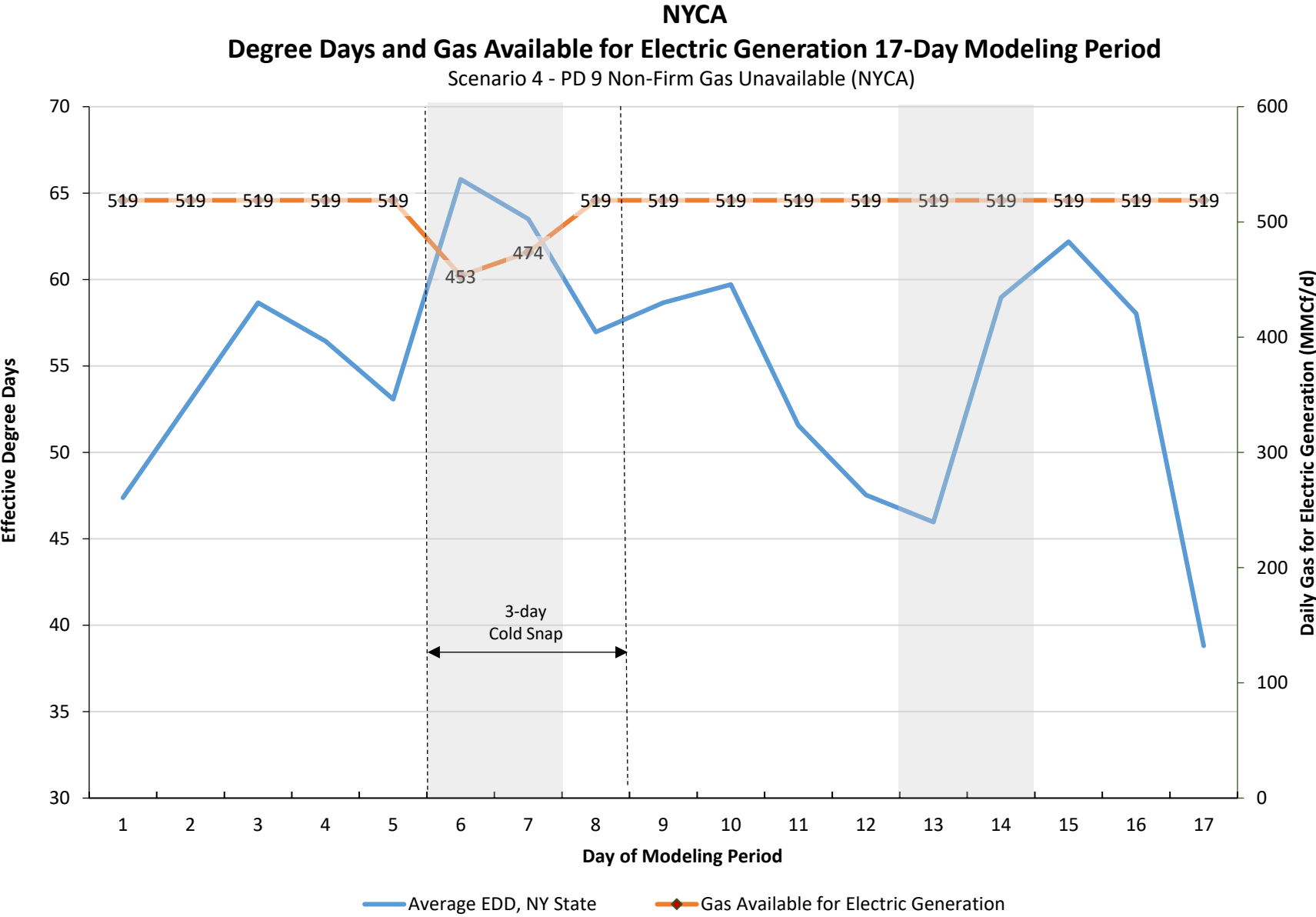




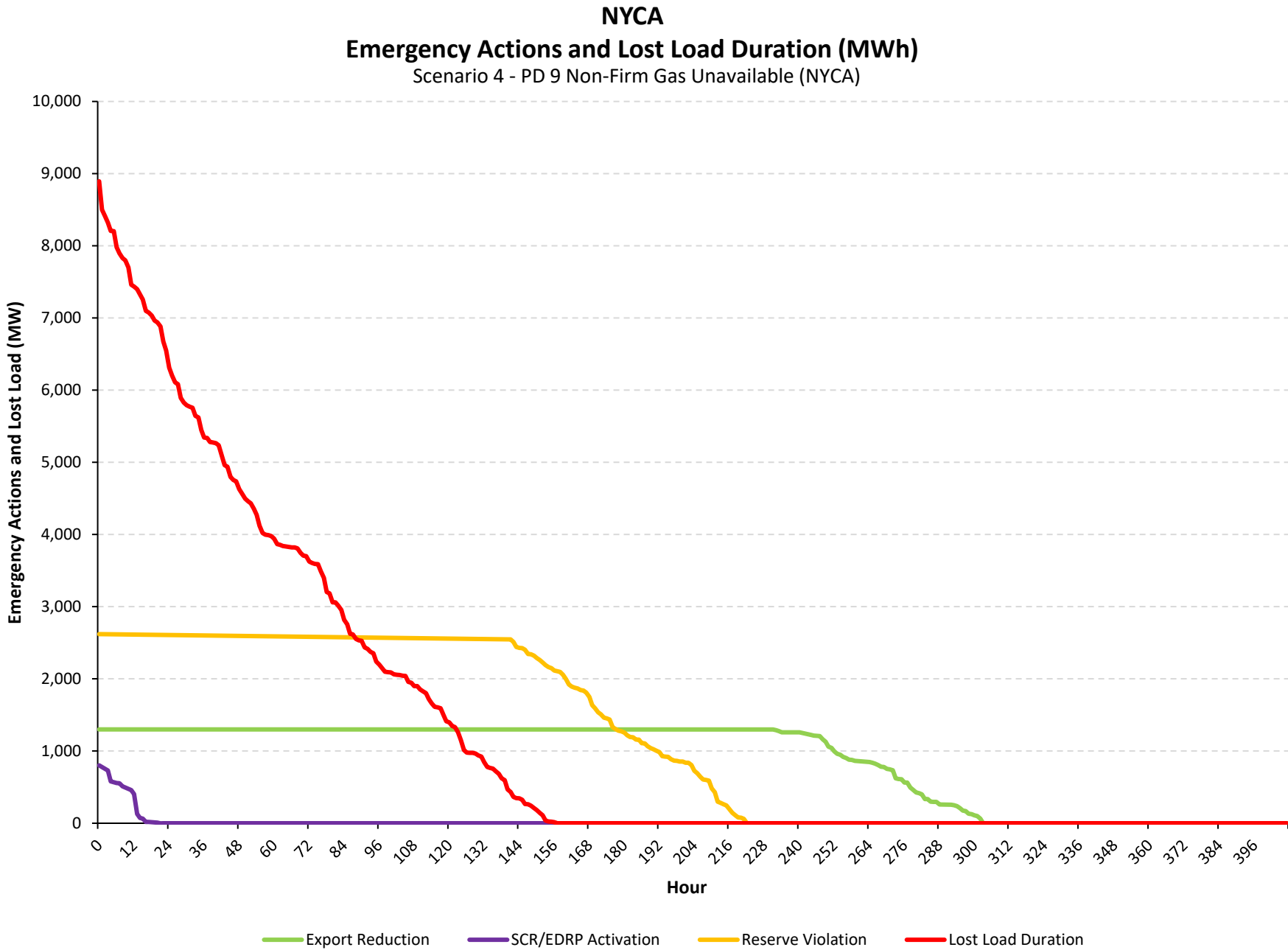
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 4 - PD 9 Non-Firm Gas Unavailable (NYCA)

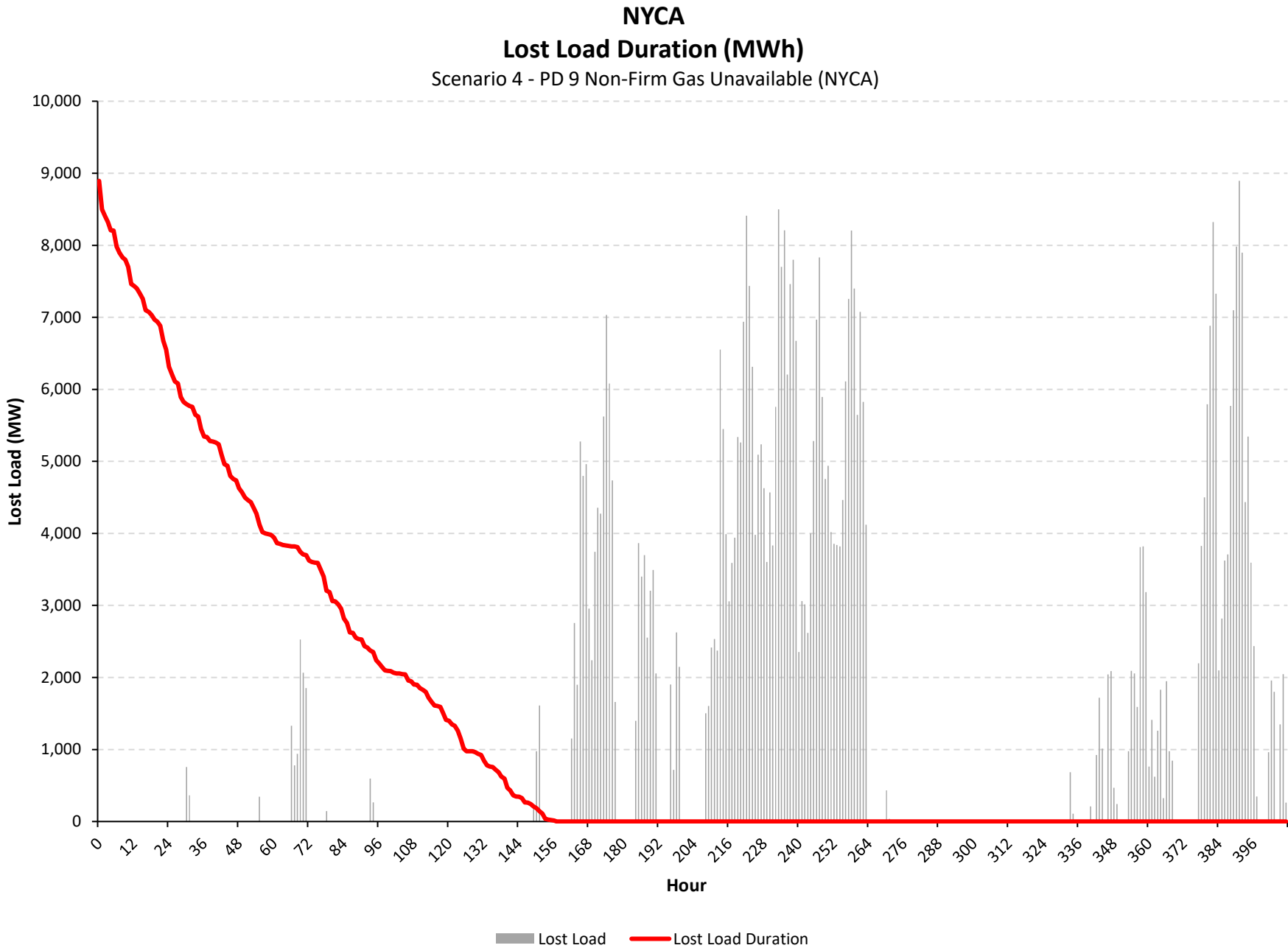






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



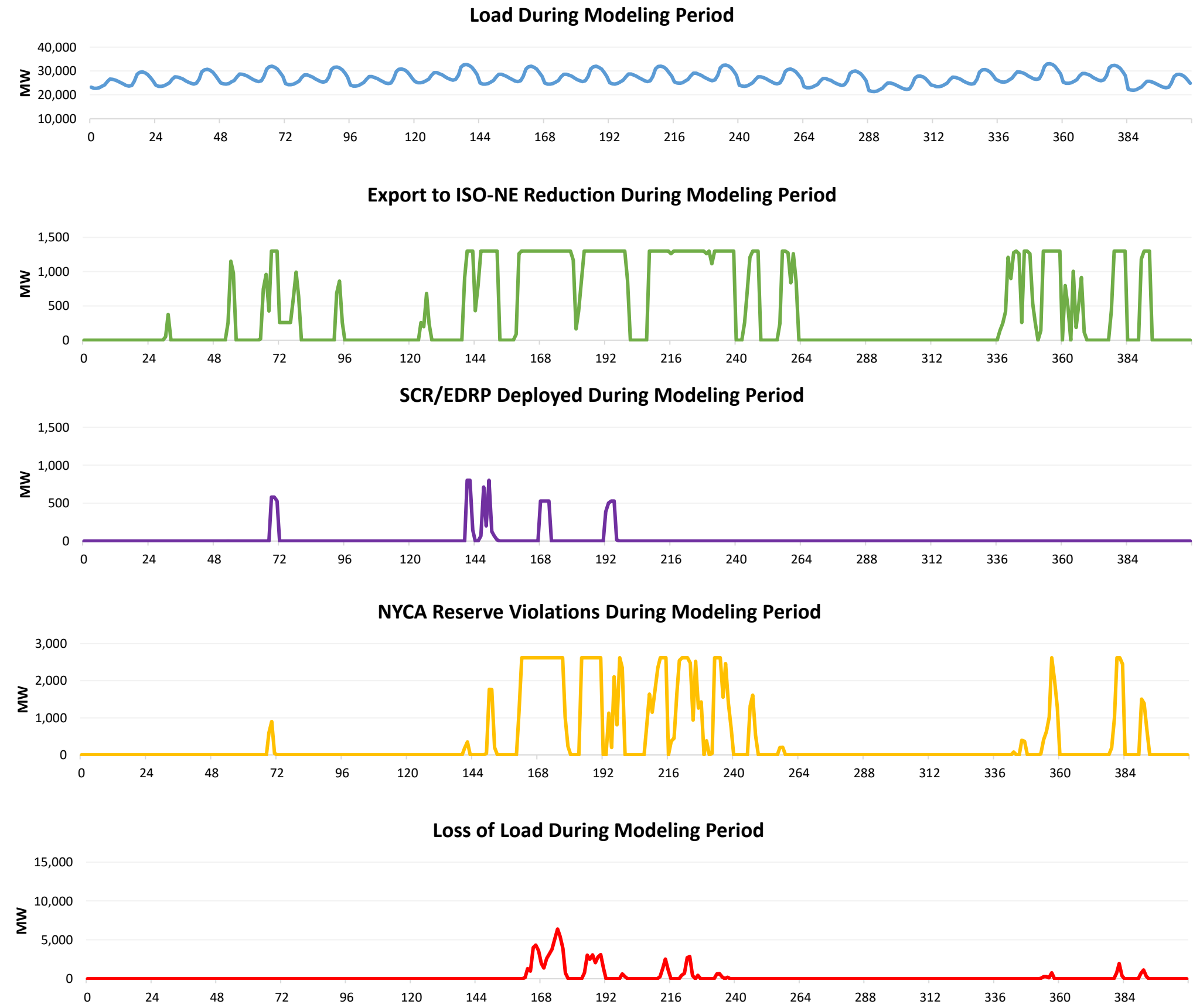


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 4 - PD 10 Non-Firm Gas Unavailable (4 days) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 4 - PD 10 Non-Firm Gas Unavailable (4 days)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	166
Total MWh	172,497
Avg. MW	422.8

SCR Deployment	
Total Hrs.	22
Total MWh	9,491
Avg. MW	23.3

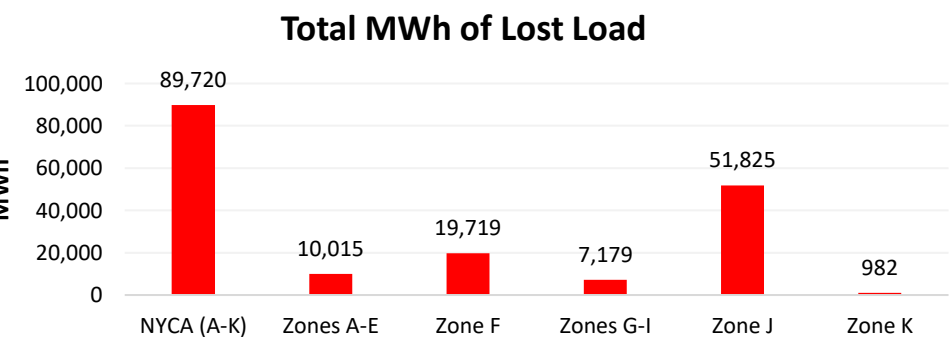
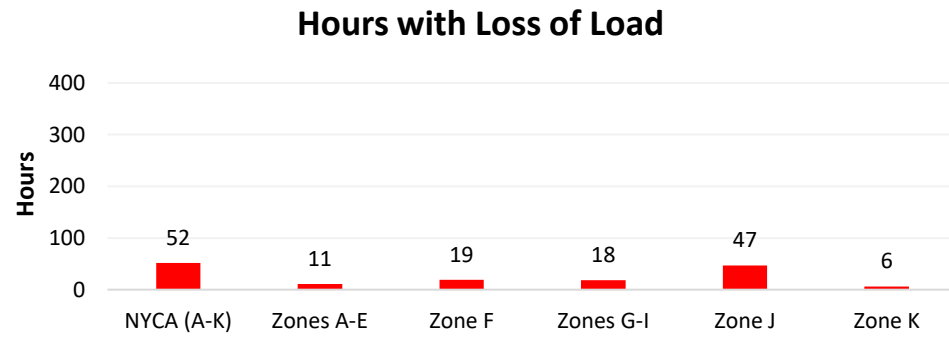
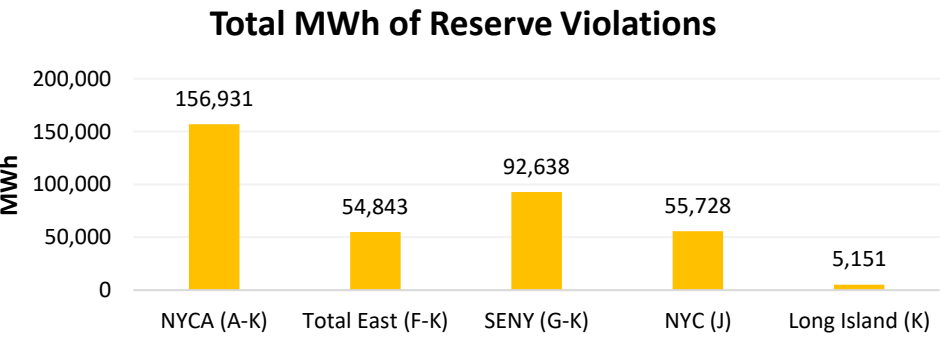
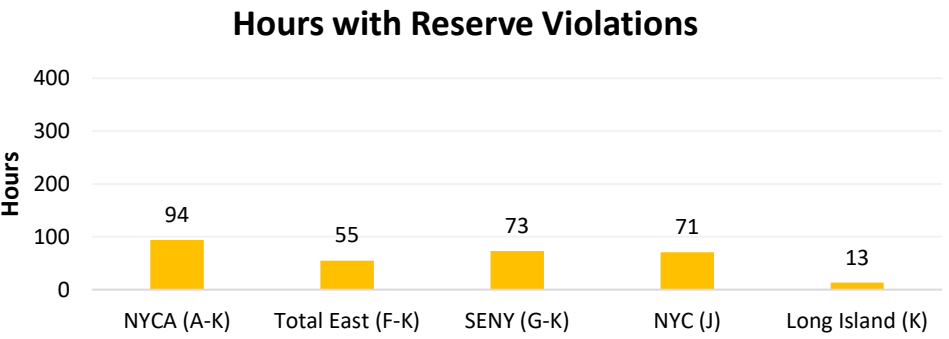
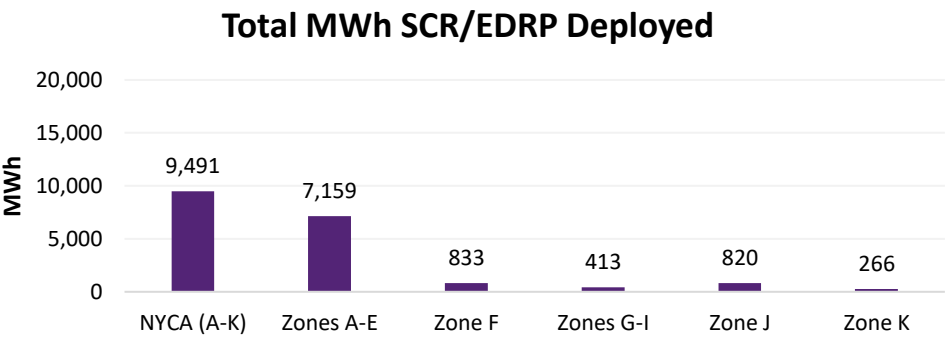
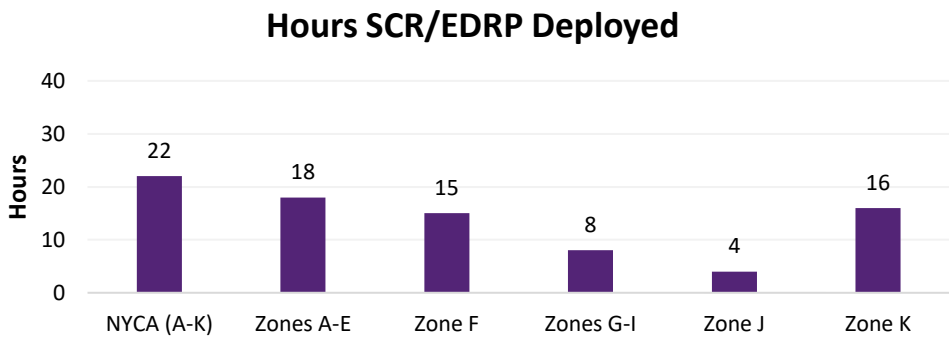
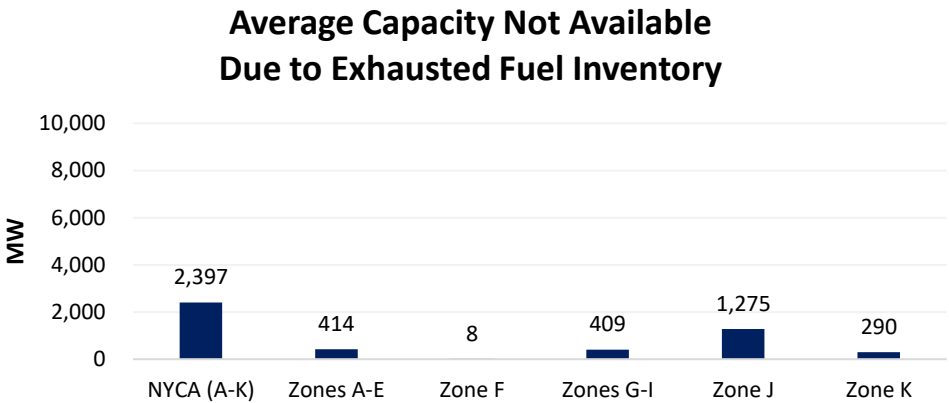
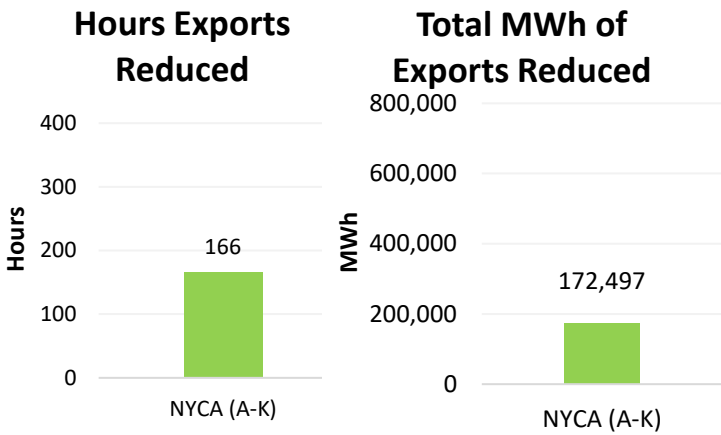
Reserve Violations	
Total Hrs.	94
Total MWh	156,931
Avg. MW	384.6
First Hour with Viol.	69

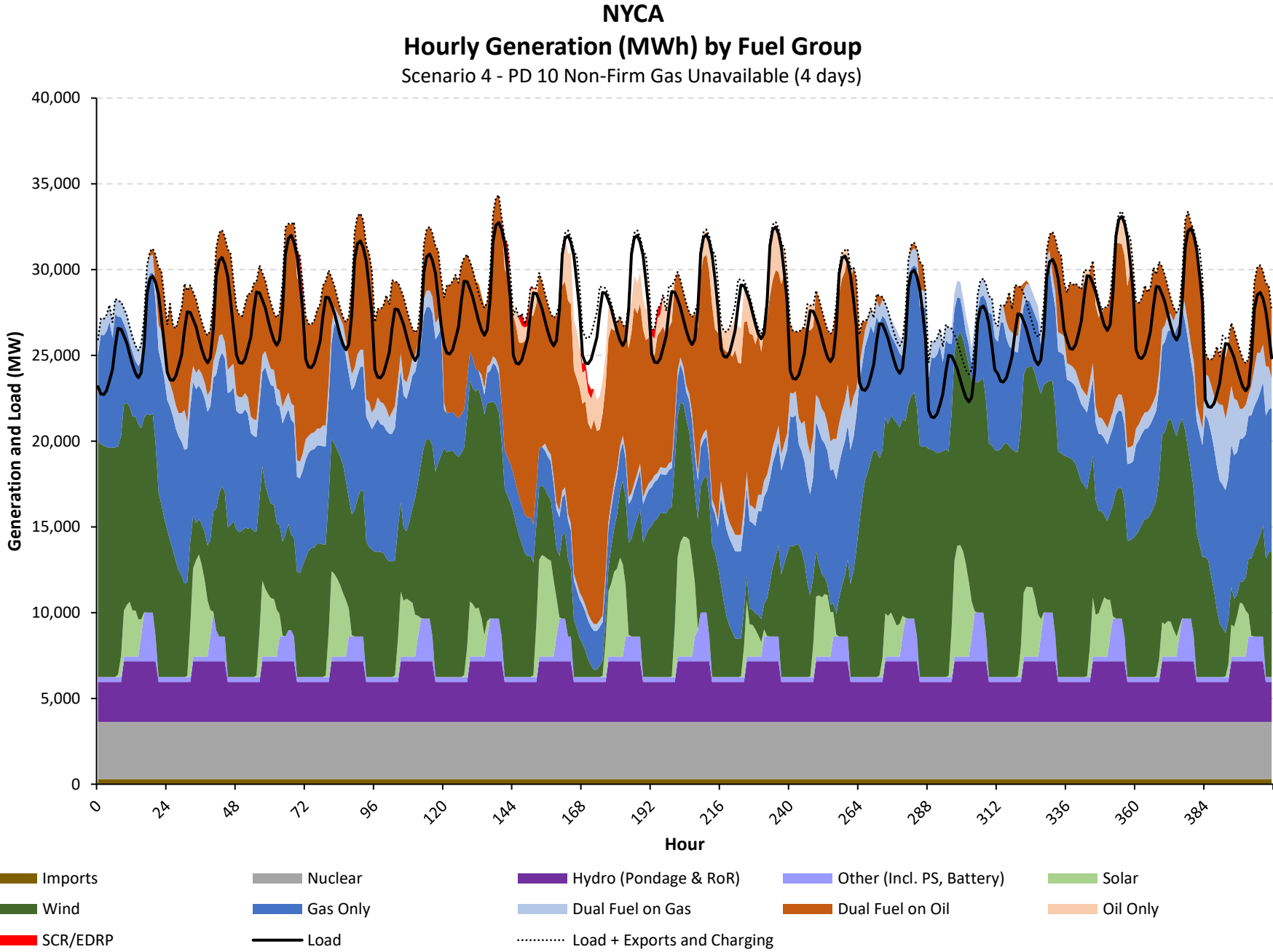
Loss of Load	
Total Hrs.	52
Total MWh	89,720
Avg. MW	219.9
First Hour with Losses	162

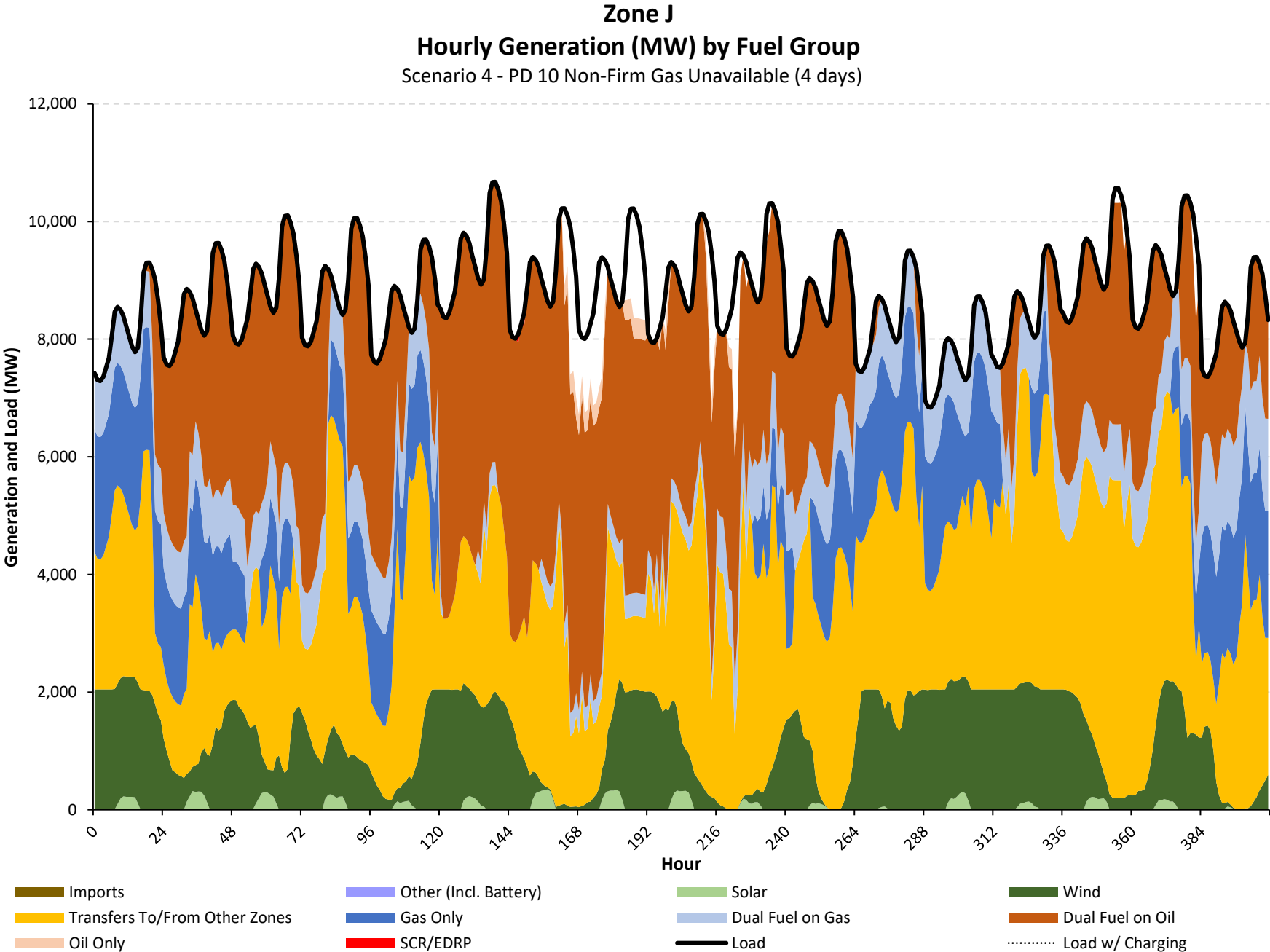
Full Period Results Summary

Case Name: Scenario 4 - PD 10 Non-Firm Gas Unavailable (4 days)

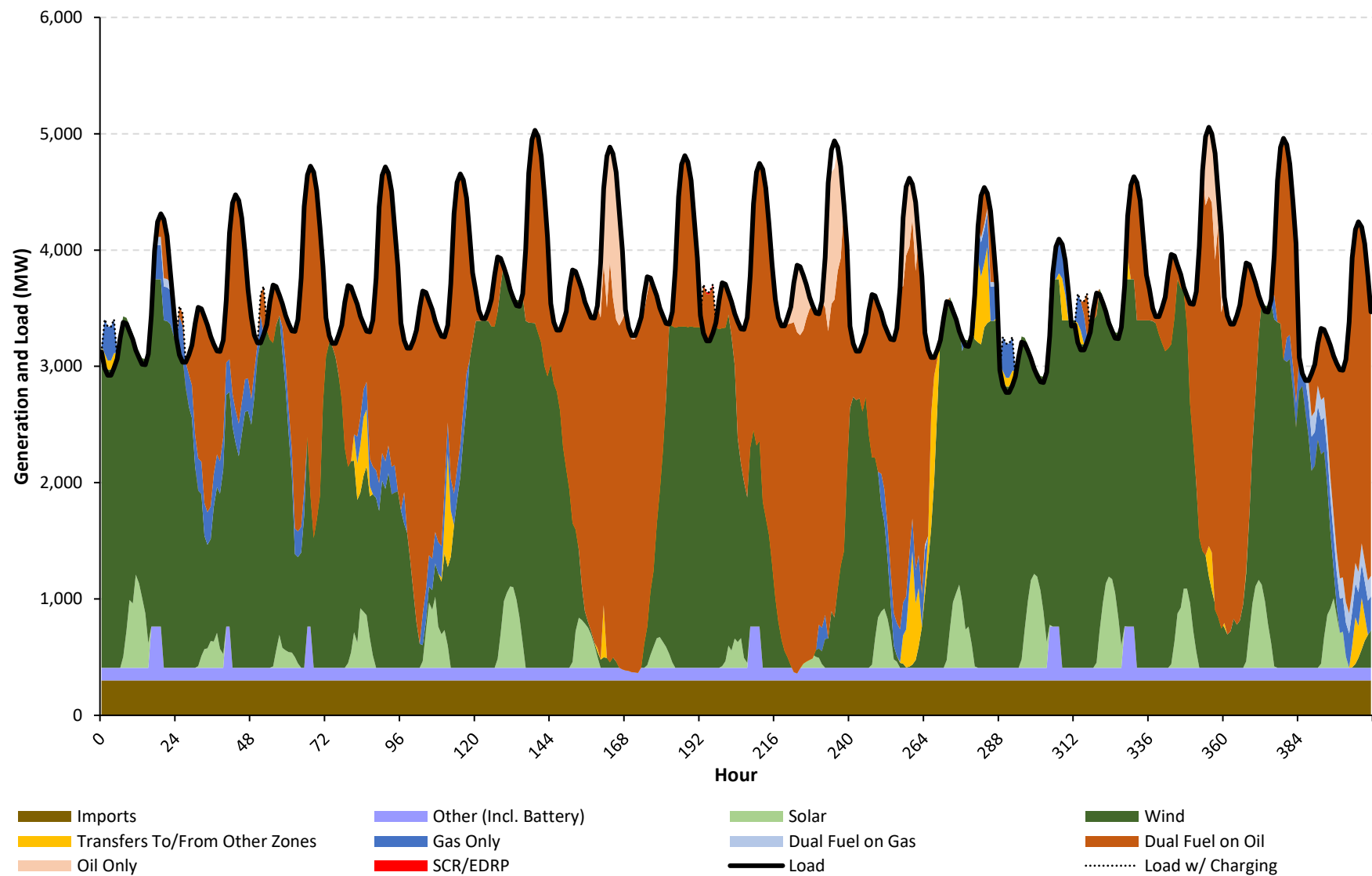
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

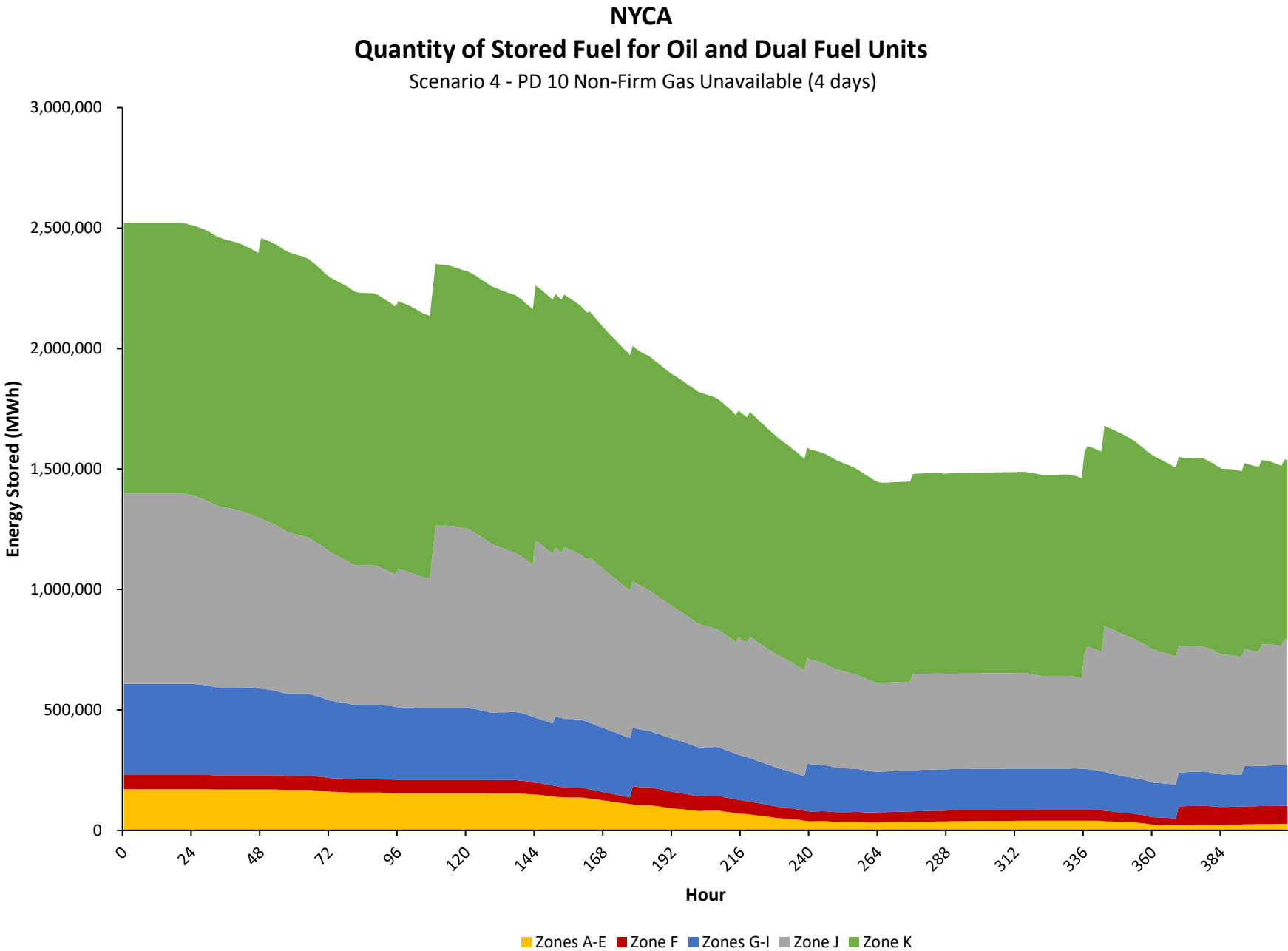


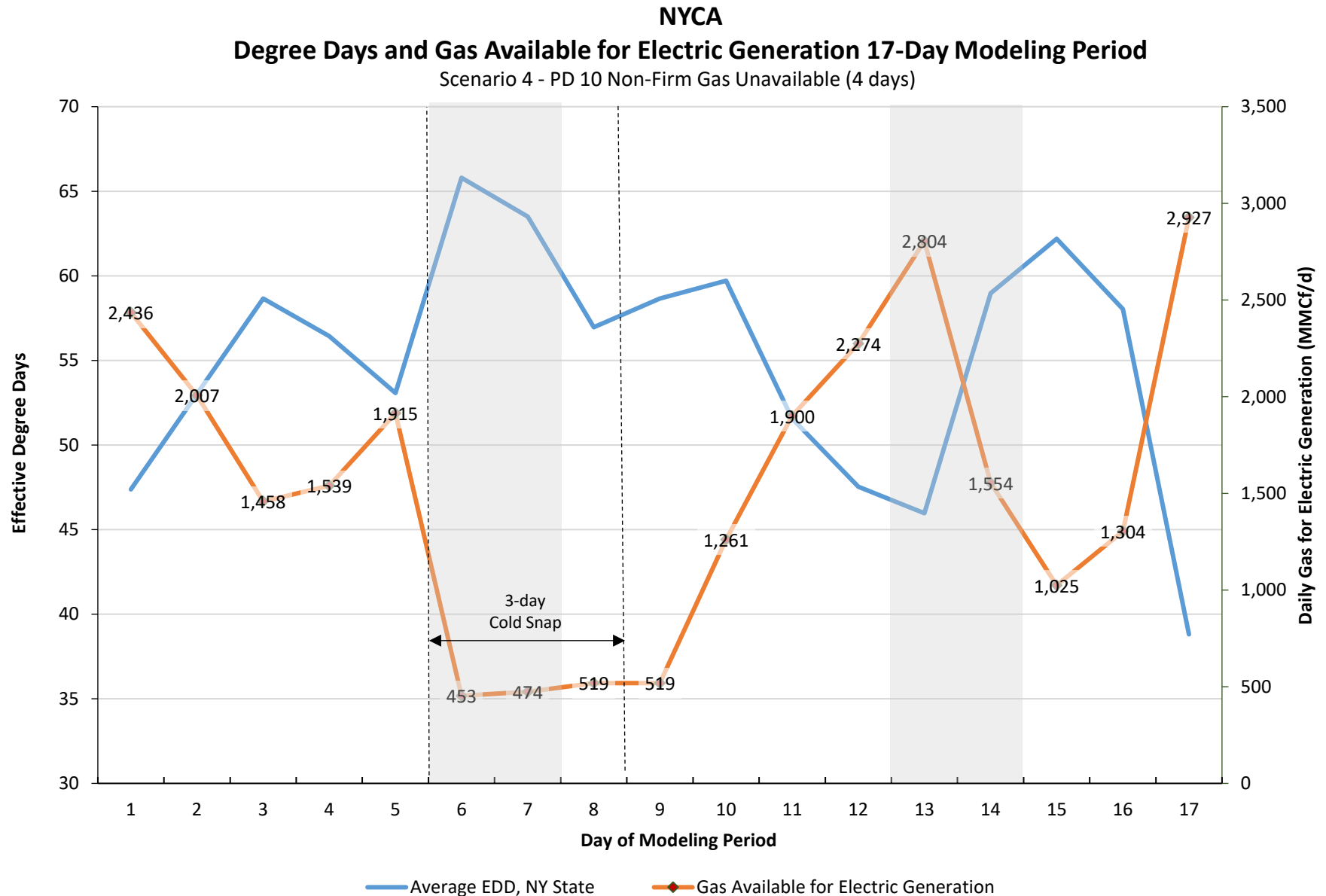




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 4 - PD 10 Non-Firm Gas Unavailable (4 days)

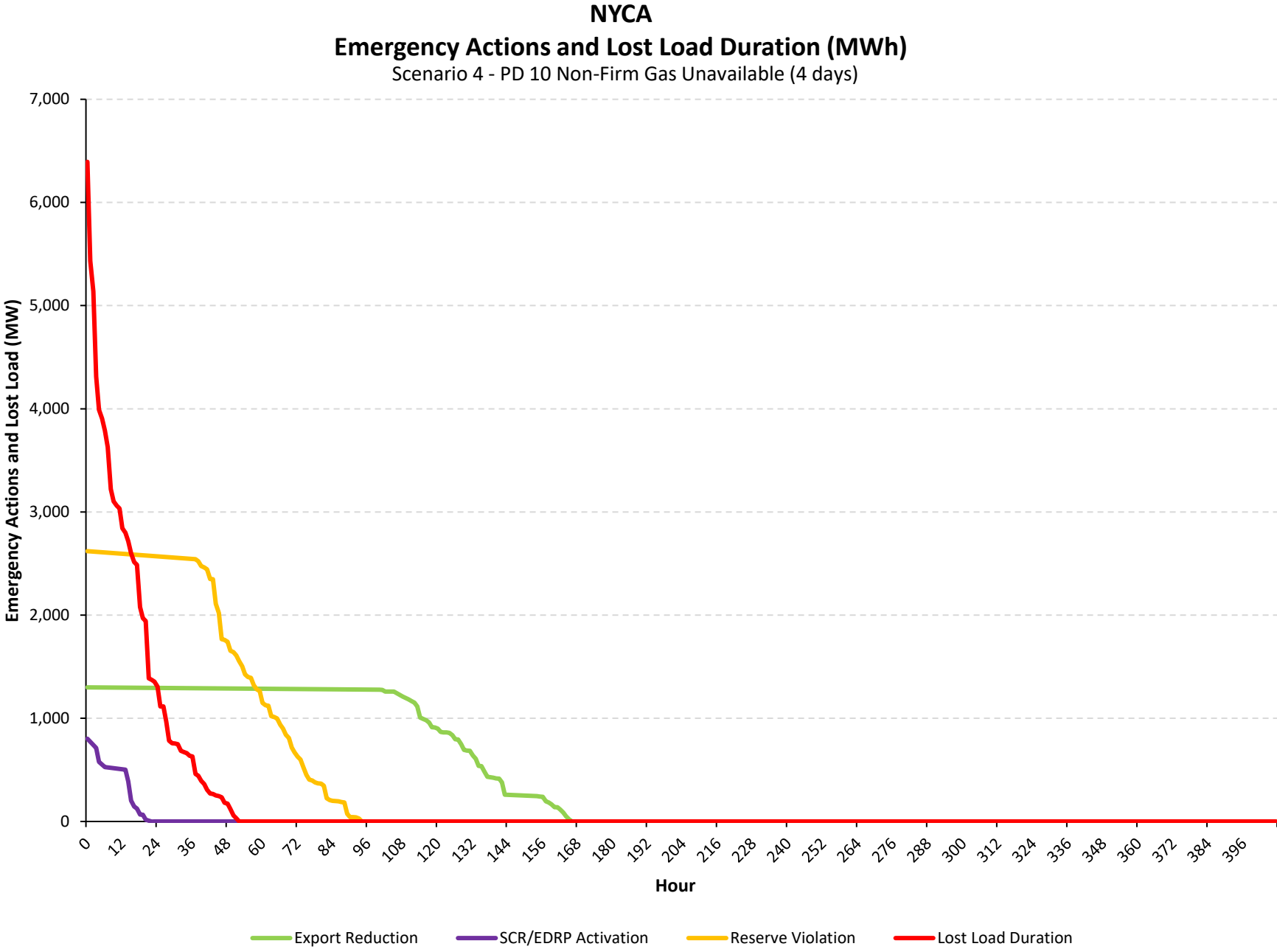


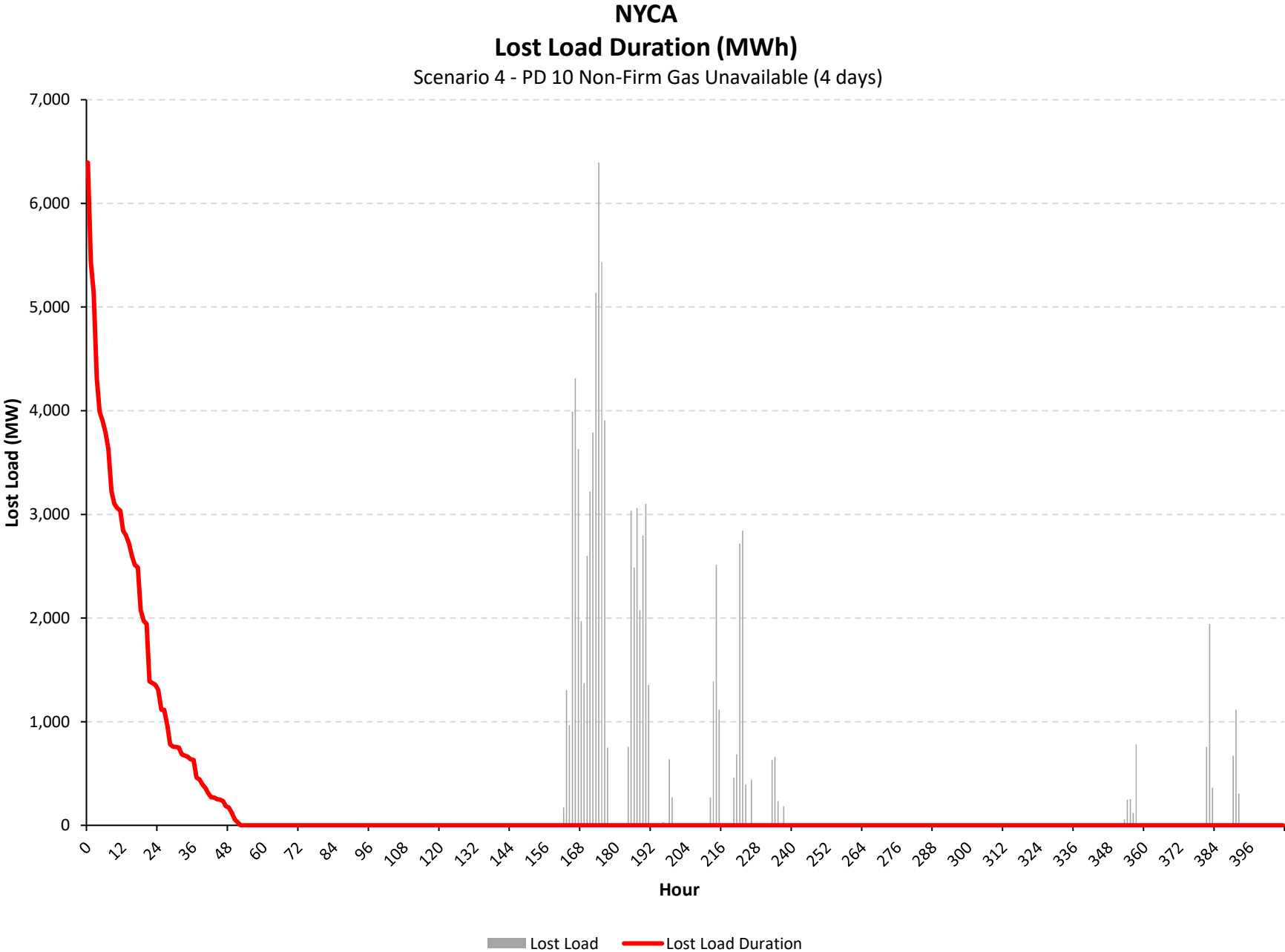




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



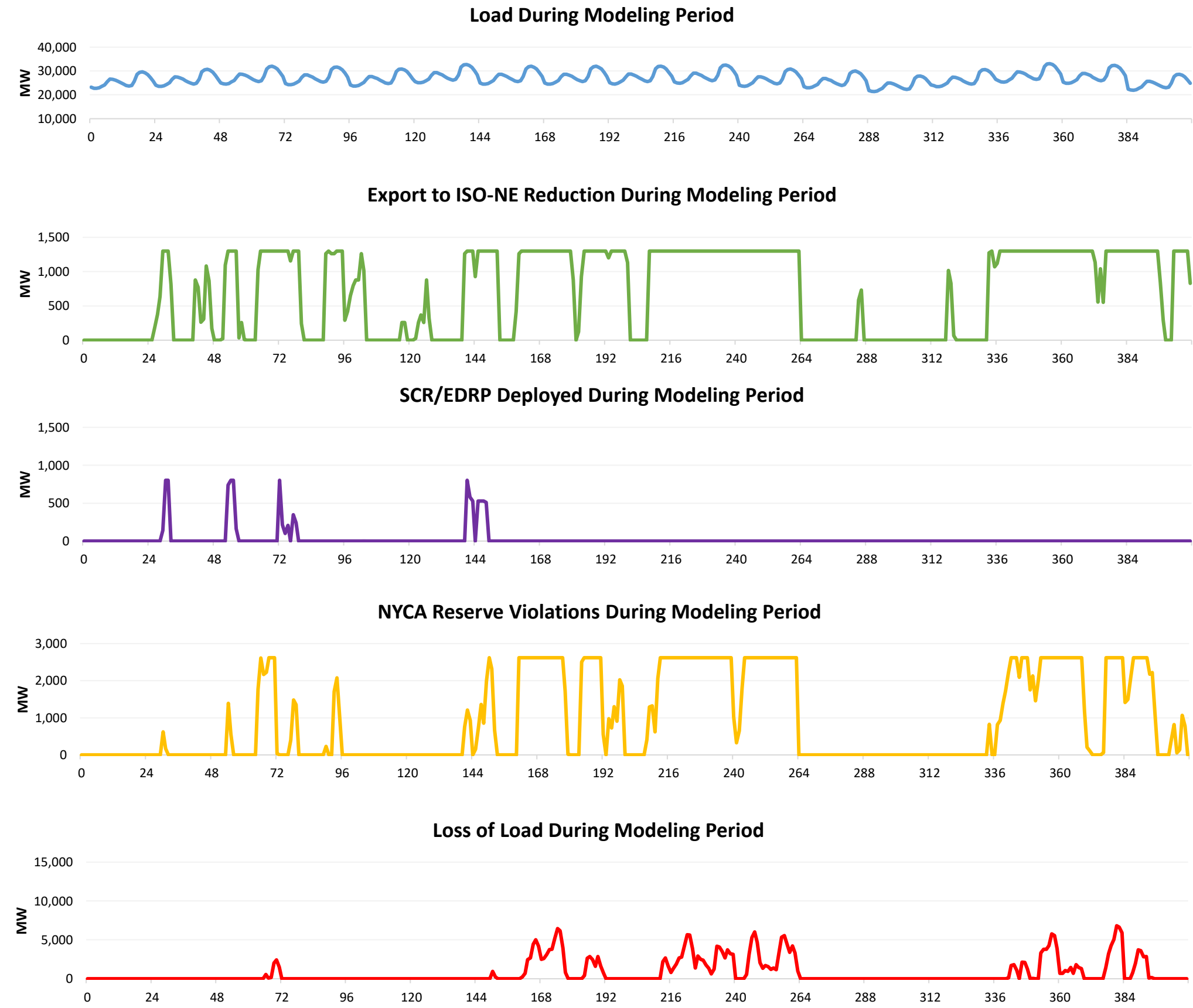


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 4 - PD 11 Combination Disruption (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 4 - PD 11 Combination Disruption



Case Summary	
Derate (EFORD) Increase:	High
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	250
Total MWh	287,279
Avg. MW	704.1

SCR Deployment	
Total Hrs.	20
Total MWh	10,158
Avg. MW	24.9

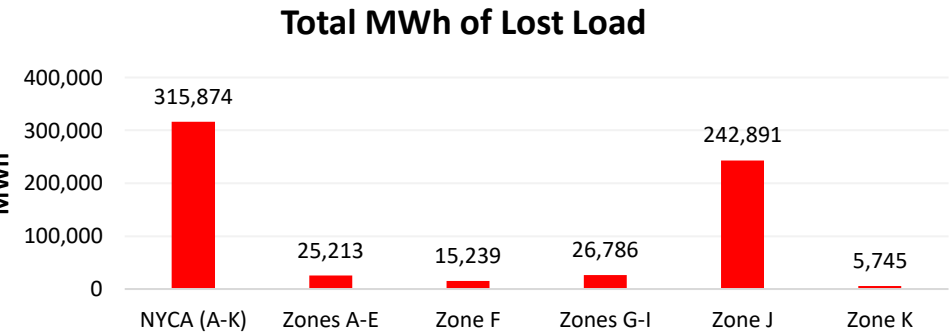
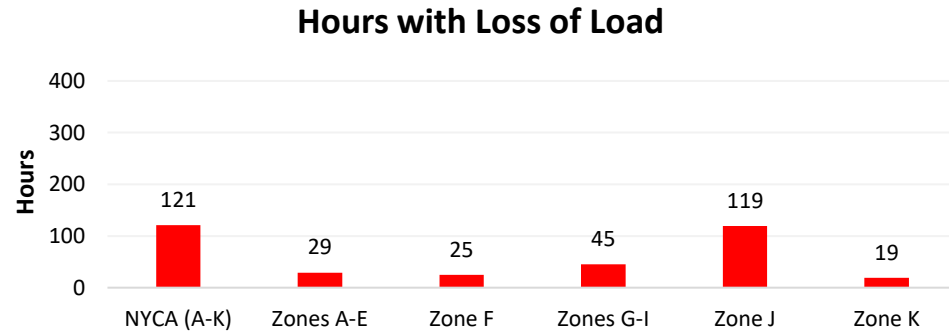
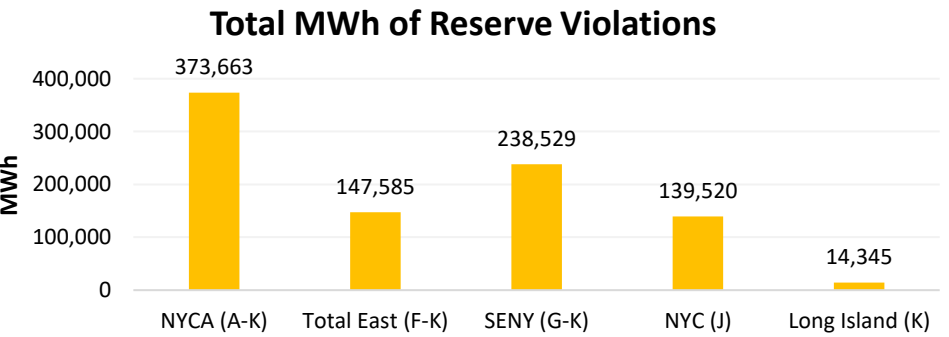
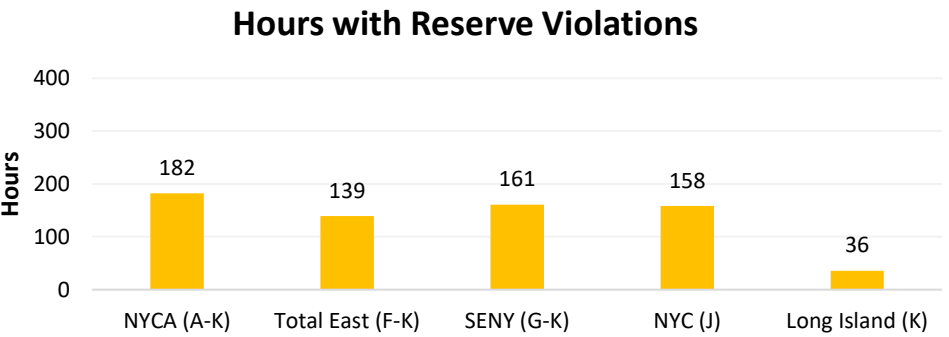
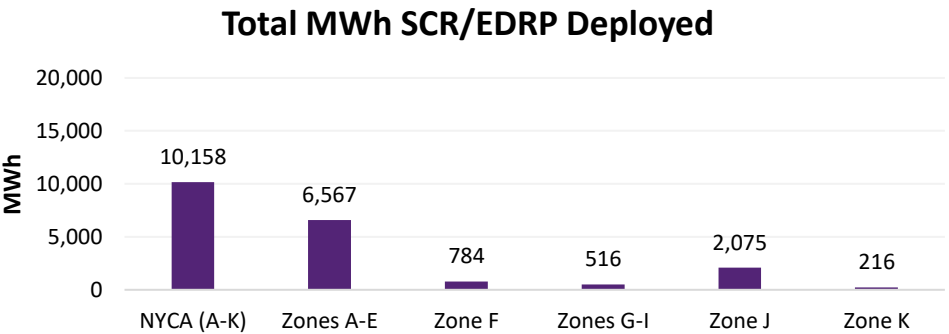
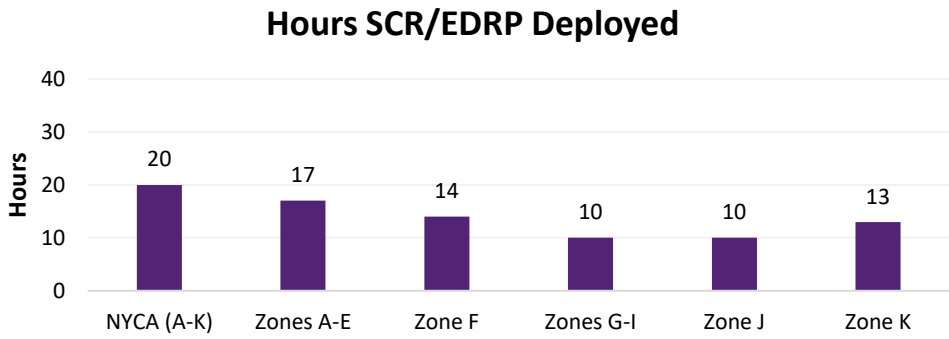
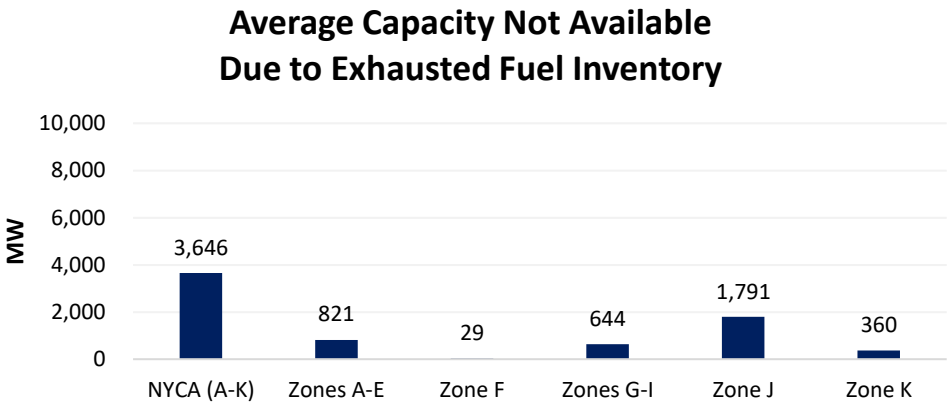
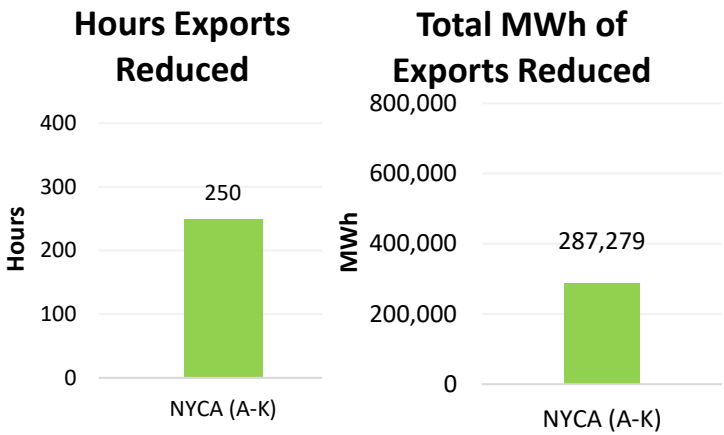
Reserve Violations	
Total Hrs.	182
Total MWh	373,663
Avg. MW	915.8
First Hour with Viol.	30

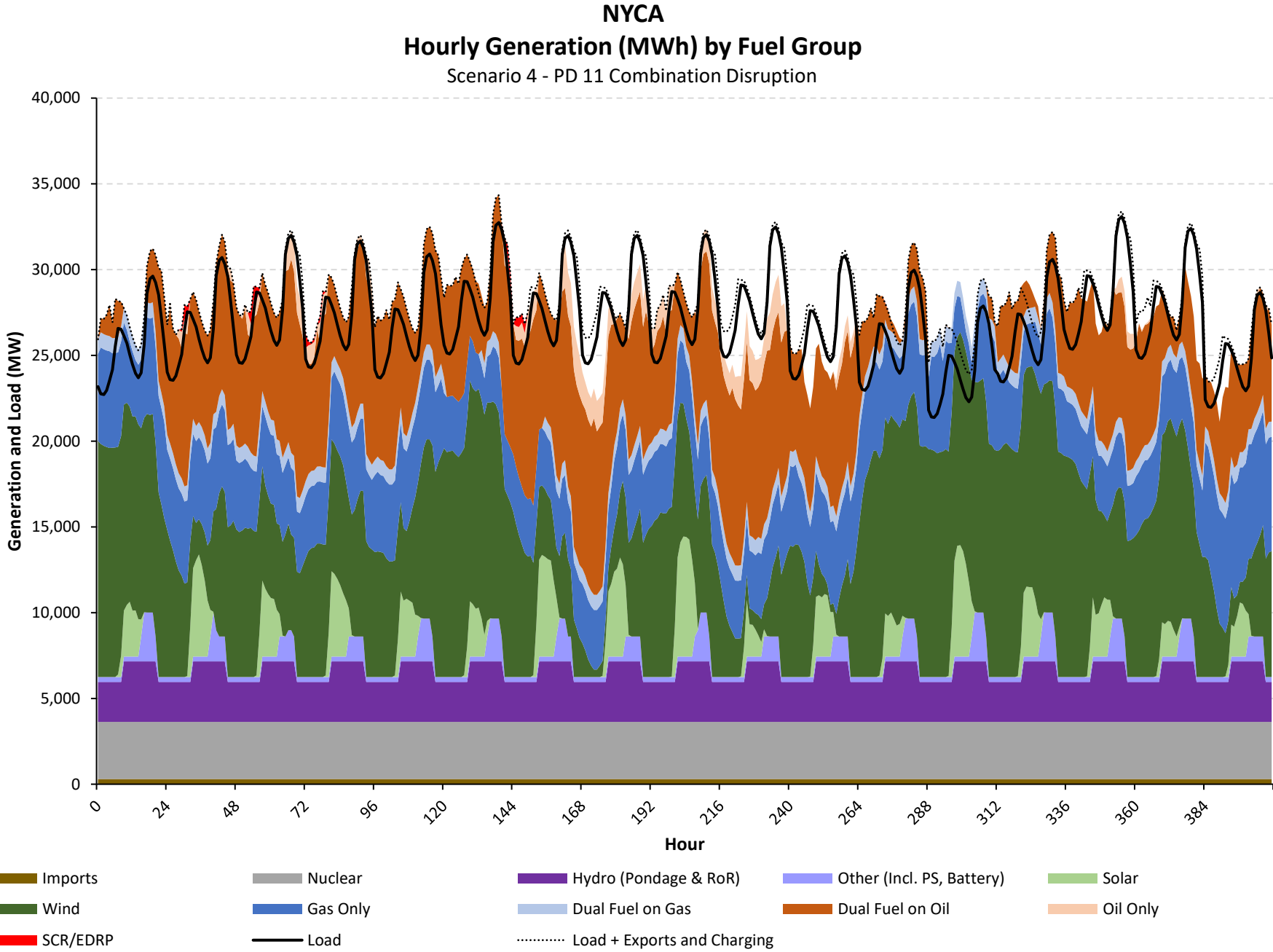
Loss of Load	
Total Hrs.	121
Total MWh	315,874
Avg. MW	774.2
First Hour with Losses	66

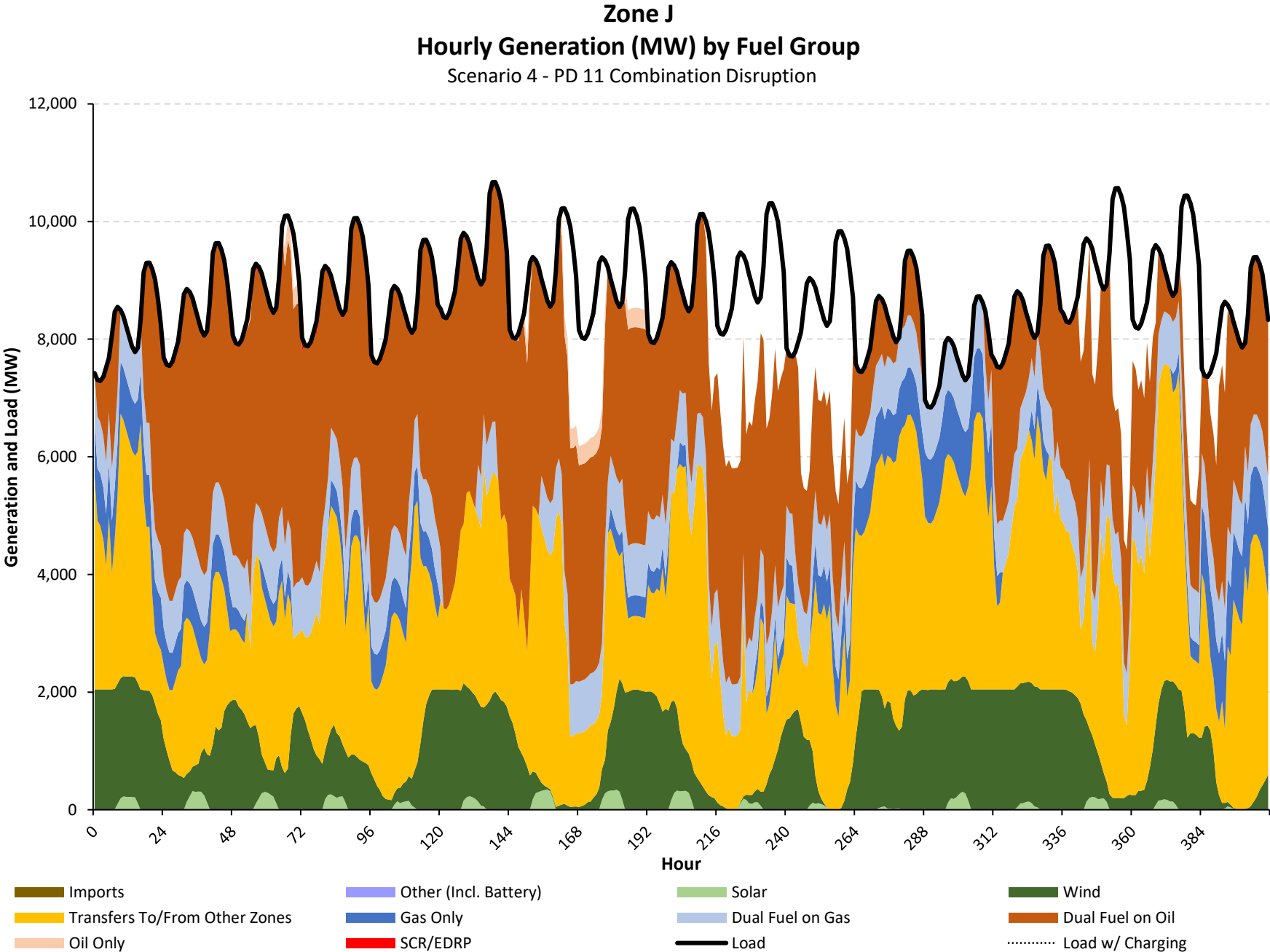
Full Period Results Summary

Case Name: Scenario 4 - PD 11 Combination Disruption

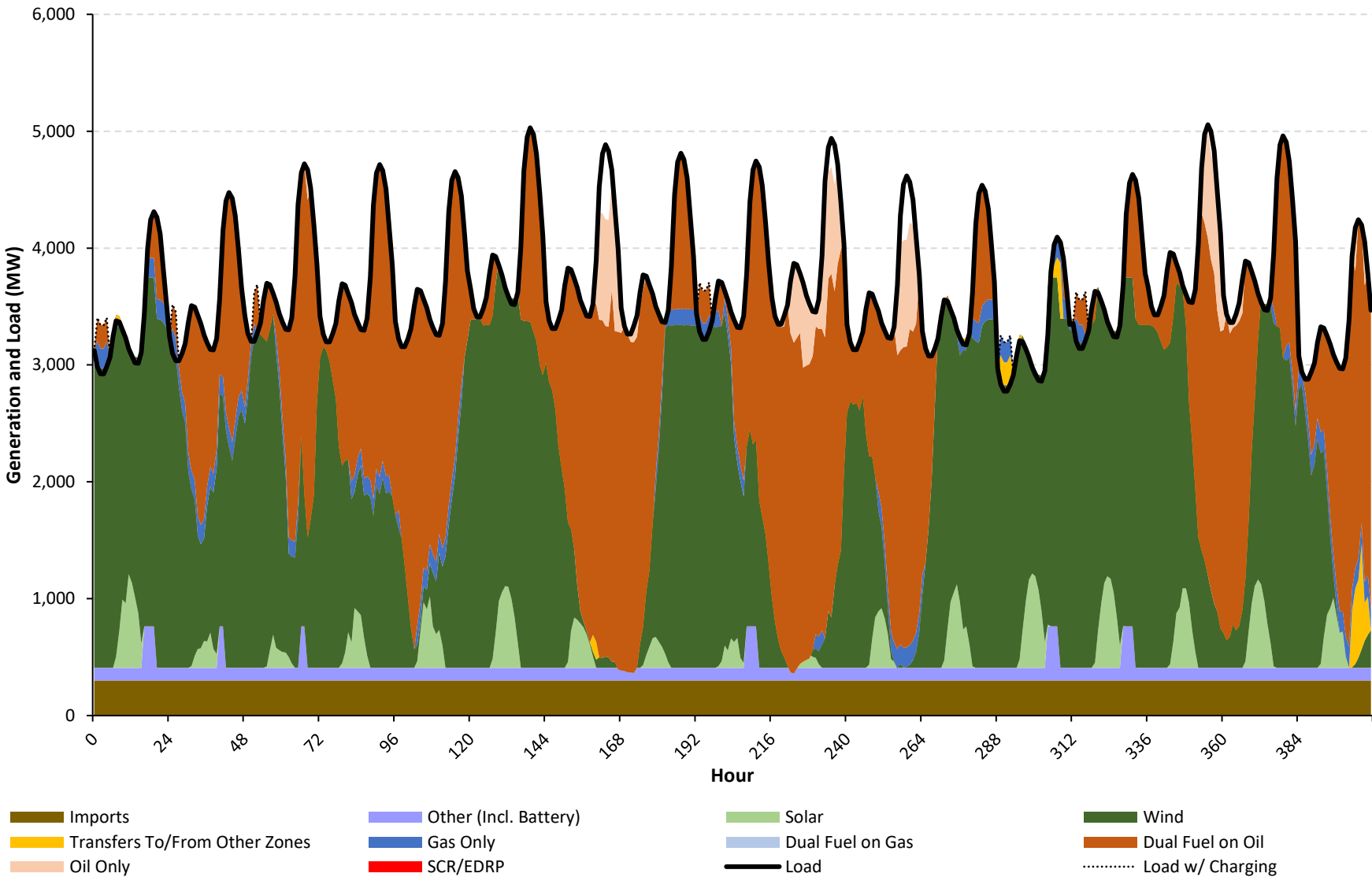
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	High
Renewables:	Base Case
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



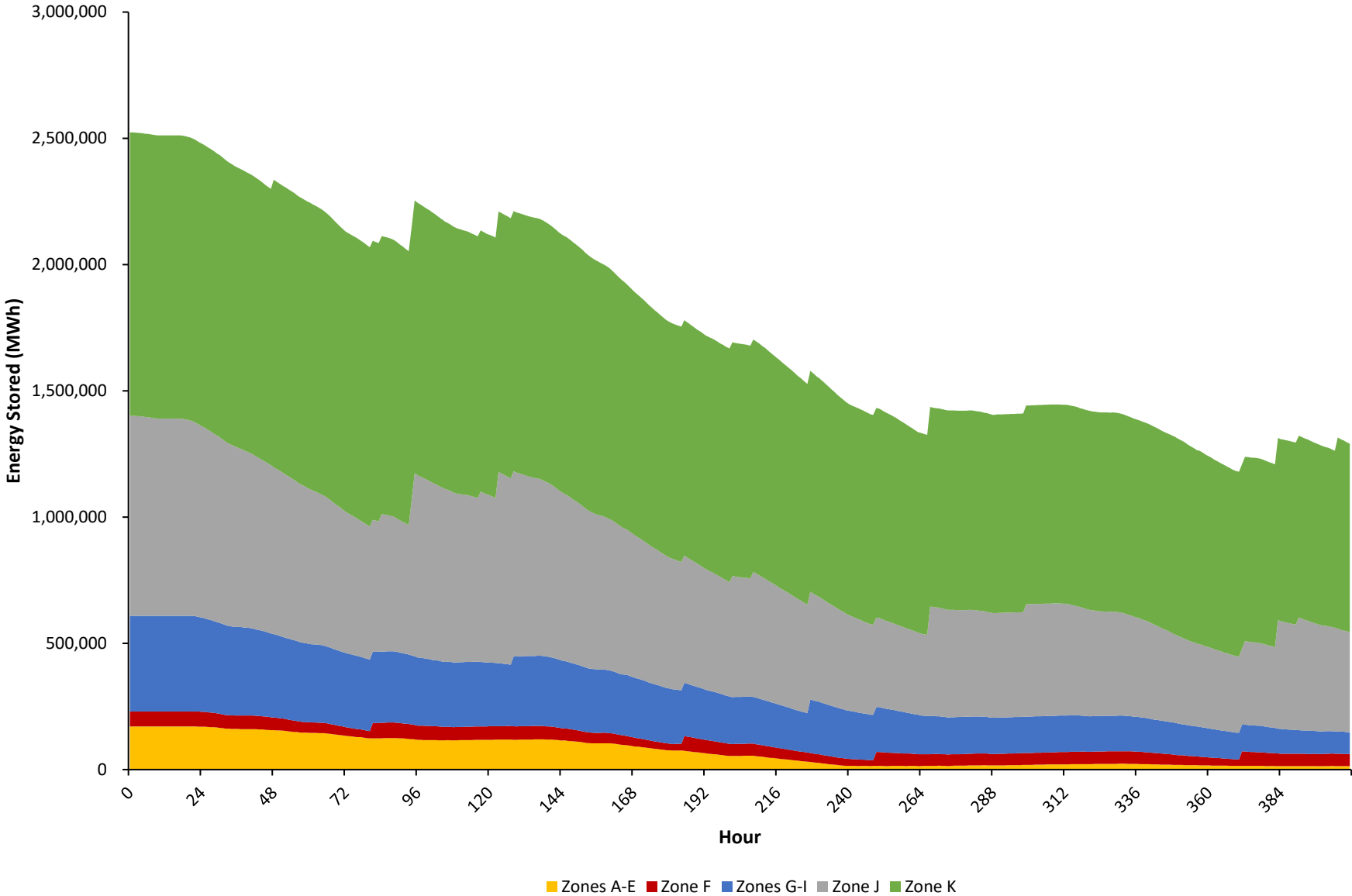


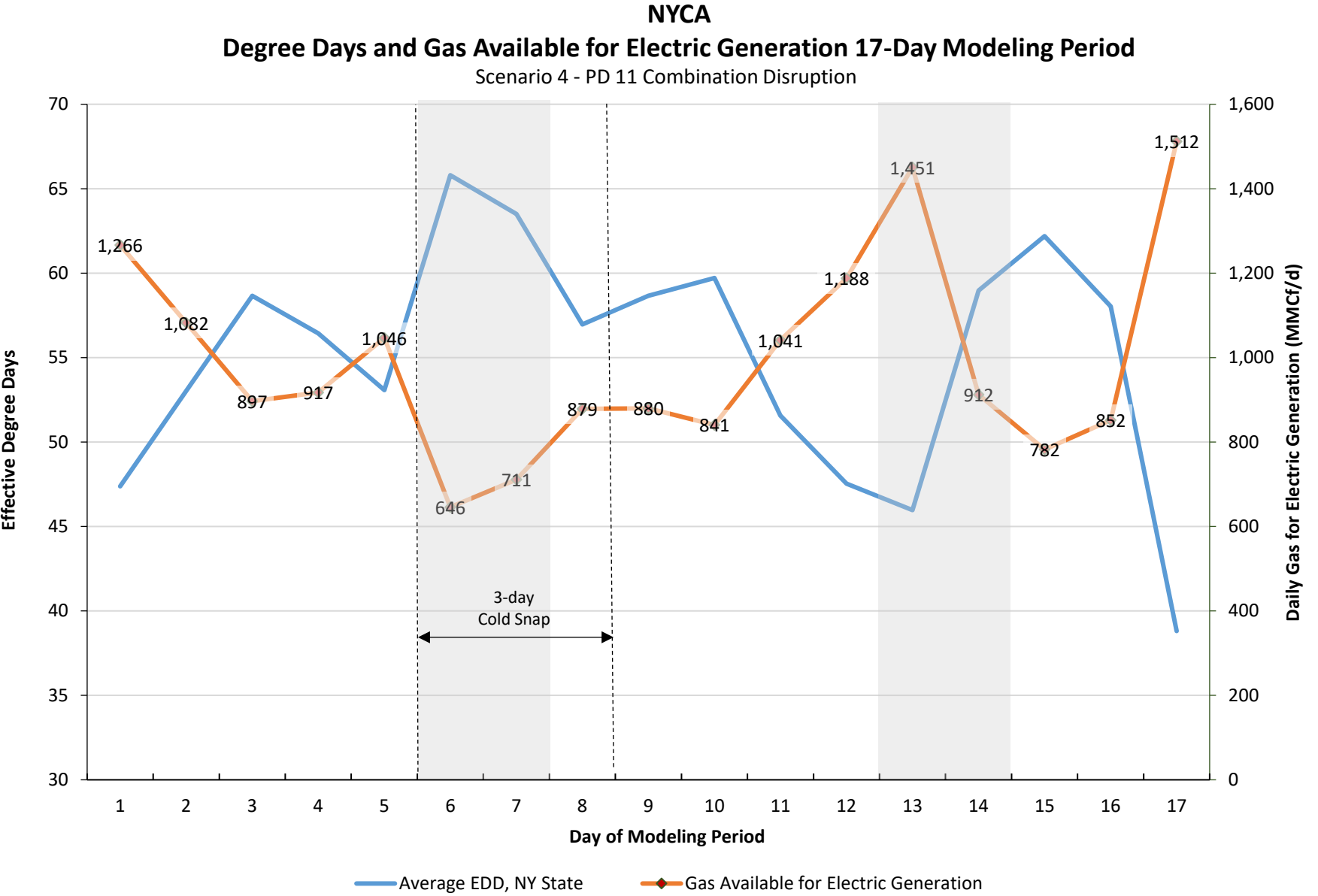


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 4 - PD 11 Combination Disruption

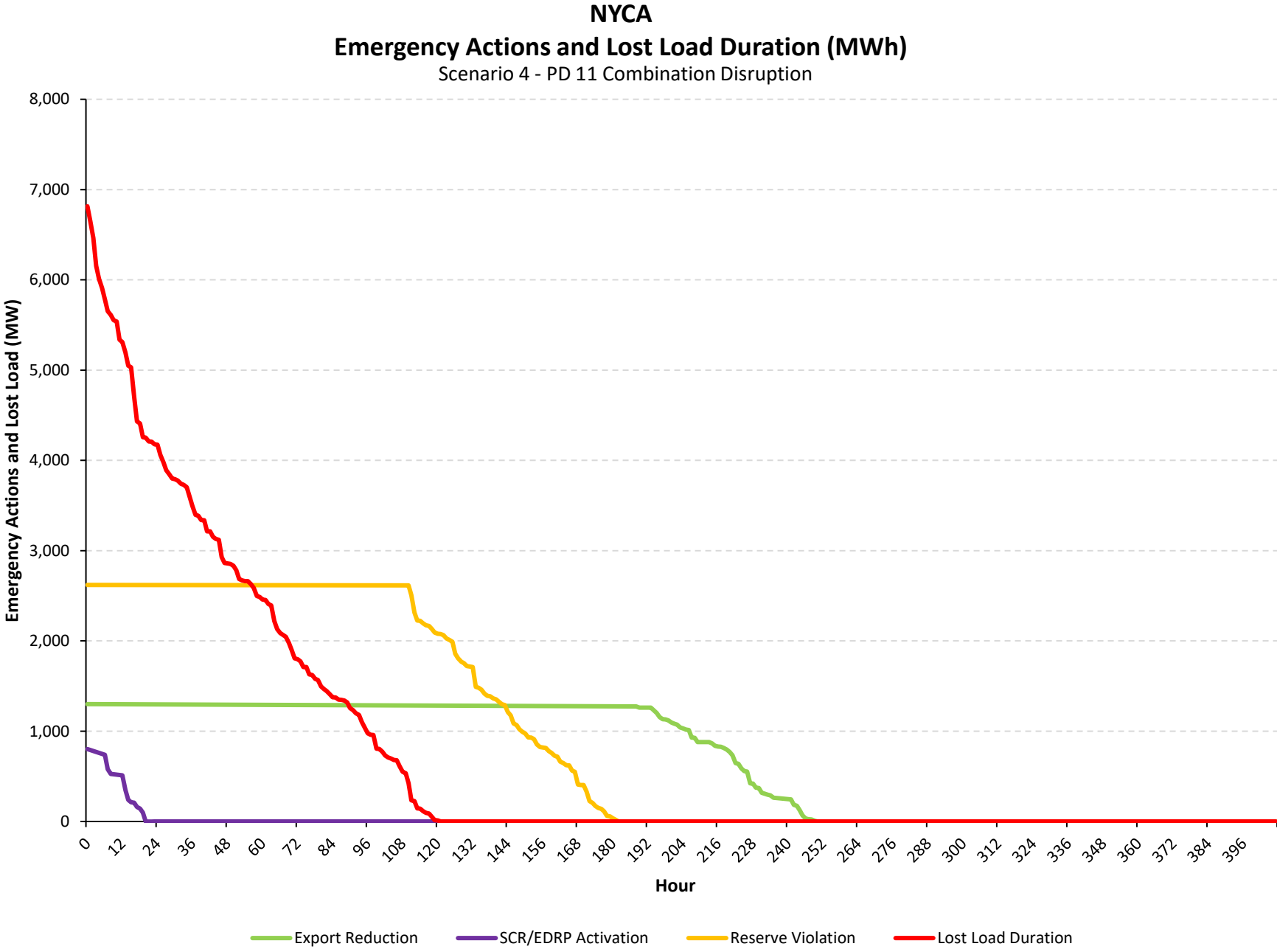


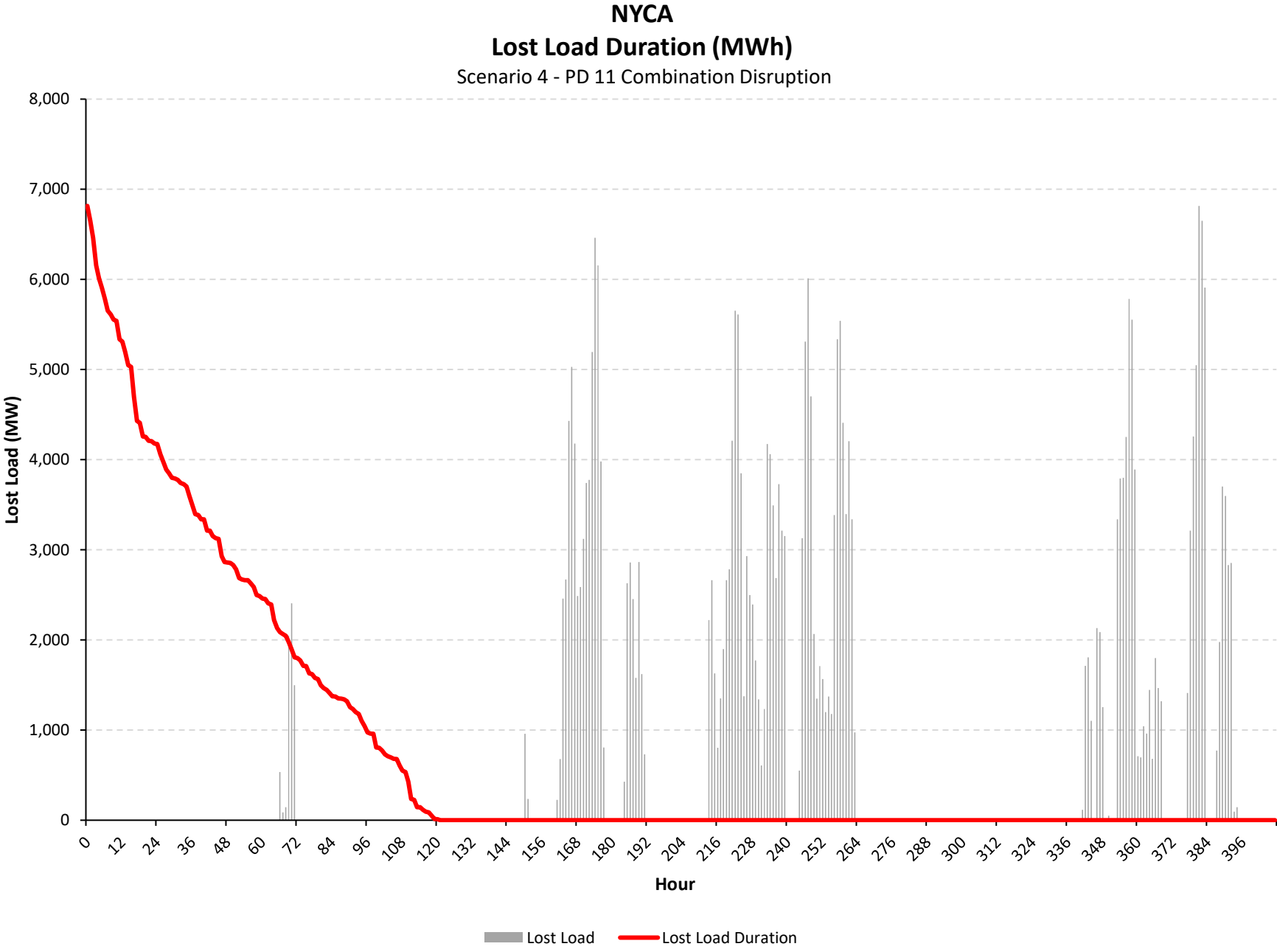
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 4 - PD 11 Combination Disruption





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



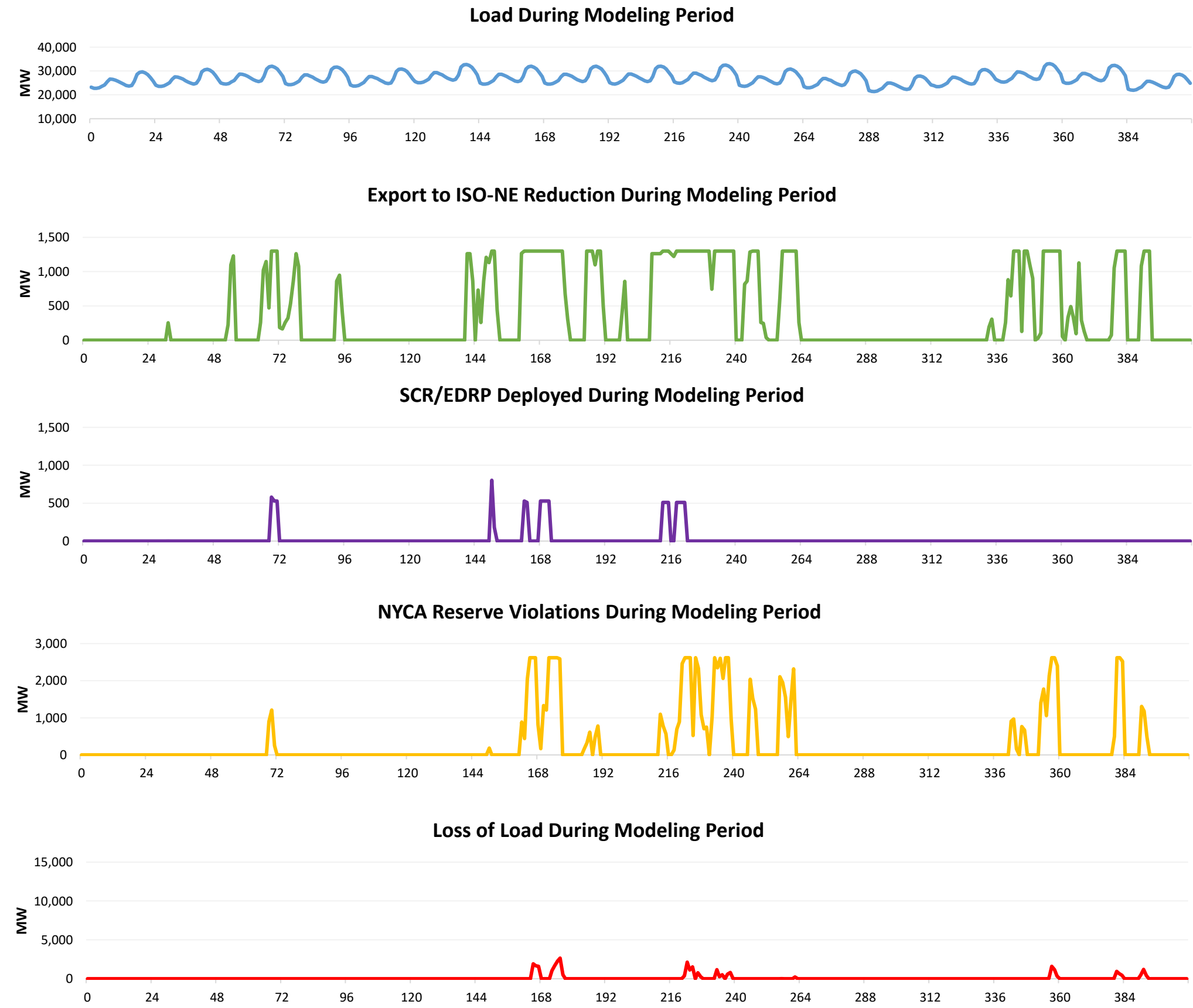


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 5 - PD 1 No Disruptions (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 5 - PD 1 No Disruptions



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	148
Total MWh	148,122
Avg. MW	363.0

SCR Deployment	
Total Hrs.	18
Total MWh	9,330
Avg. MW	22.9

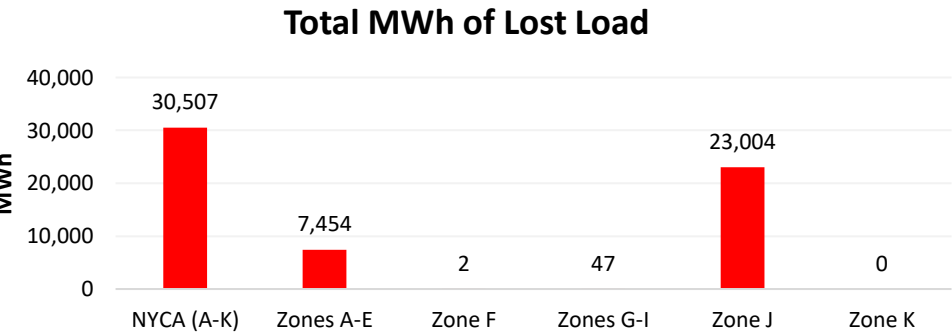
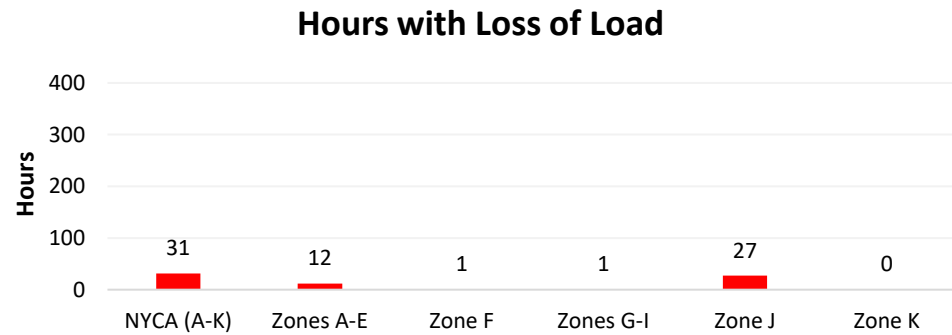
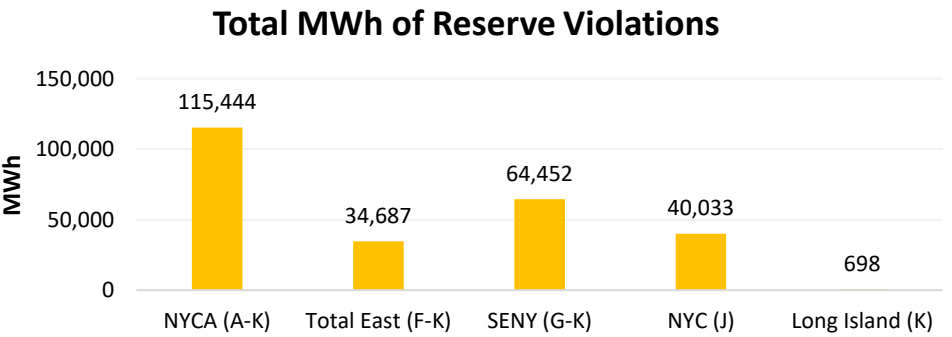
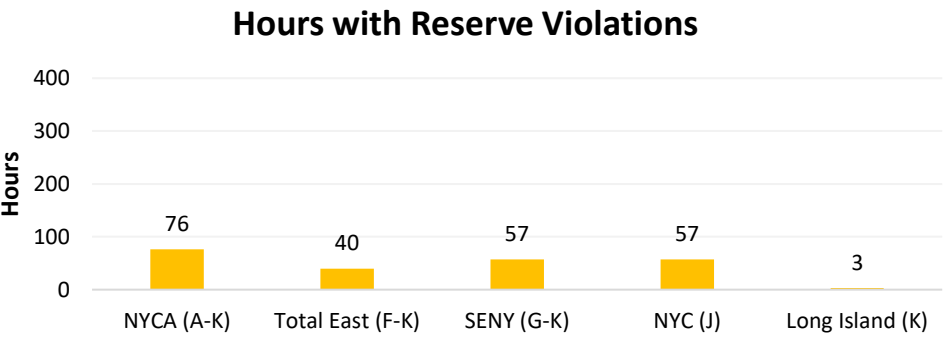
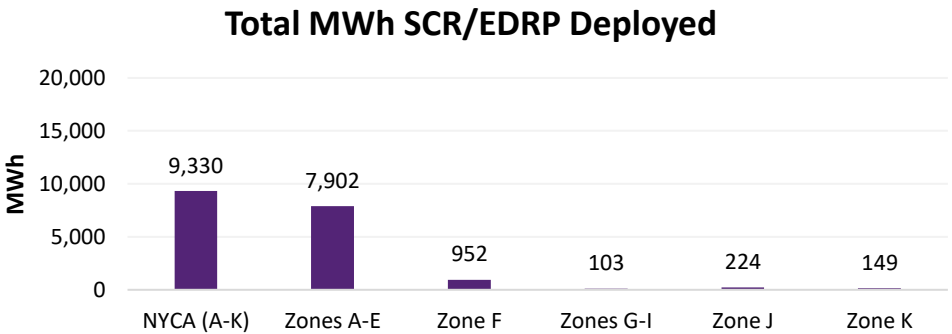
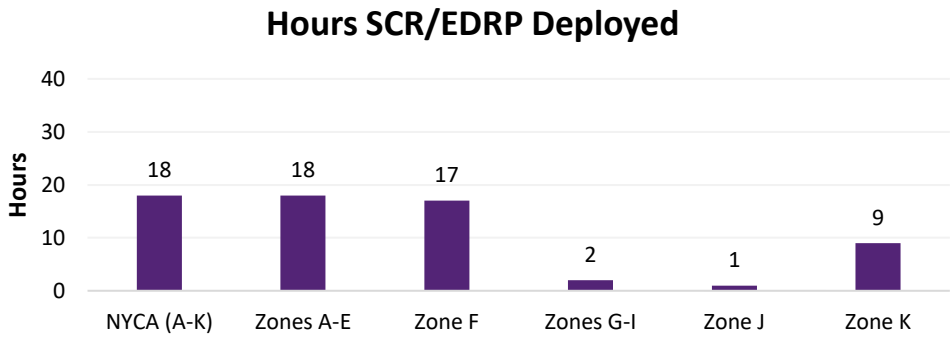
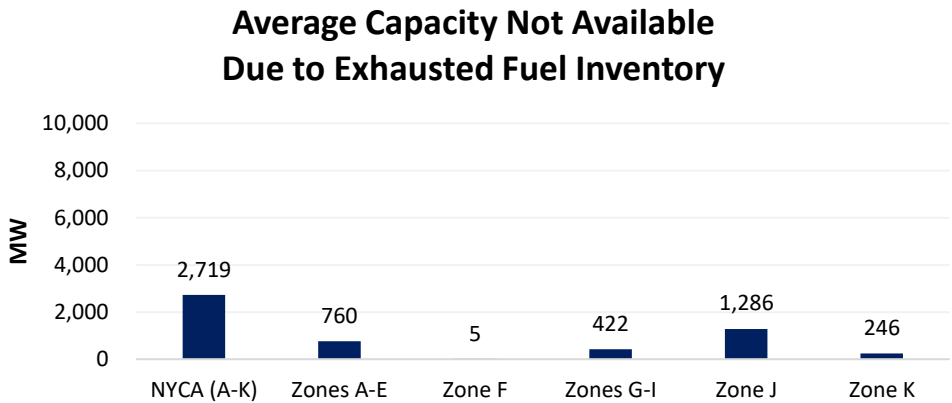
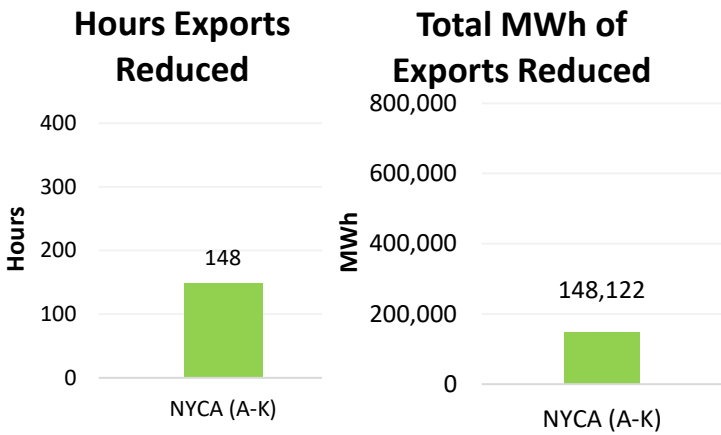
Reserve Violations	
Total Hrs.	76
Total MWh	115,444
Avg. MW	283.0
First Hour with Viol.	69

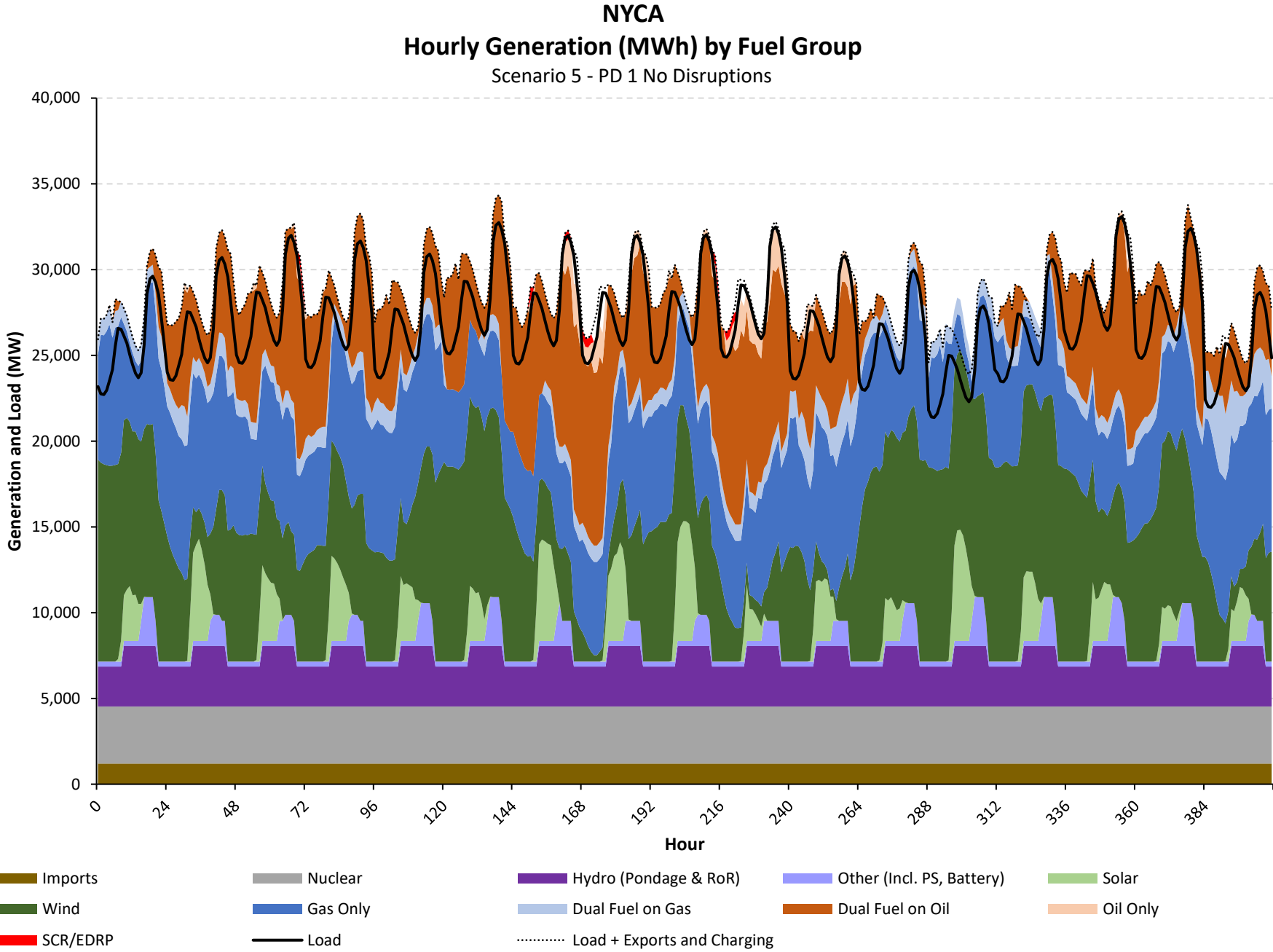
Loss of Load	
Total Hrs.	31
Total MWh	30,507
Avg. MW	74.8
First Hour with Losses	165

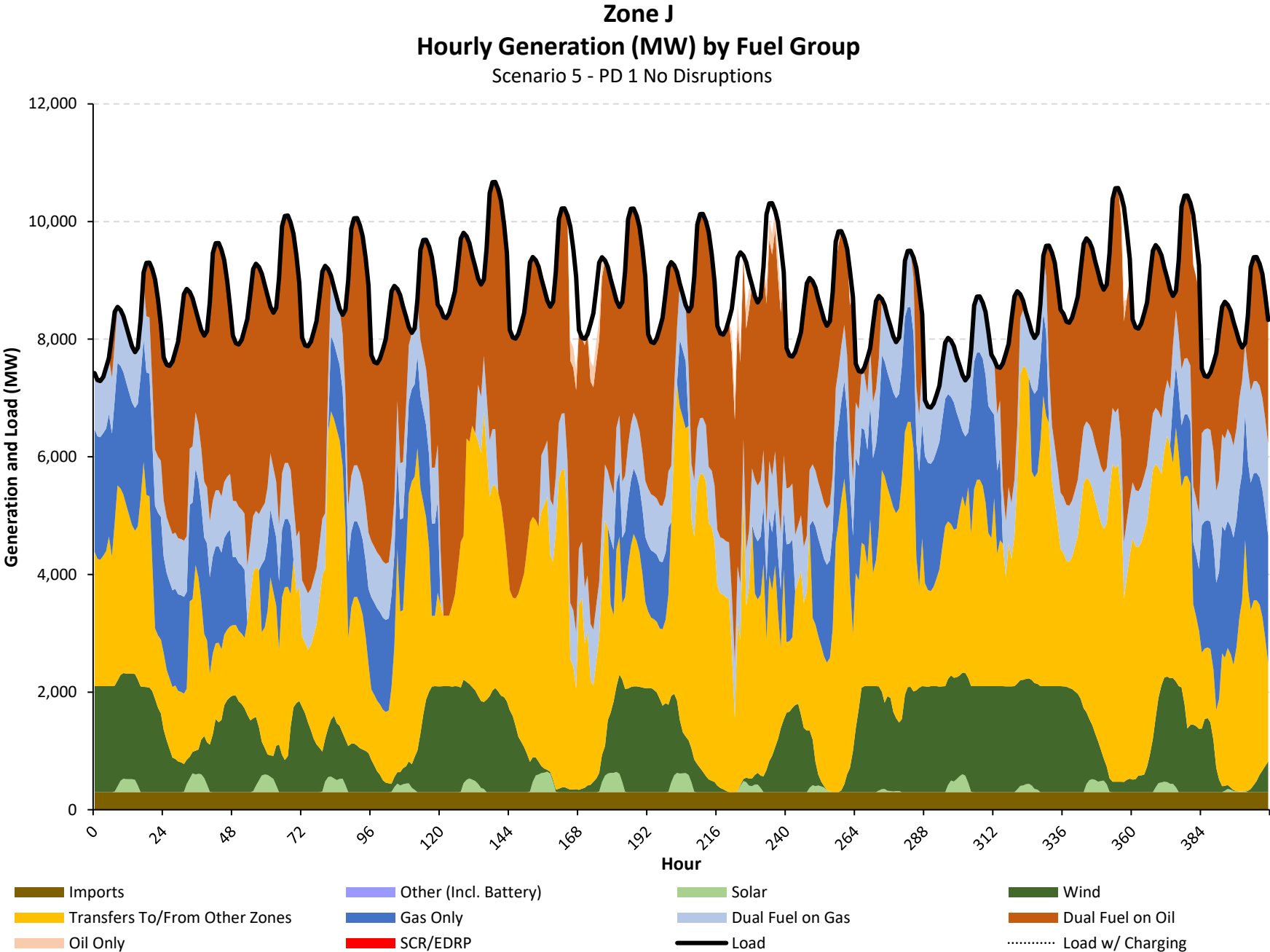
Full Period Results Summary

Case Name: Scenario 5 - PD 1 No Disruptions

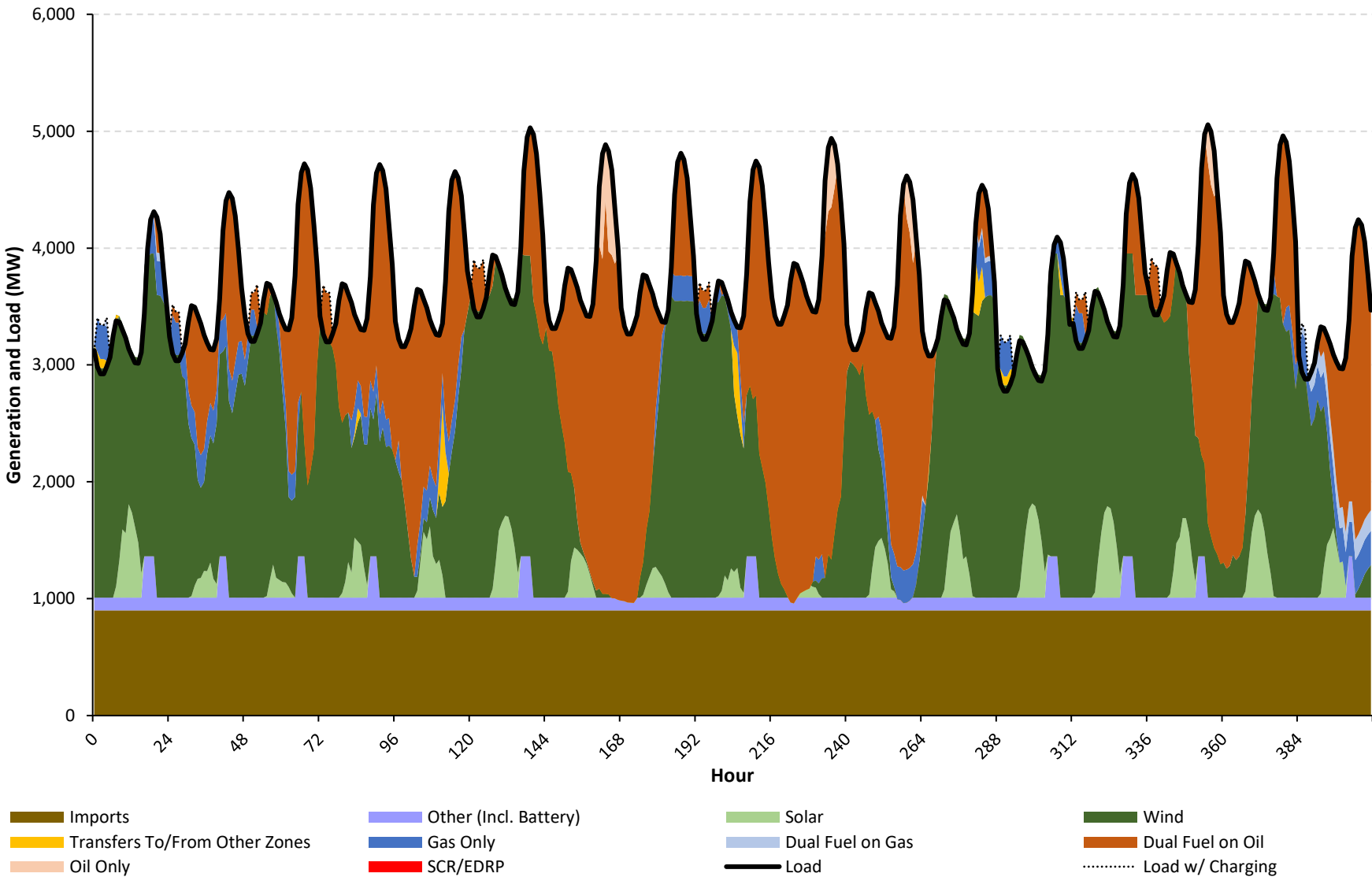
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

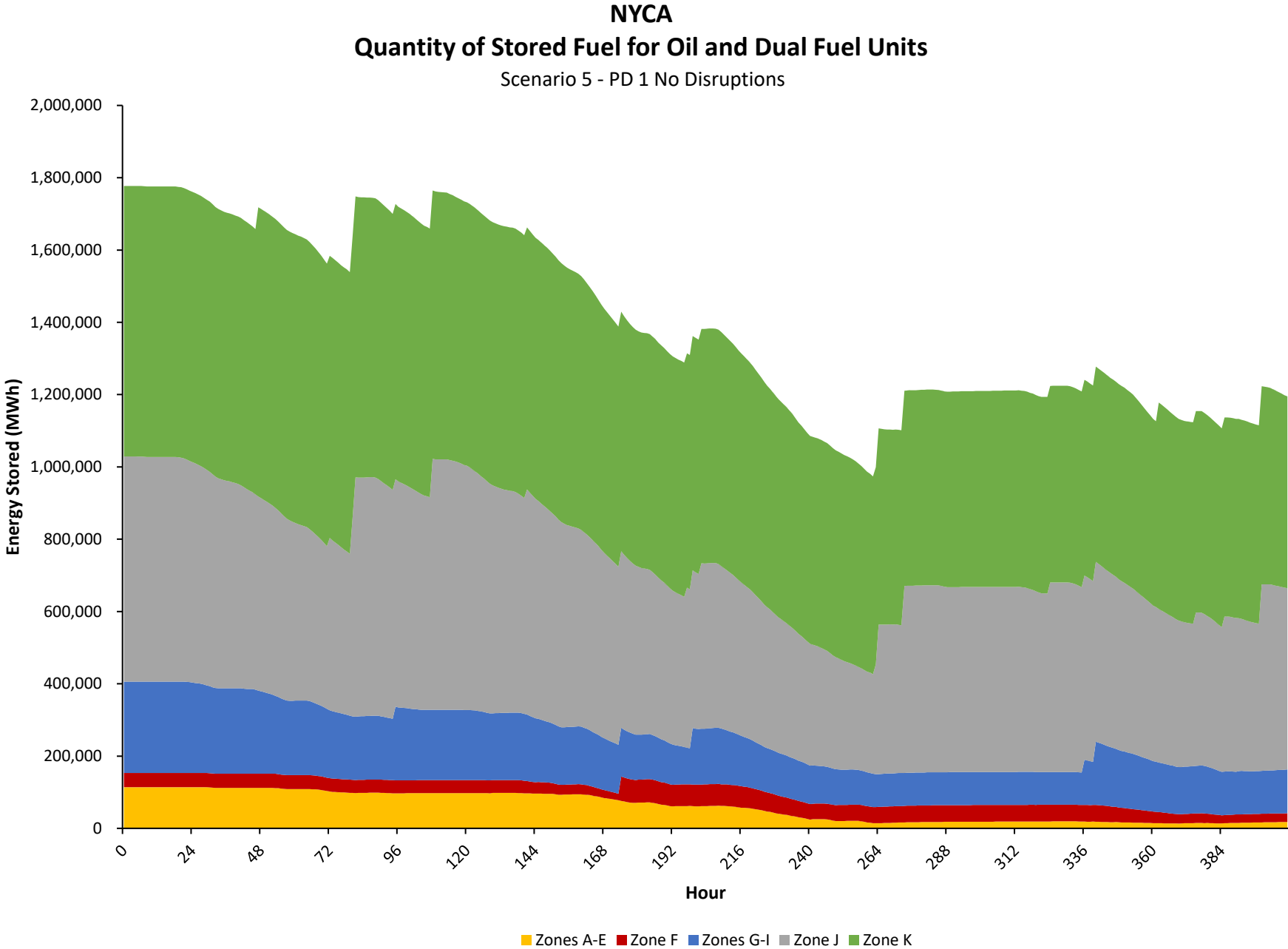


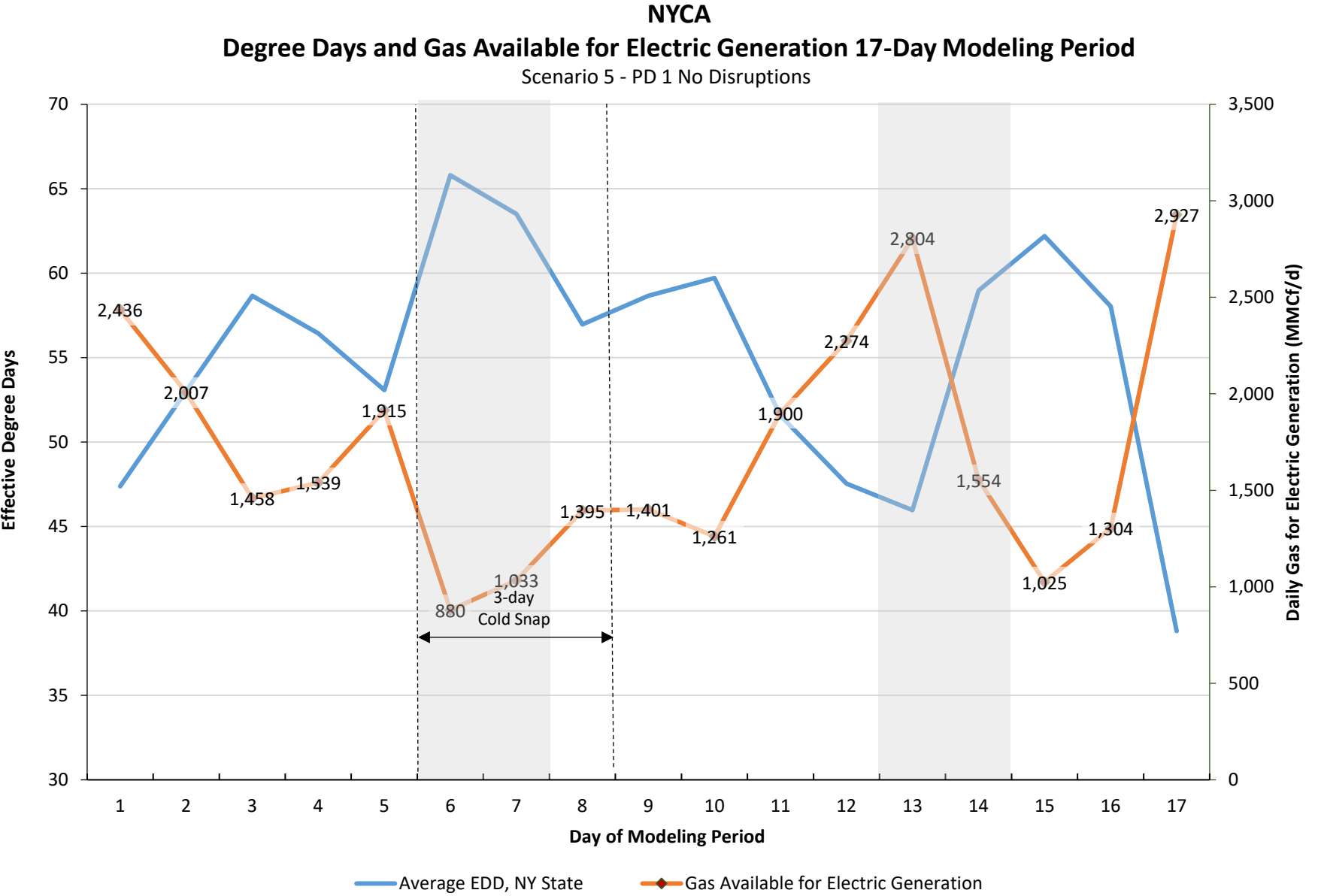




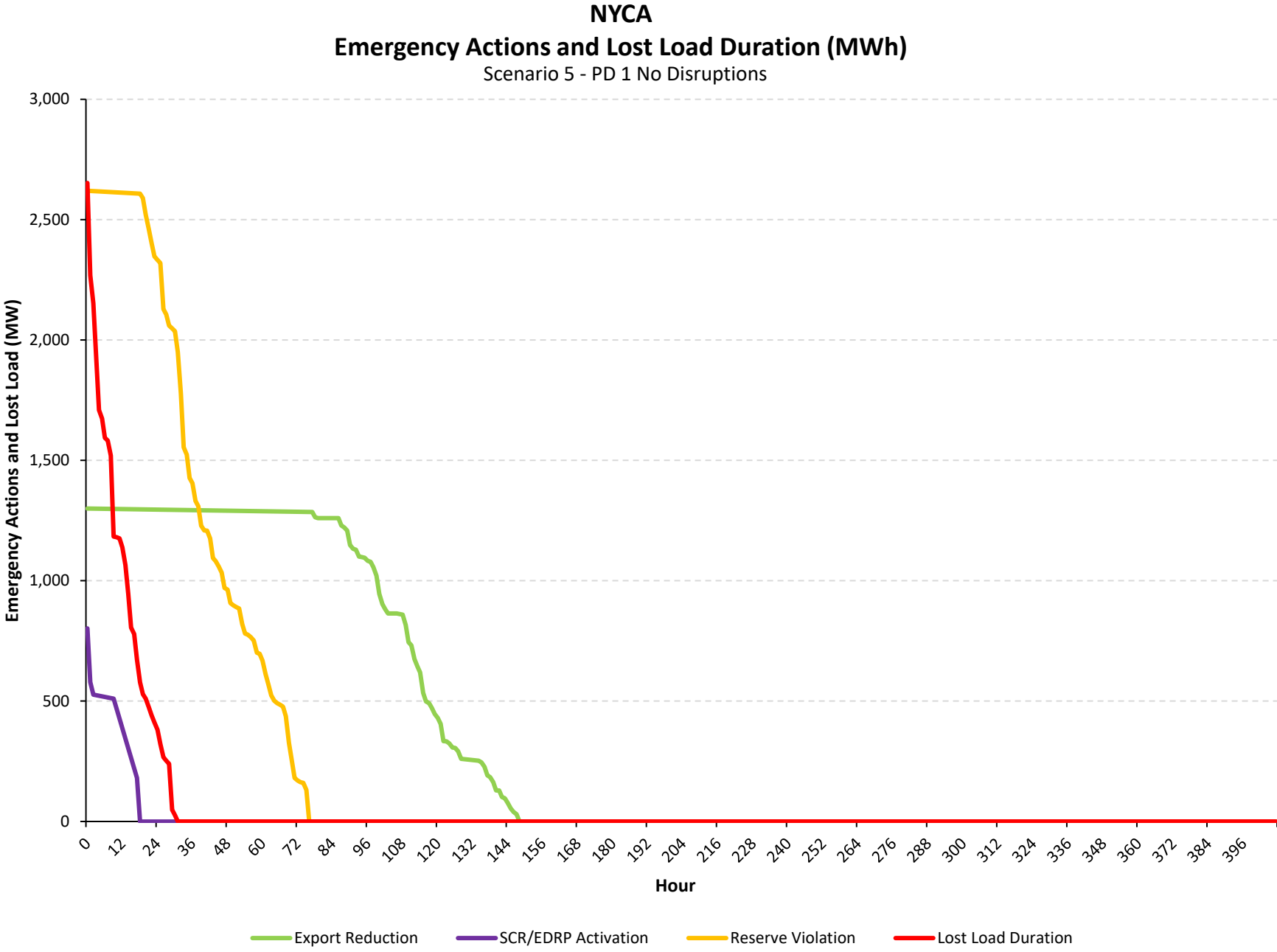
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 5 - PD 1 No Disruptions

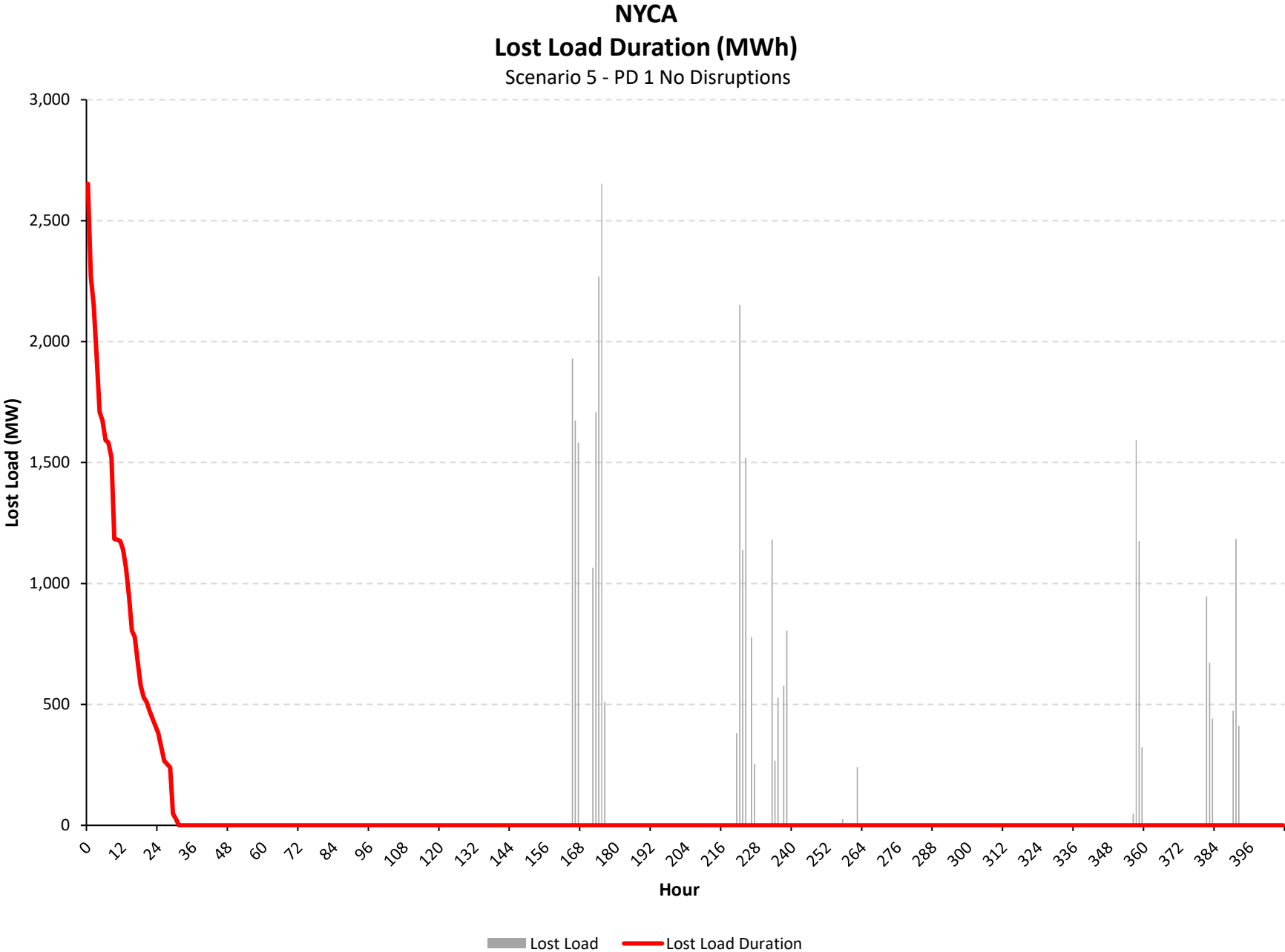






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



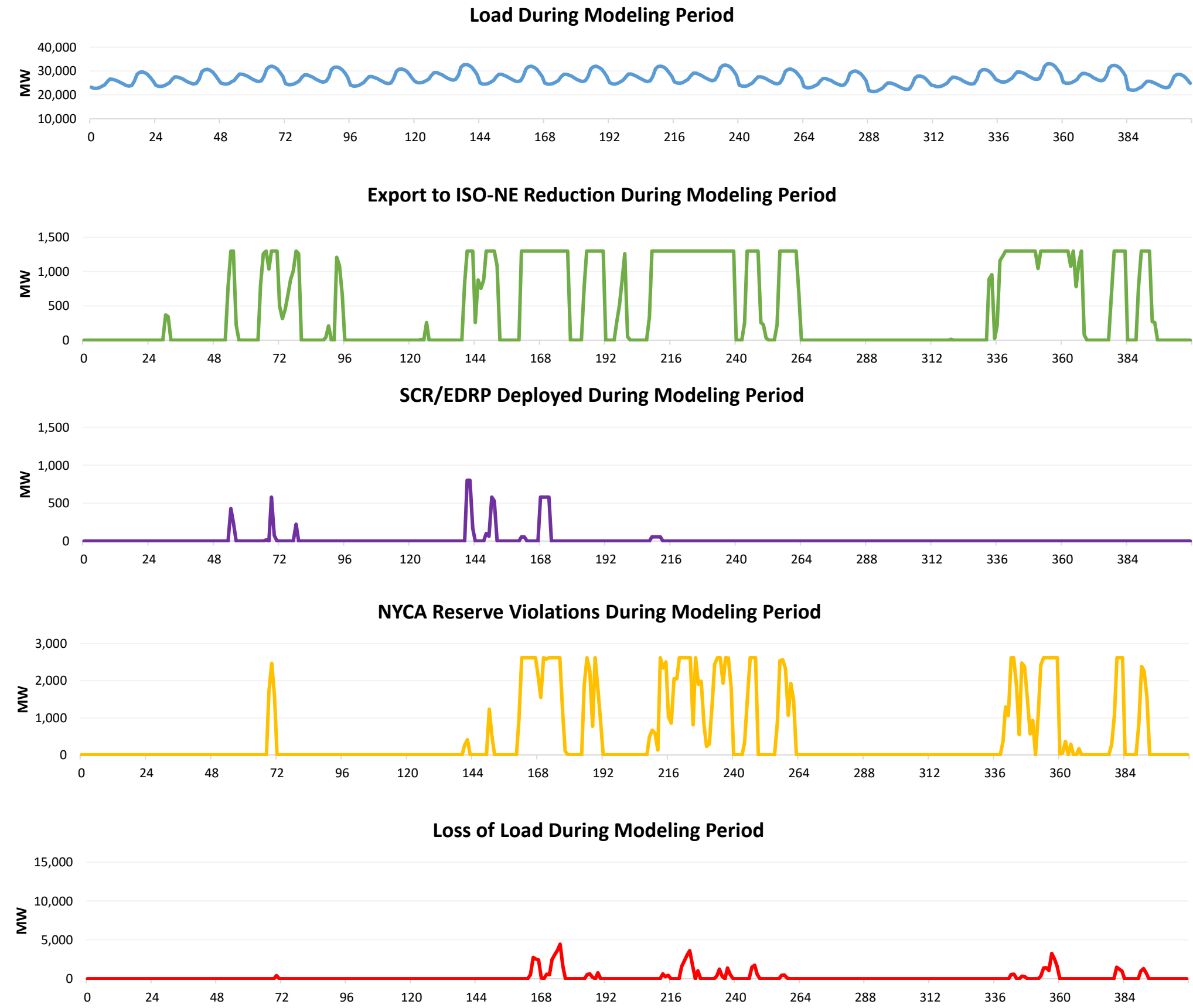


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 5 - PD 2 High Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 5 - PD 2 High Outage



Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	172
Total MWh	185,170
Avg. MW	453.8

SCR Deployment	
Total Hrs.	23
Total MWh	7,246
Avg. MW	17.8

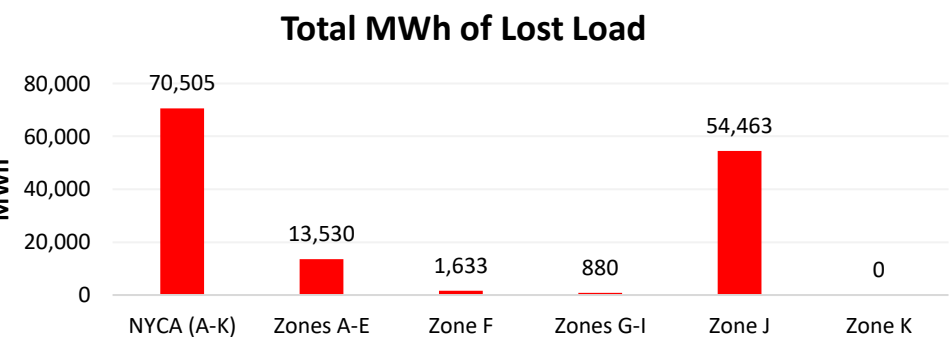
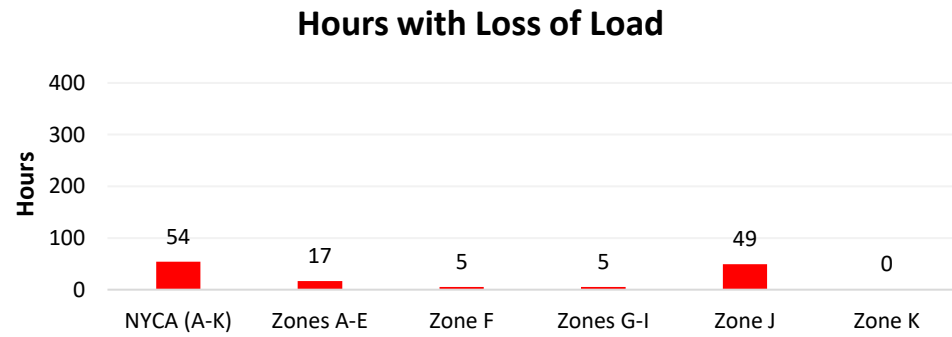
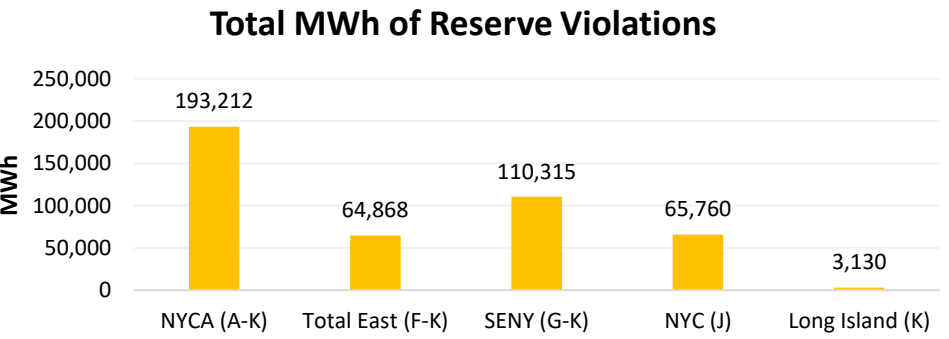
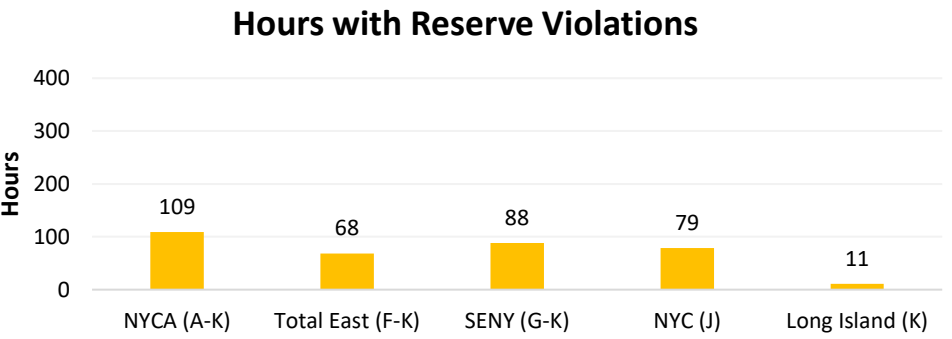
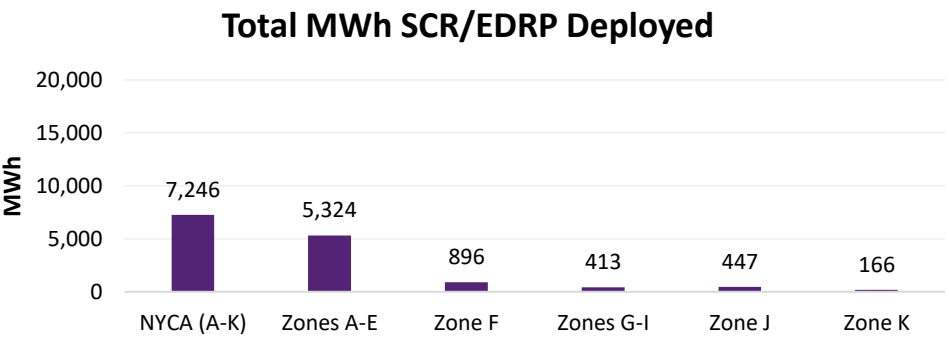
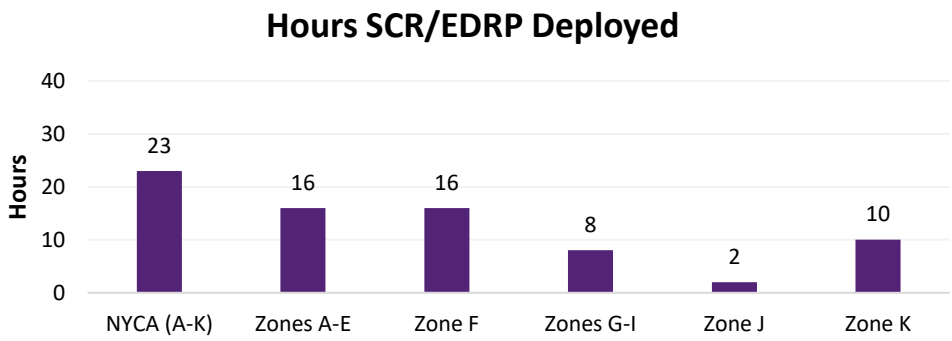
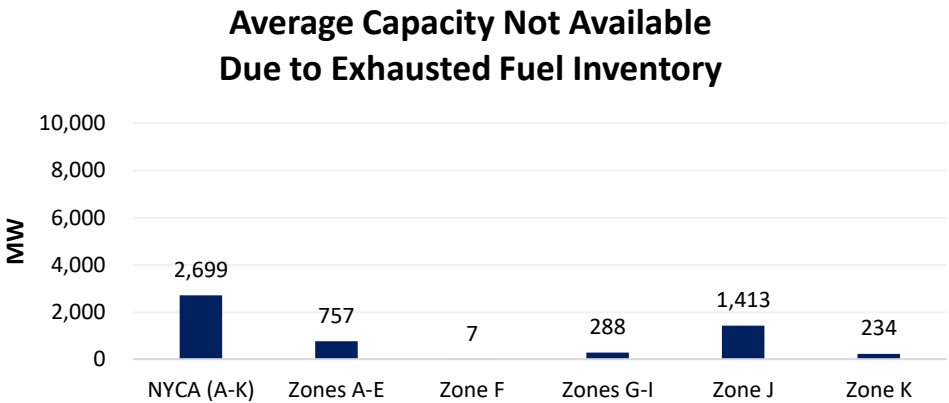
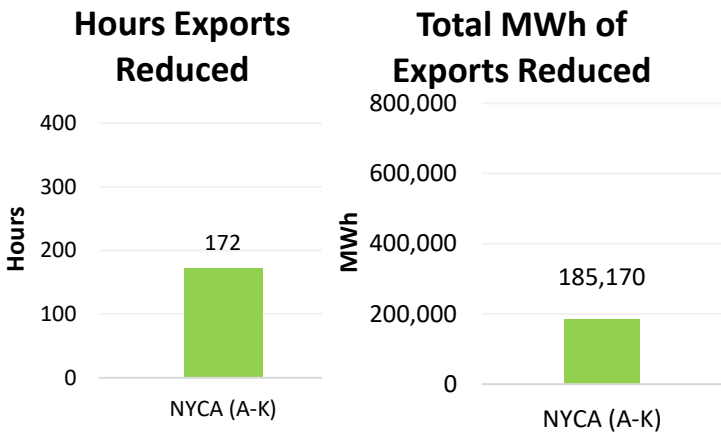
Reserve Violations	
Total Hrs.	109
Total MWh	193,212
Avg. MW	473.6
First Hour with Viol.	69

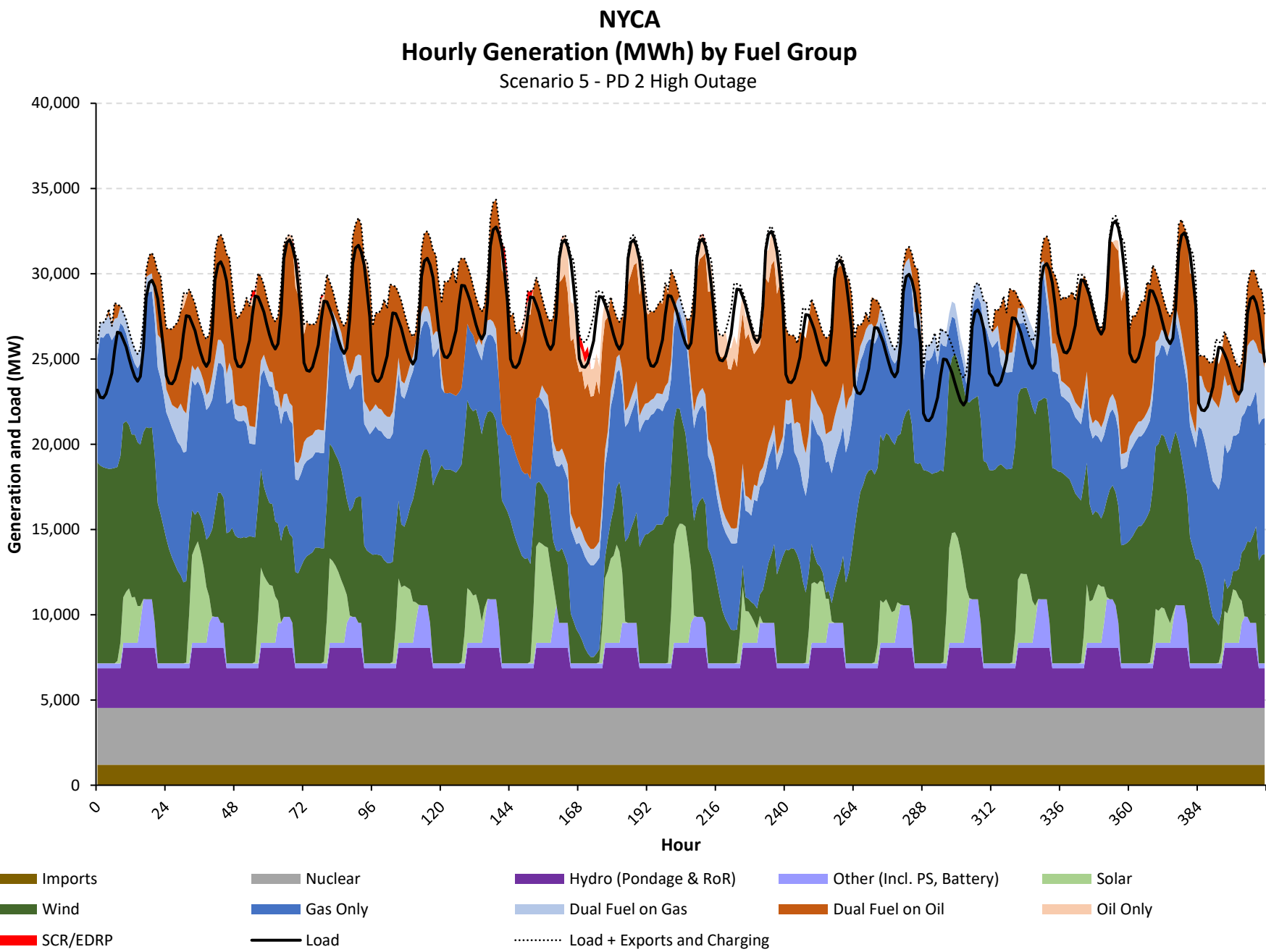
Loss of Load	
Total Hrs.	54
Total MWh	70,505
Avg. MW	172.8
First Hour with Losses	70

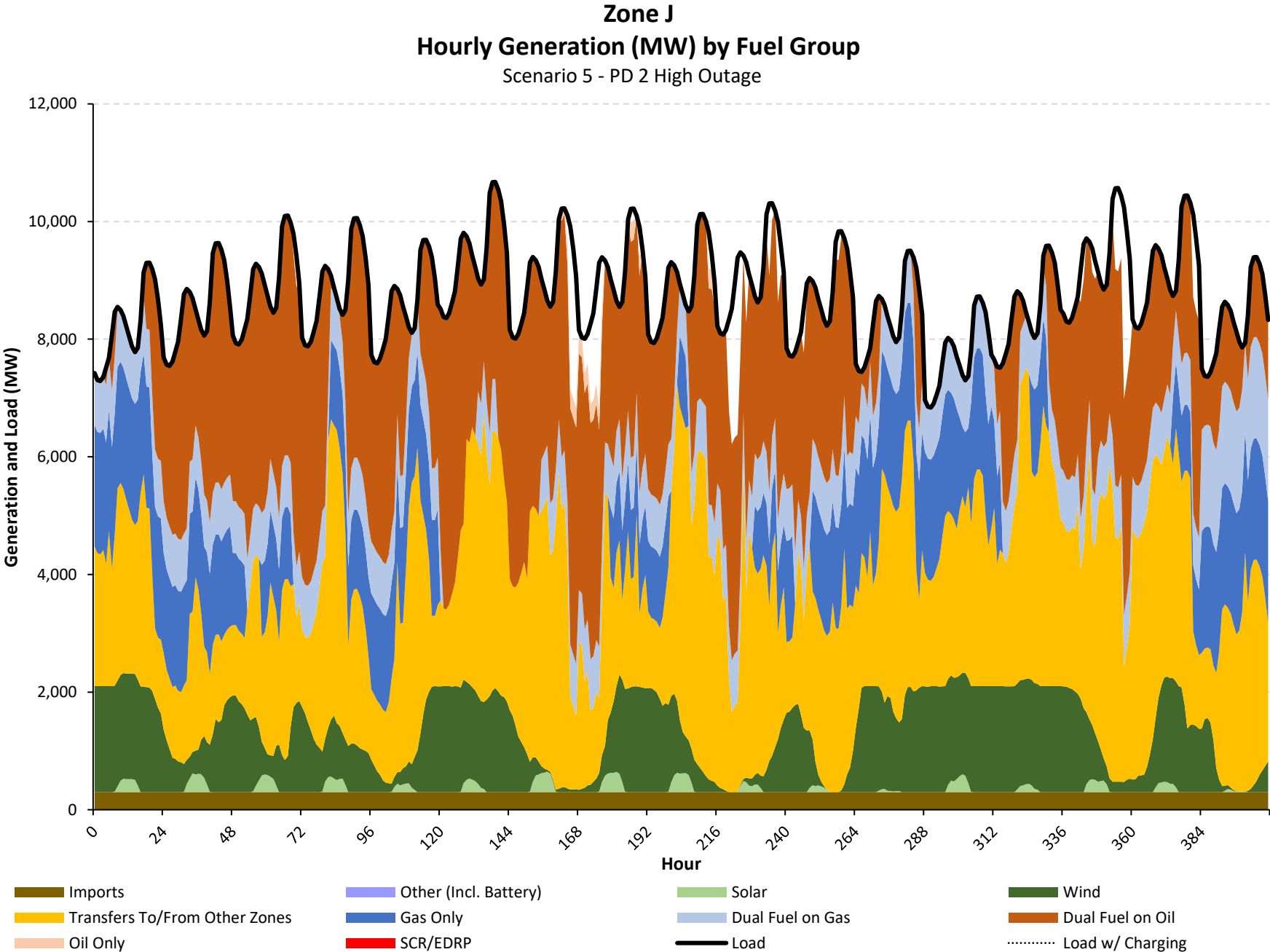
Full Period Results Summary

Case Name: Scenario 5 - PD 2 High Outage

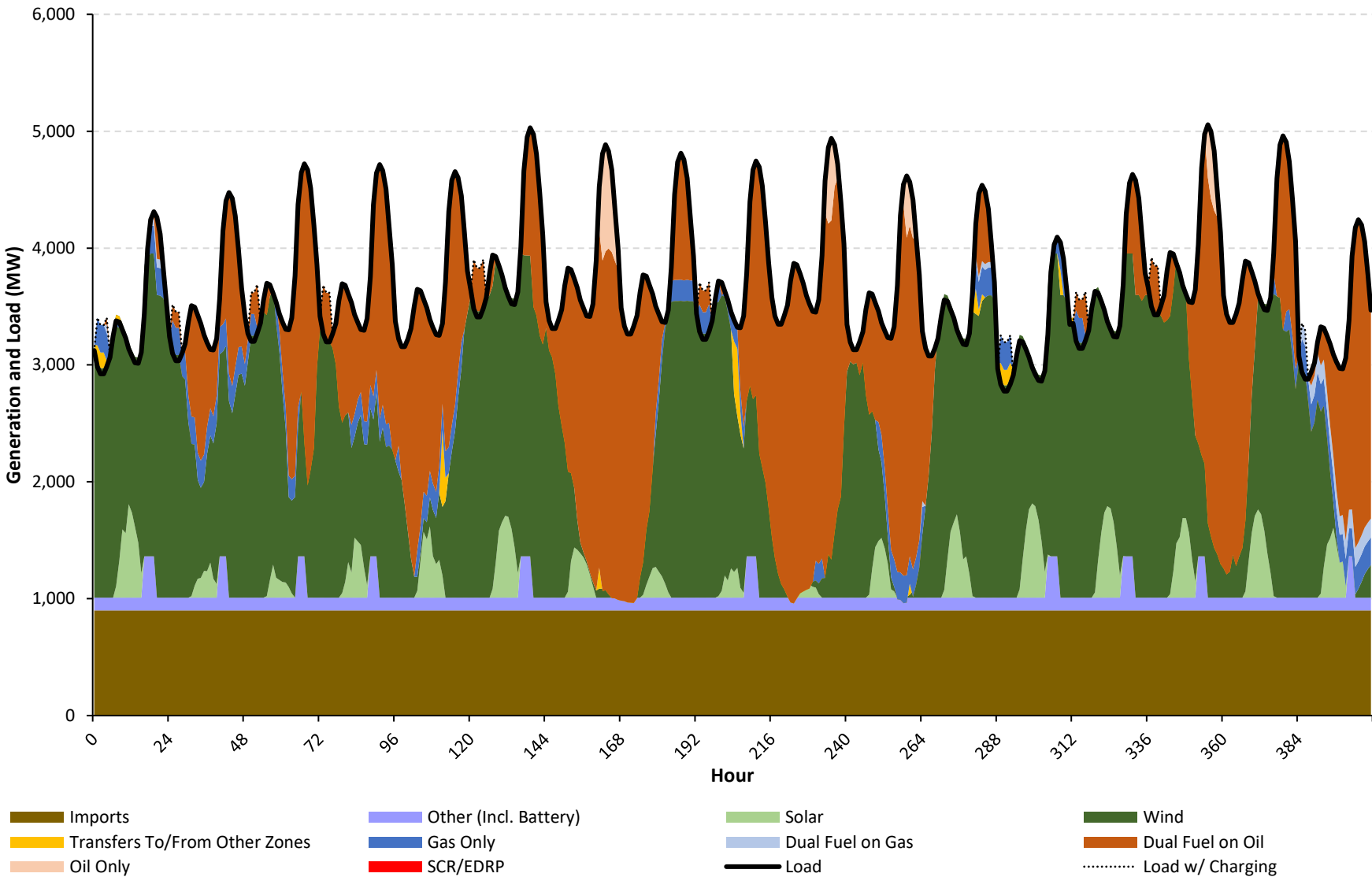
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

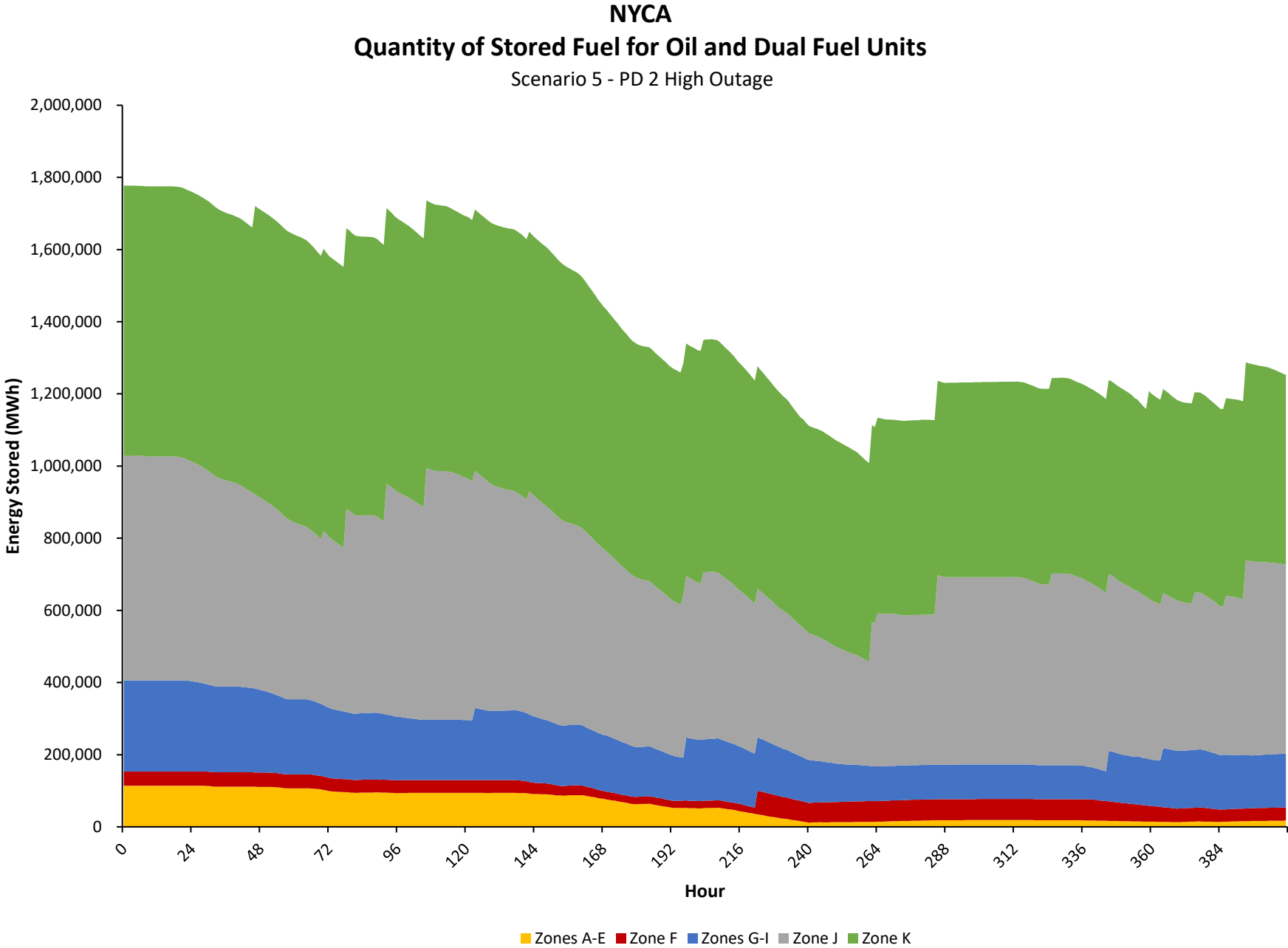


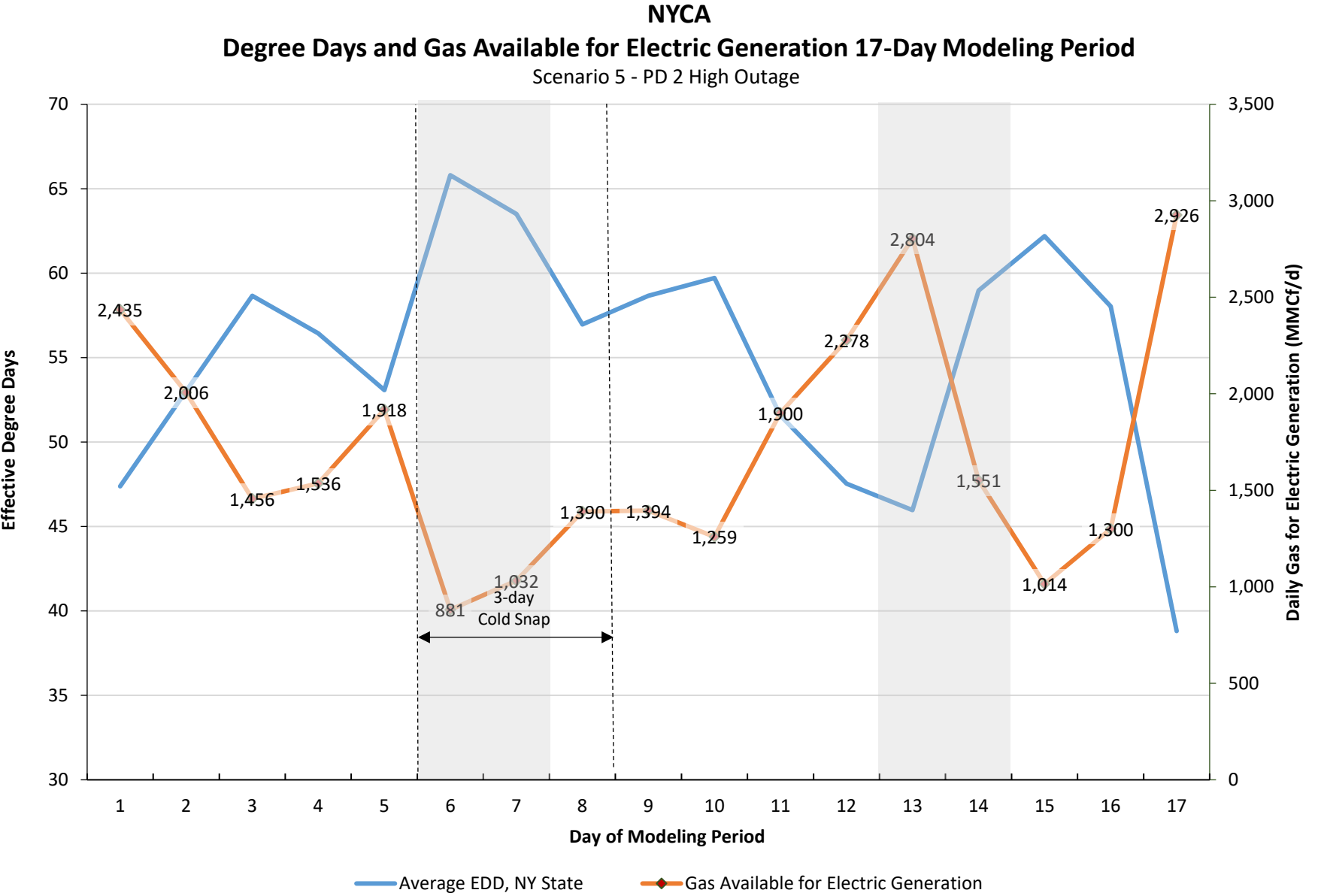




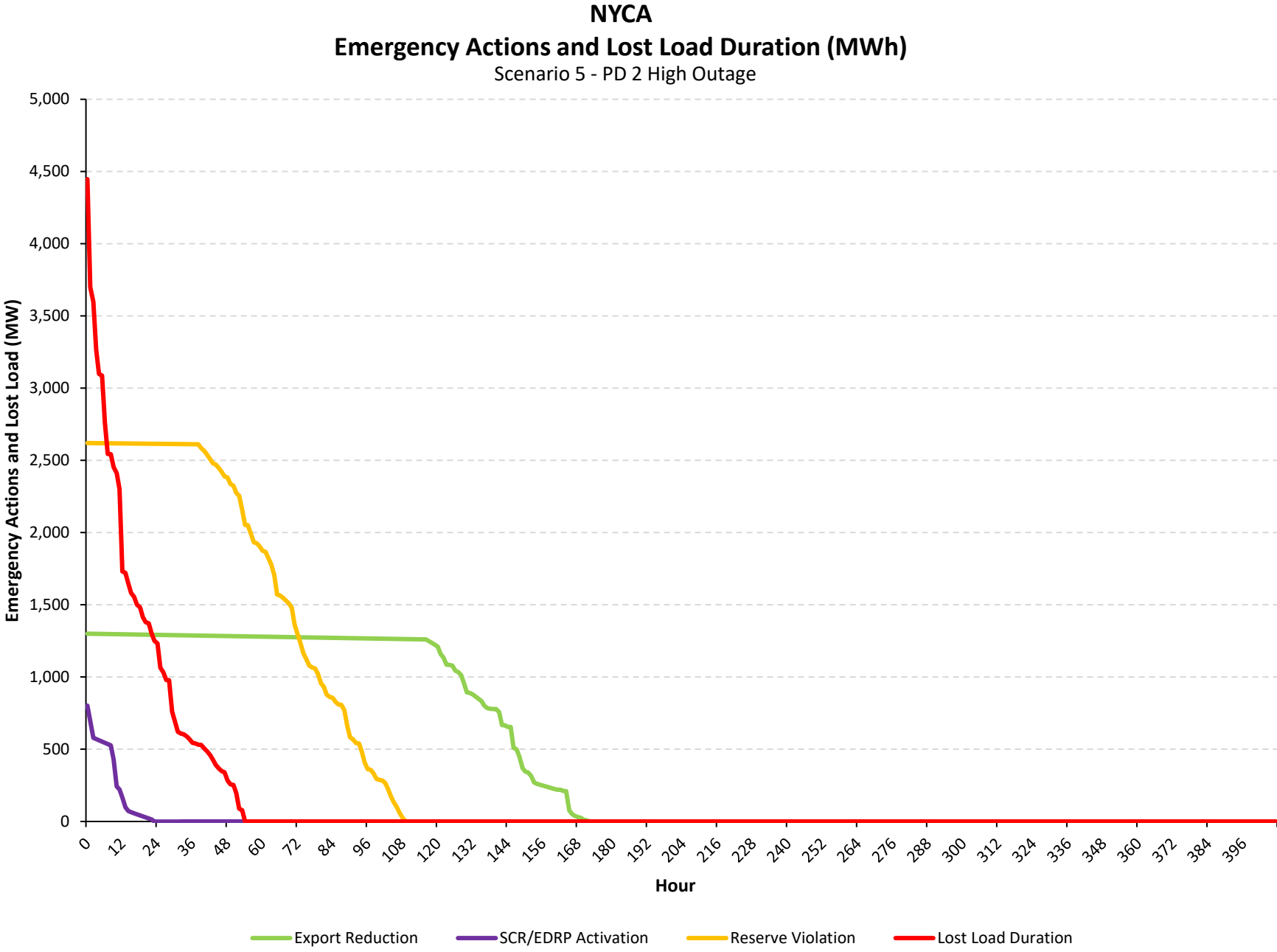
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 5 - PD 2 High Outage

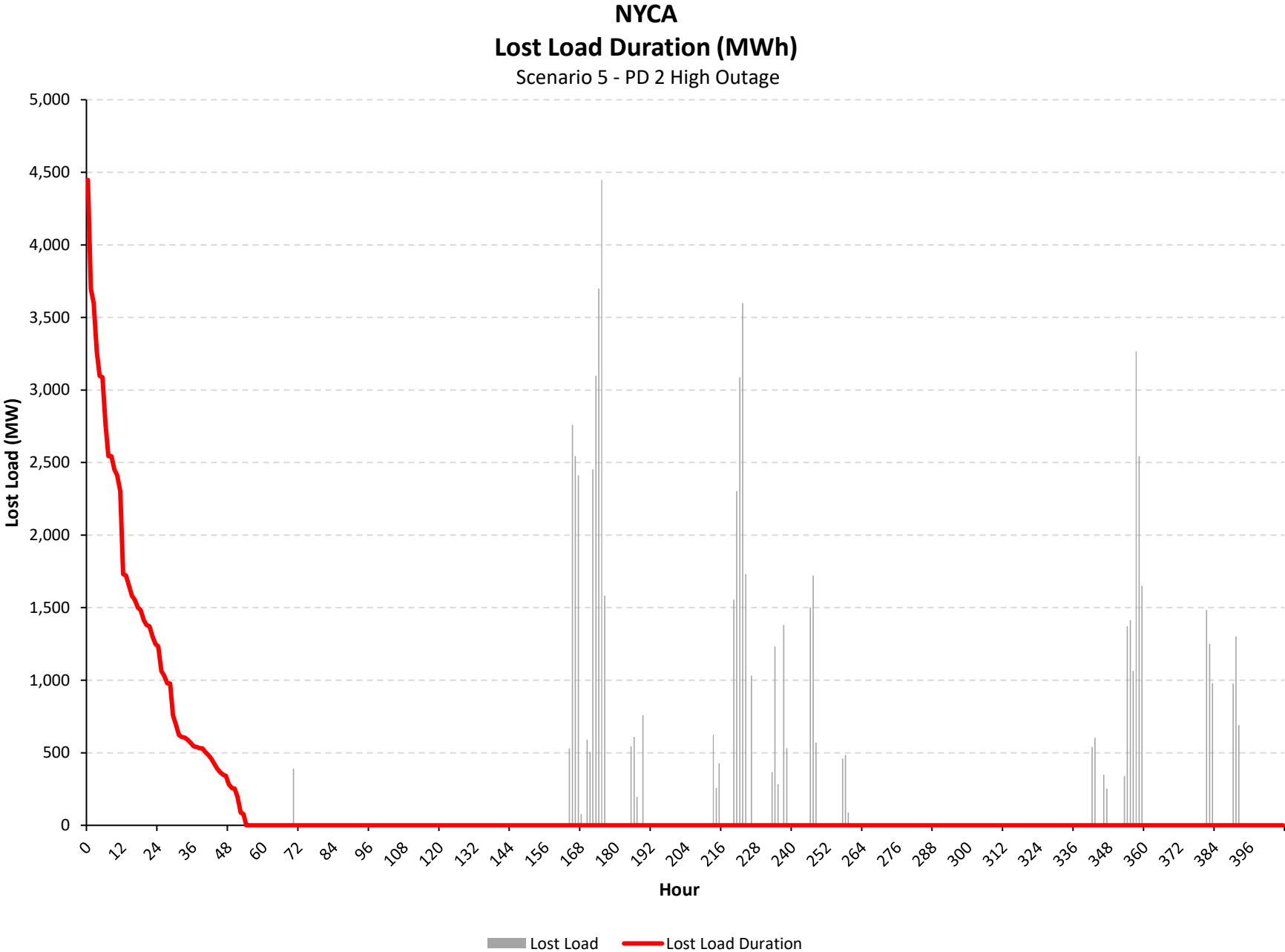






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



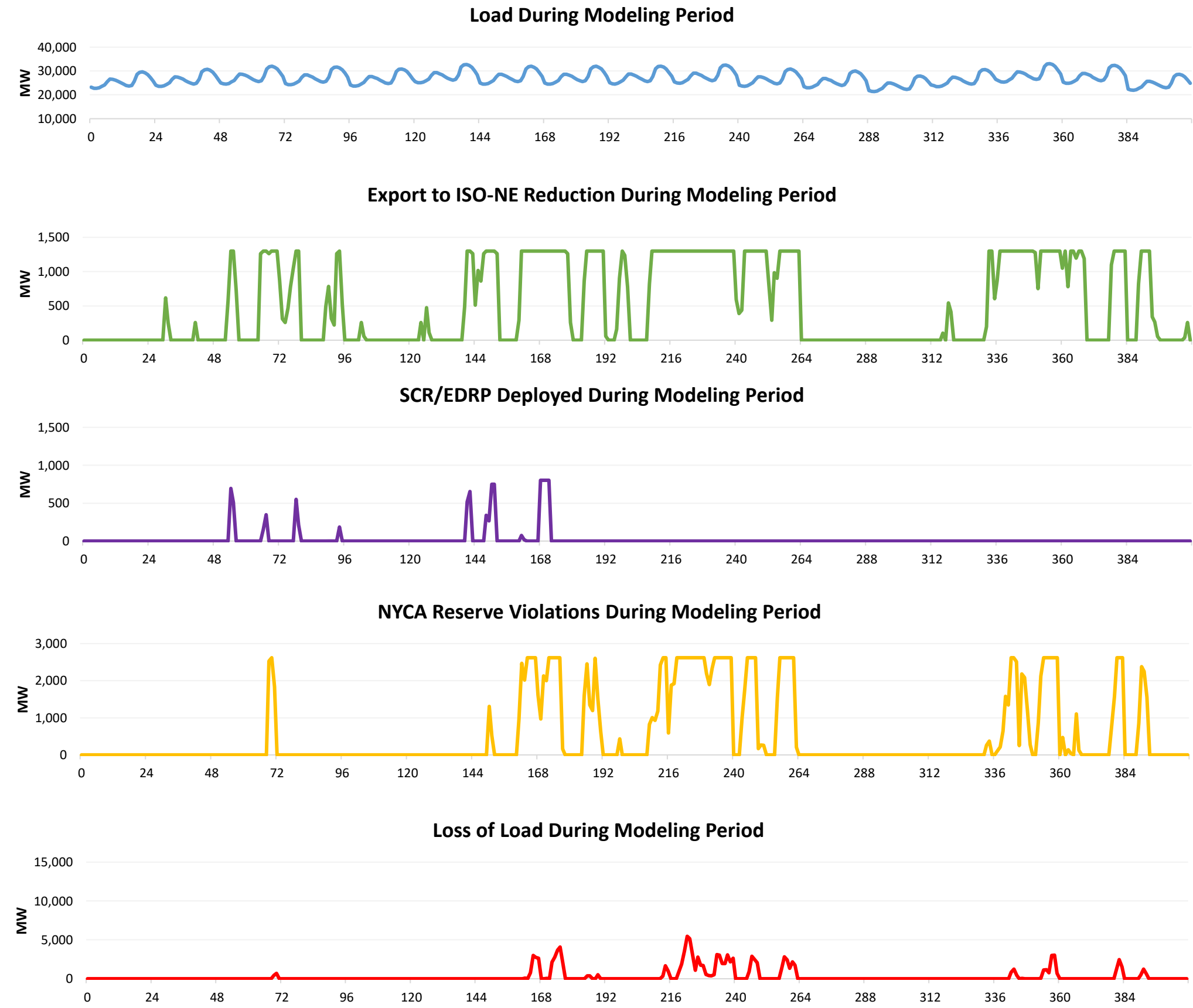


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 5 - PD 3 SENY Deactivation (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 5 - PD 3 SENY Deactivation



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	All

Export Reductions	
Total Hrs.	193
Total MWh	206,786
Avg. MW	506.8

SCR Deployment	
Total Hrs.	19
Total MWh	9,230
Avg. MW	22.6

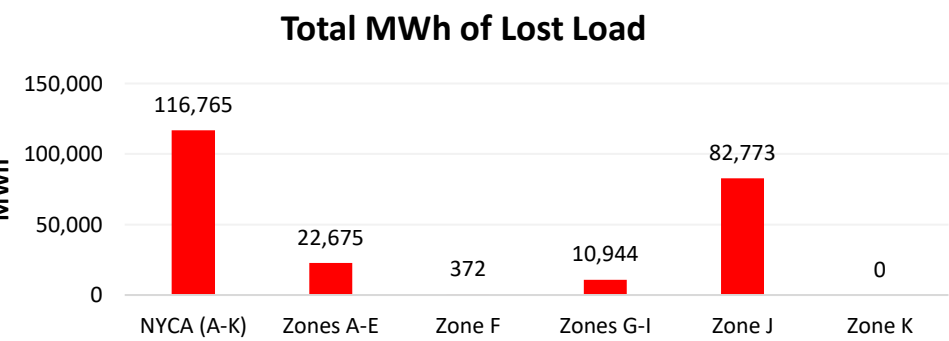
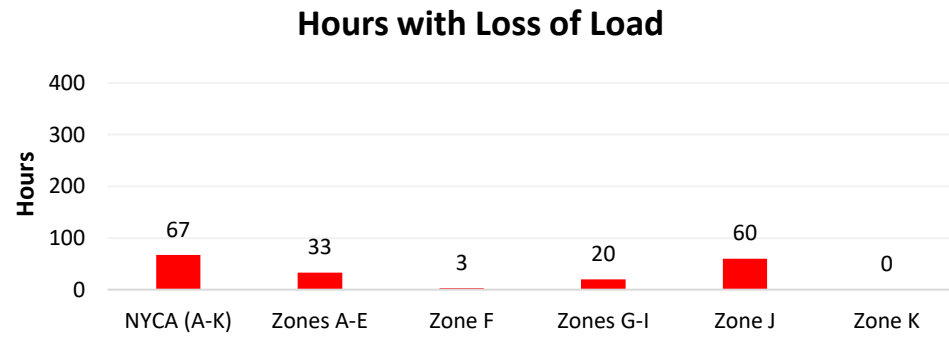
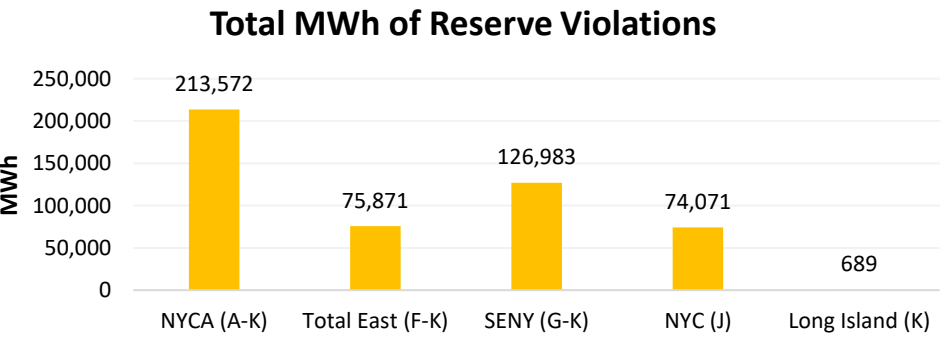
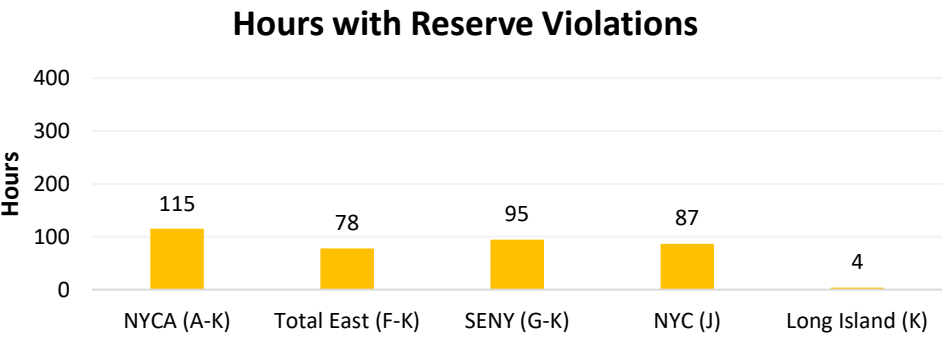
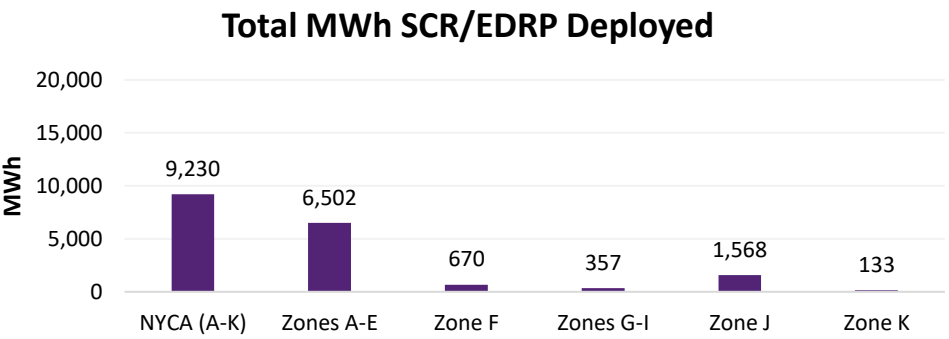
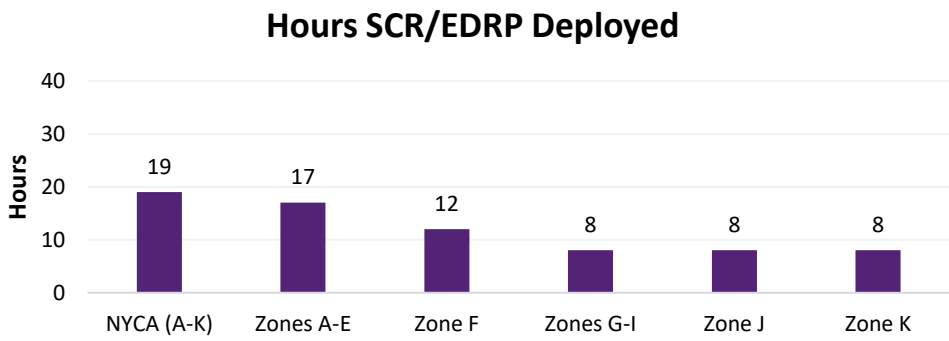
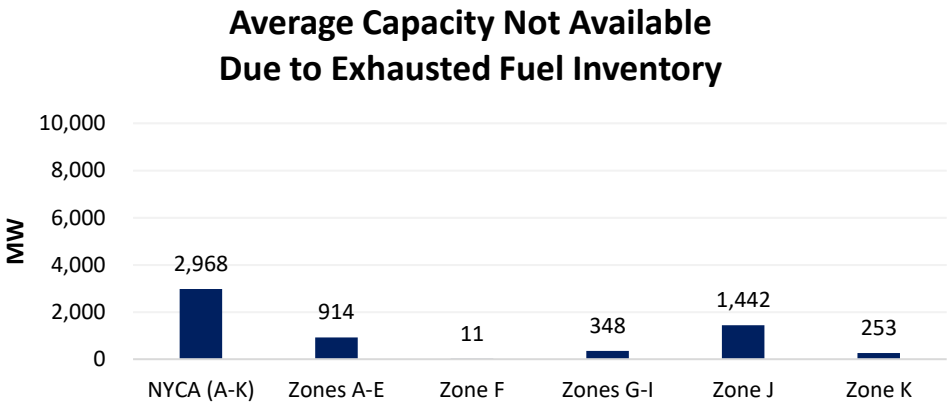
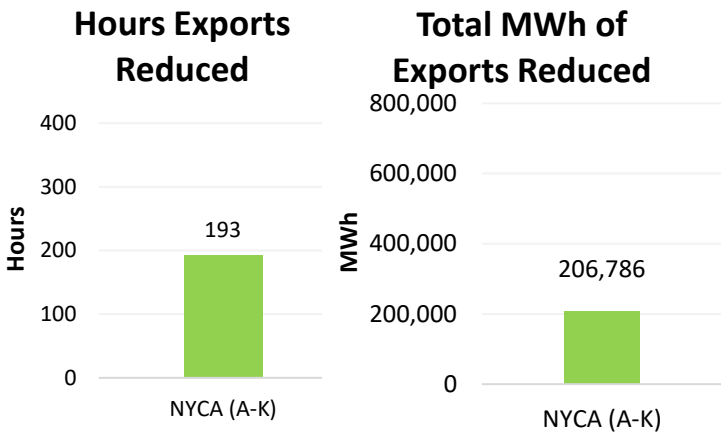
Reserve Violations	
Total Hrs.	115
Total MWh	213,572
Avg. MW	523.5
First Hour with Viol.	69

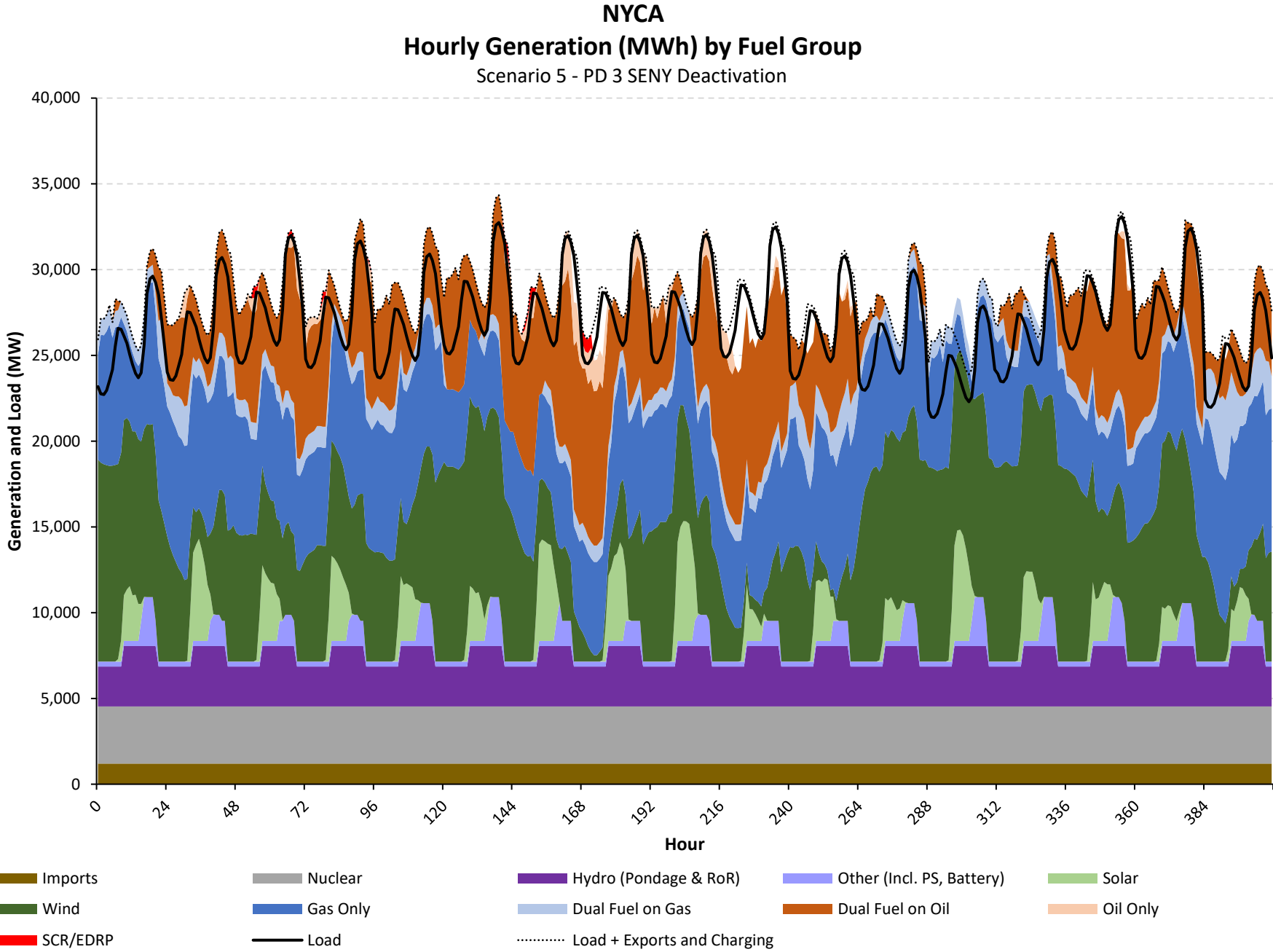
Loss of Load	
Total Hrs.	67
Total MWh	116,765
Avg. MW	286.2
First Hour with Losses	69

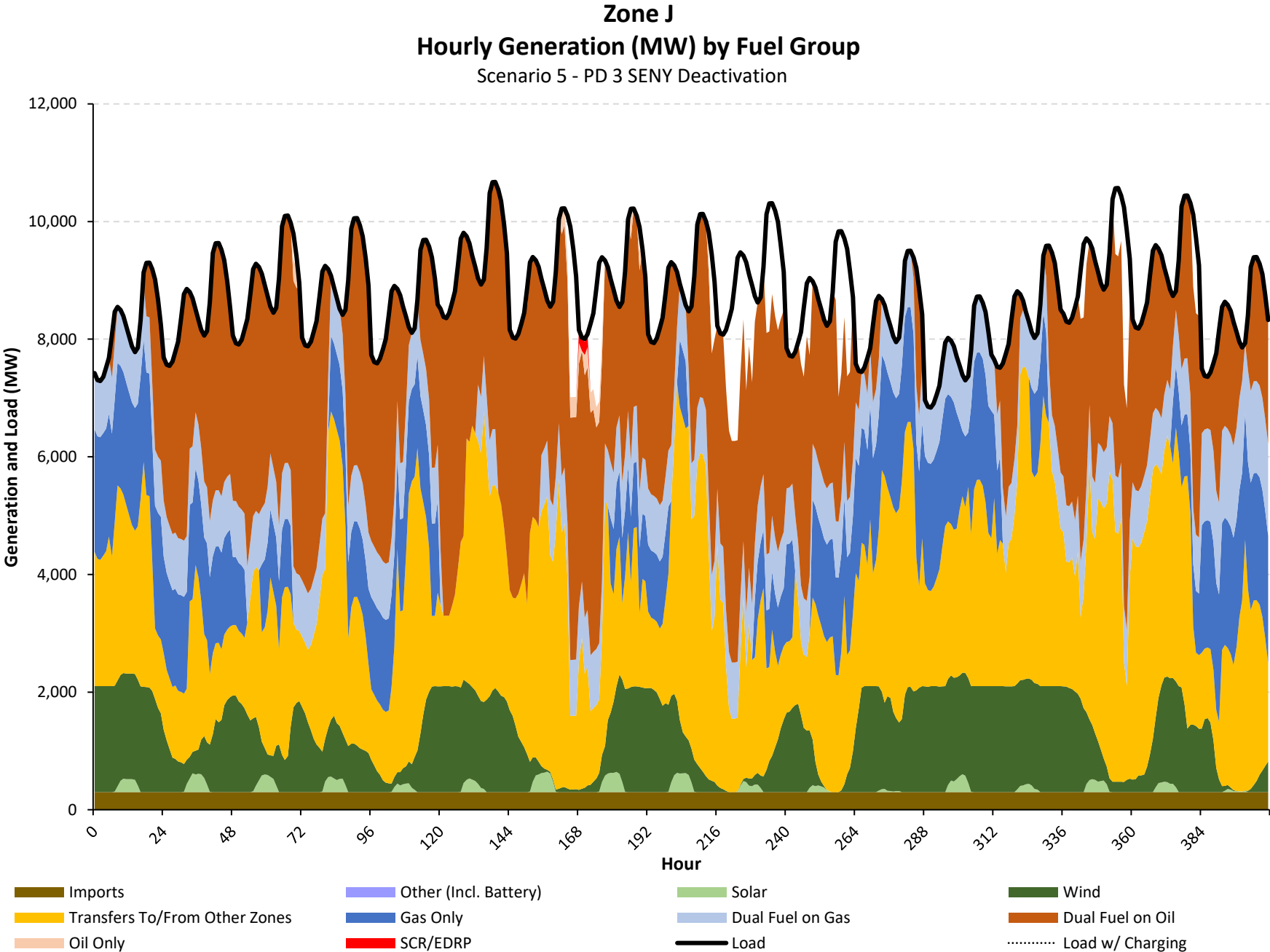
Full Period Results Summary

Case Name: Scenario 5 - PD 3 SENY Deactivation

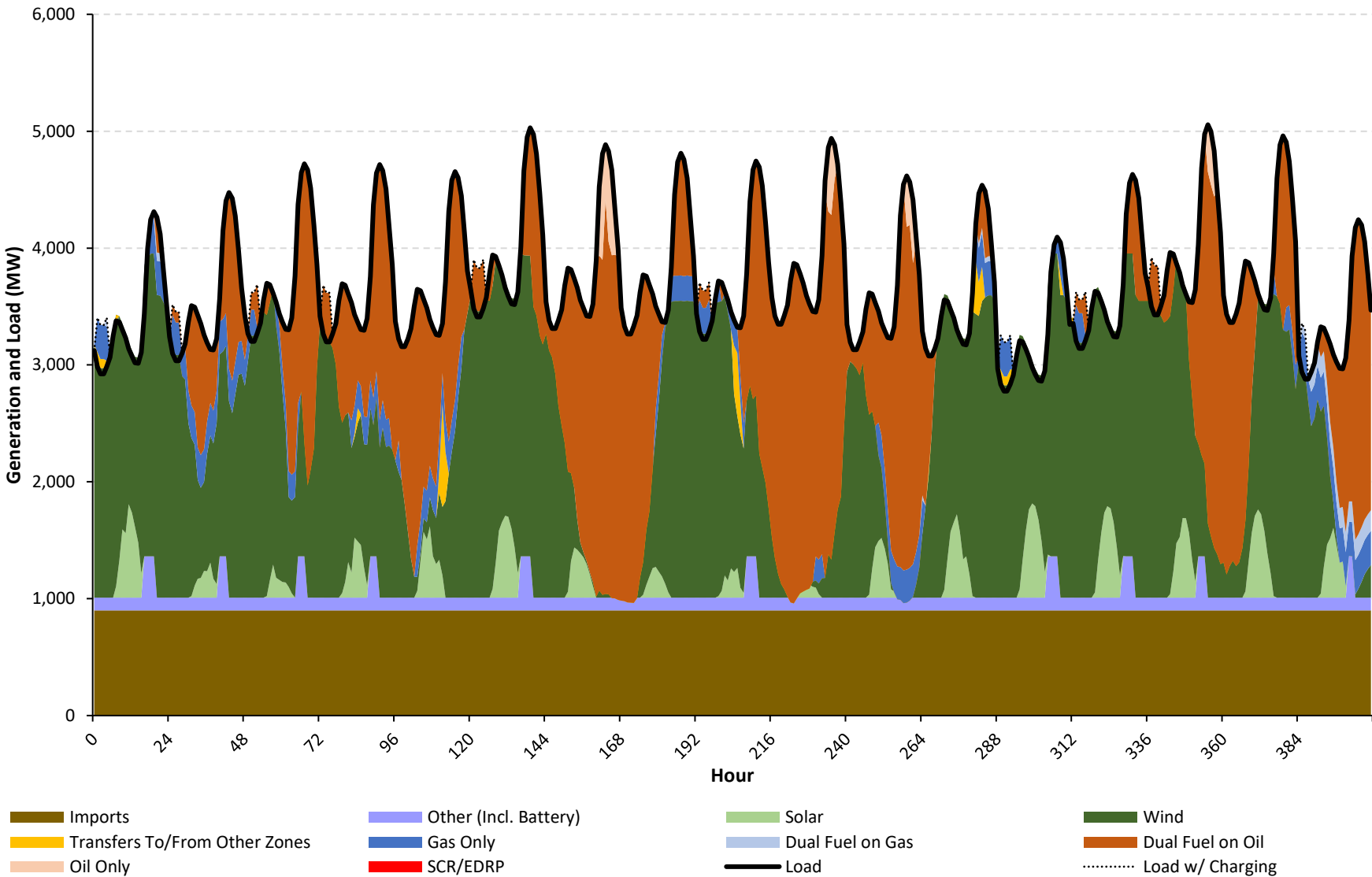
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	All



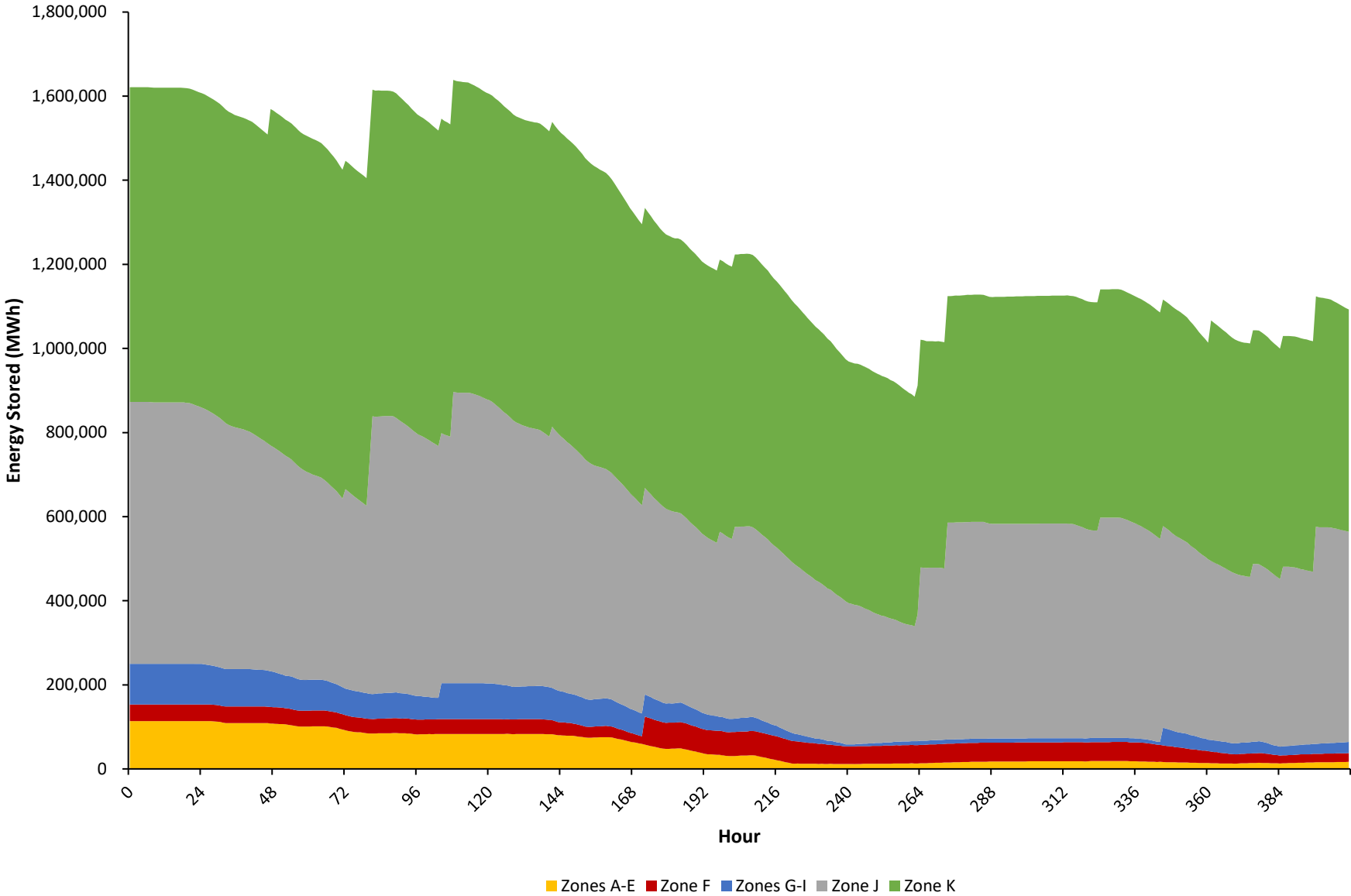


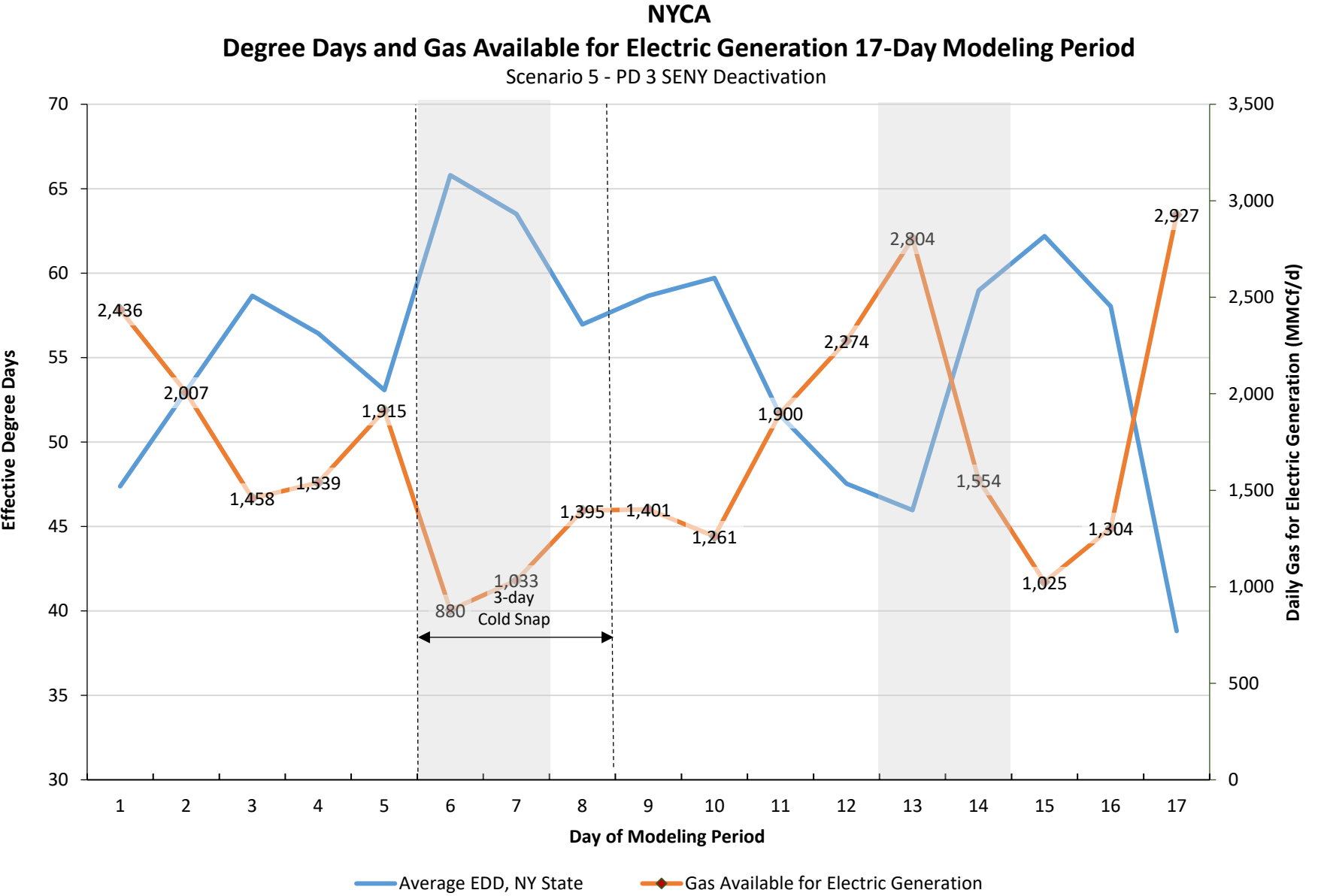


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 5 - PD 3 SENY Deactivation

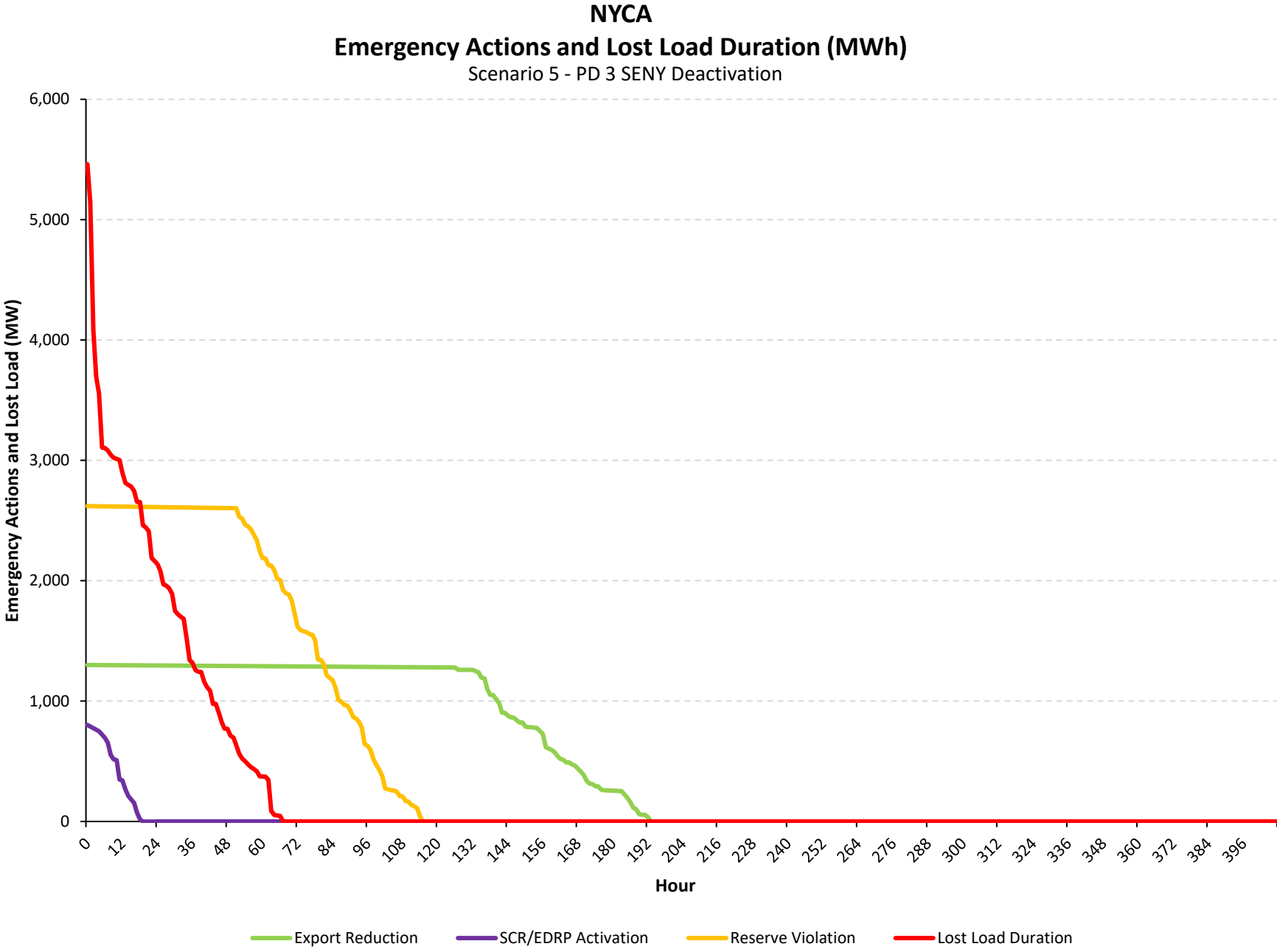


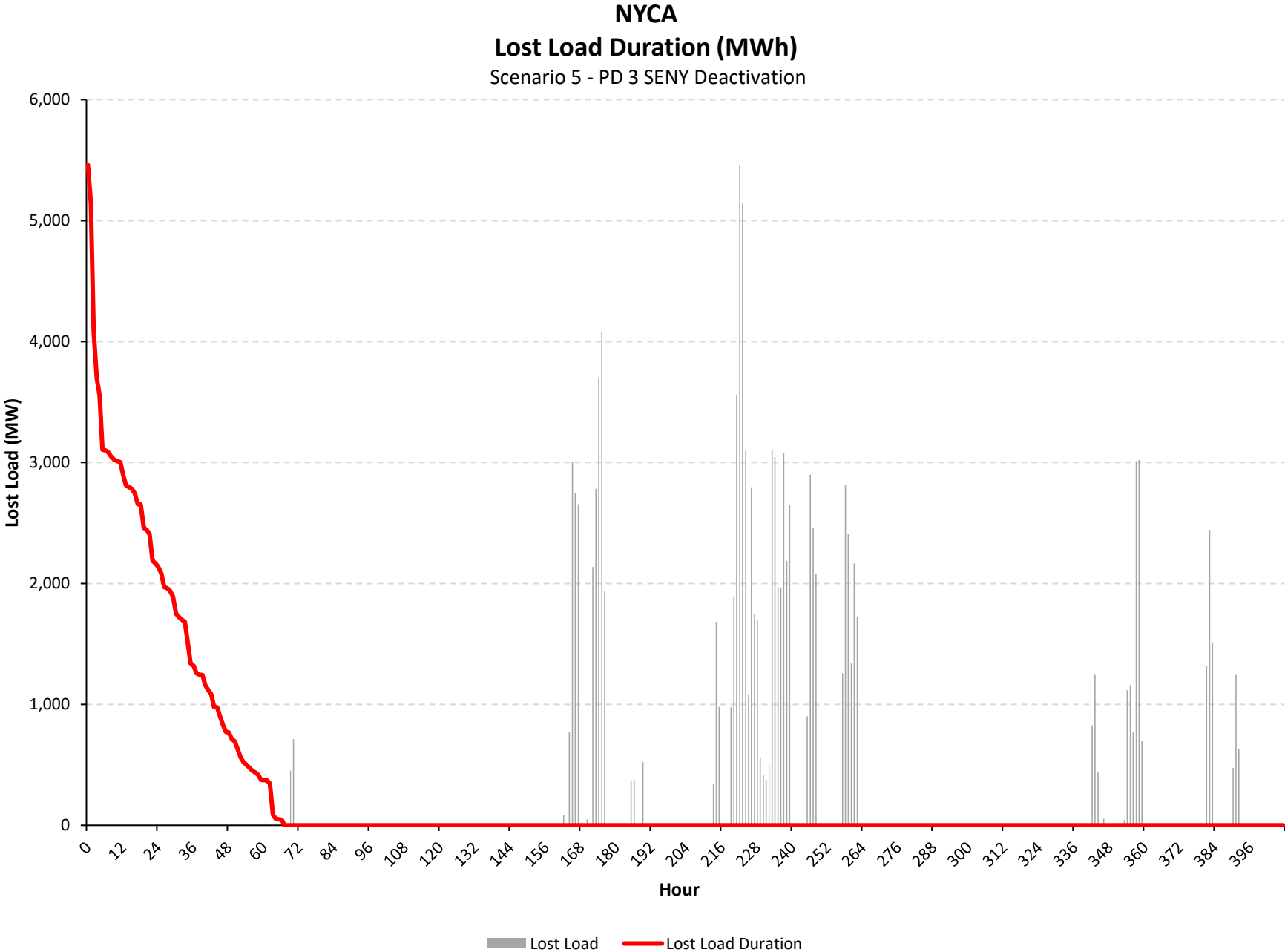
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 5 - PD 3 SENY Deactivation





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



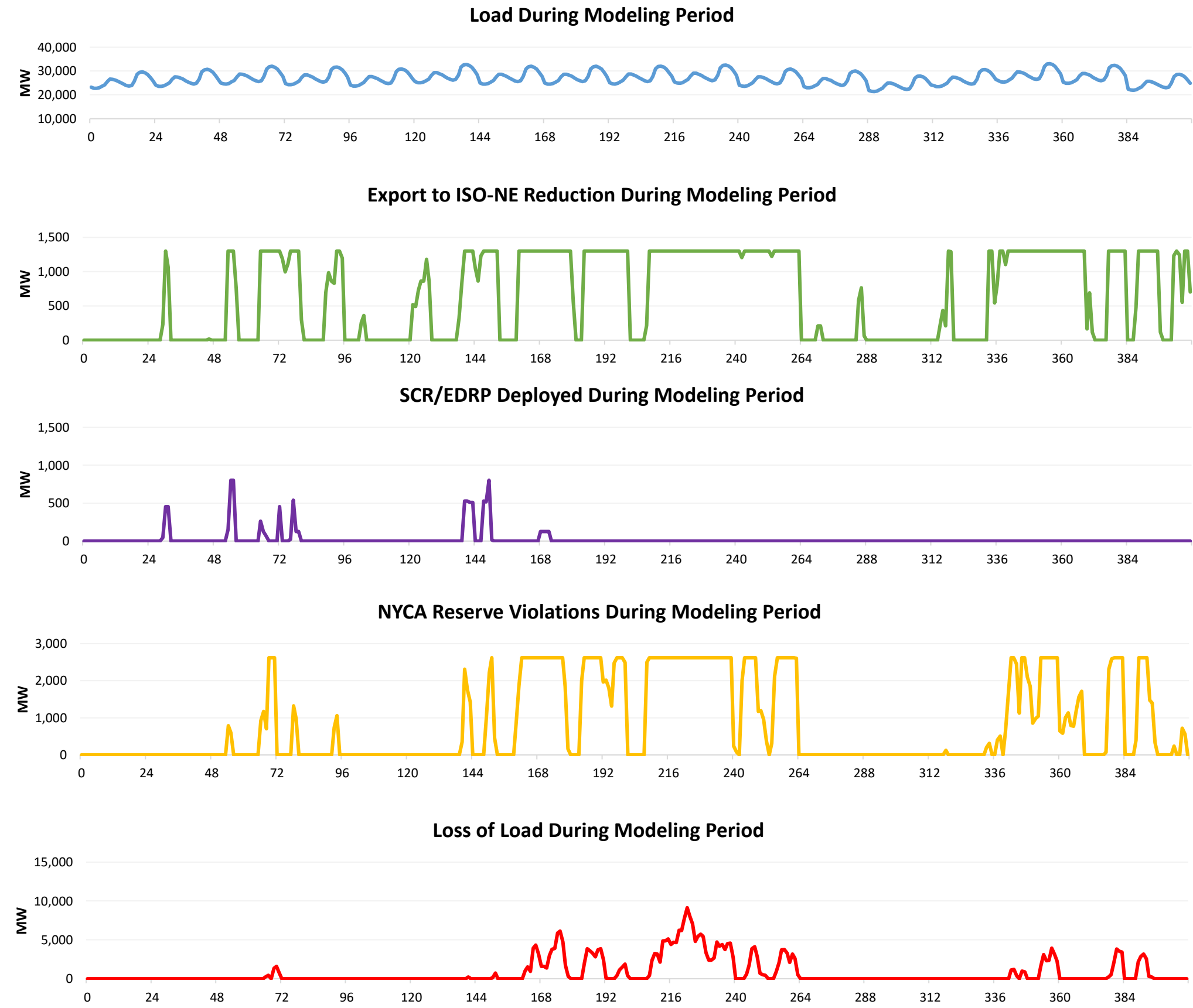


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 5 - PD 4 Nuclear Station Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 5 - PD 4 Nuclear Station Outage



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	223
Total MWh	257,930
Avg. MW	632.2

SCR Deployment	
Total Hrs.	26
Total MWh	8,865
Avg. MW	21.7

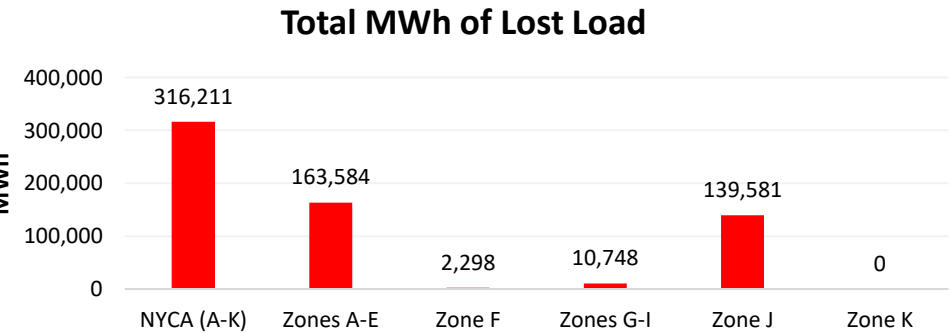
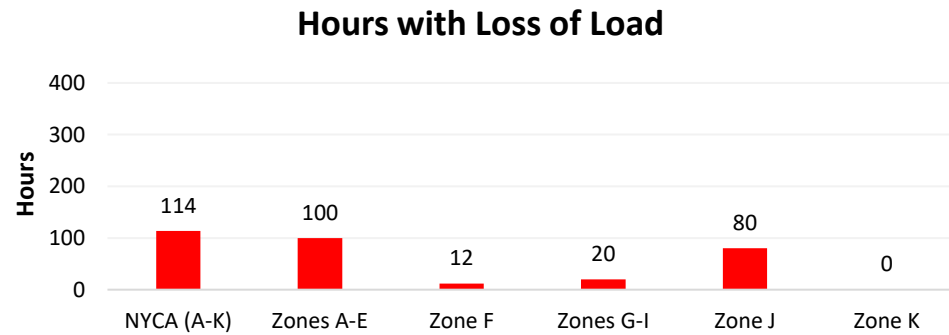
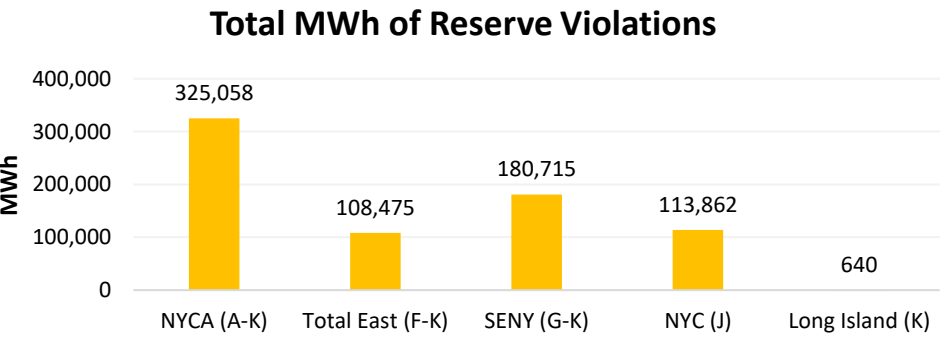
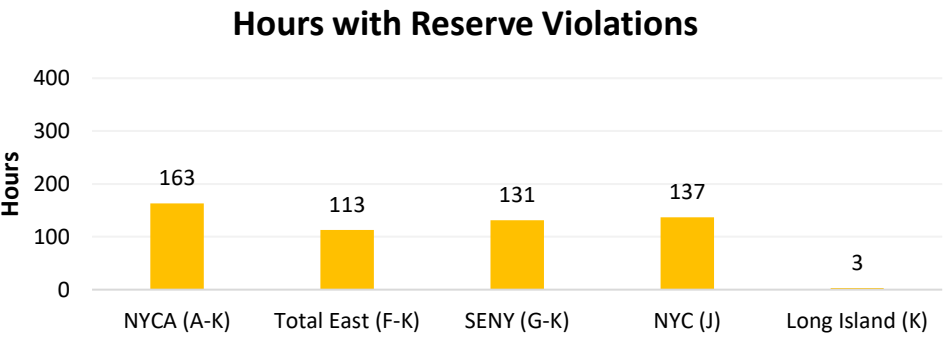
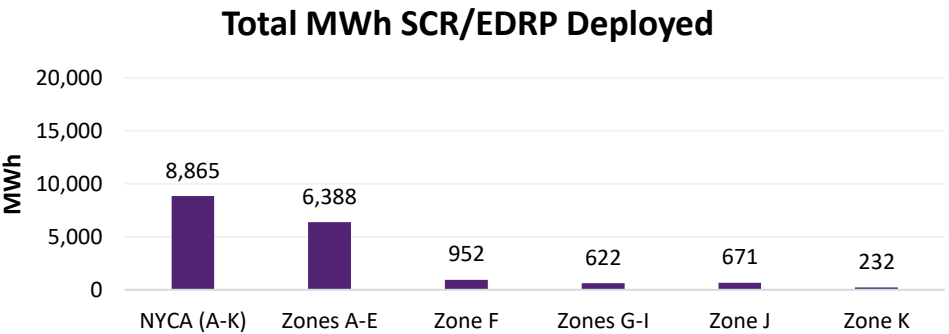
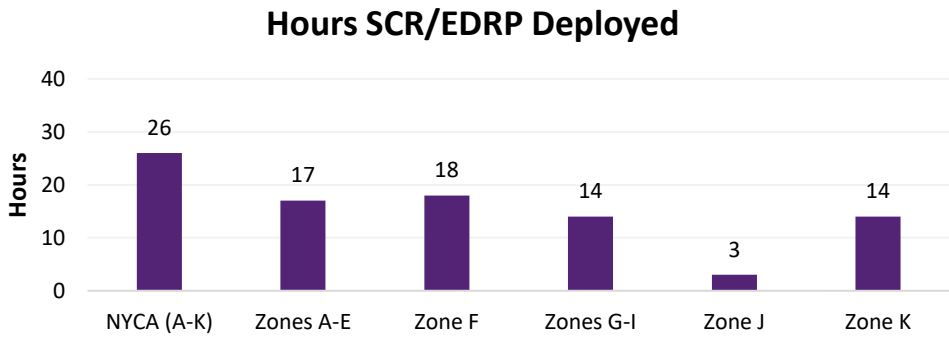
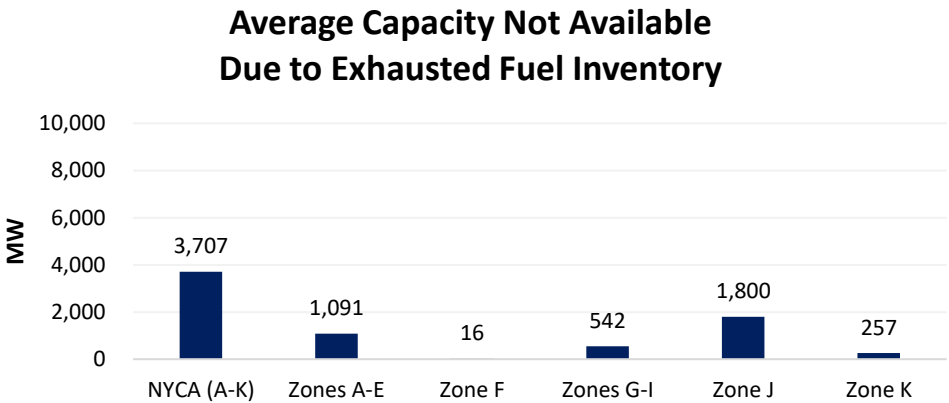
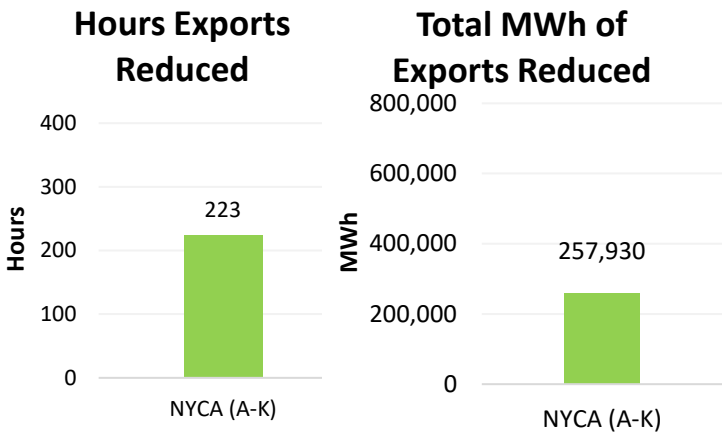
Reserve Violations	
Total Hrs.	163
Total MWh	325,058
Avg. MW	796.7
First Hour with Viol.	31

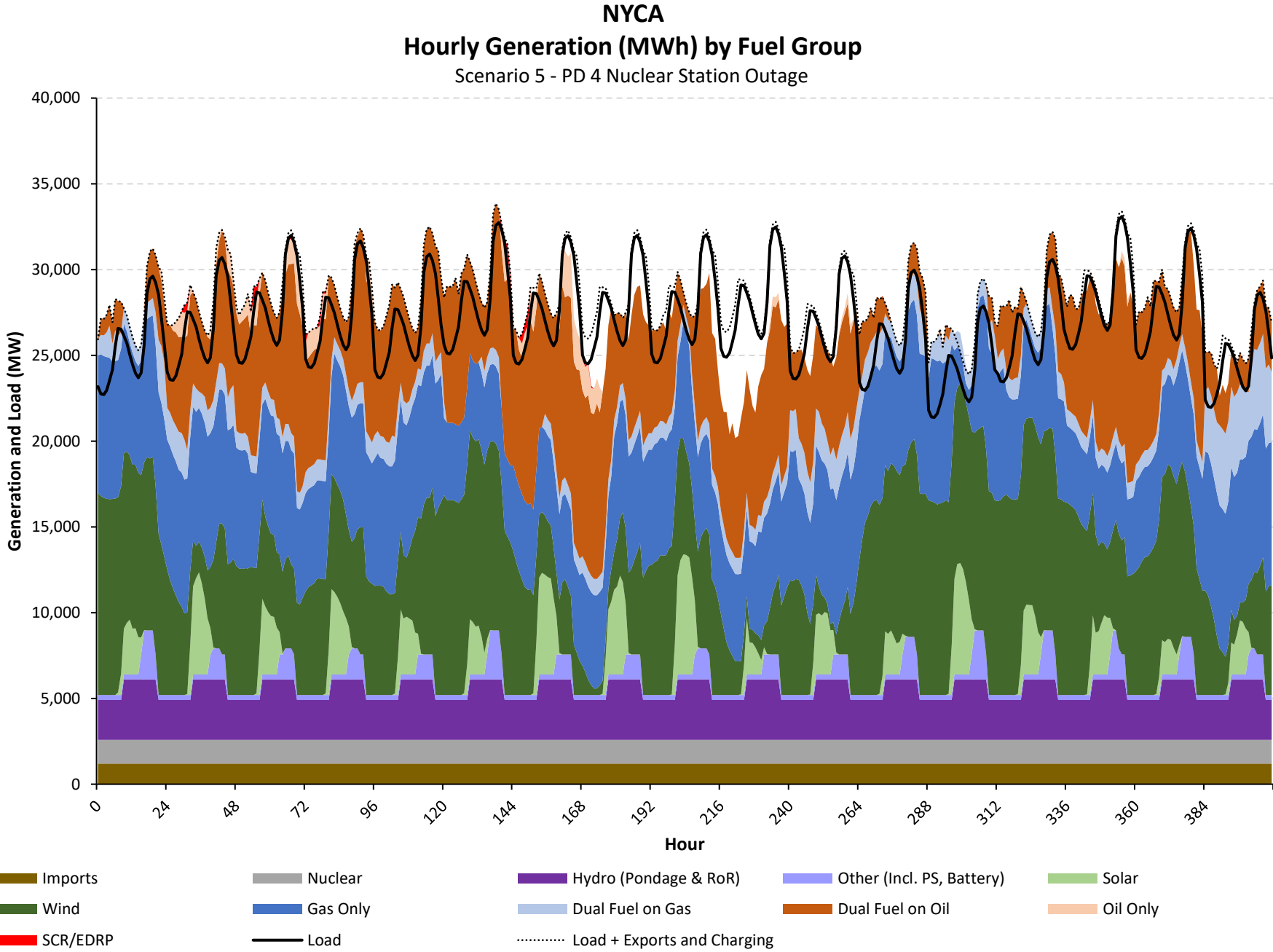
Loss of Load	
Total Hrs.	114
Total MWh	316,211
Avg. MW	775.0
First Hour with Losses	66

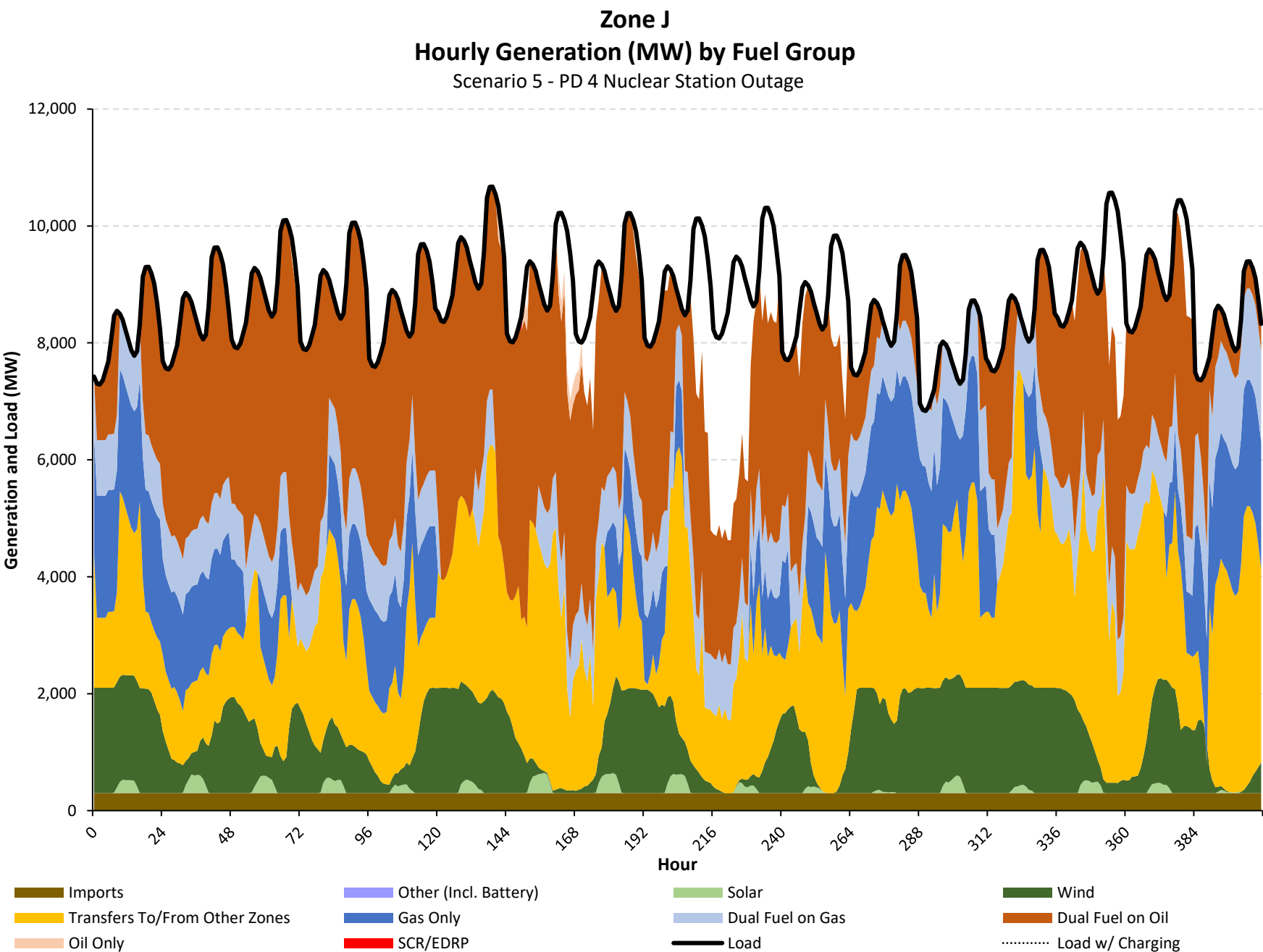
Full Period Results Summary

Case Name: Scenario 5 - PD 4 Nuclear Station Outage

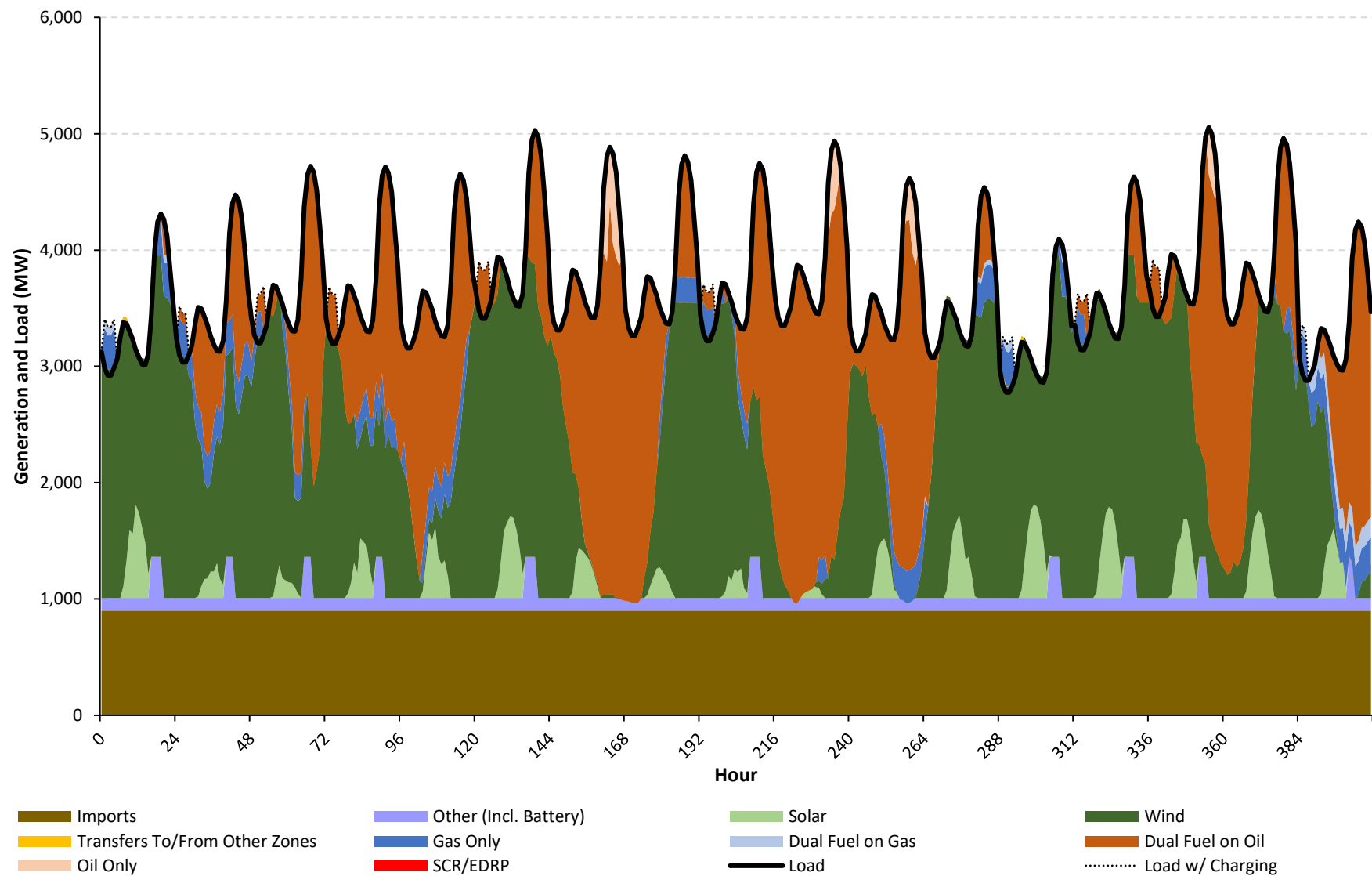
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	All

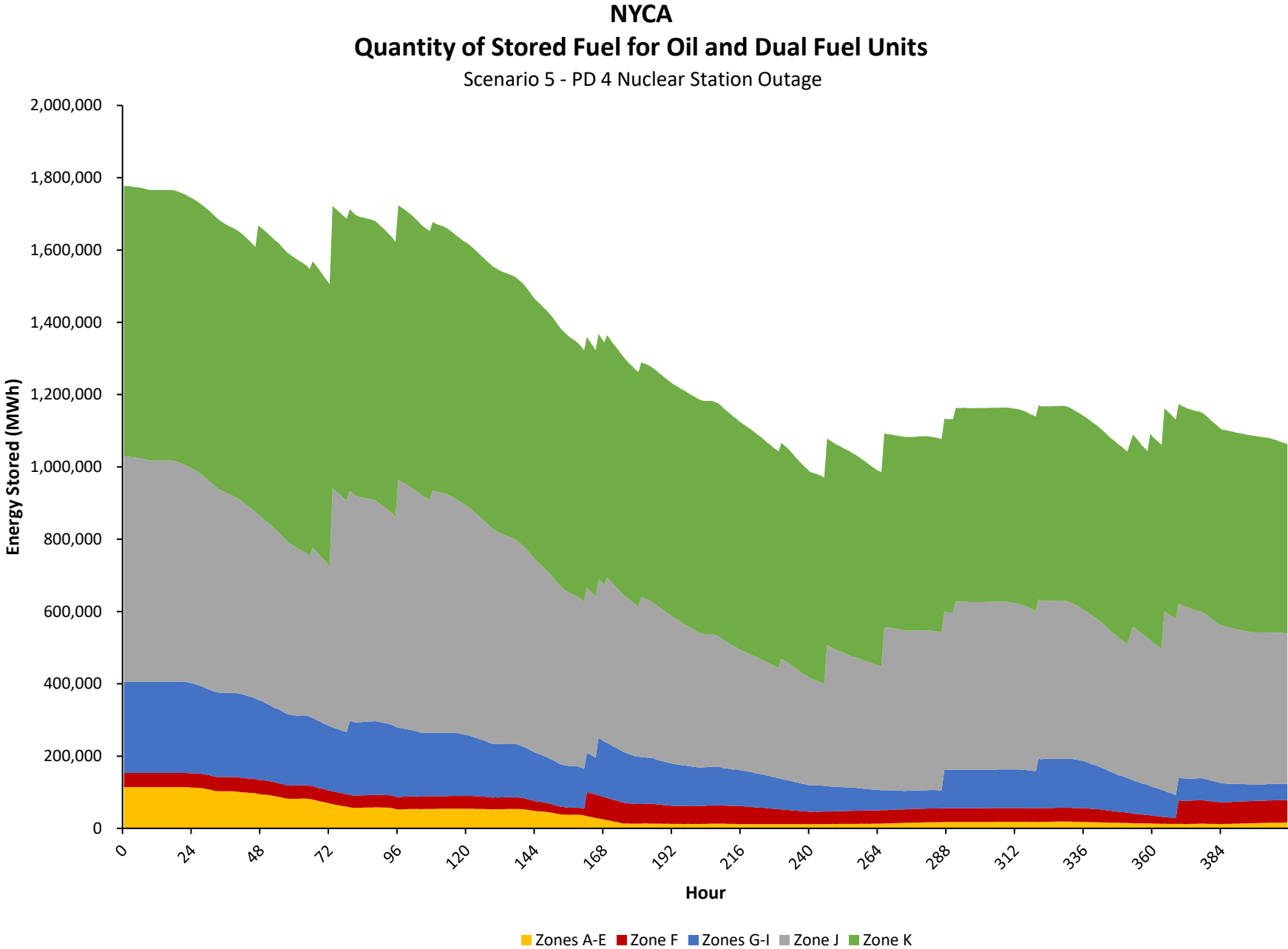


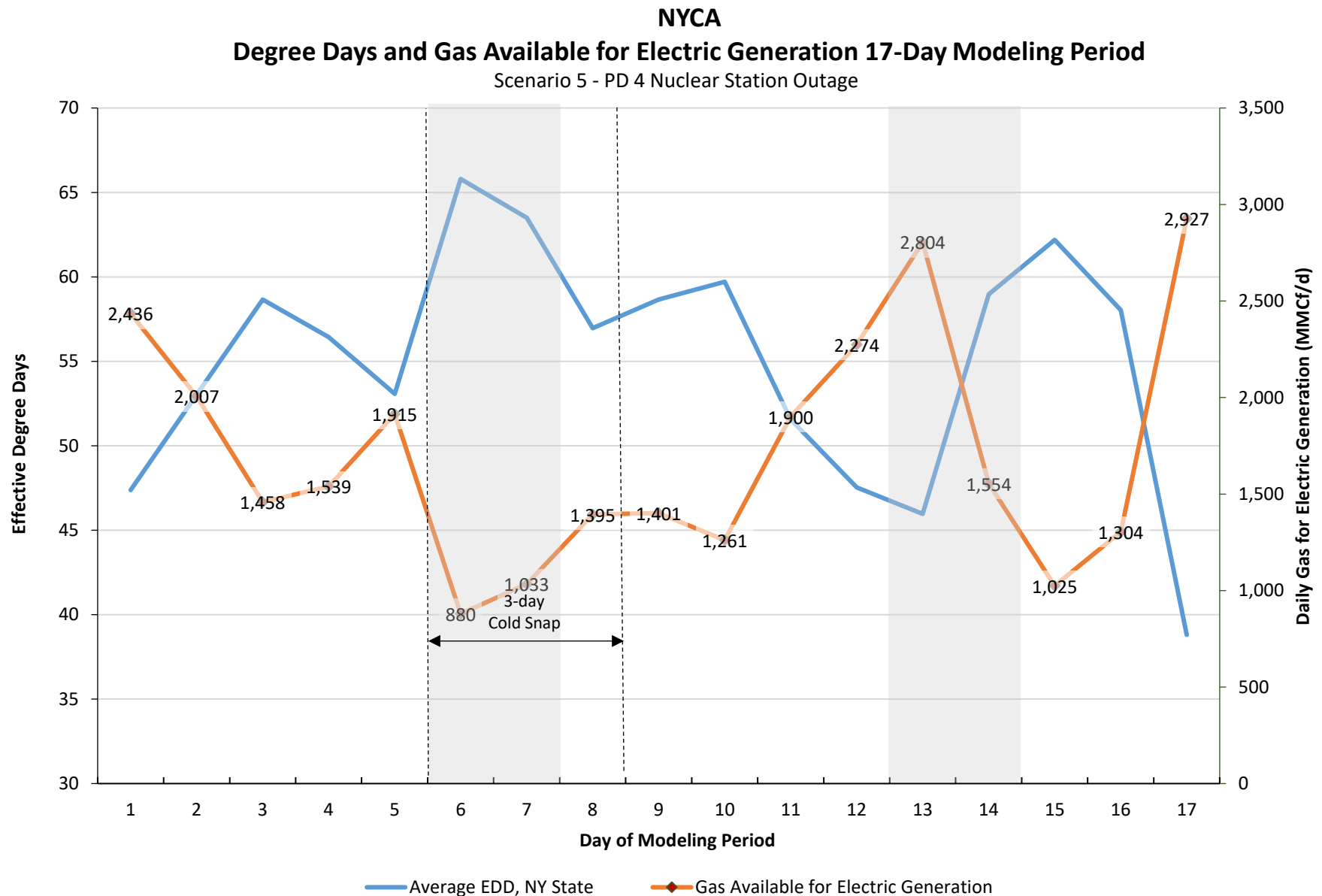




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 5 - PD 4 Nuclear Station Outage

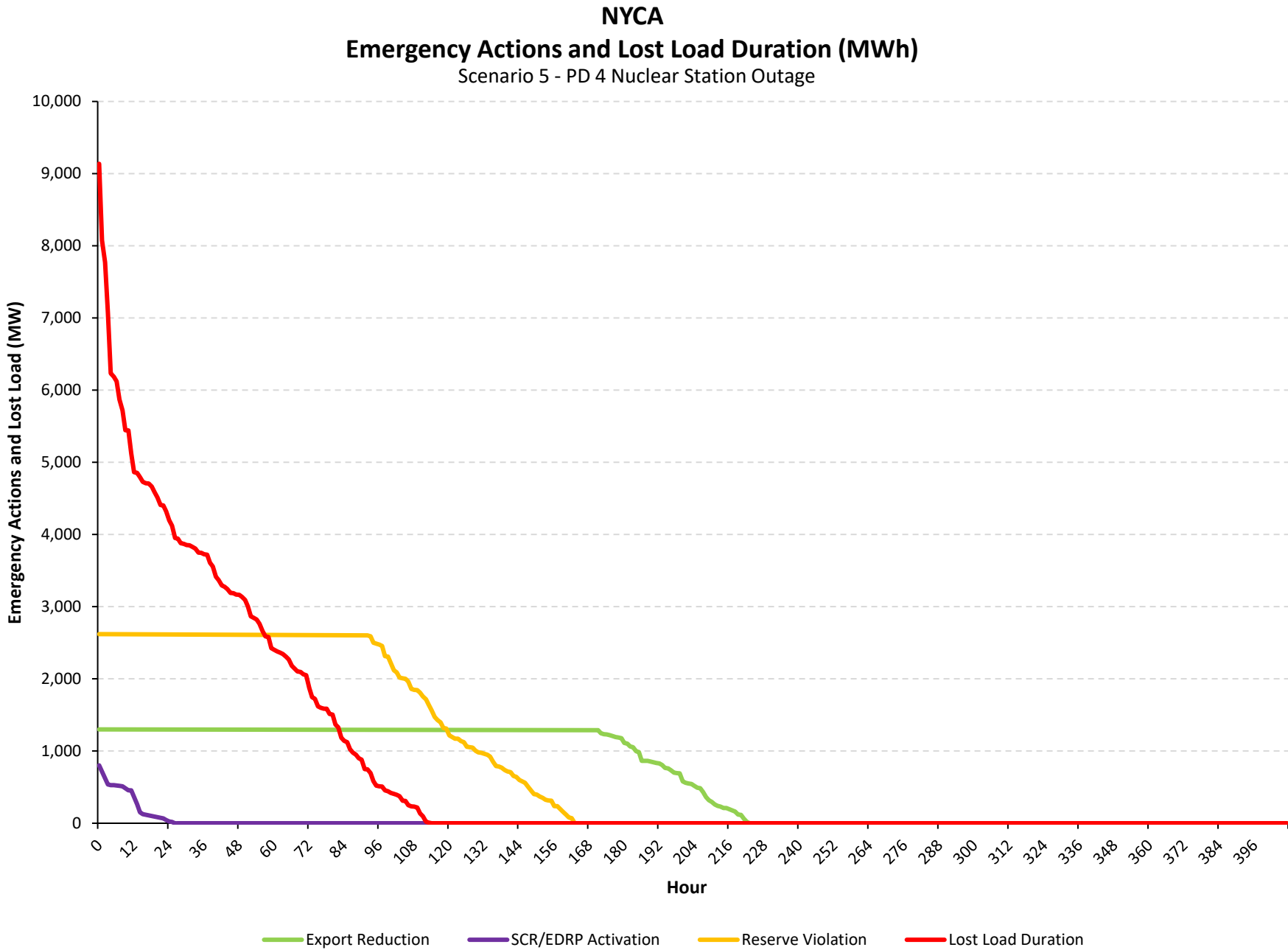


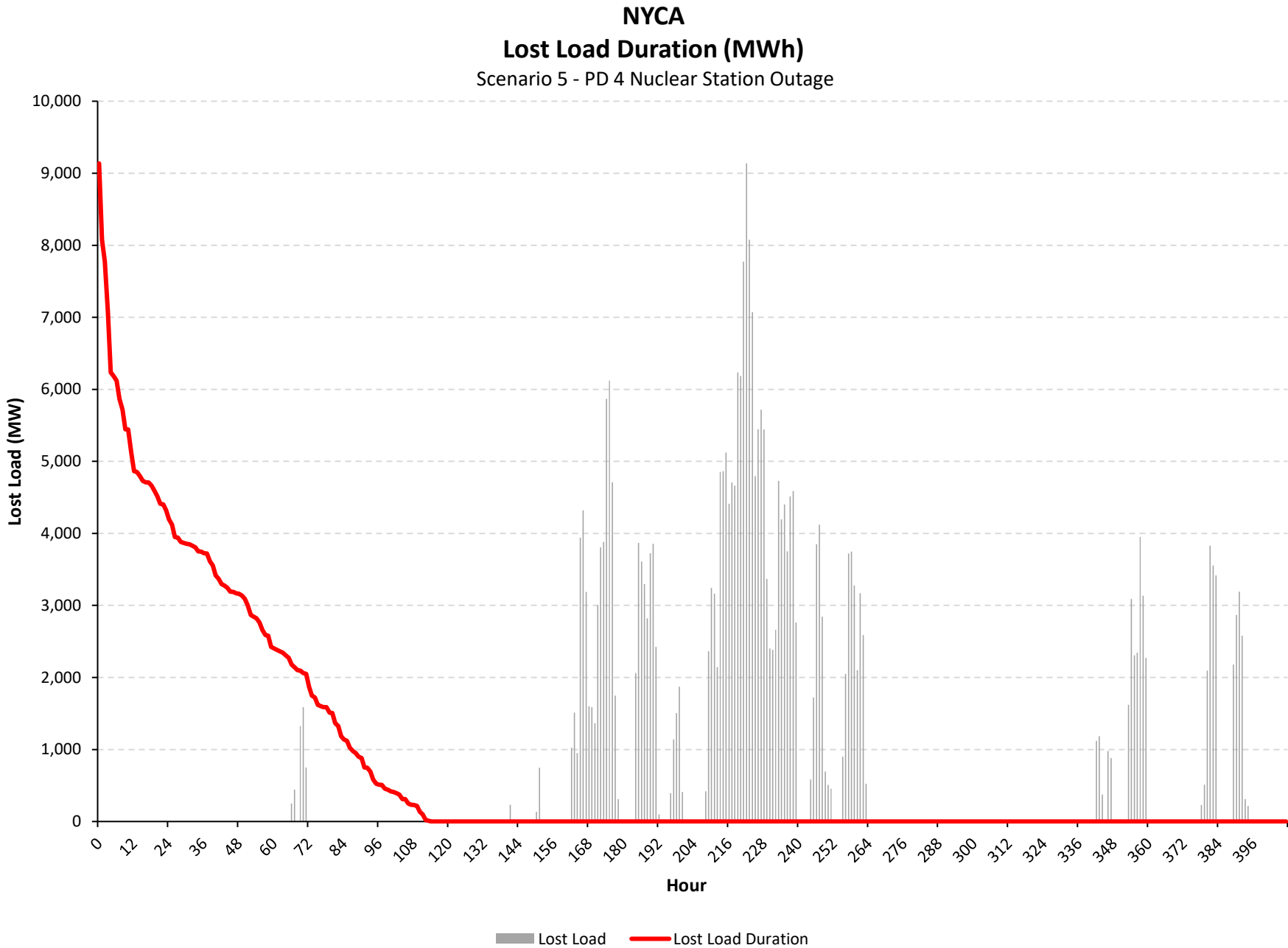




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



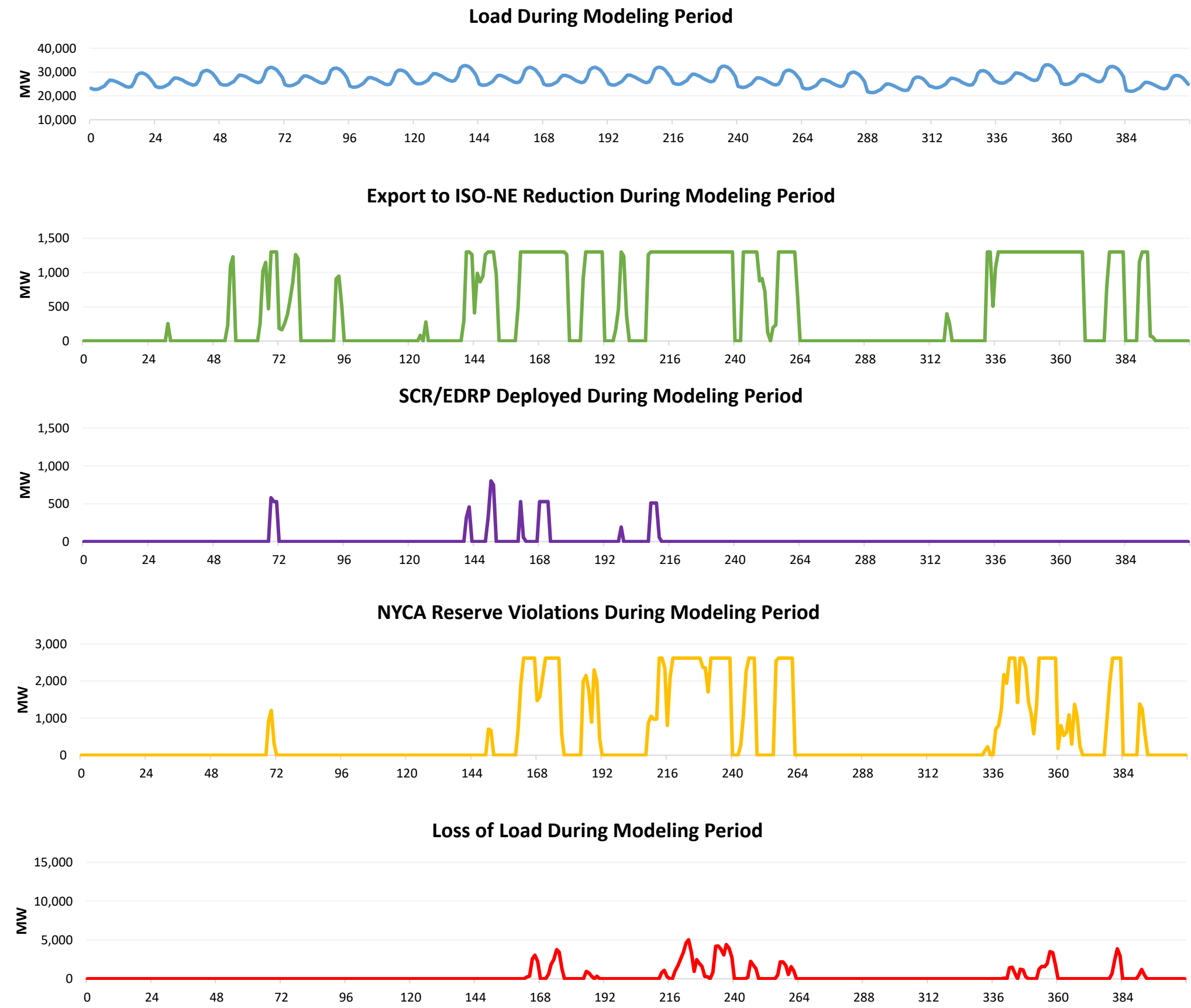


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 5 - PD 5 No Truck Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 5 - PD 5 No Truck Refill



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	172
Total MWh	190,550
Avg. MW	467.0

SCR Deployment	
Total Hrs.	19
Total MWh	8,753
Avg. MW	21.5

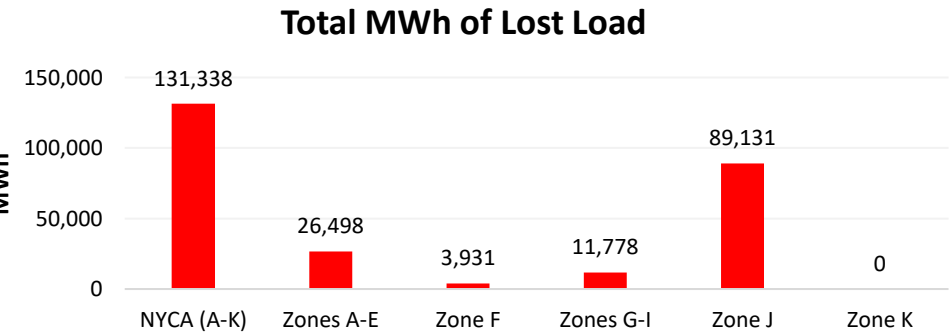
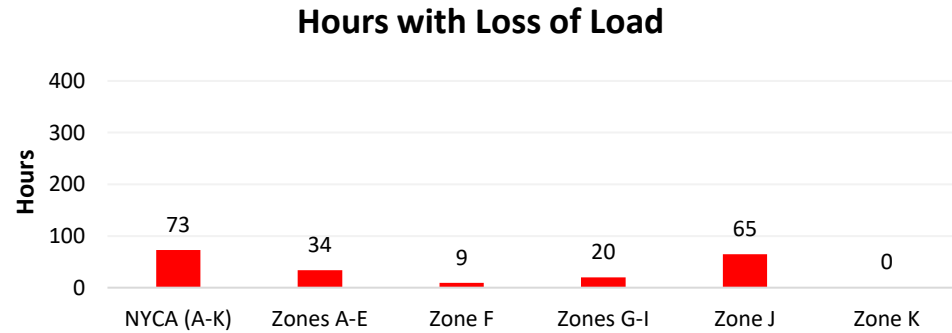
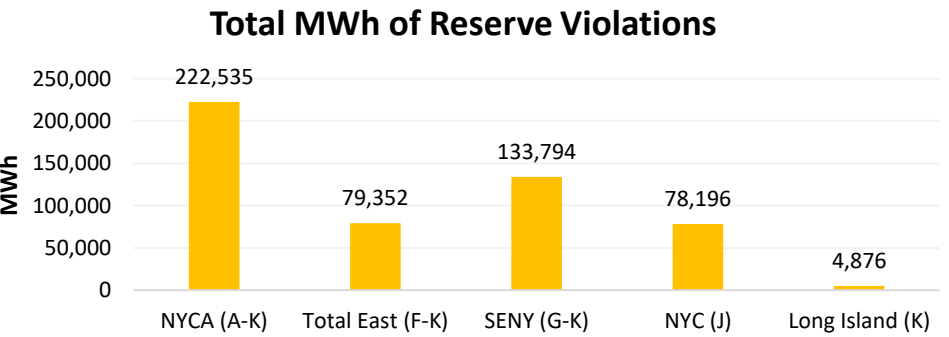
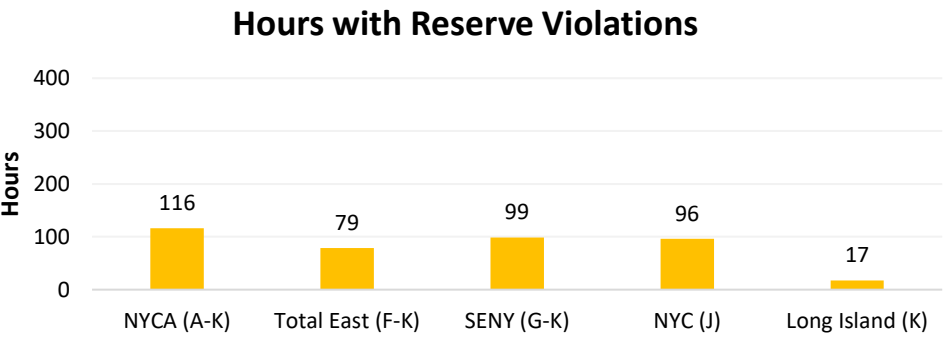
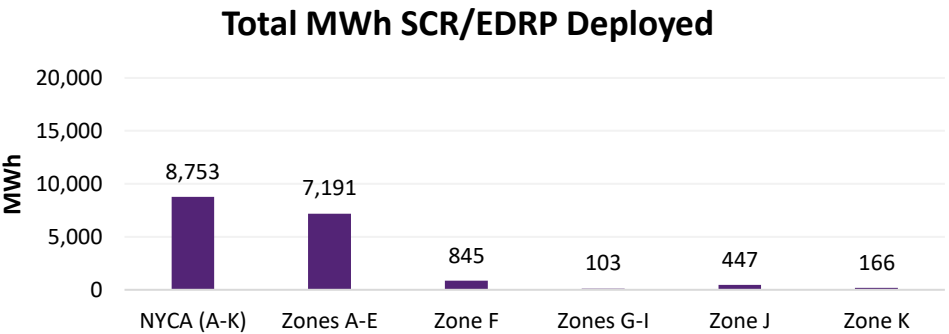
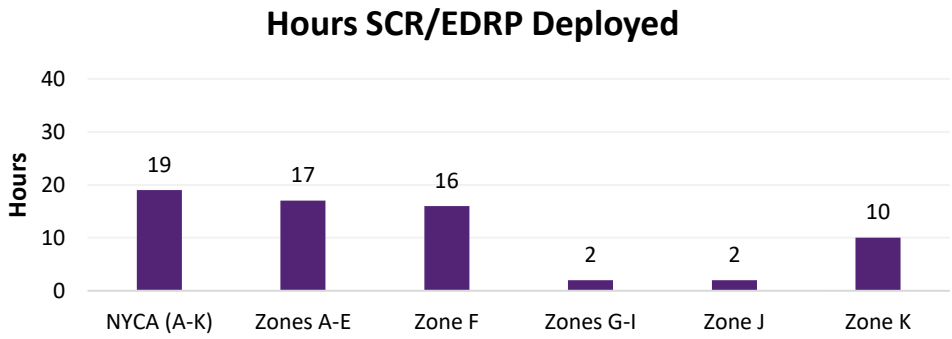
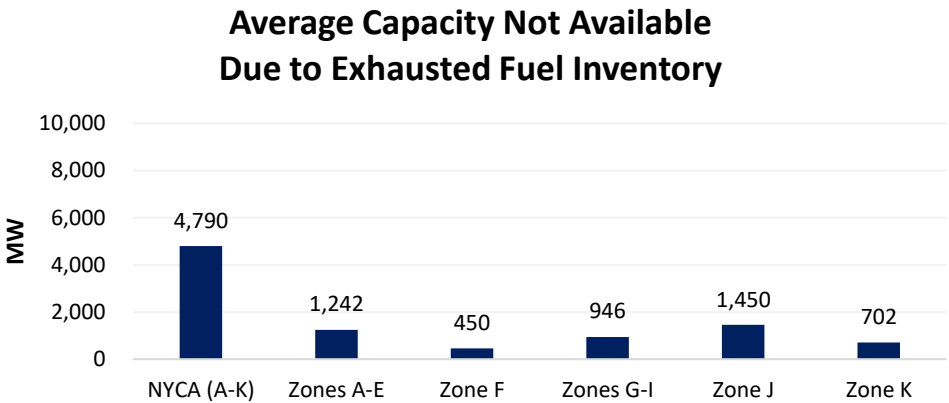
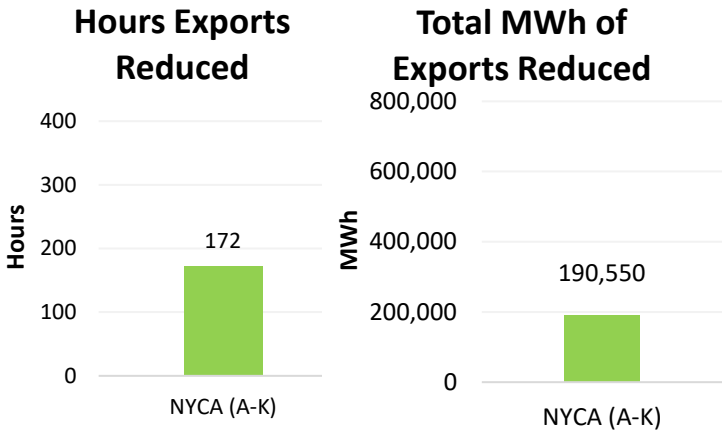
Reserve Violations	
Total Hrs.	116
Total MWh	222,535
Avg. MW	545.4
First Hour with Viol.	69

Loss of Load	
Total Hrs.	73
Total MWh	131,338
Avg. MW	321.9
First Hour with Losses	163

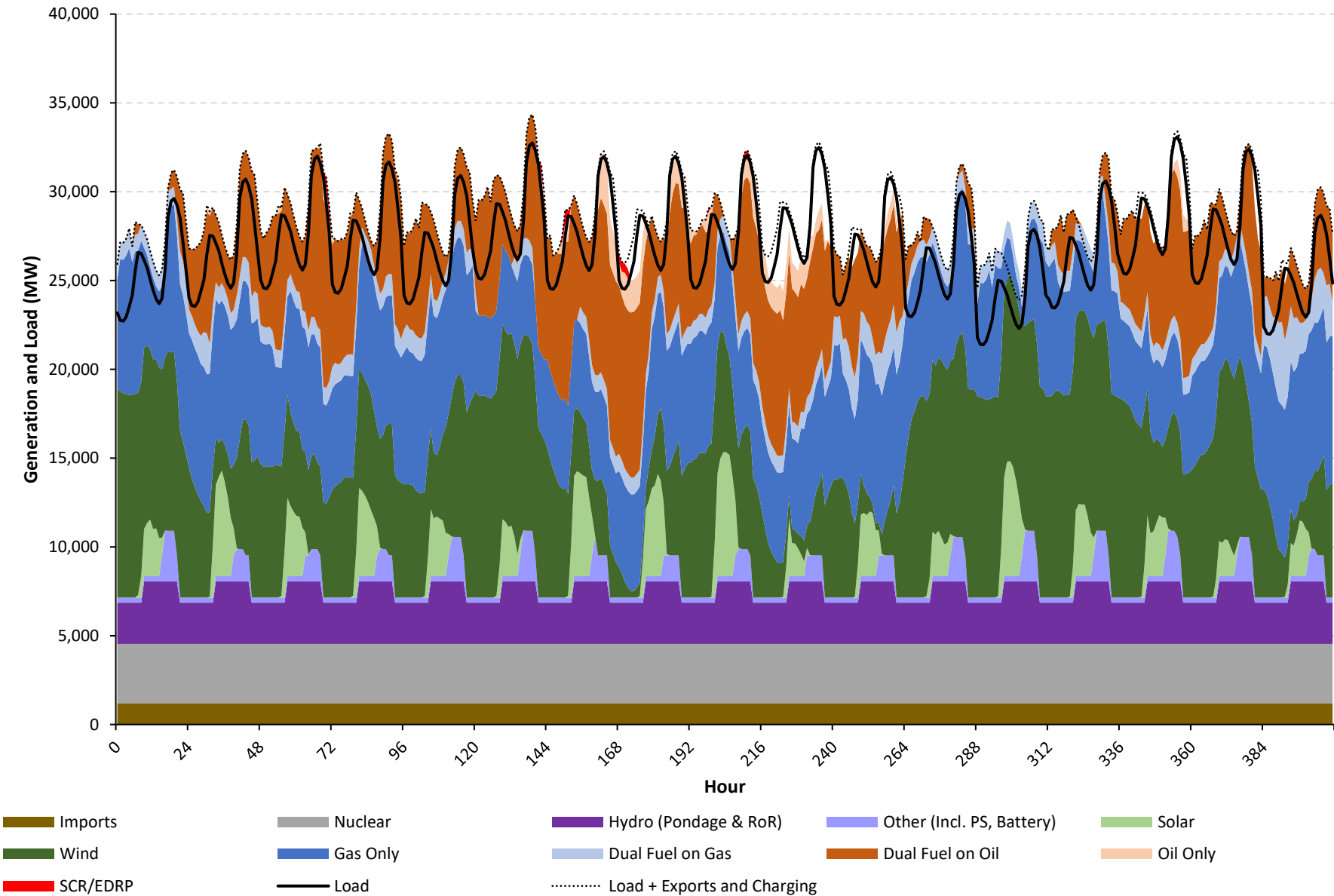
Full Period Results Summary

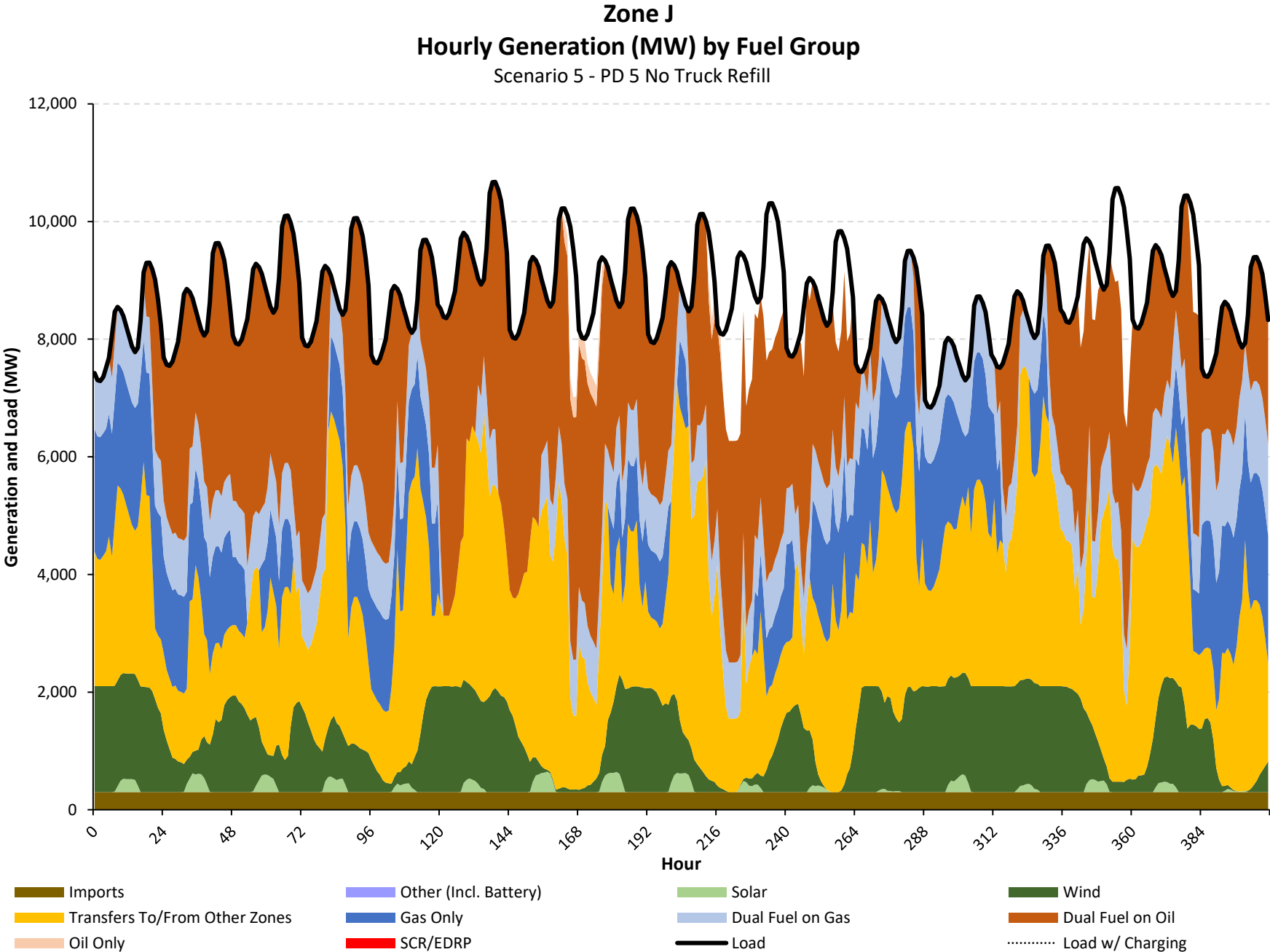
Case Name: Scenario 5 - PD 5 No Truck Refill

Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

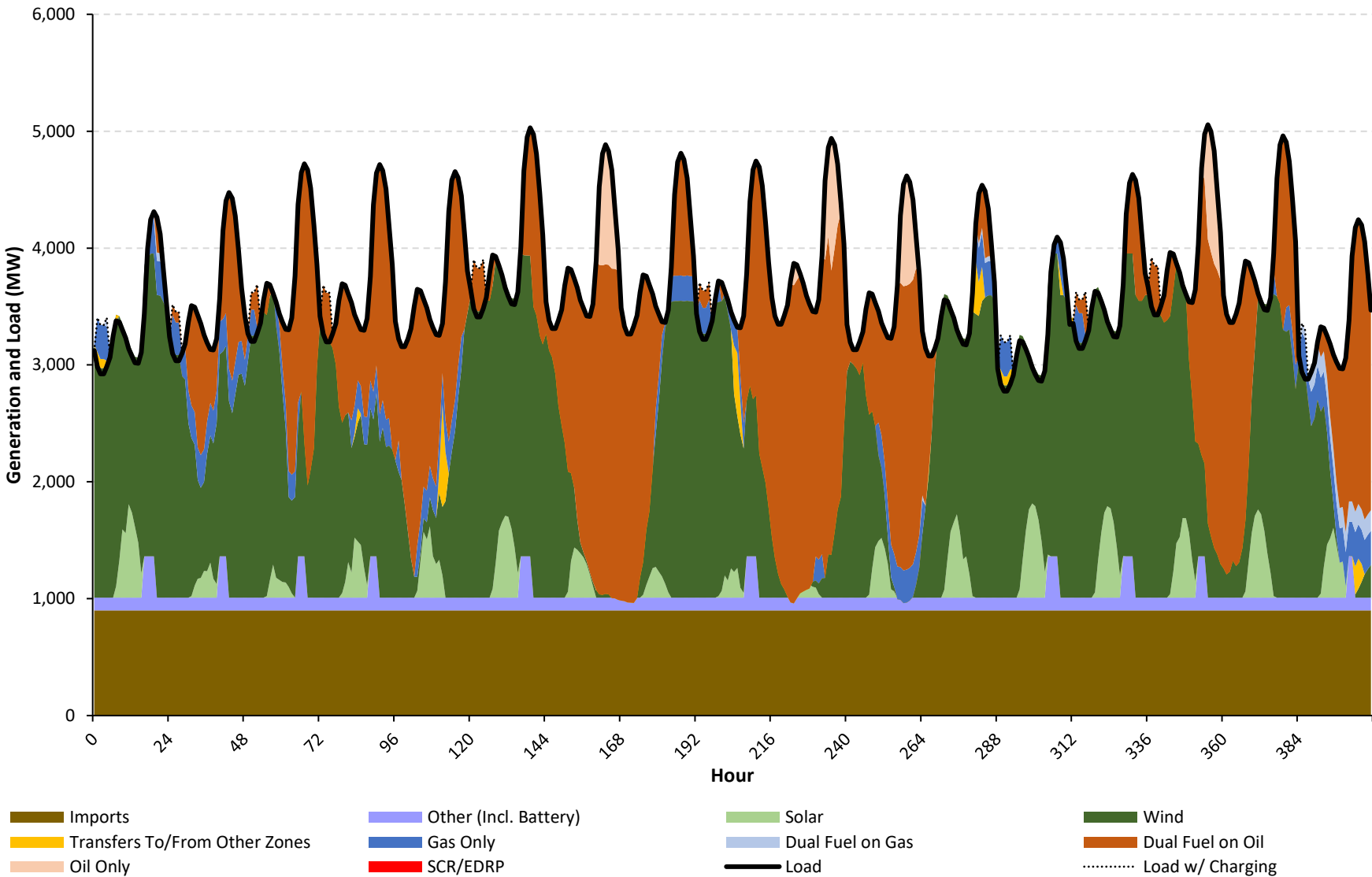


NYCA
Hourly Generation (MWh) by Fuel Group
Scenario 5 - PD 5 No Truck Refill

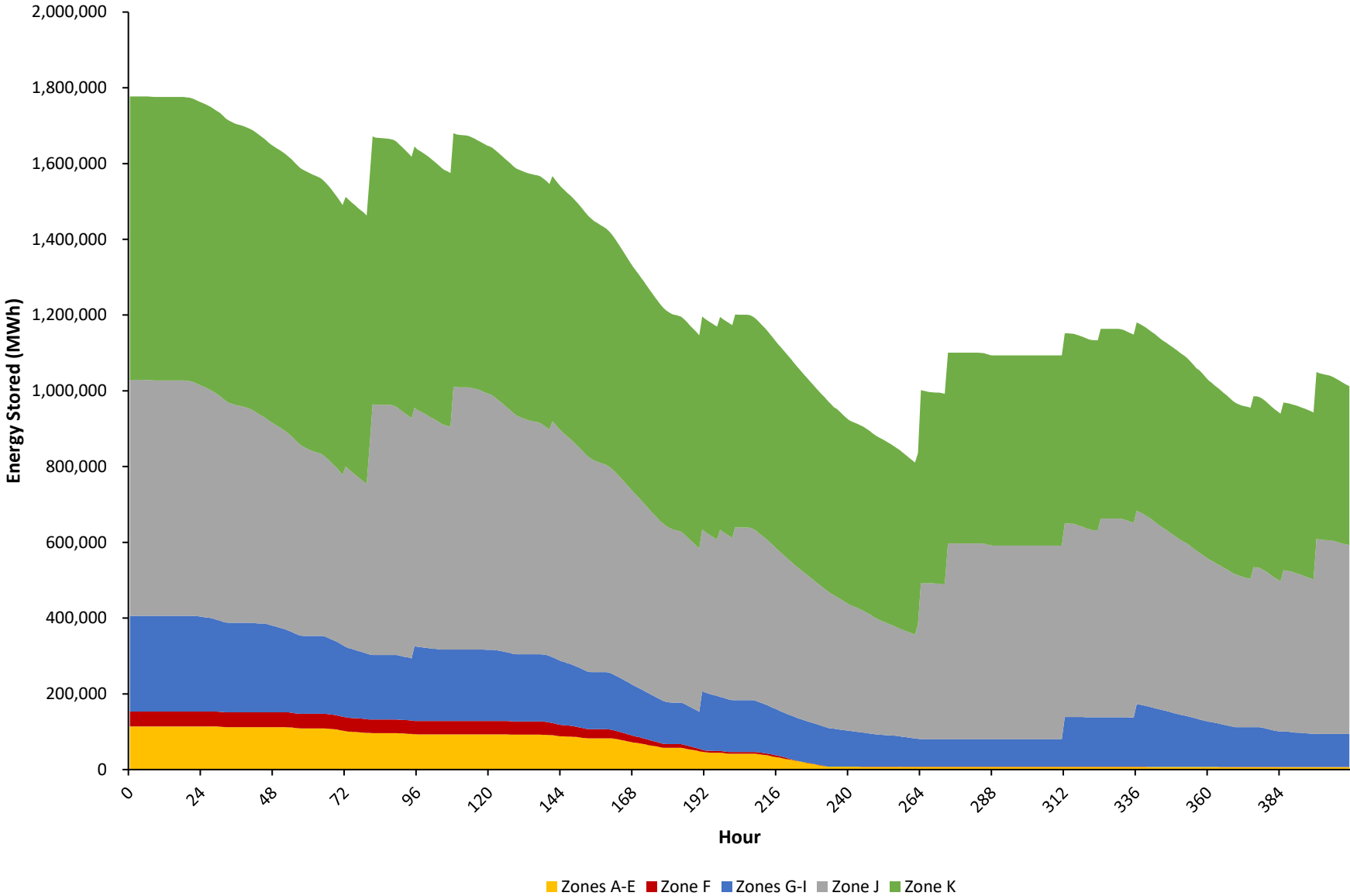


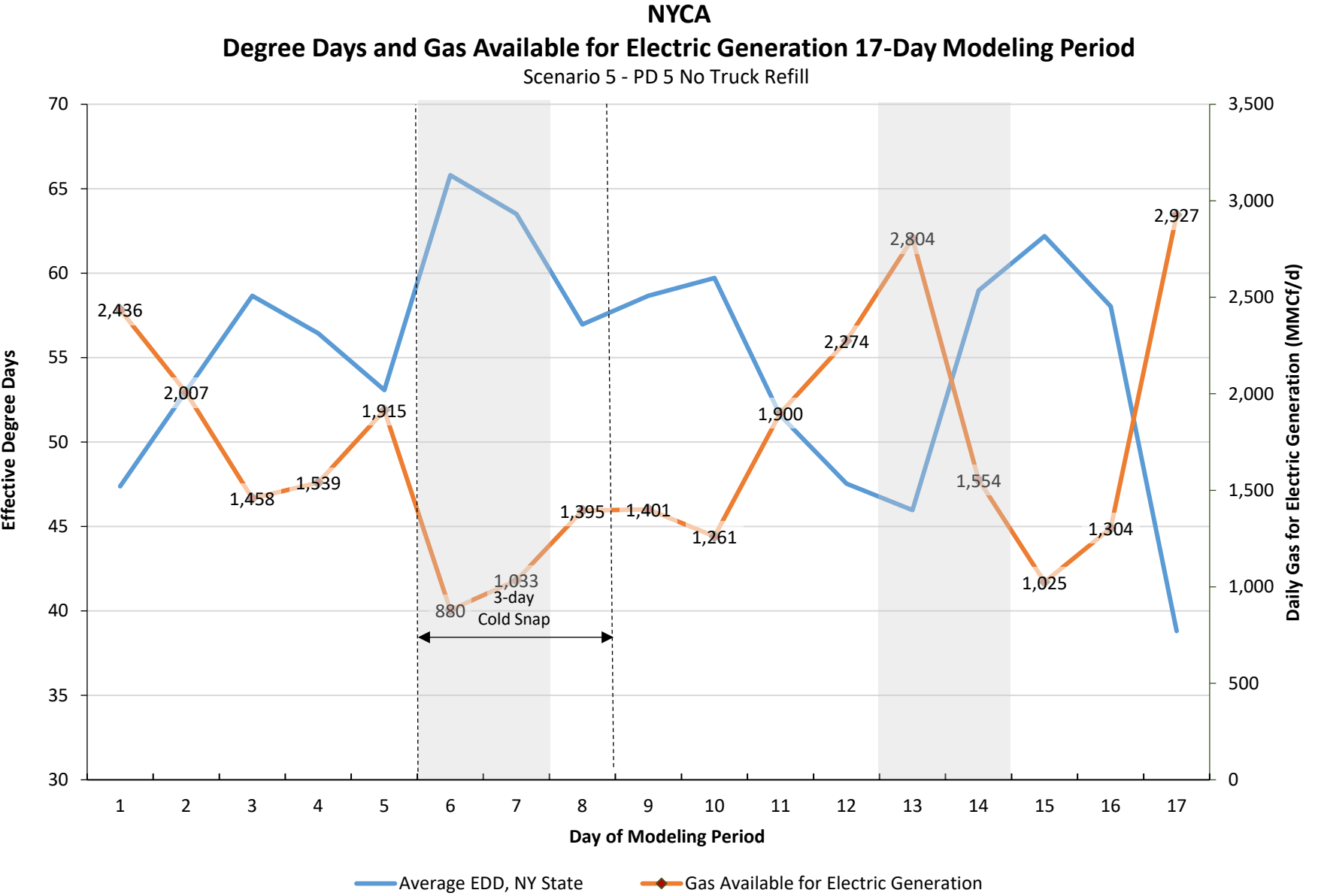


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 5 - PD 5 No Truck Refill

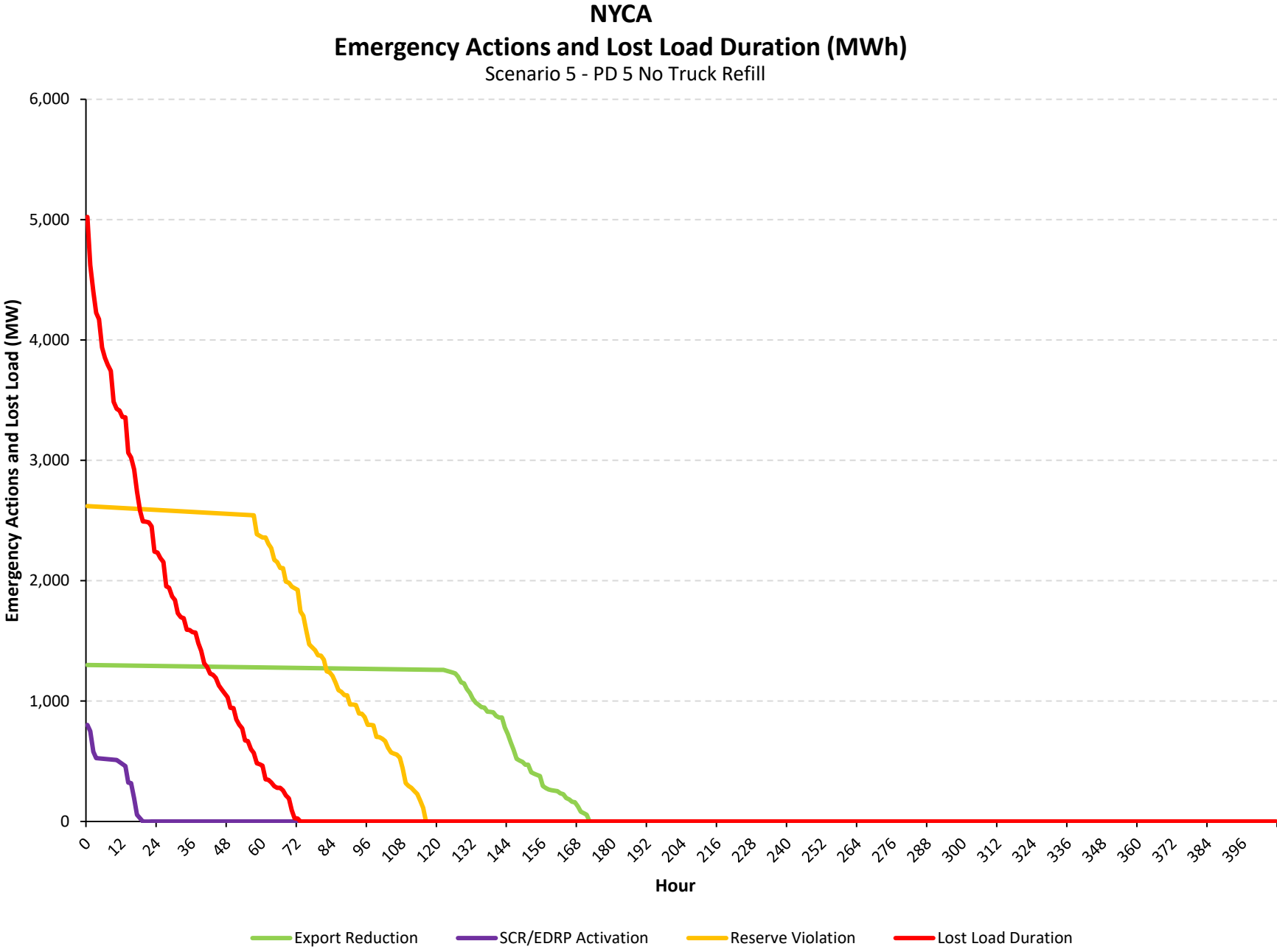


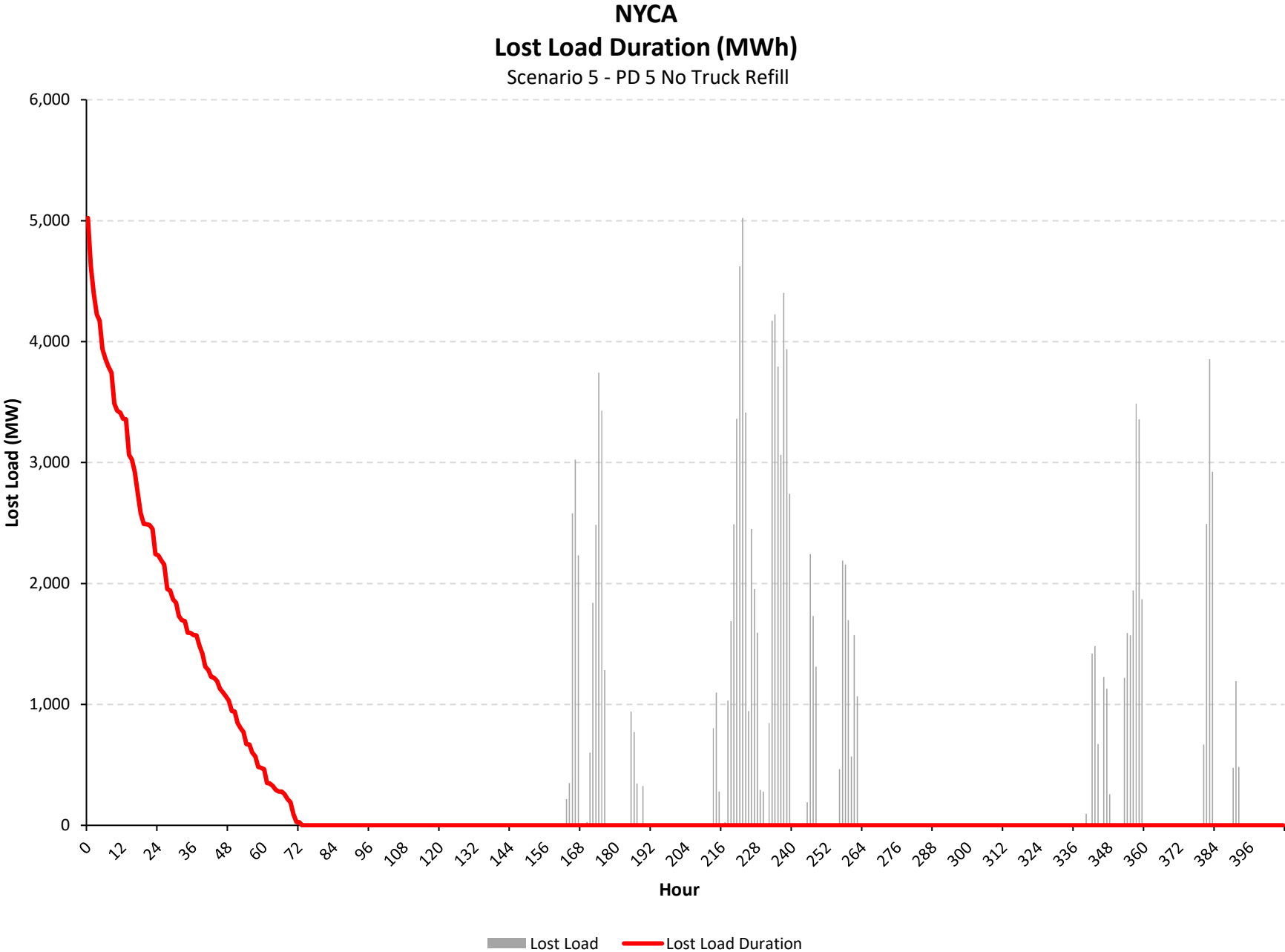
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 5 - PD 5 No Truck Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



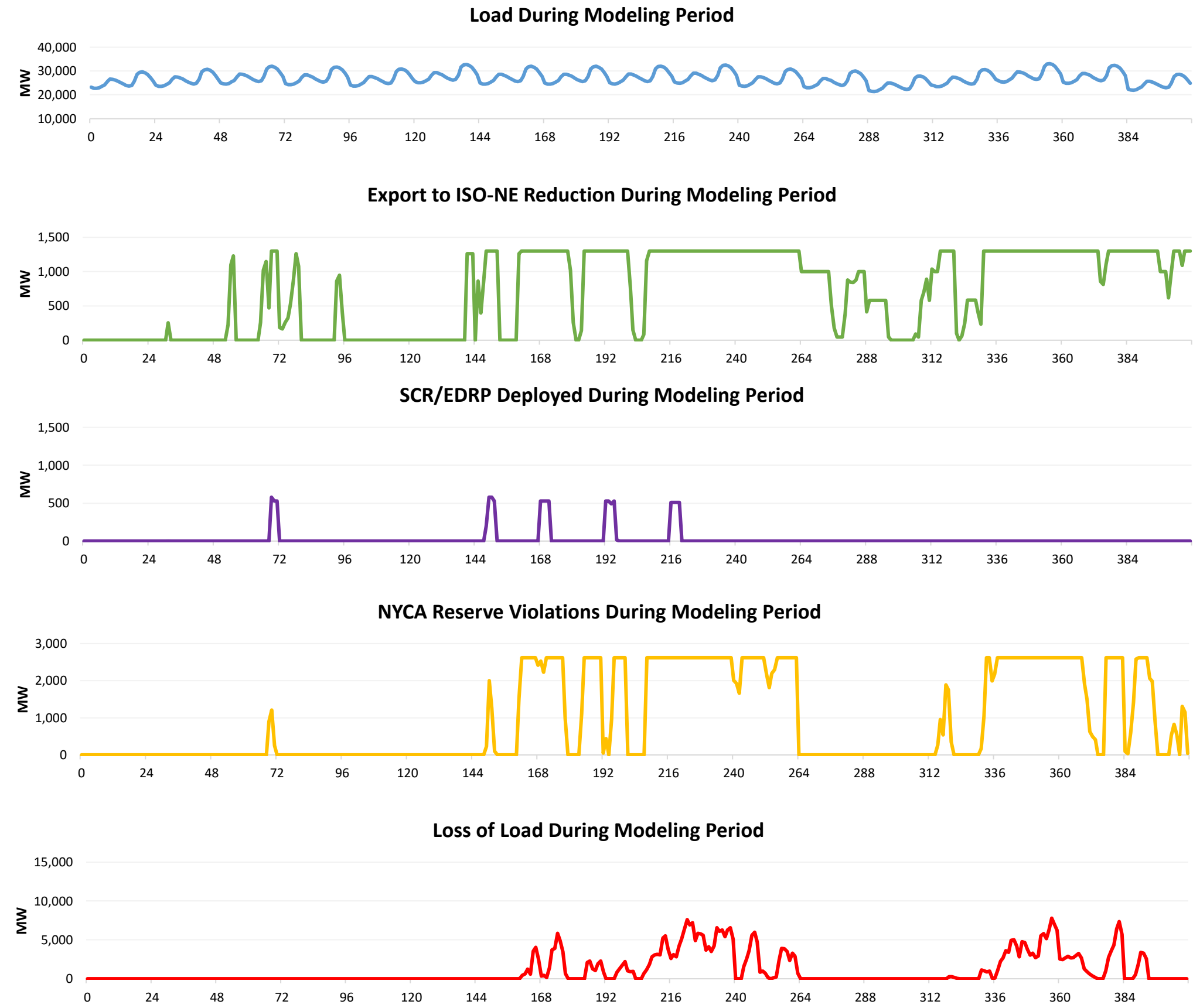


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 5 - PD 6 No Barge Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 5 - PD 6 No Barge Refill



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	266
Total MWh	289,166
Avg. MW	708.7

SCR Deployment	
Total Hrs.	20
Total MWh	9,748
Avg. MW	23.9

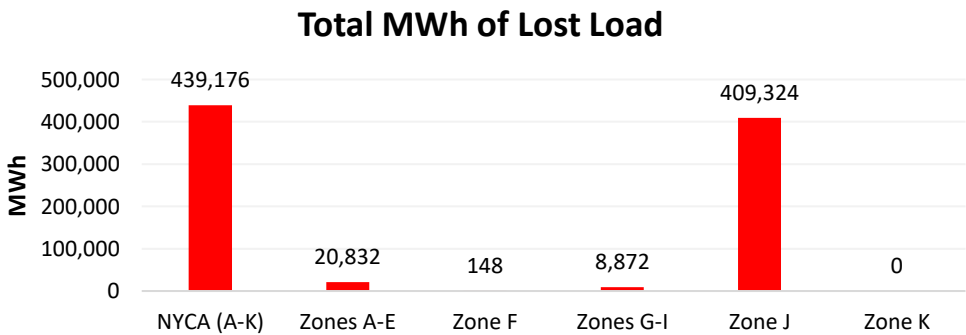
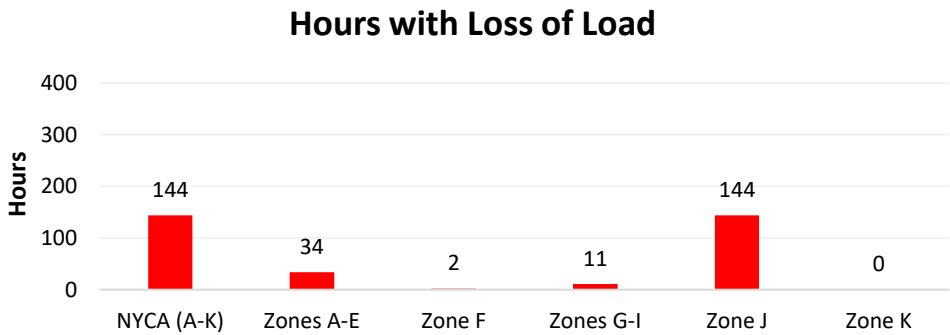
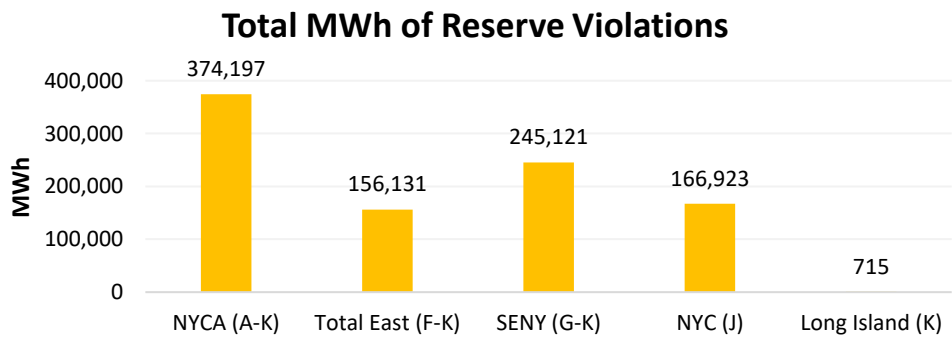
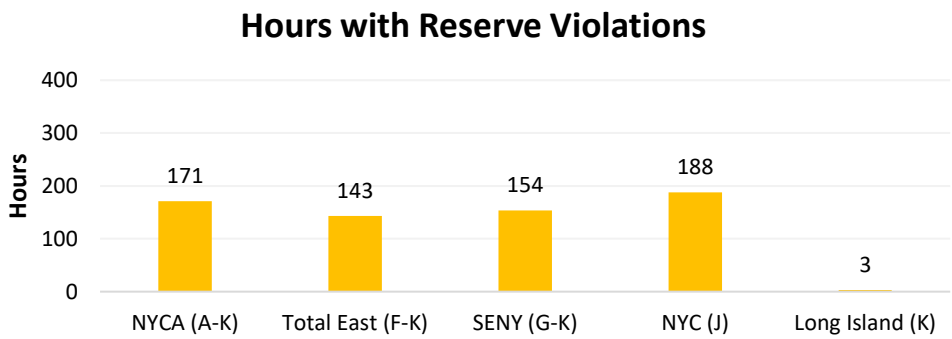
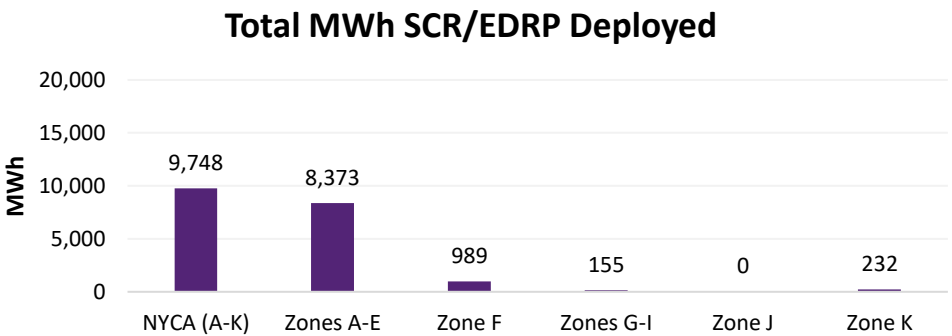
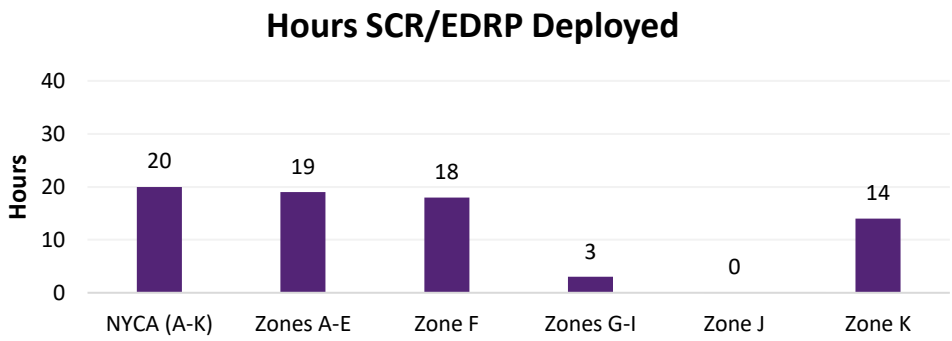
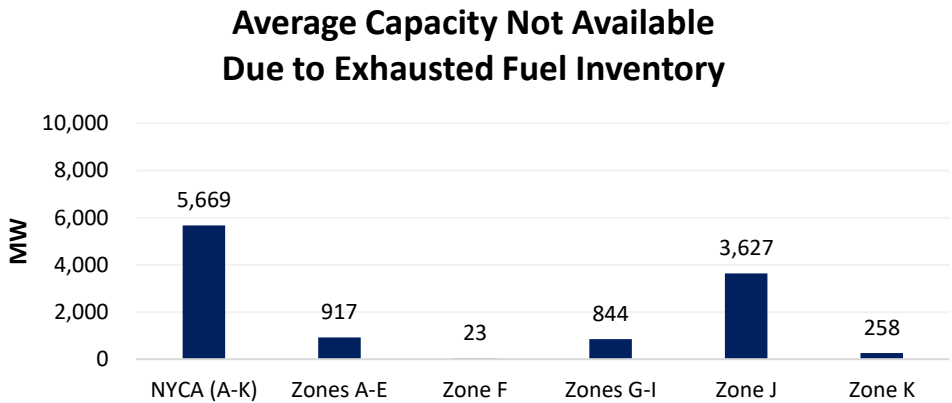
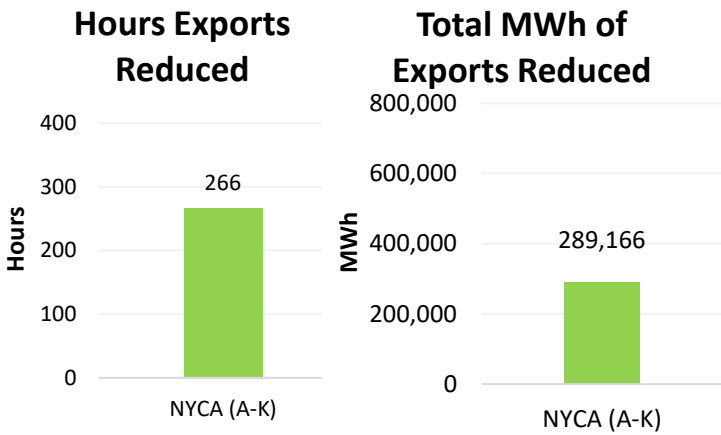
Reserve Violations	
Total Hrs.	171
Total MWh	374,197
Avg. MW	917.1
First Hour with Viol.	69

Loss of Load	
Total Hrs.	144
Total MWh	439,176
Avg. MW	1,076.4
First Hour with Losses	161

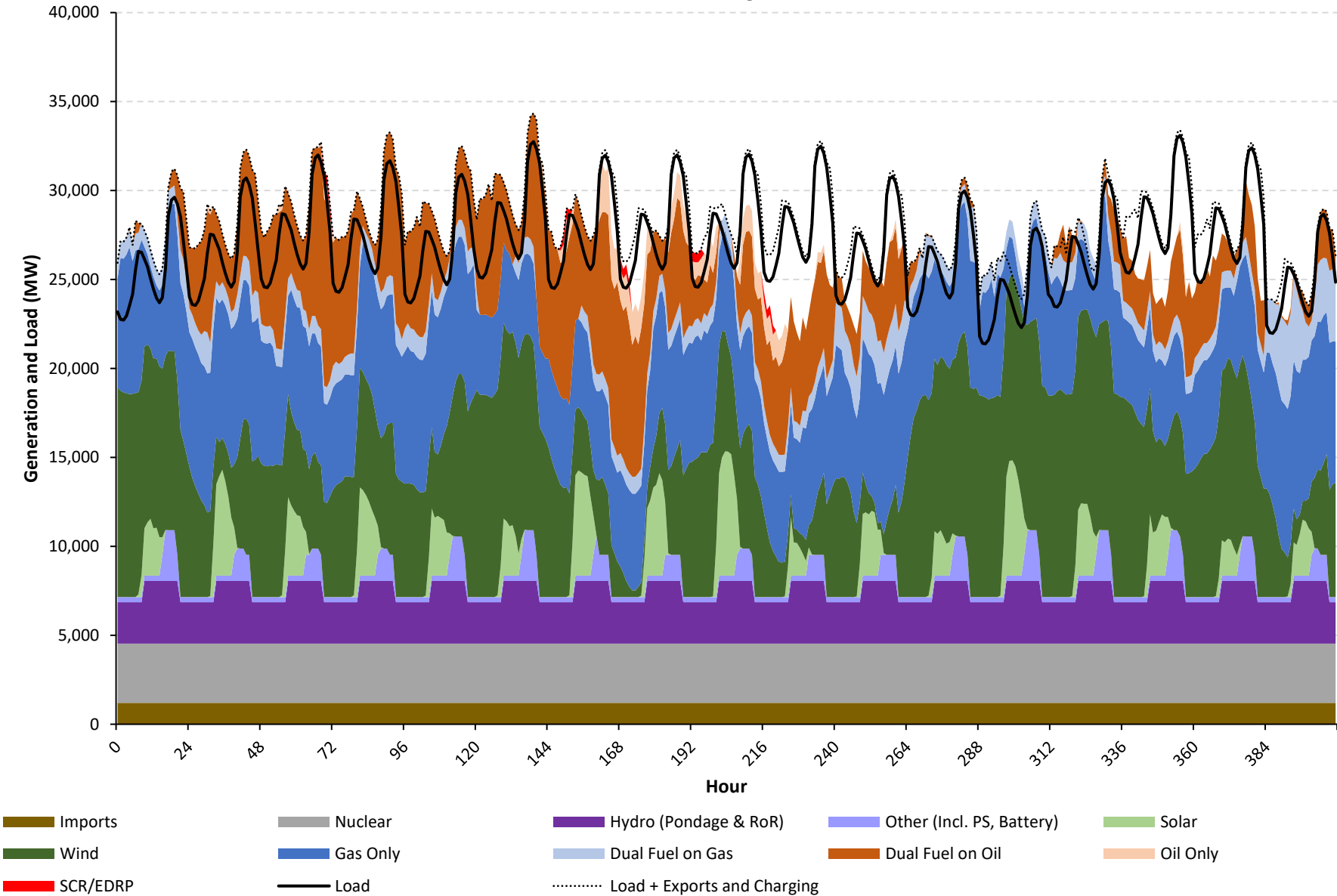
Full Period Results Summary

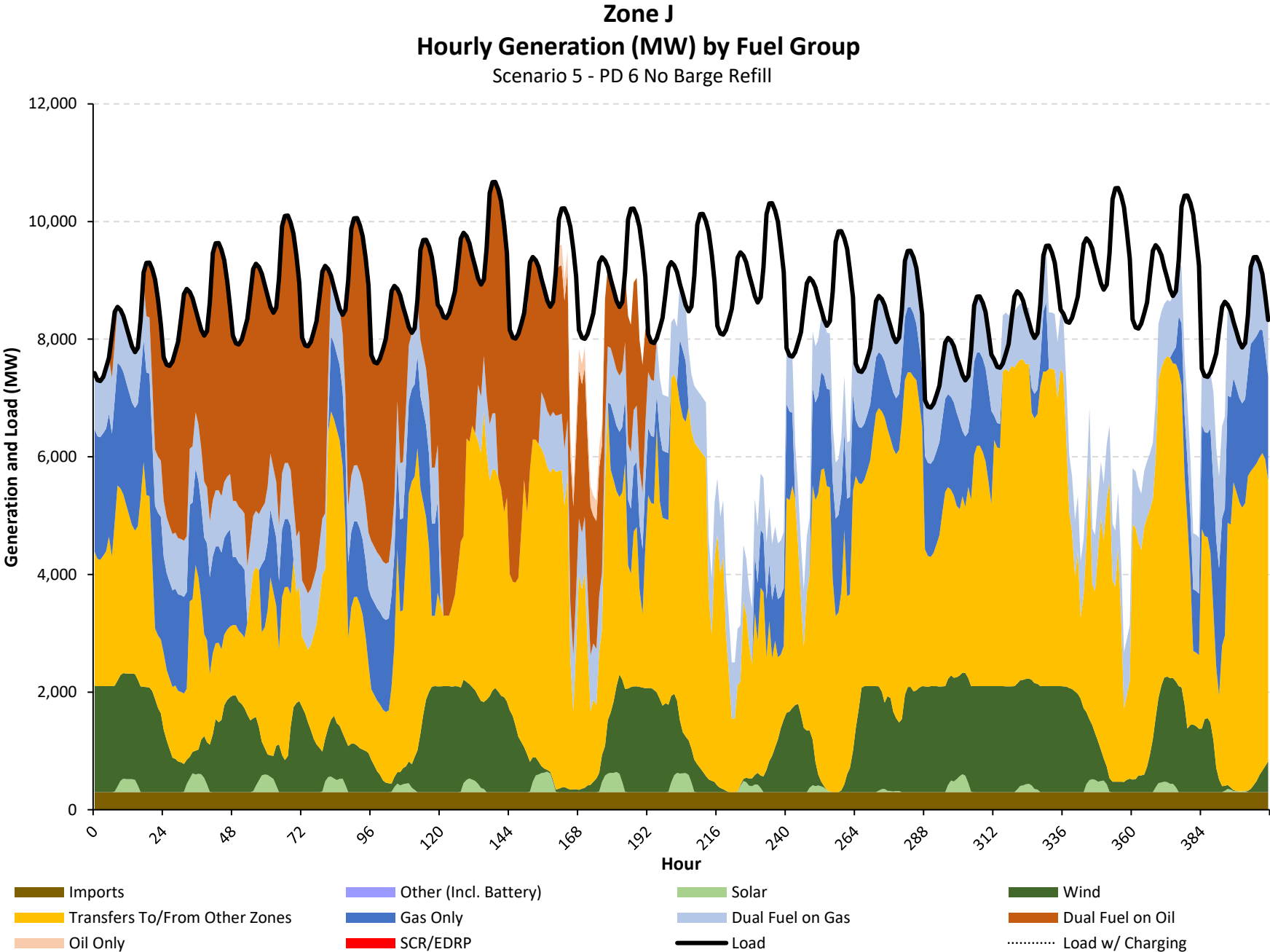
Case Name: Scenario 5 - PD 6 No Barge Refill

Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

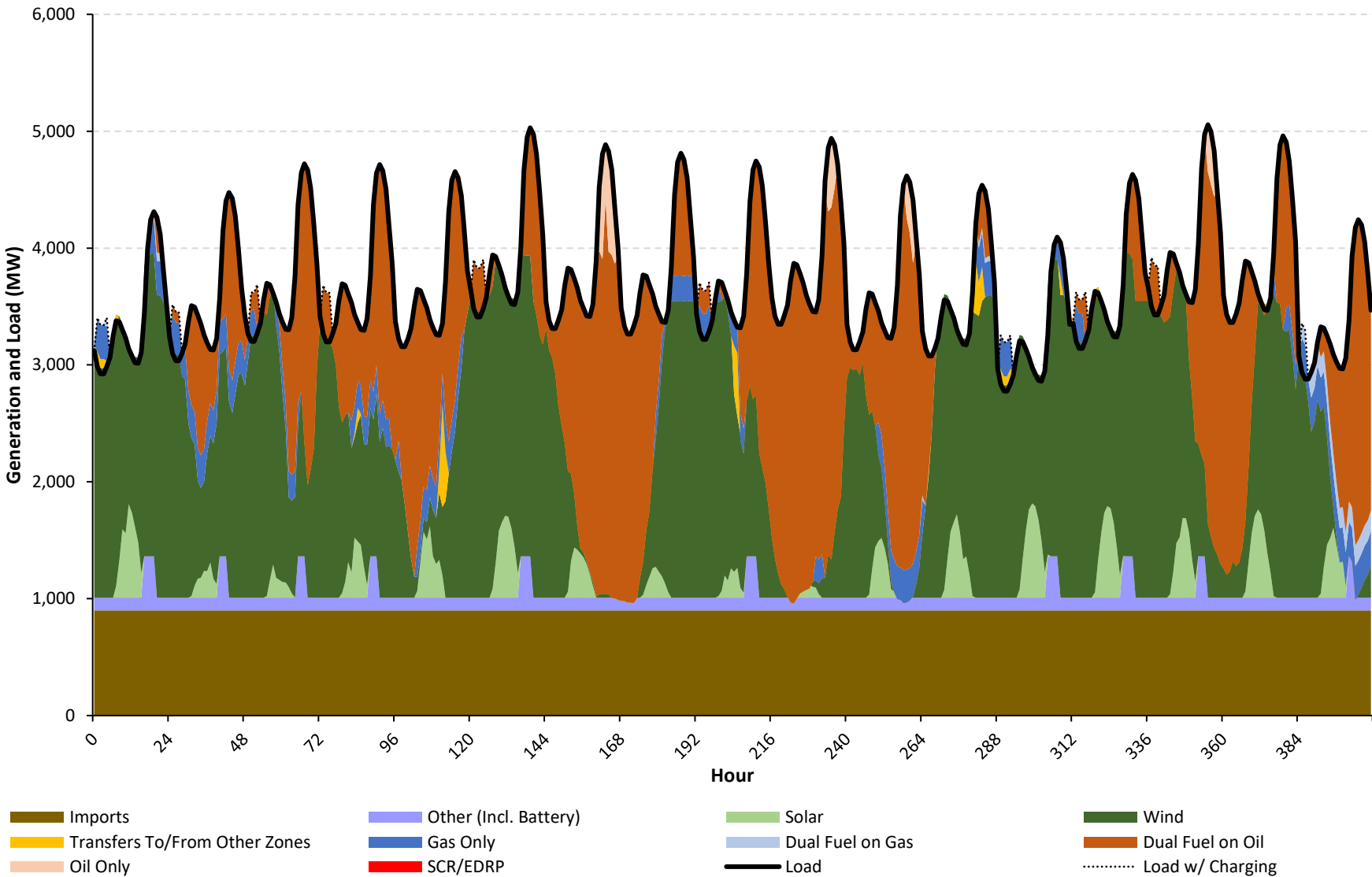


NYCA
Hourly Generation (MWh) by Fuel Group
Scenario 5 - PD 6 No Barge Refill

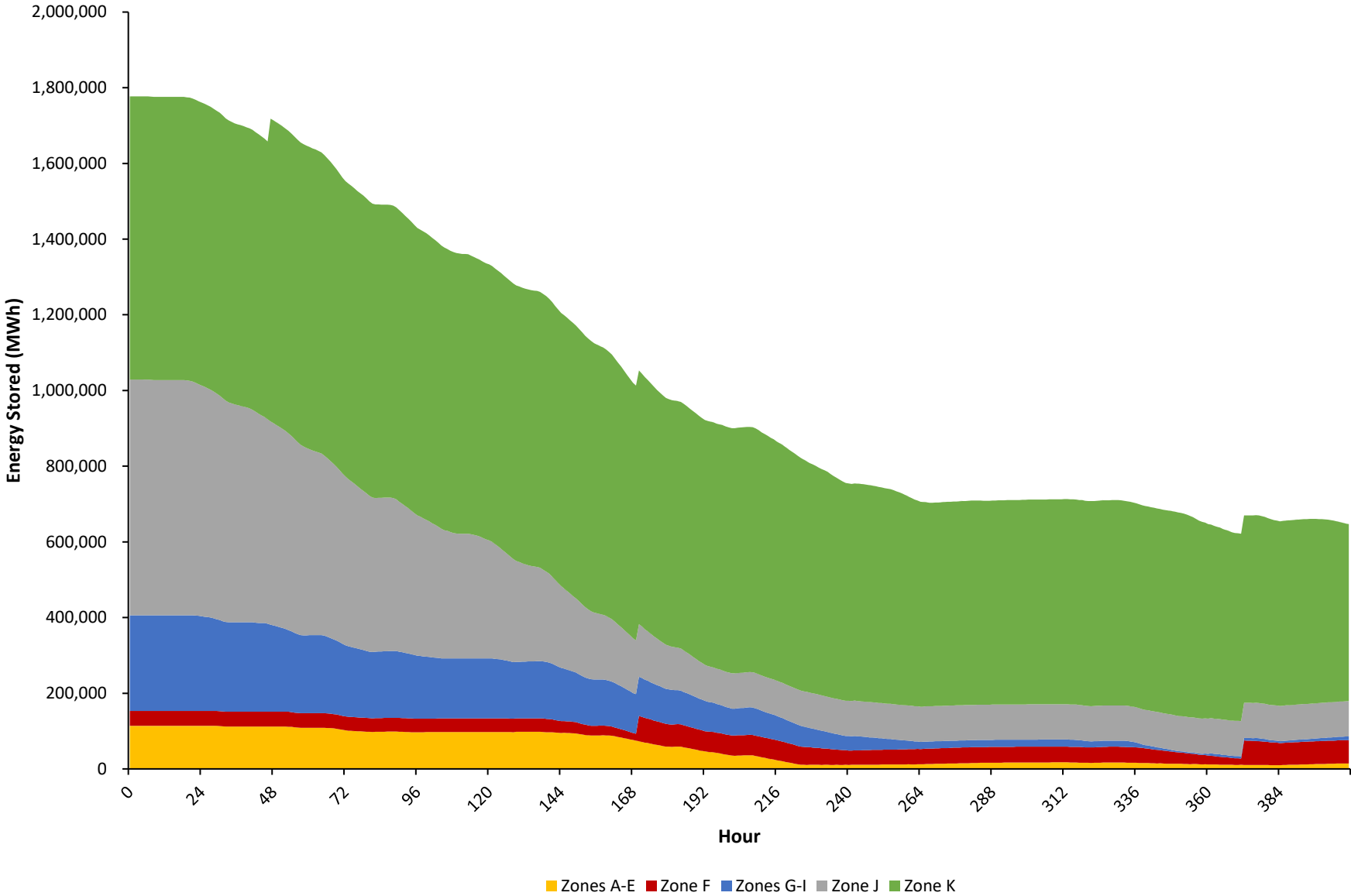




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 5 - PD 6 No Barge Refill

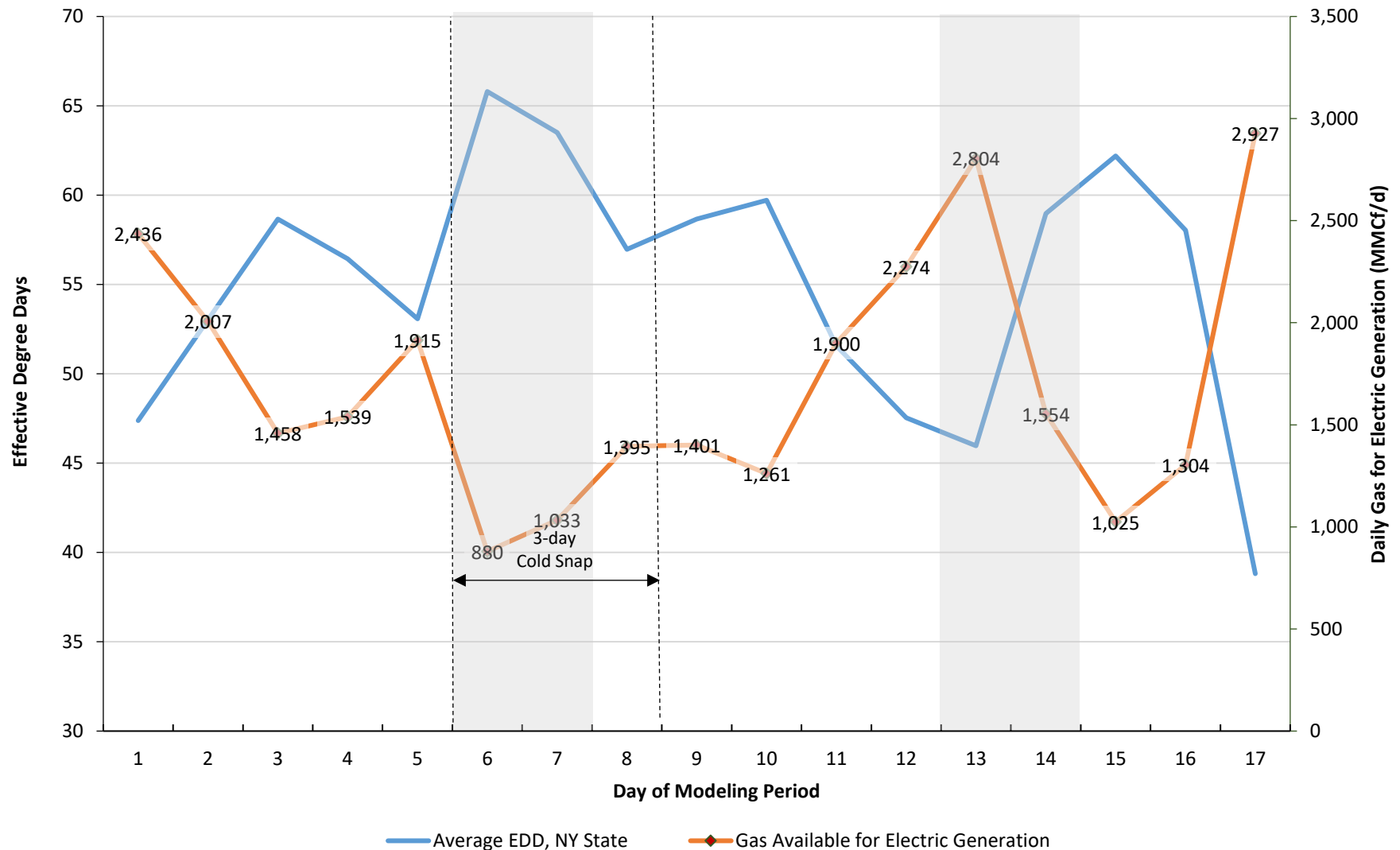


NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 5 - PD 6 No Barge Refill



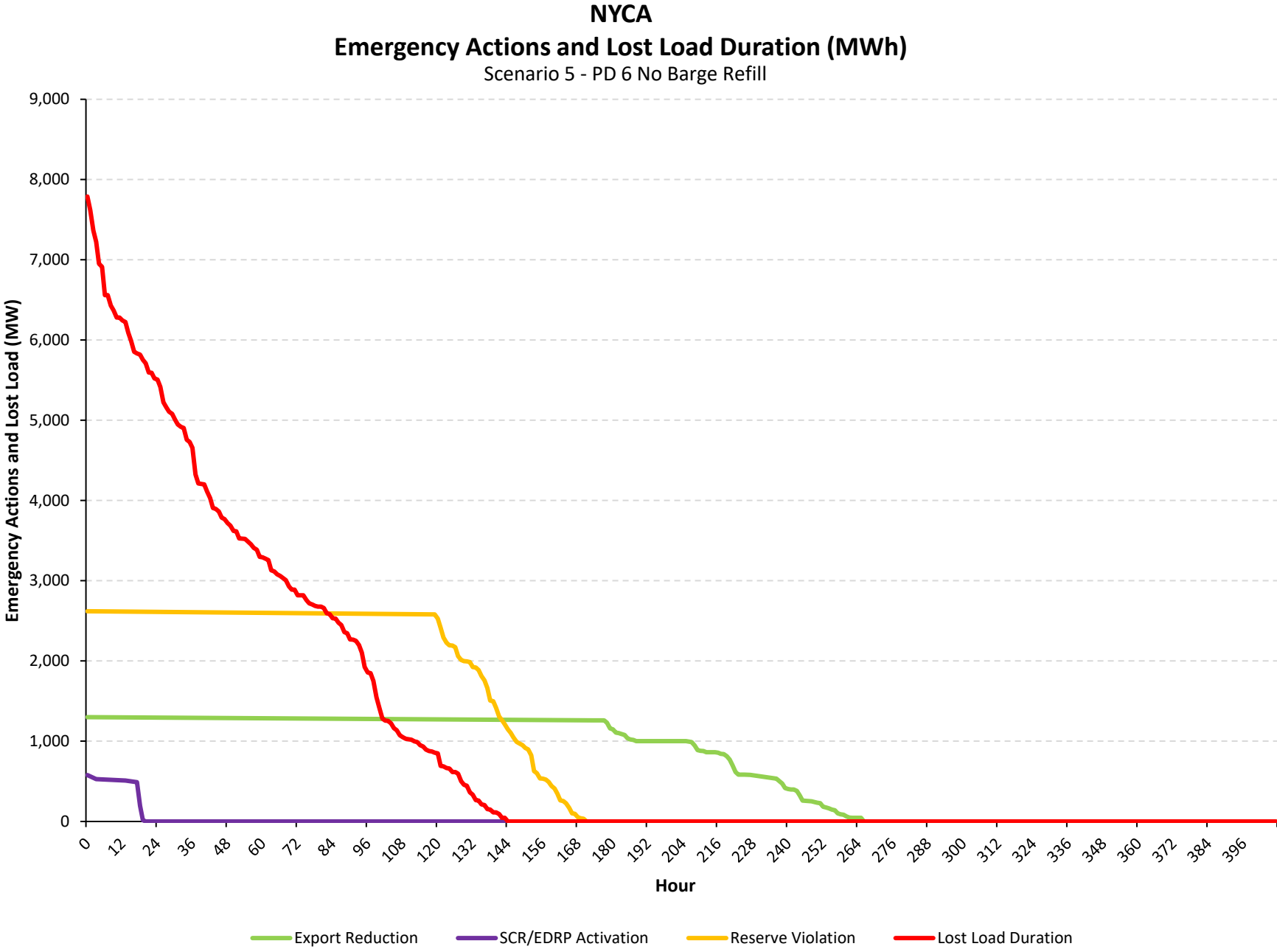
NYCA **Degree Days and Gas Available for Electric Generation 17-Day Modeling Period**

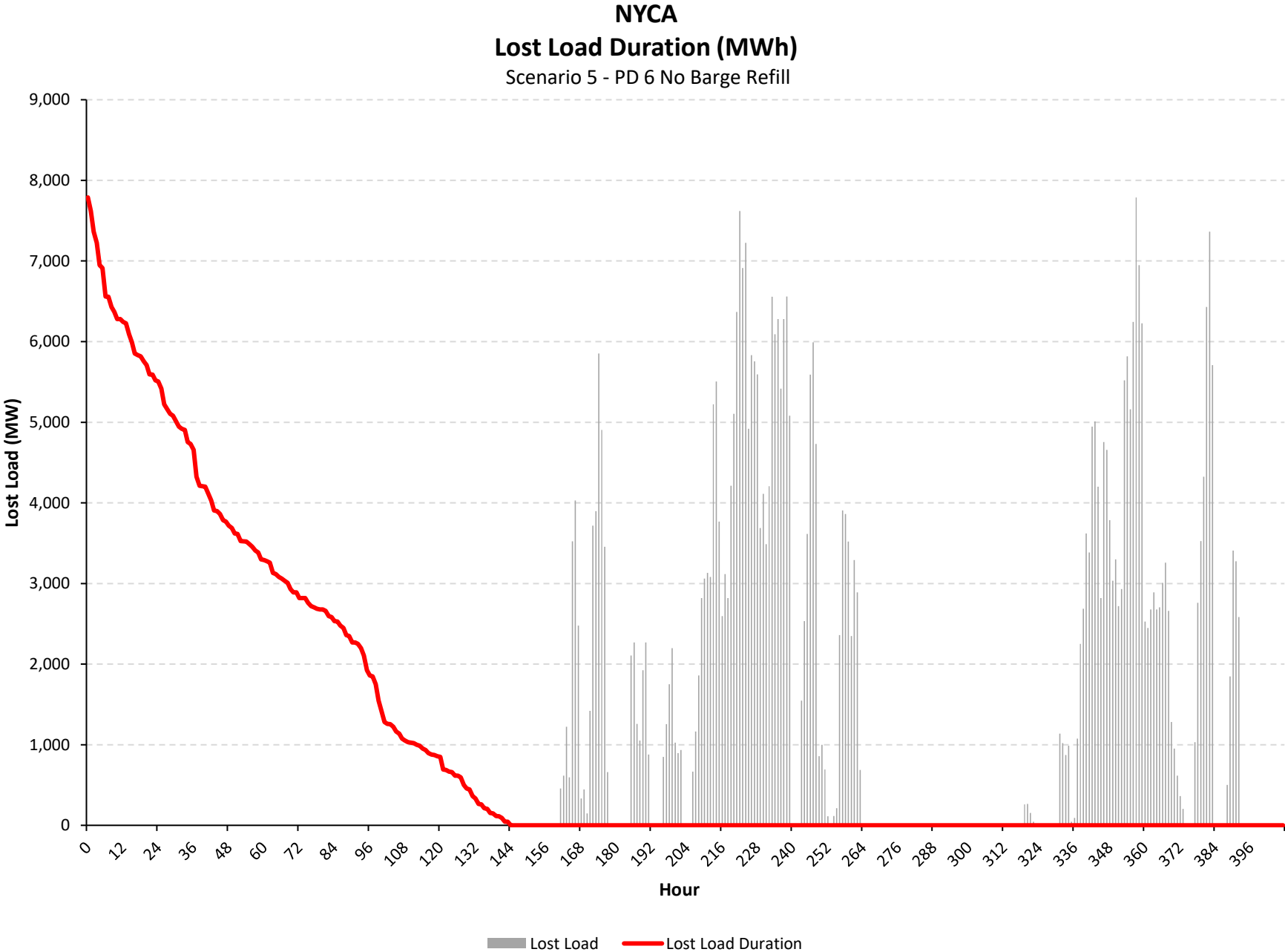
Scenario 5 - PD 6 No Barge Refill



Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.





Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 5 - PD 7 No Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 5 - PD 7 No Refill



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	273
Total MWh	304,699
Avg. MW	746.8

SCR Deployment	
Total Hrs.	19
Total MWh	10,426
Avg. MW	25.6

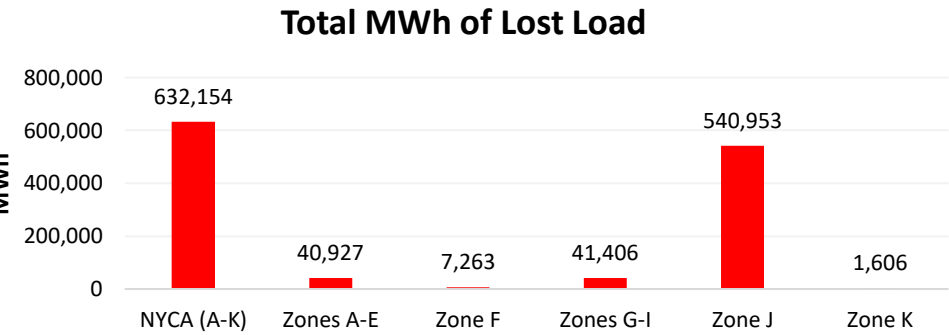
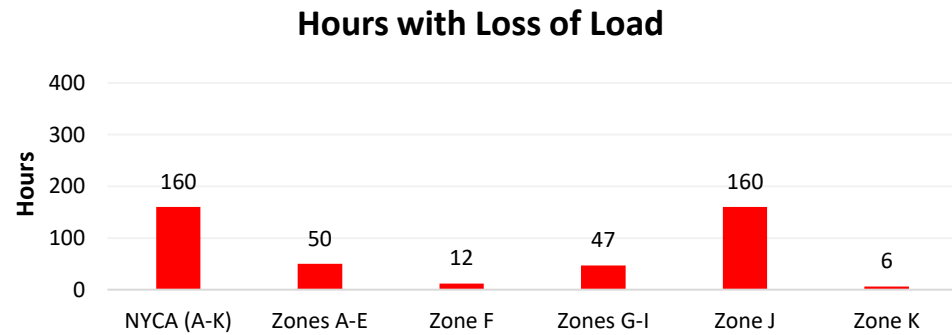
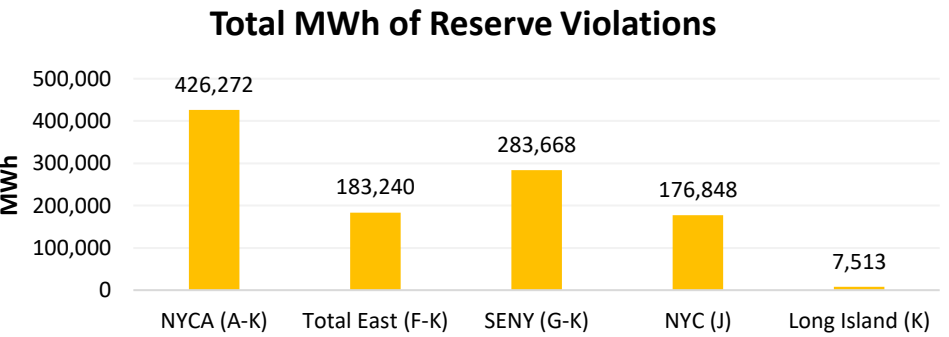
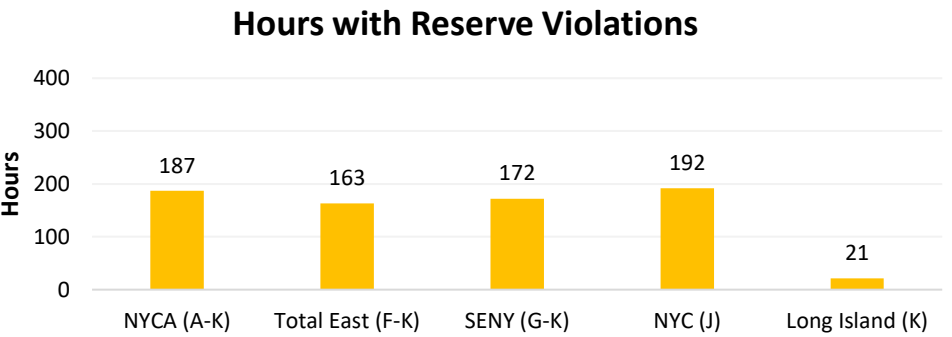
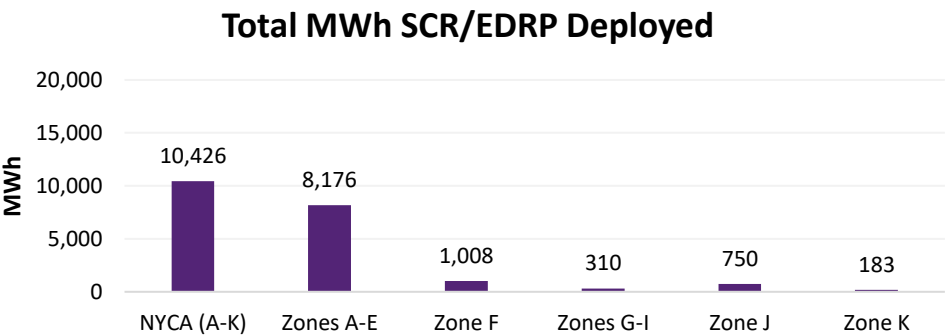
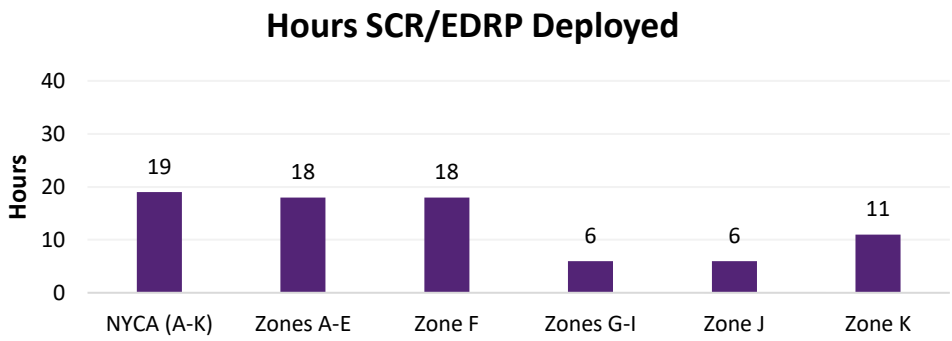
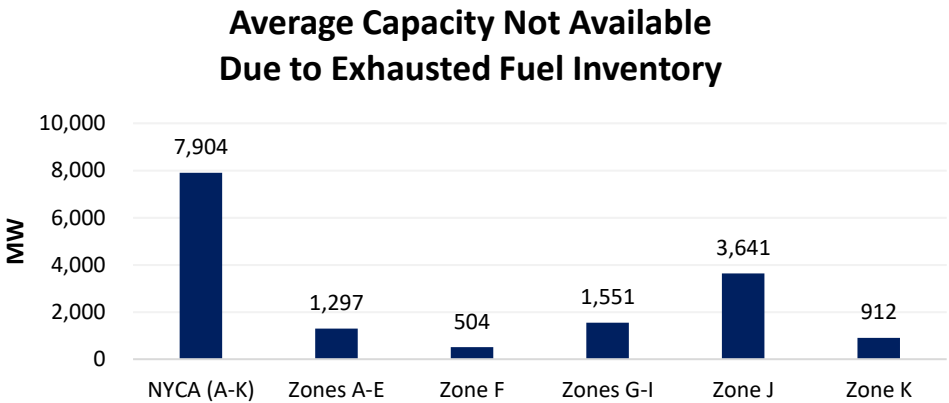
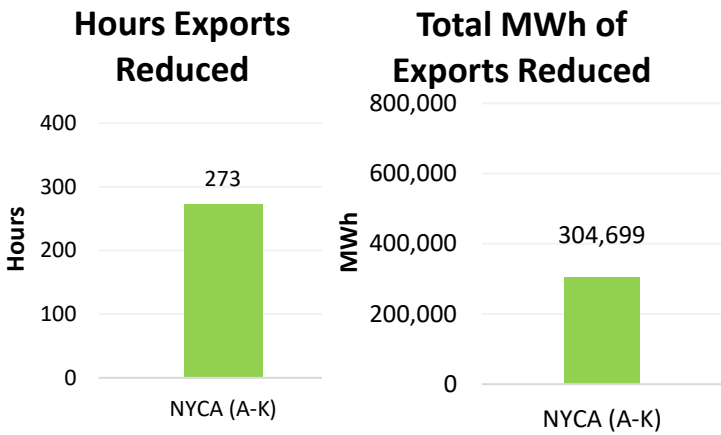
Reserve Violations	
Total Hrs.	187
Total MWh	426,272
Avg. MW	1,044.8
First Hour with Viol.	69

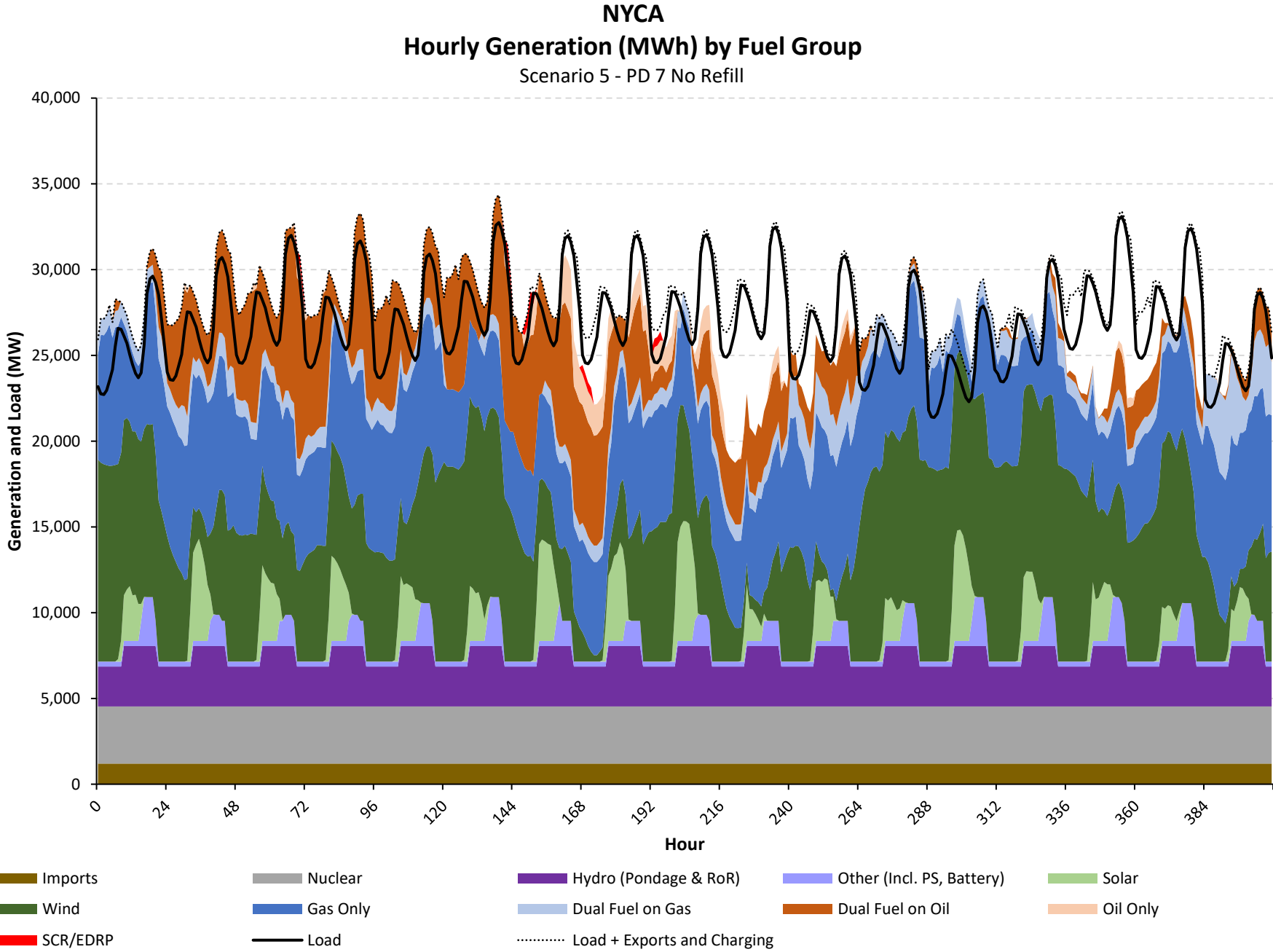
Loss of Load	
Total Hrs.	160
Total MWh	632,154
Avg. MW	1,549.4
First Hour with Losses	150

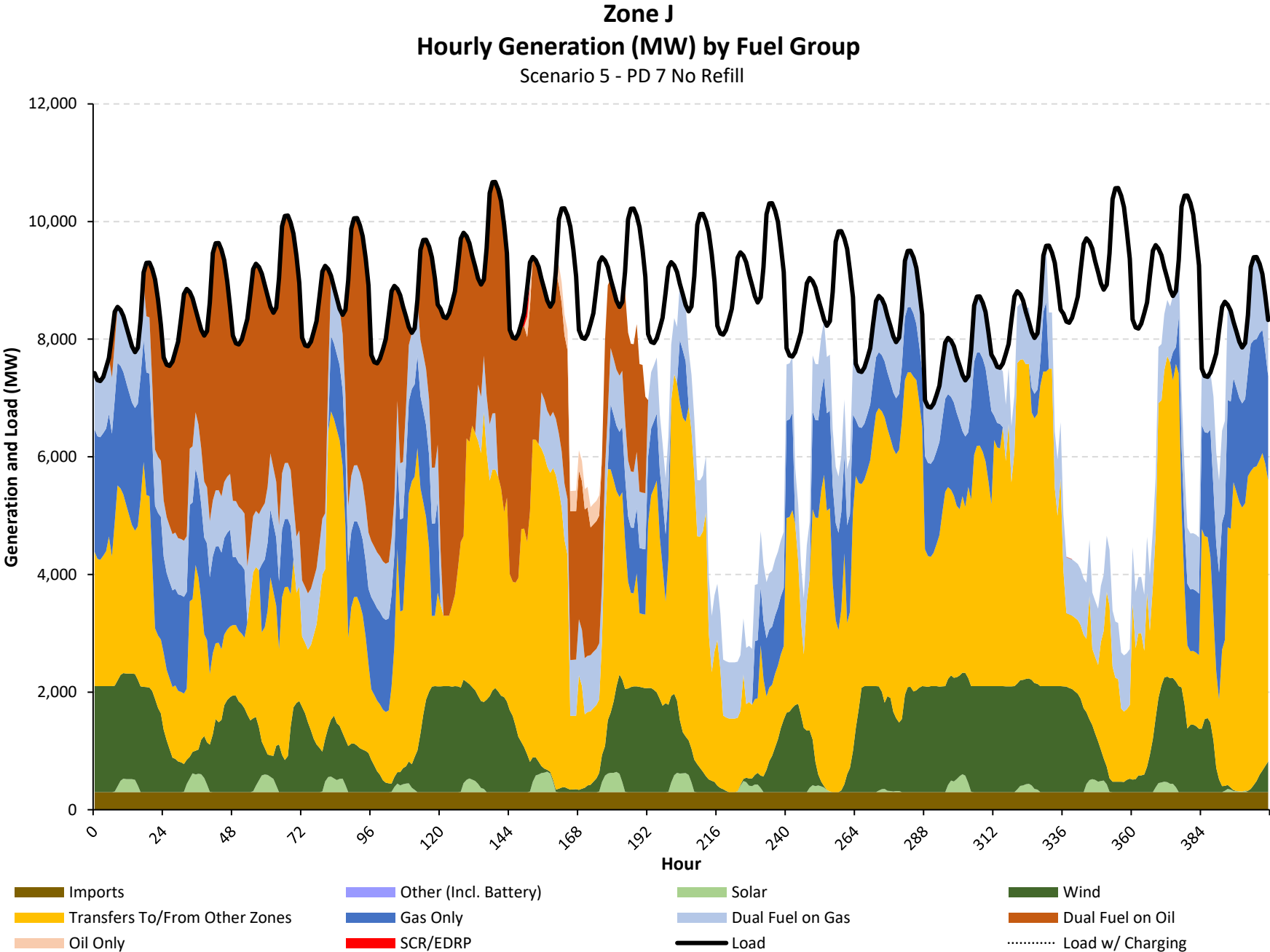
Full Period Results Summary

Case Name: Scenario 5 - PD 7 No Refill

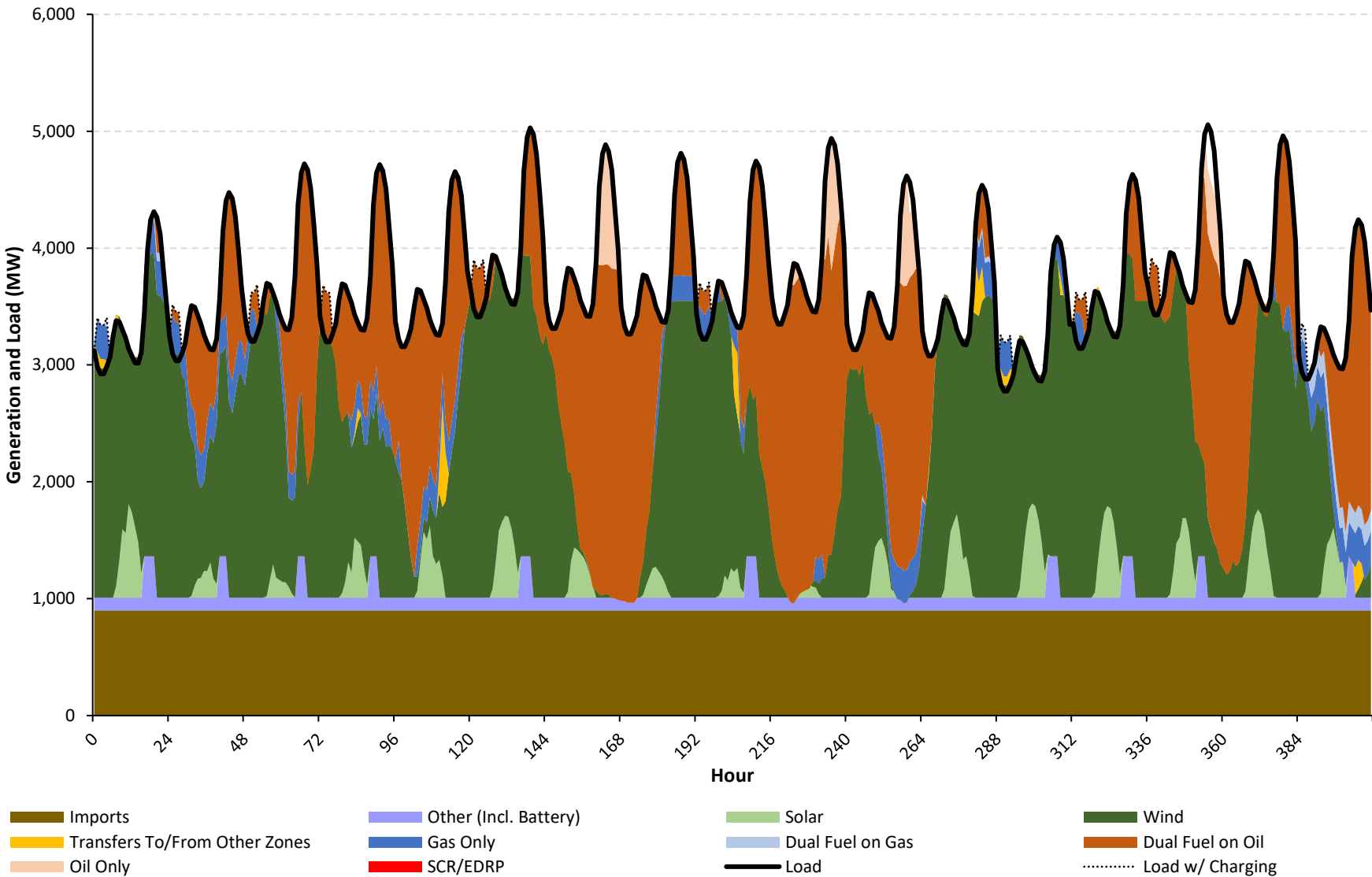
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

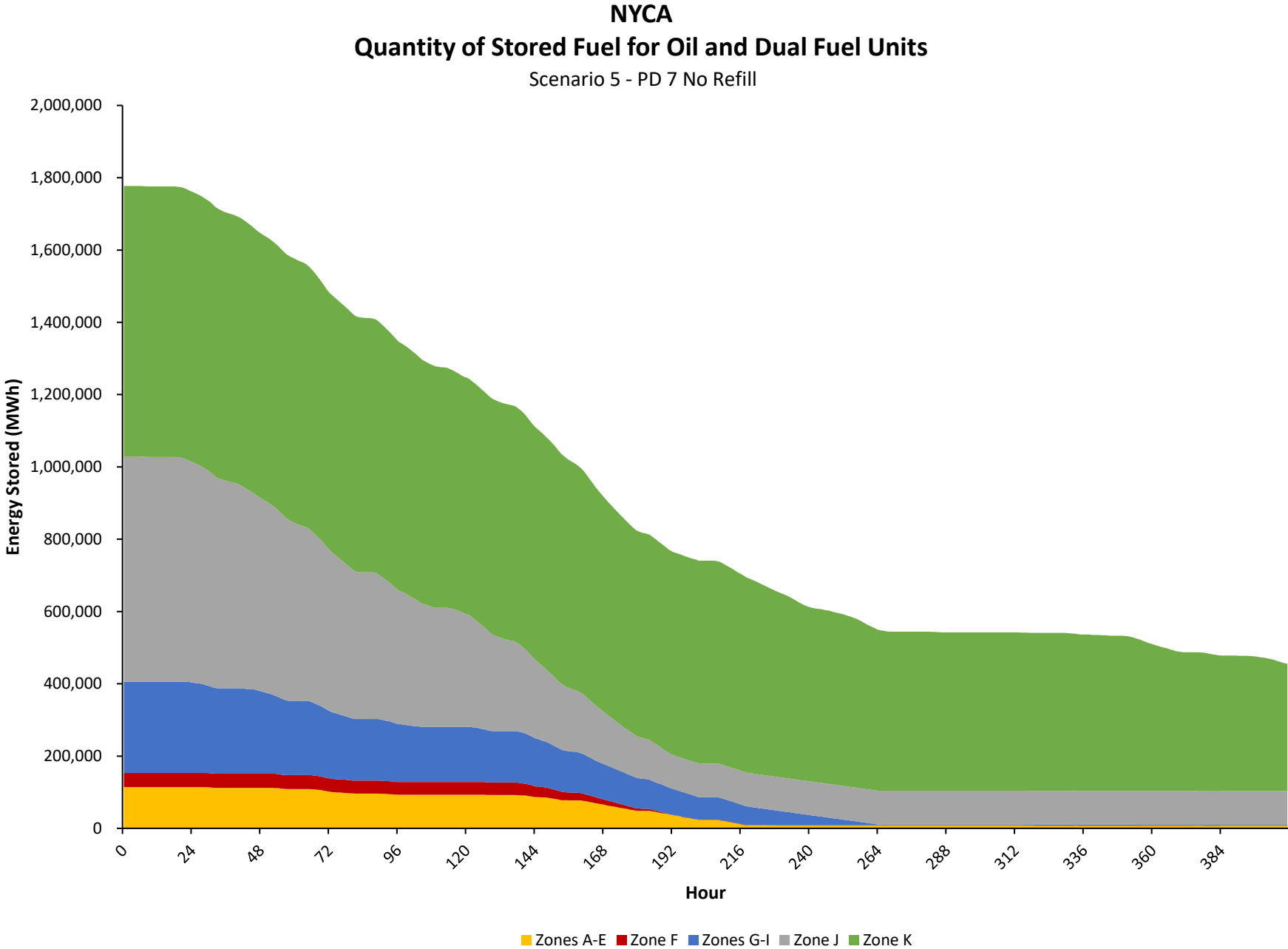


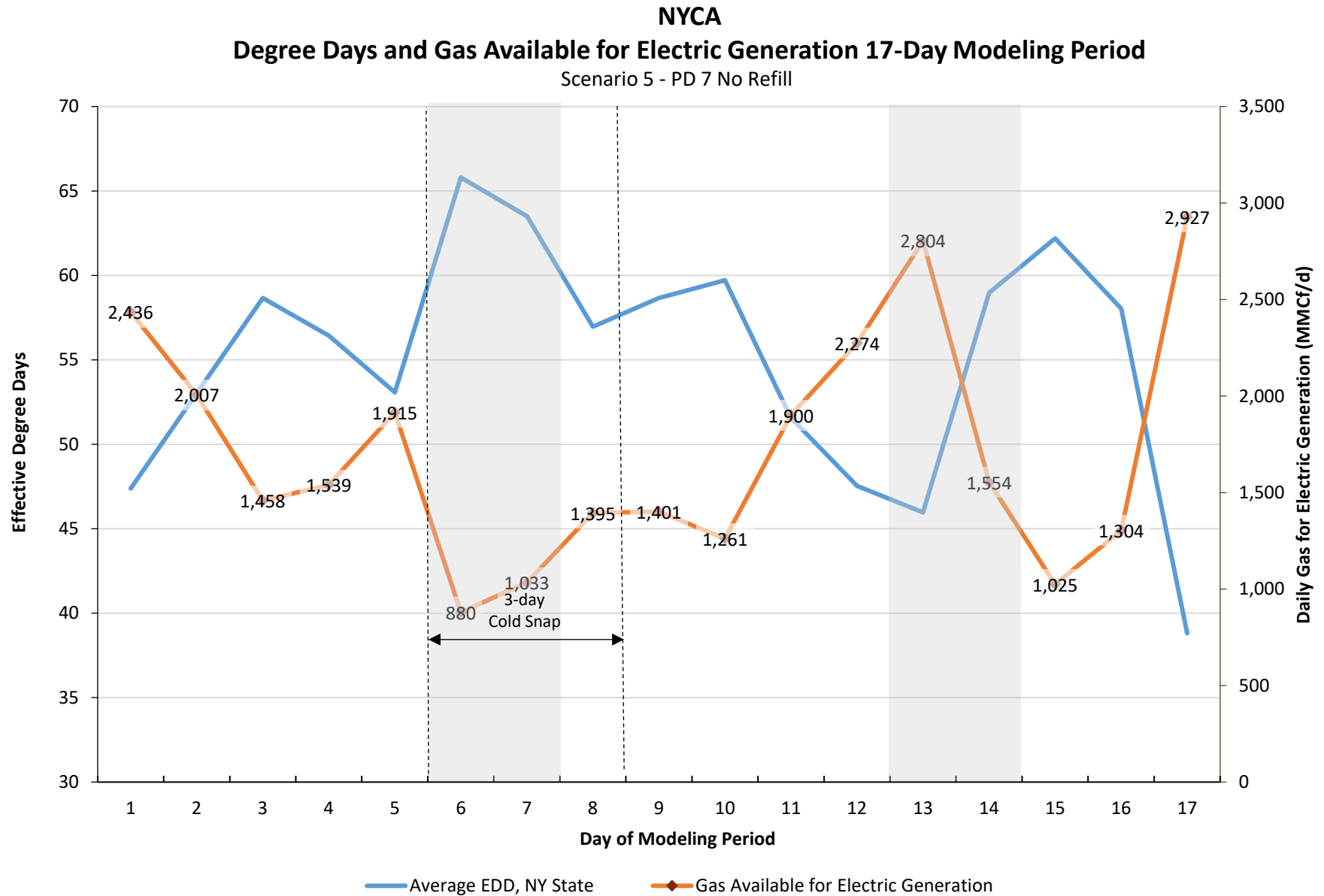




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 5 - PD 7 No Refill





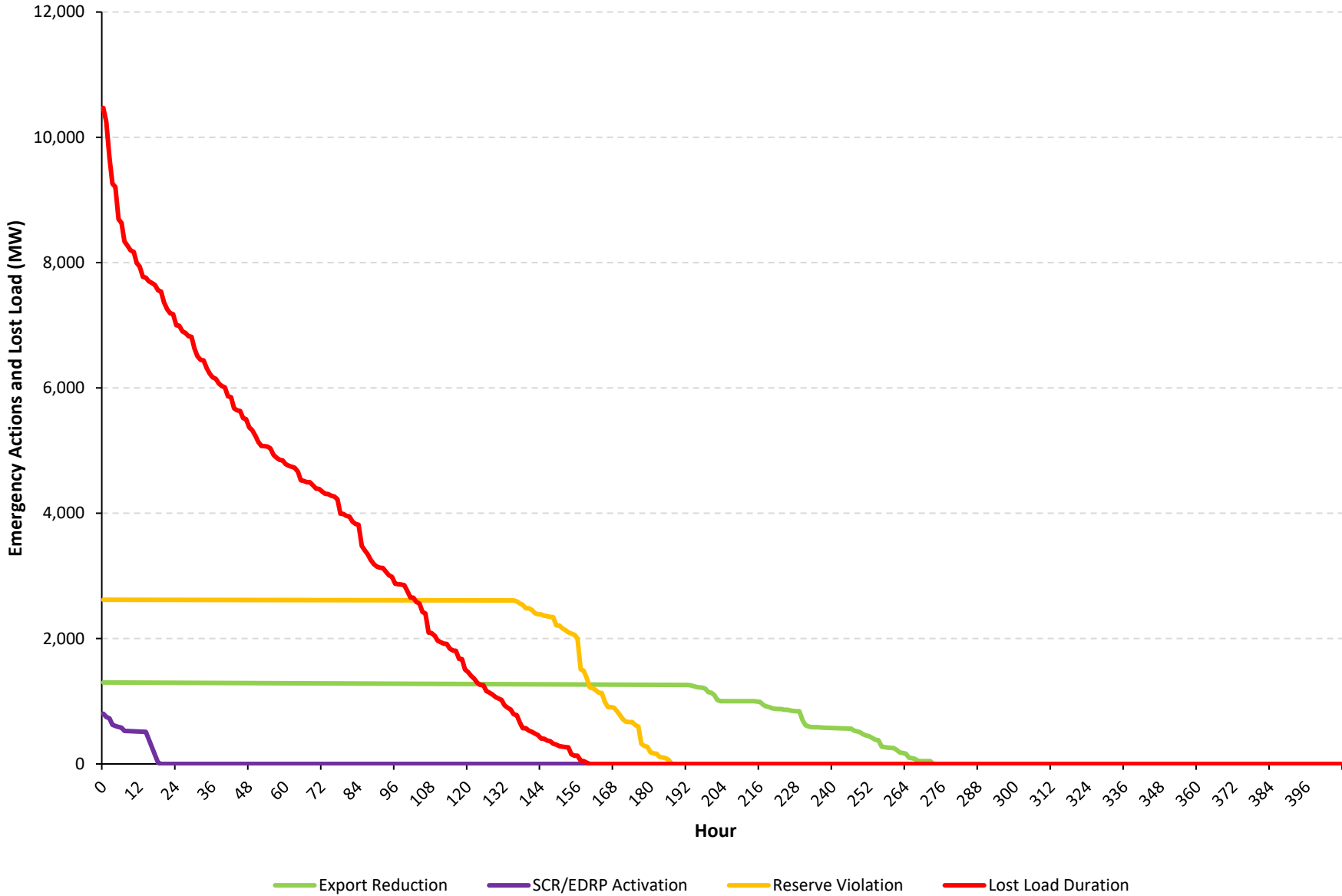


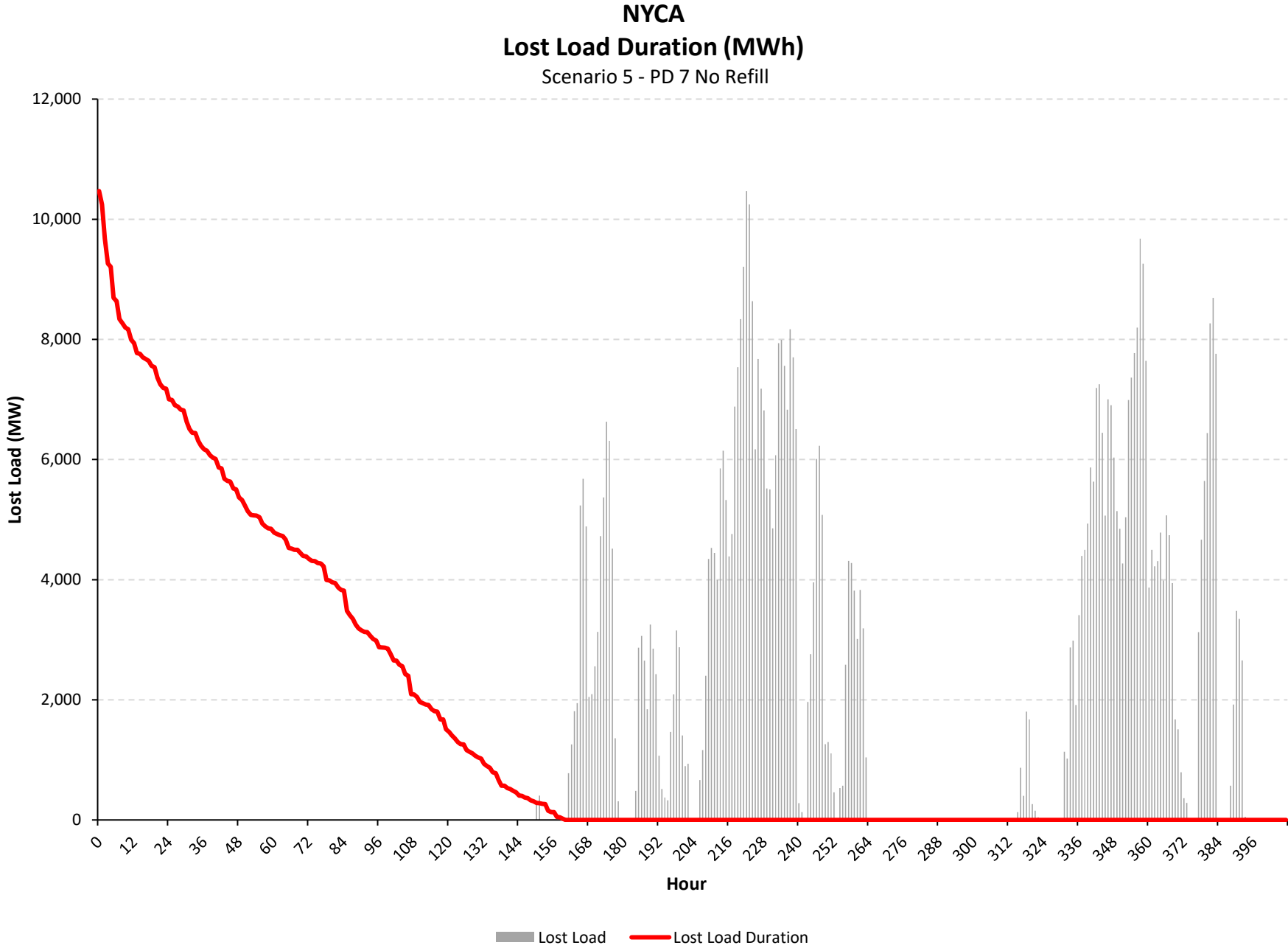
Notes:

[1] Weekends are shaded in gray.

[2] Effective degree day is defined as 65 degrees F - Temperature.

NYCA
Emergency Actions and Lost Load Duration (MWh)
Scenario 5 - PD 7 No Refill



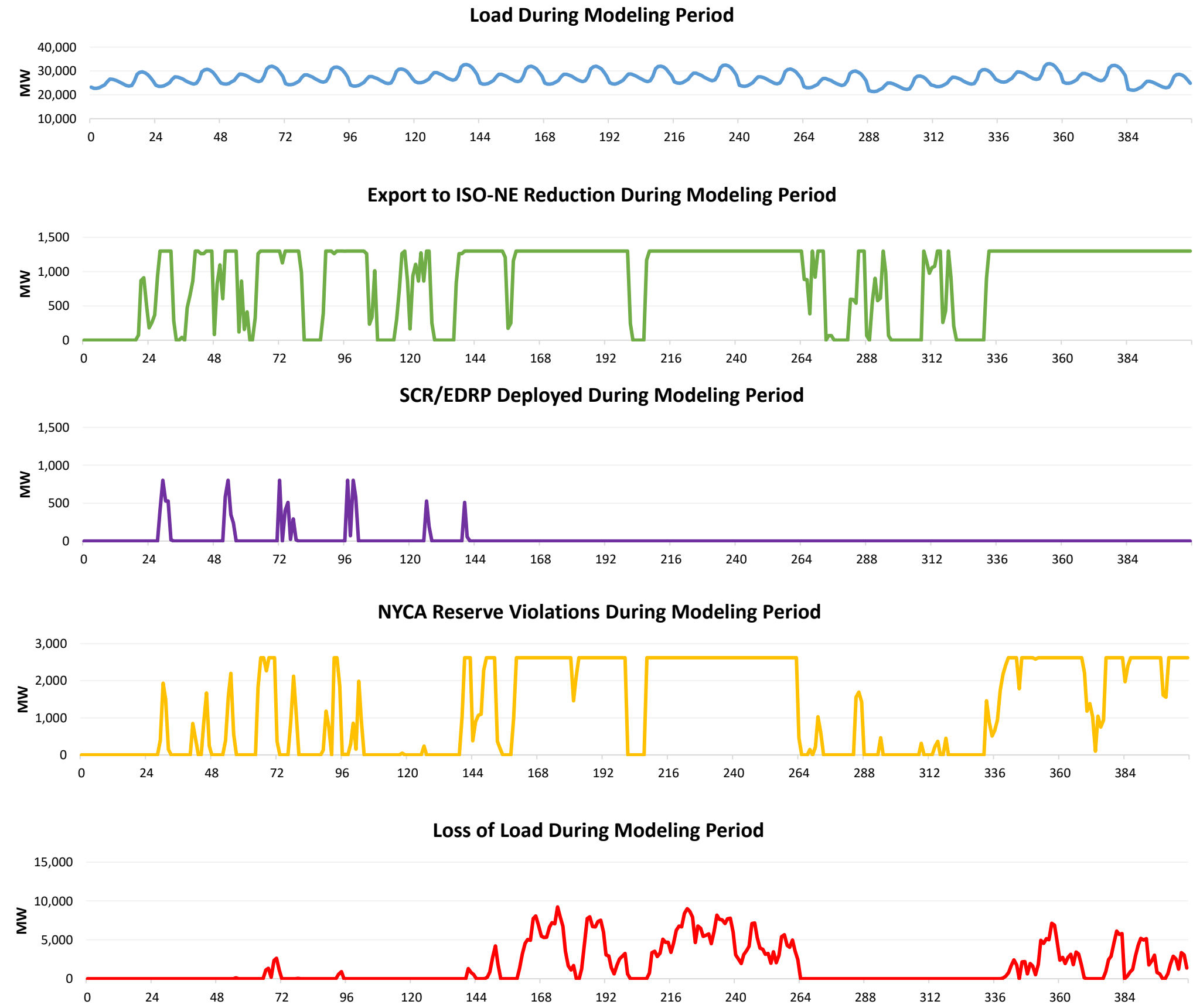


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 5 - PD 8 Non-Firm Gas Unavailable (F-K) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 5 - PD 8 Non-Firm Gas Unavailable (F-K)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	325
Total MWh	374,247
Avg. MW	917.3

SCR Deployment	
Total Hrs.	23
Total MWh	9,838
Avg. MW	24.1

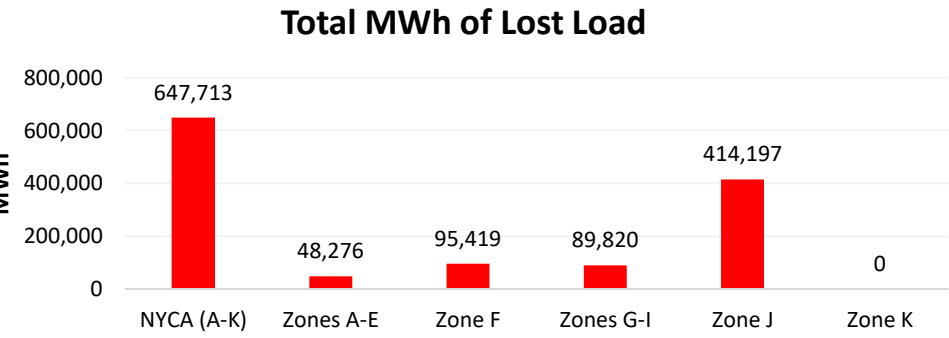
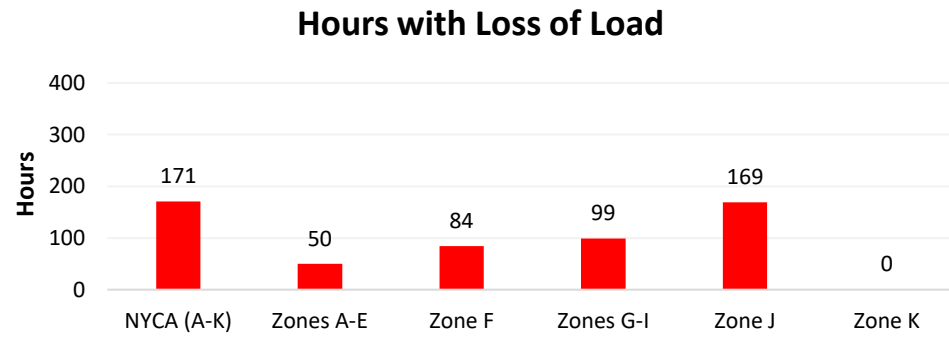
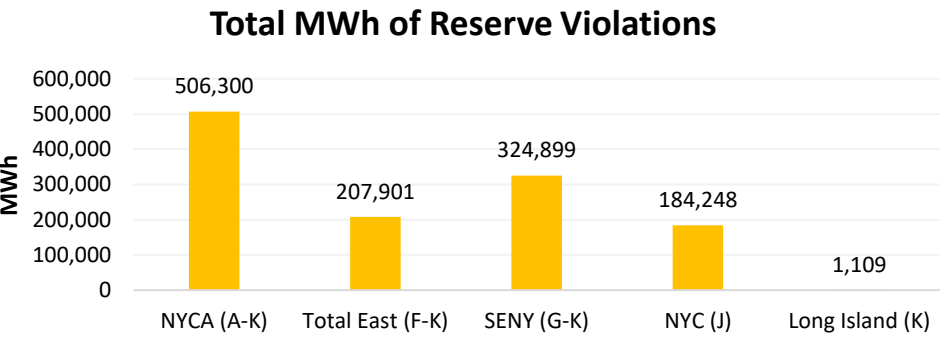
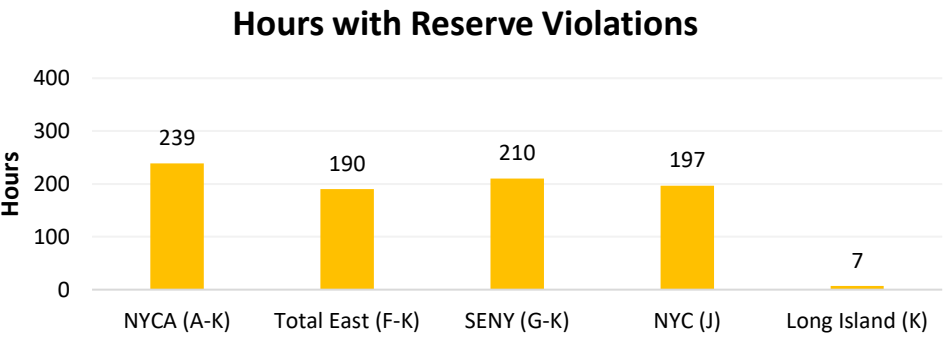
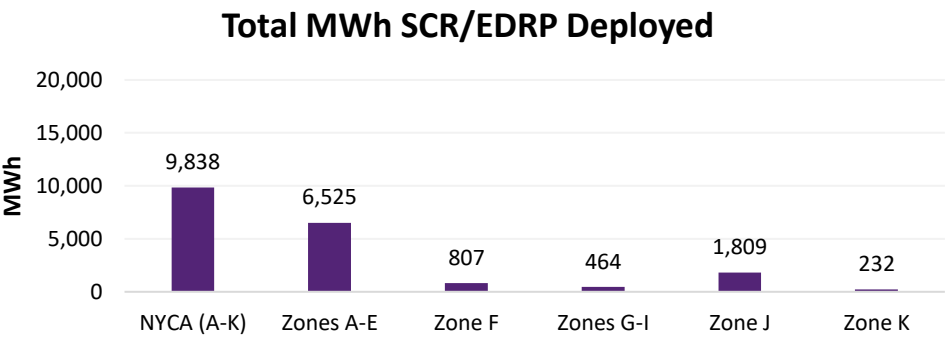
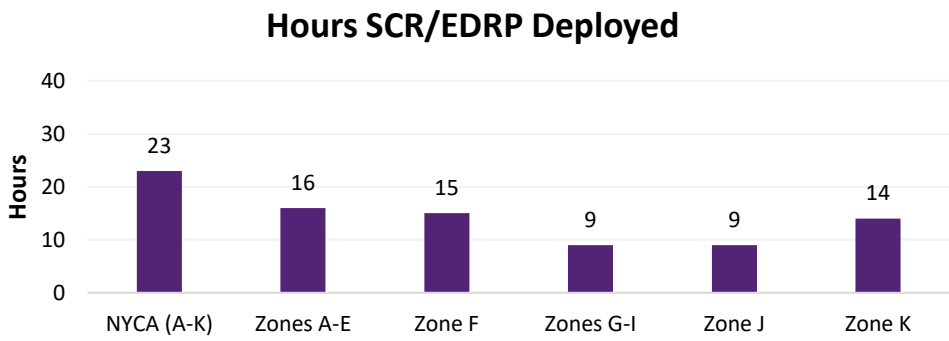
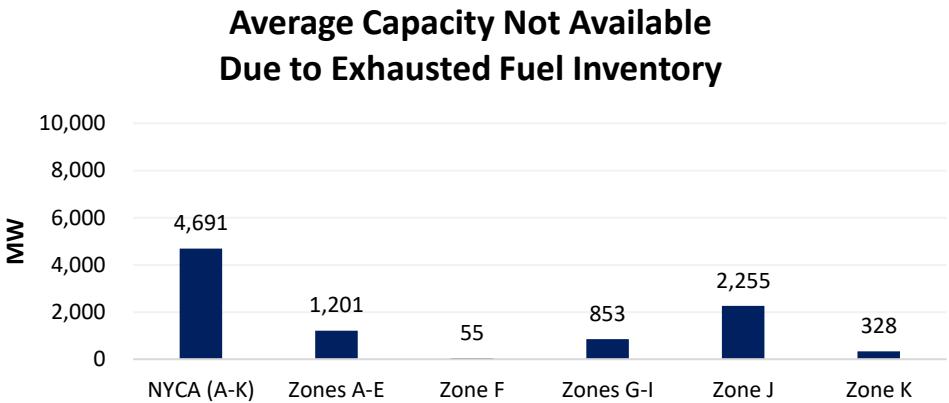
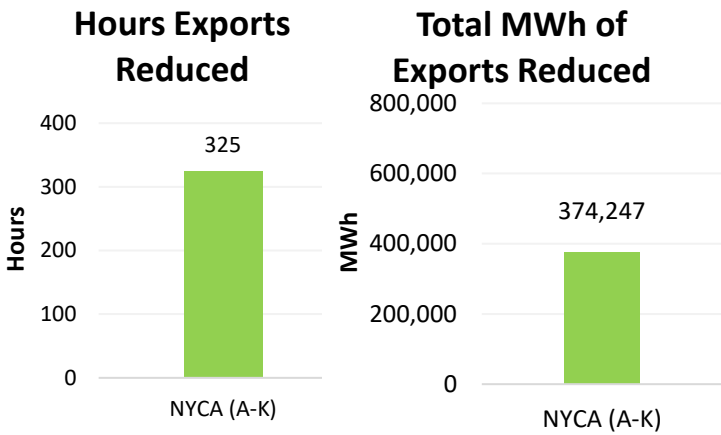
Reserve Violations	
Total Hrs.	239
Total MWh	506,300
Avg. MW	1,240.9
First Hour with Viol.	29

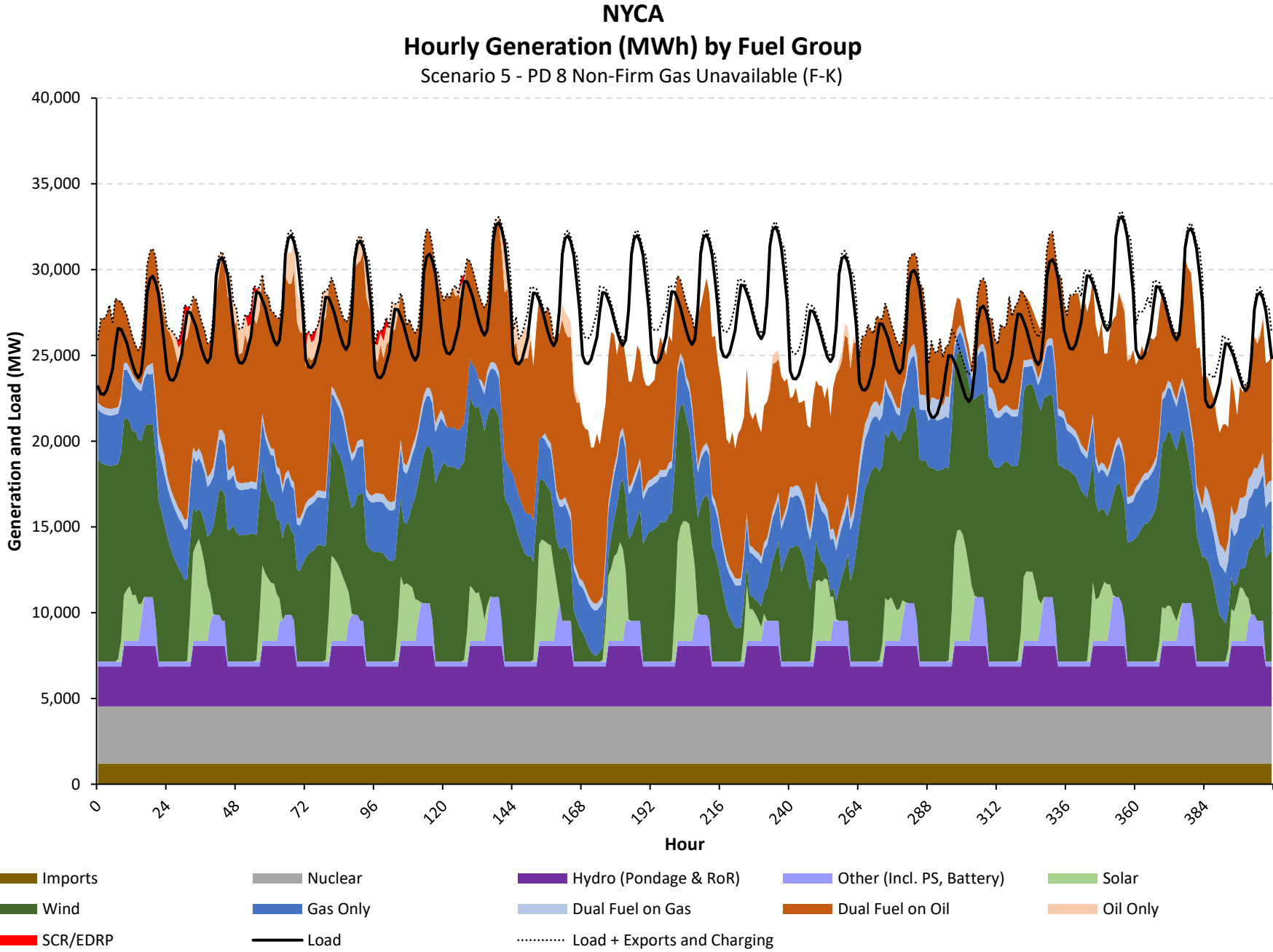
Loss of Load	
Total Hrs.	171
Total MWh	647,713
Avg. MW	1,587.5
First Hour with Losses	55

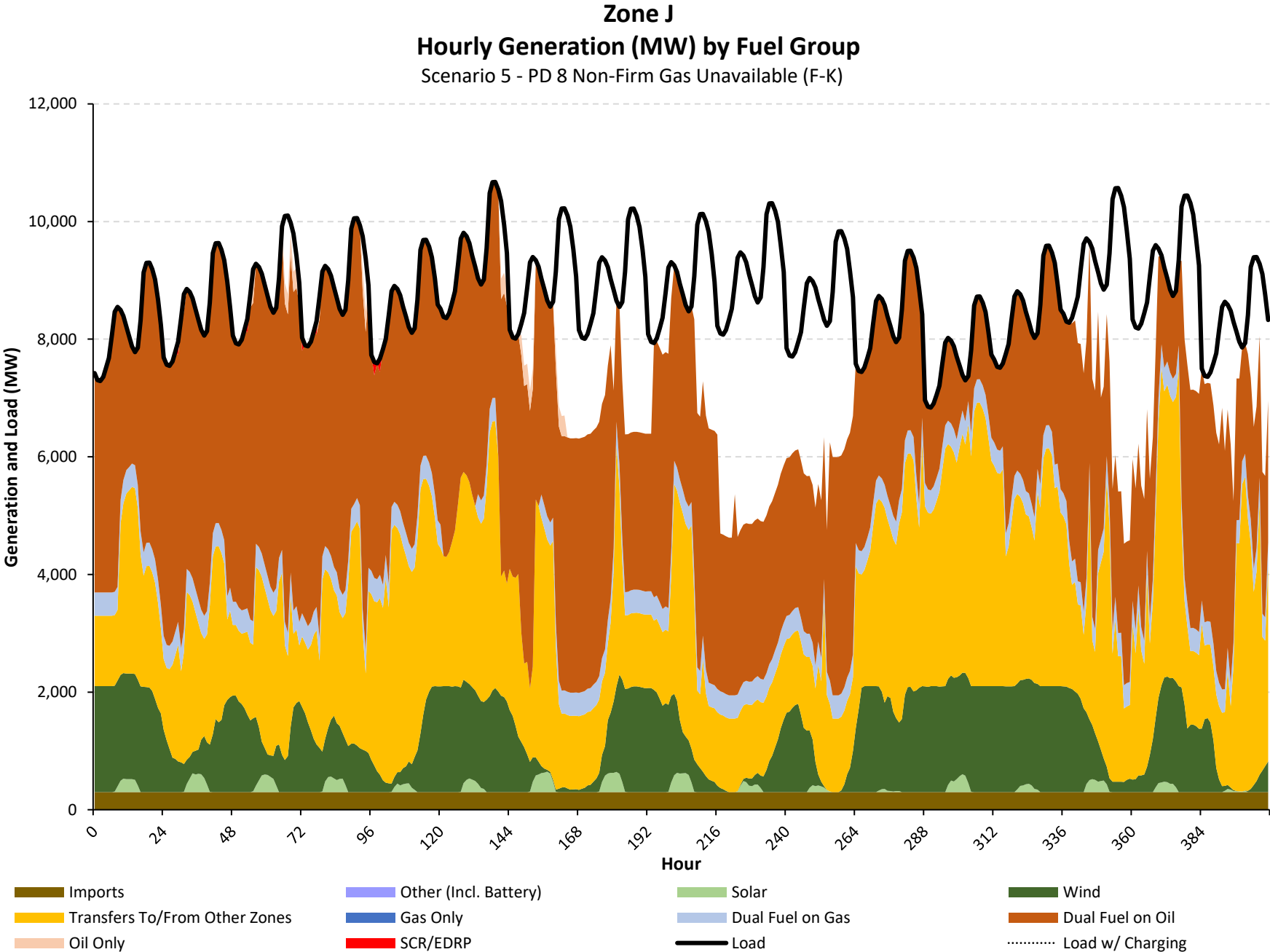
Full Period Results Summary

Case Name: Scenario 5 - PD 8 Non-Firm Gas Unavailable (F-K)

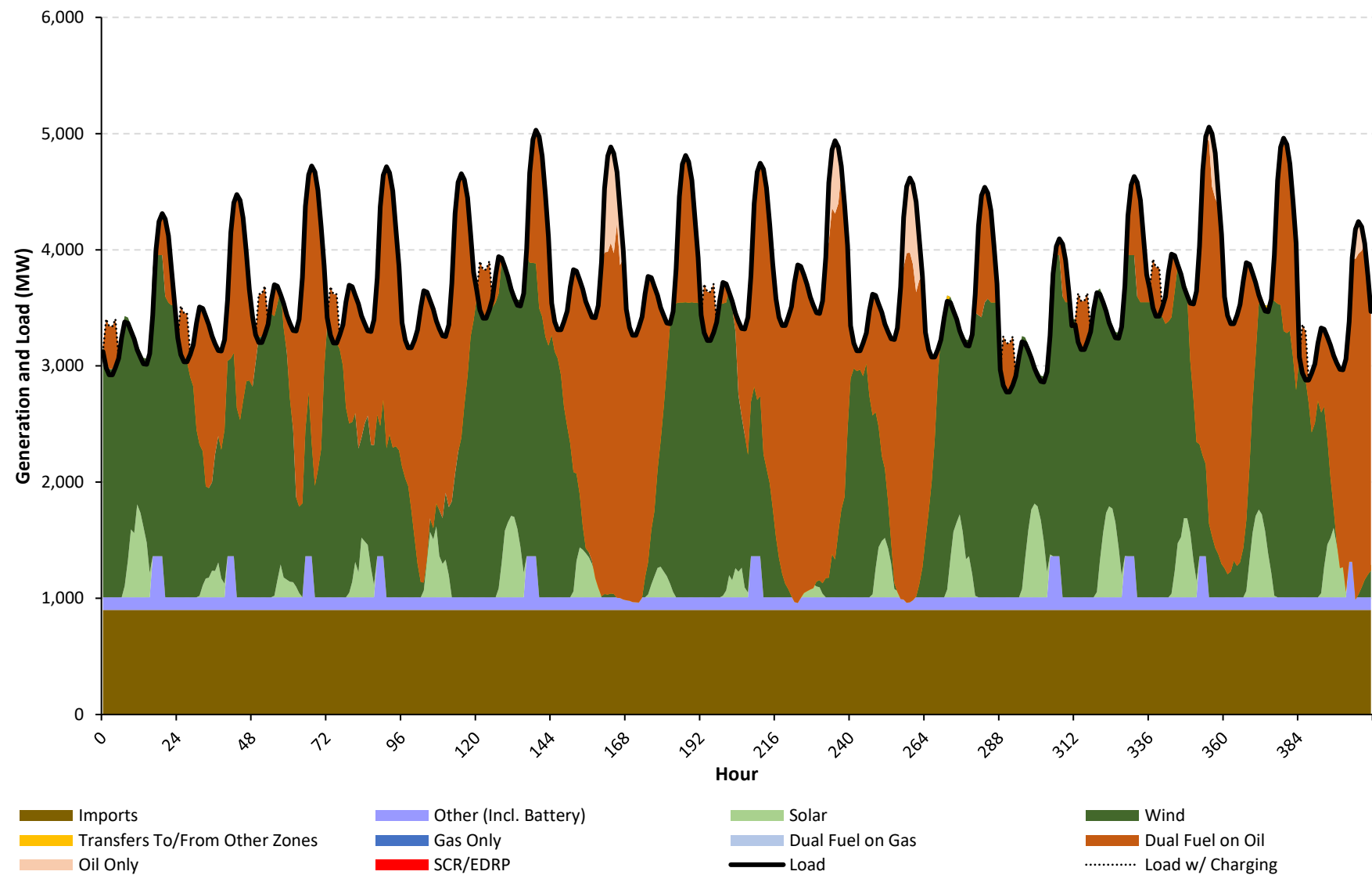
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

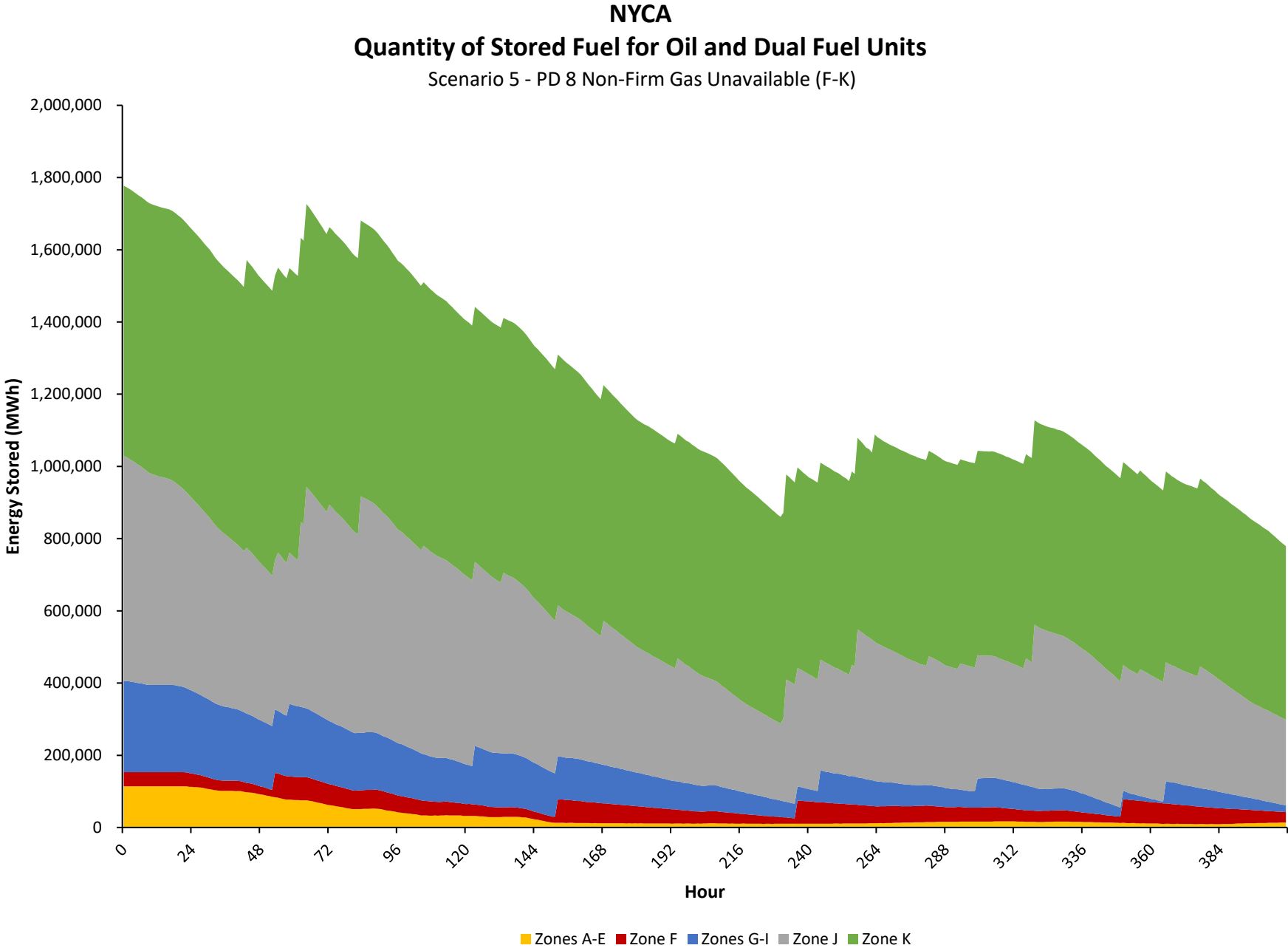


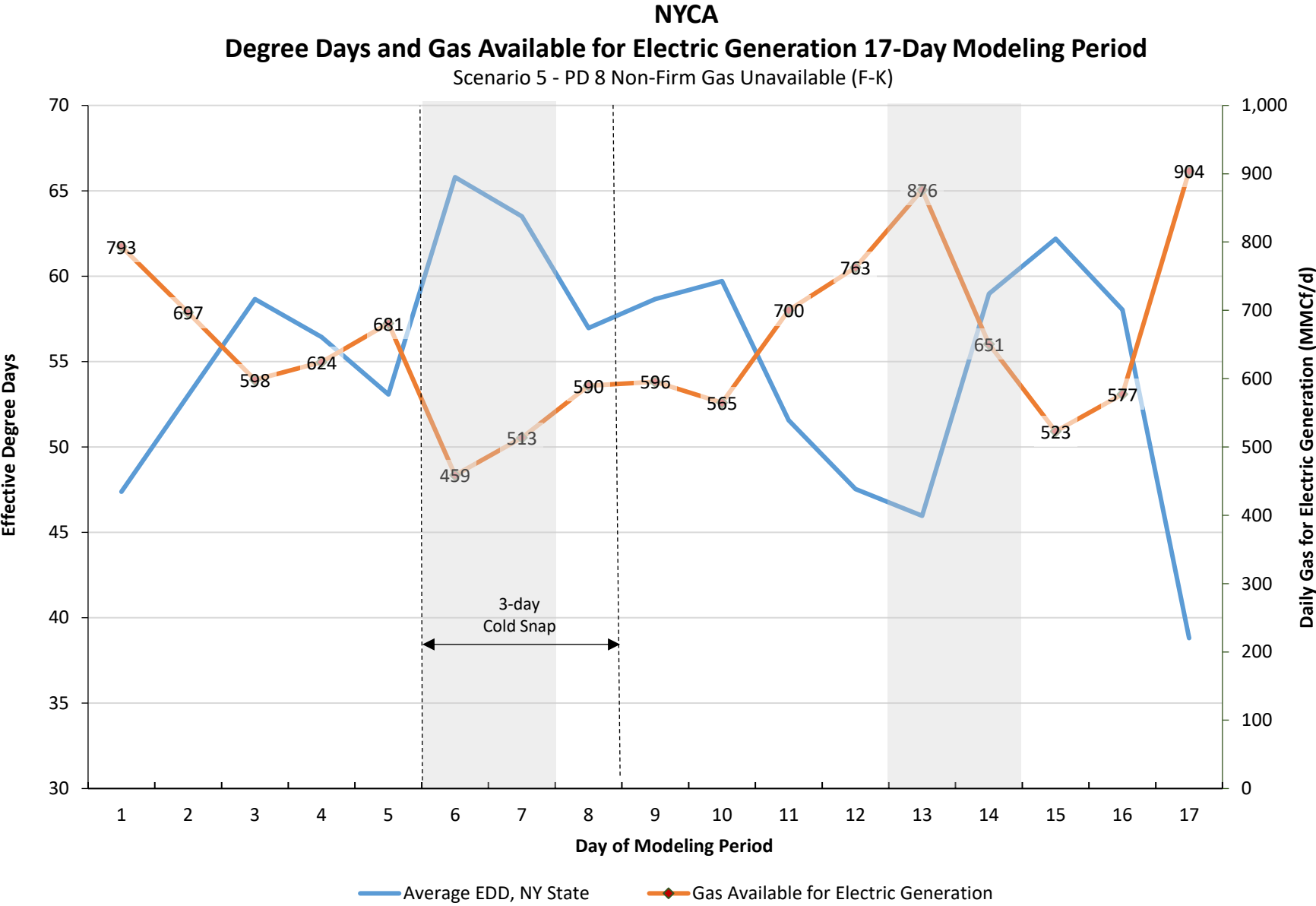




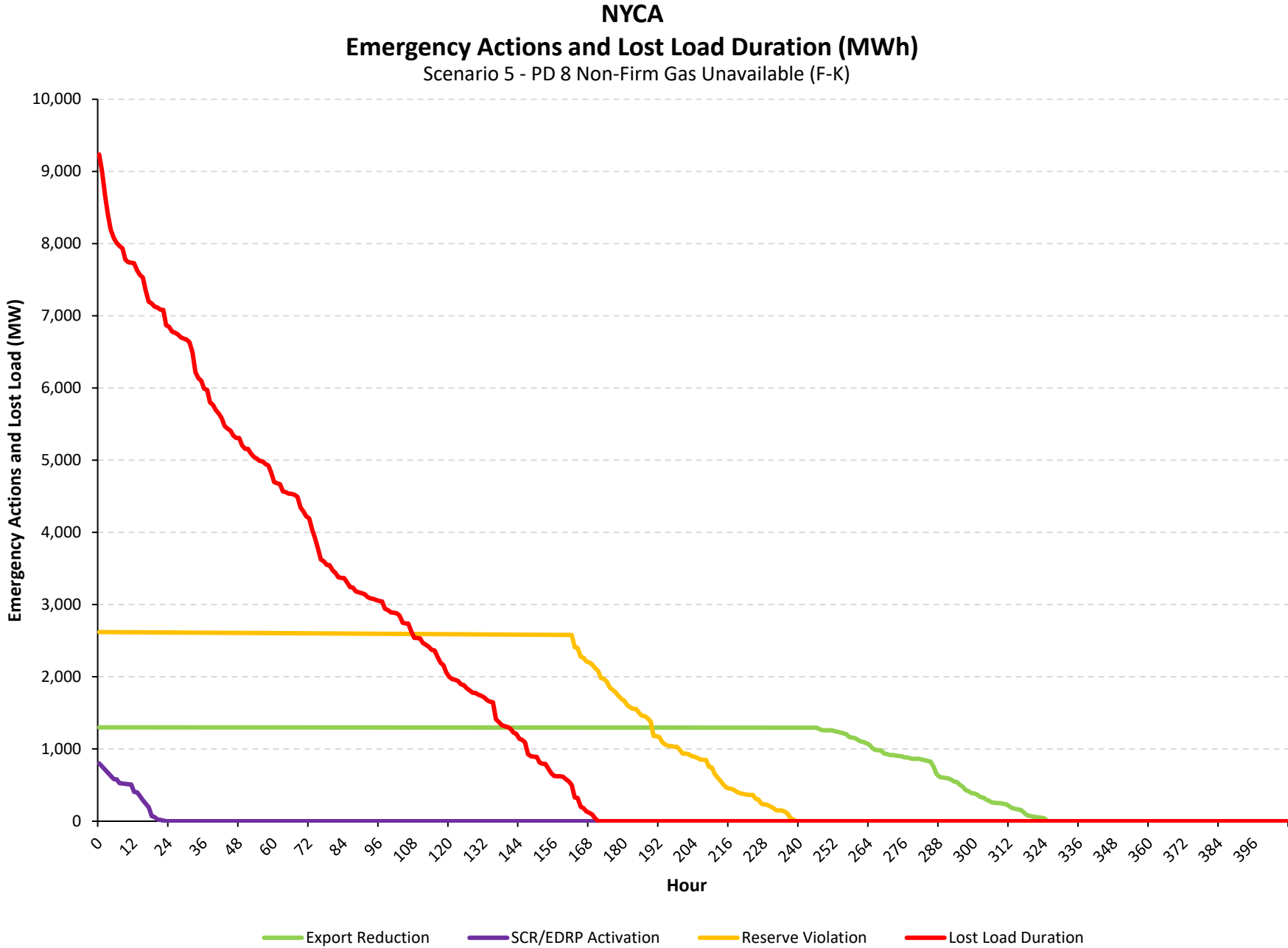
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 5 - PD 8 Non-Firm Gas Unavailable (F-K)

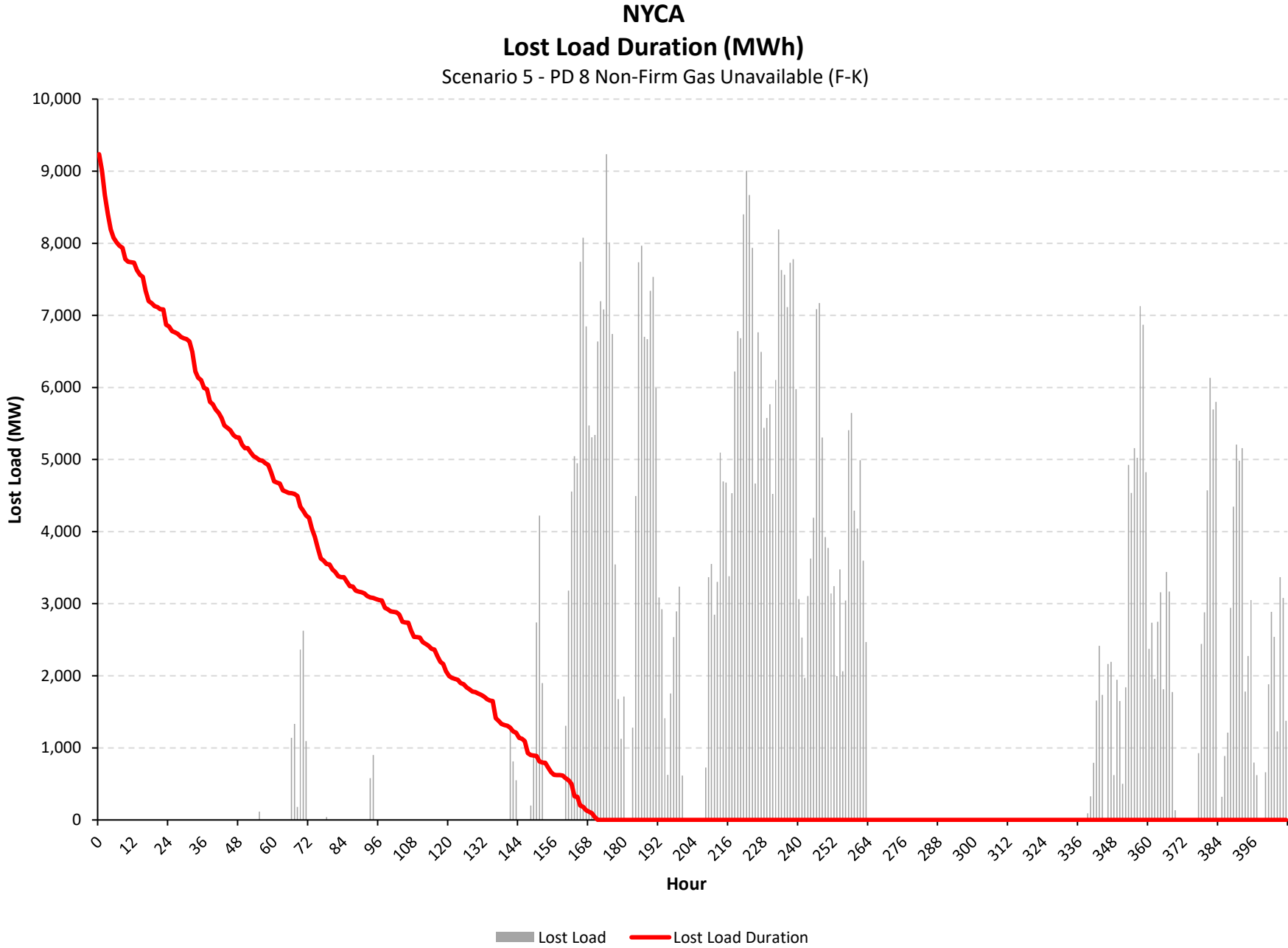






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



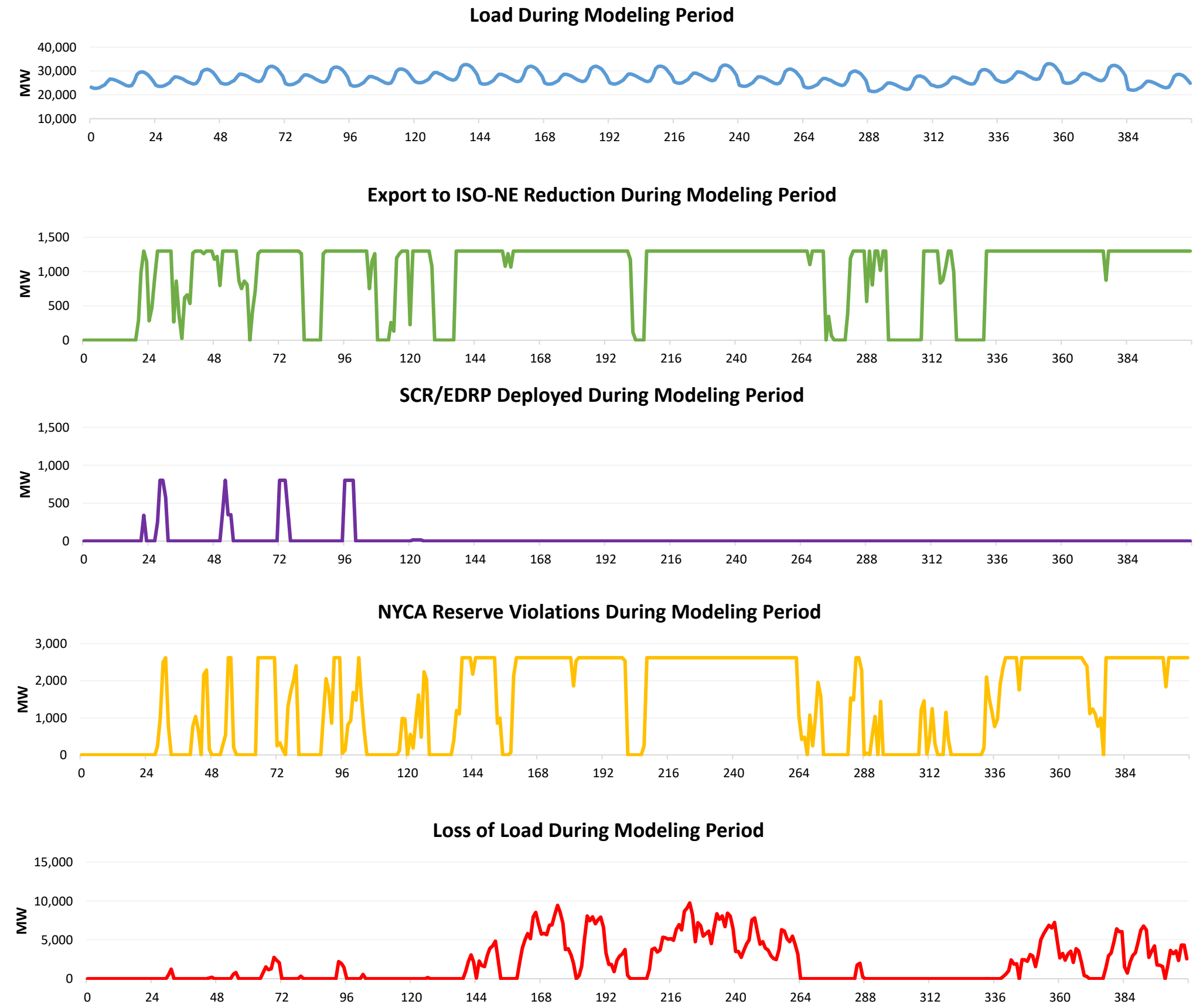


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 5 - PD 9 Non-Firm Gas Unavailable (NYCA) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 5 - PD 9 Non-Firm Gas Unavailable (NYCA)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	334
Total MWh	406,223
Avg. MW	995.6

SCR Deployment	
Total Hrs.	21
Total MWh	10,738
Avg. MW	26.3

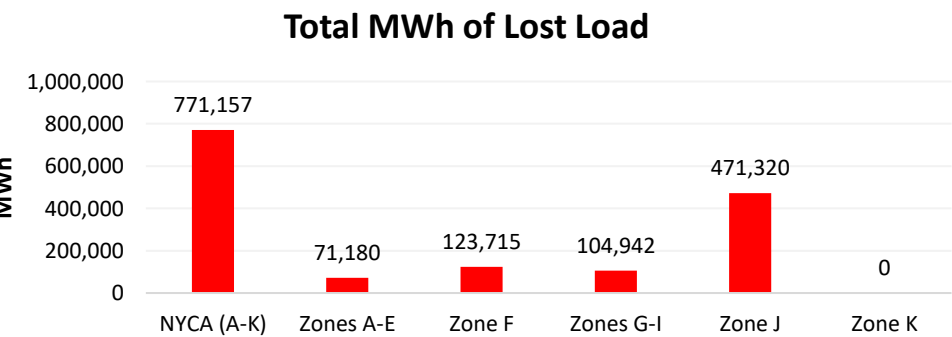
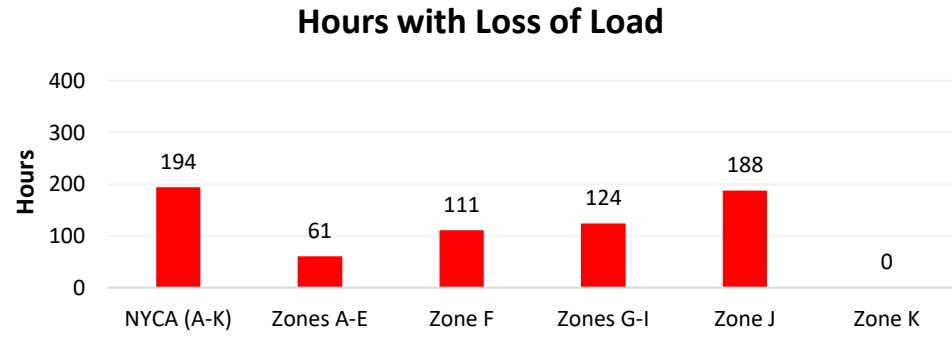
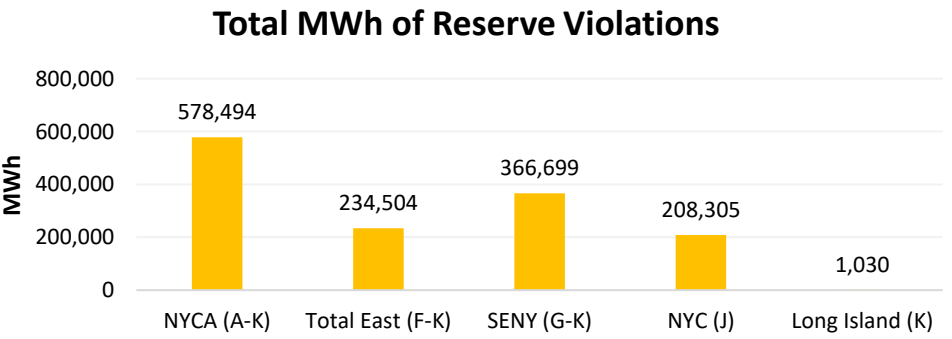
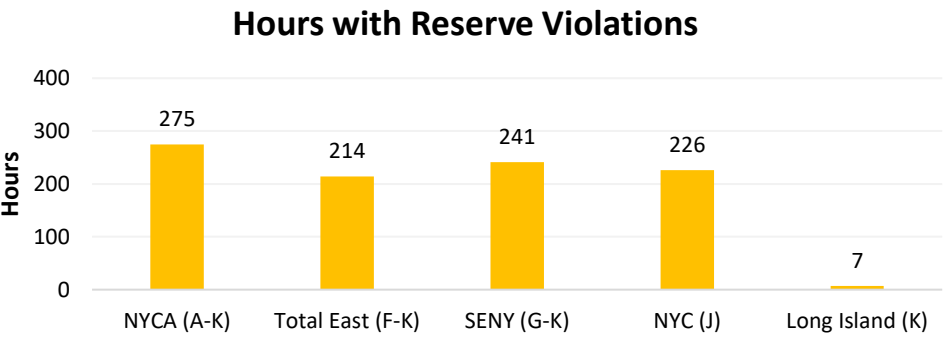
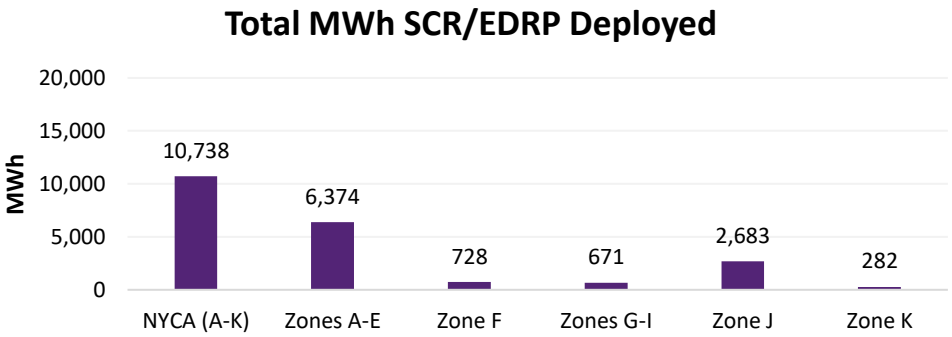
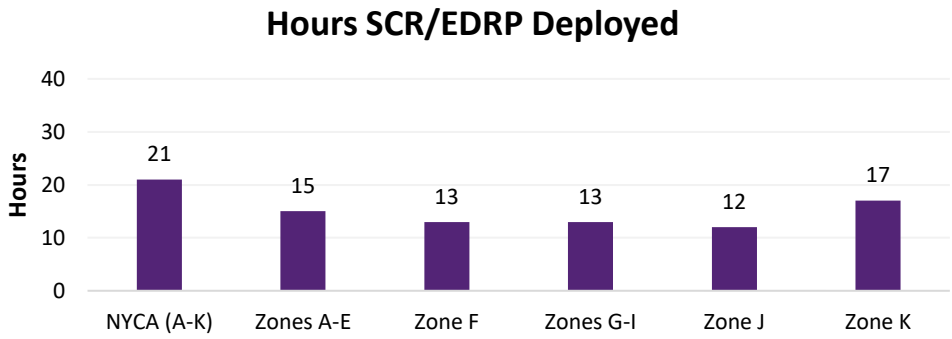
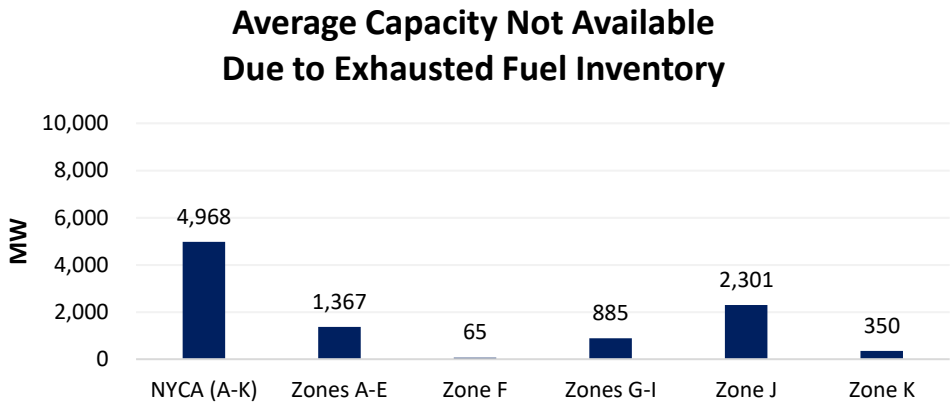
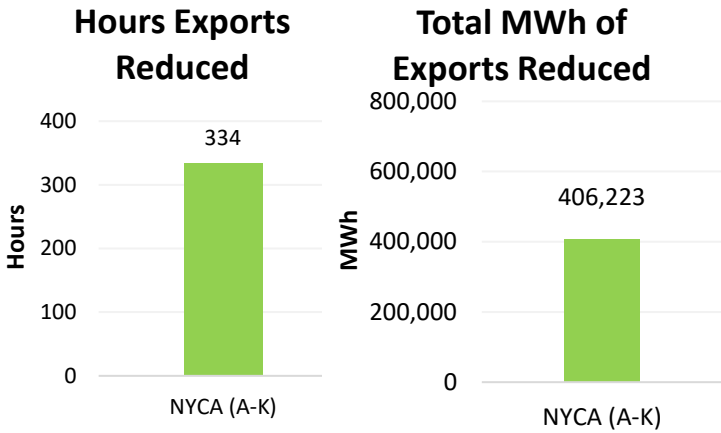
Reserve Violations	
Total Hrs.	275
Total MWh	578,494
Avg. MW	1,417.9
First Hour with Viol.	28

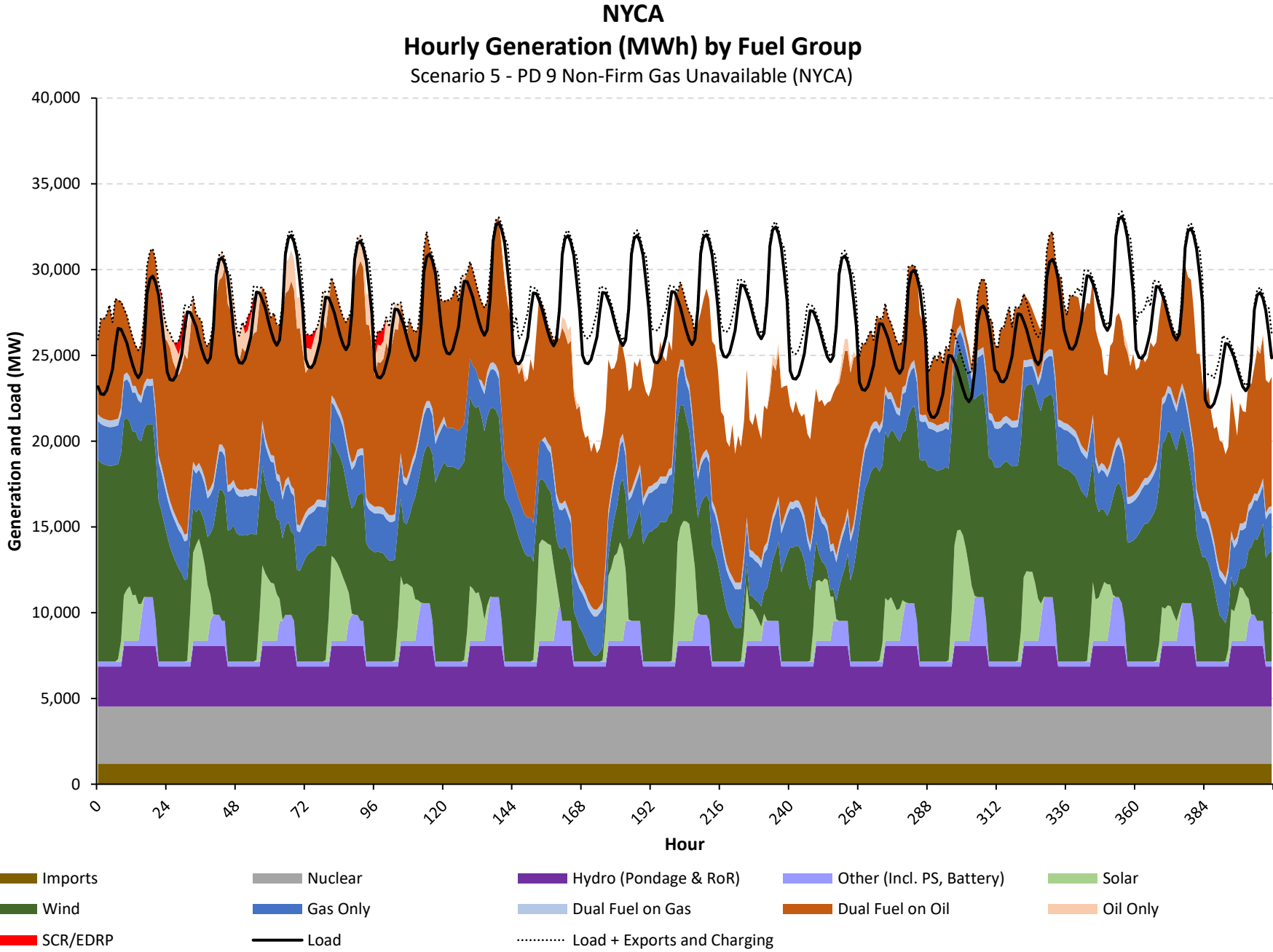
Loss of Load	
Total Hrs.	194
Total MWh	771,157
Avg. MW	1,890.1
First Hour with Losses	30

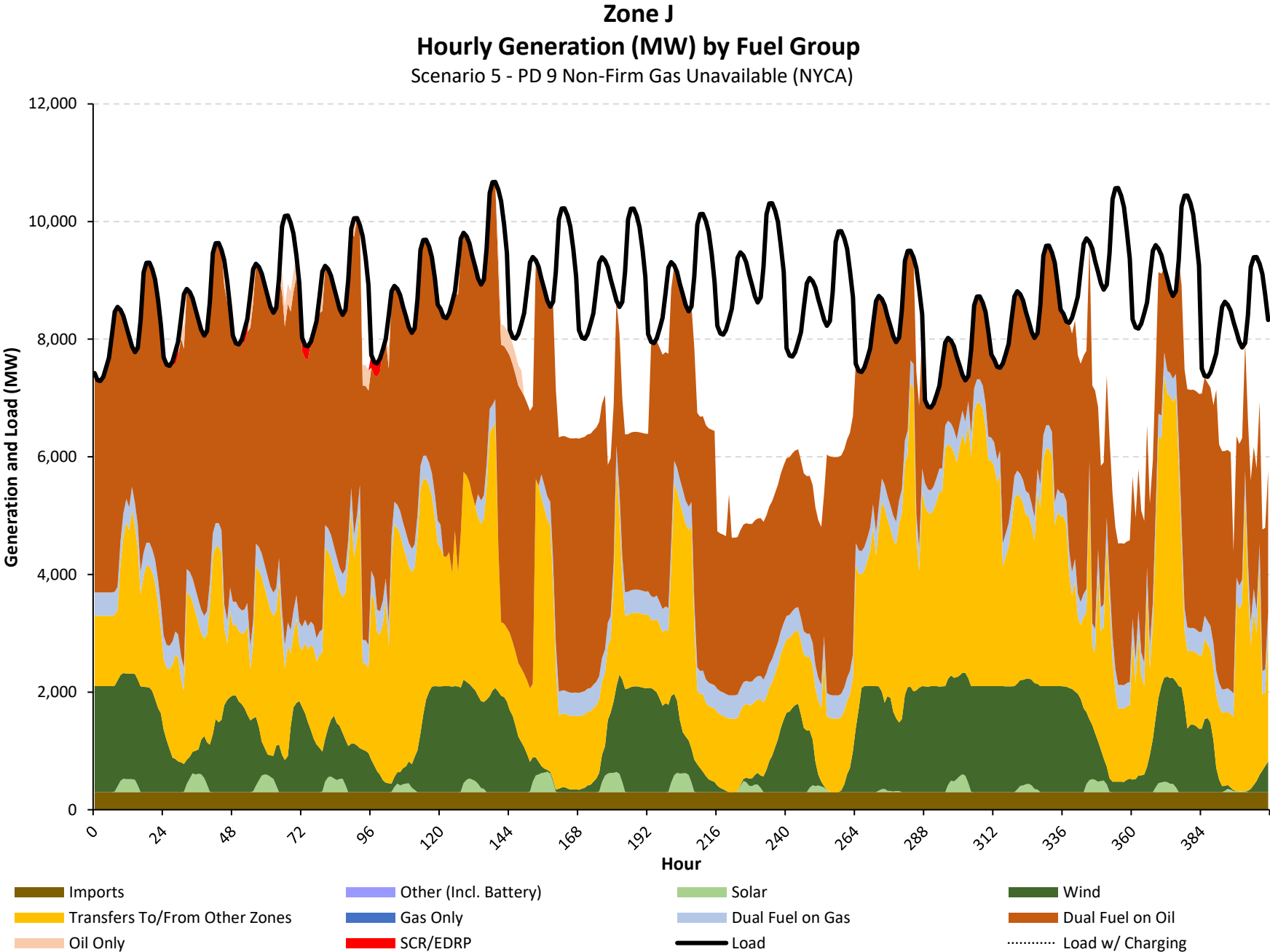
Full Period Results Summary

Case Name: Scenario 5 - PD 9 Non-Firm Gas Unavailable (NYCA)

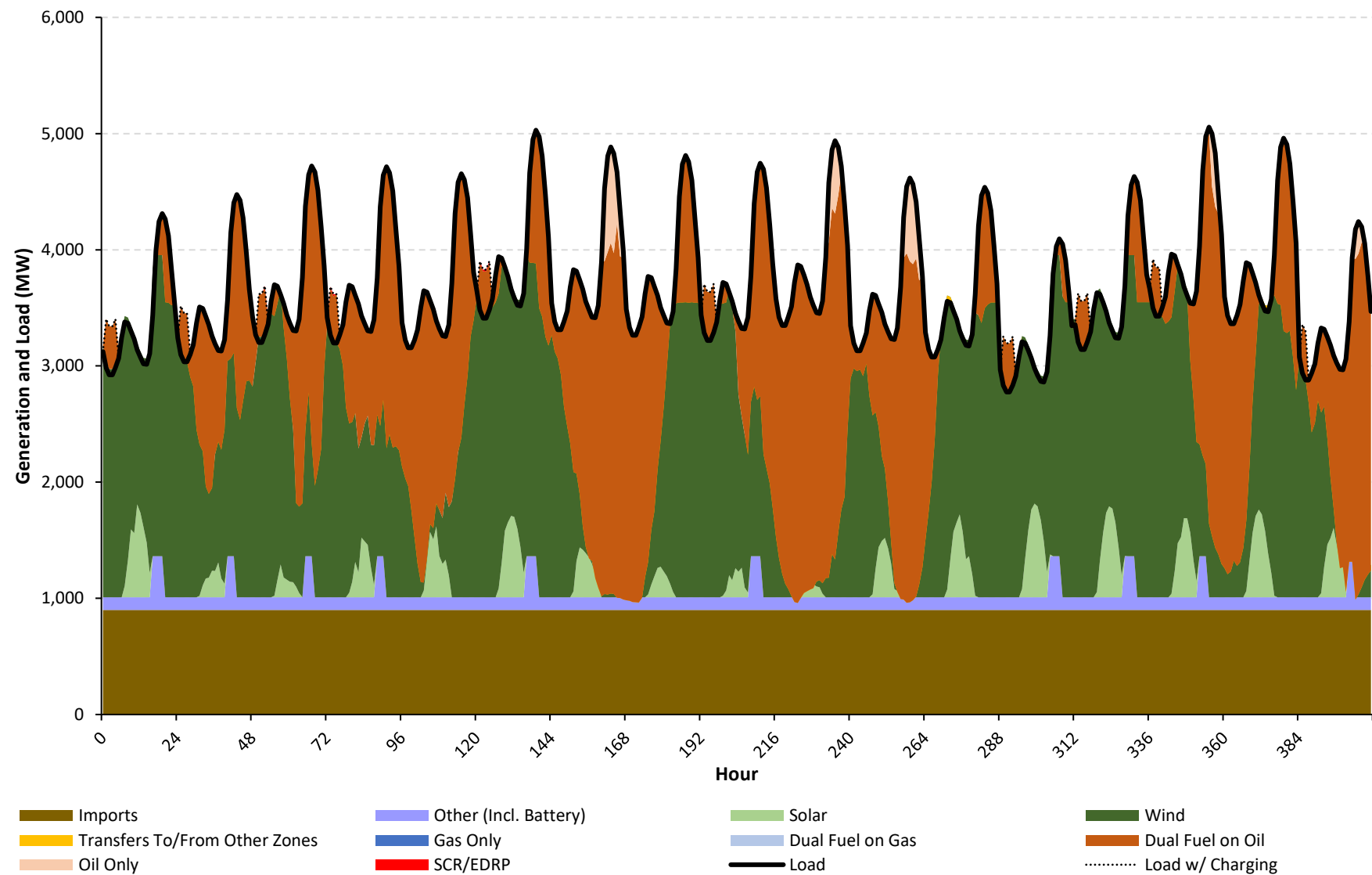
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

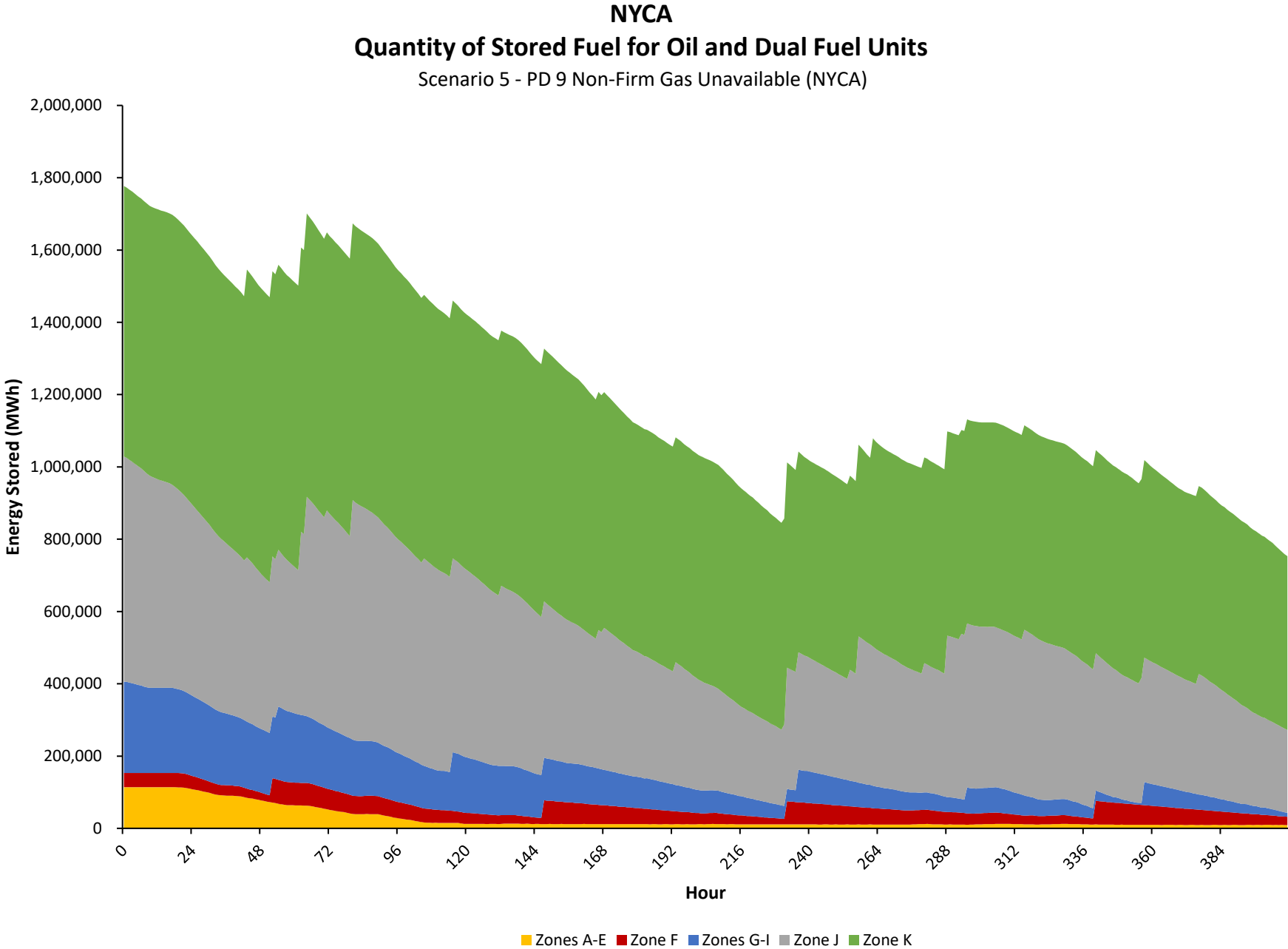


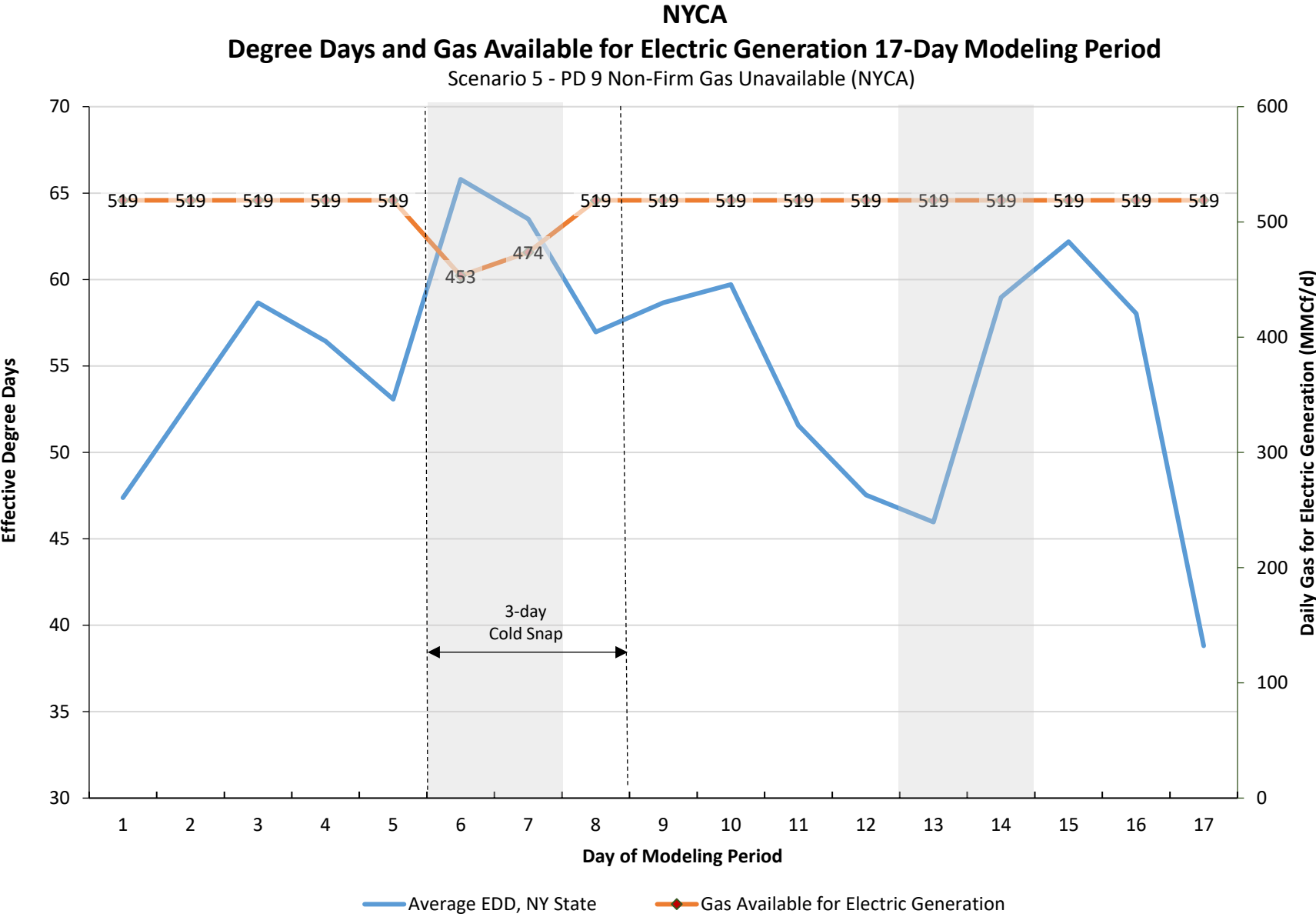




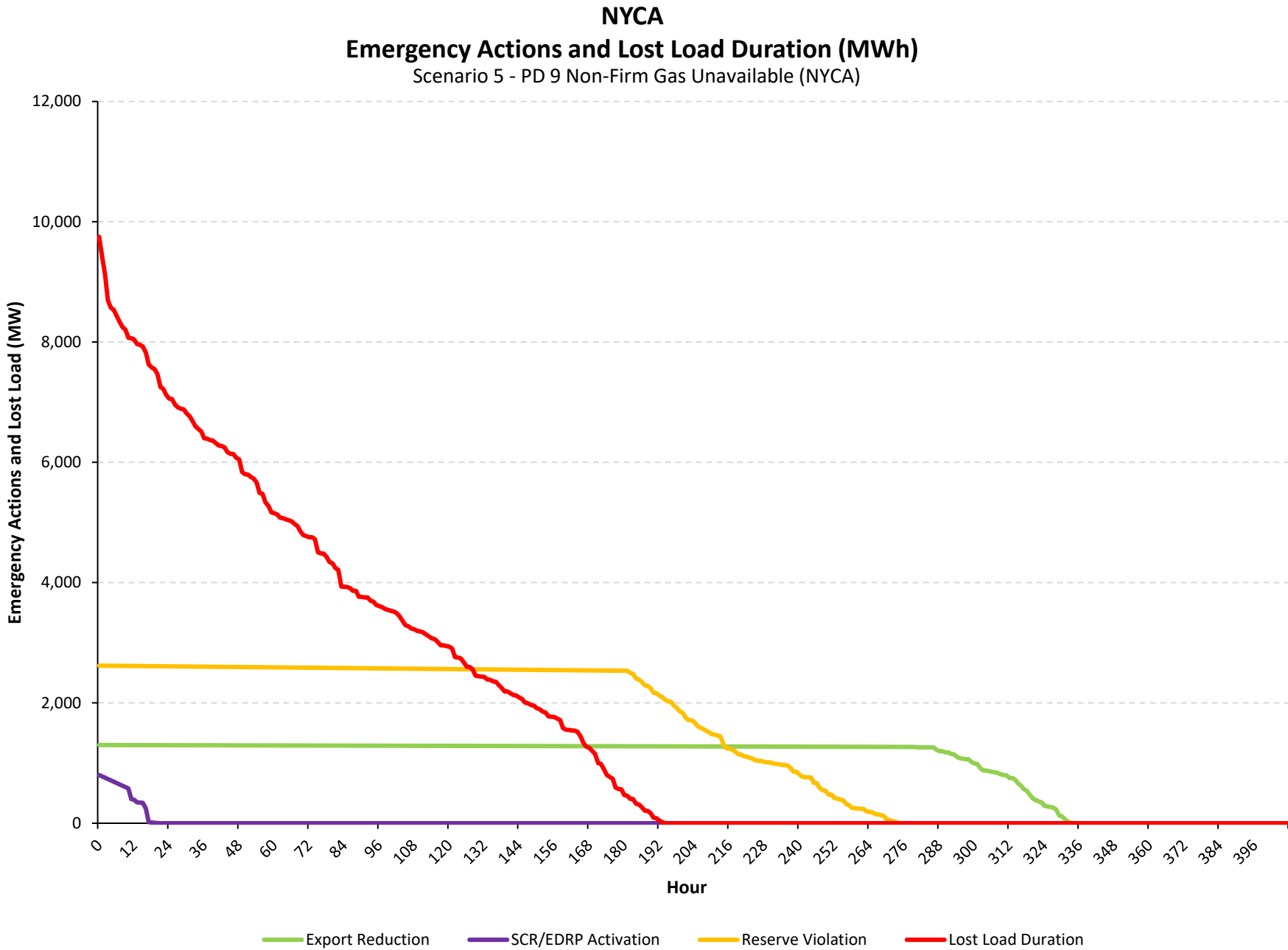
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 5 - PD 9 Non-Firm Gas Unavailable (NYCA)

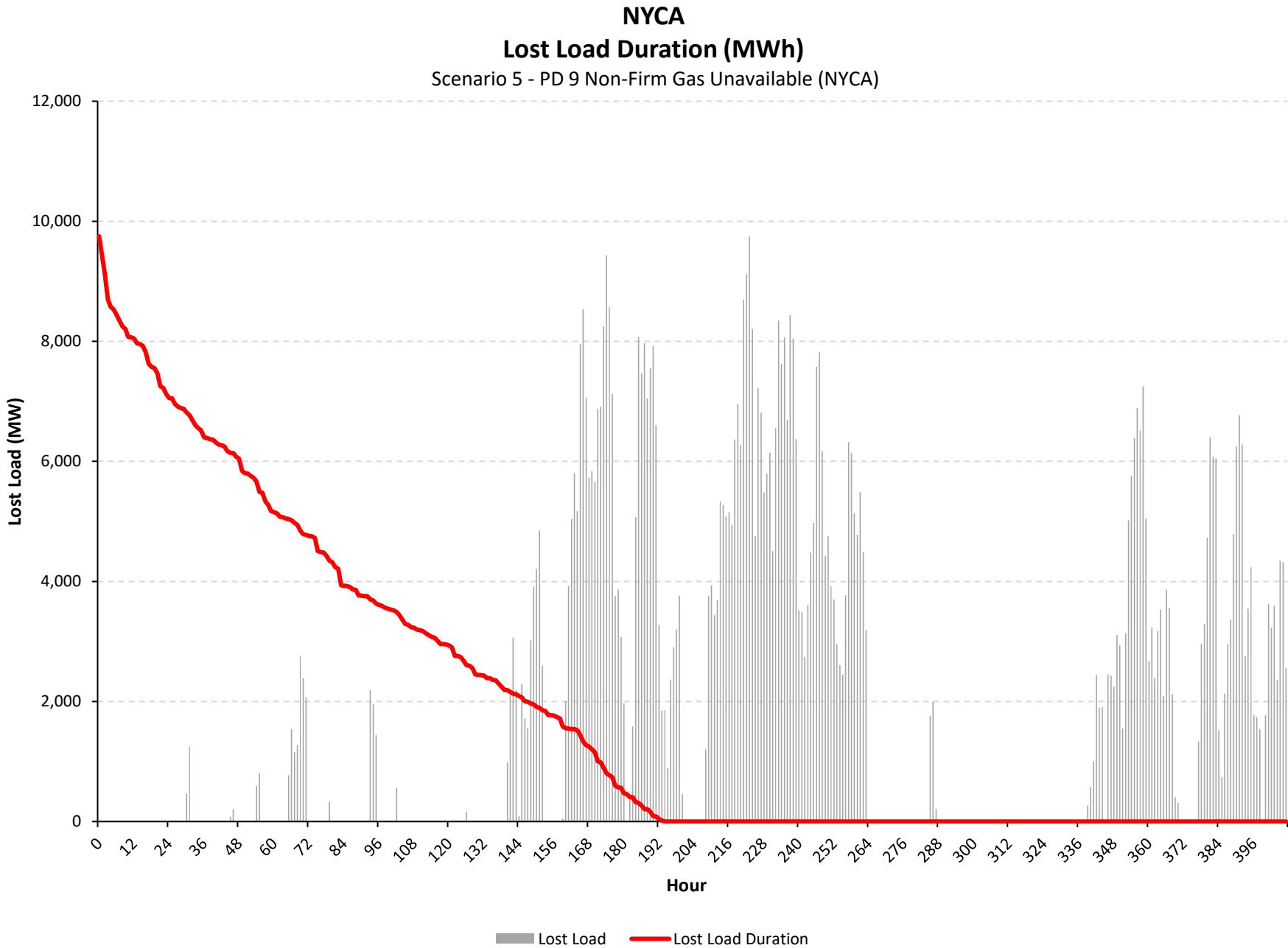






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



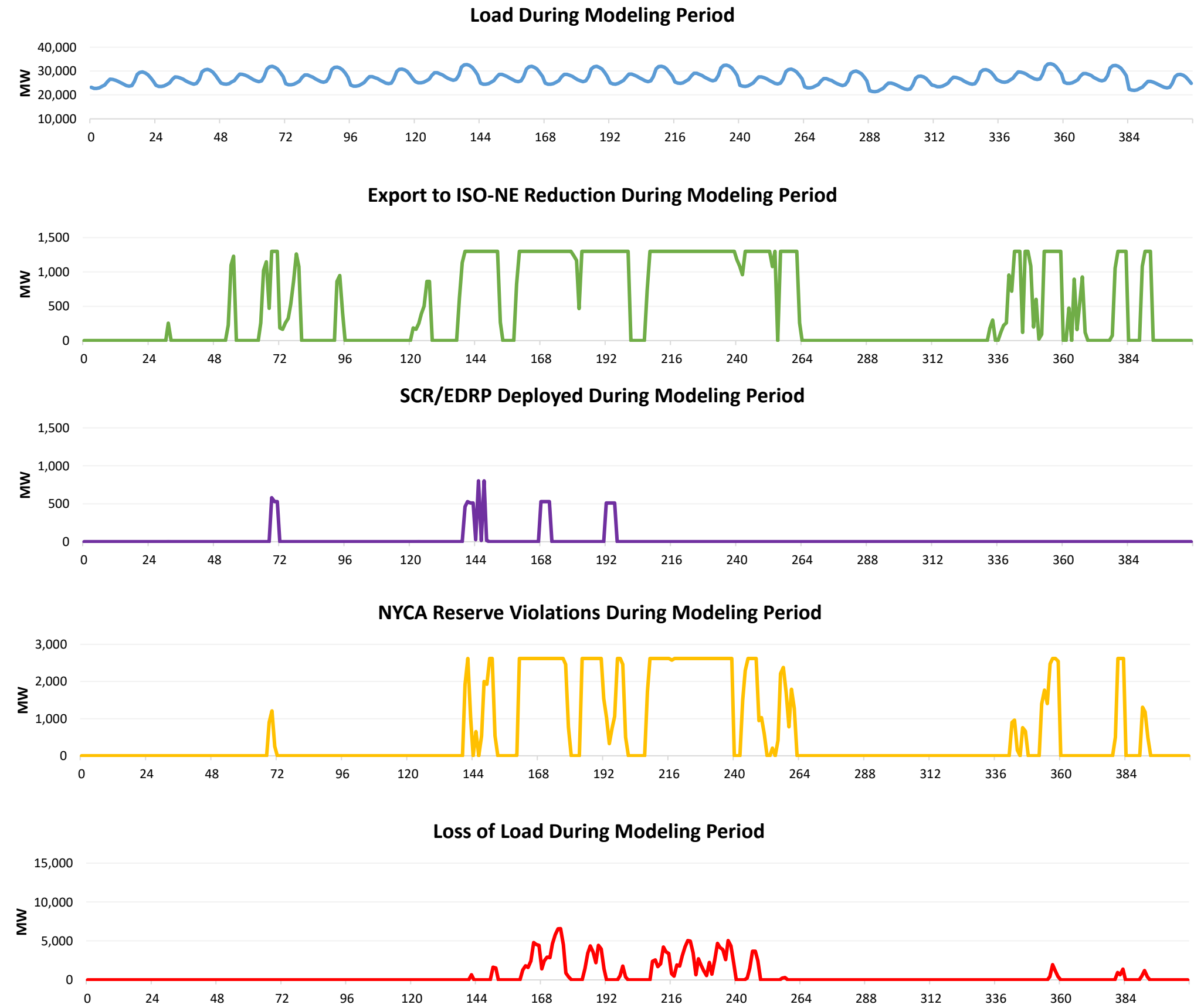


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 5 - PD 10 Non-Firm Gas Unavailable (4 days) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 5 - PD 10 Non-Firm Gas Unavailable (4 days)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	184
Total MWh	196,936
Avg. MW	482.7

SCR Deployment	
Total Hrs.	20
Total MWh	9,454
Avg. MW	23.2

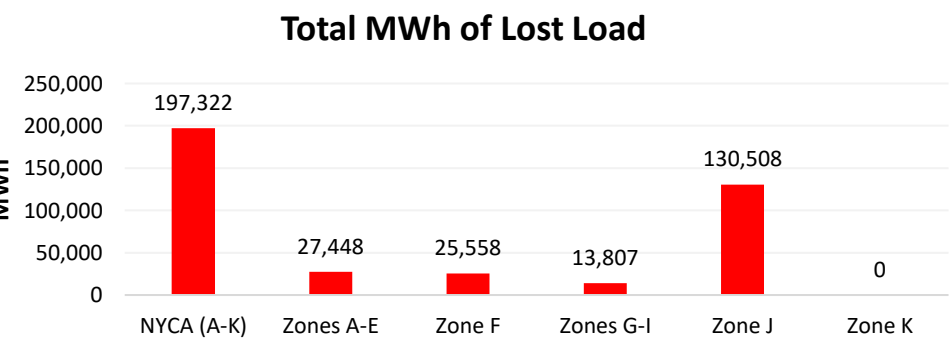
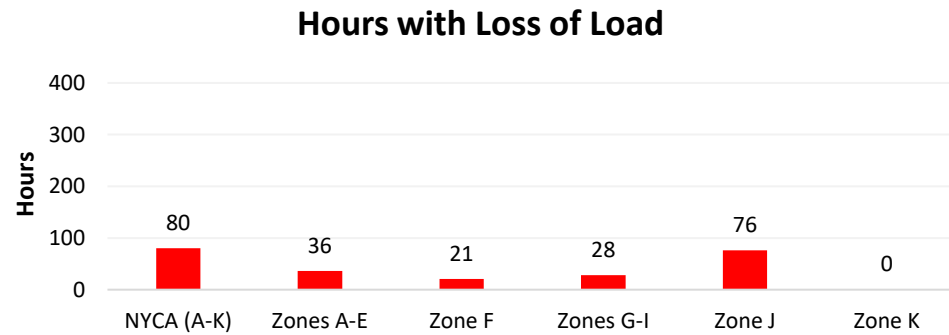
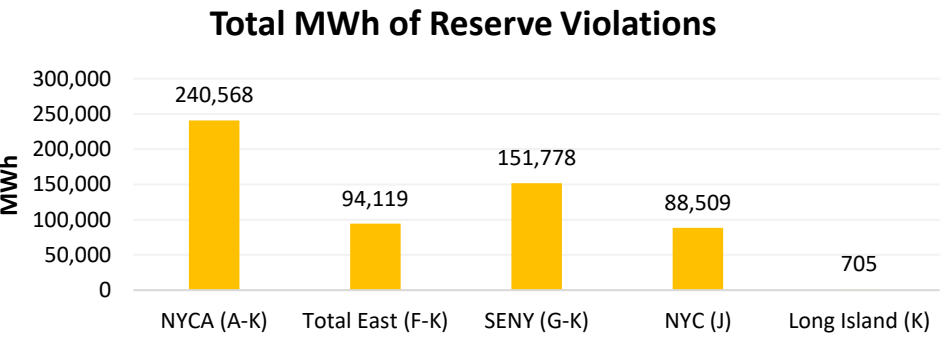
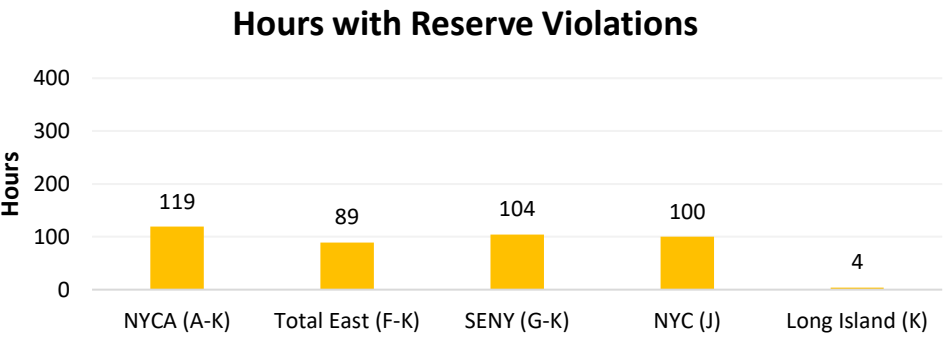
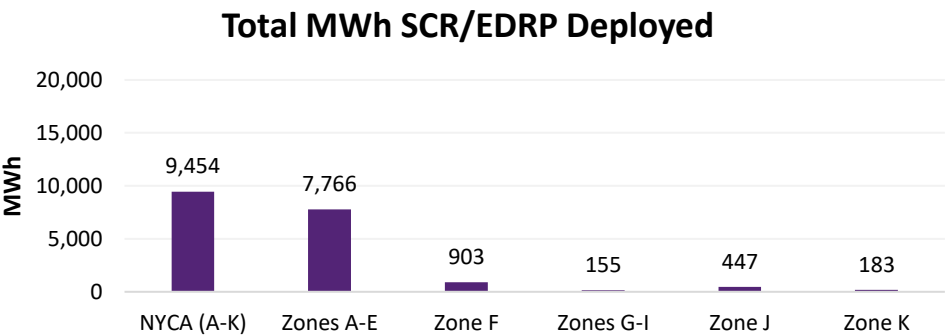
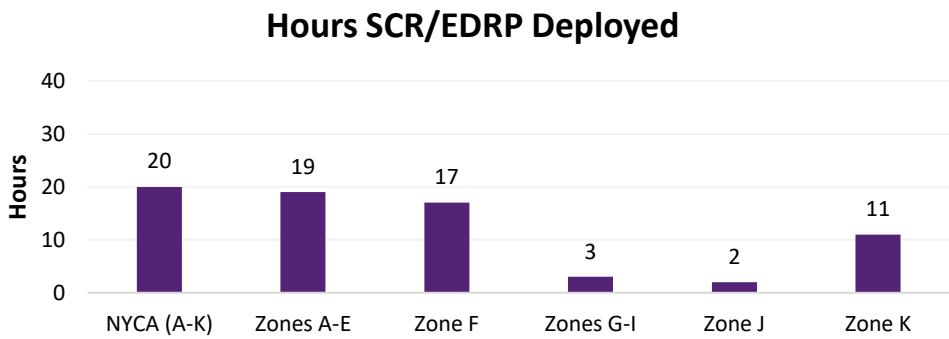
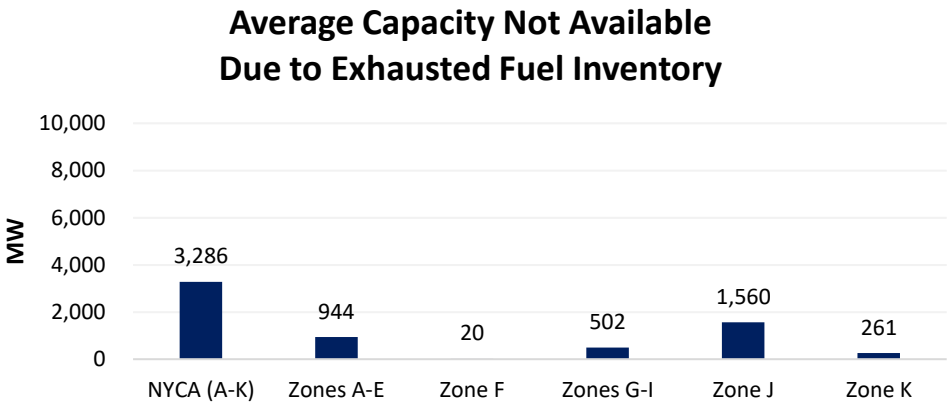
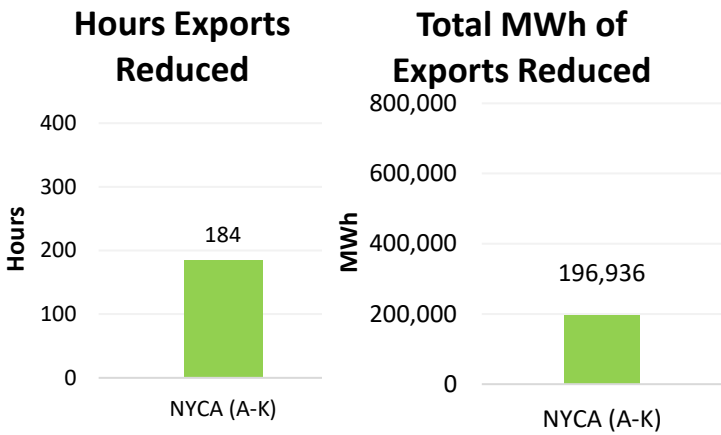
Reserve Violations	
Total Hrs.	119
Total MWh	240,568
Avg. MW	589.6
First Hour with Viol.	69

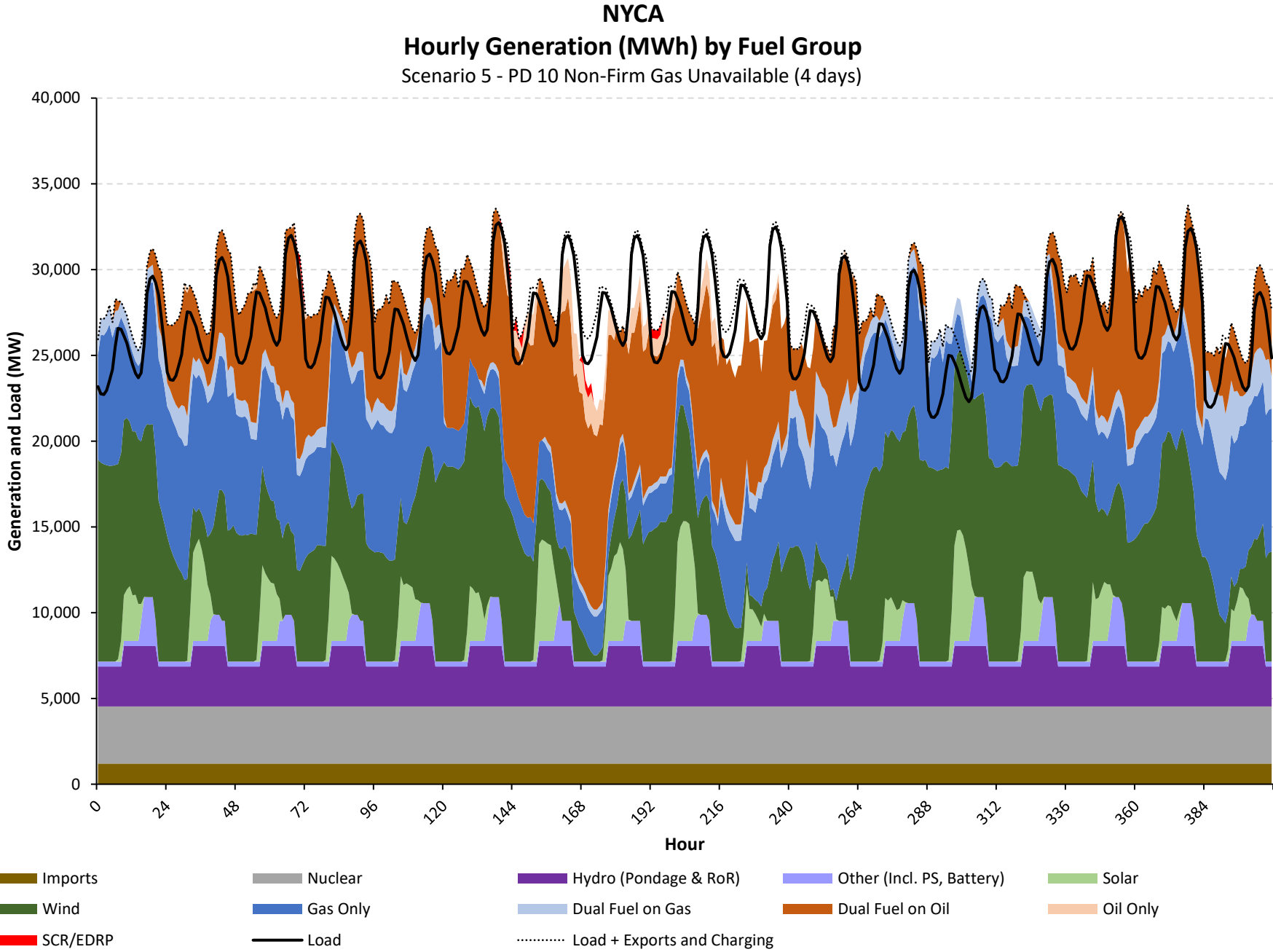
Loss of Load	
Total Hrs.	80
Total MWh	197,322
Avg. MW	483.6
First Hour with Losses	142

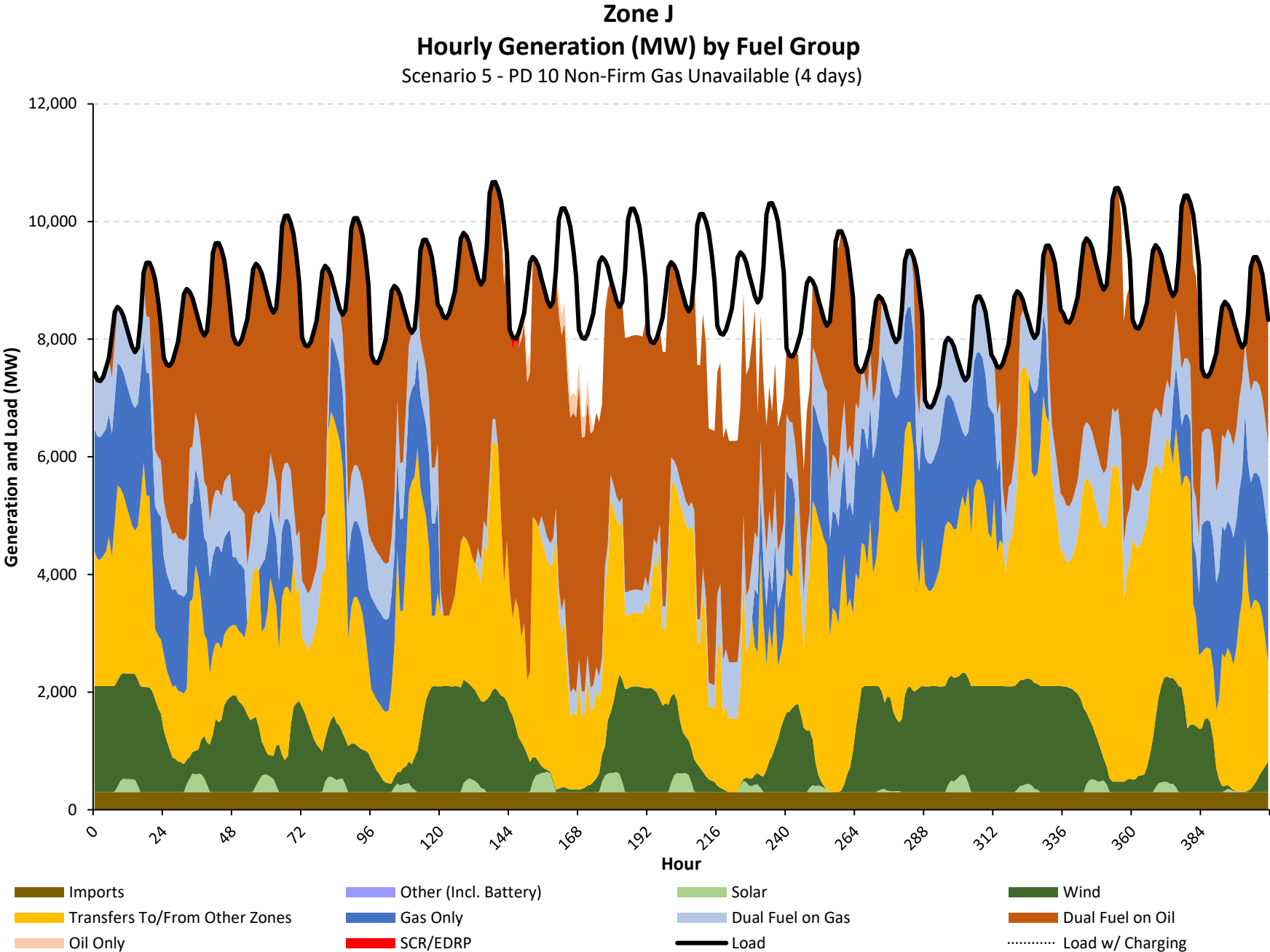
Full Period Results Summary

Case Name: Scenario 5 - PD 10 Non-Firm Gas Unavailable (4 days)

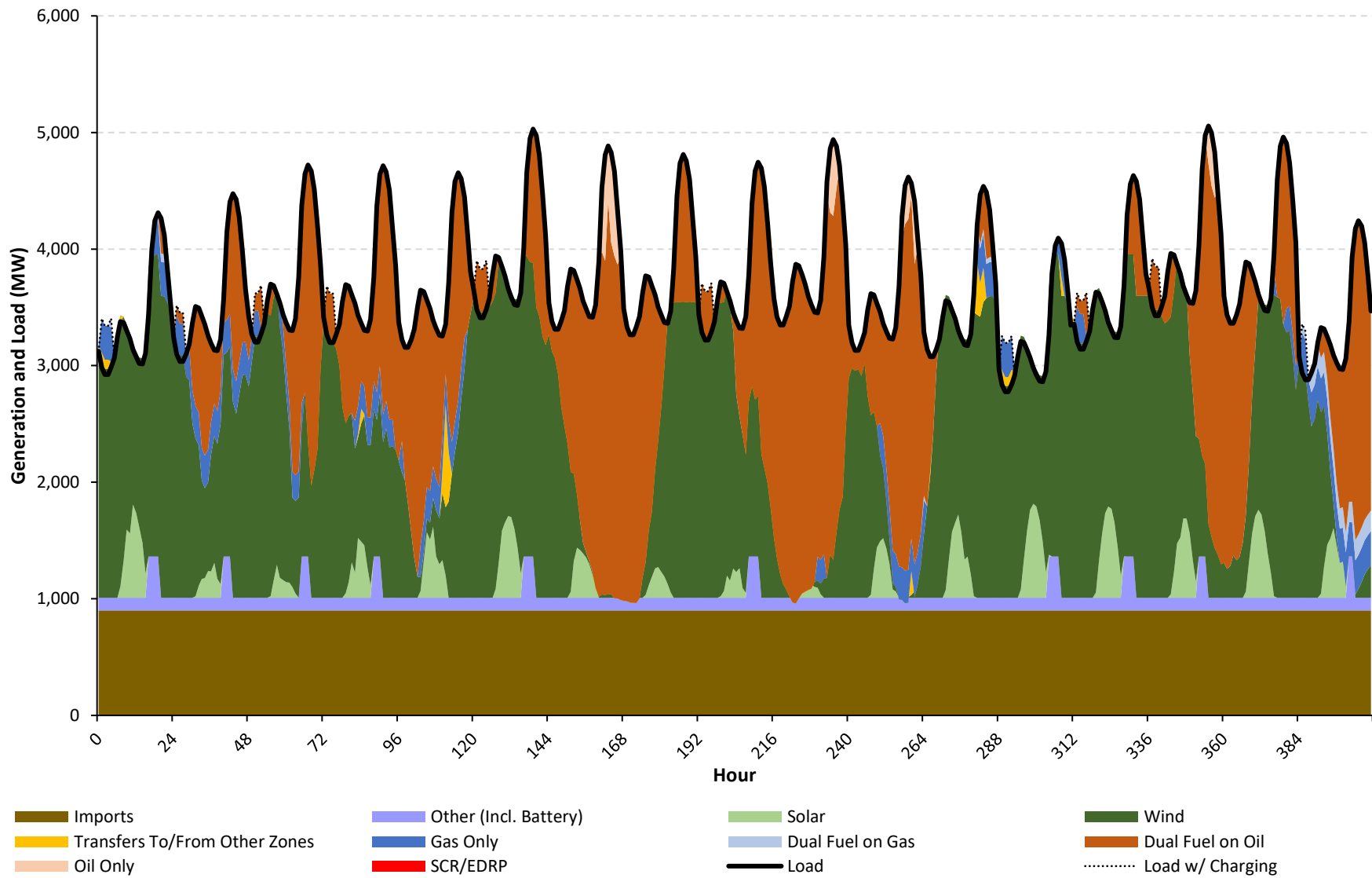
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

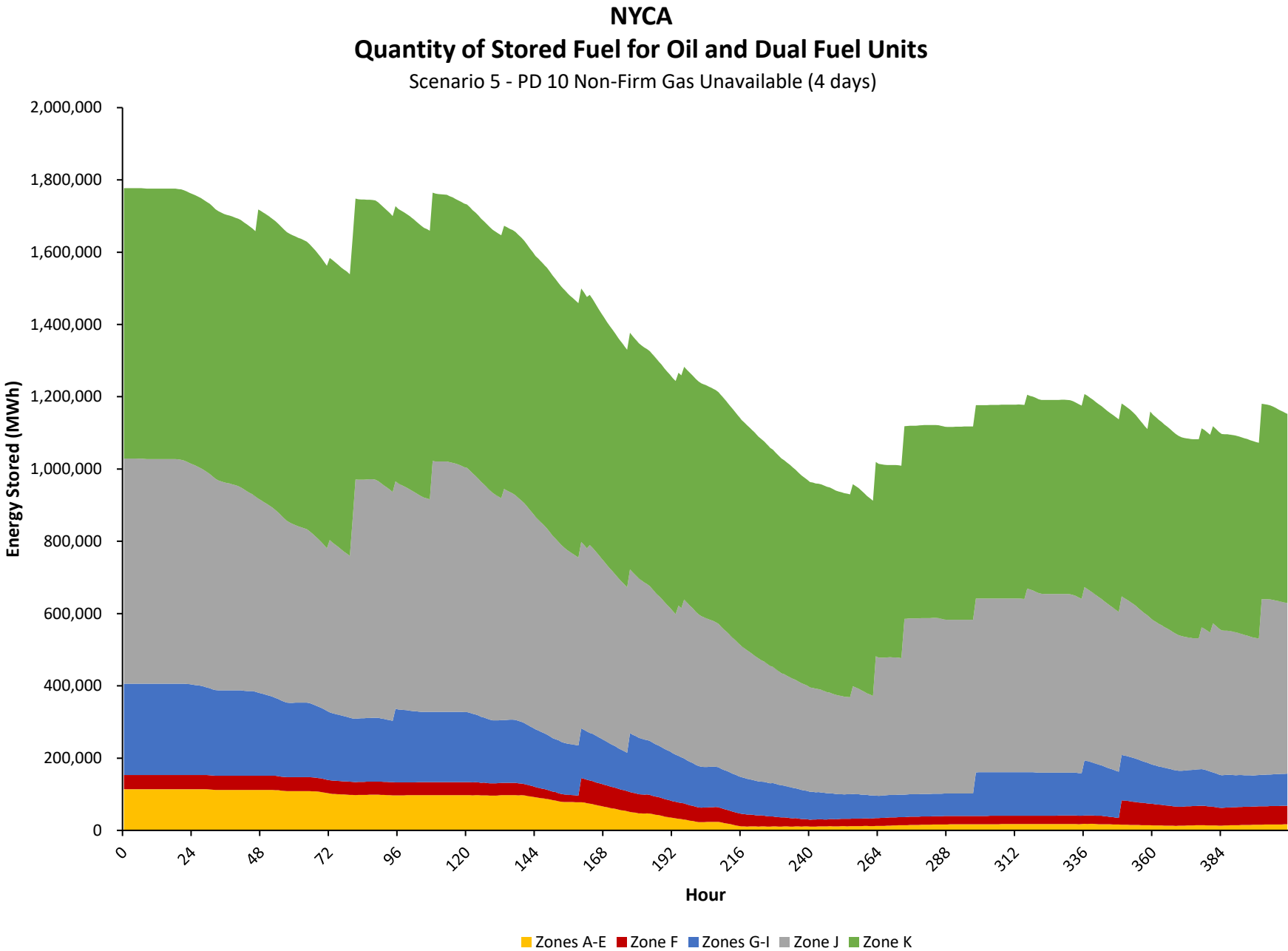


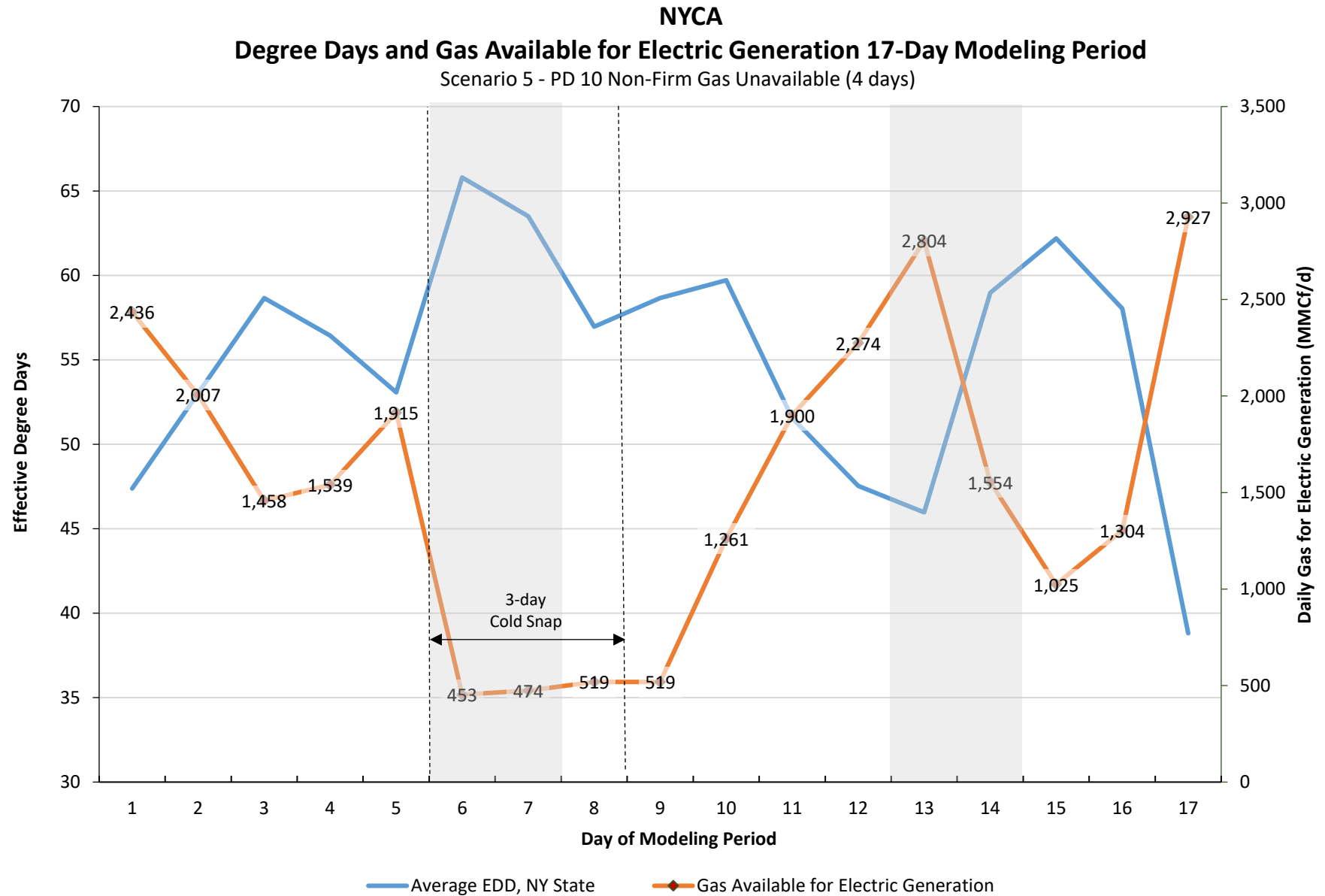




Zone K
Hourly Generation (MW) by Fuel Group
 Scenario 5 - PD 10 Non-Firm Gas Unavailable (4 days)

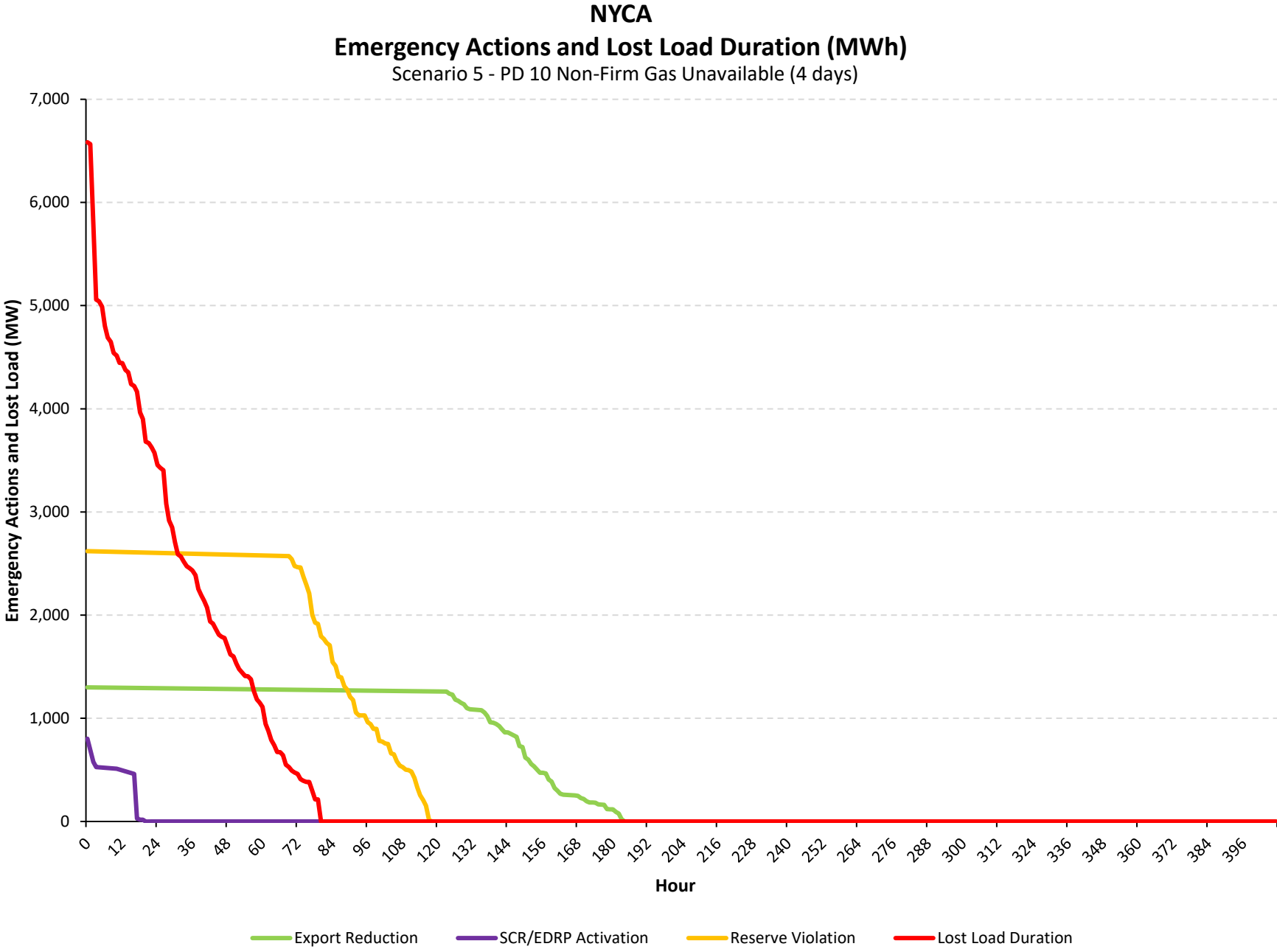


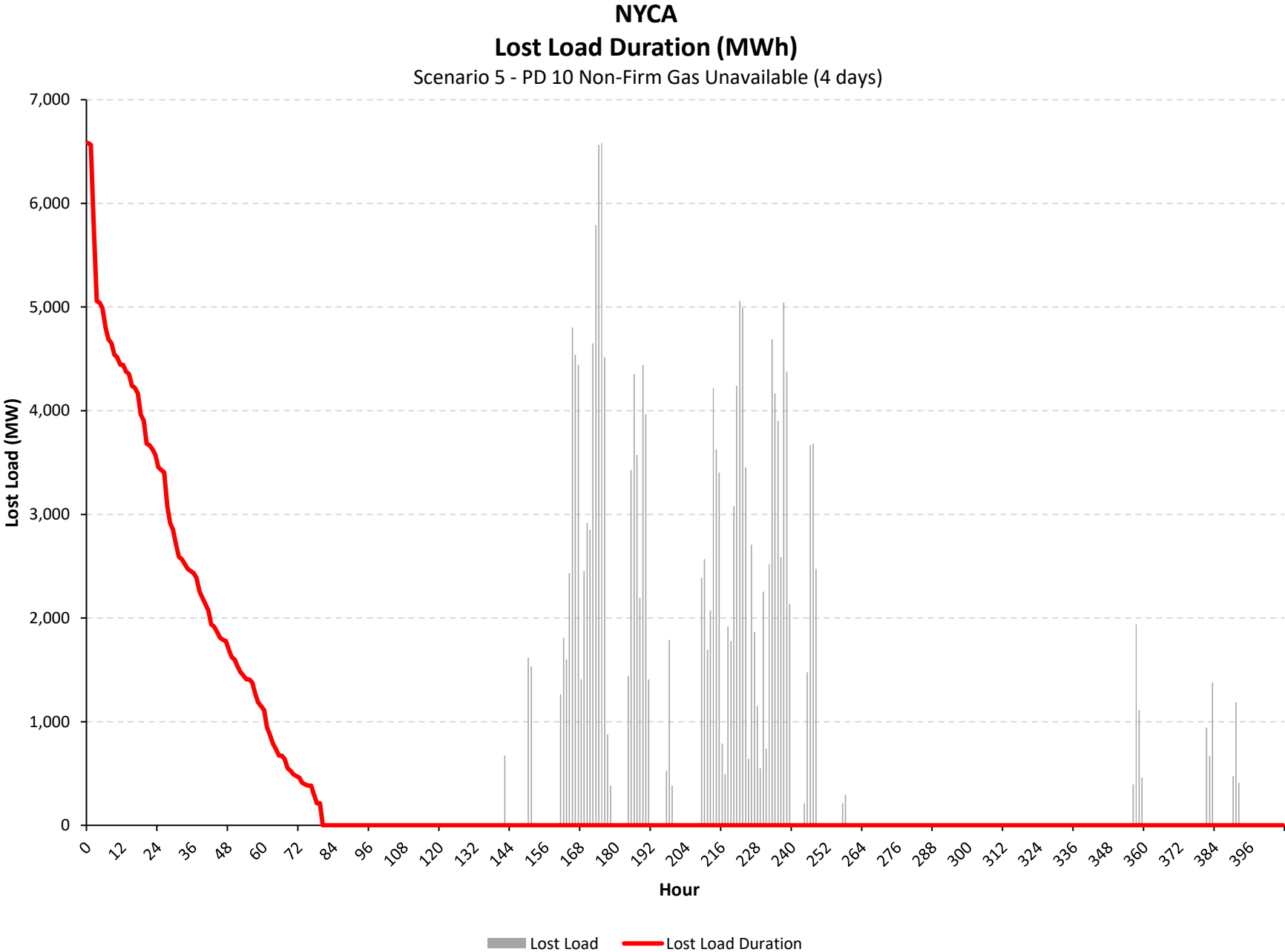




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



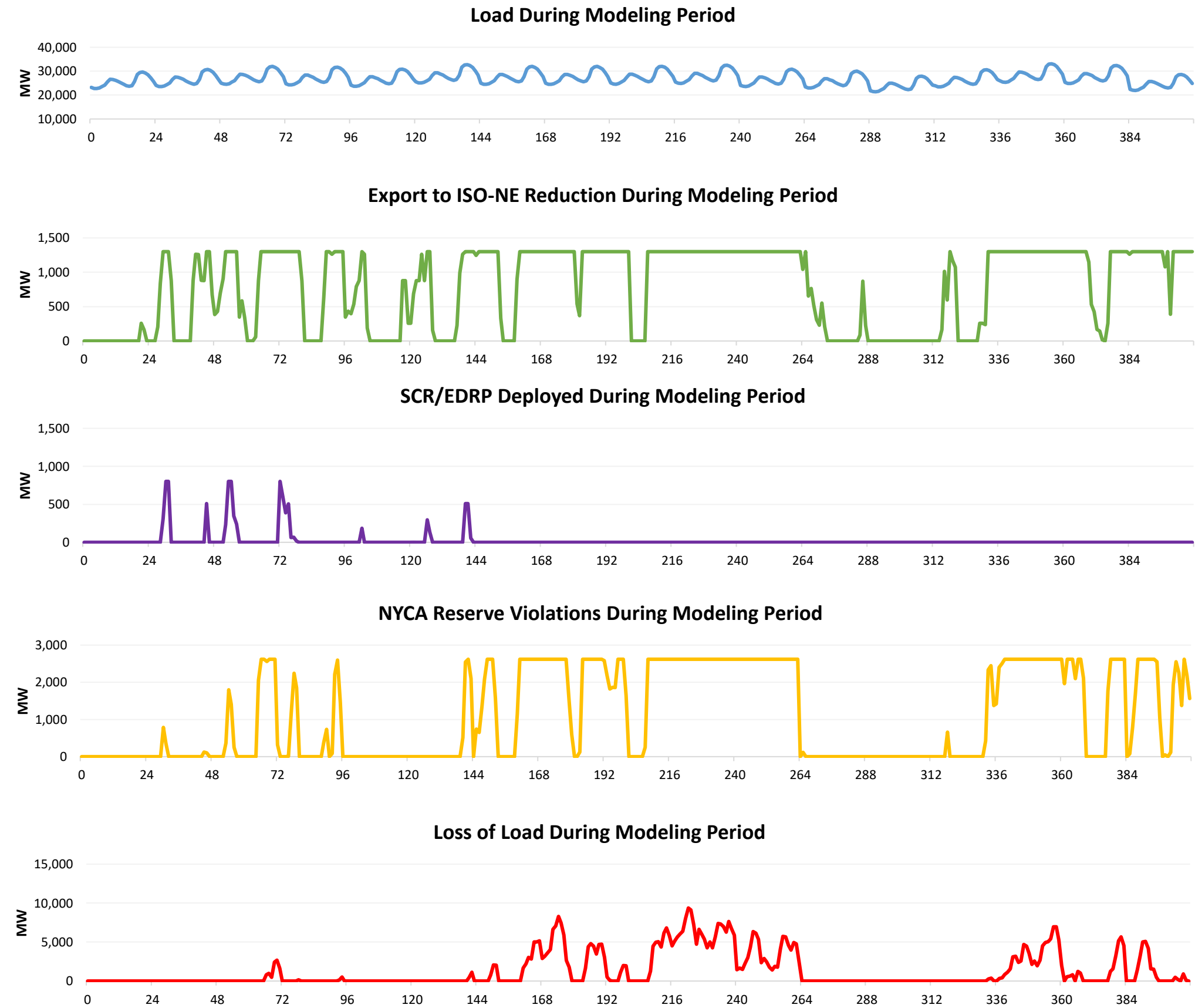


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 5 - PD 11 Combination Disruption (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 5 - PD 11 Combination Disruption



Case Summary	
Derate (EFORD) Increase:	High
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	287
Total MWh	320,663
Avg. MW	785.9

SCR Deployment	
Total Hrs.	22
Total MWh	8,985
Avg. MW	22.0

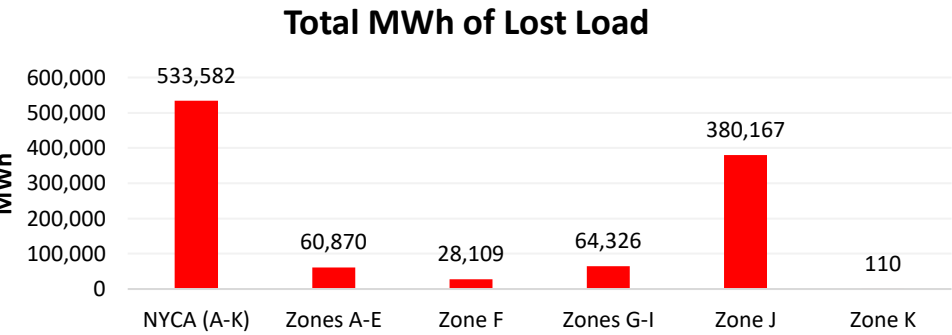
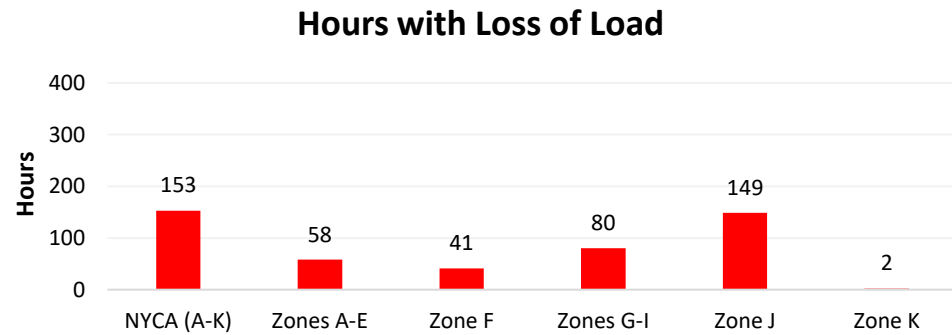
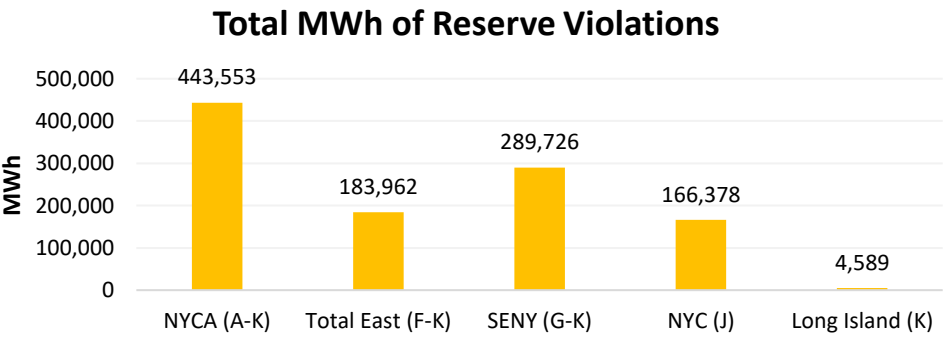
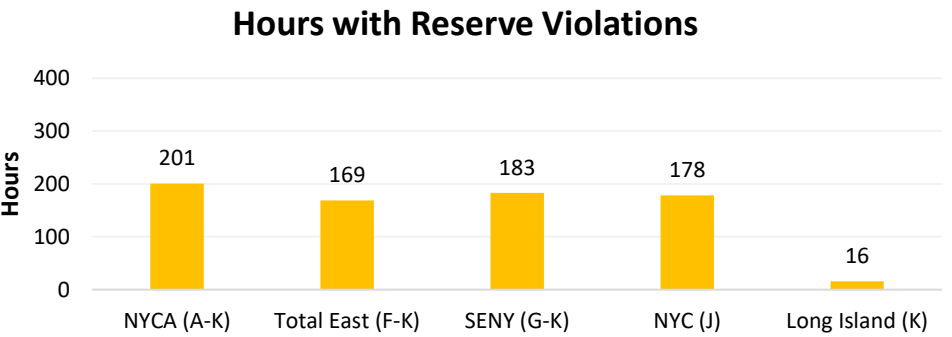
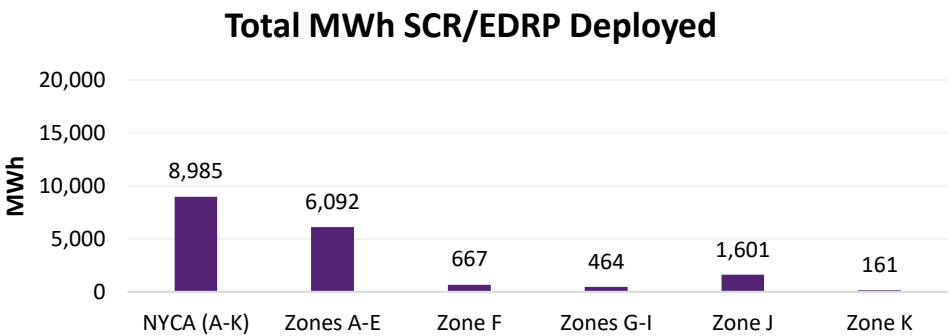
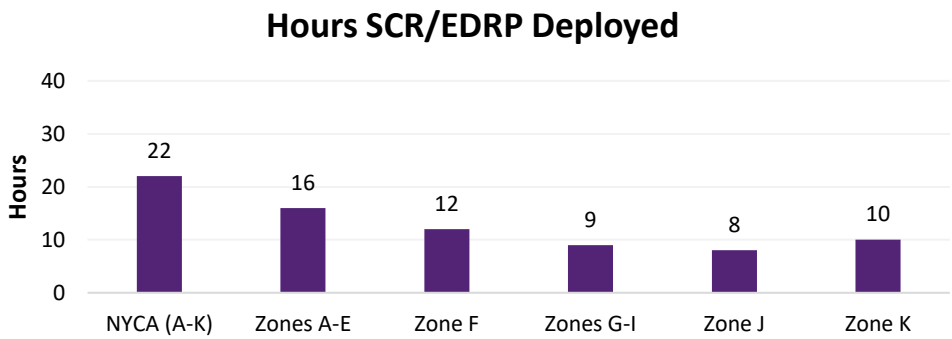
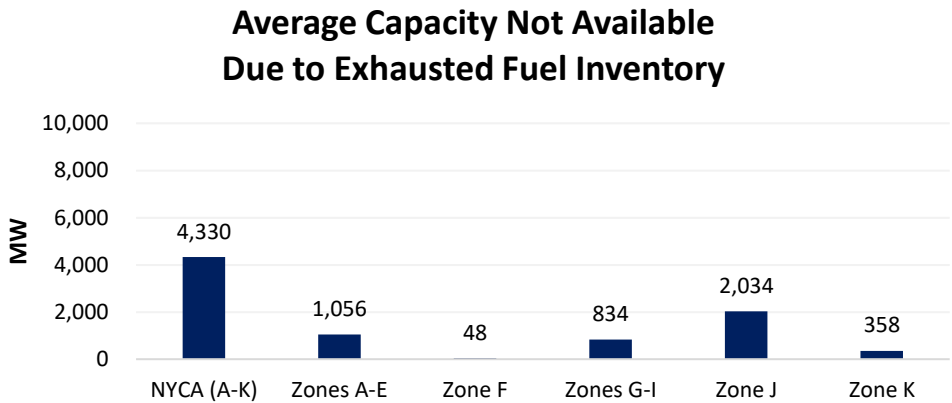
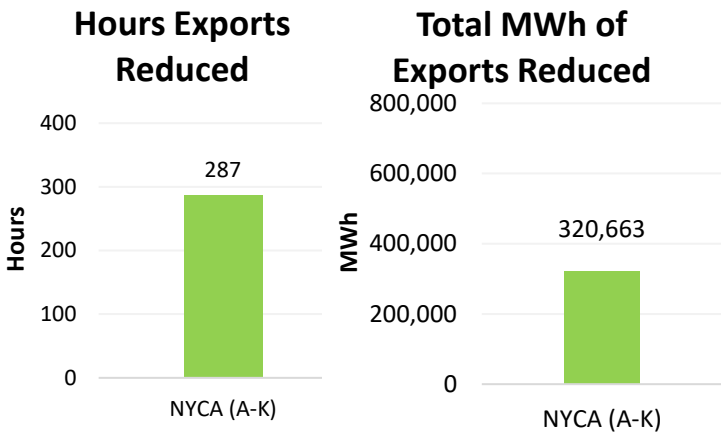
Reserve Violations	
Total Hrs.	201
Total MWh	443,553
Avg. MW	1,087.1
First Hour with Viol.	30

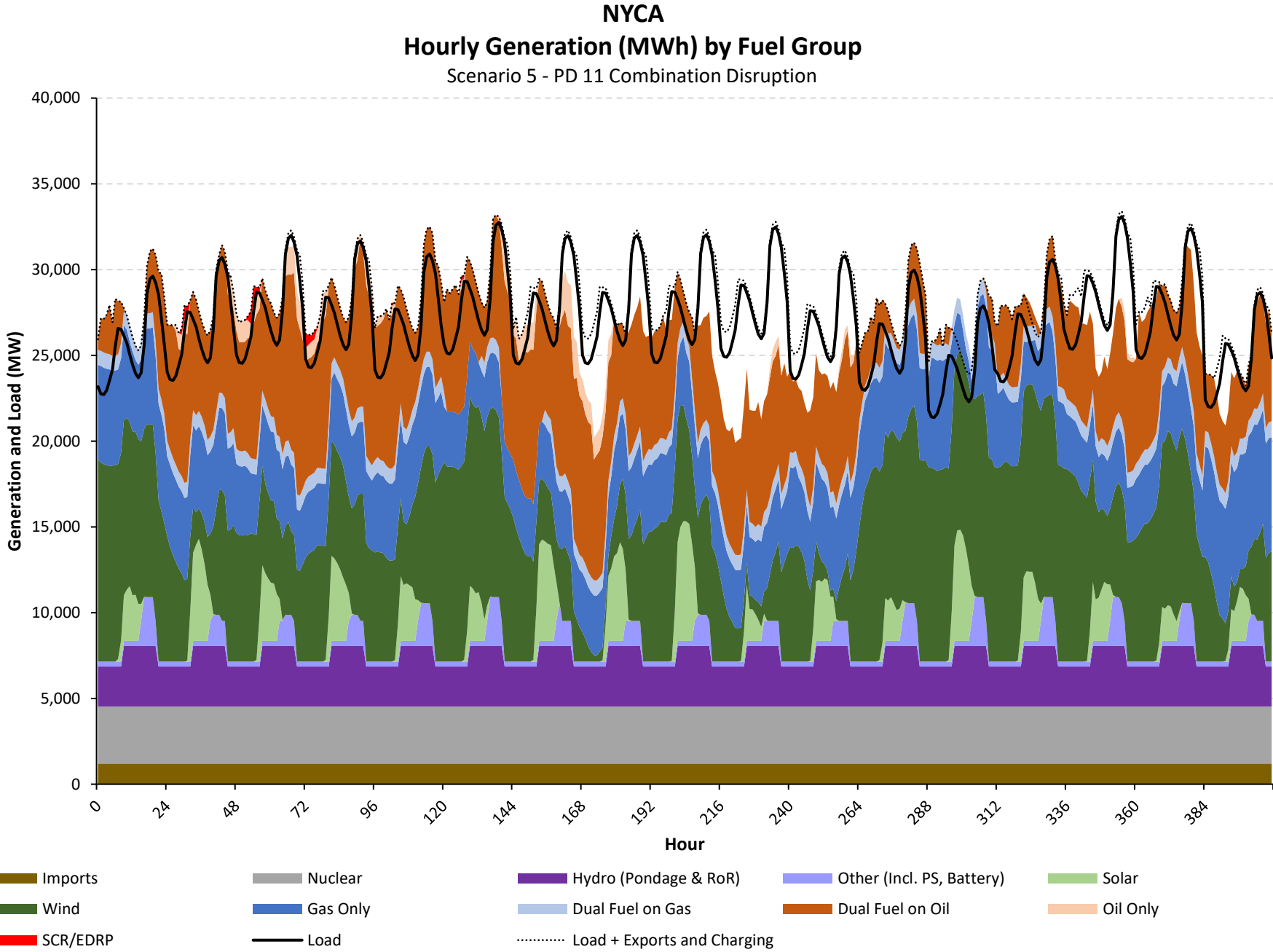
Loss of Load	
Total Hrs.	153
Total MWh	533,582
Avg. MW	1,307.8
First Hour with Losses	66

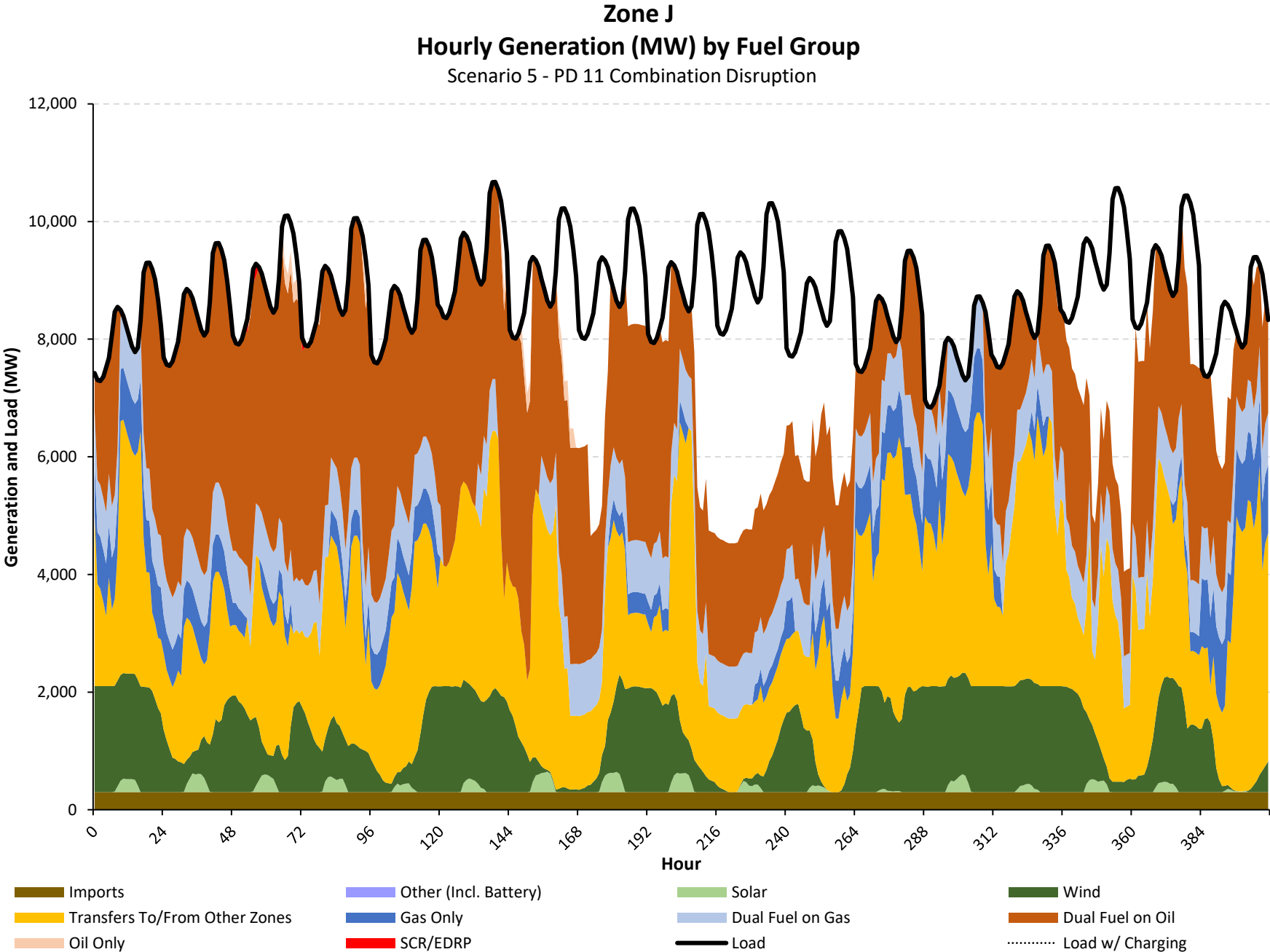
Full Period Results Summary

Case Name: Scenario 5 - PD 11 Combination Disruption

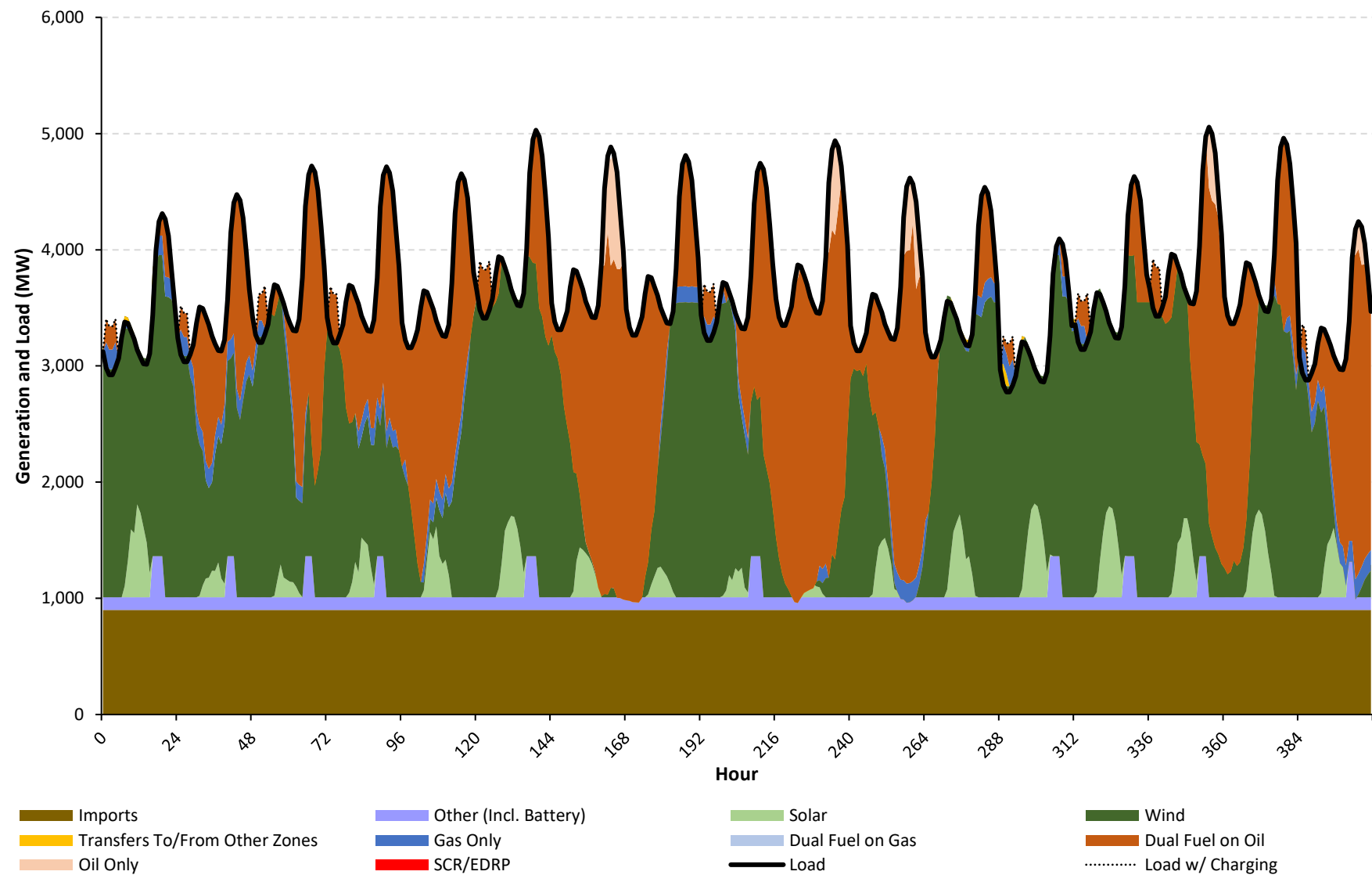
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

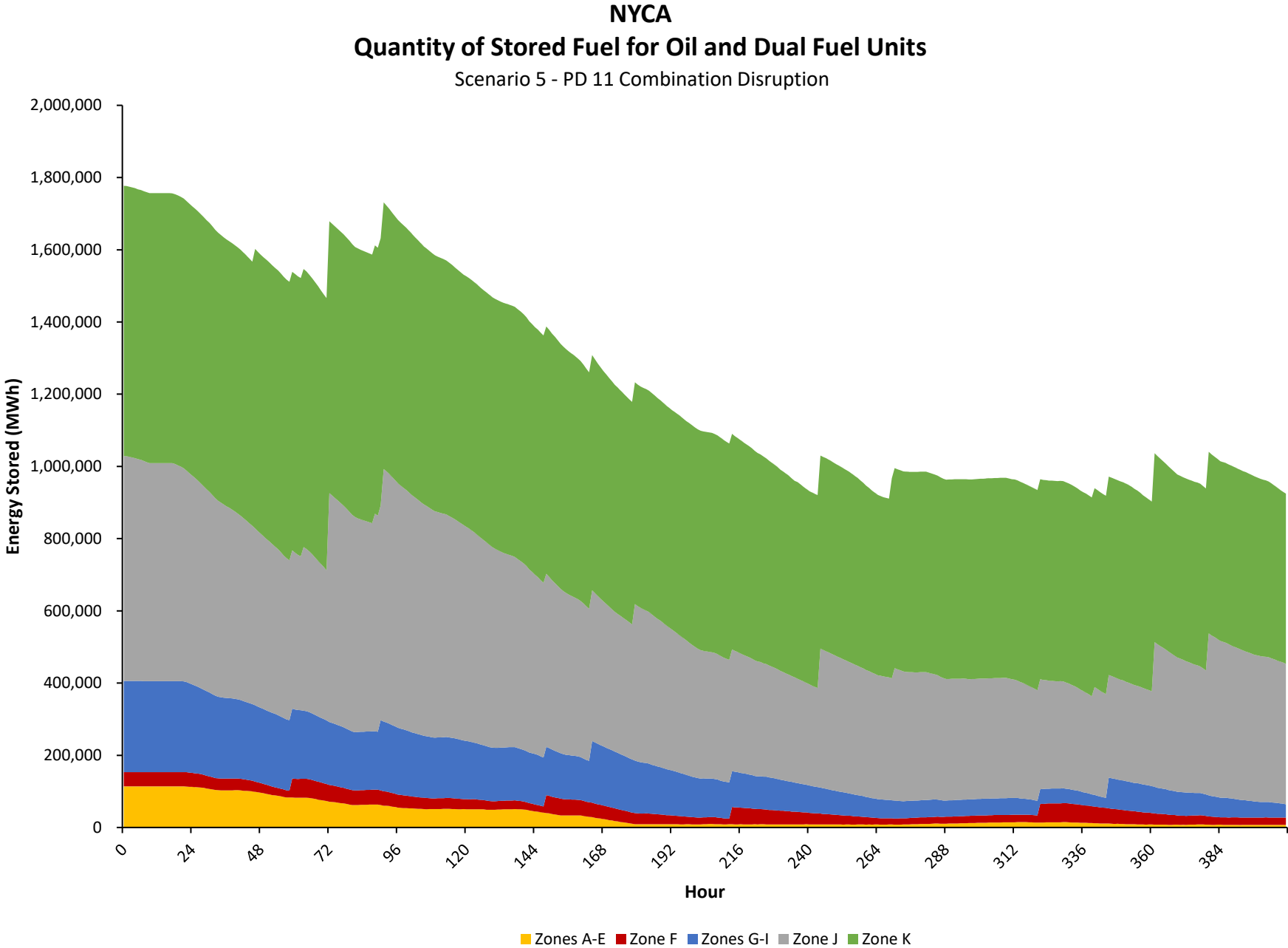


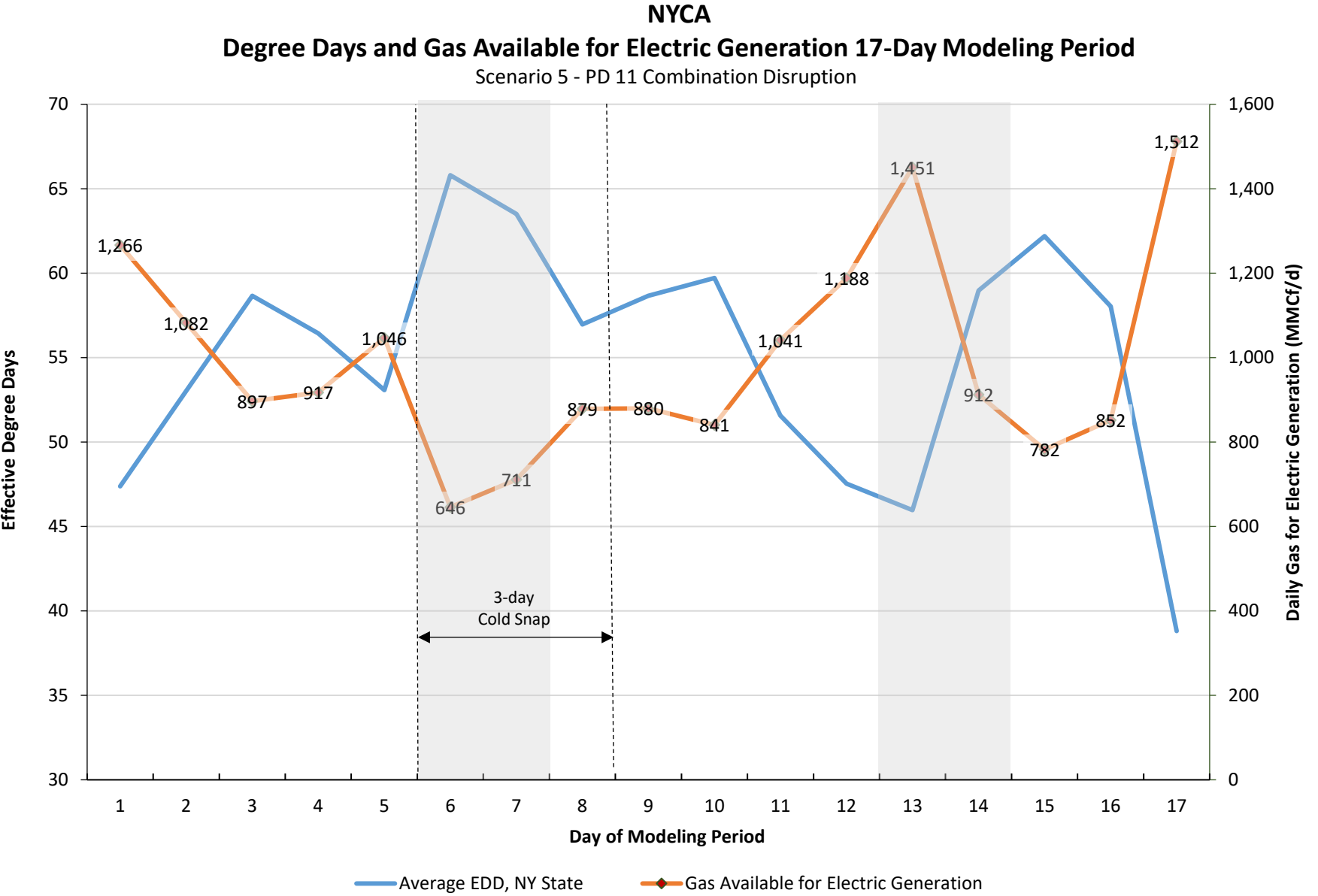




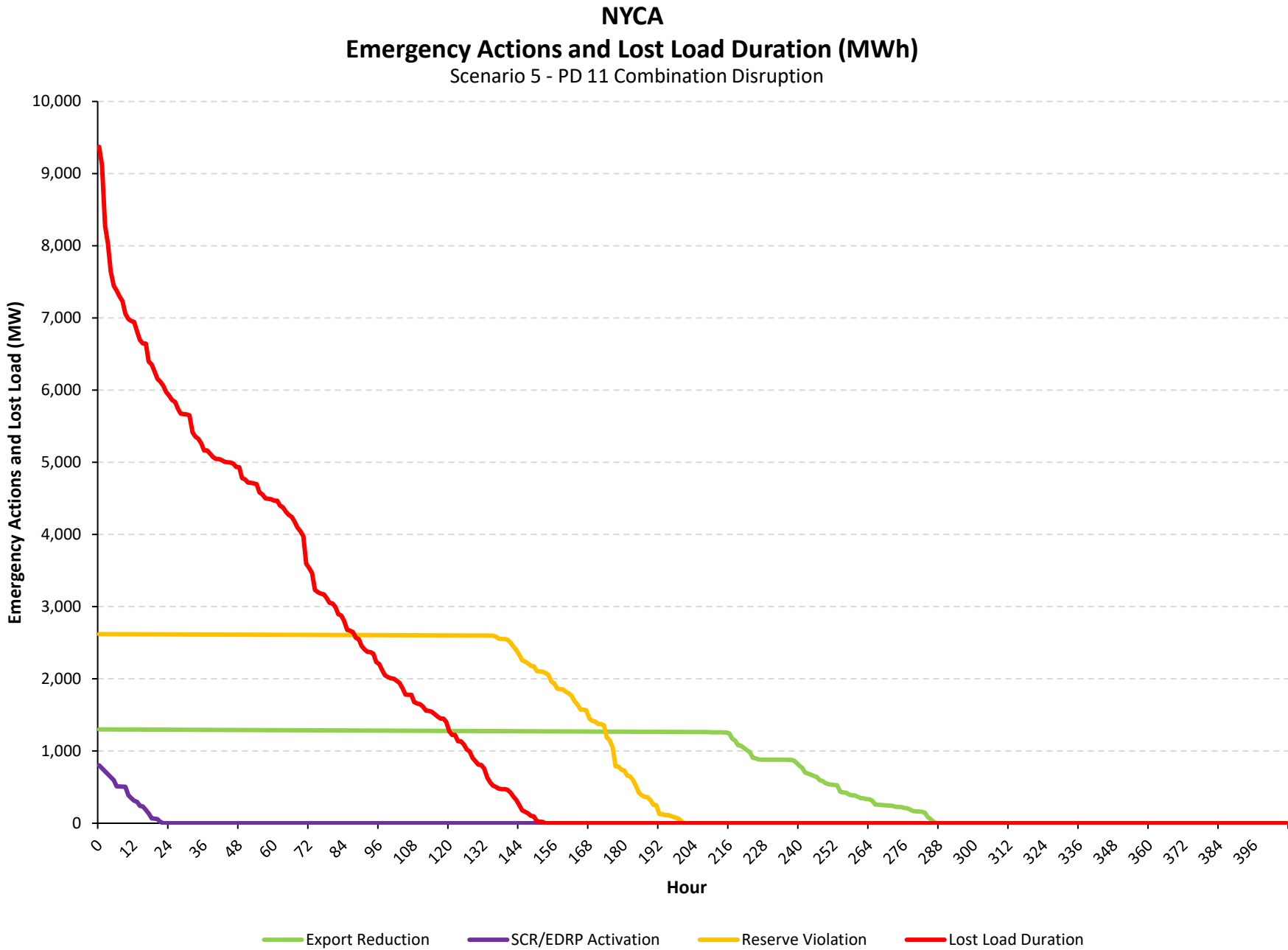
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 5 - PD 11 Combination Disruption

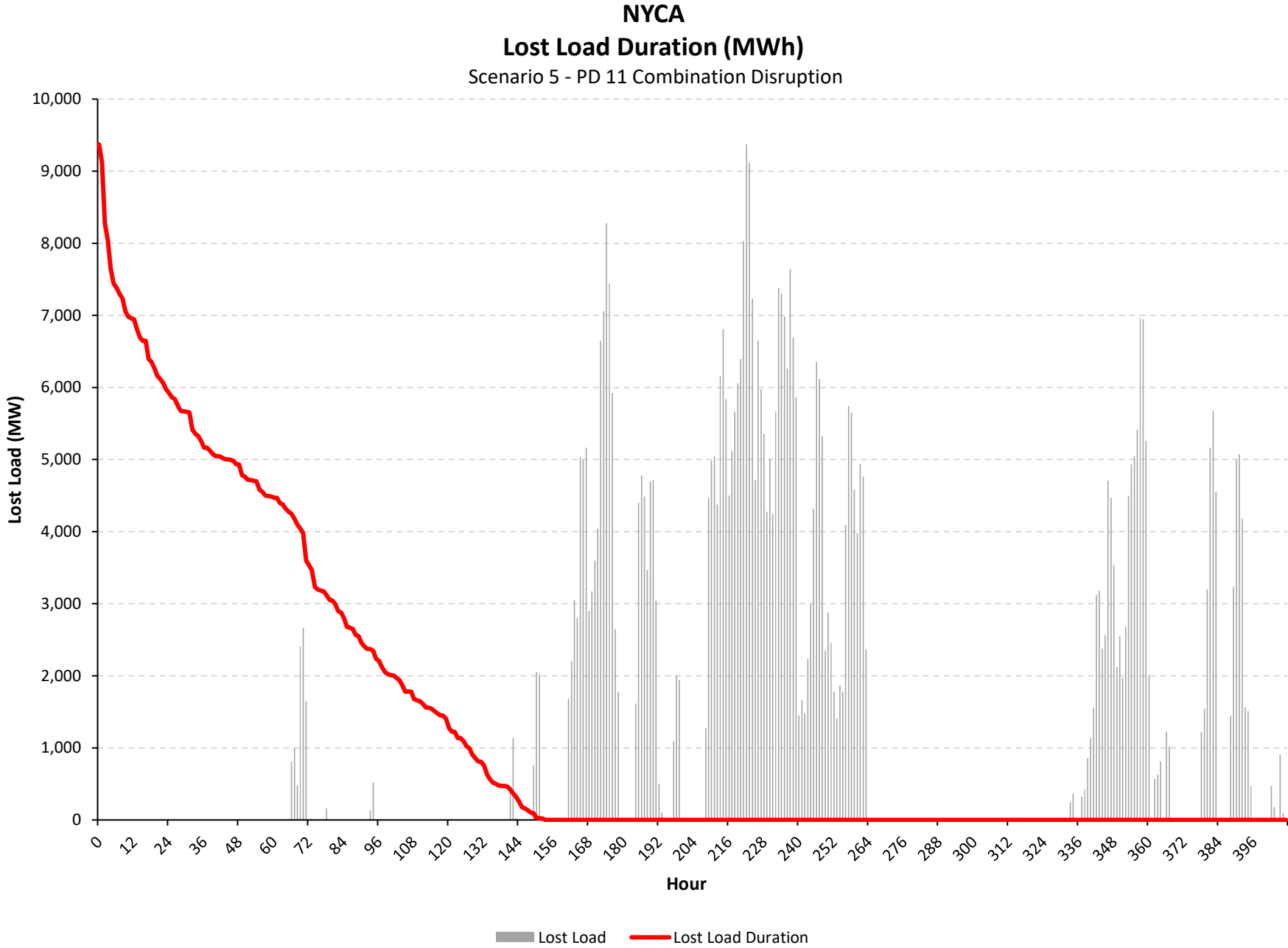






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



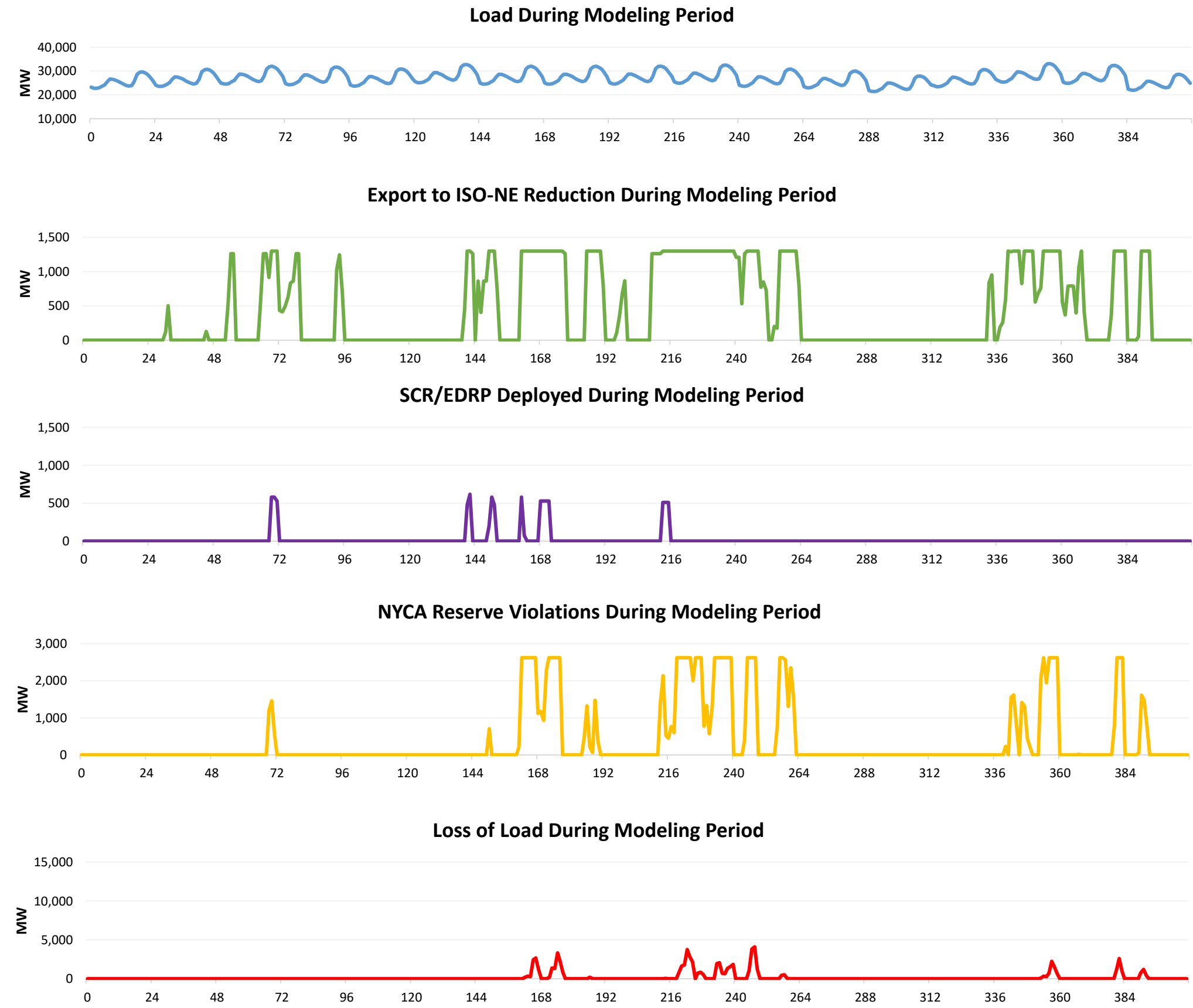


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 6 - PD 1 No Disruptions (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 6 - PD 1 No Disruptions



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	162
Total MWh	173,981
Avg. MW	426.4

SCR Deployment	
Total Hrs.	17
Total MWh	8,320
Avg. MW	20.4

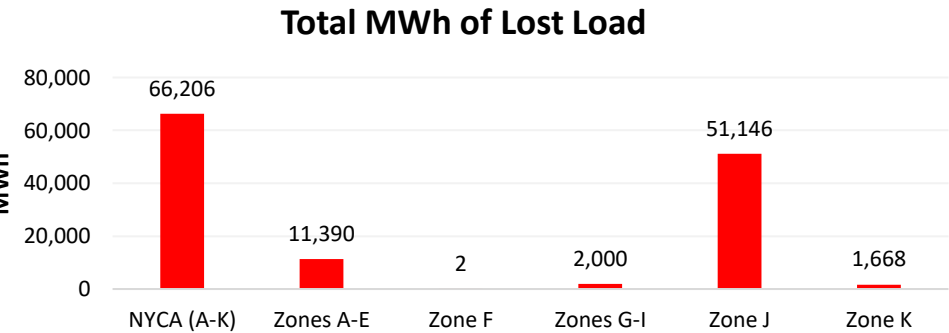
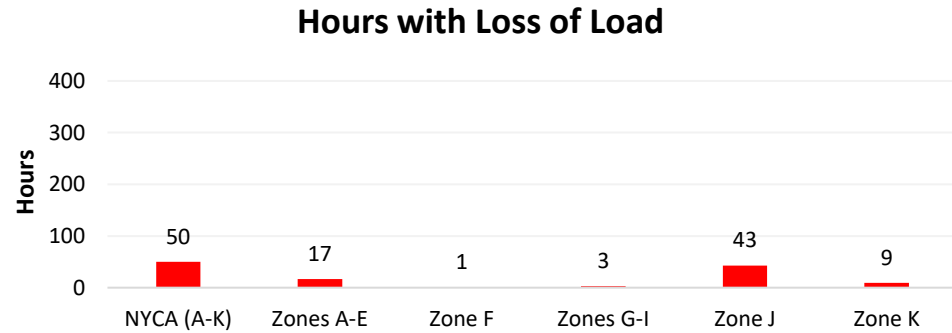
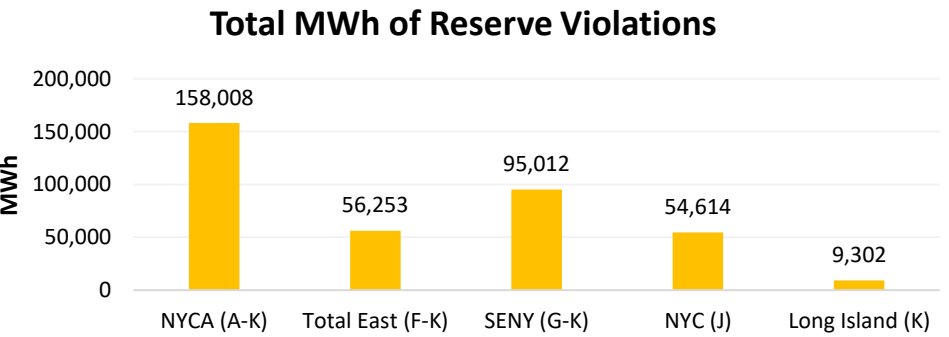
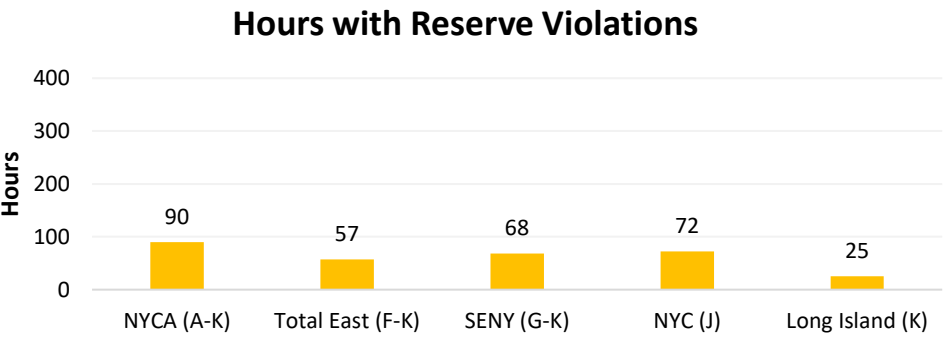
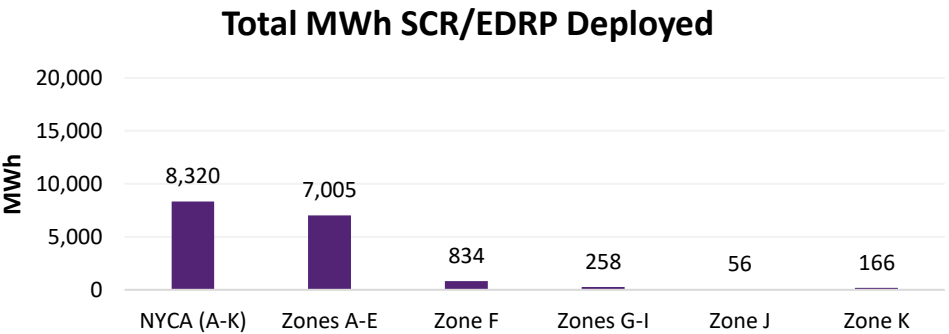
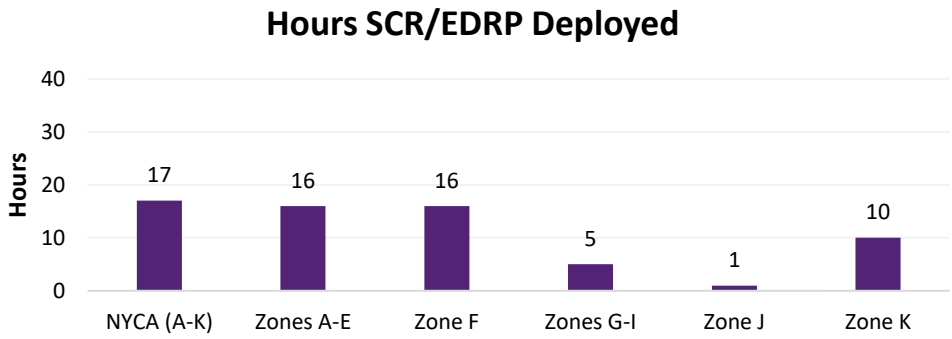
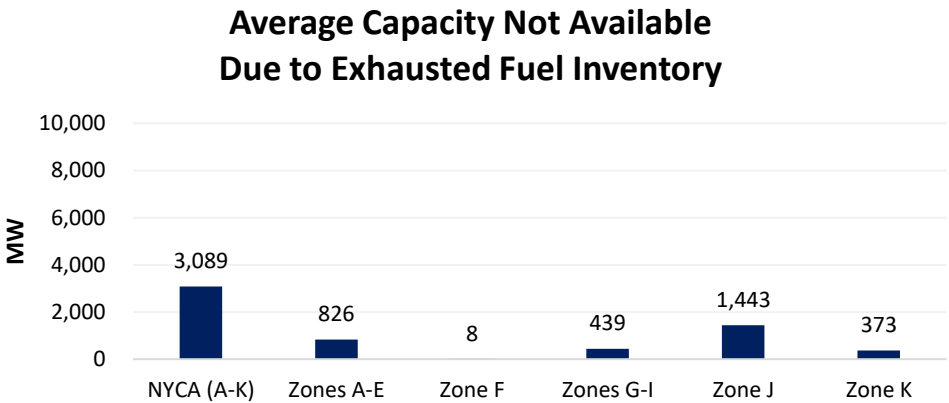
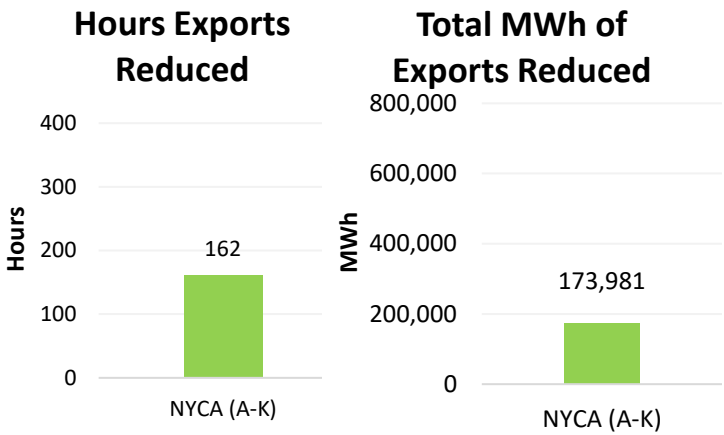
Reserve Violations	
Total Hrs.	90
Total MWh	158,008
Avg. MW	387.3
First Hour with Viol.	69

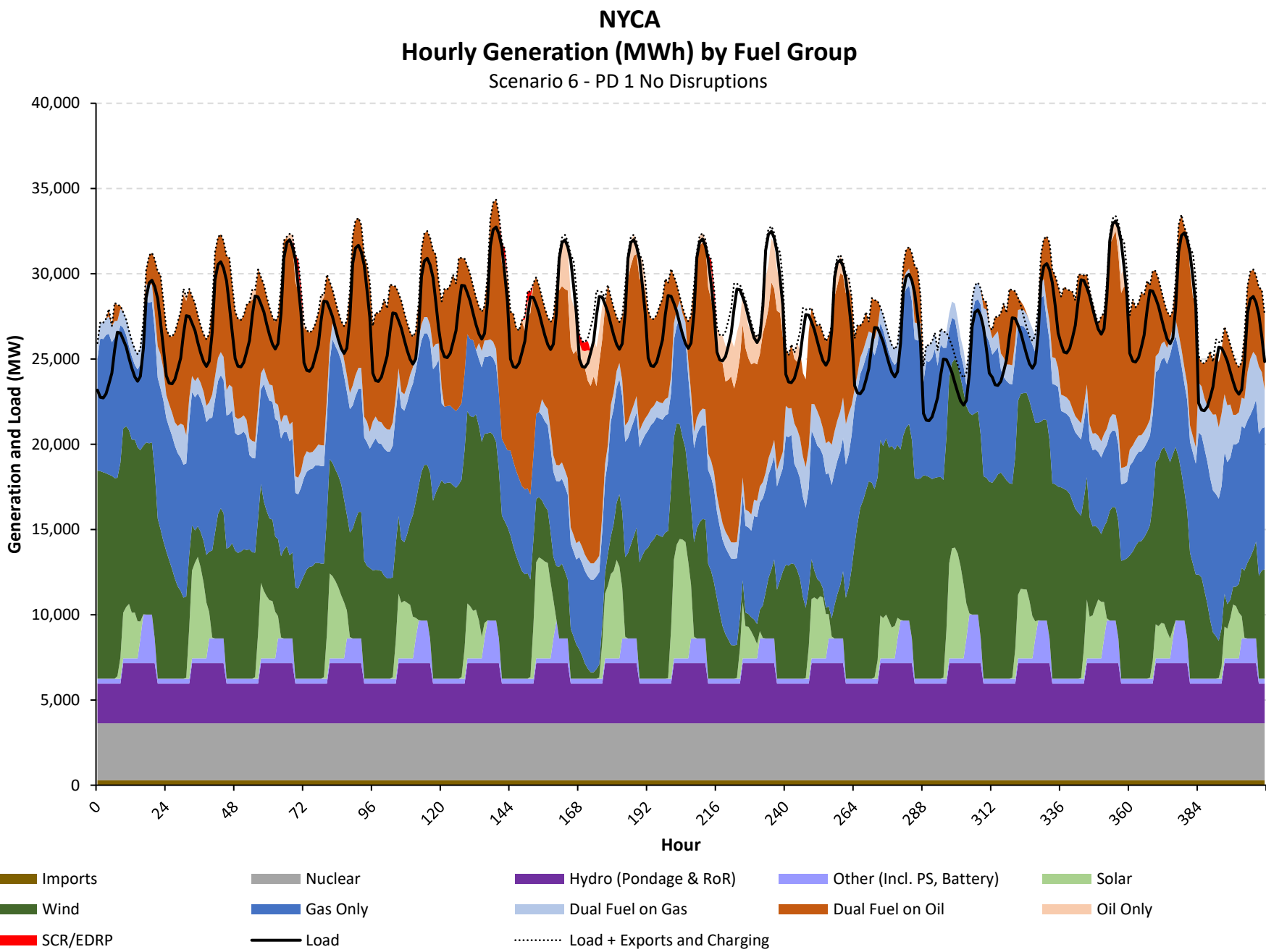
Loss of Load	
Total Hrs.	50
Total MWh	66,206
Avg. MW	162.3
First Hour with Losses	162

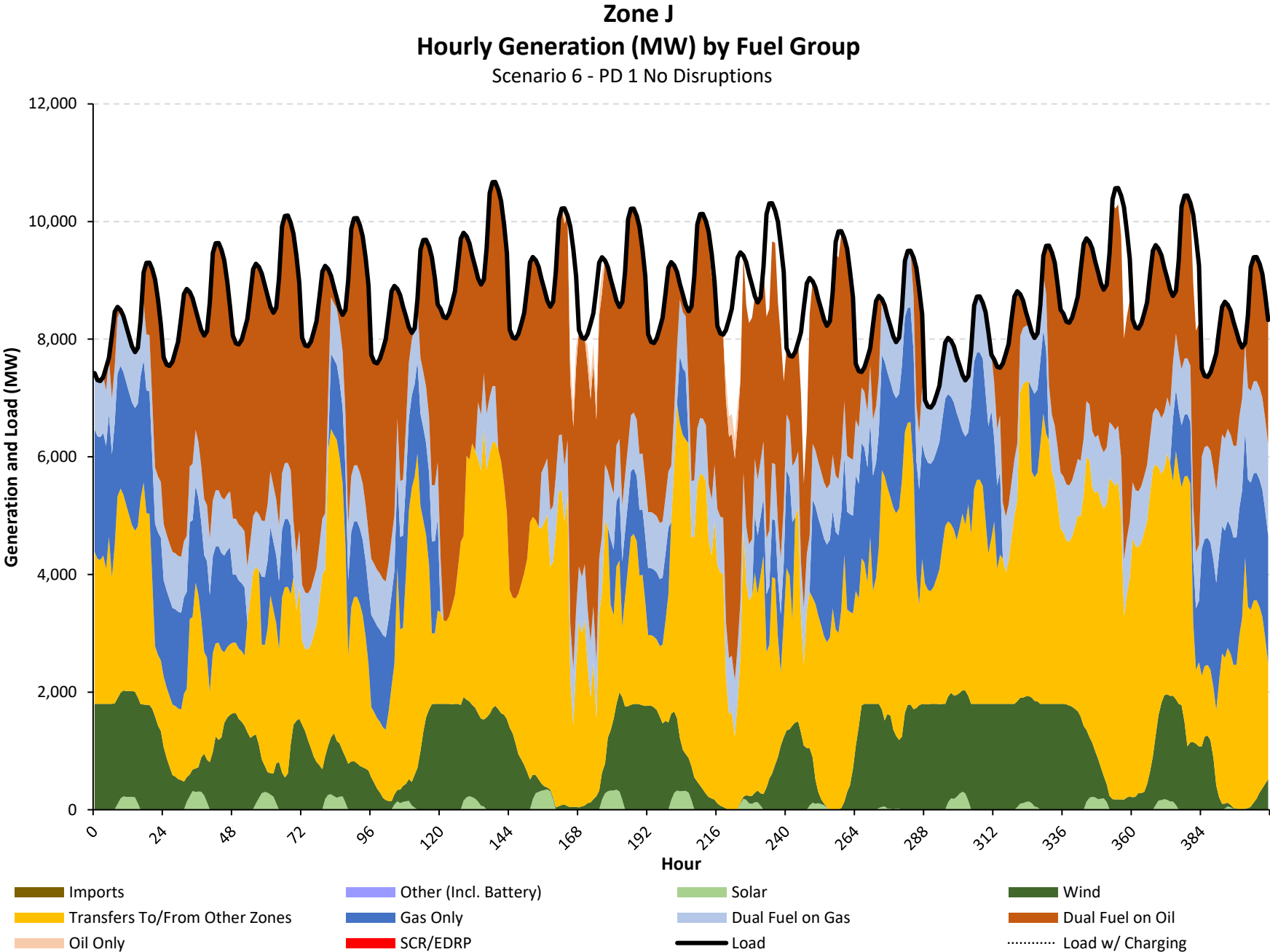
Full Period Results Summary

Case Name: Scenario 6 - PD 1 No Disruptions

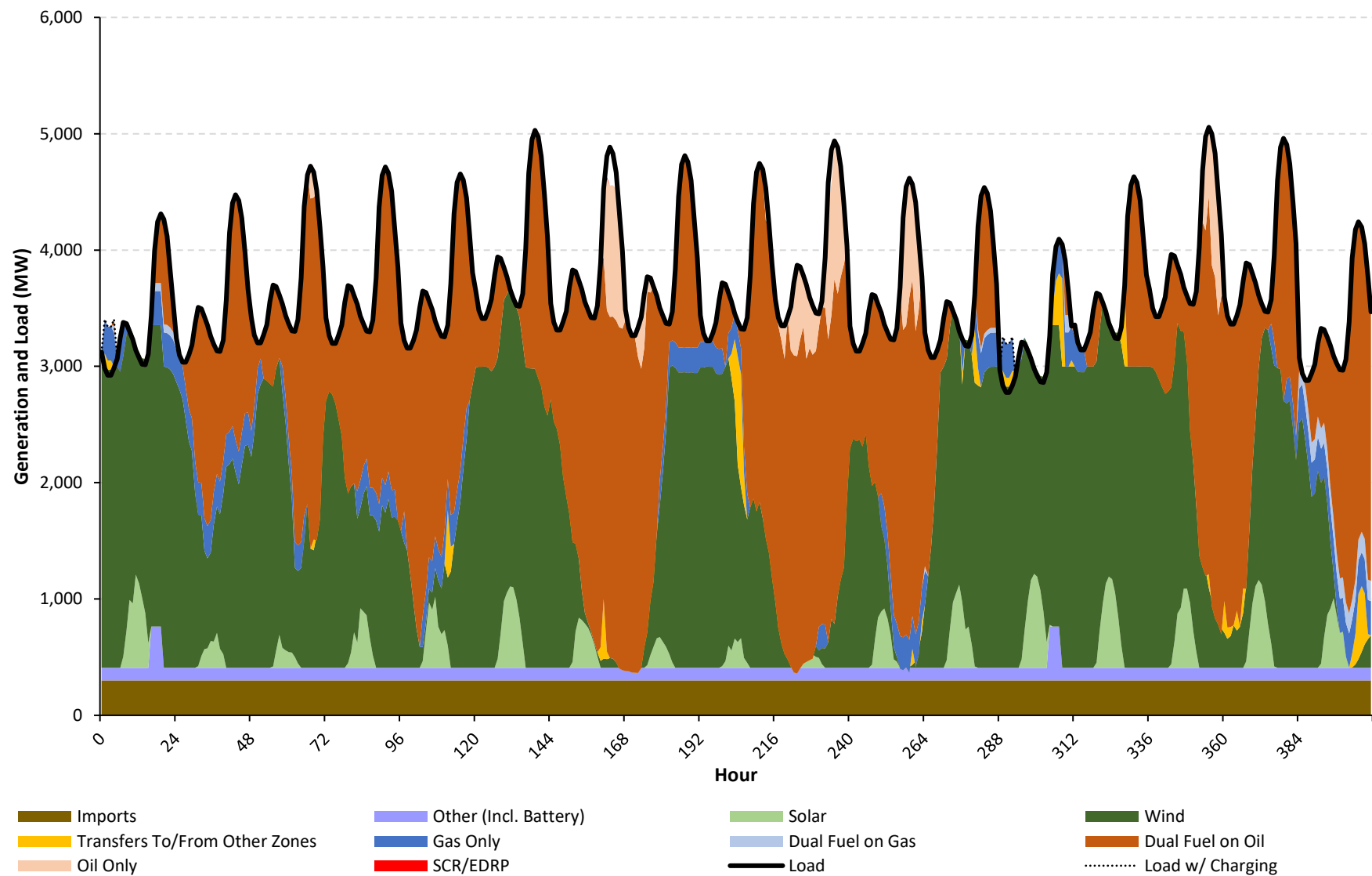
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



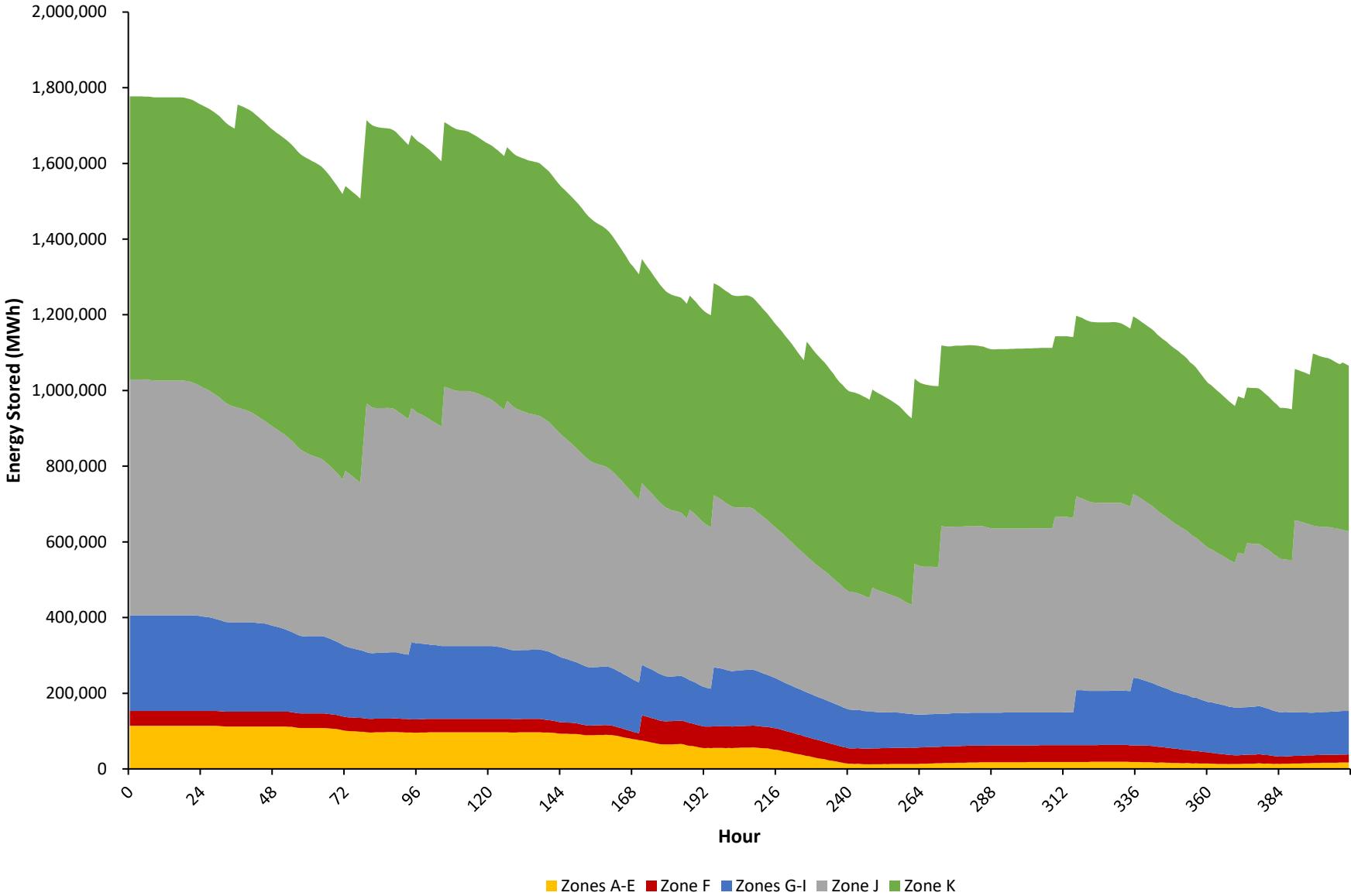


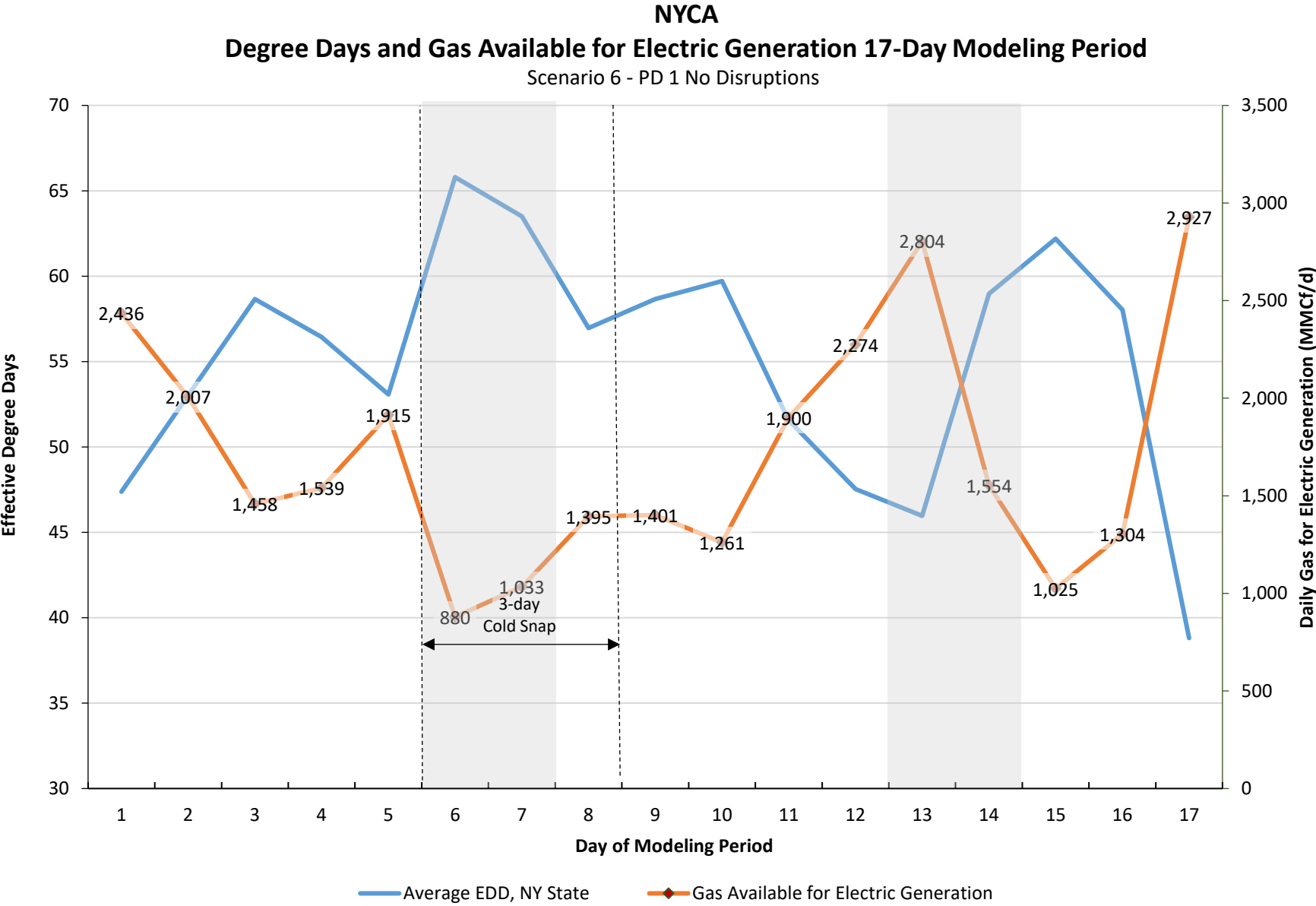


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 6 - PD 1 No Disruptions

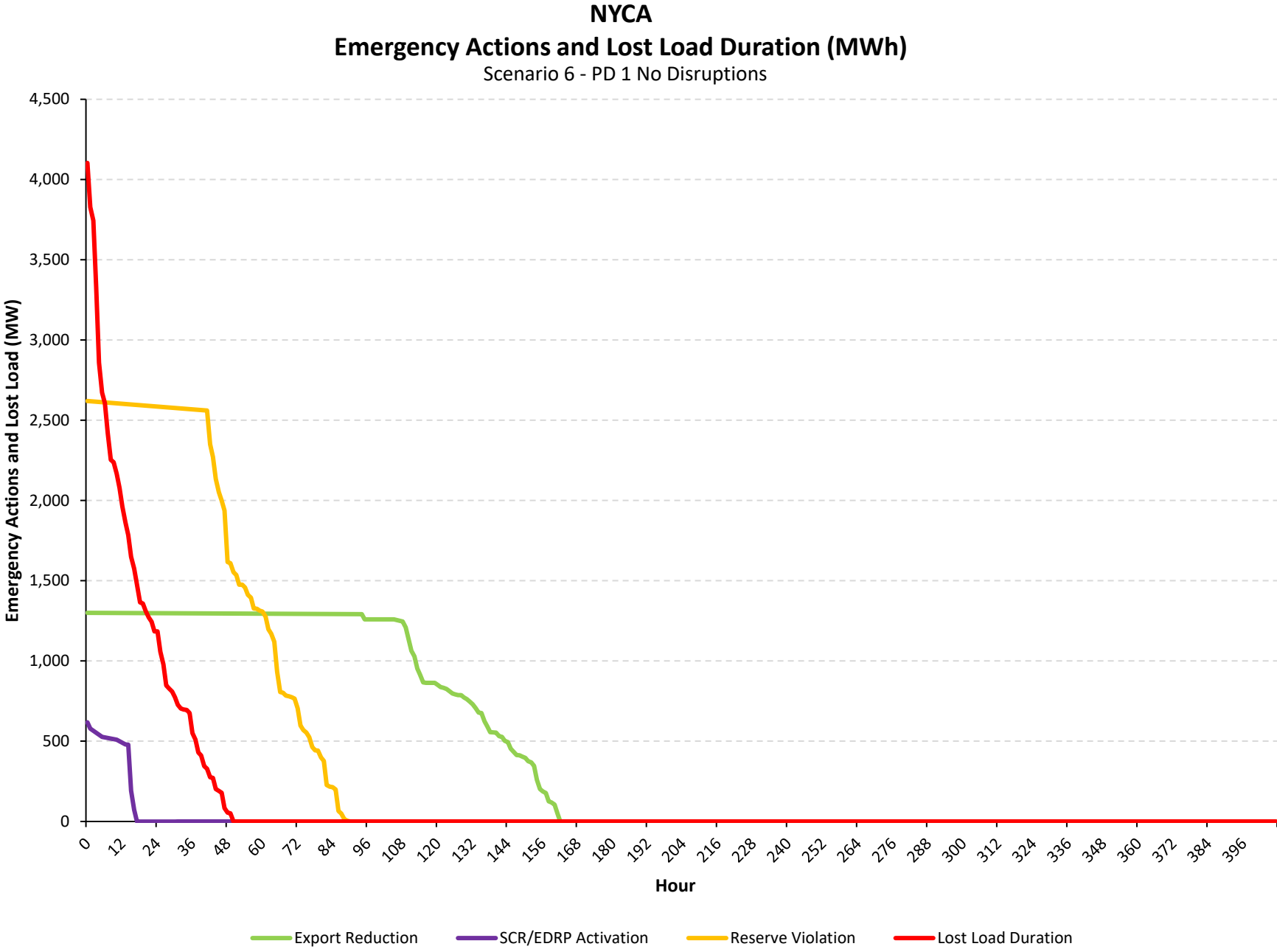


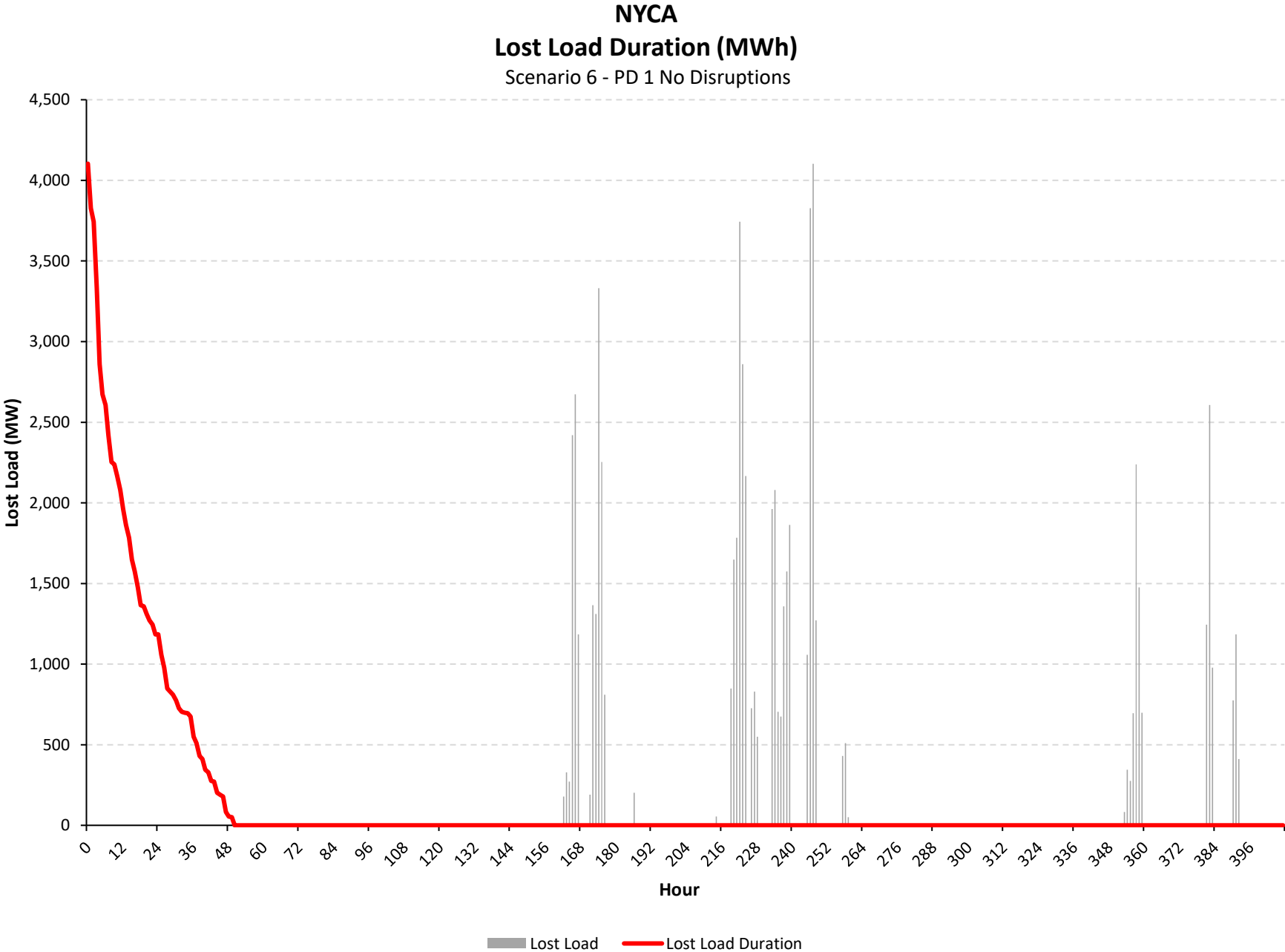
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 6 - PD 1 No Disruptions





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



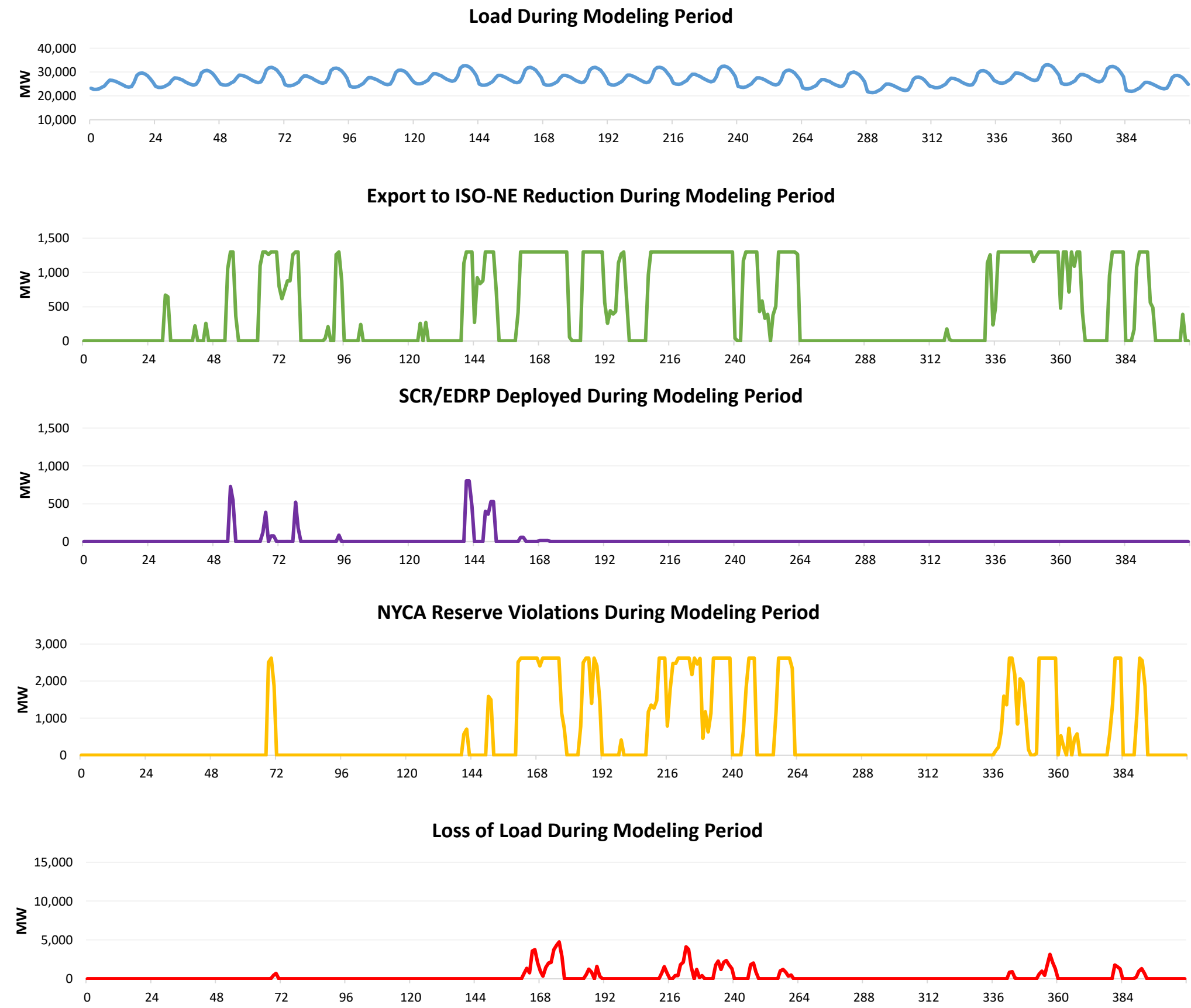


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 6 - PD 2 High Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 6 - PD 2 High Outage



Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	187
Total MWh	201,008
Avg. MW	492.7

SCR Deployment	
Total Hrs.	22
Total MWh	6,782
Avg. MW	16.6

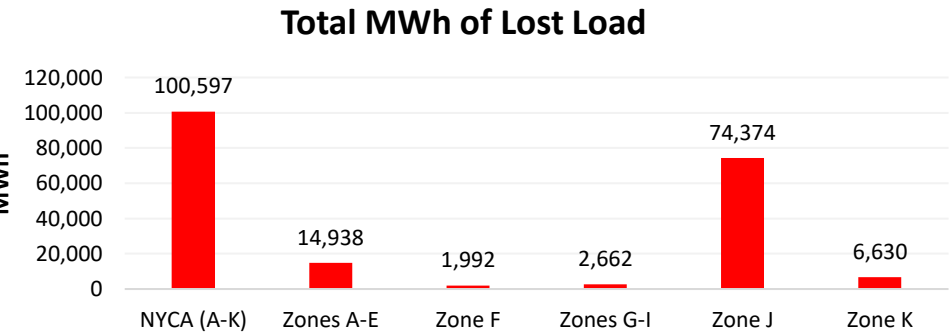
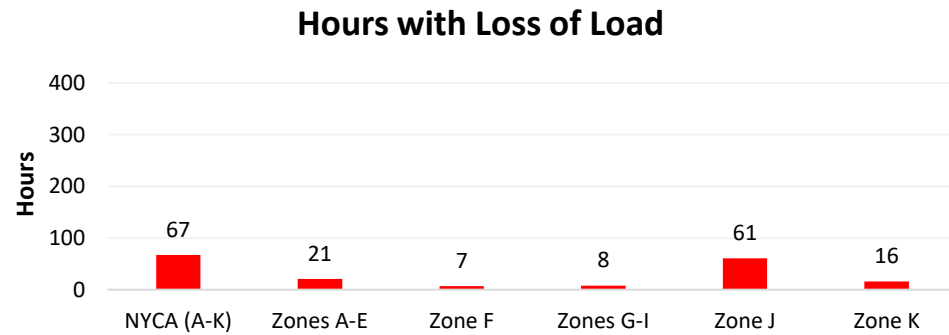
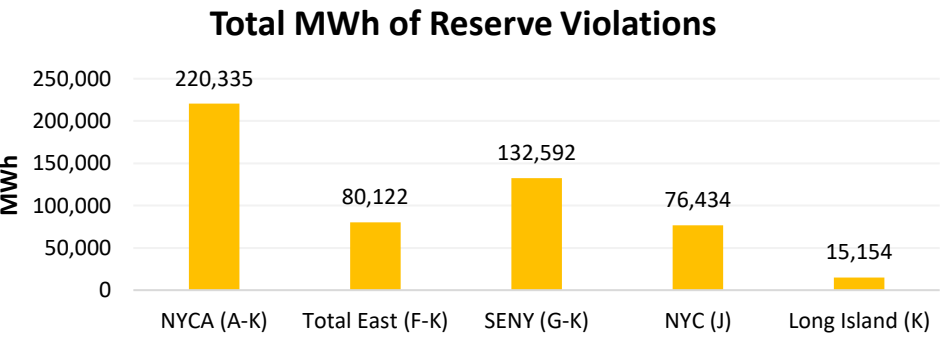
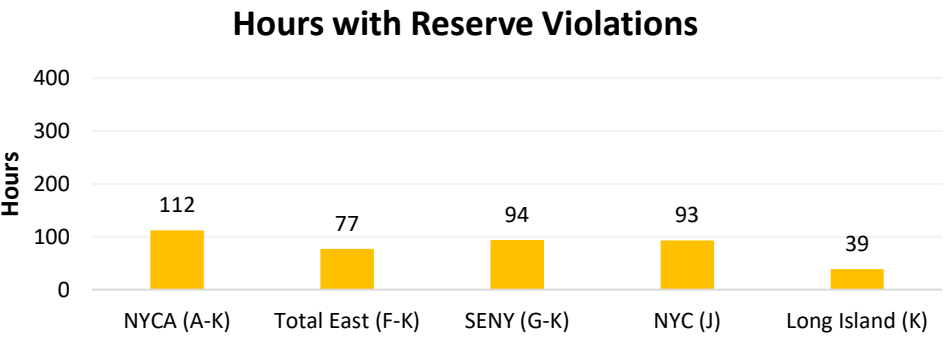
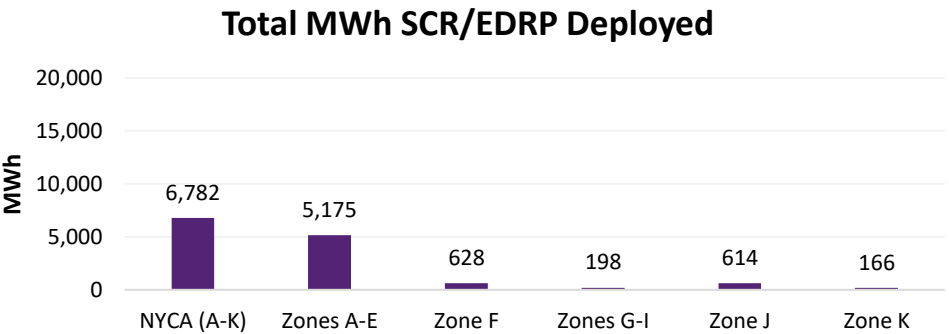
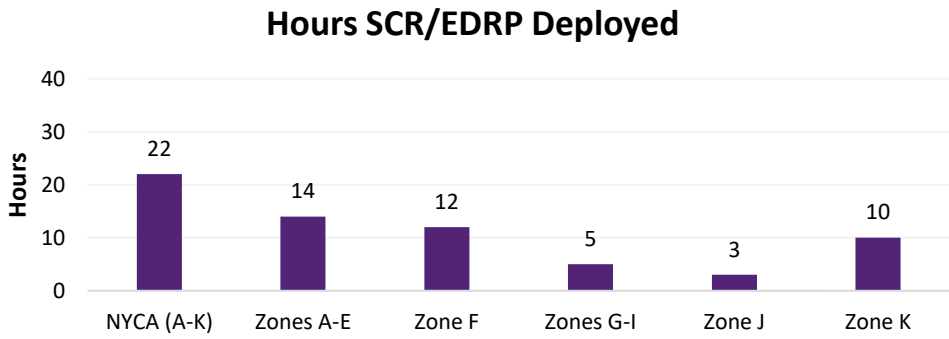
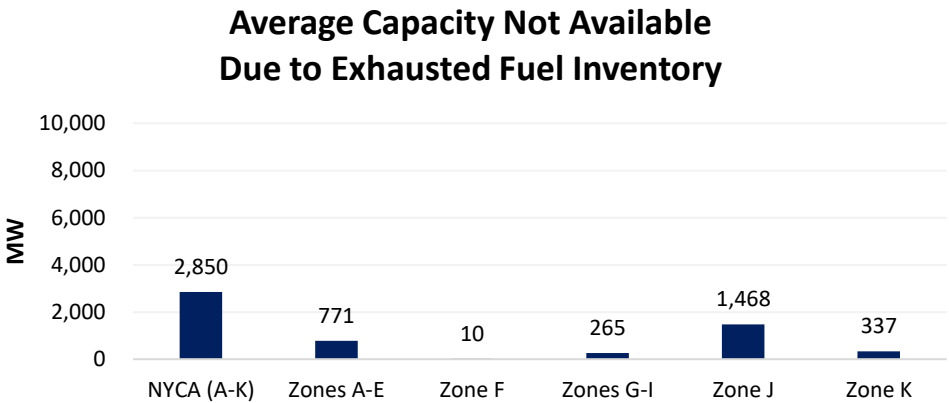
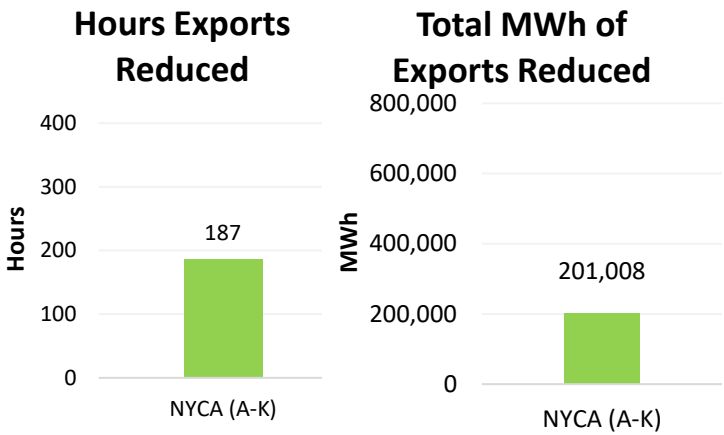
Reserve Violations	
Total Hrs.	112
Total MWh	220,335
Avg. MW	540.0
First Hour with Viol.	69

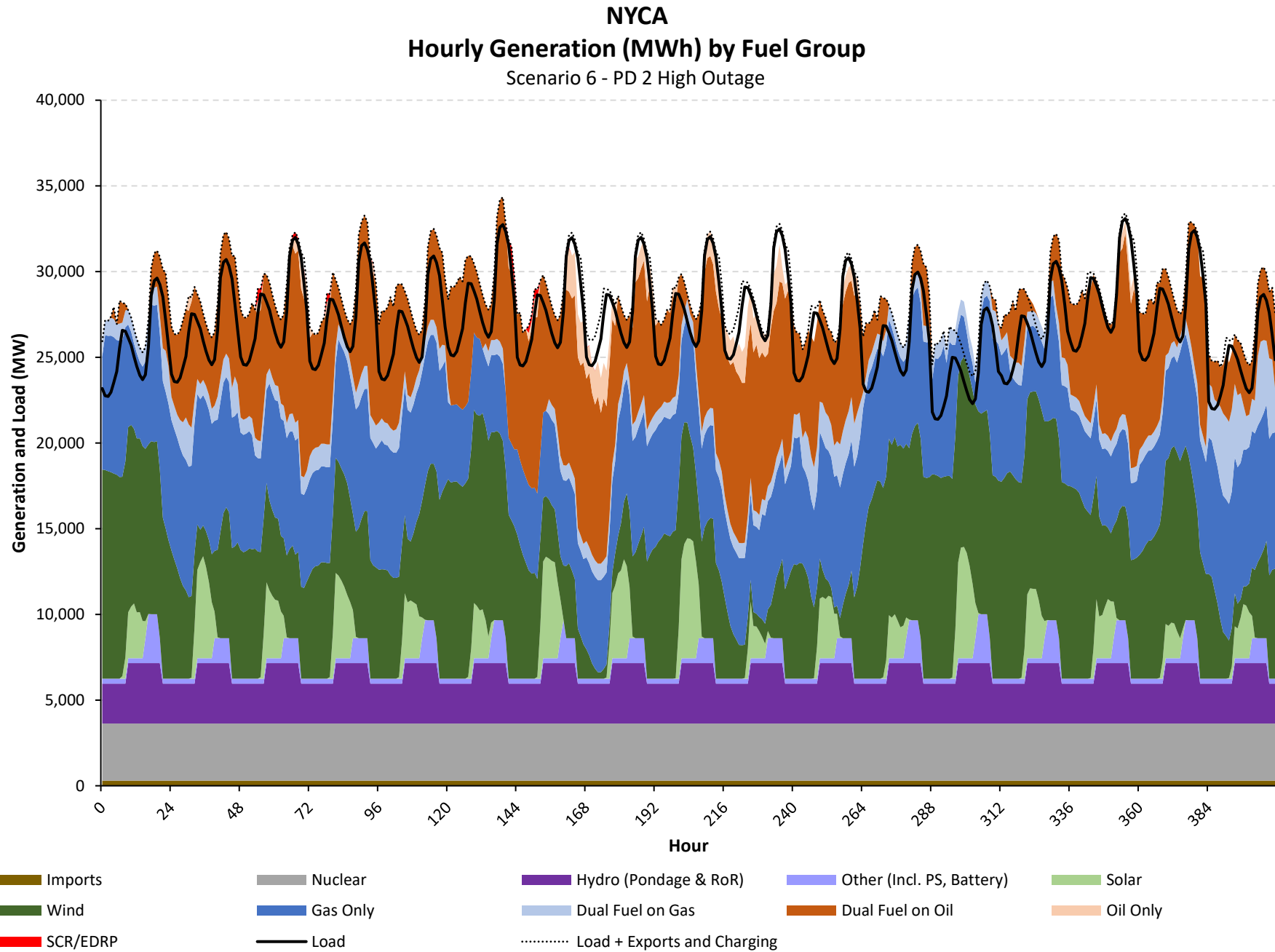
Loss of Load	
Total Hrs.	67
Total MWh	100,597
Avg. MW	246.6
First Hour with Losses	69

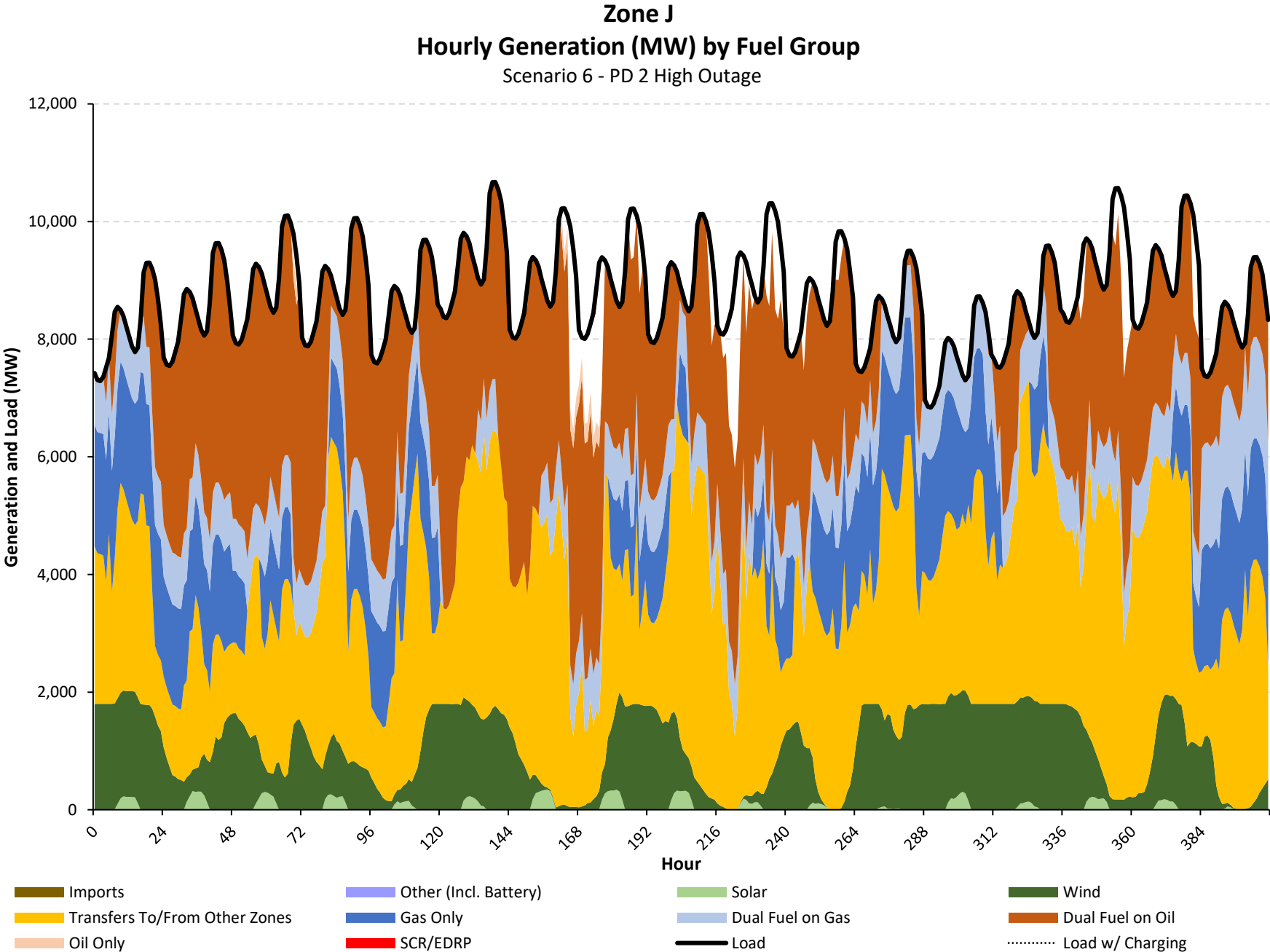
Full Period Results Summary

Case Name: Scenario 6 - PD 2 High Outage

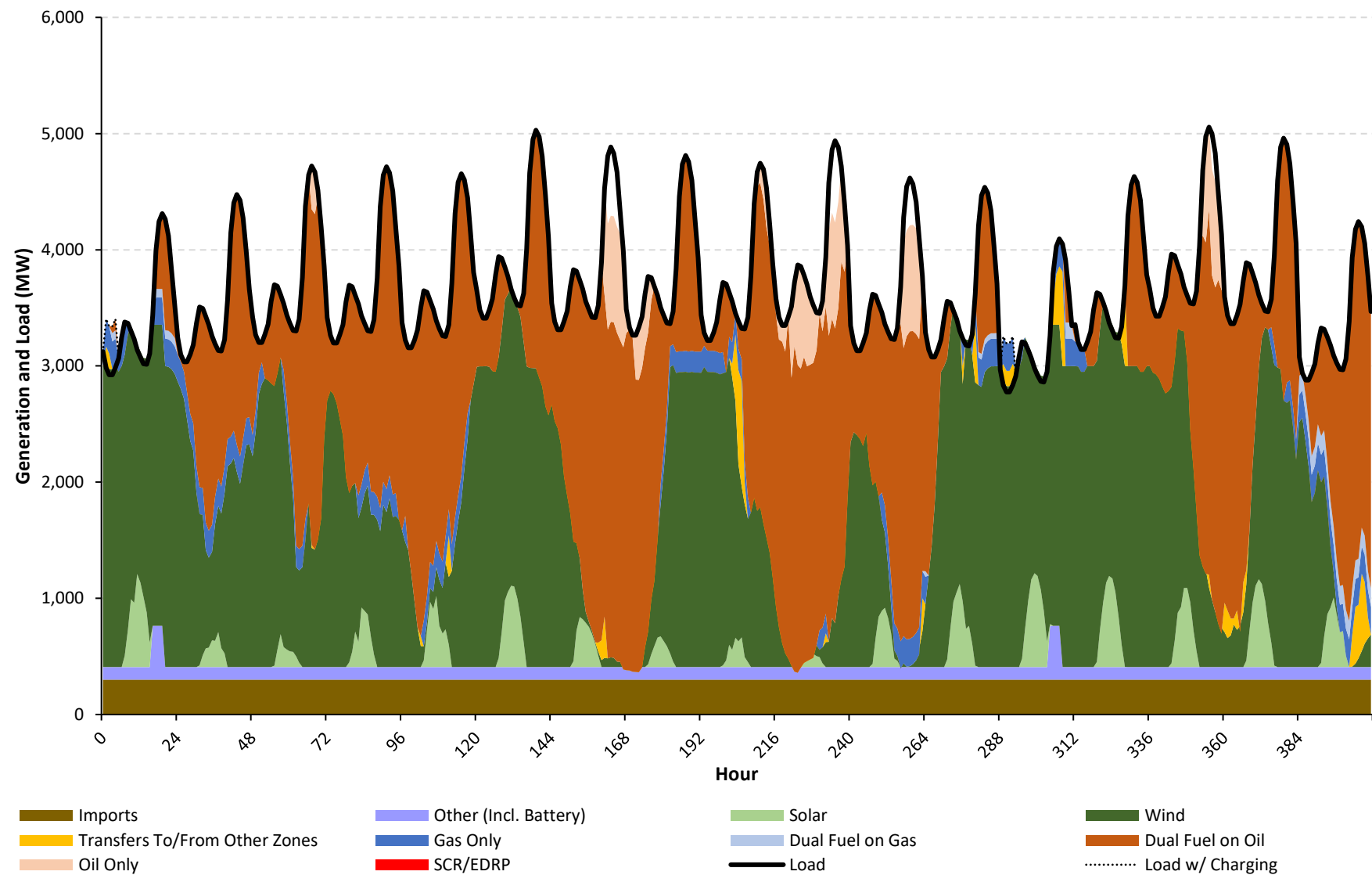
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

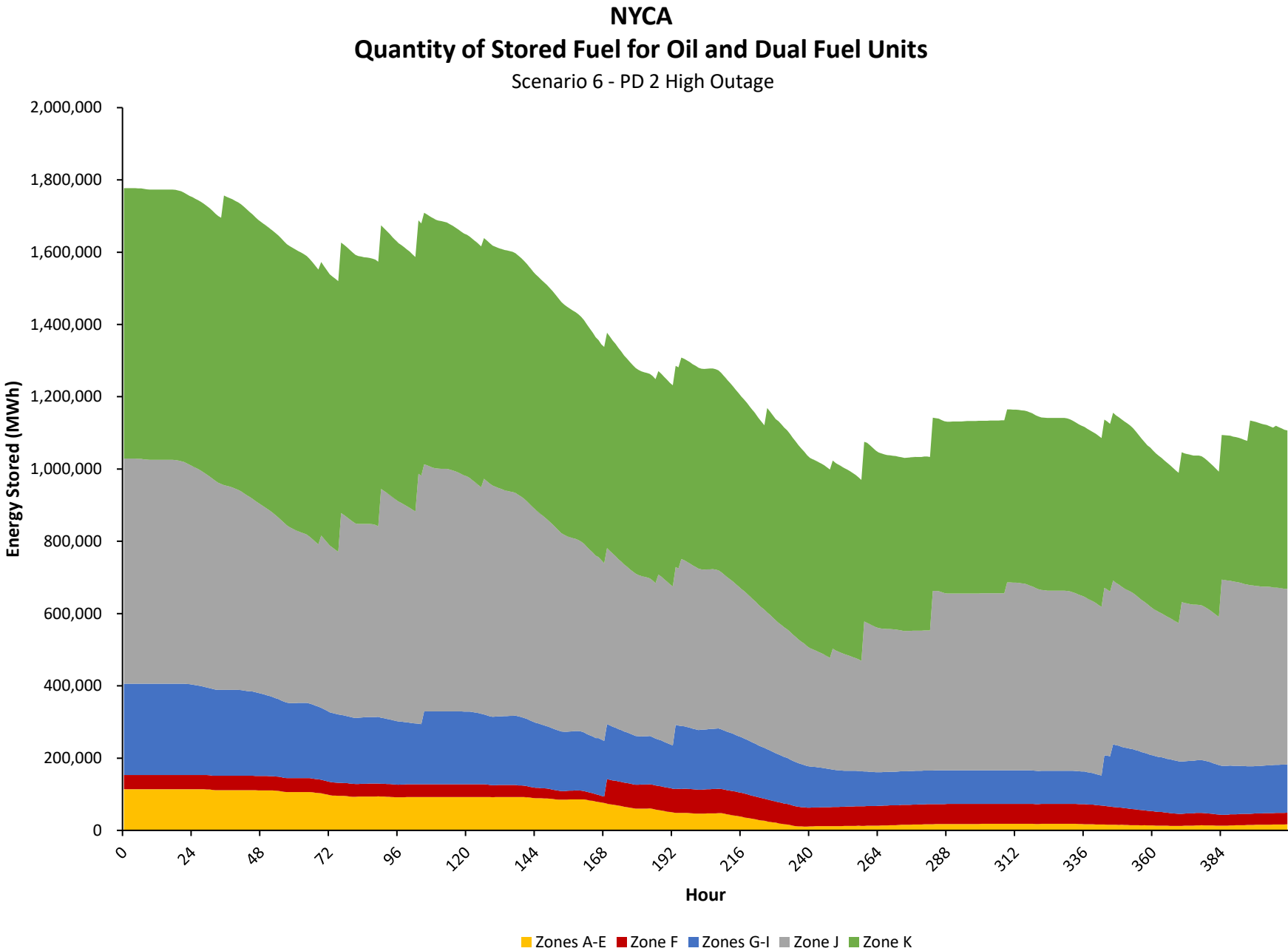


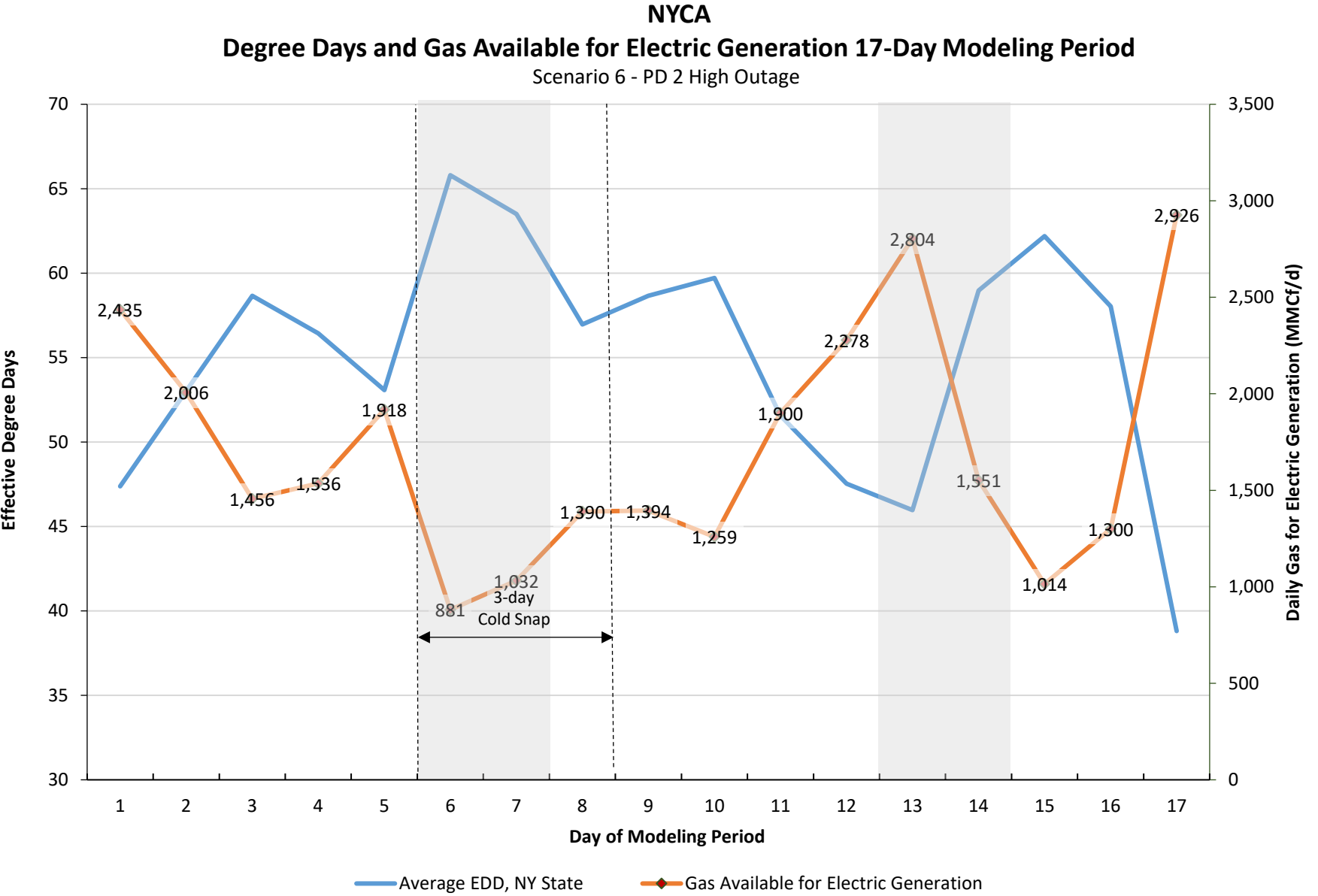




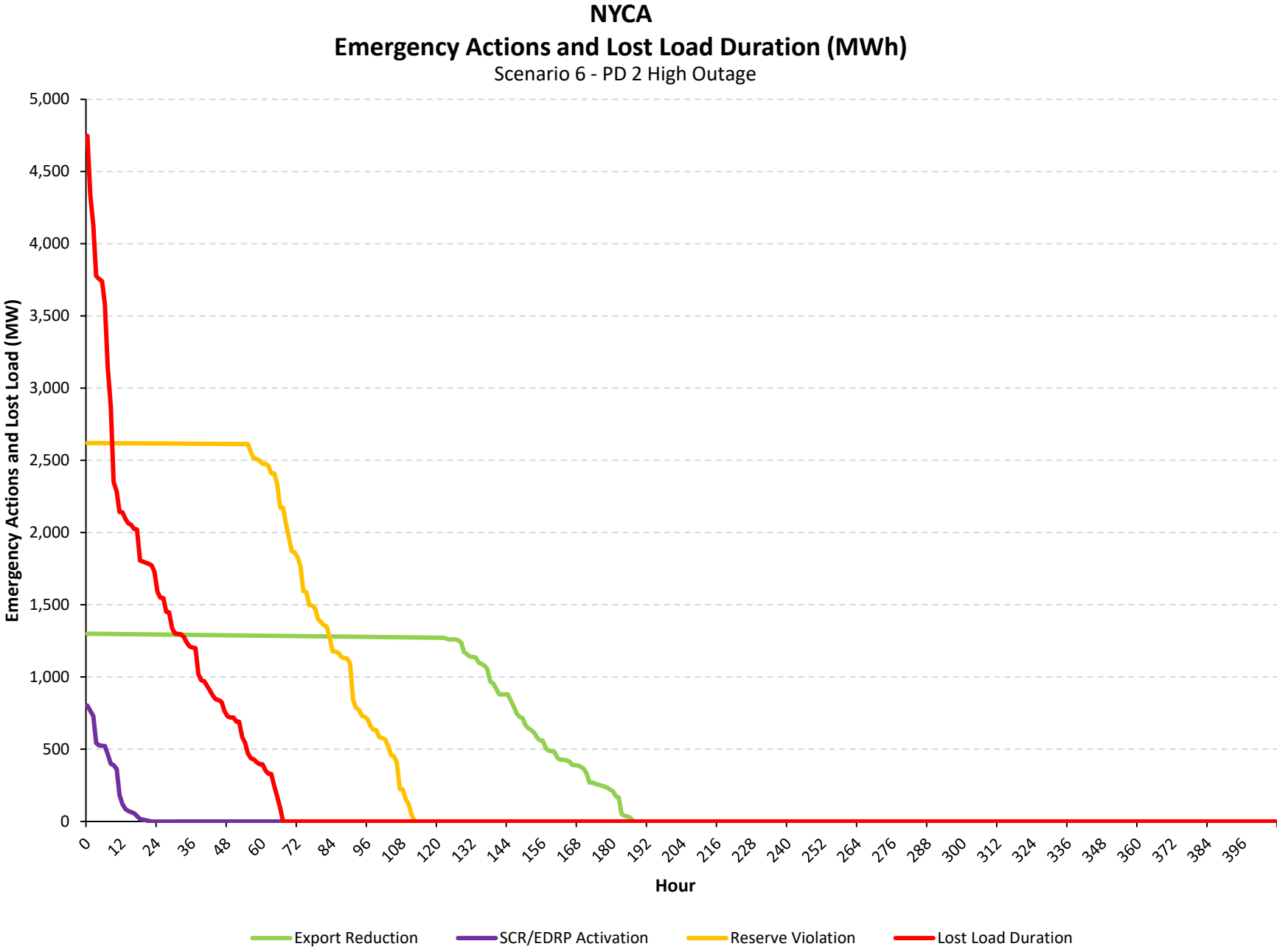
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 6 - PD 2 High Outage

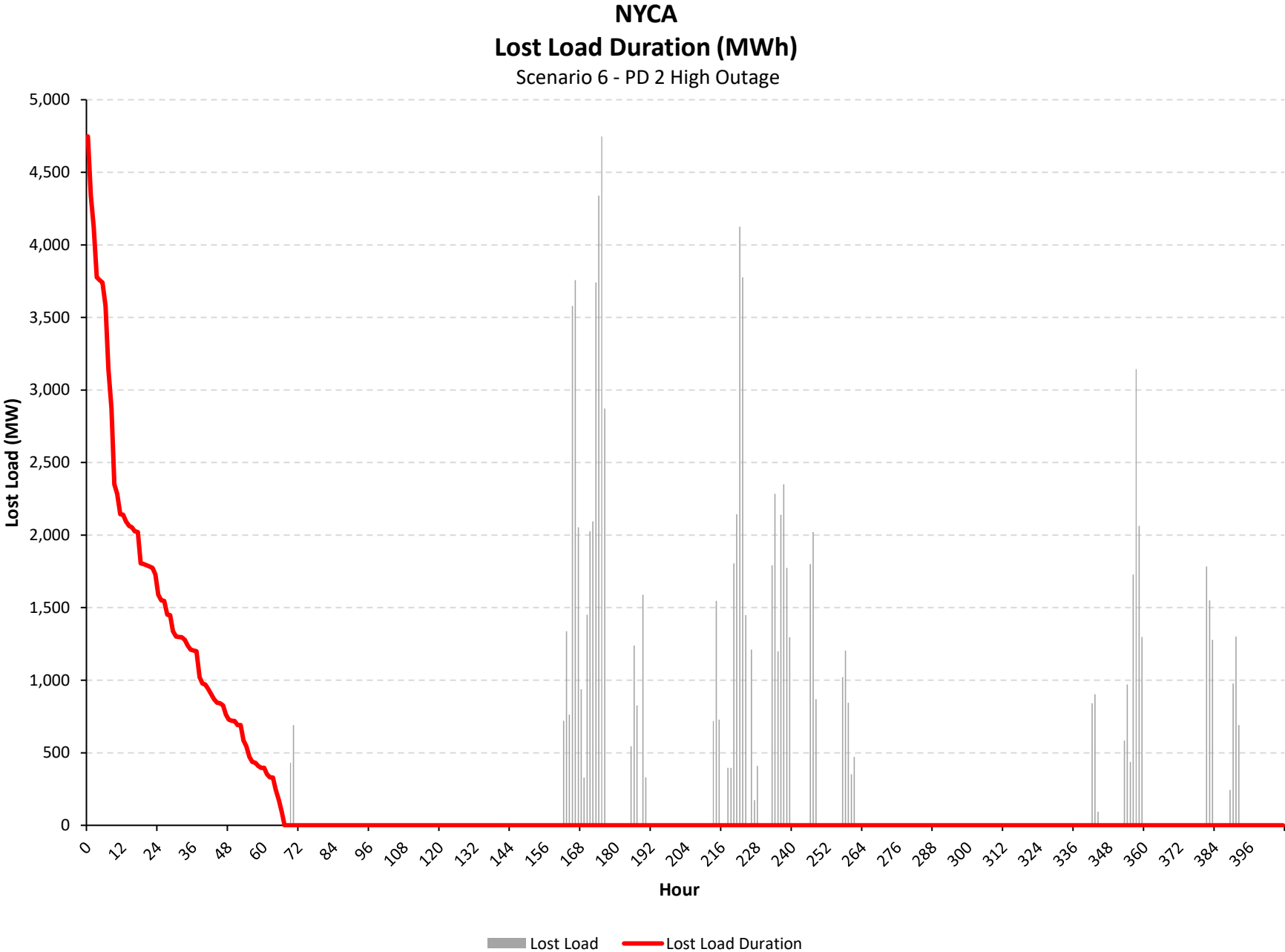






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



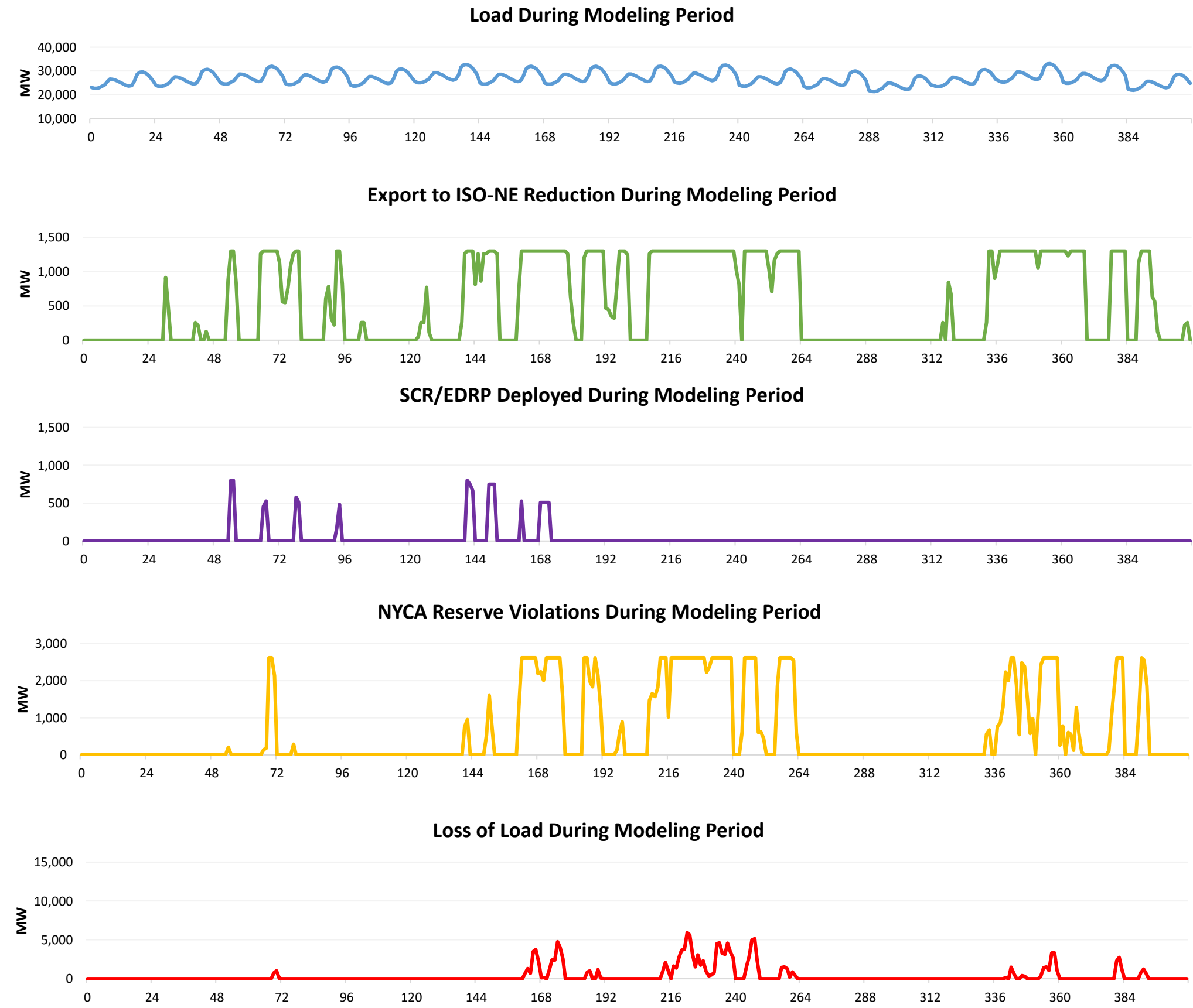


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 6 - PD 3 SENY Deactivation (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 6 - PD 3 SENY Deactivation



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	202
Total MWh	223,004
Avg. MW	546.6

SCR Deployment	
Total Hrs.	19
Total MWh	11,358
Avg. MW	27.8

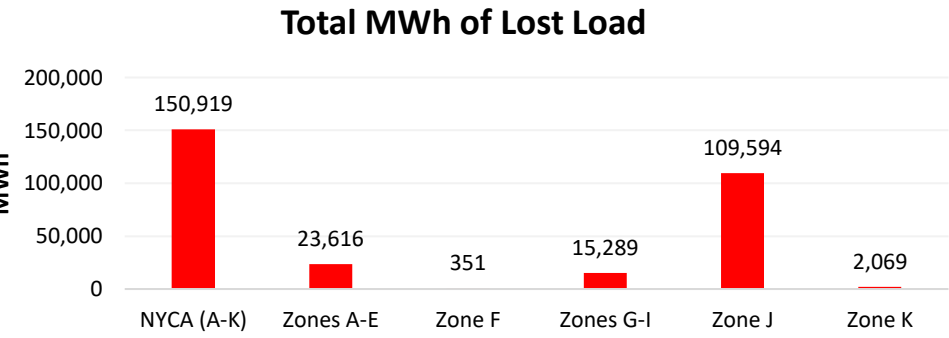
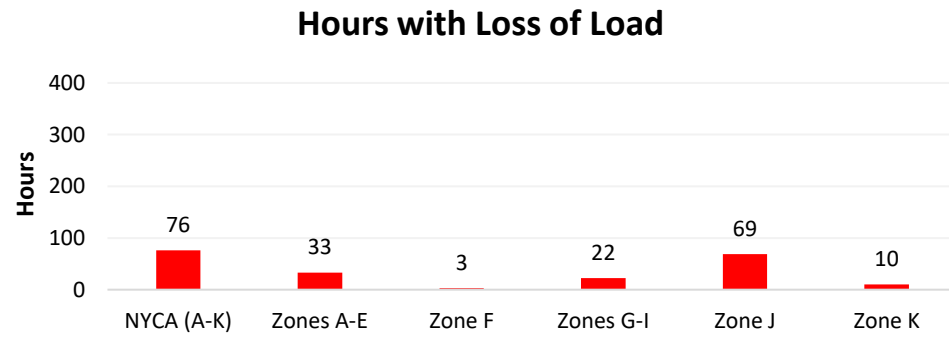
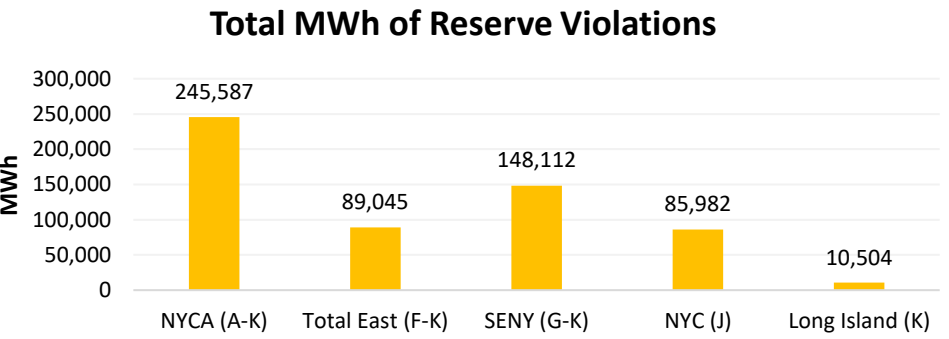
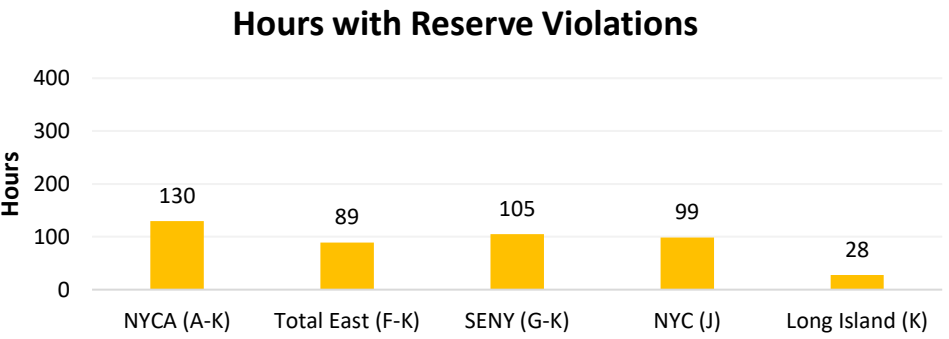
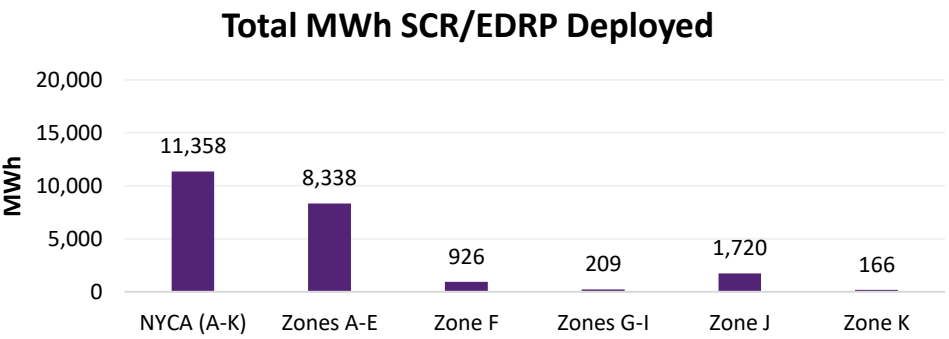
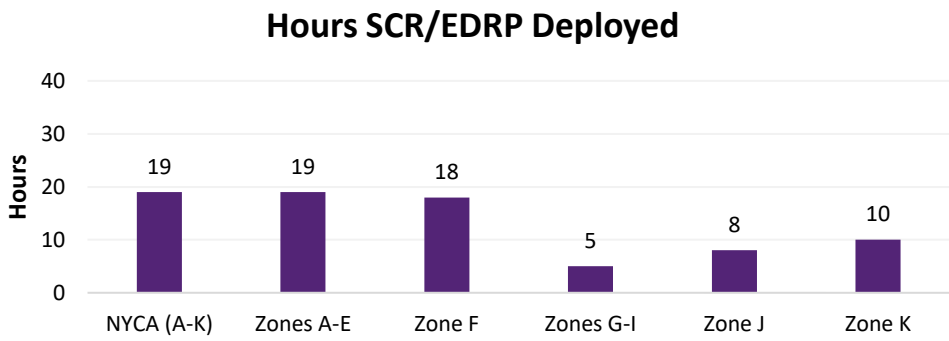
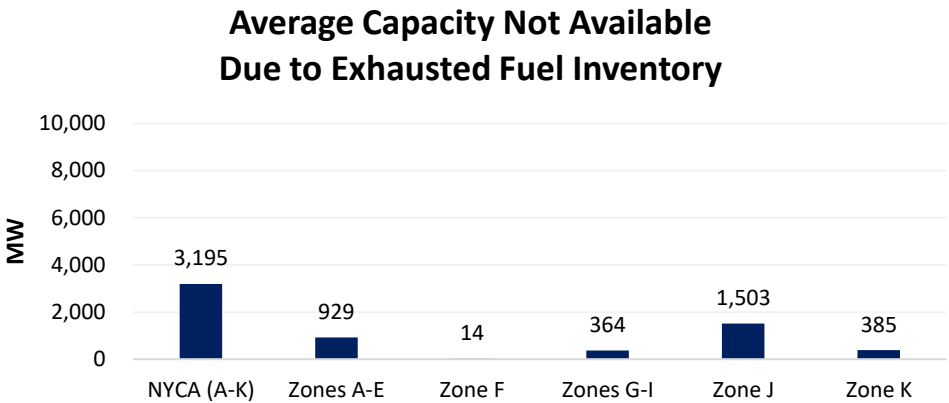
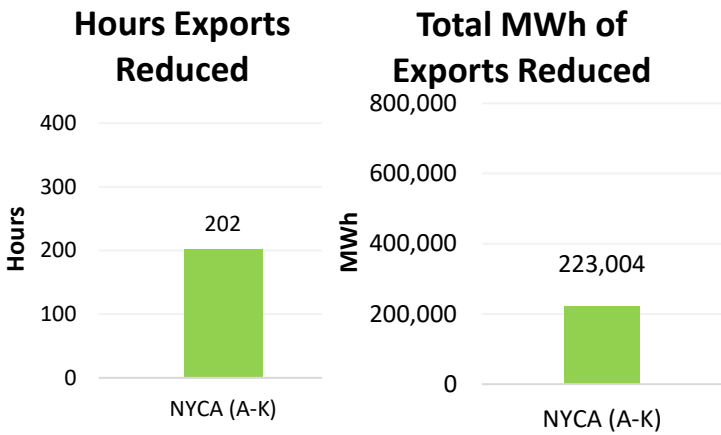
Reserve Violations	
Total Hrs.	130
Total MWh	245,587
Avg. MW	601.9
First Hour with Viol.	54

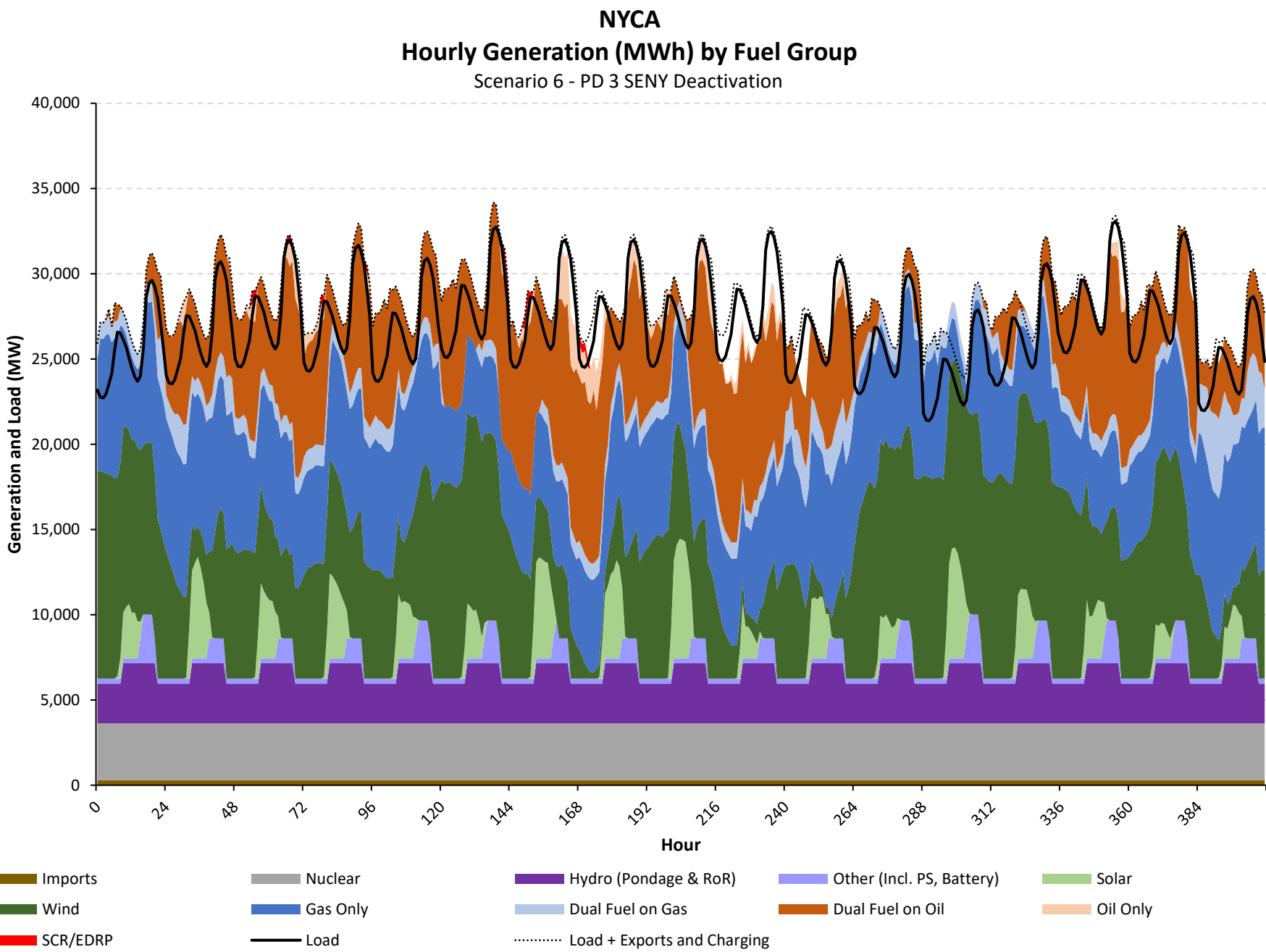
Loss of Load	
Total Hrs.	76
Total MWh	150,919
Avg. MW	369.9
First Hour with Losses	69

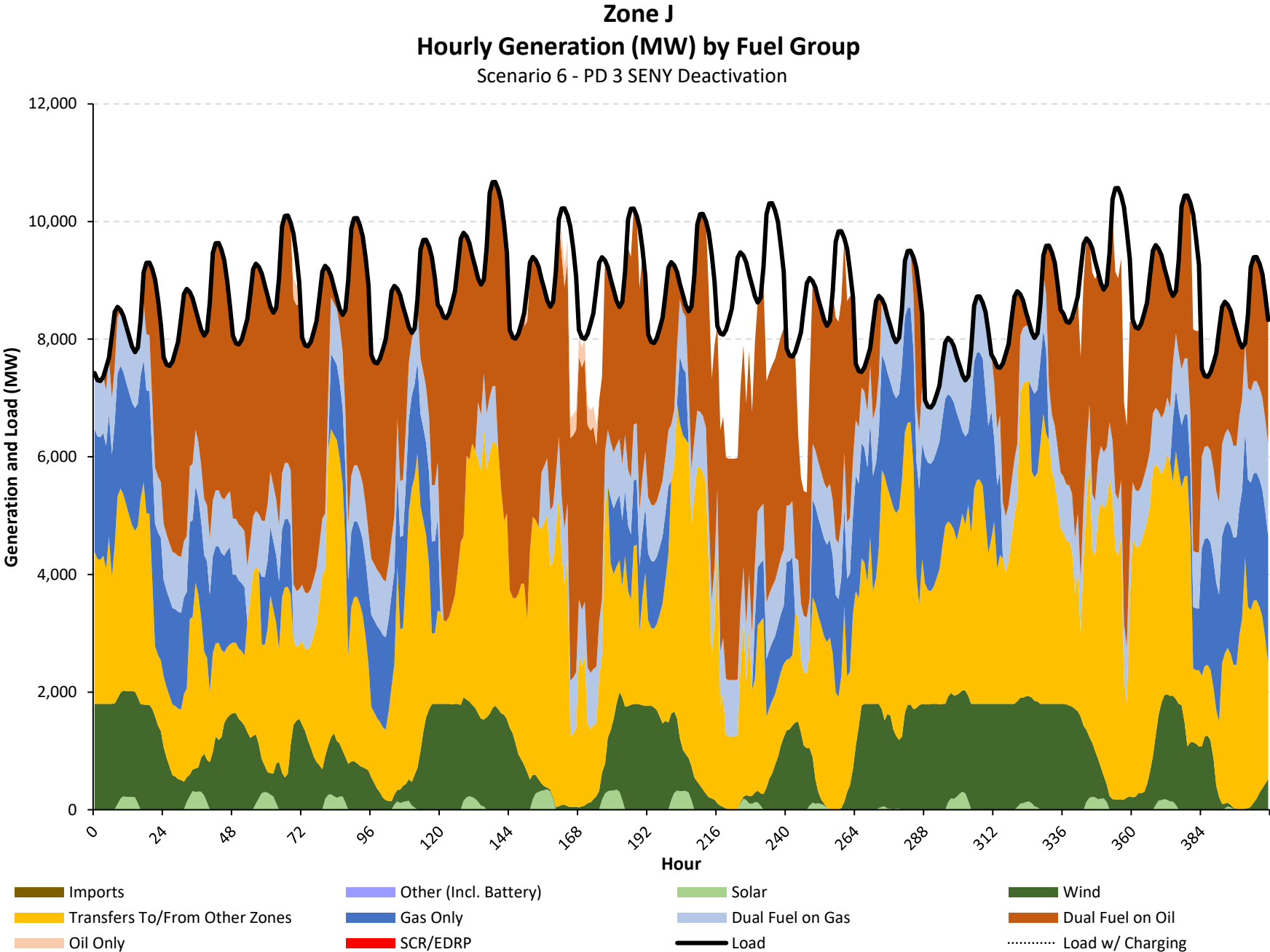
Full Period Results Summary

Case Name: Scenario 6 - PD 3 SENY Deactivation

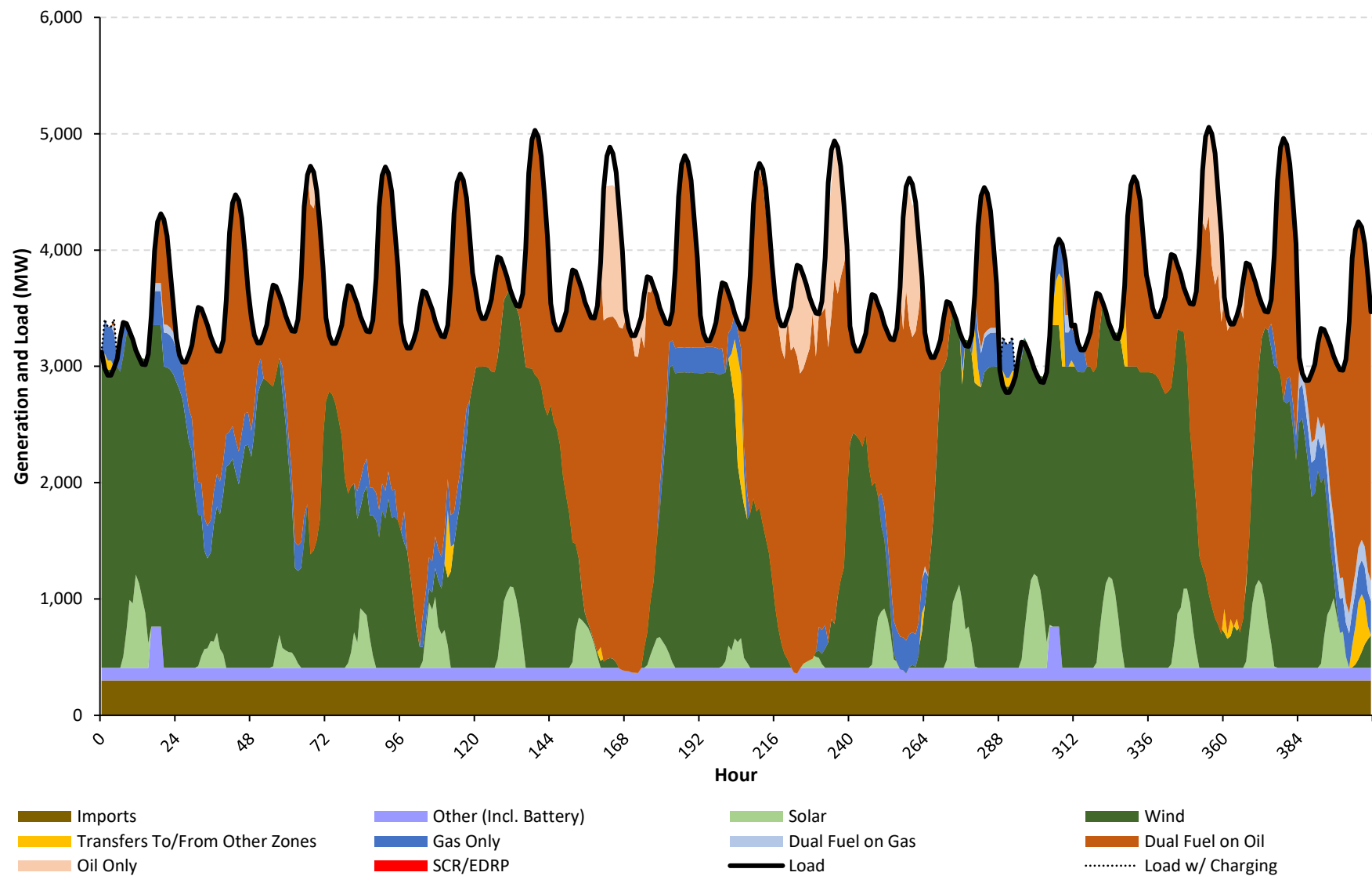
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	Net Zero



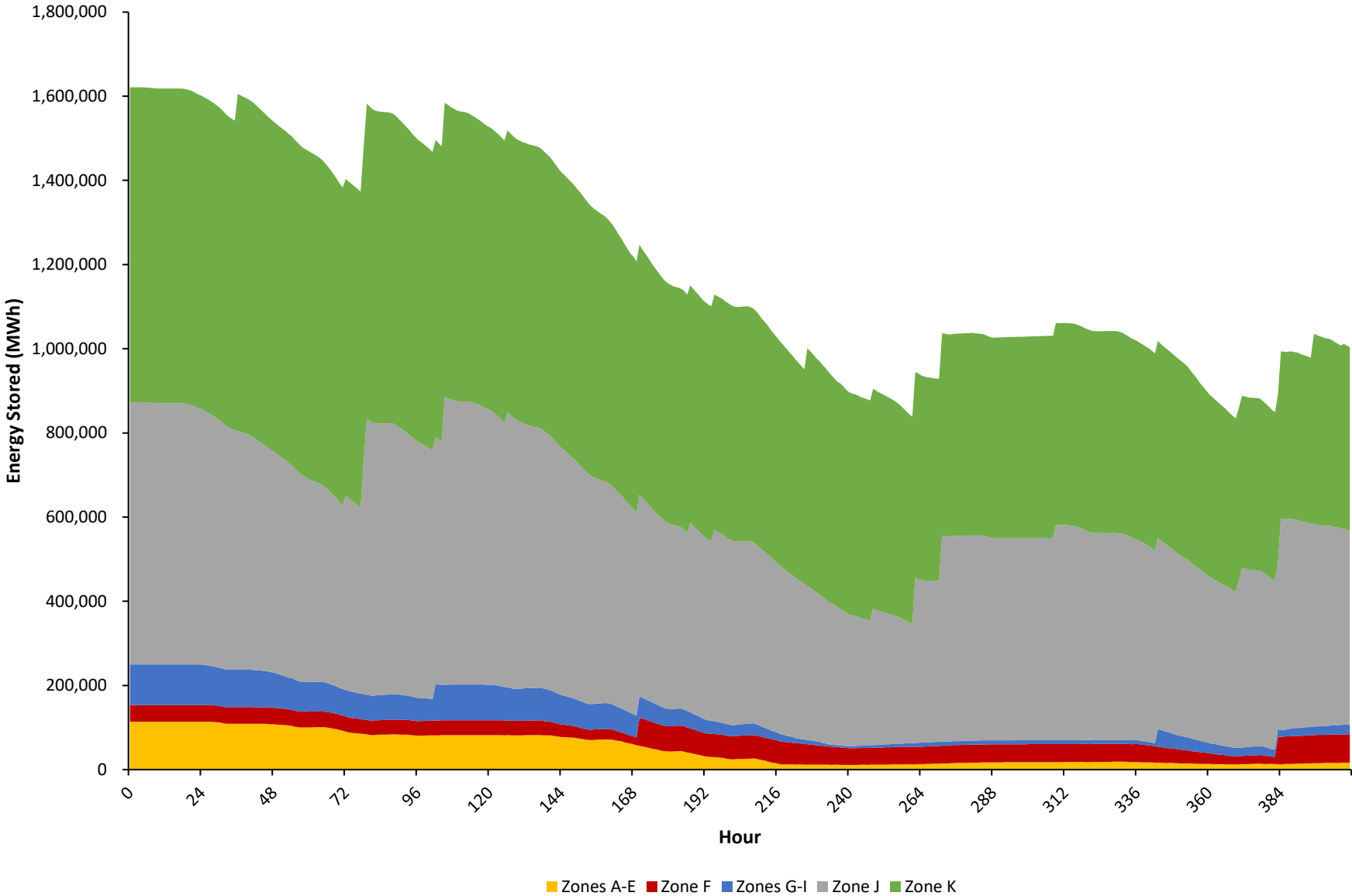


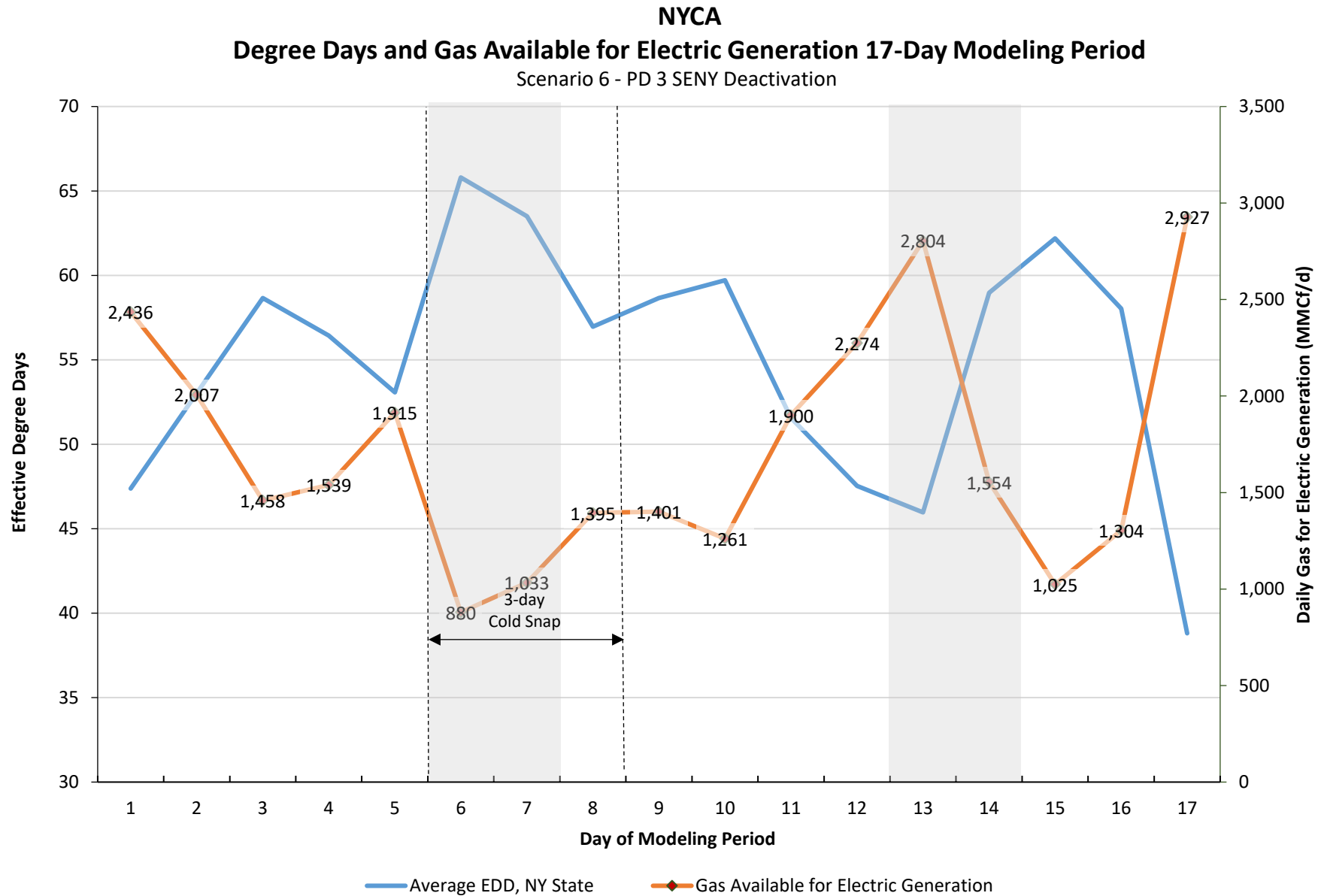


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 6 - PD 3 SENY Deactivation



NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 6 - PD 3 SENY Deactivation

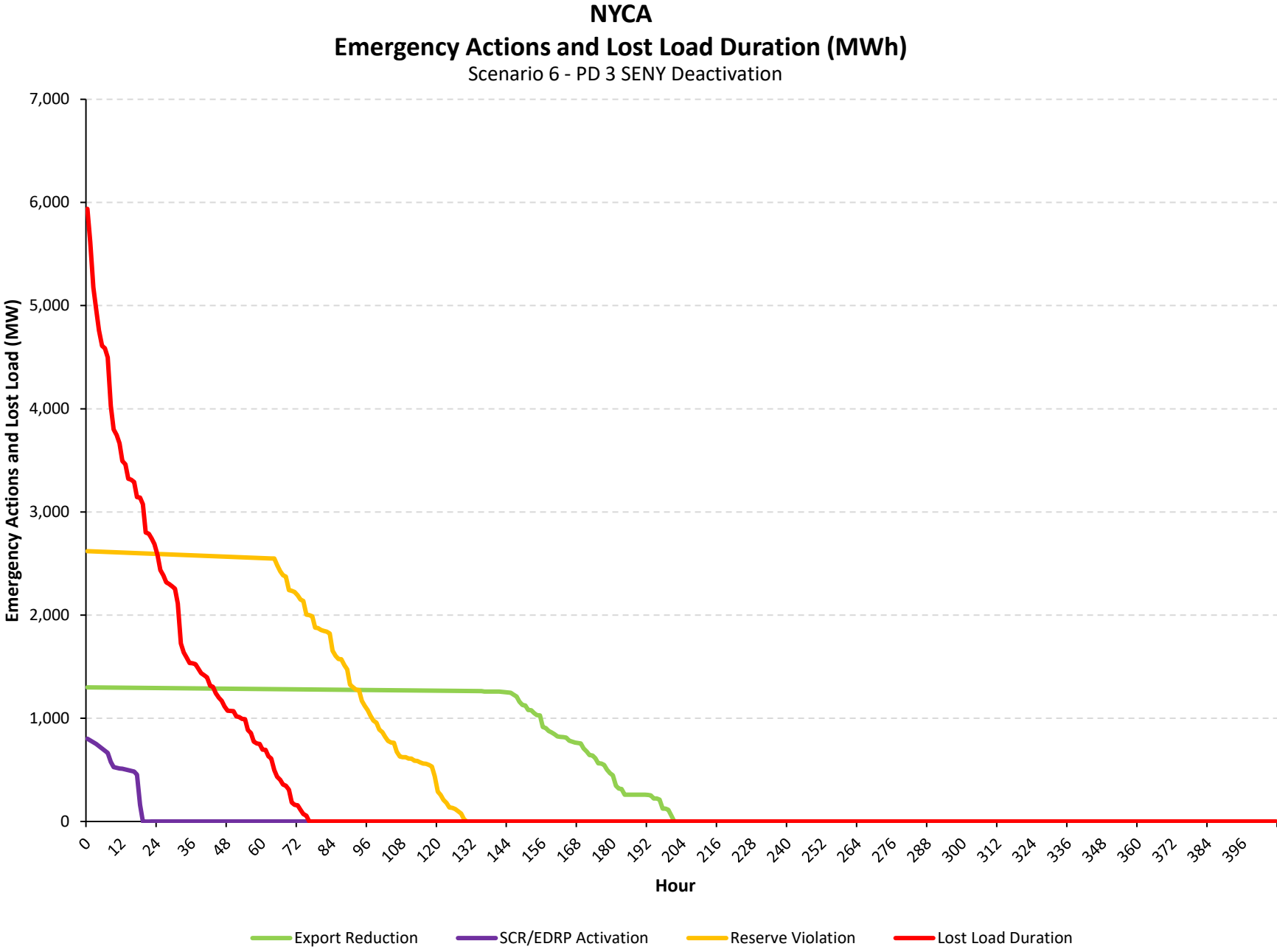


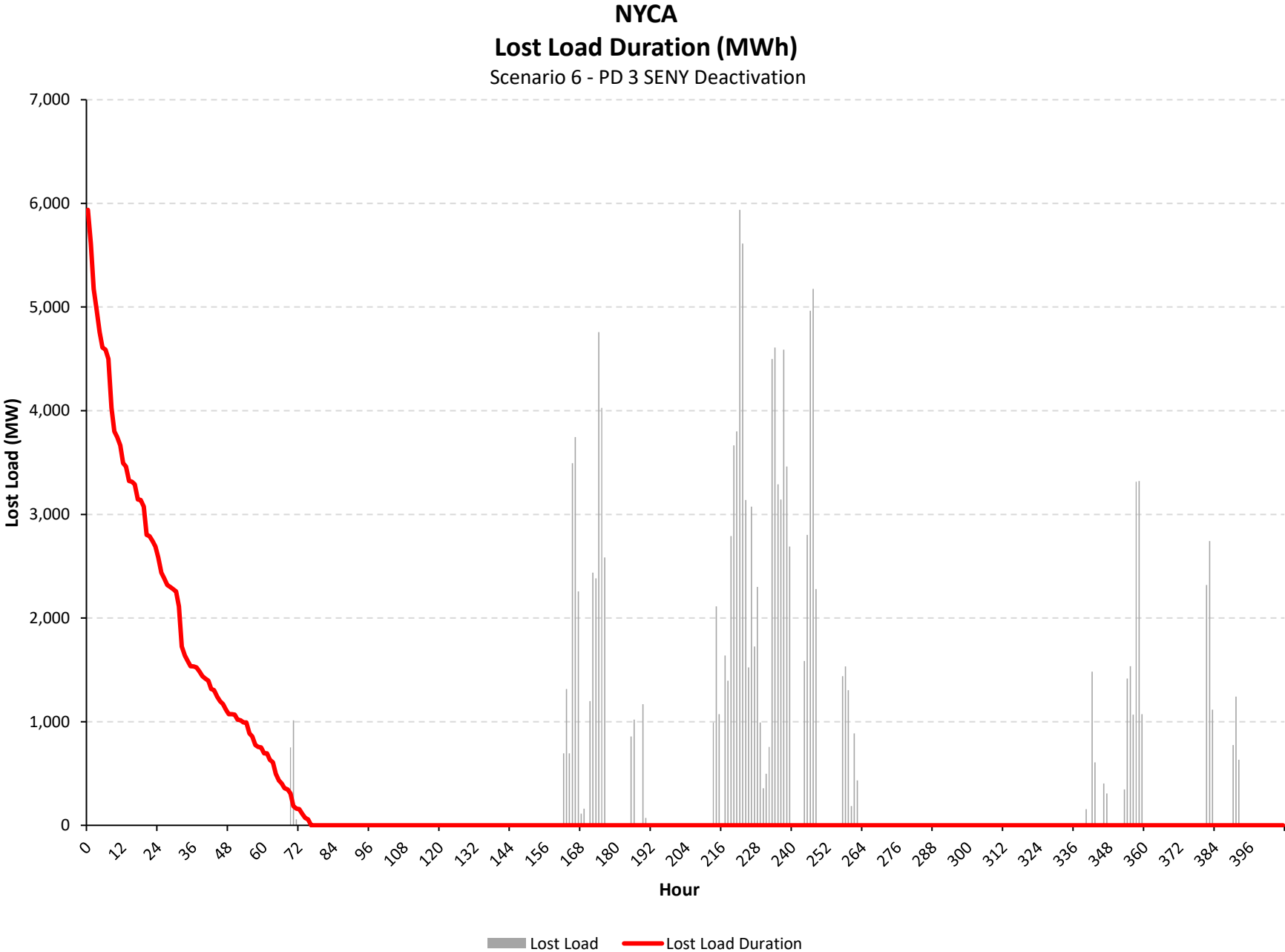


Notes:

[1] Weekends are shaded in gray.

[2] Effective degree day is defined as 65 degrees F - Temperature.



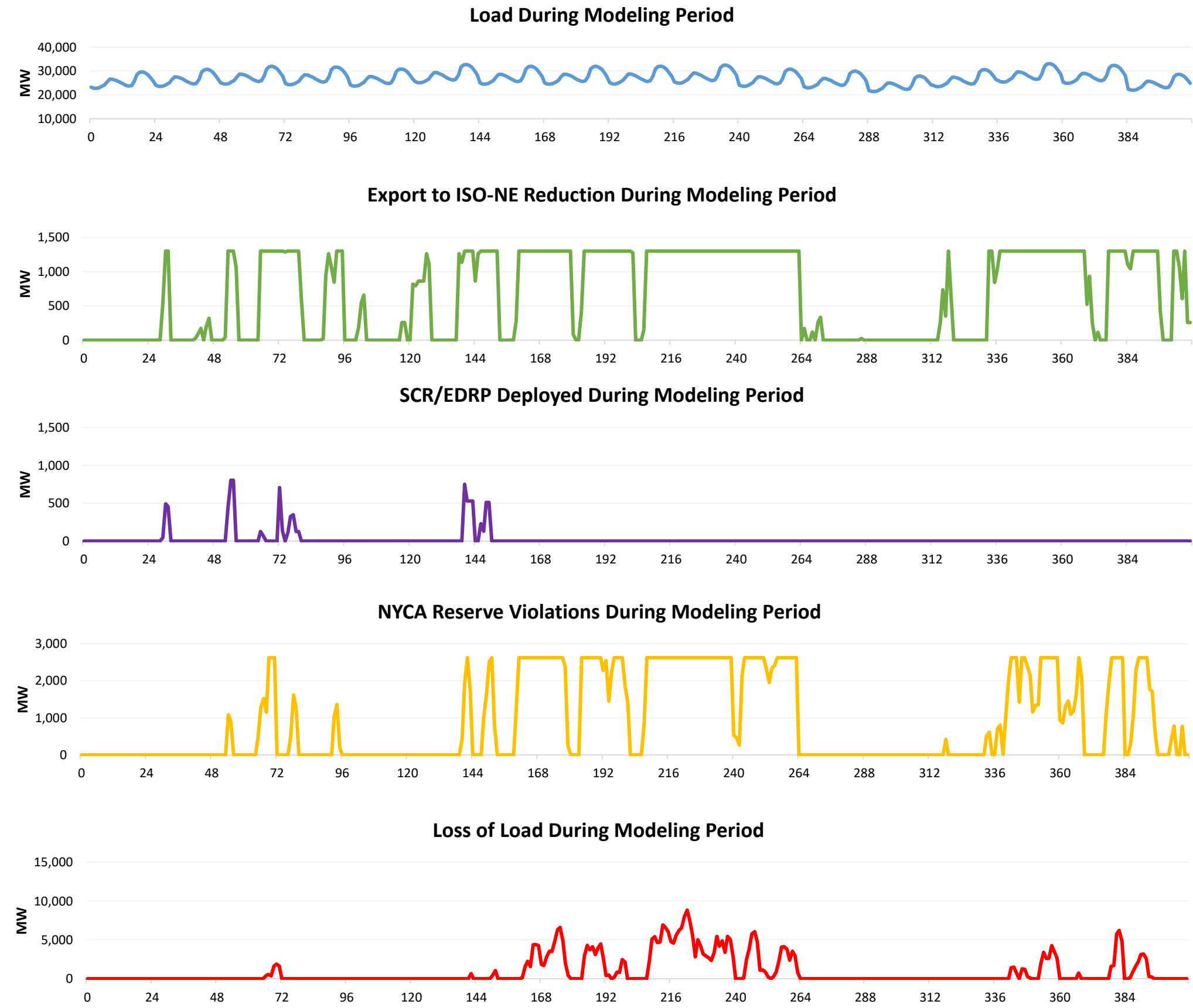


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 6 - PD 4 Nuclear Station Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 6 - PD 4 Nuclear Station Outage



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	241
Total MWh	272,903
Avg. MW	668.9

SCR Deployment	
Total Hrs.	23
Total MWh	8,824
Avg. MW	21.6

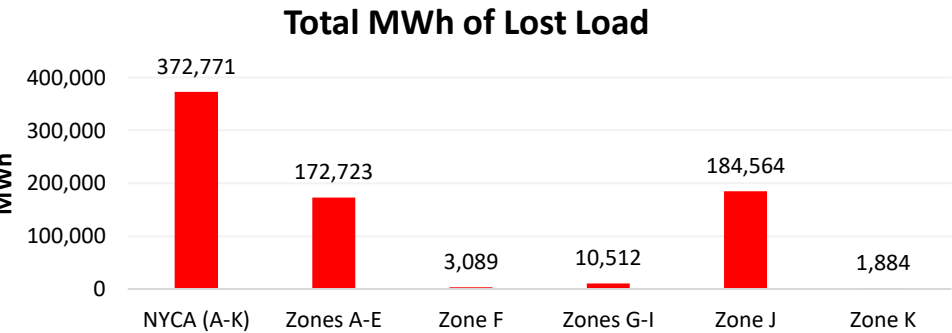
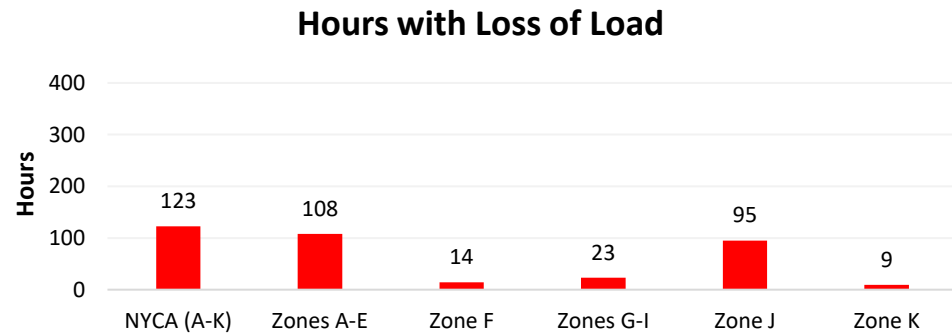
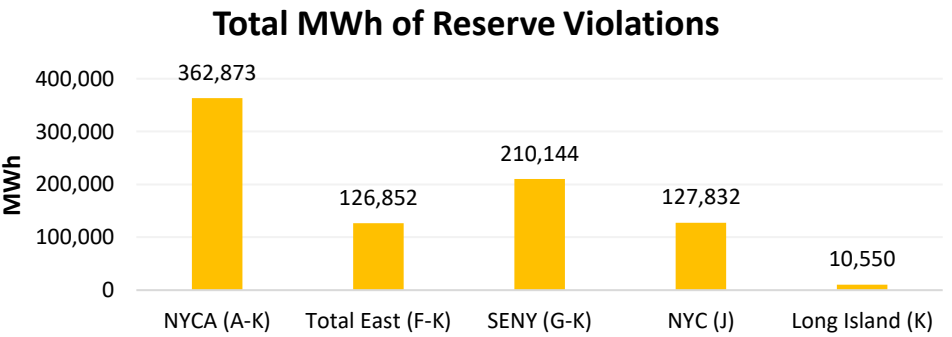
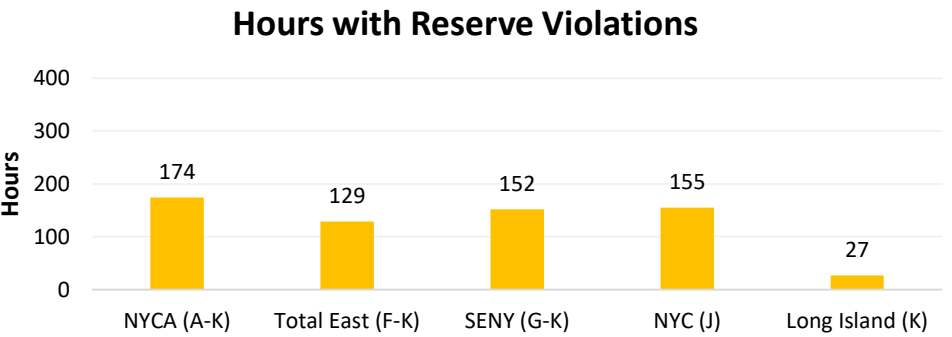
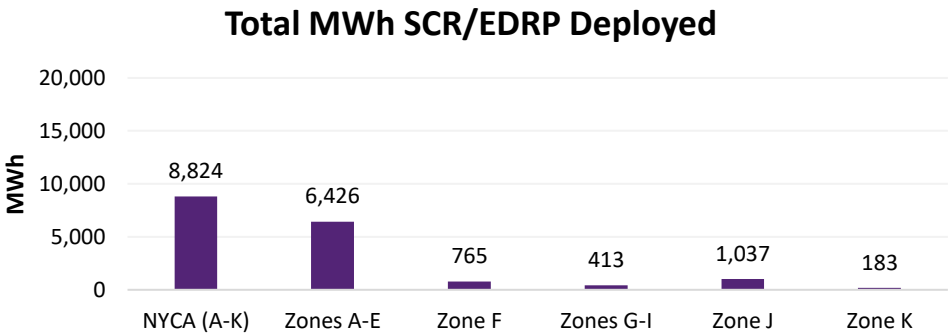
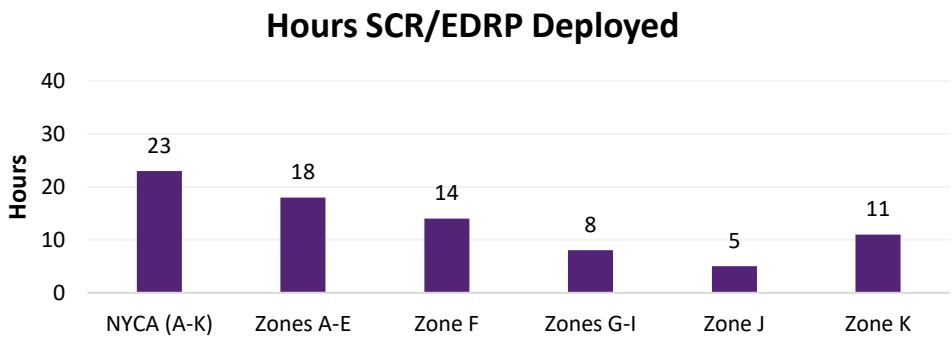
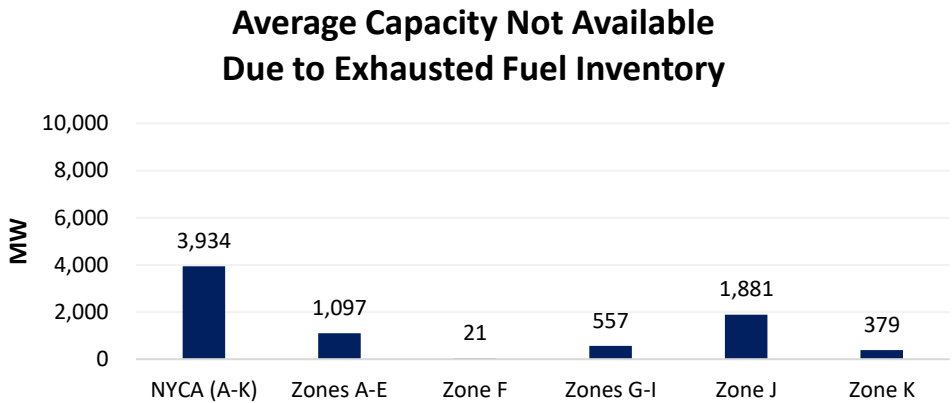
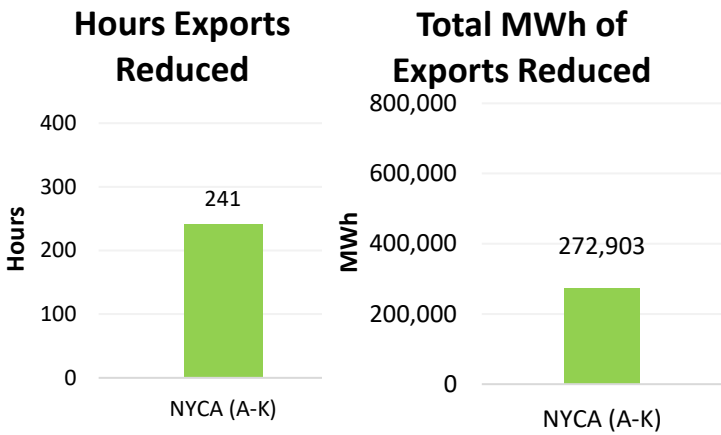
Reserve Violations	
Total Hrs.	174
Total MWh	362,873
Avg. MW	889.4
First Hour with Viol.	31

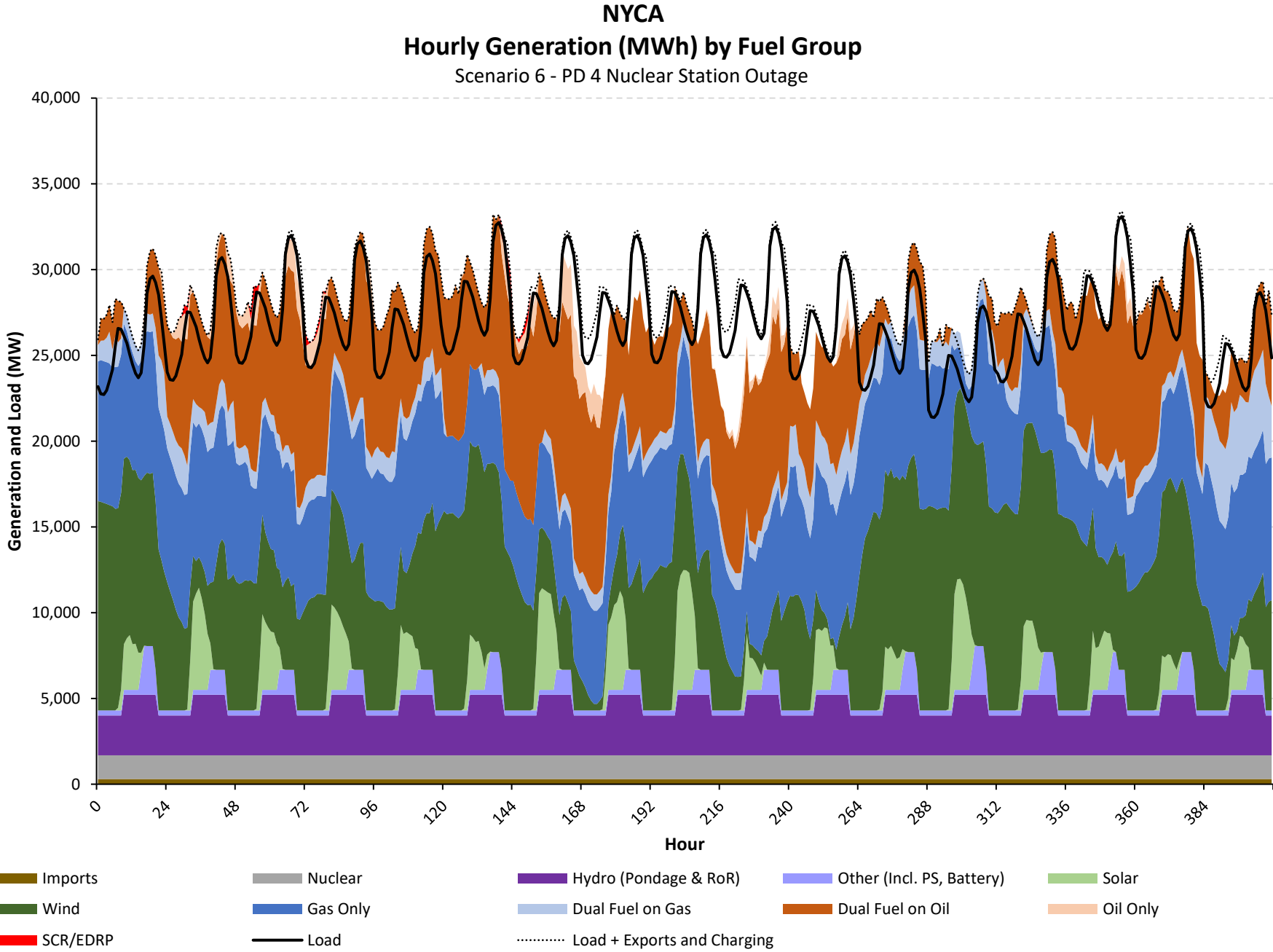
Loss of Load	
Total Hrs.	123
Total MWh	372,771
Avg. MW	913.7
First Hour with Losses	66

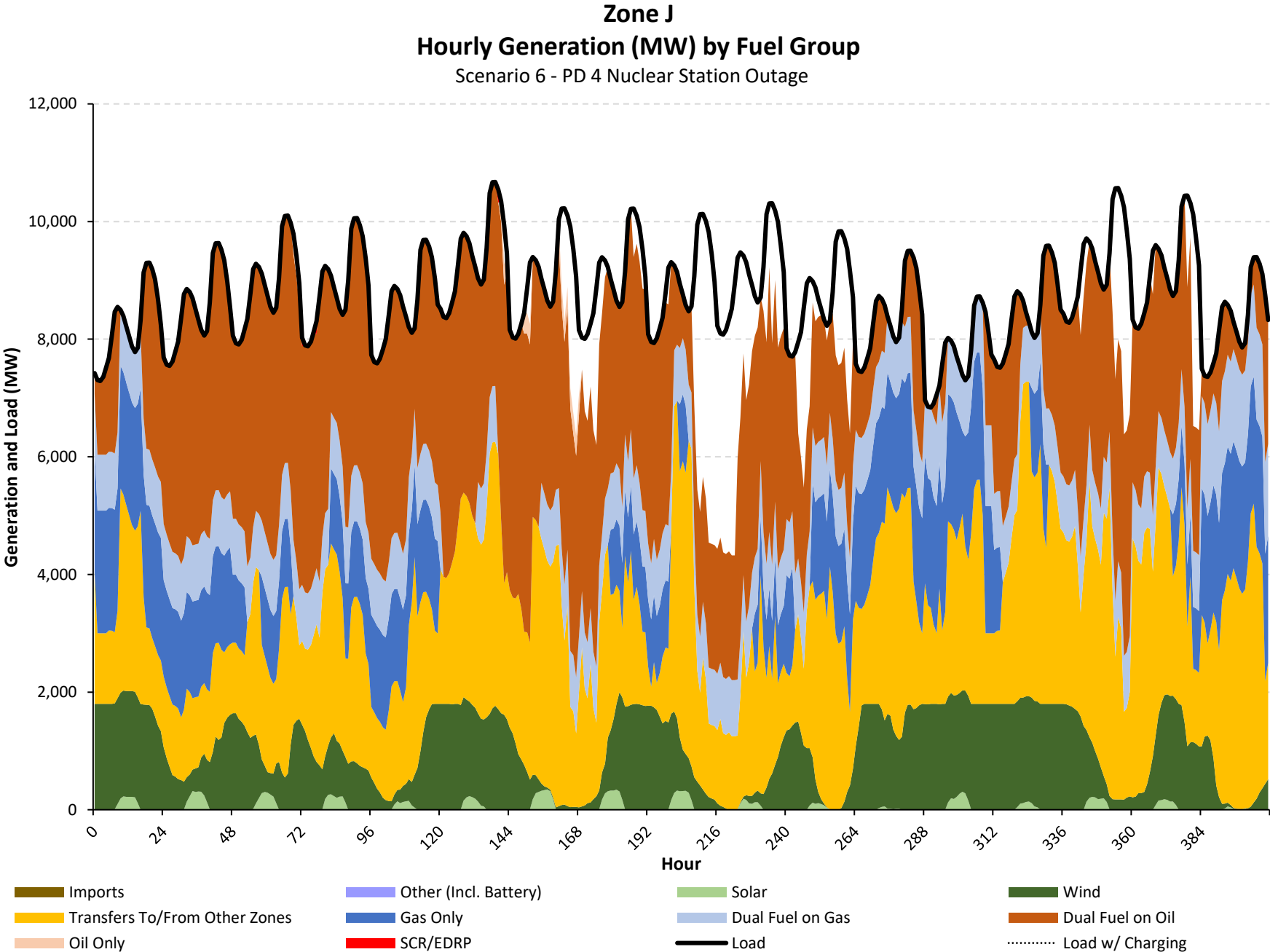
Full Period Results Summary

Case Name: Scenario 6 - PD 4 Nuclear Station Outage

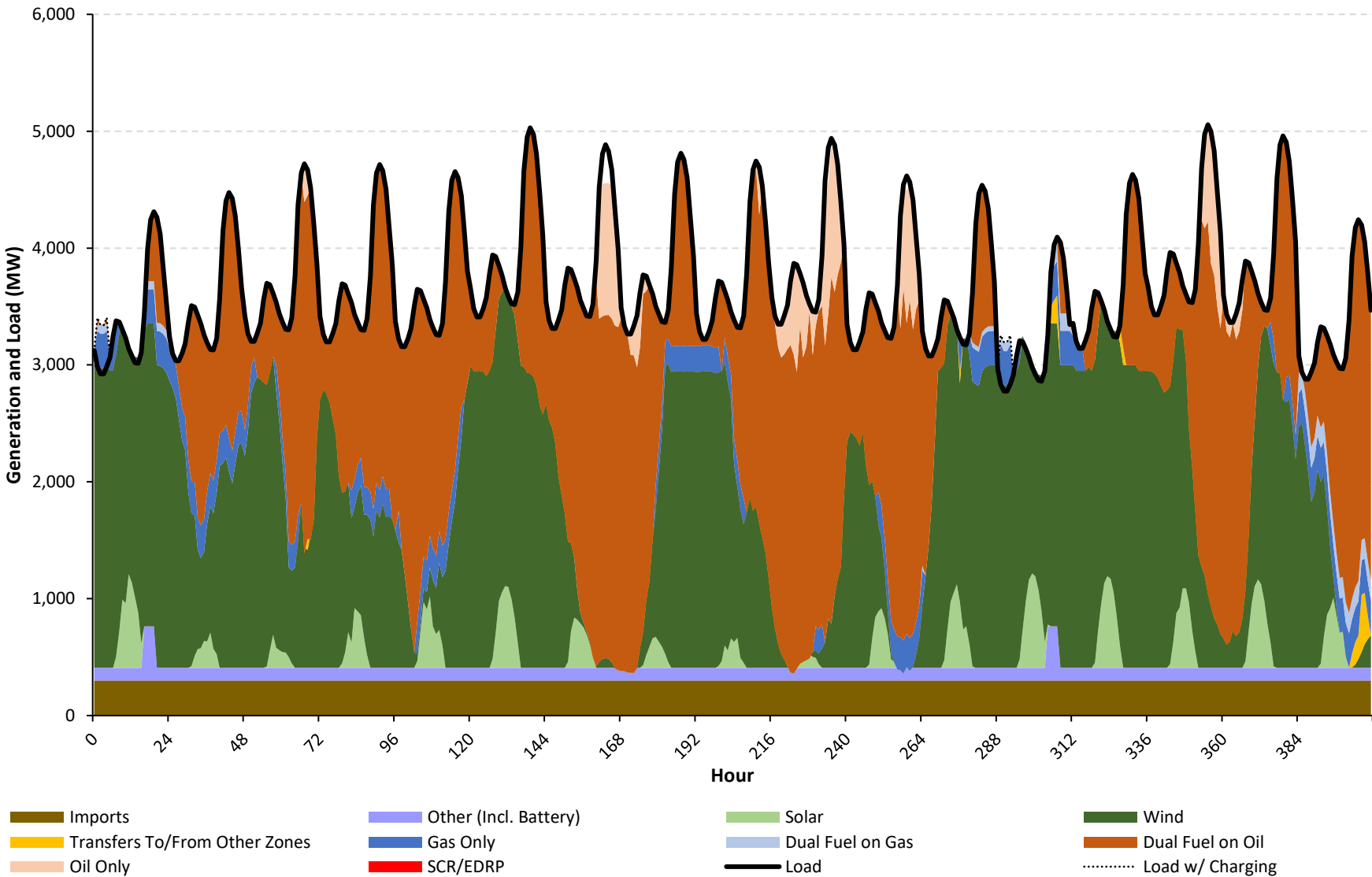
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	Net Zero

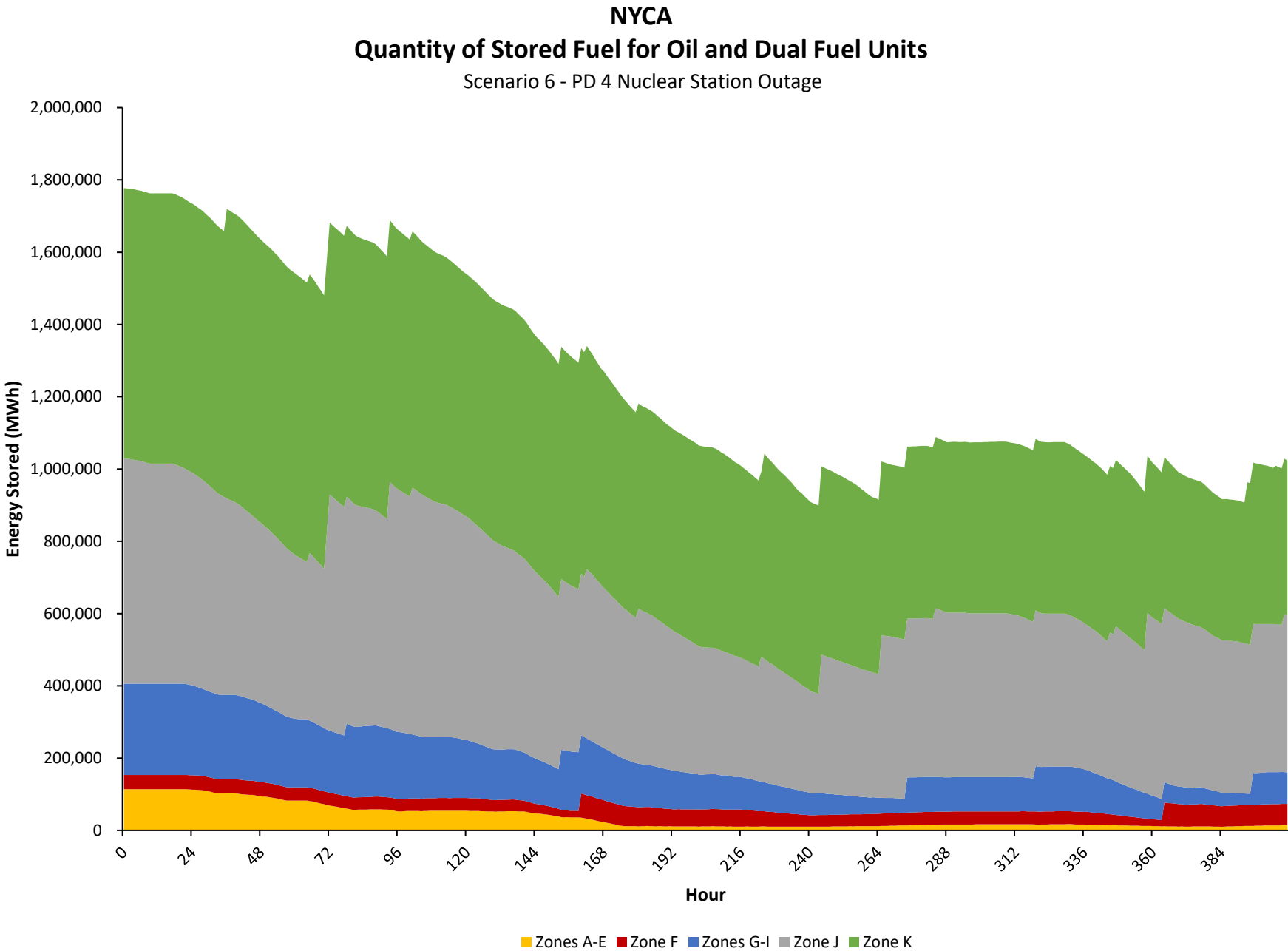


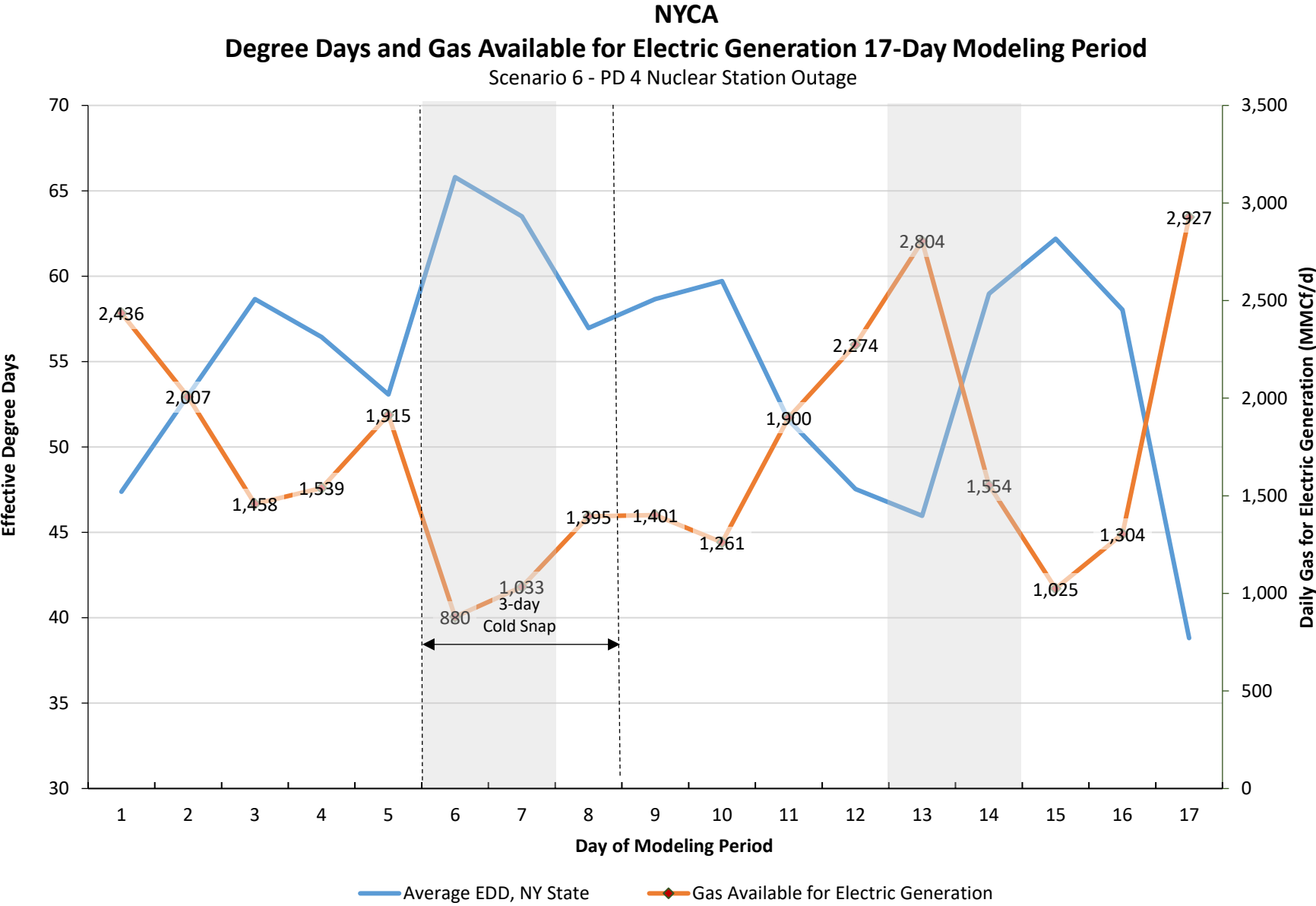




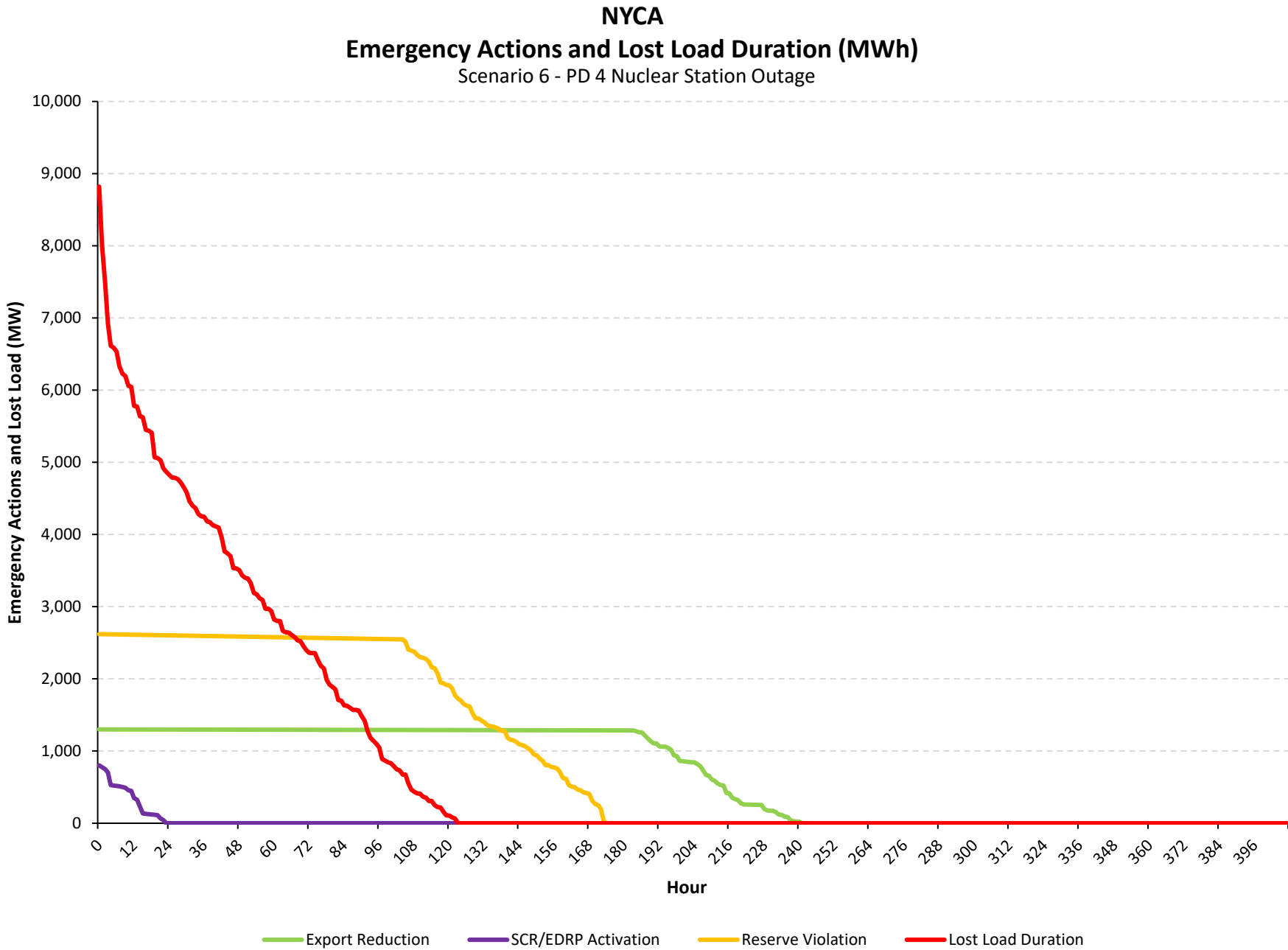
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 6 - PD 4 Nuclear Station Outage

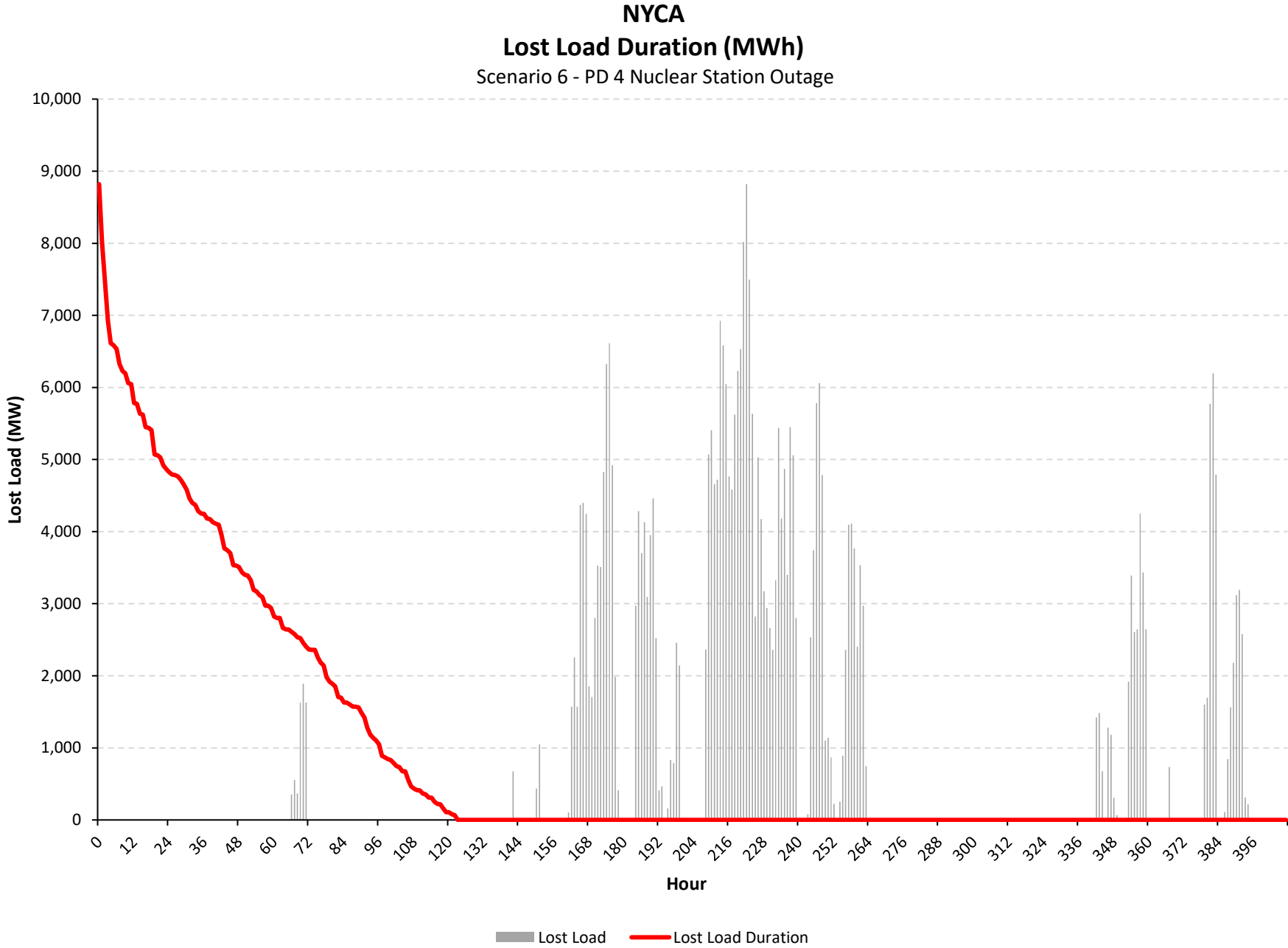






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



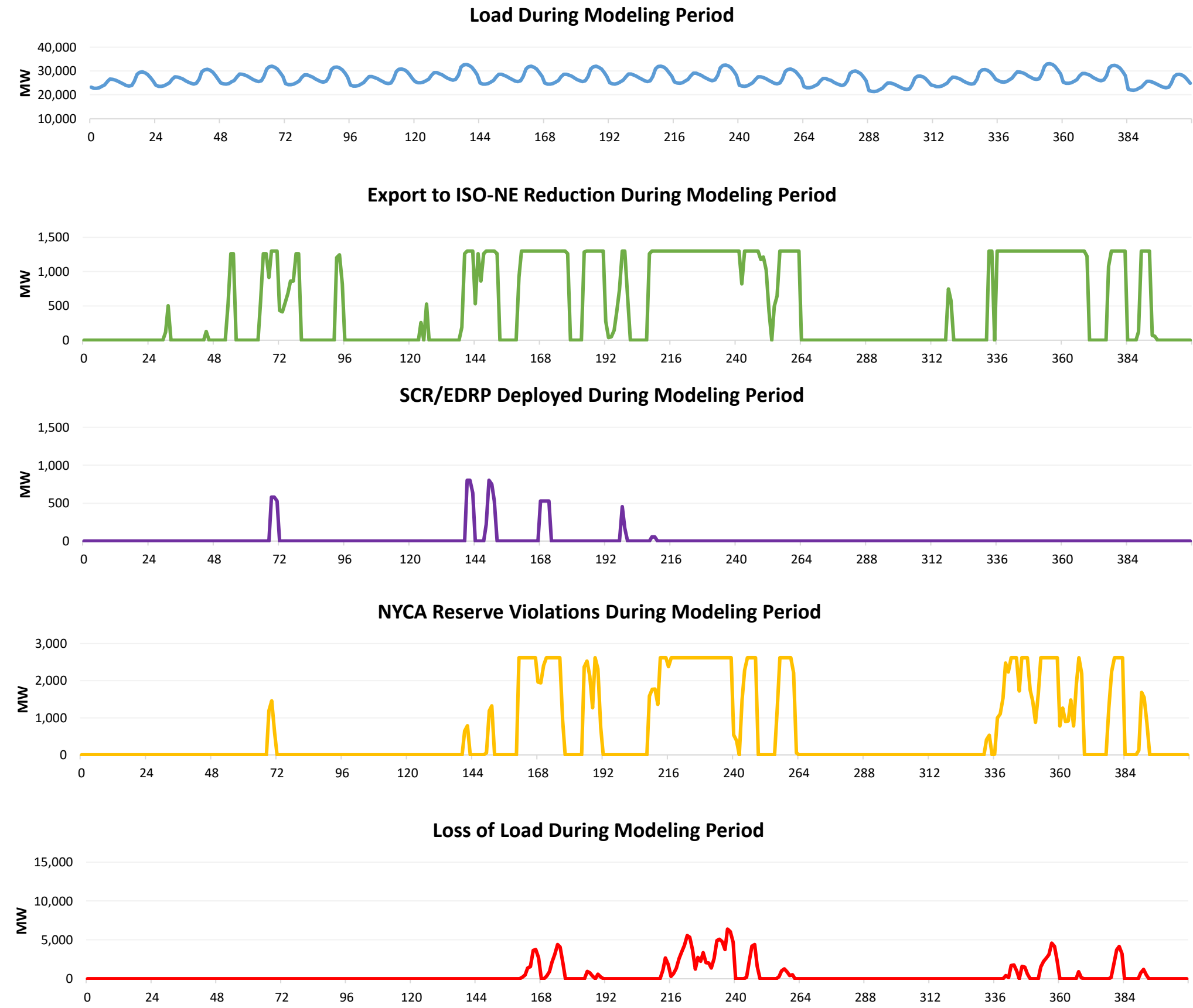


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 6 - PD 5 No Truck Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 6 - PD 5 No Truck Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	183
Total MWh	207,899
Avg. MW	509.6

SCR Deployment	
Total Hrs.	18
Total MWh	9,068
Avg. MW	22.2

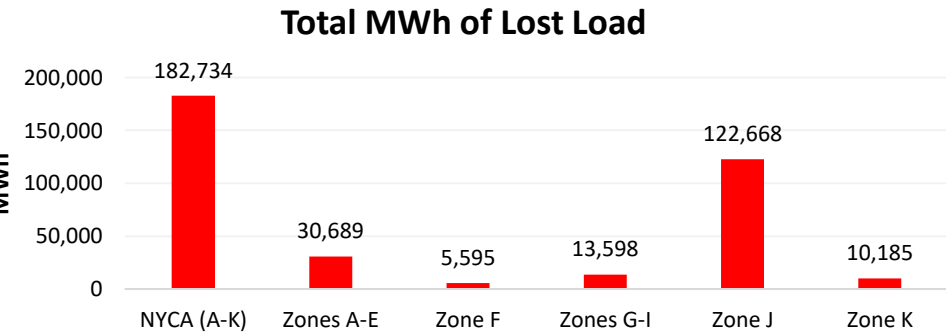
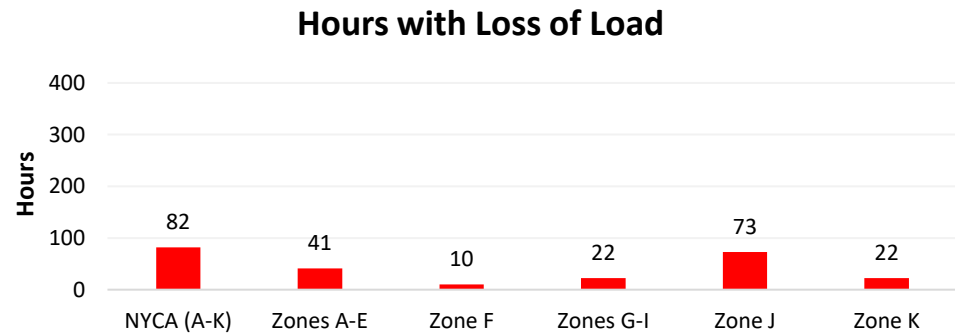
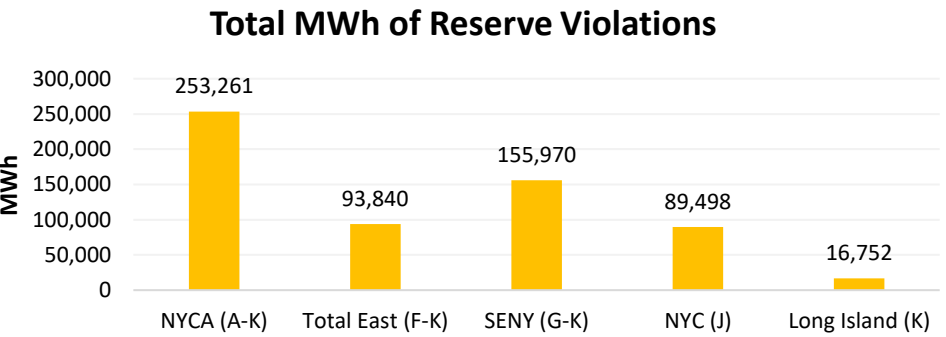
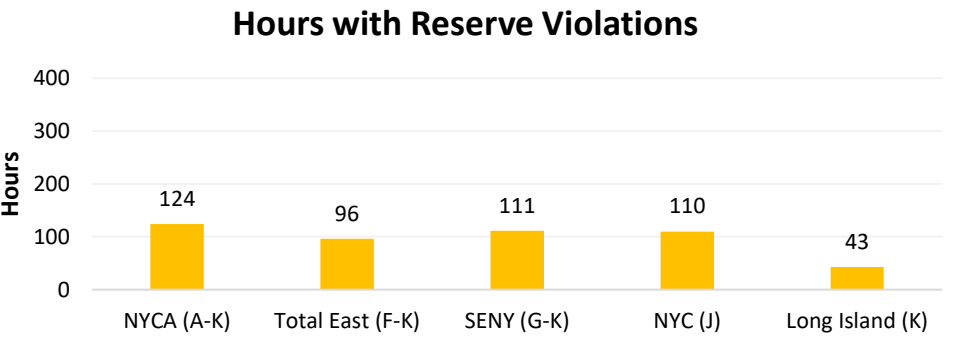
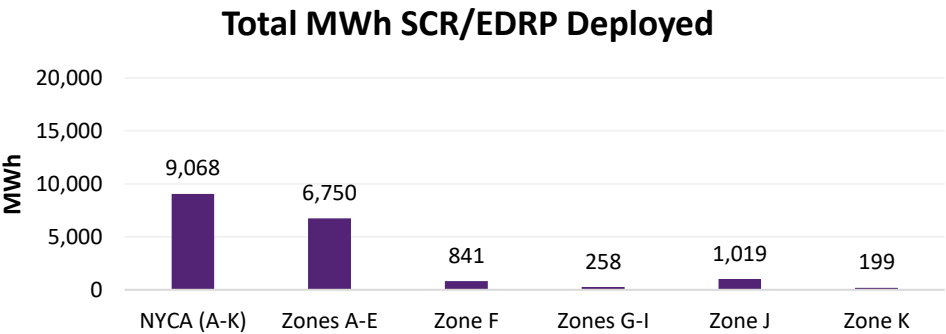
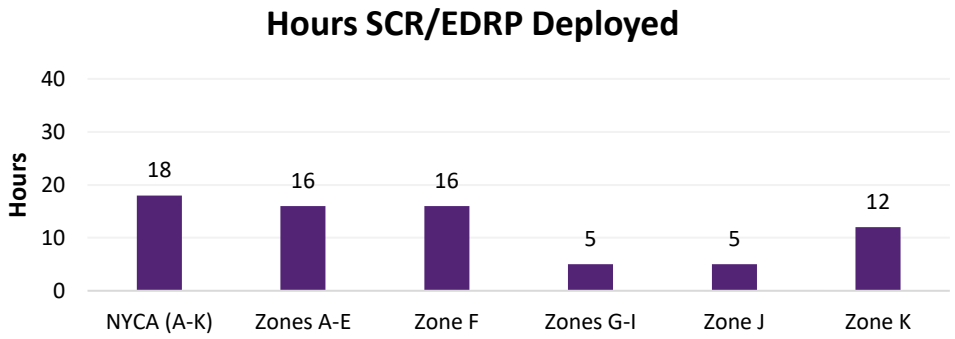
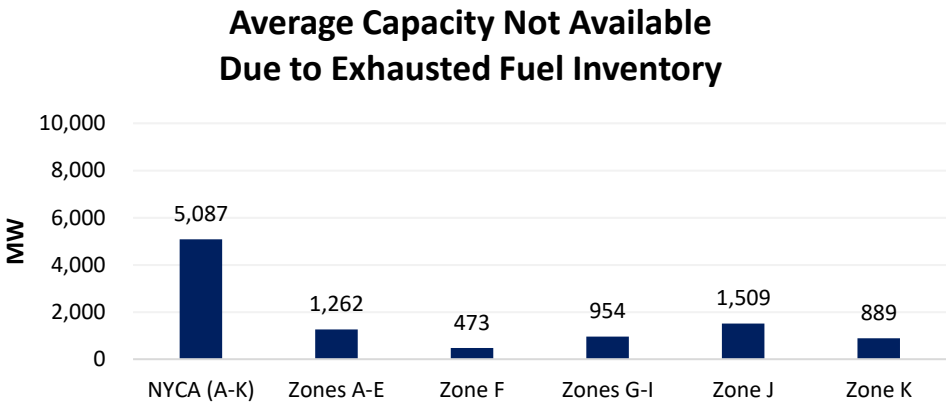
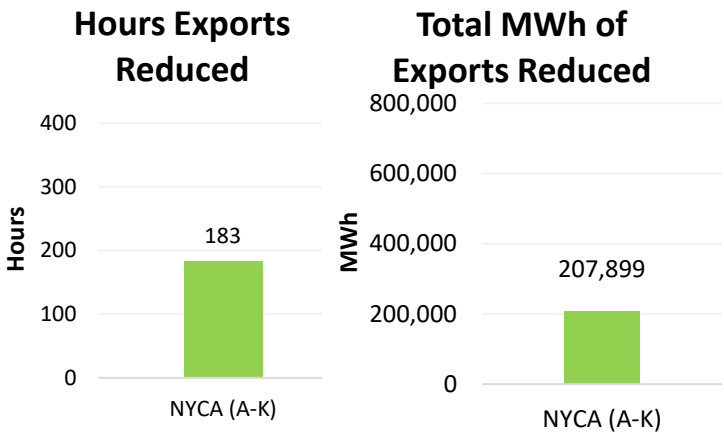
Reserve Violations	
Total Hrs.	124
Total MWh	253,261
Avg. MW	620.7
First Hour with Viol.	69

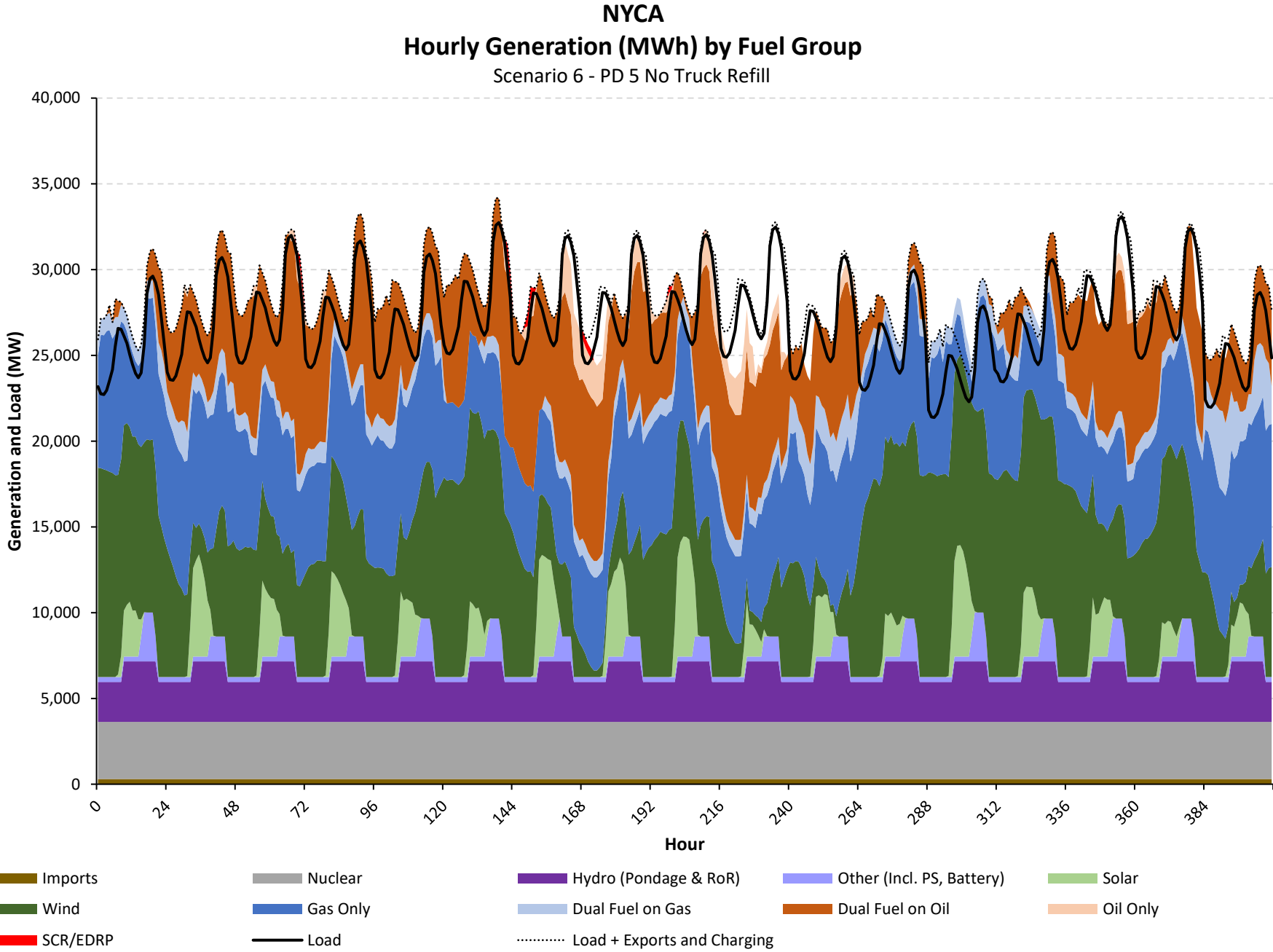
Loss of Load	
Total Hrs.	82
Total MWh	182,734
Avg. MW	447.9
First Hour with Losses	161

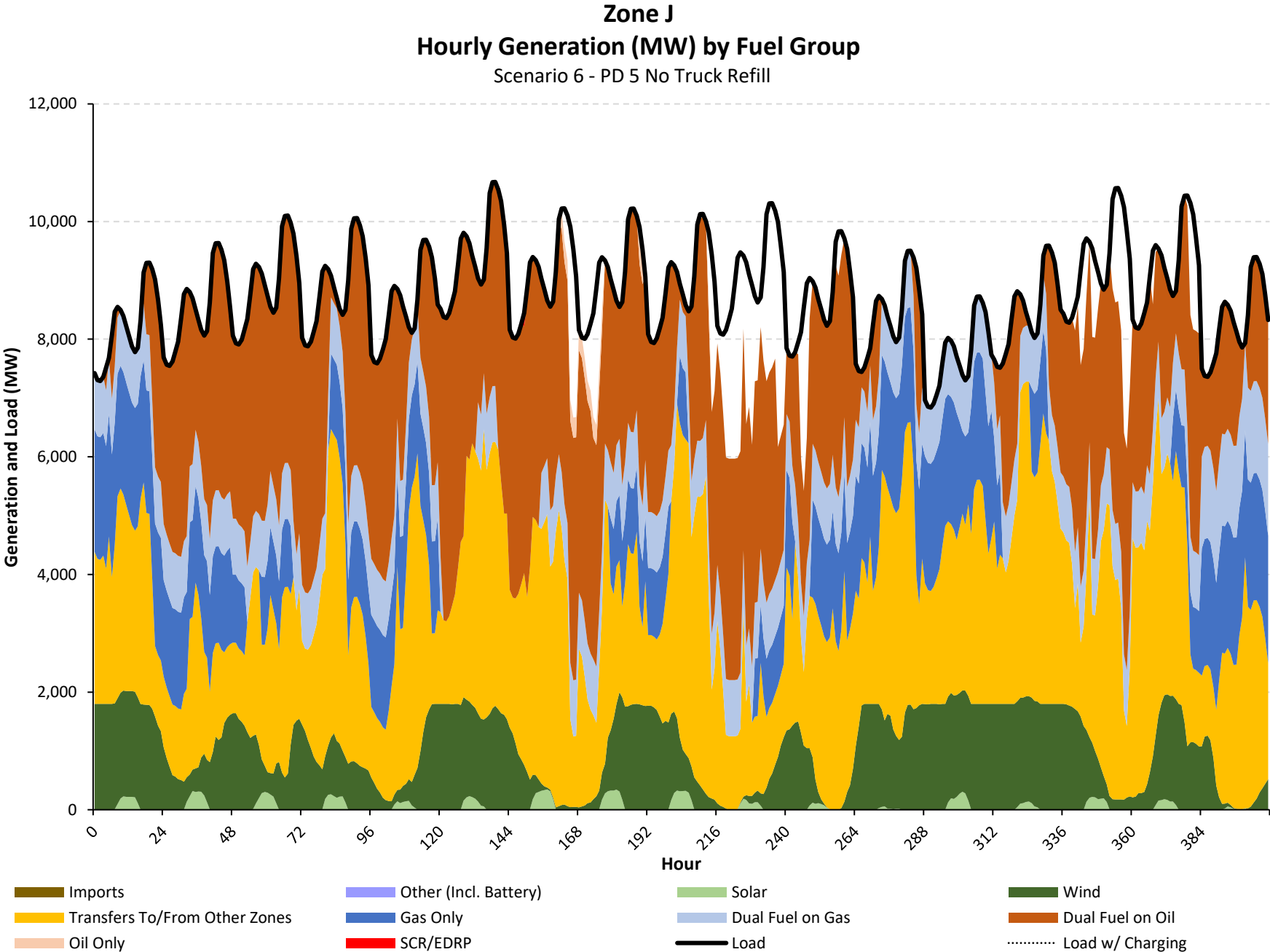
Full Period Results Summary

Case Name: Scenario 6 - PD 5 No Truck Refill

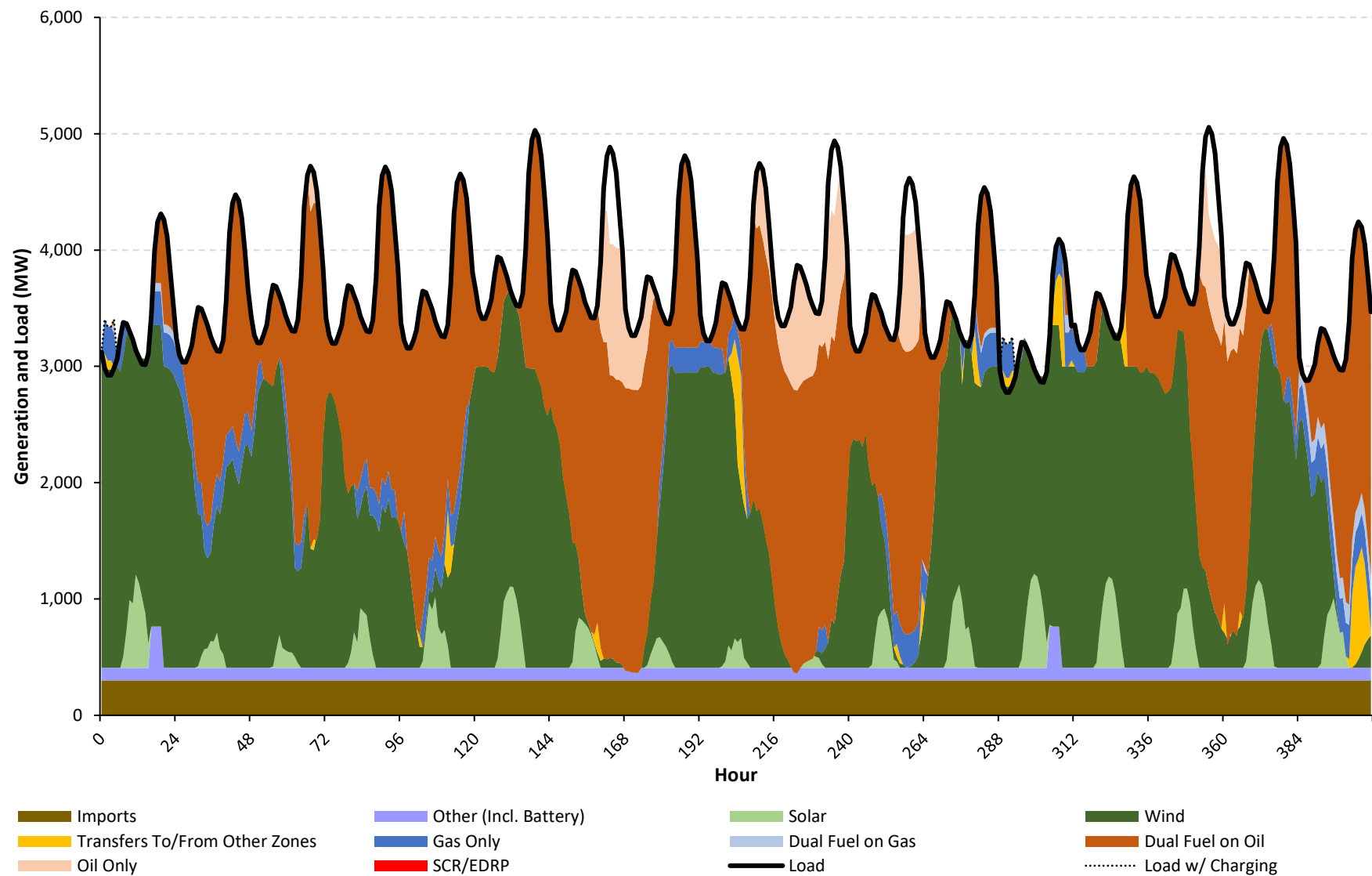
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



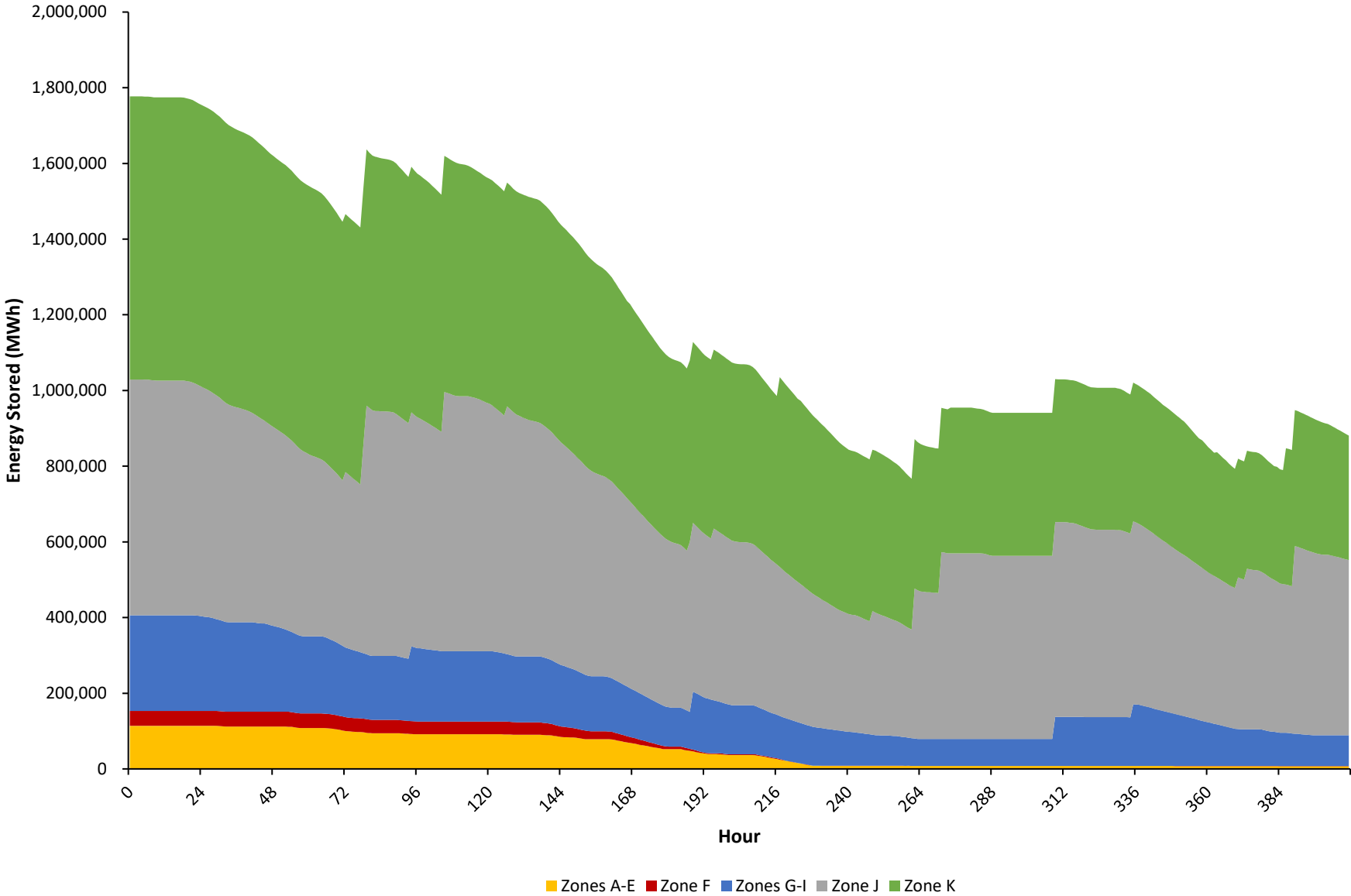


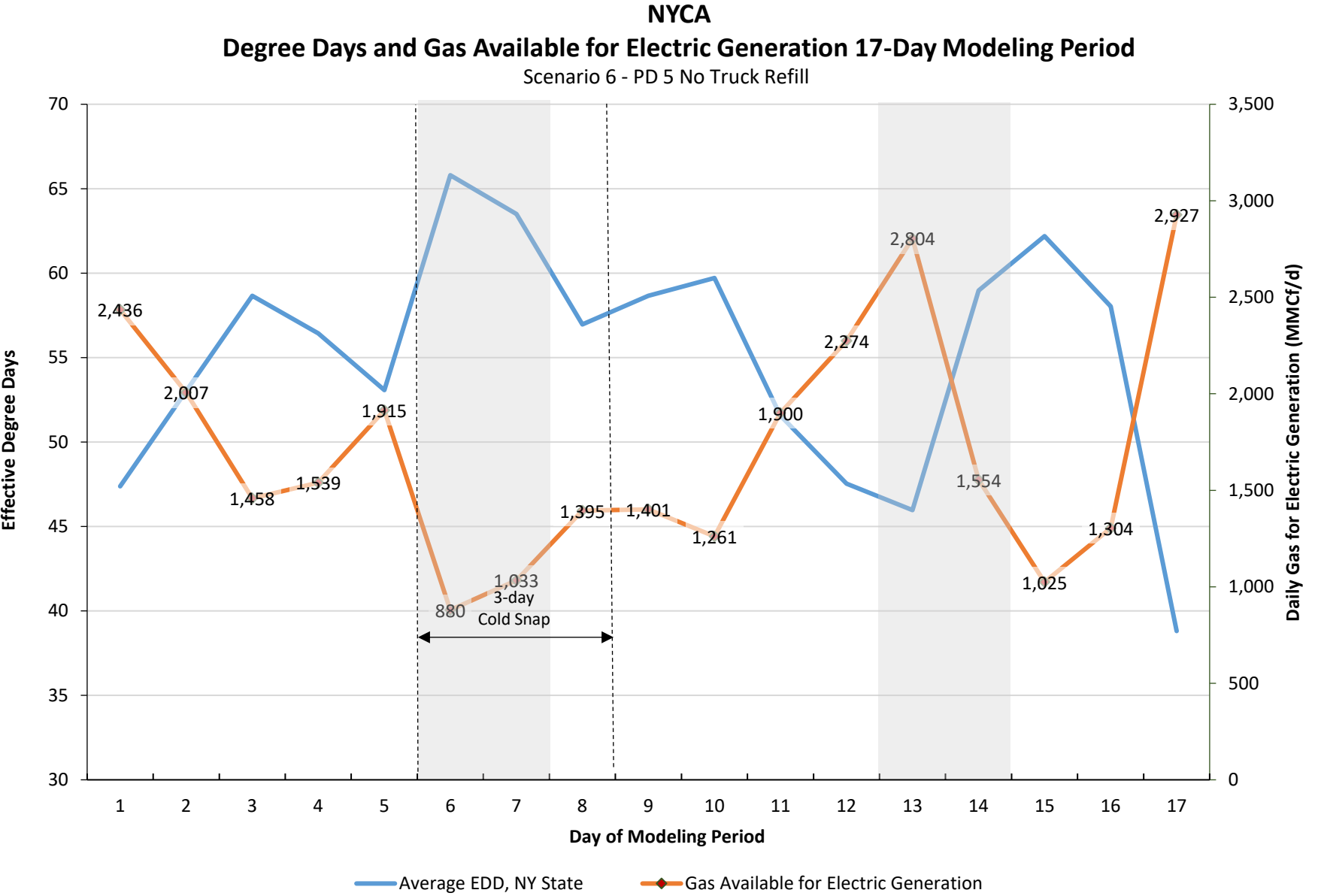


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 6 - PD 5 No Truck Refill

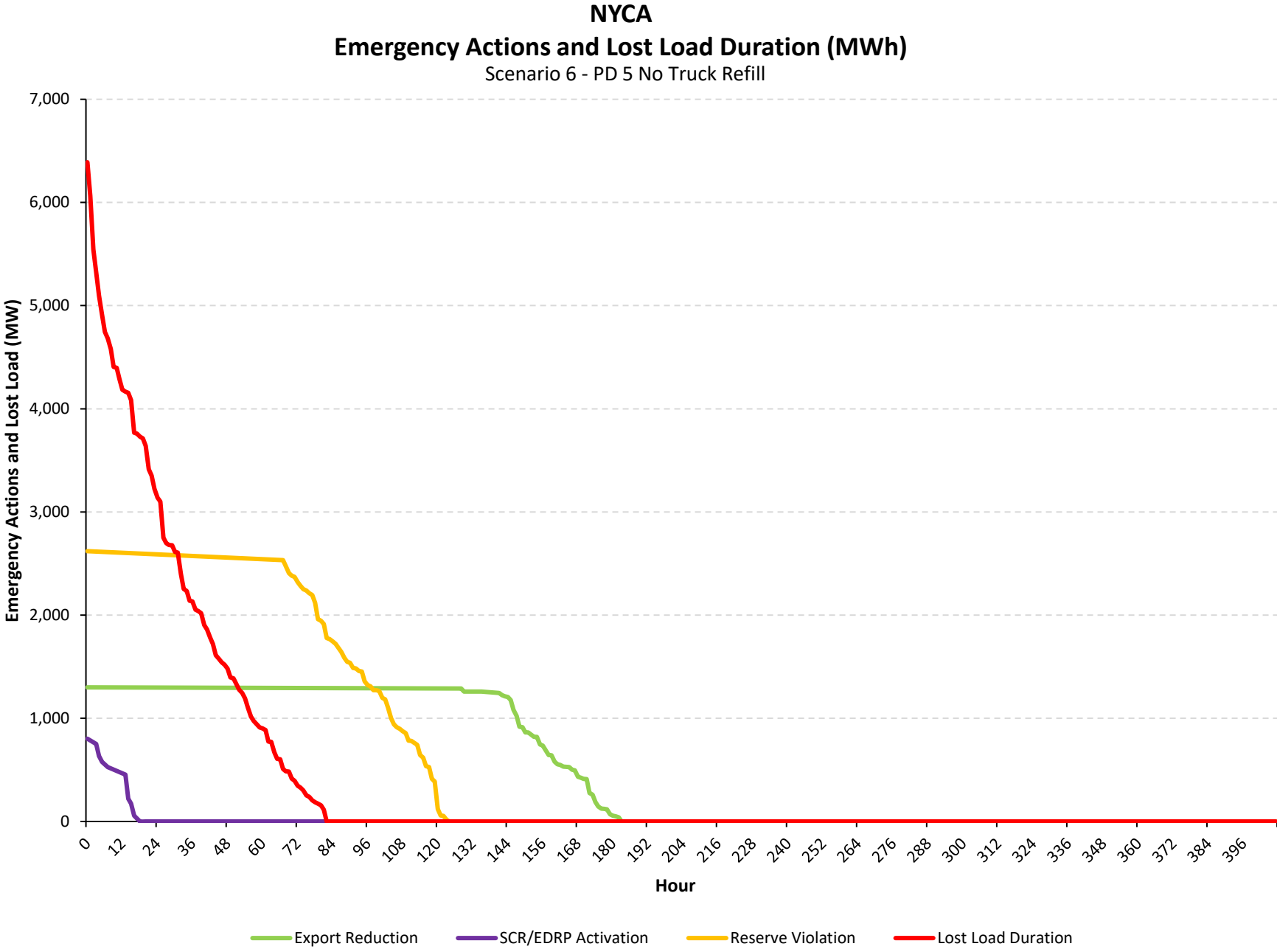


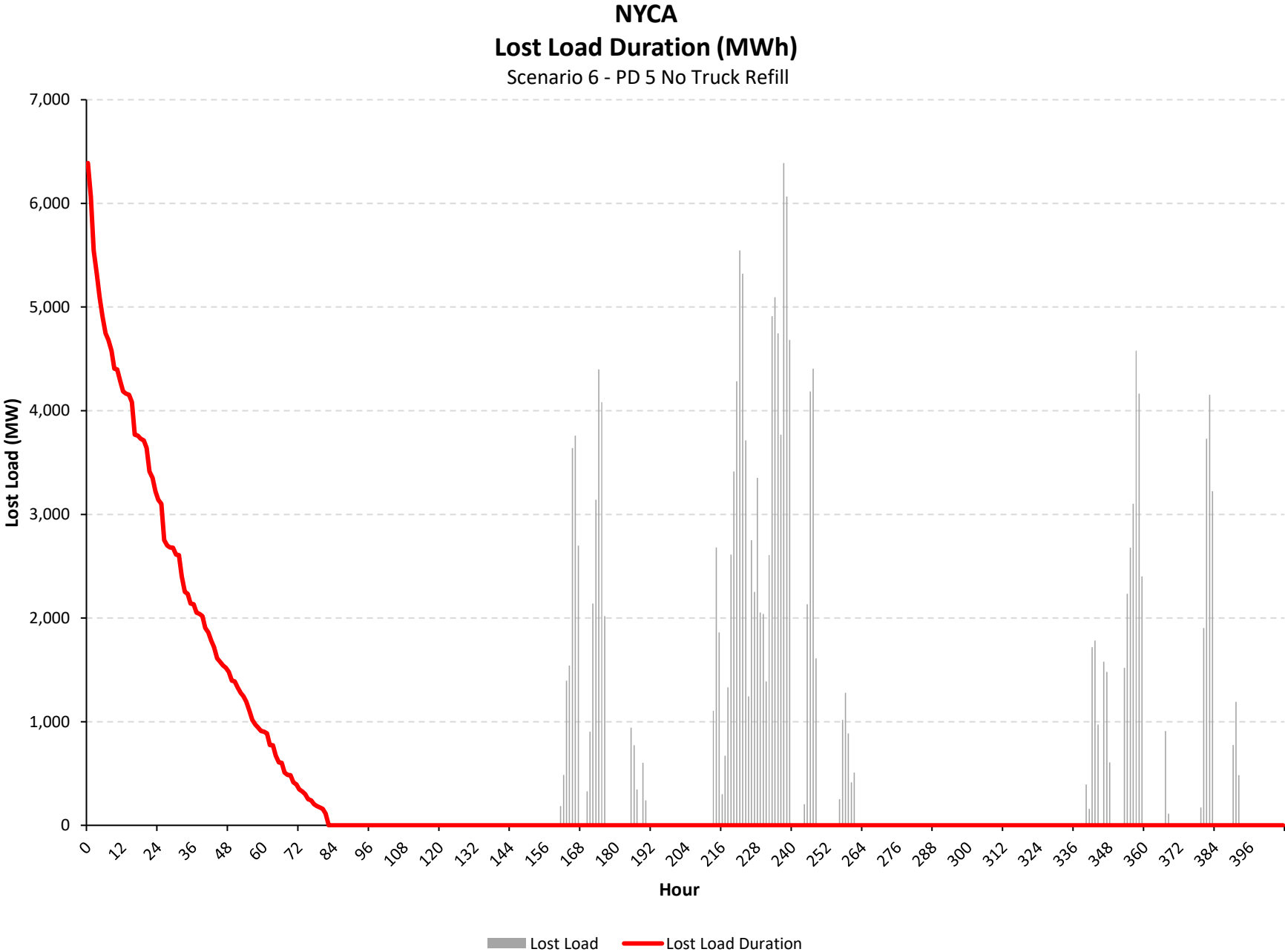
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 6 - PD 5 No Truck Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



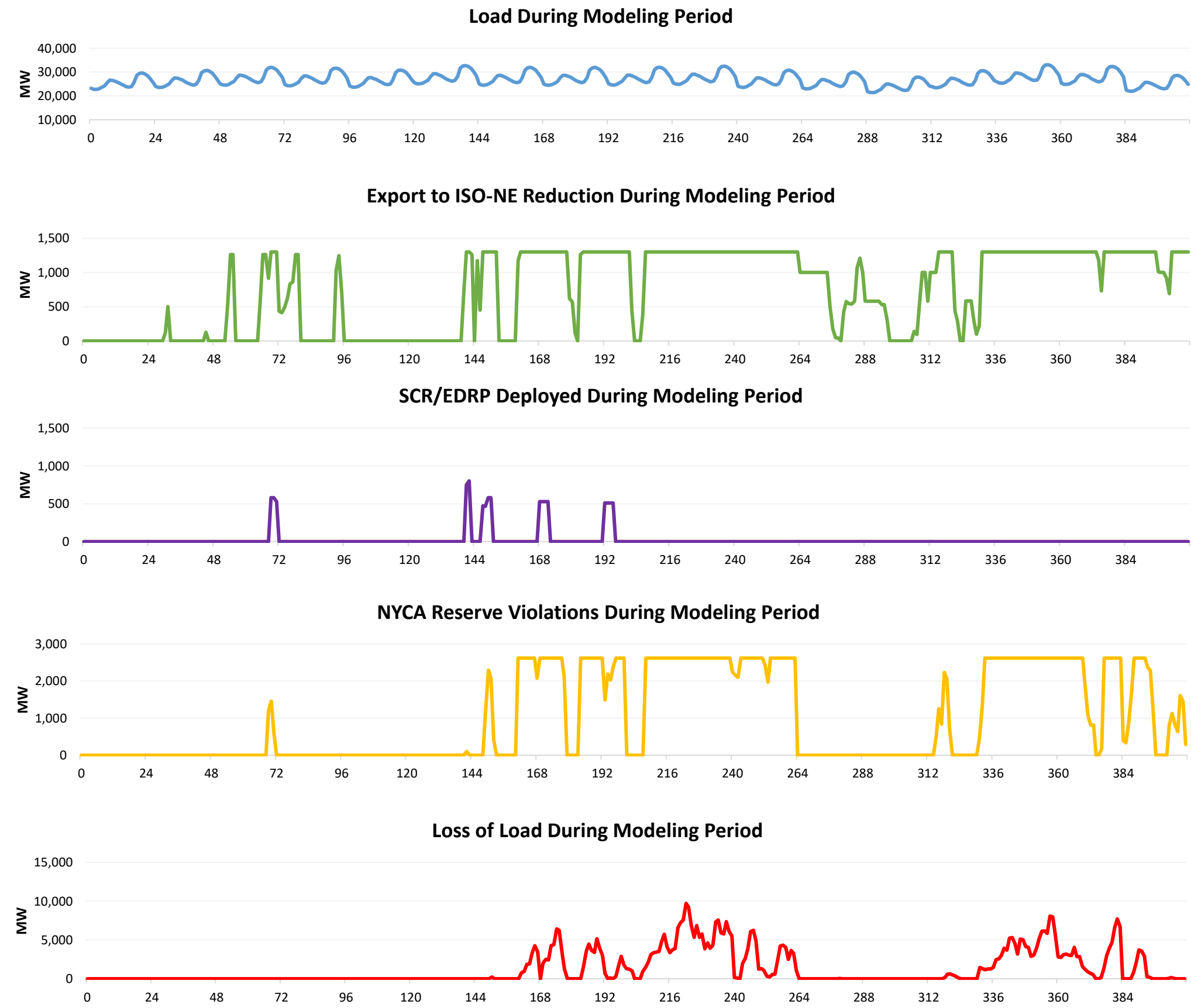


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 6 - PD 6 No Barge Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 6 - PD 6 No Barge Refill



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	268
Total MWh	297,709
Avg. MW	729.7

SCR Deployment	
Total Hrs.	17
Total MWh	9,476
Avg. MW	23.2

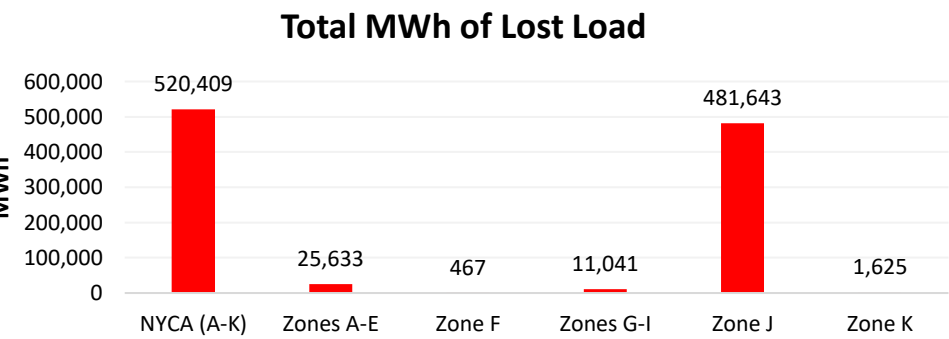
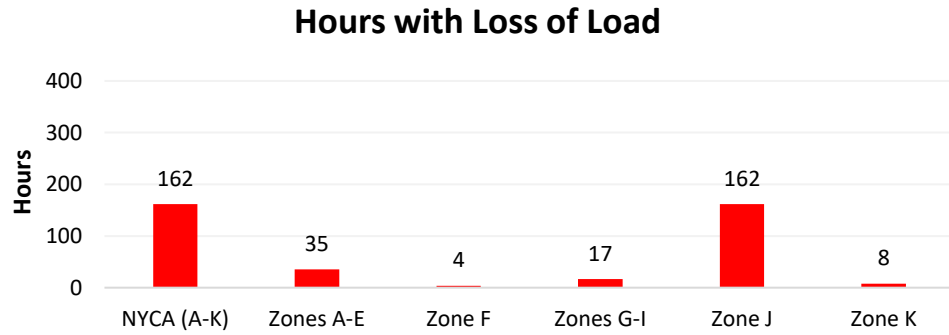
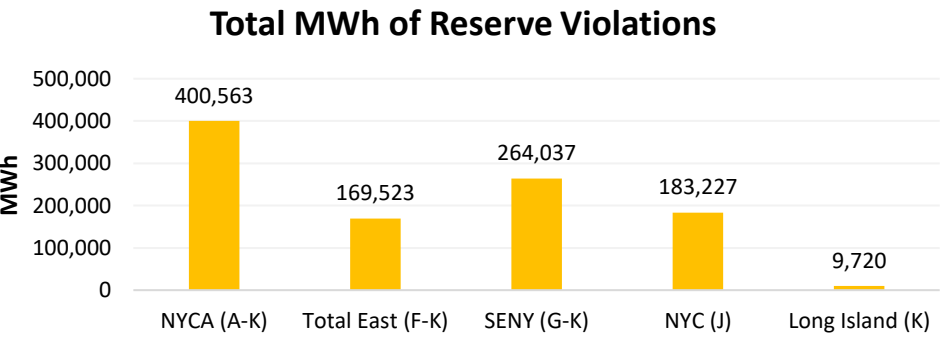
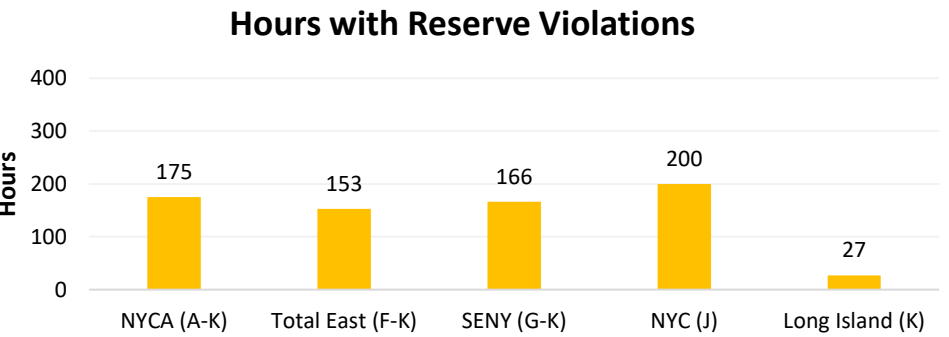
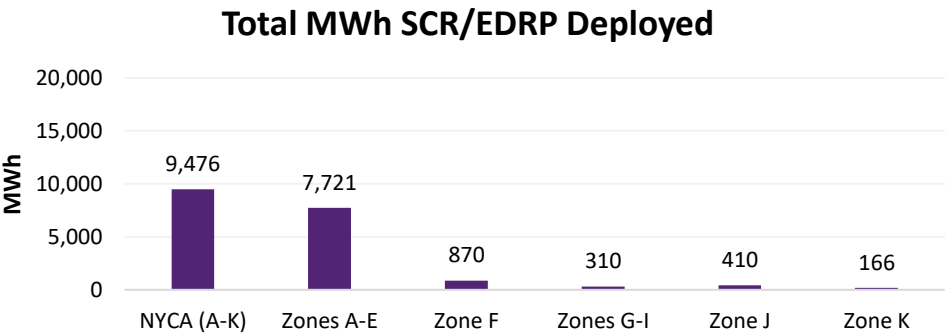
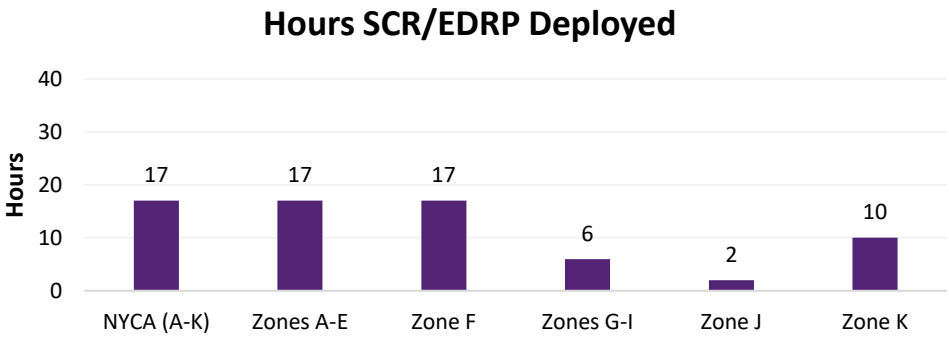
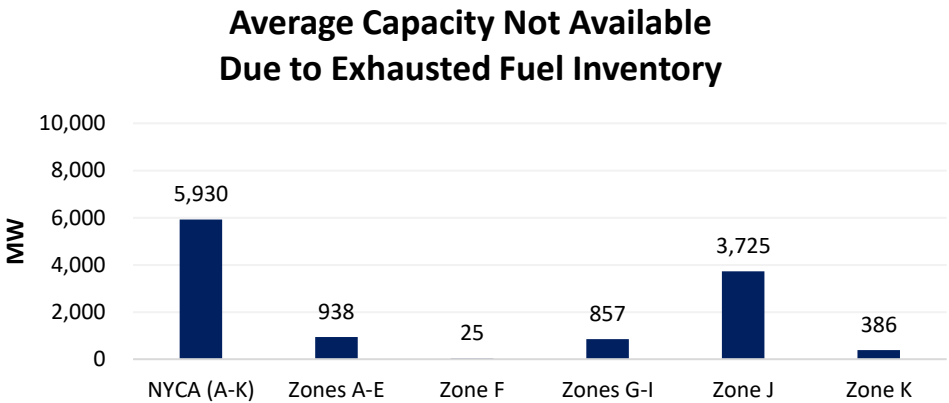
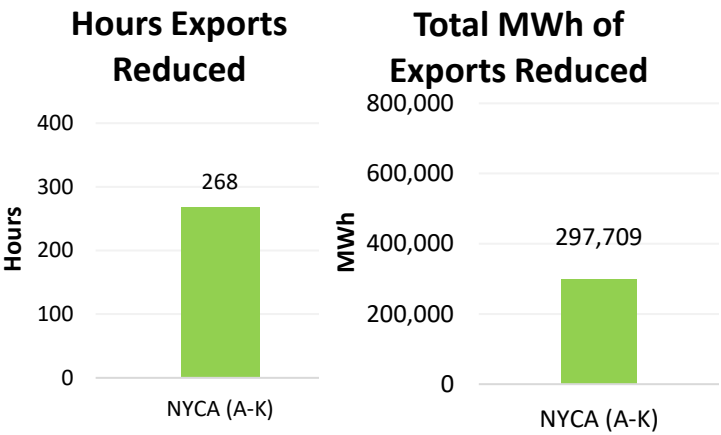
Reserve Violations	
Total Hrs.	175
Total MWh	400,563
Avg. MW	981.8
First Hour with Viol.	69

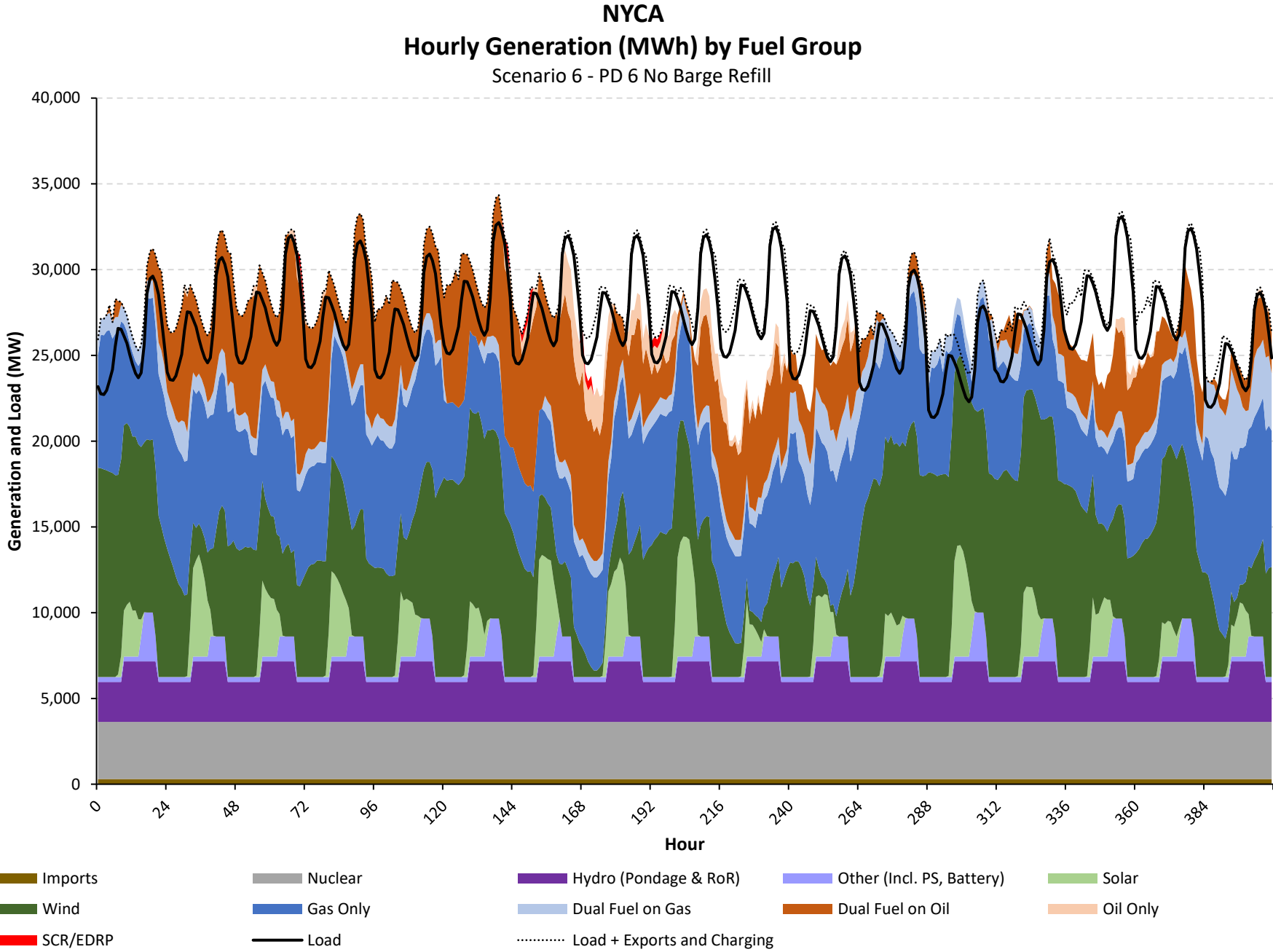
Loss of Load	
Total Hrs.	162
Total MWh	520,409
Avg. MW	1,275.5
First Hour with Losses	150

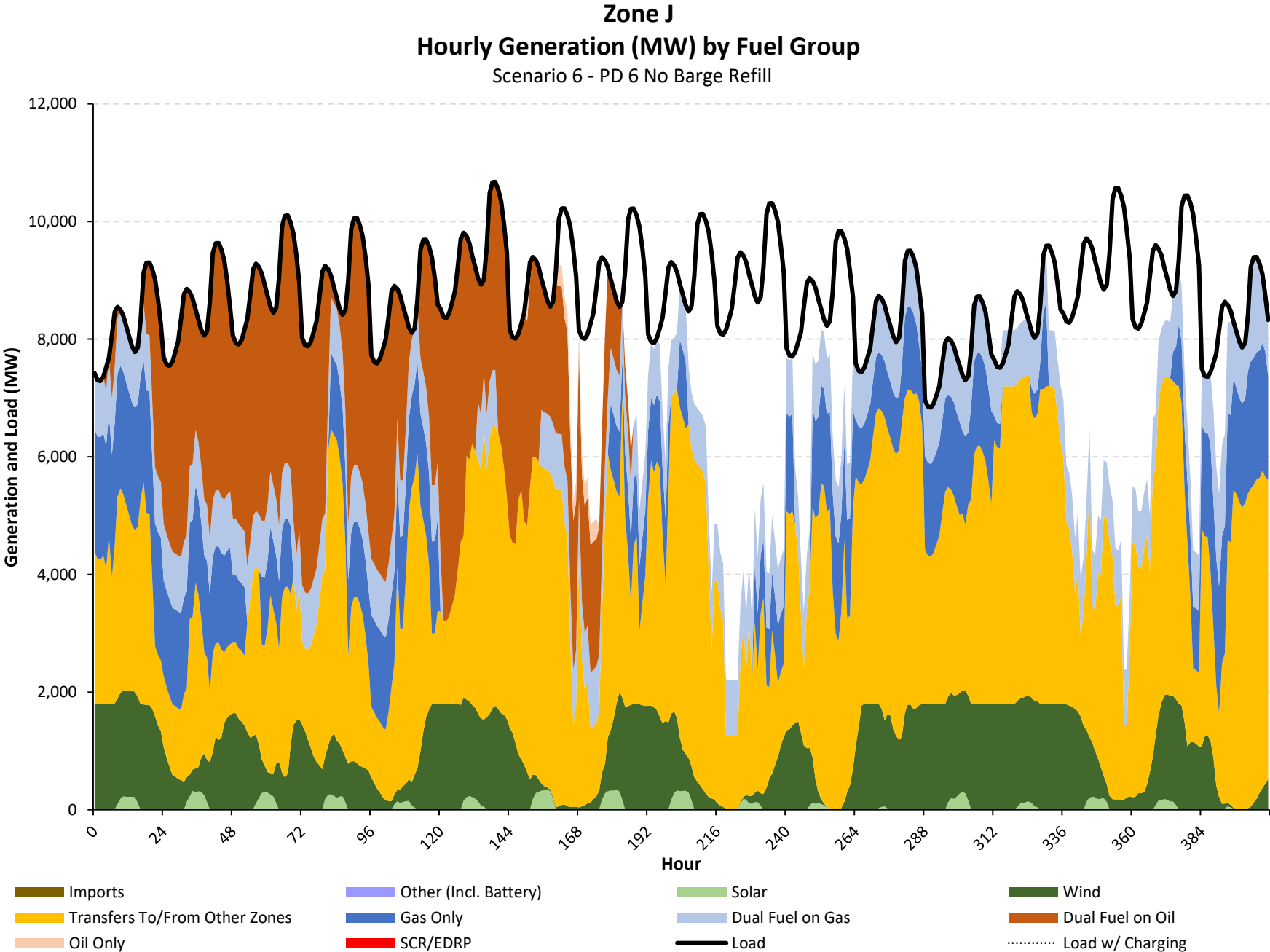
Full Period Results Summary

Case Name: Scenario 6 - PD 6 No Barge Refill

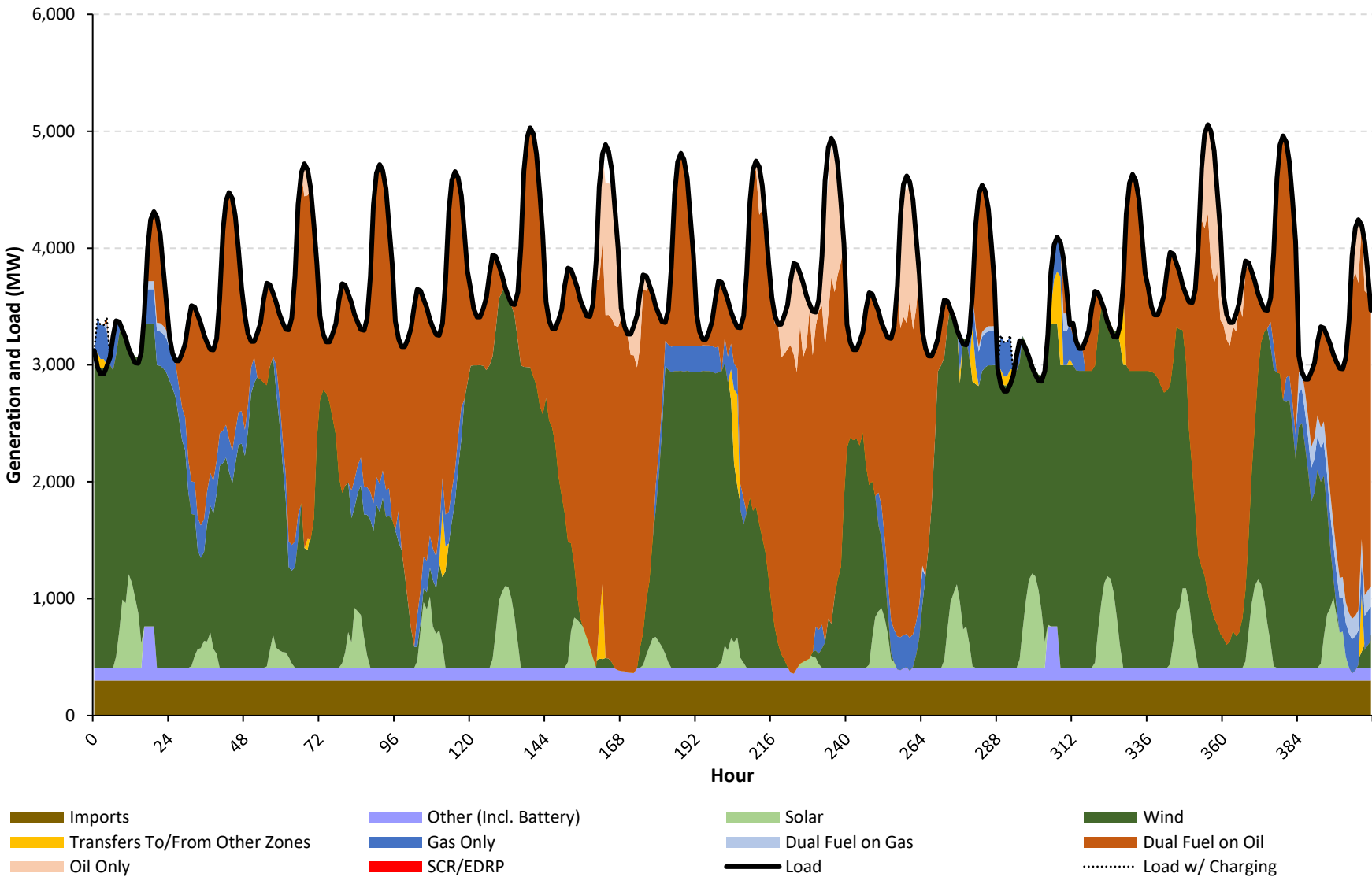
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



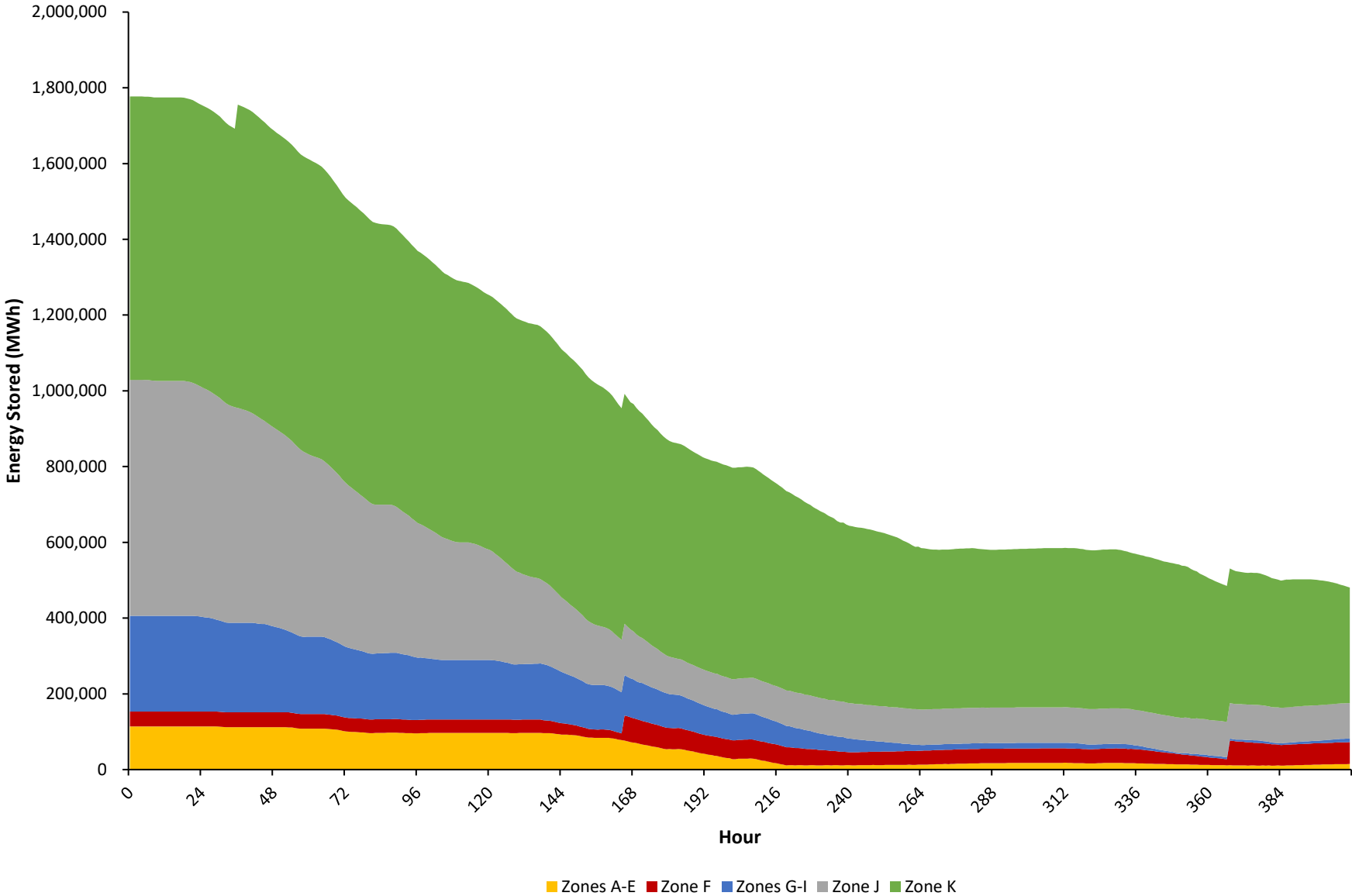


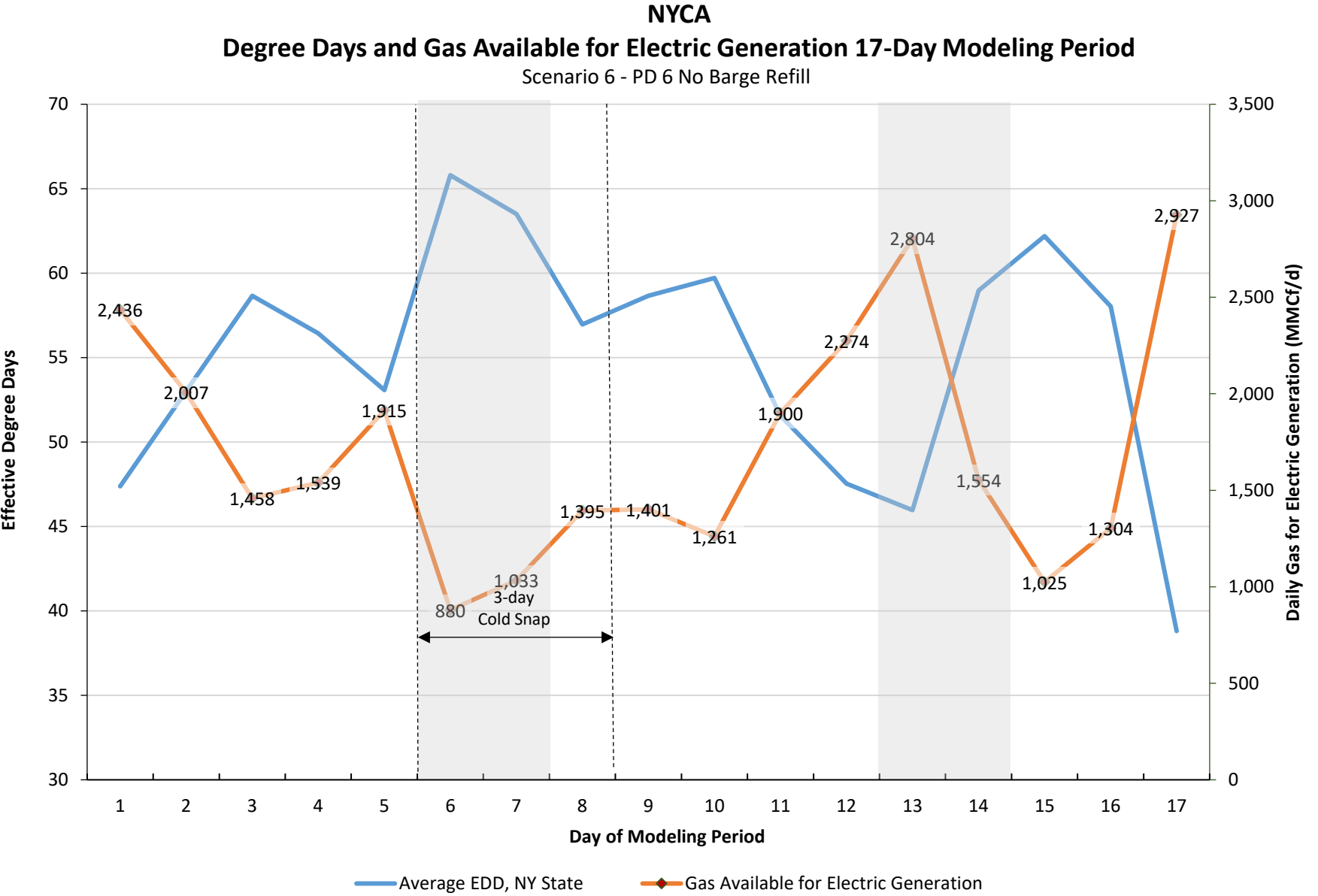


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 6 - PD 6 No Barge Refill

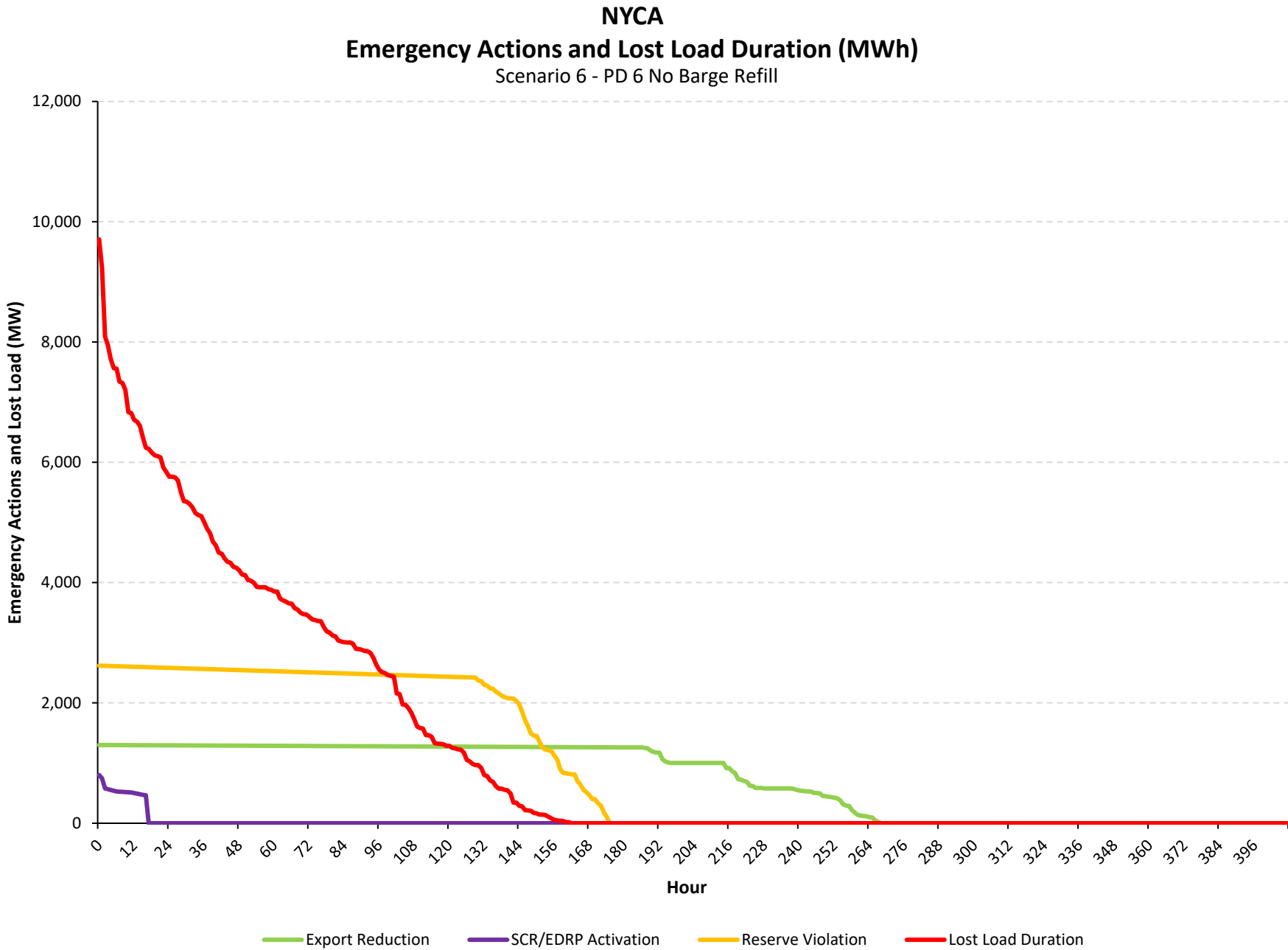


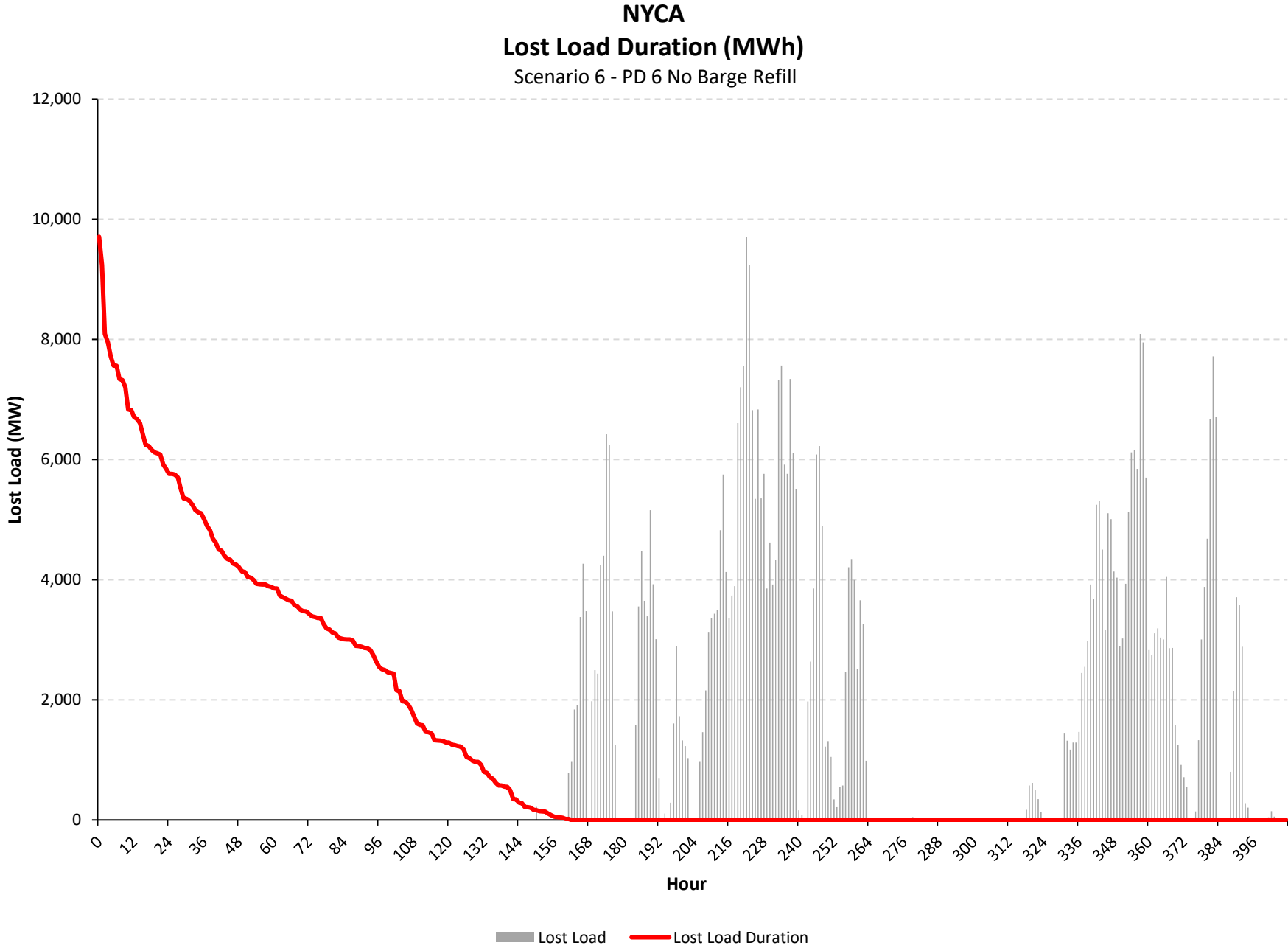
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 6 - PD 6 No Barge Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.





Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 6 - PD 7 No Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 6 - PD 7 No Refill



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	279
Total MWh	317,763
Avg. MW	778.8

SCR Deployment	
Total Hrs.	19
Total MWh	11,039
Avg. MW	27.1

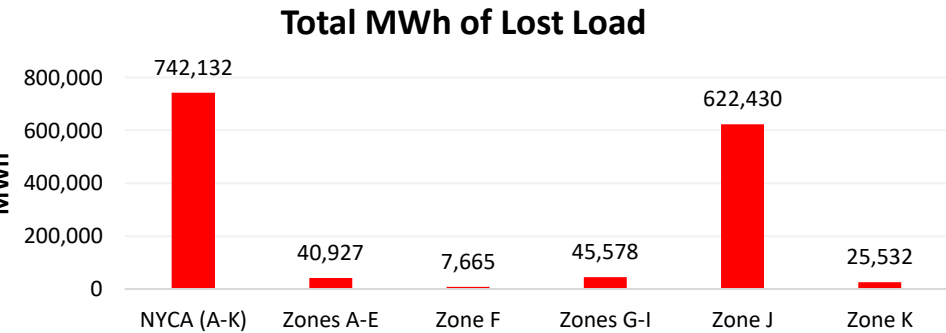
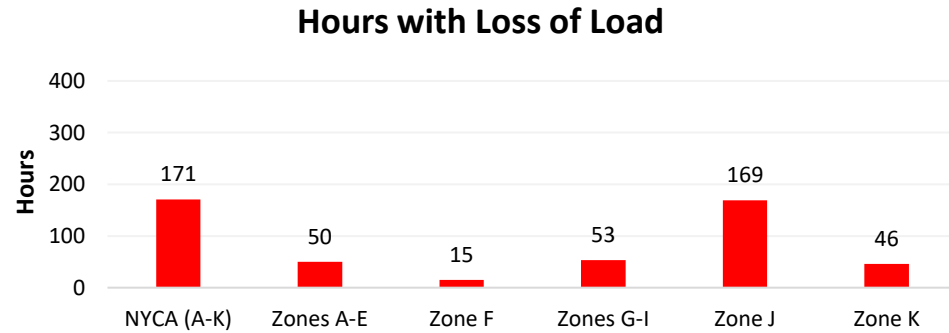
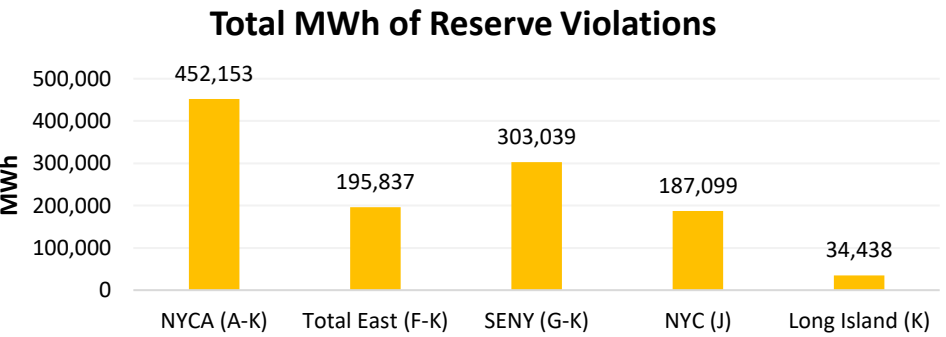
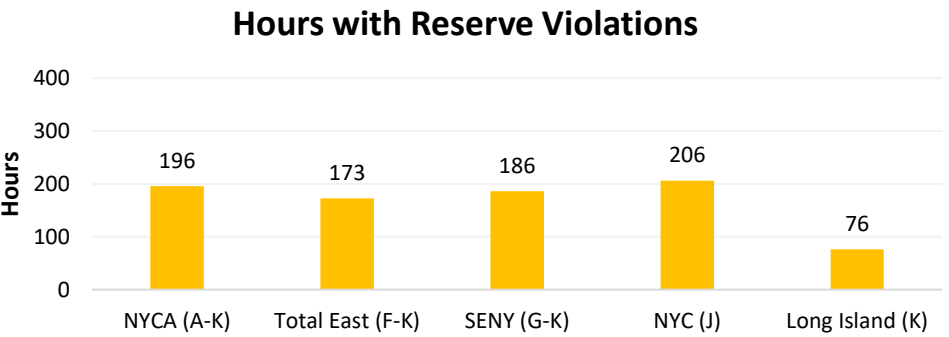
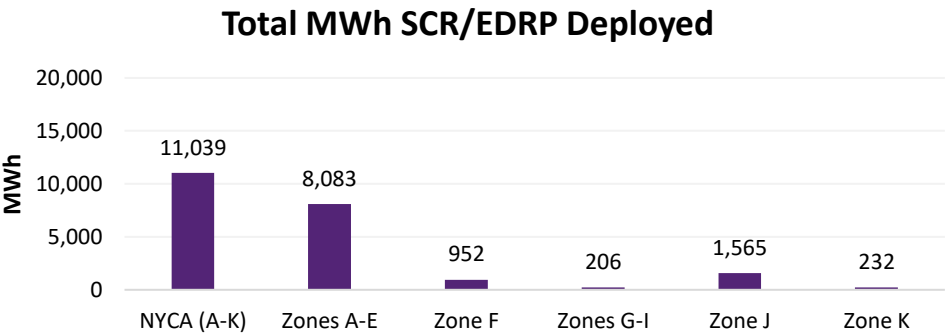
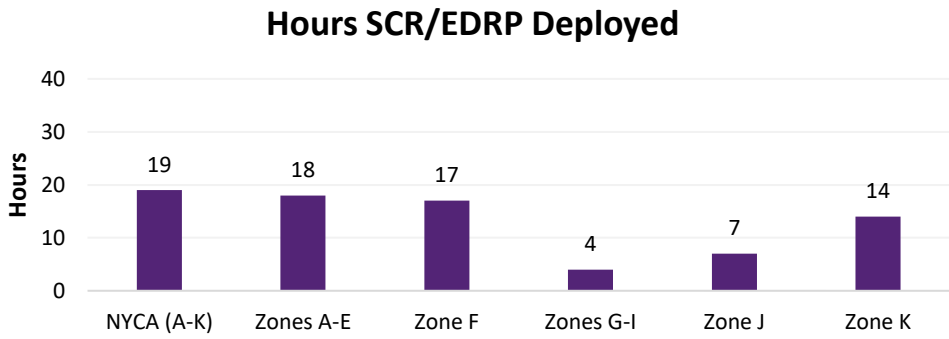
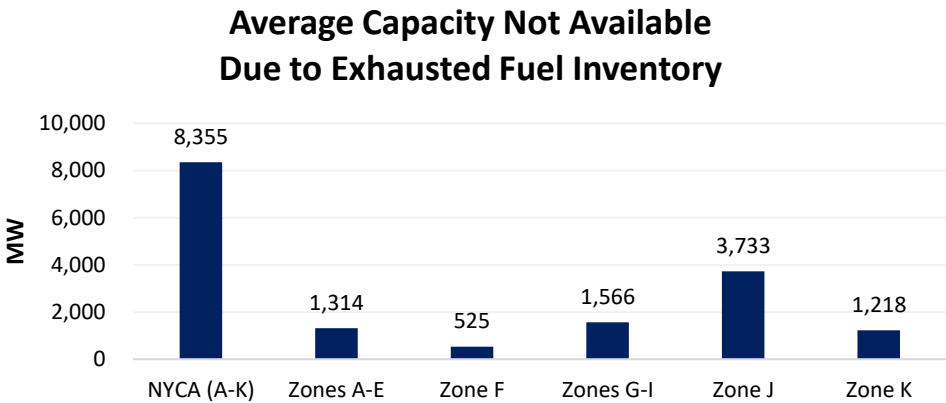
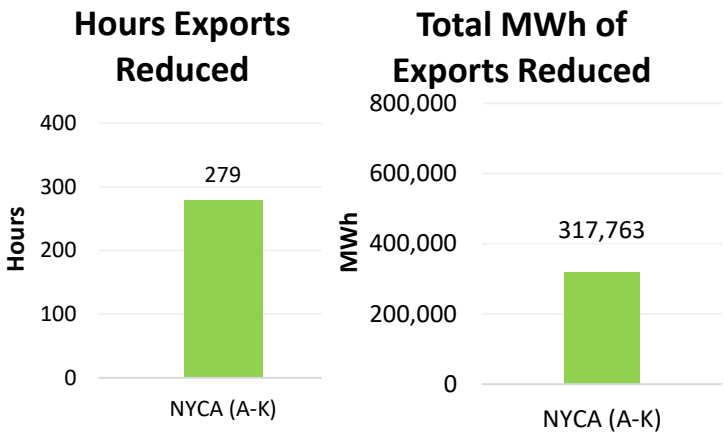
Reserve Violations	
Total Hrs.	196
Total MWh	452,153
Avg. MW	1,108.2
First Hour with Viol.	69

Loss of Load	
Total Hrs.	171
Total MWh	742,132
Avg. MW	1,819.0
First Hour with Losses	150

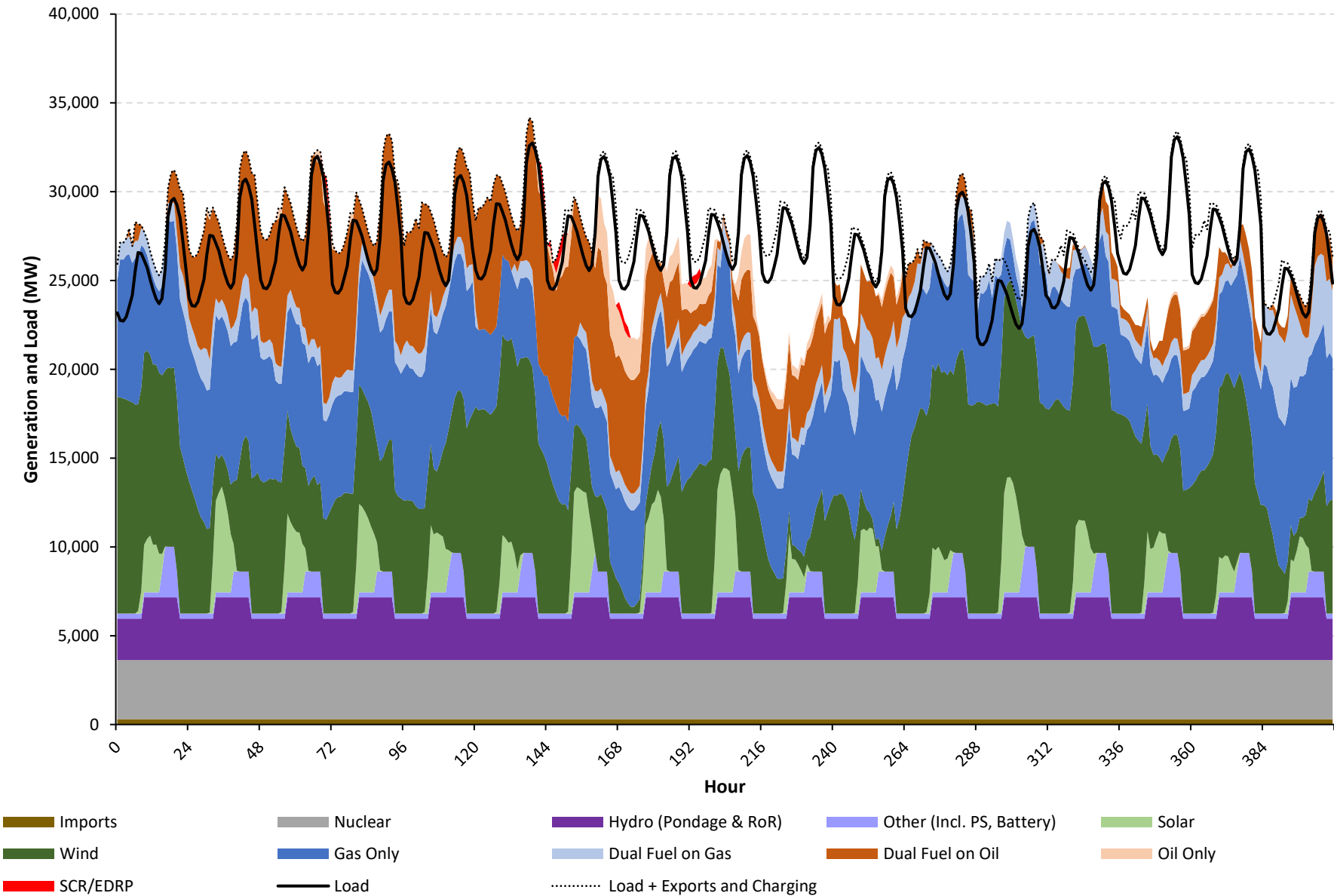
Full Period Results Summary

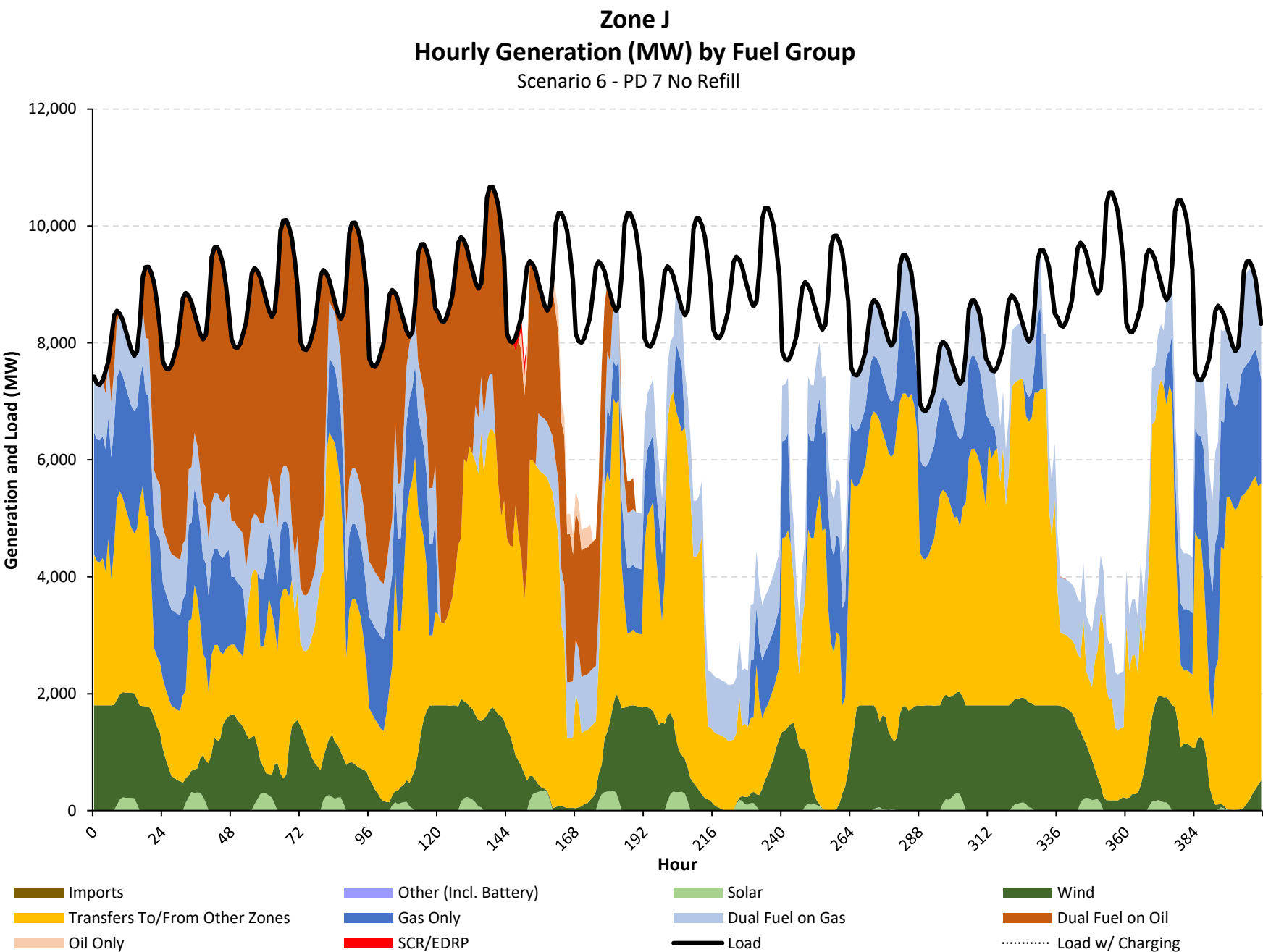
Case Name: Scenario 6 - PD 7 No Refill

Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

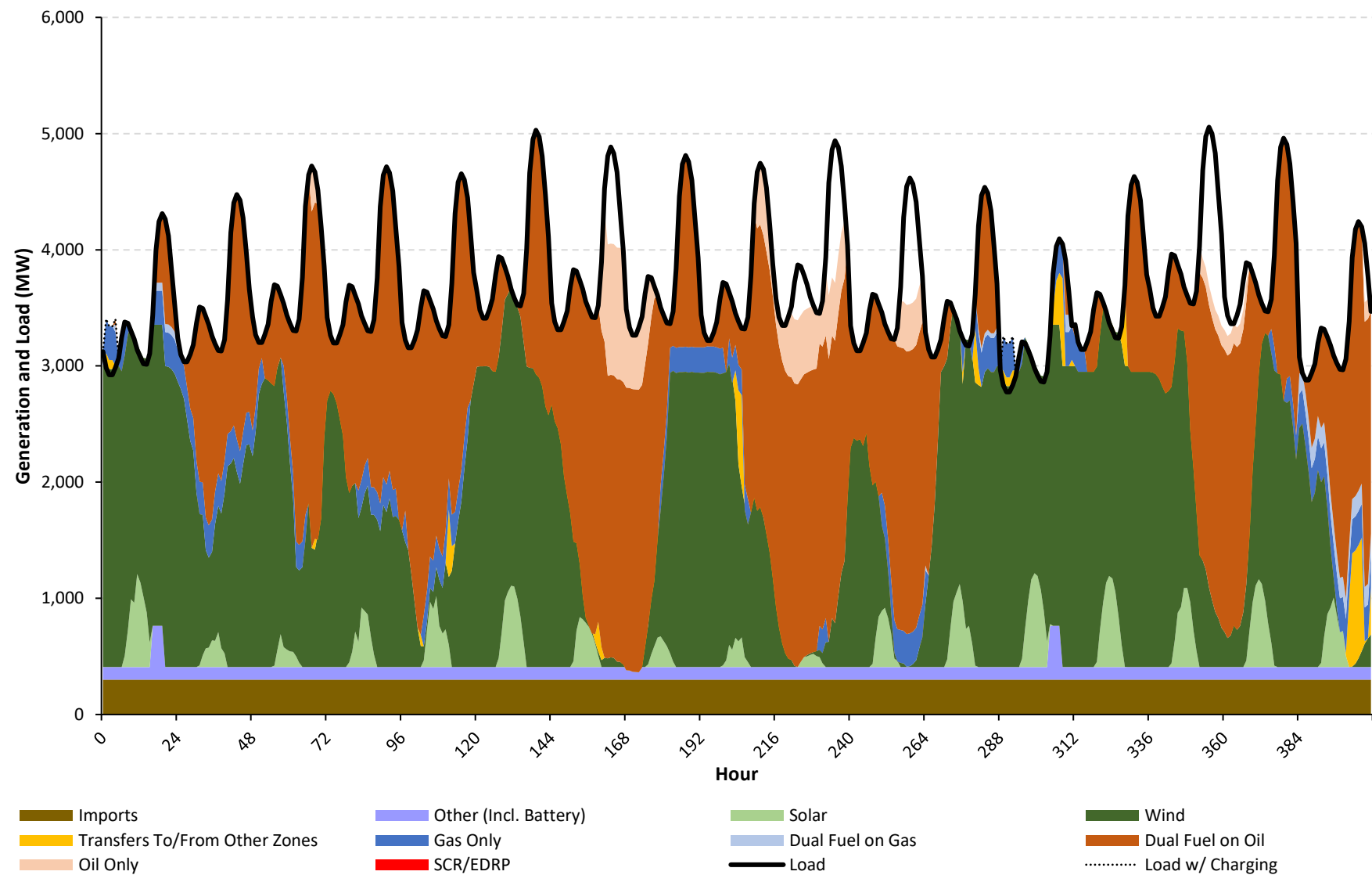


NYCA
Hourly Generation (MWh) by Fuel Group
Scenario 6 - PD 7 No Refill

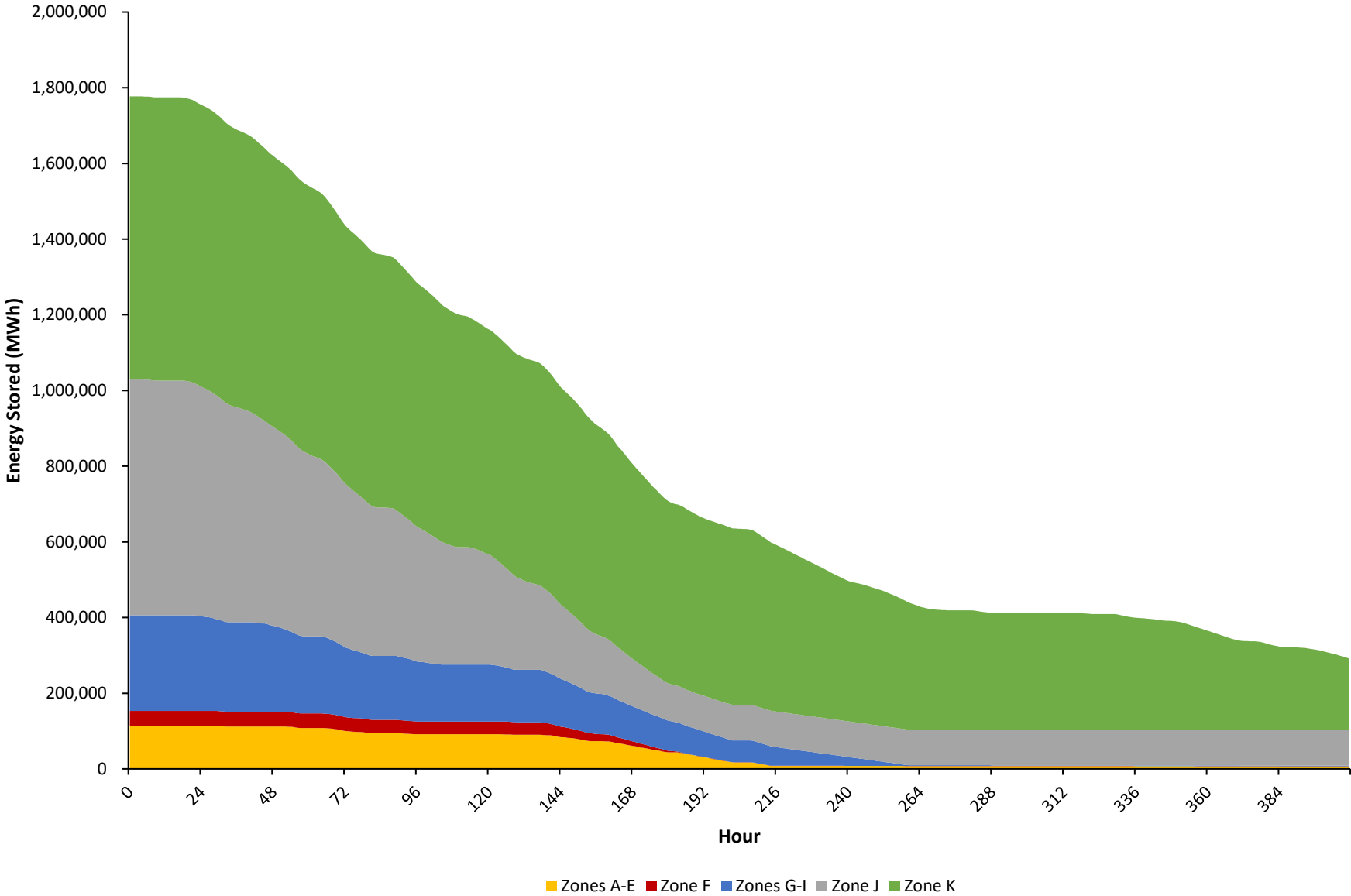


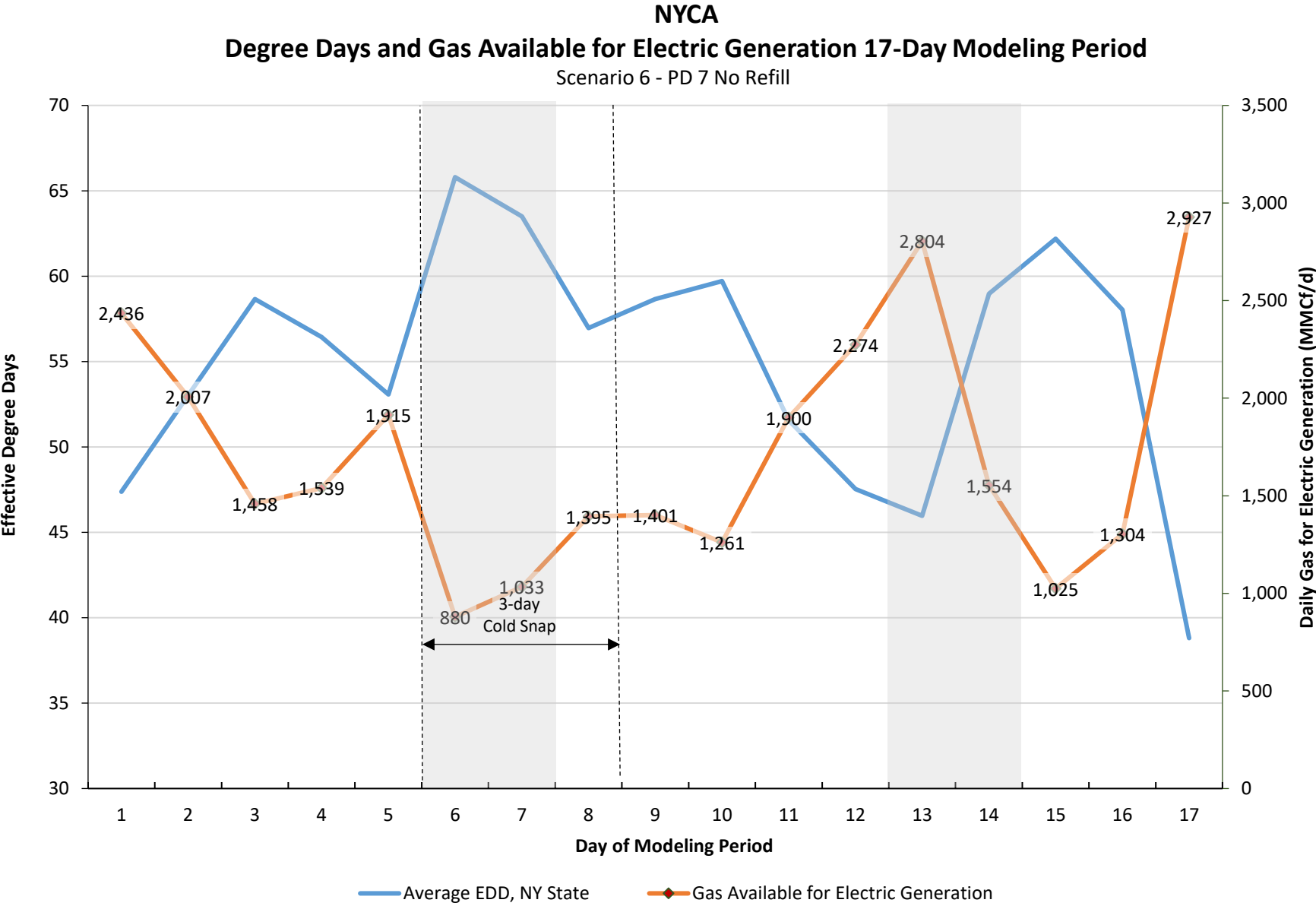


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 6 - PD 7 No Refill

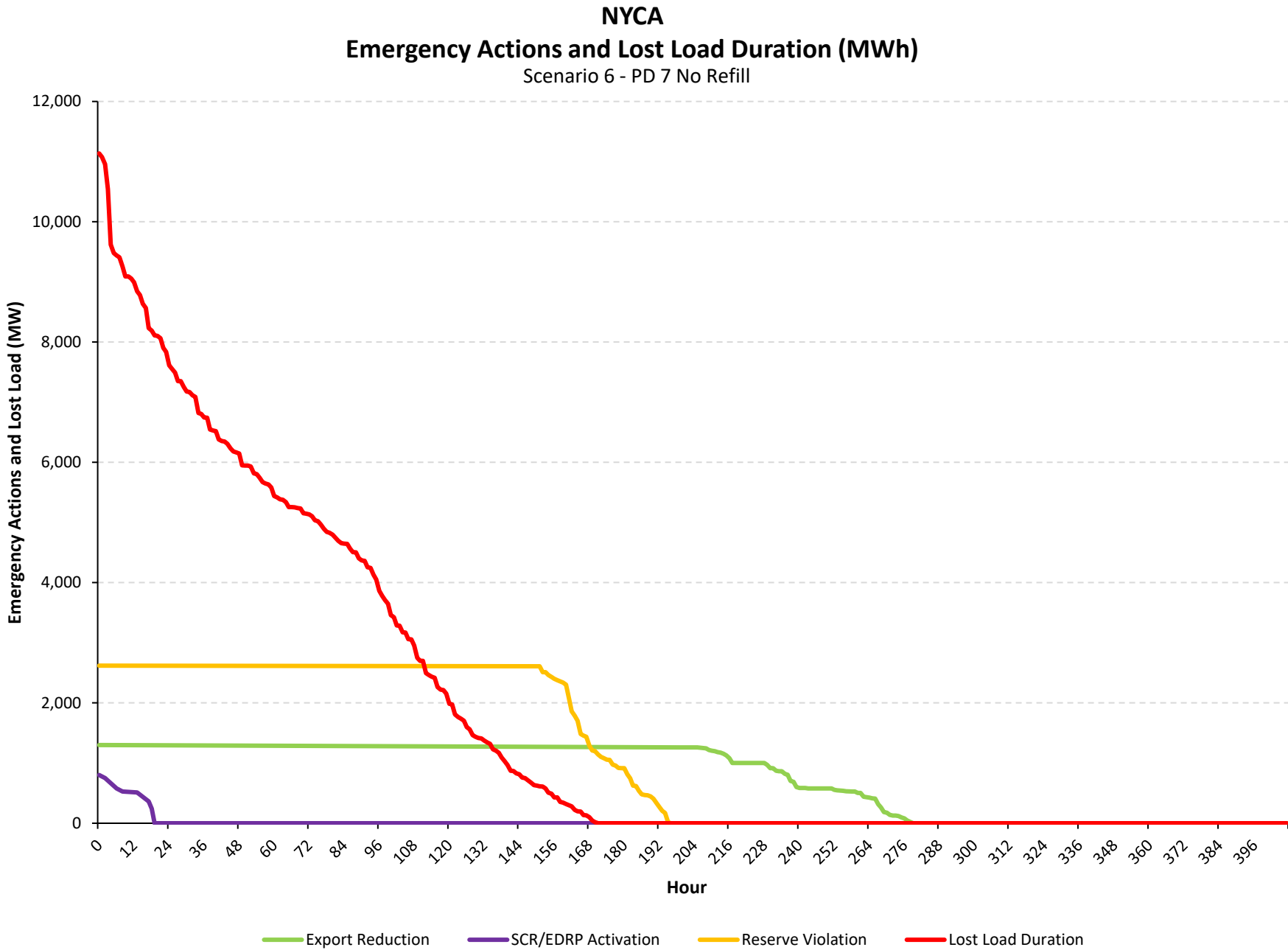


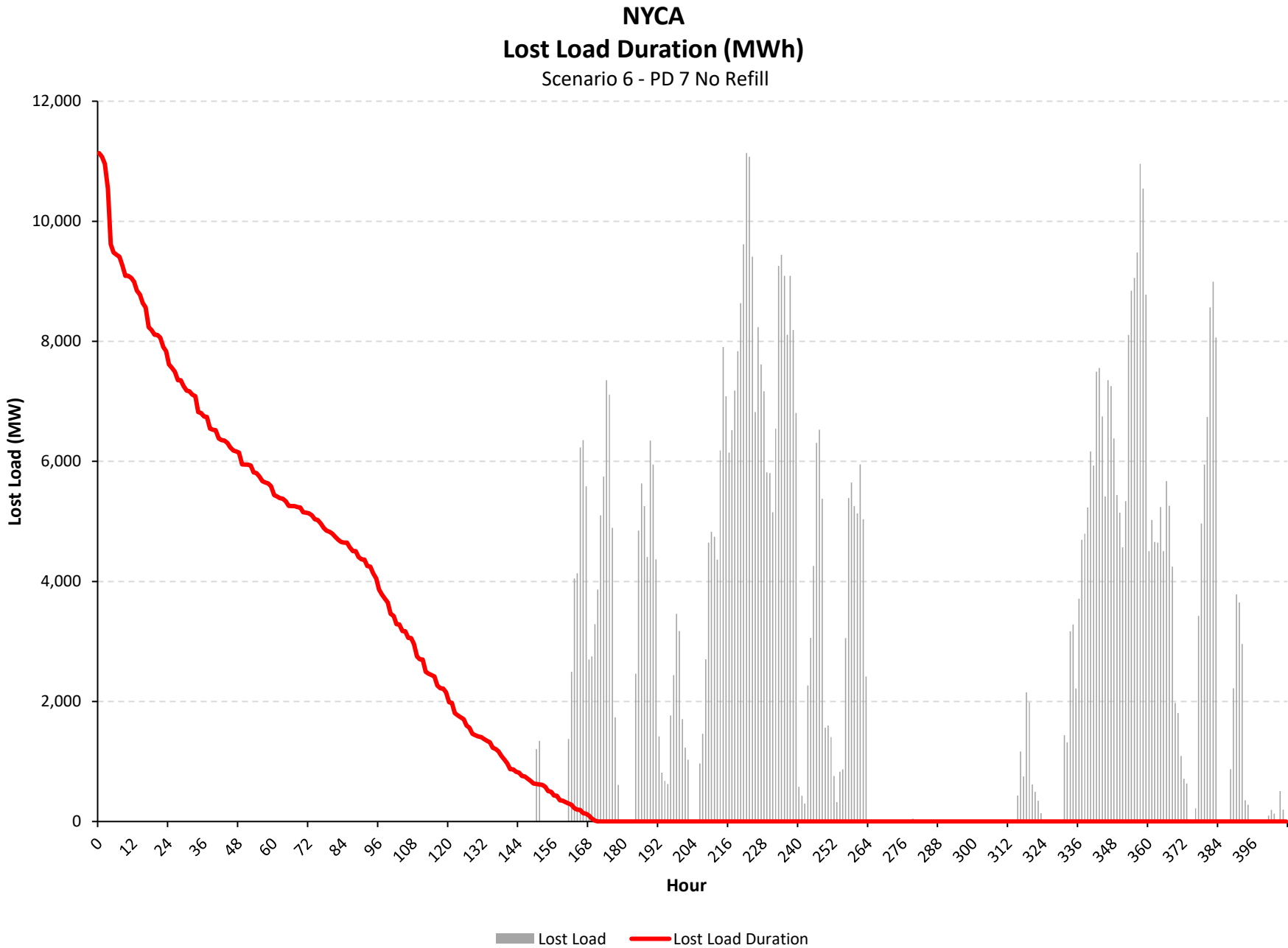
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 6 - PD 7 No Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



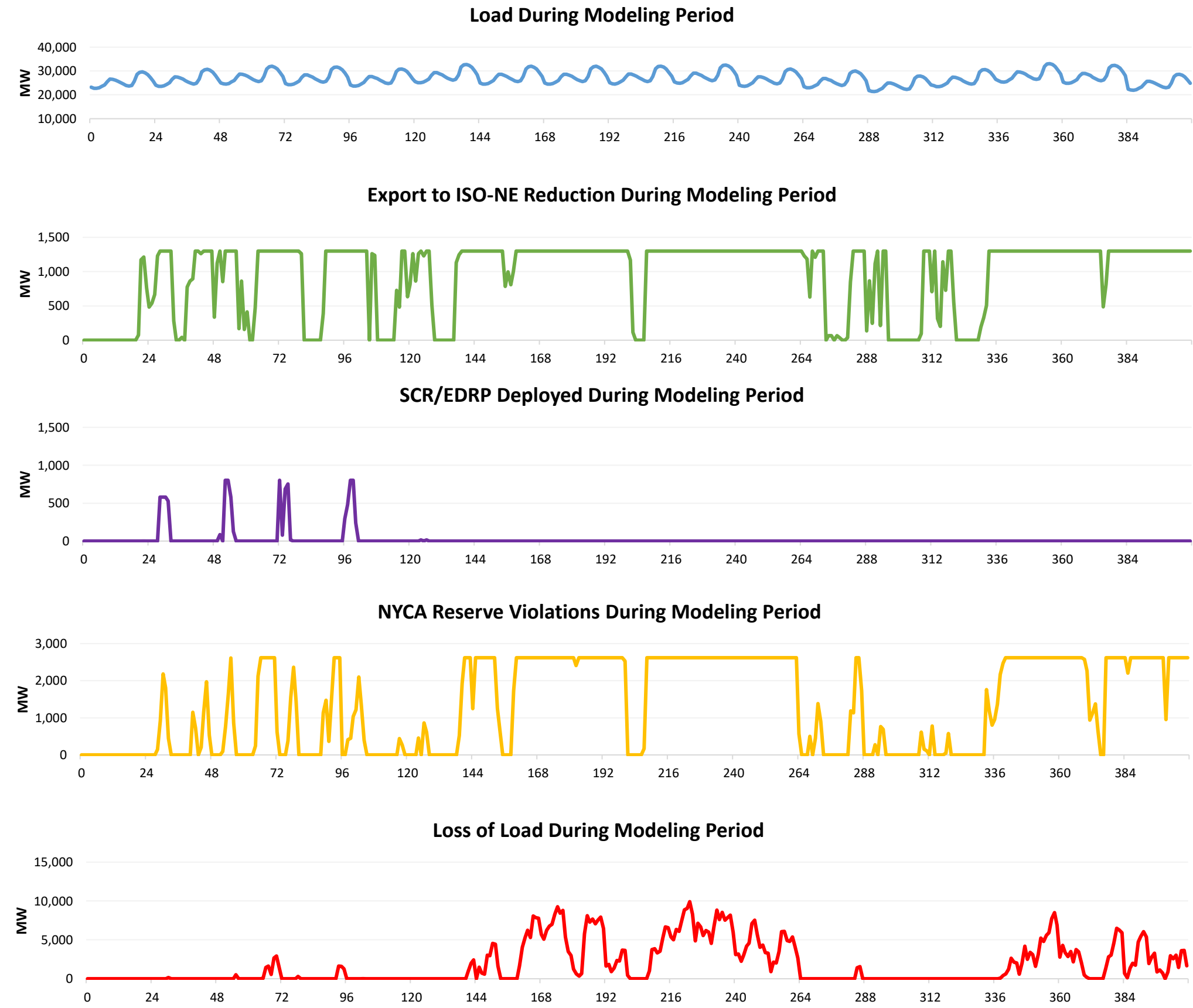


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 6 - PD 8 Non-Firm Gas Unavailable (F-K) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 6 - PD 8 Non-Firm Gas Unavailable (F-K)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	331
Total MWh	387,167
Avg. MW	948.9

SCR Deployment	
Total Hrs.	21
Total MWh	9,648
Avg. MW	23.6

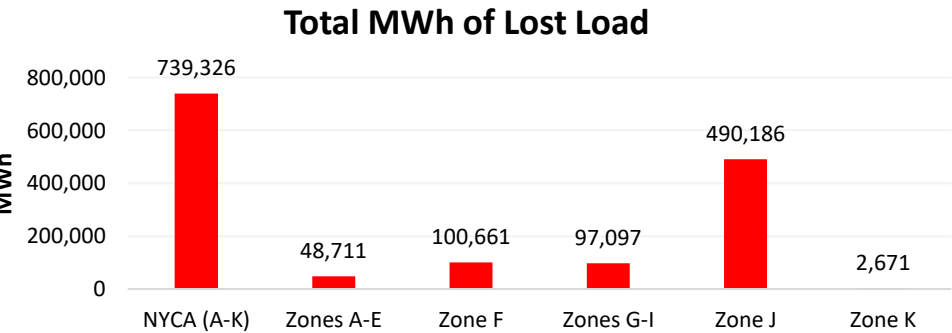
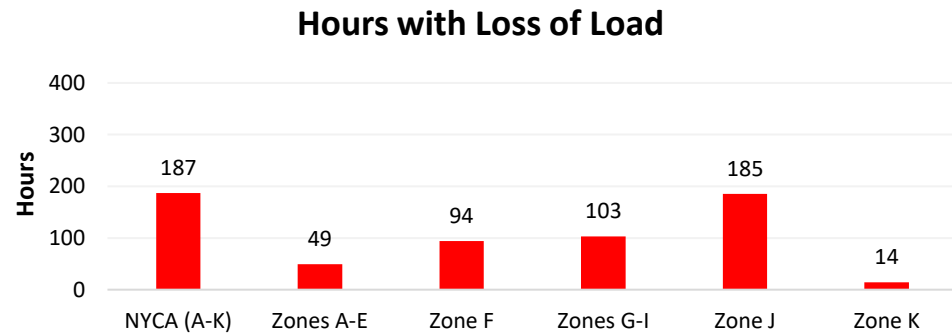
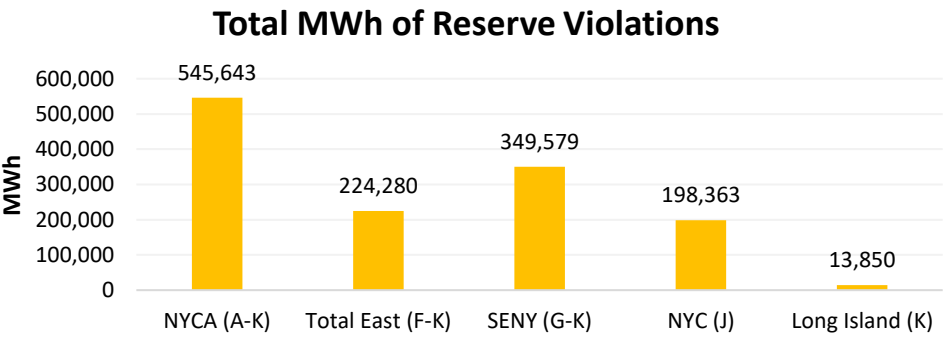
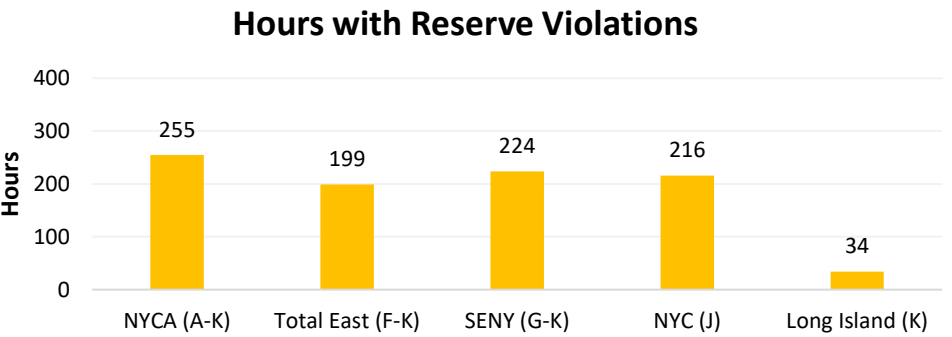
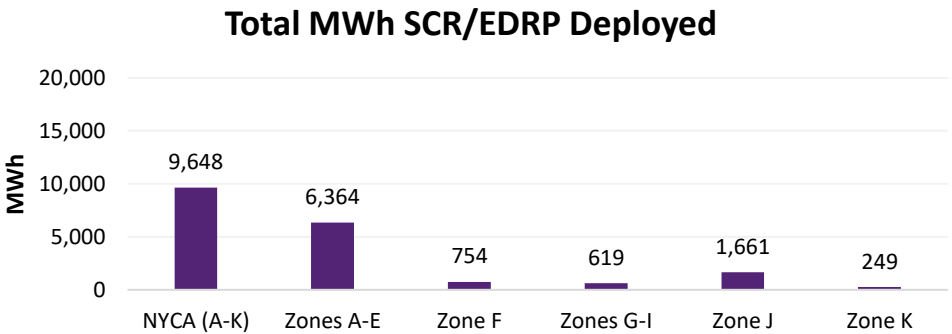
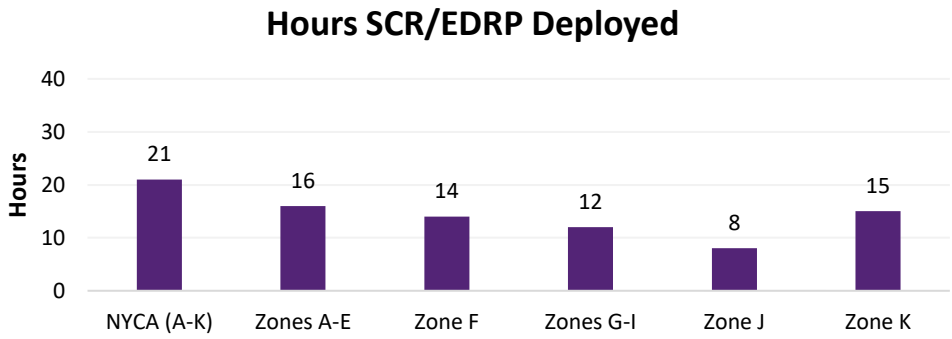
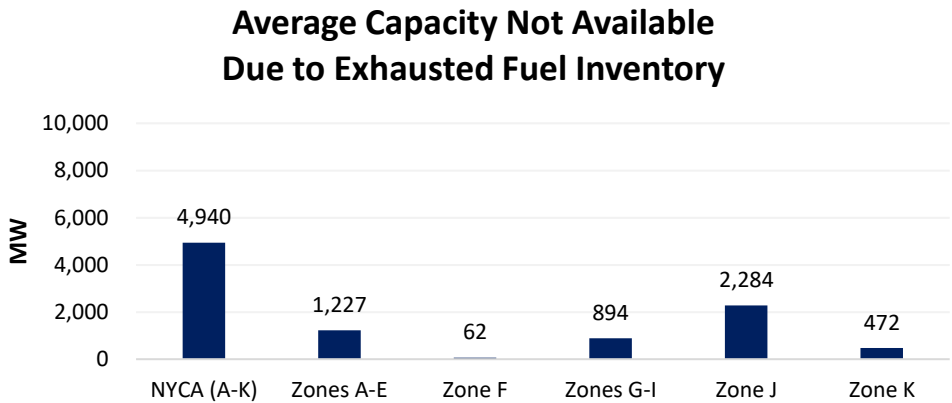
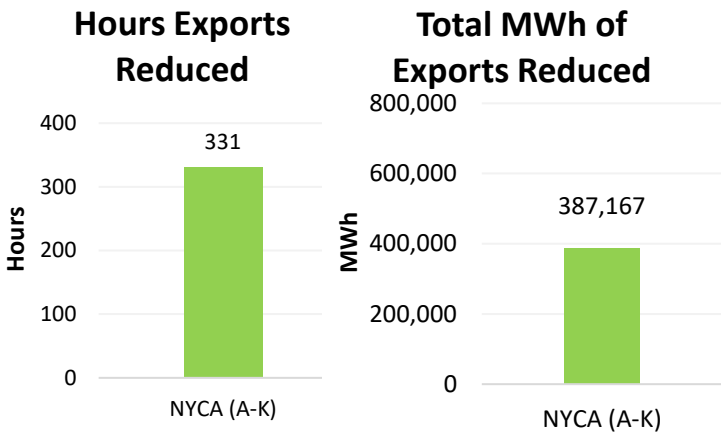
Reserve Violations	
Total Hrs.	255
Total MWh	545,643
Avg. MW	1,337.4
First Hour with Viol.	28

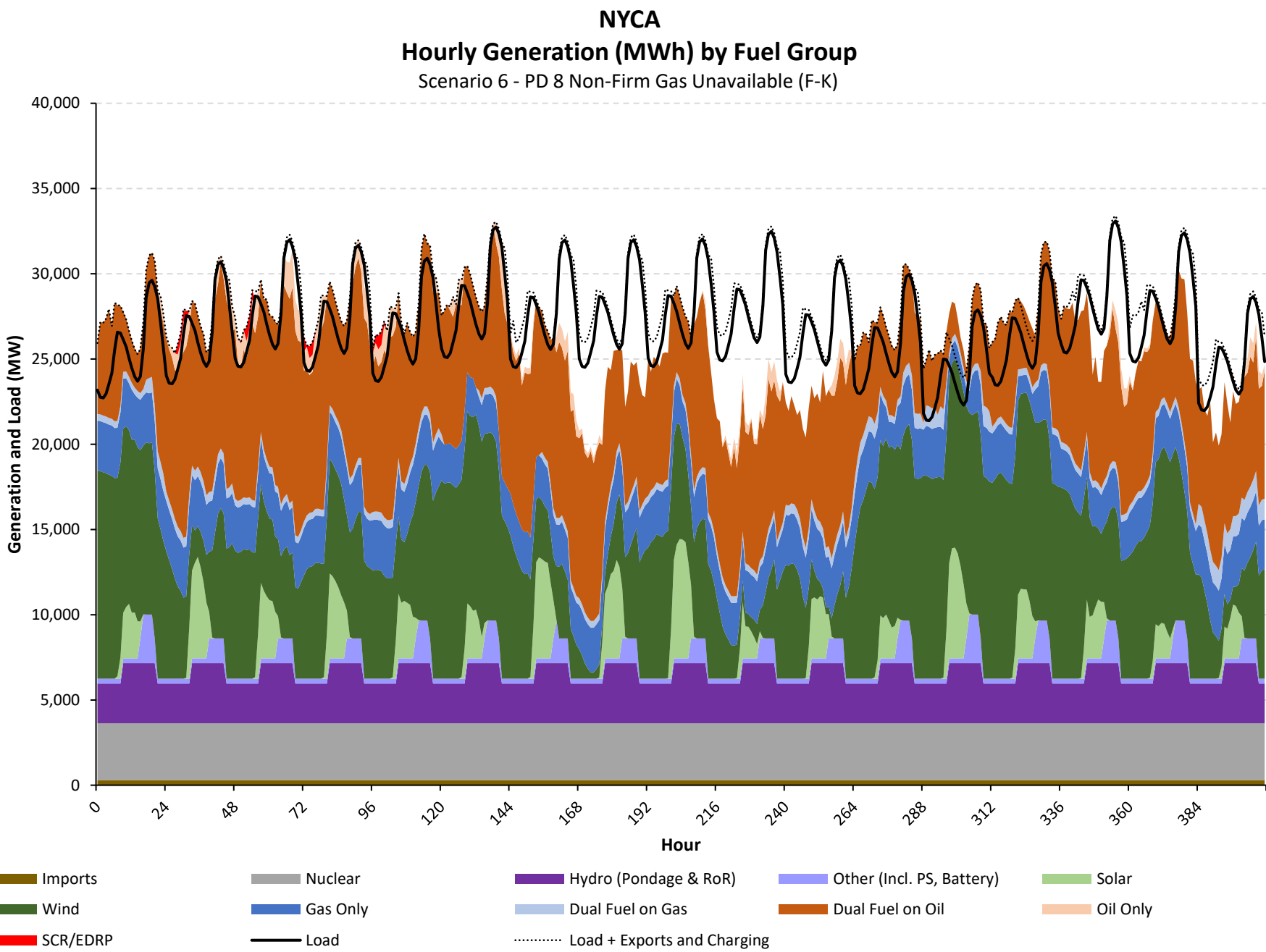
Loss of Load	
Total Hrs.	187
Total MWh	739,326
Avg. MW	1,812.1
First Hour with Losses	30

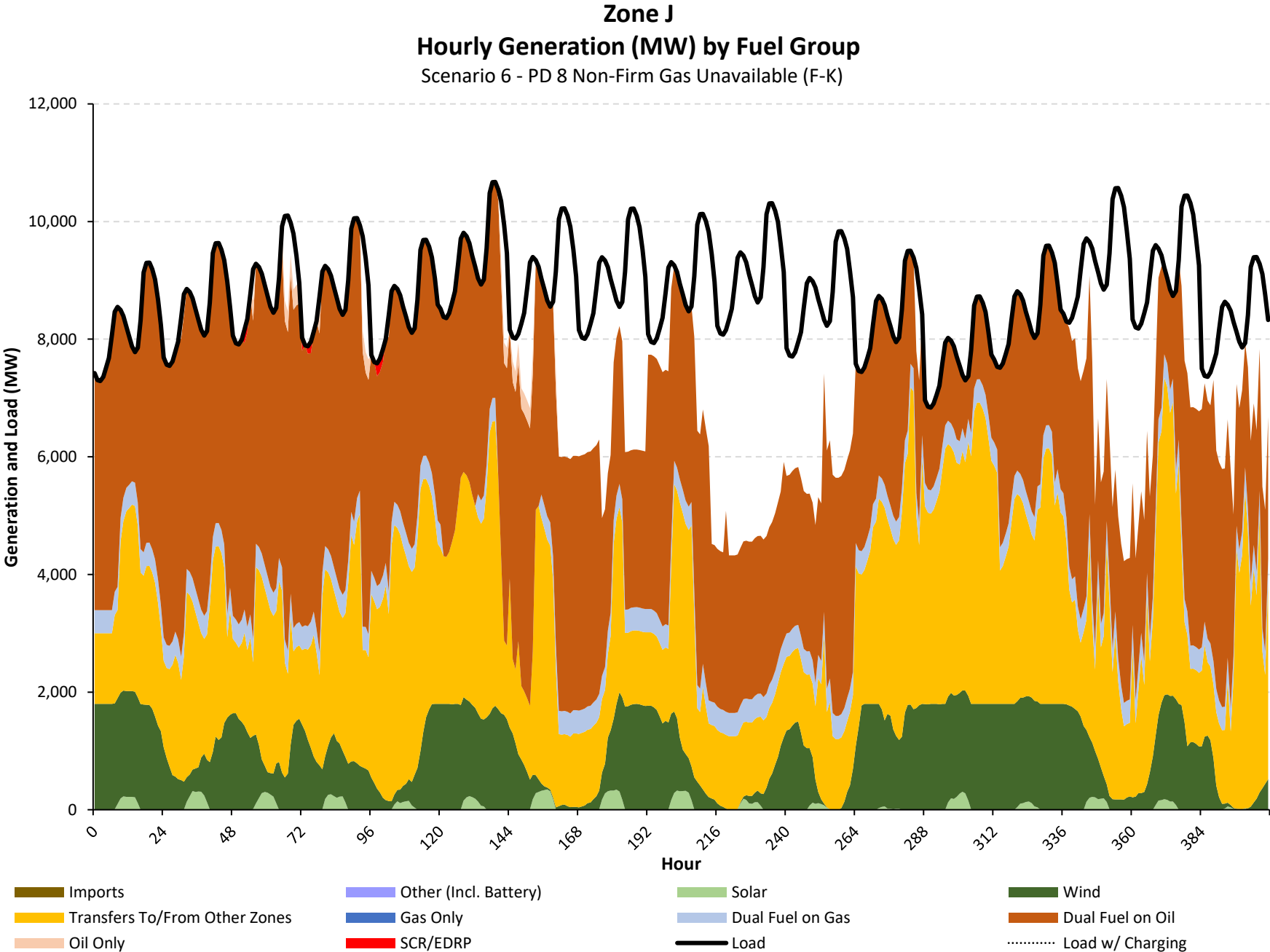
Full Period Results Summary

Case Name: Scenario 6 - PD 8 Non-Firm Gas Unavailable (F-K)

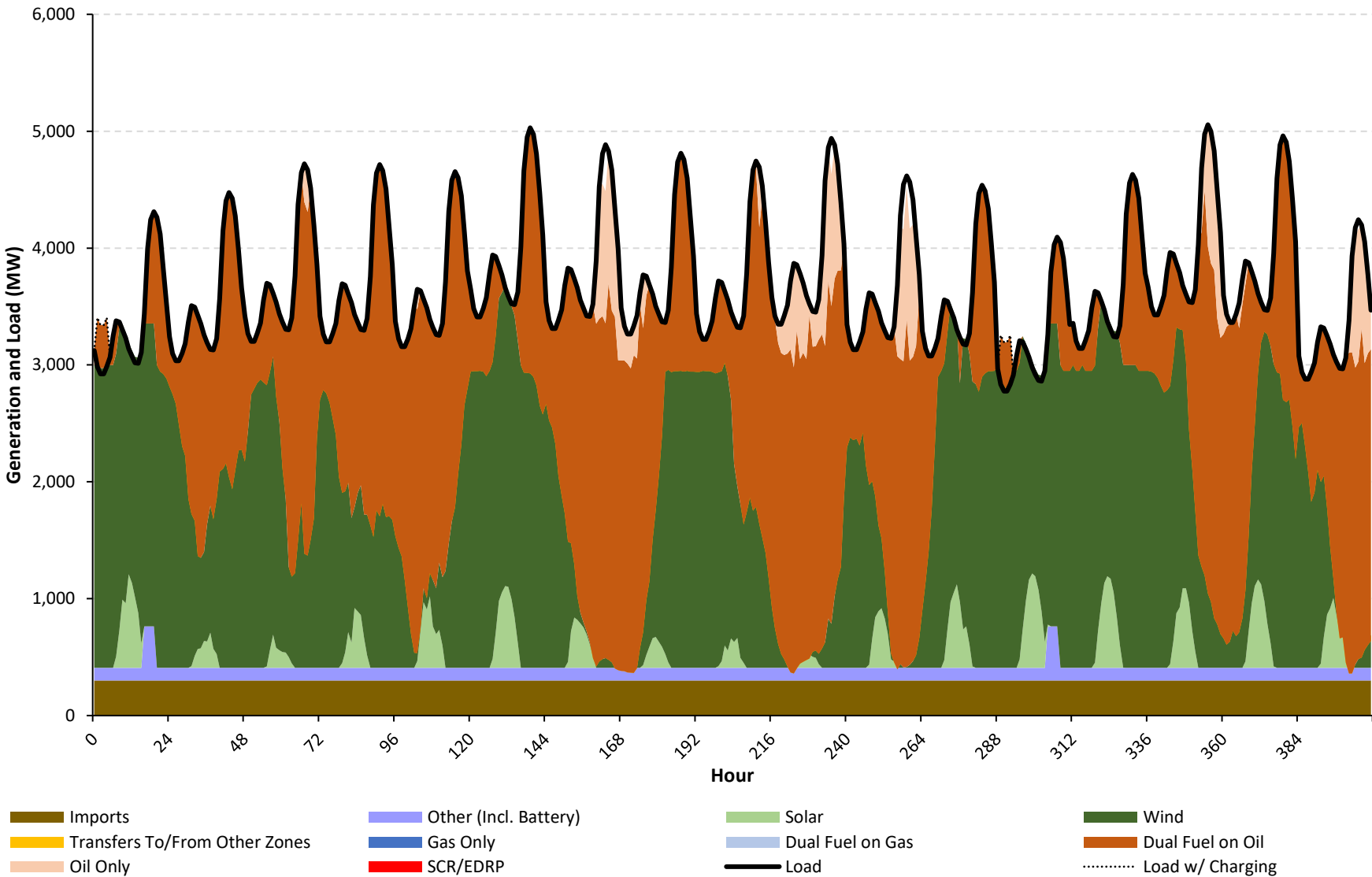
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

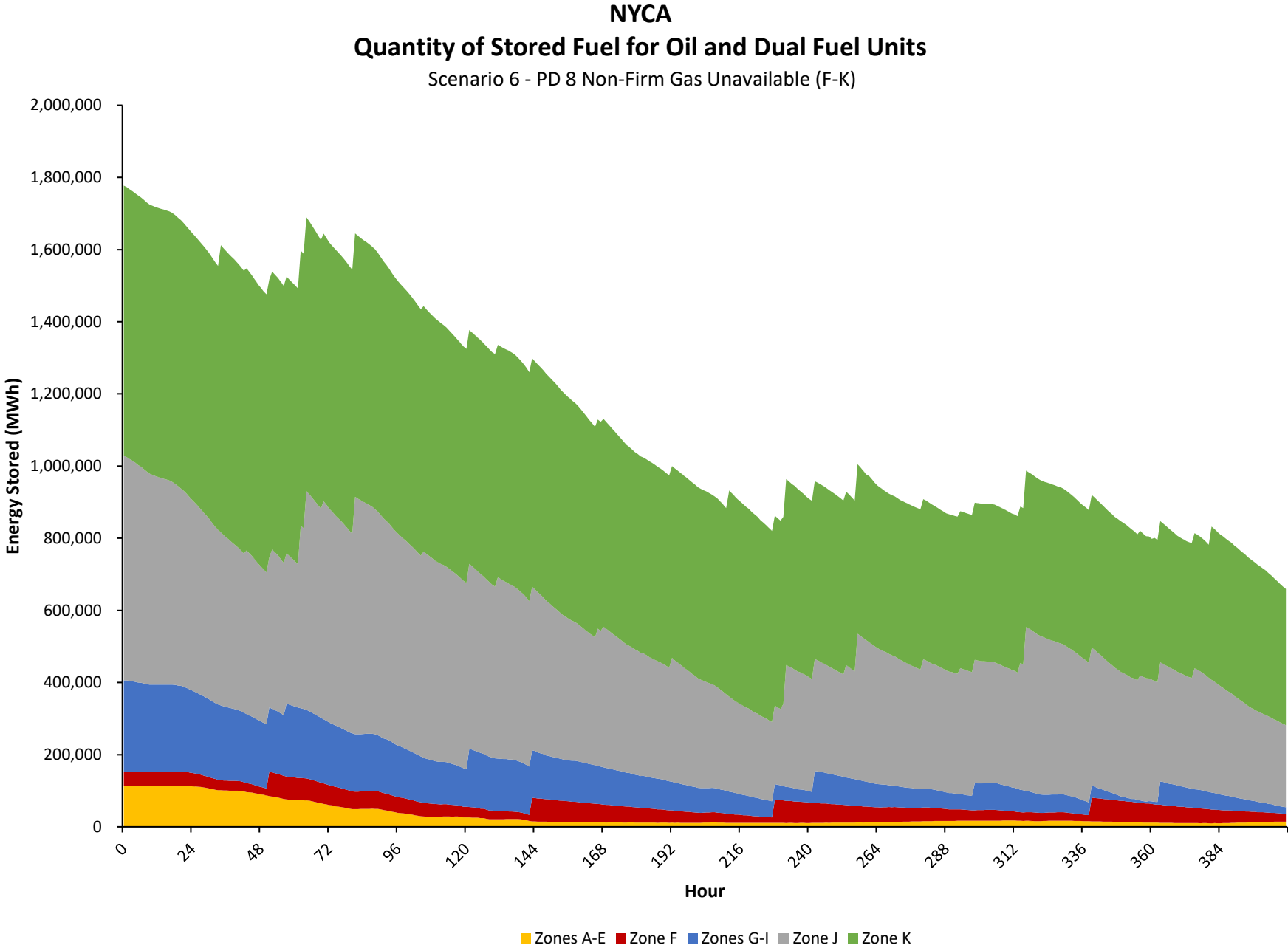


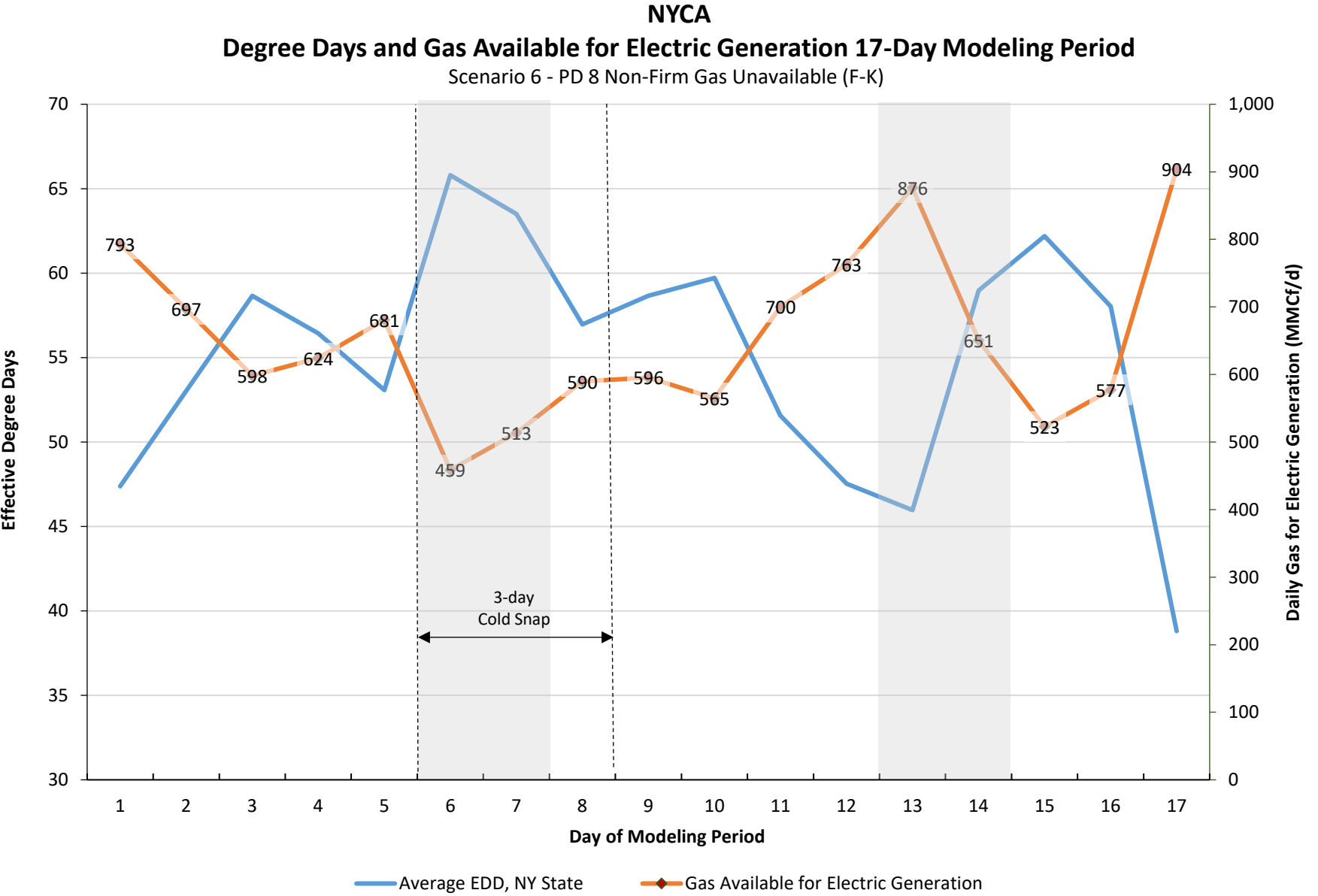




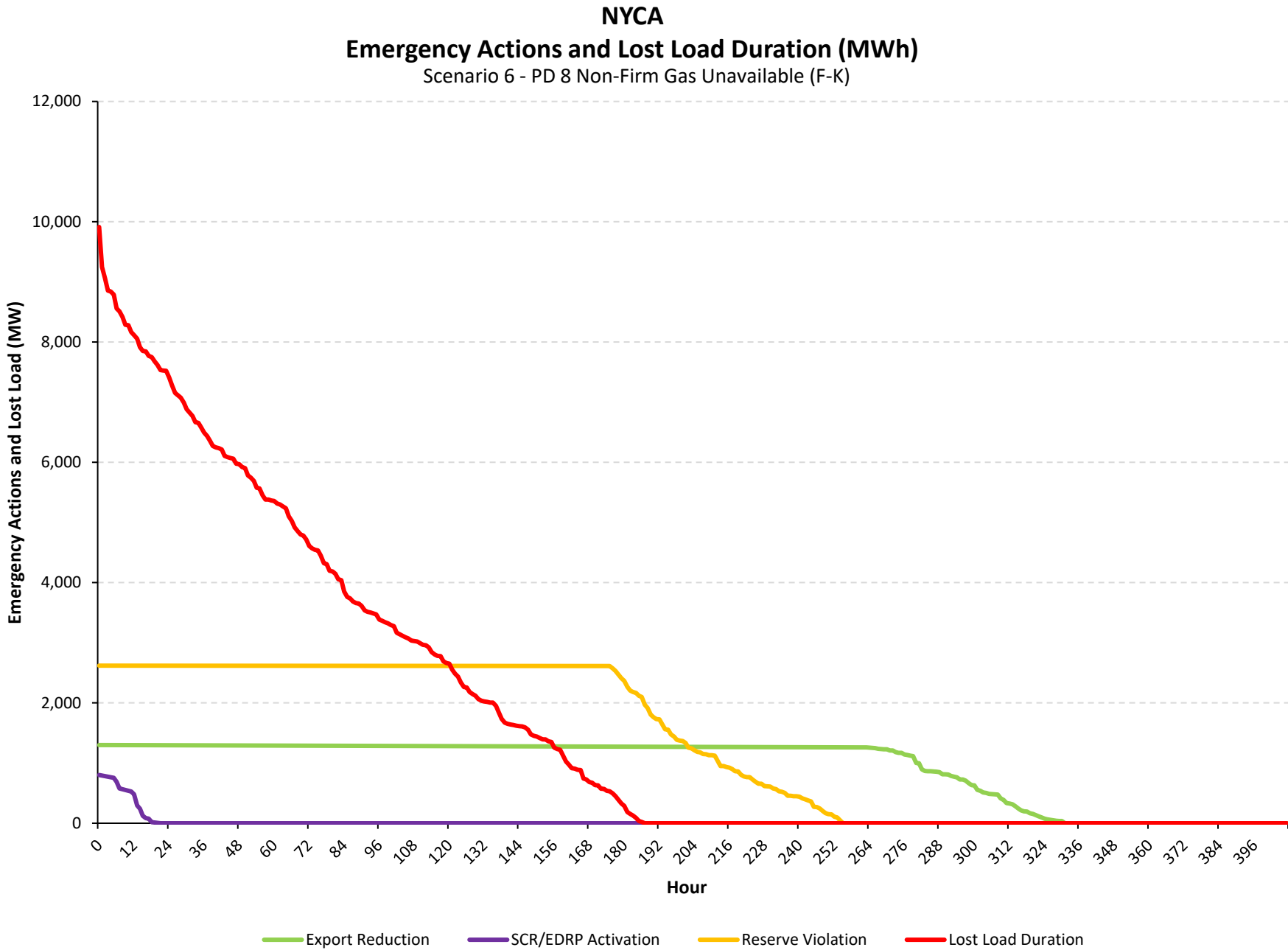
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 6 - PD 8 Non-Firm Gas Unavailable (F-K)

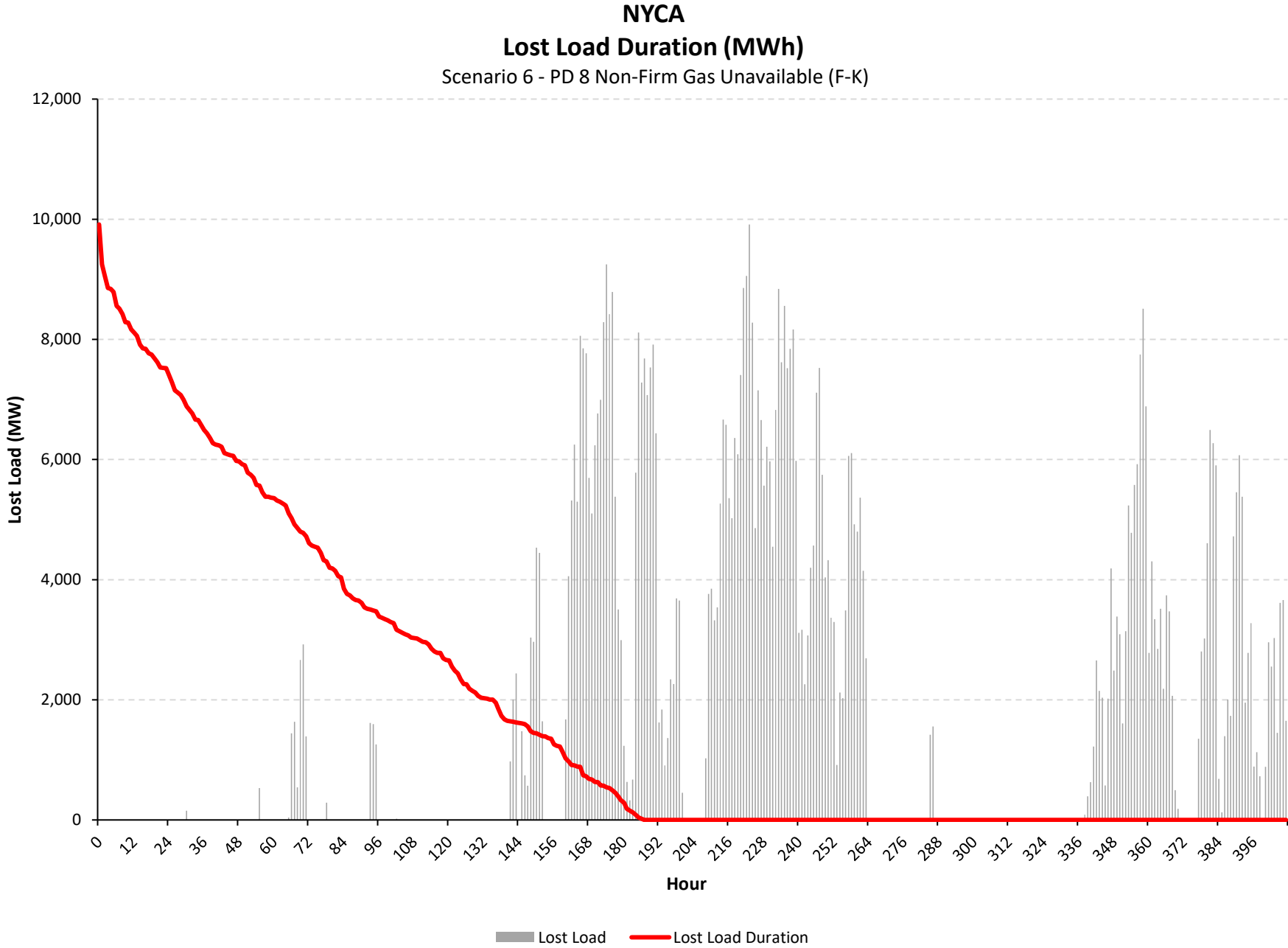






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



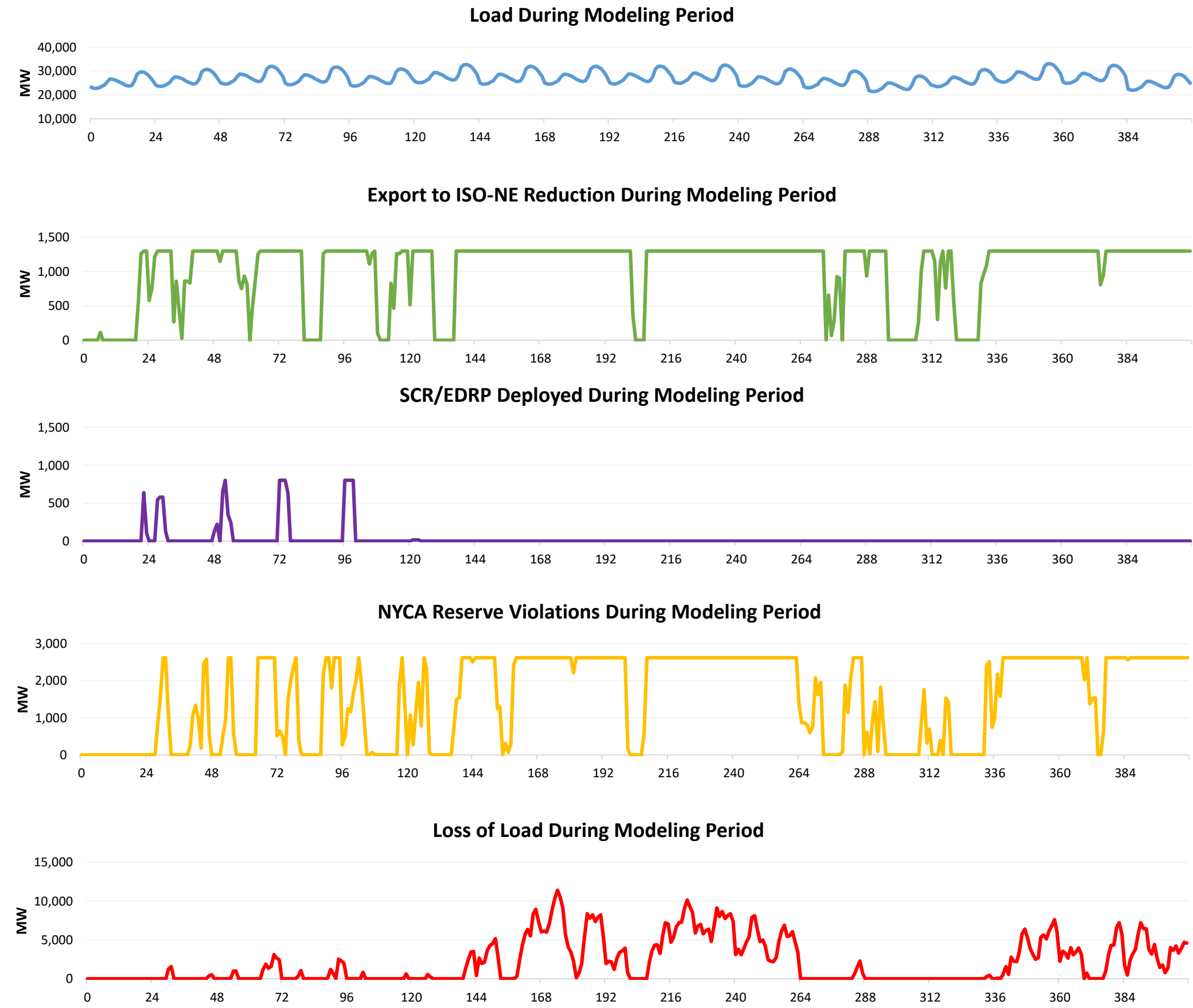


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 6 - PD 9 Non-Firm Gas Unavailable (NYCA) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 6 - PD 9 Non-Firm Gas Unavailable (NYCA)



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	344
Total MWh	420,009
Avg. MW	1,029.4

SCR Deployment	
Total Hrs.	23
Total MWh	11,265
Avg. MW	27.6

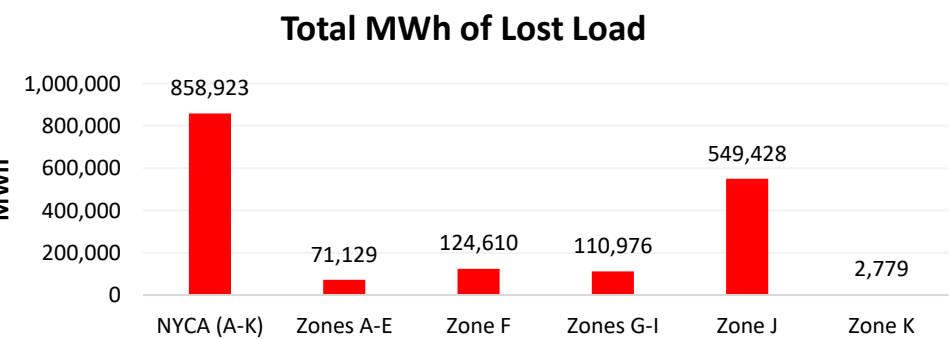
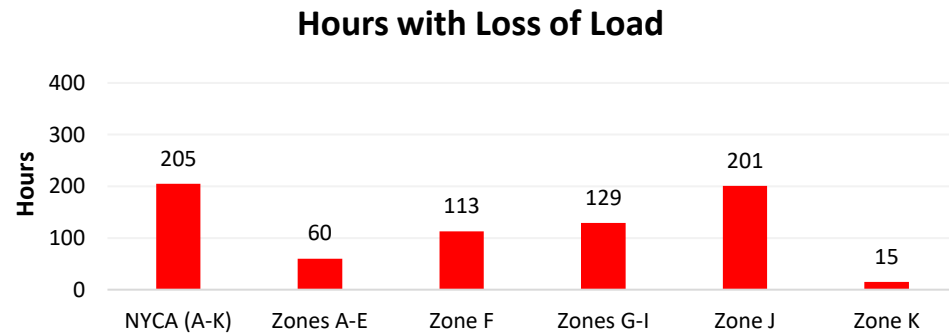
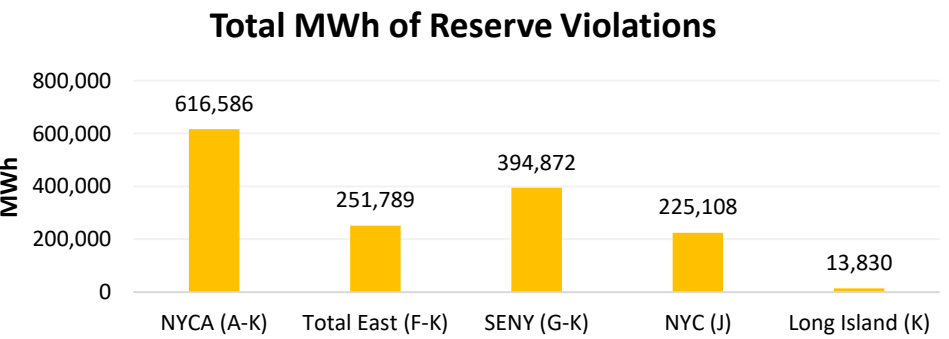
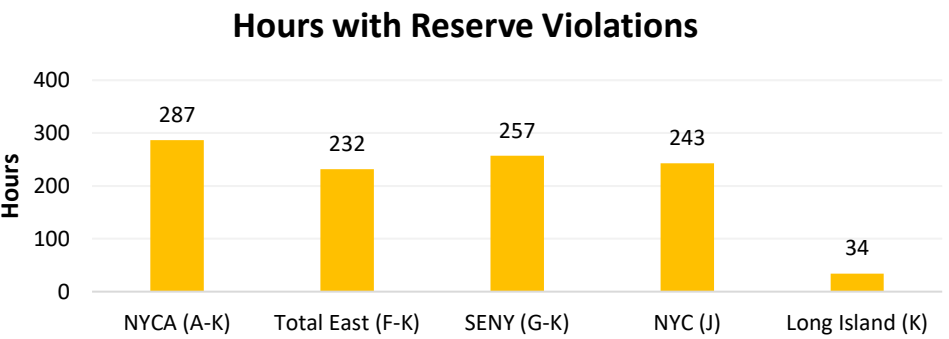
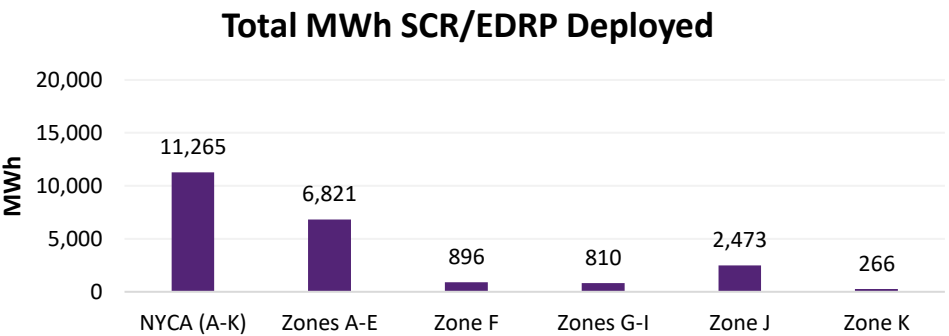
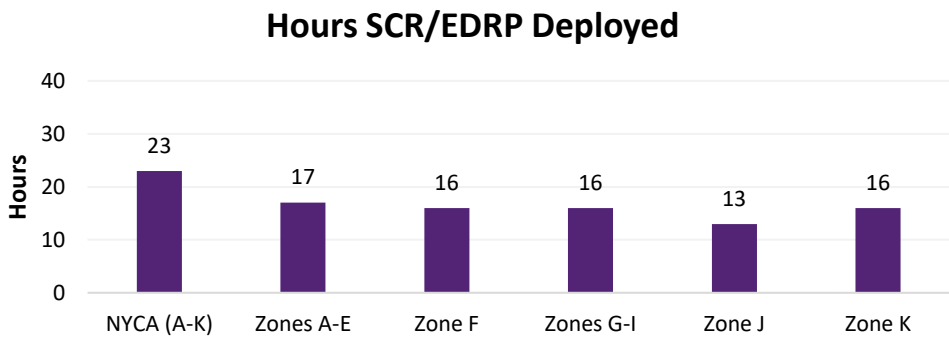
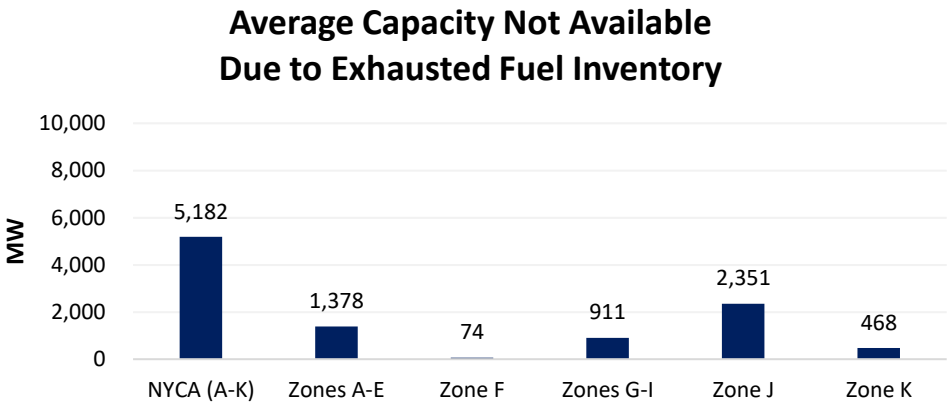
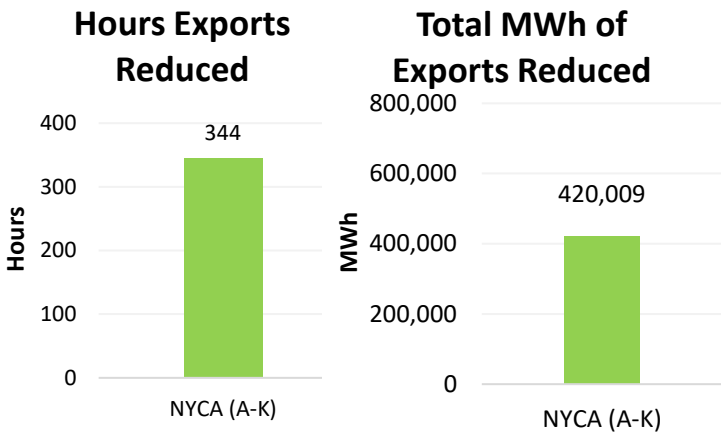
Reserve Violations	
Total Hrs.	287
Total MWh	616,586
Avg. MW	1,511.2
First Hour with Viol.	28

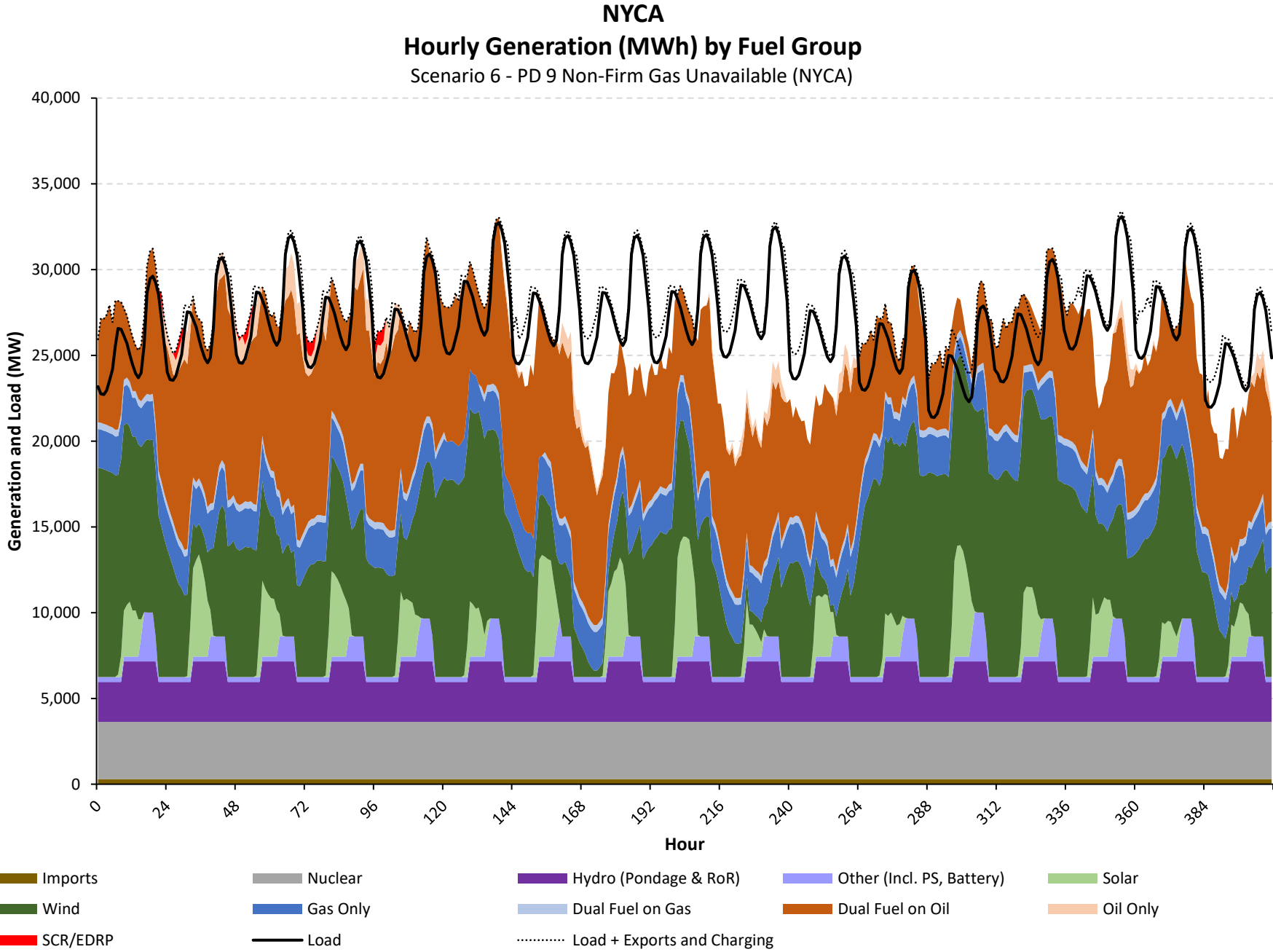
Loss of Load	
Total Hrs.	205
Total MWh	858,923
Avg. MW	2,105.2
First Hour with Losses	30

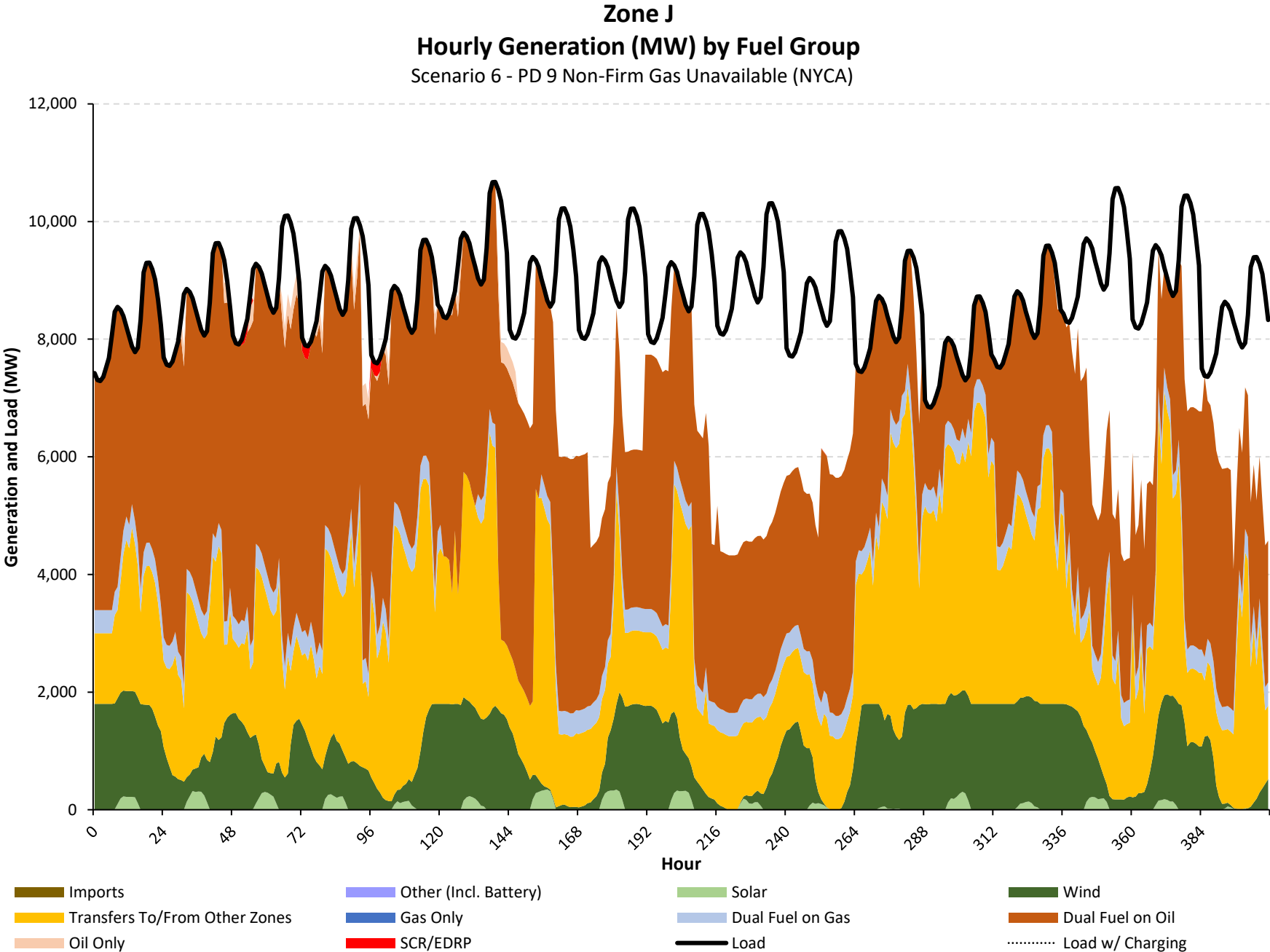
Full Period Results Summary

Case Name: Scenario 6 - PD 9 Non-Firm Gas Unavailable (NYCA)

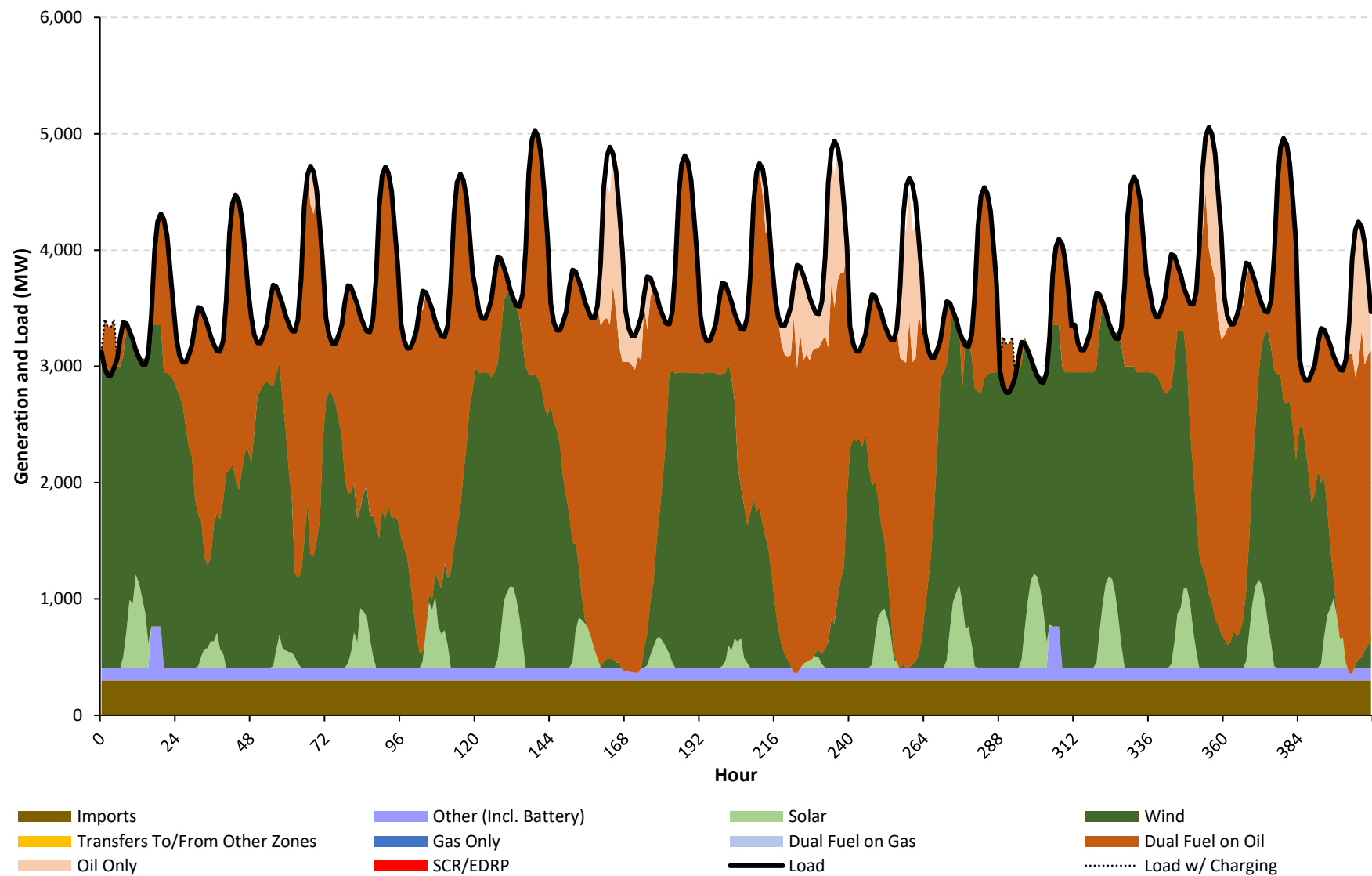
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

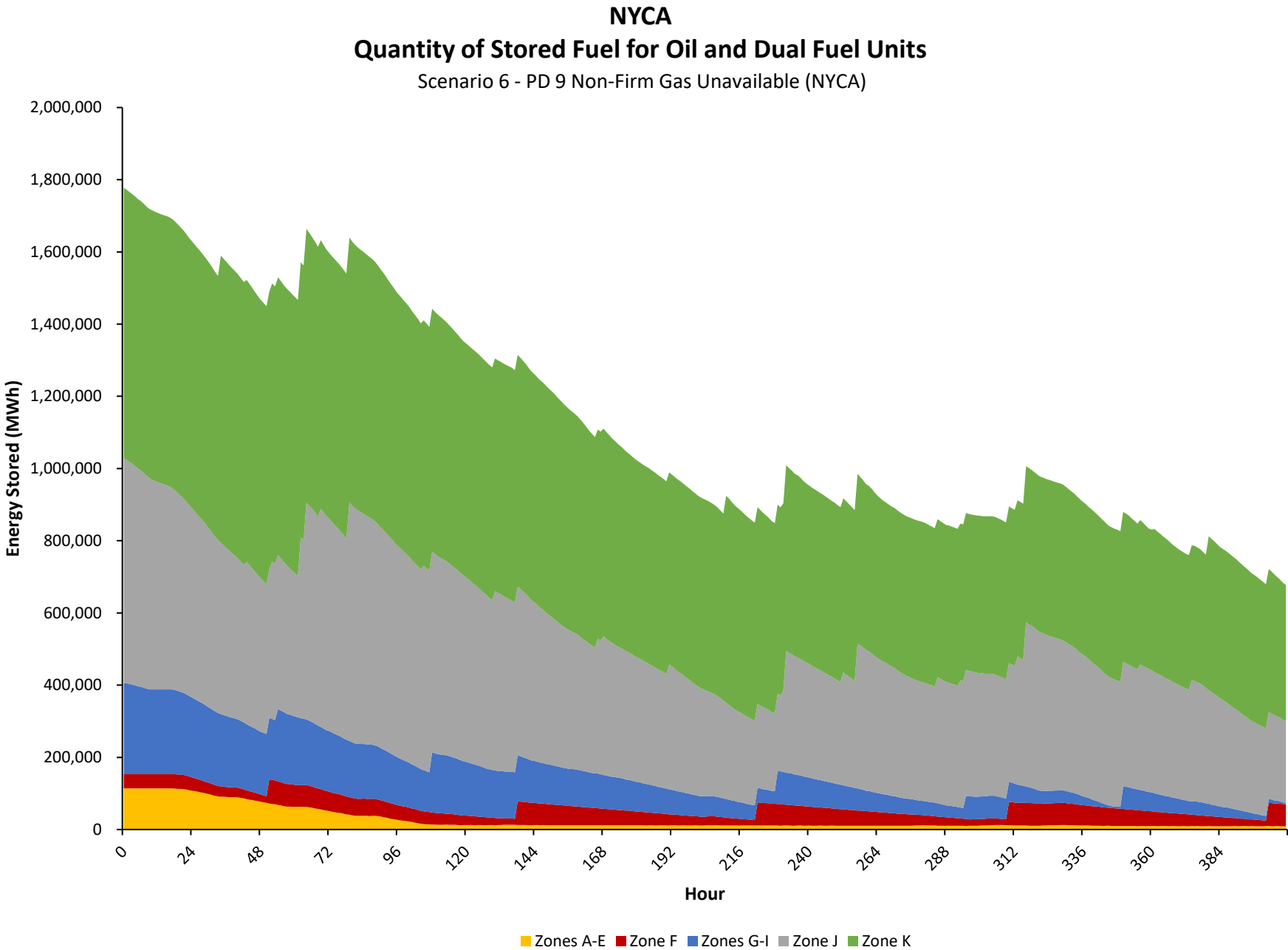


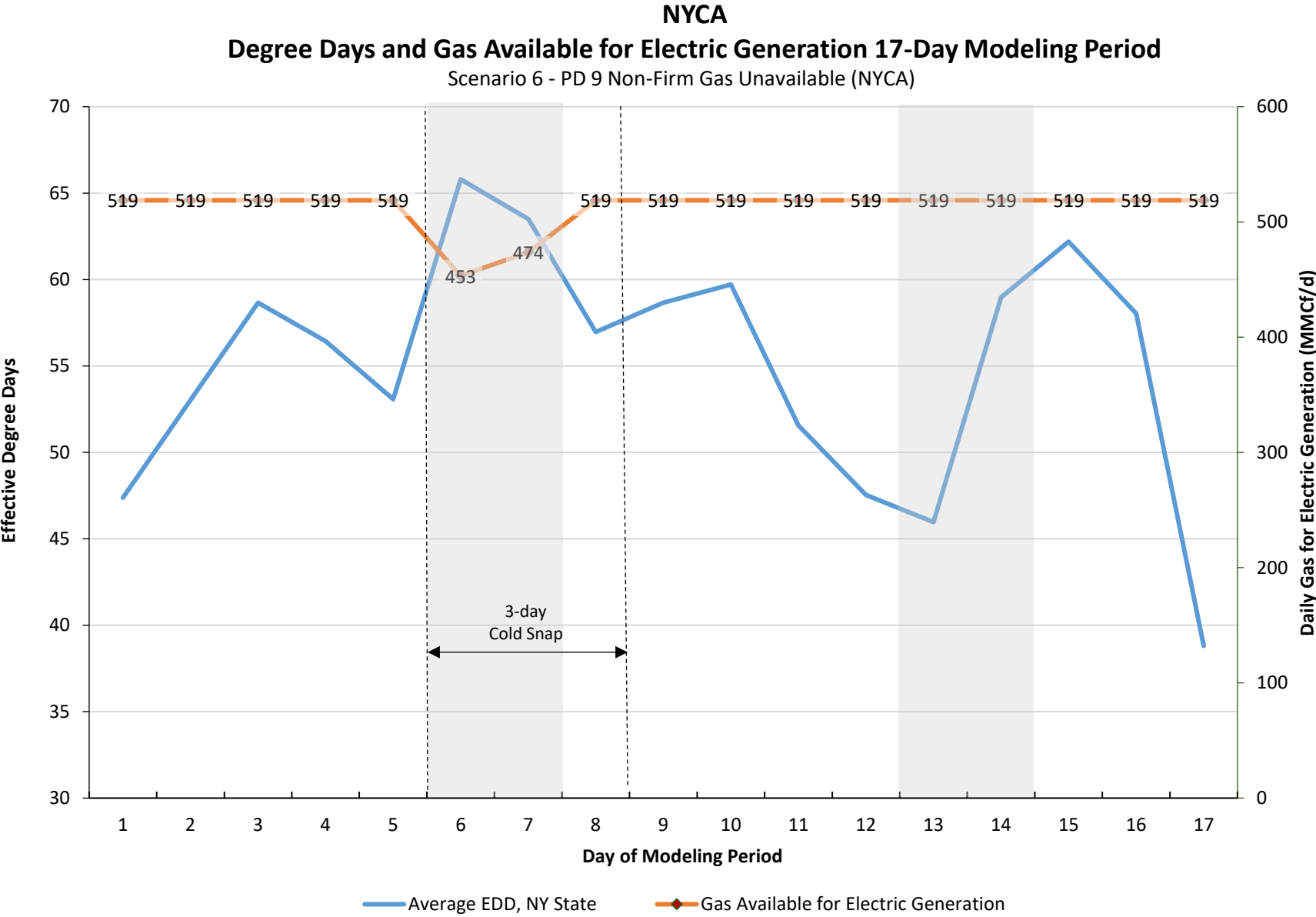




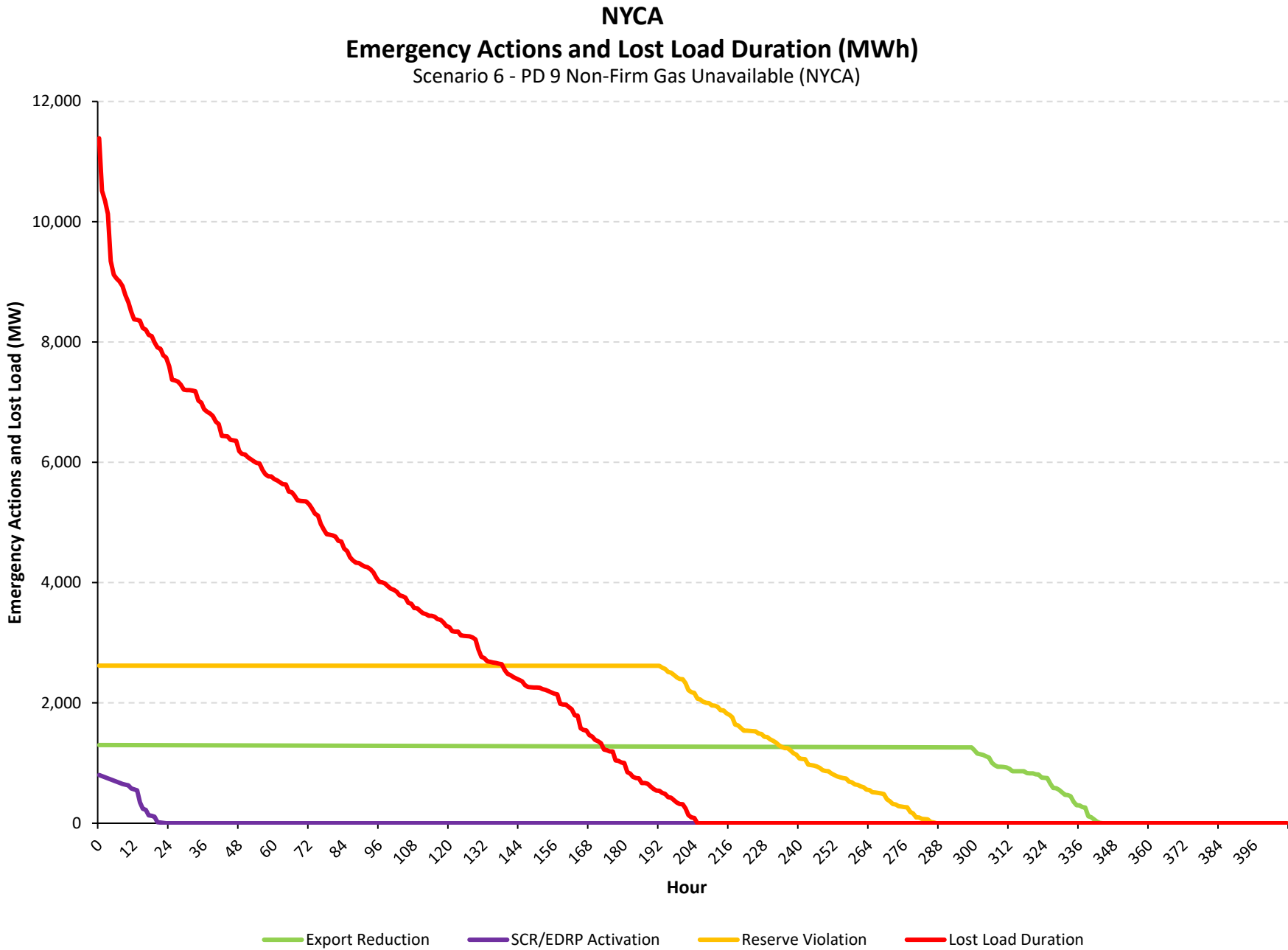
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 6 - PD 9 Non-Firm Gas Unavailable (NYCA)

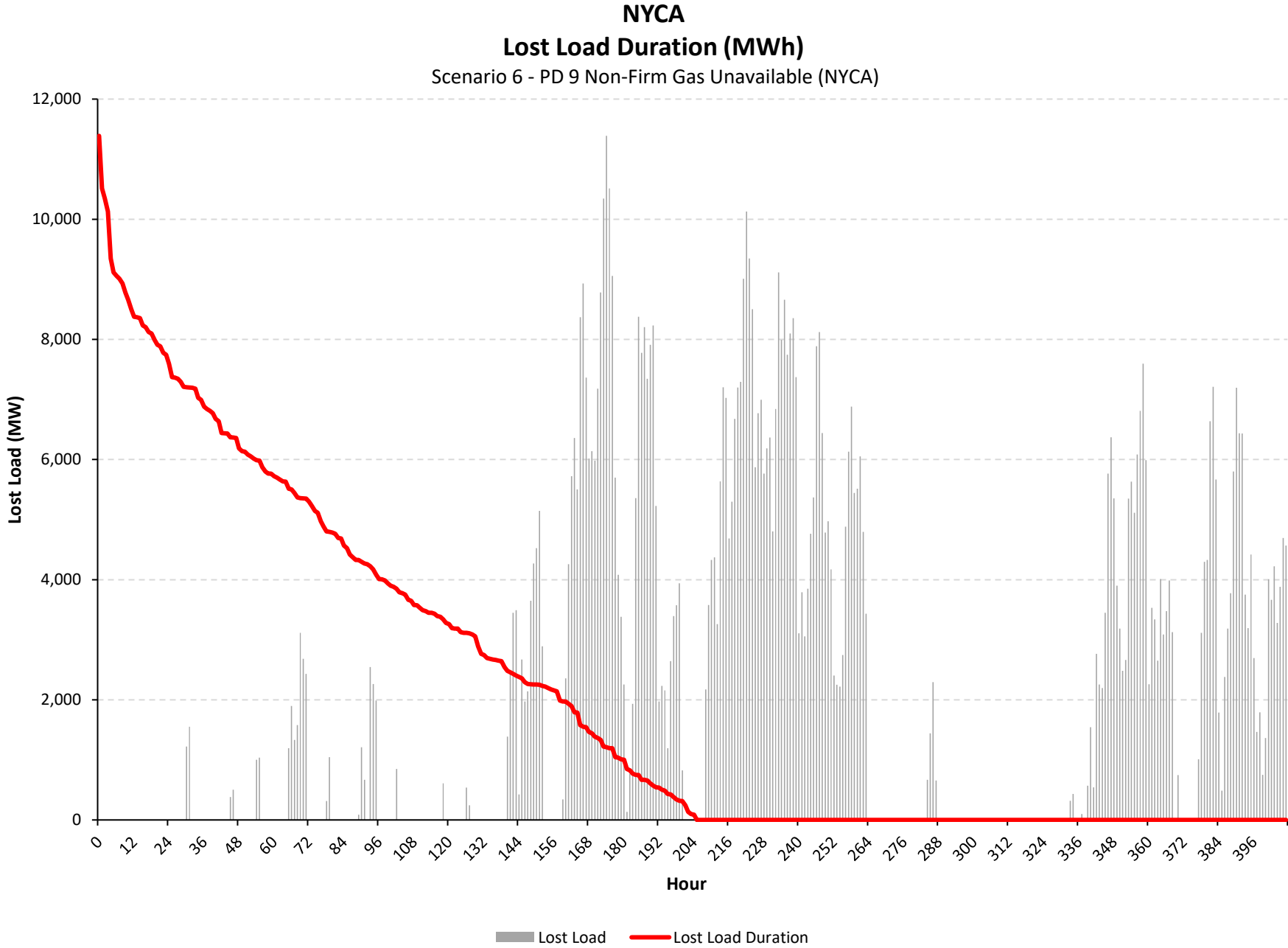






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



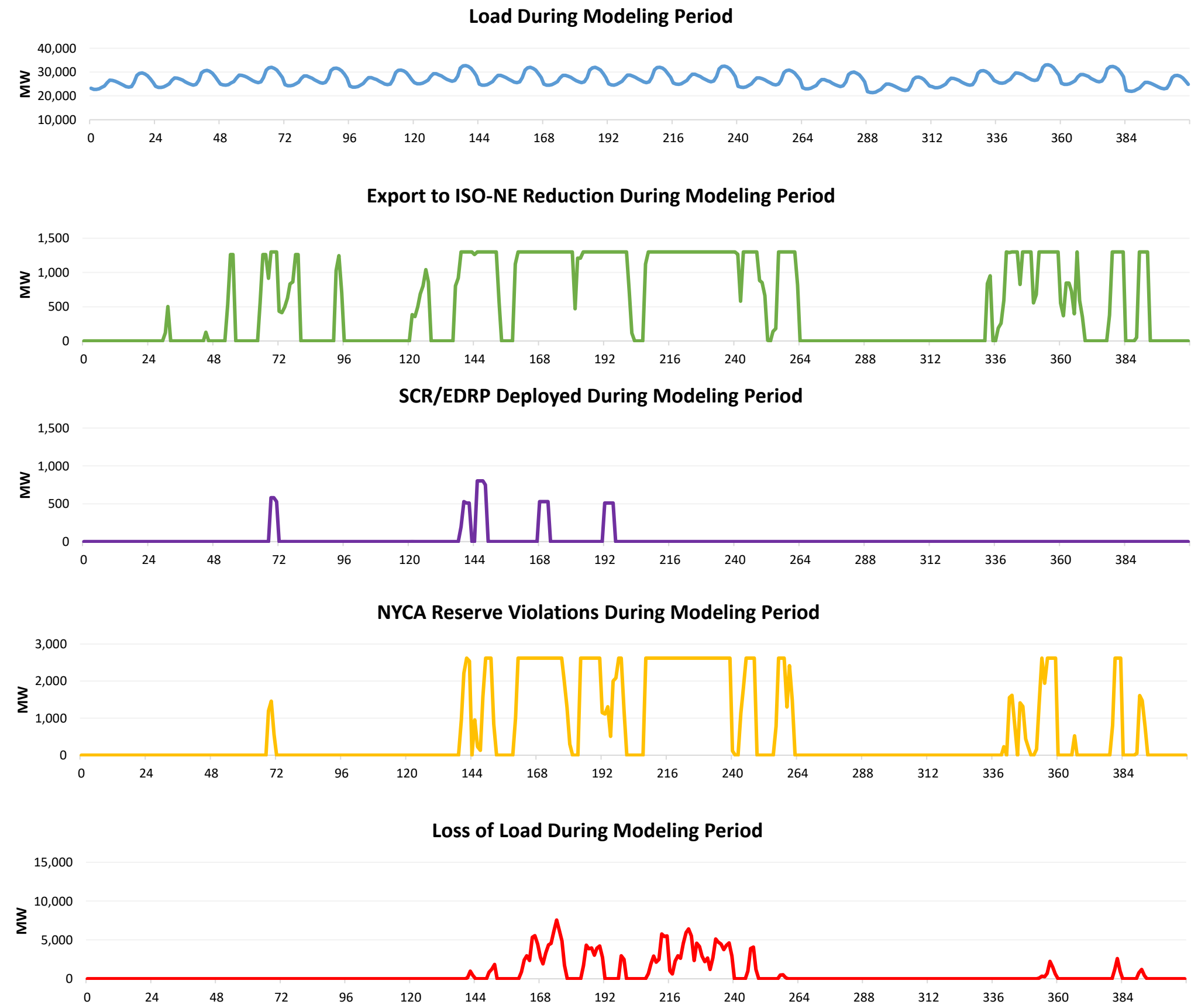


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 6 - PD 10 Non-Firm Gas Unavailable (4 days) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 6 - PD 10 Non-Firm Gas Unavailable (4 days)



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	193
Total MWh	211,579
Avg. MW	518.6

SCR Deployment	
Total Hrs.	19
Total MWh	10,730
Avg. MW	26.3

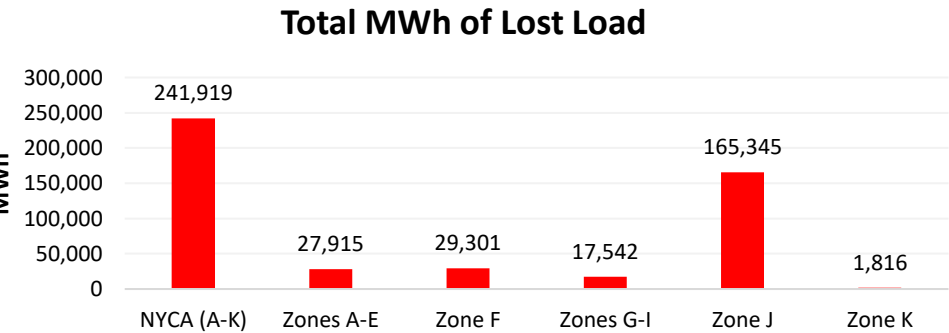
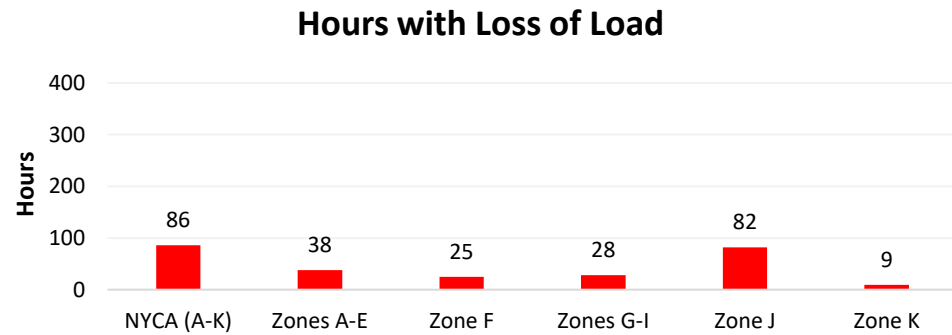
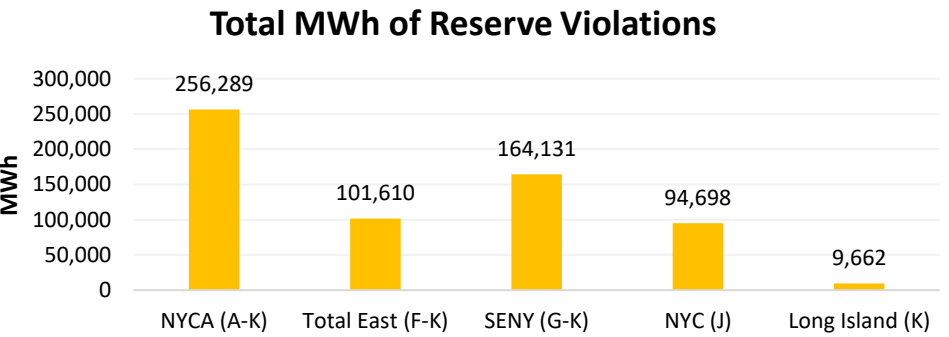
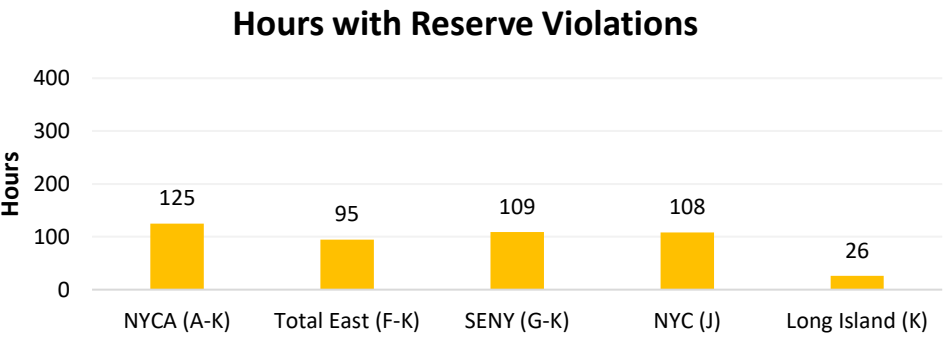
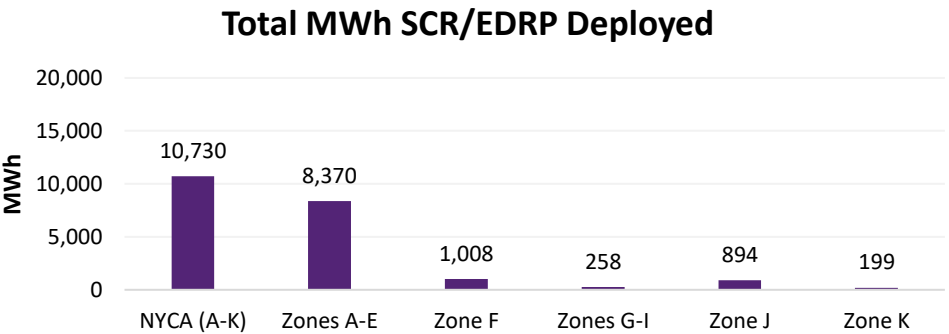
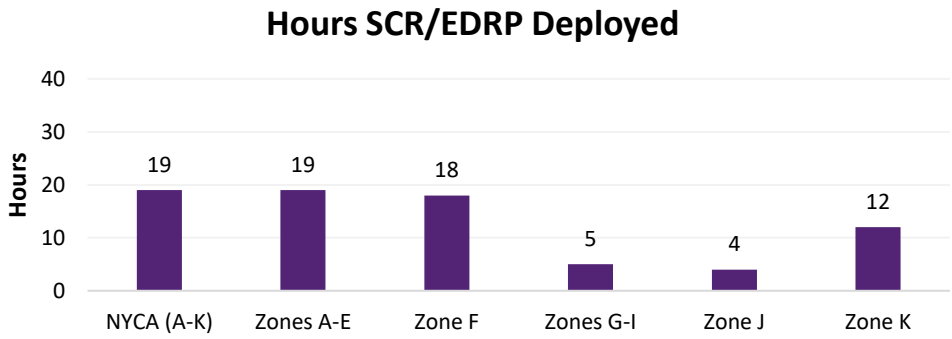
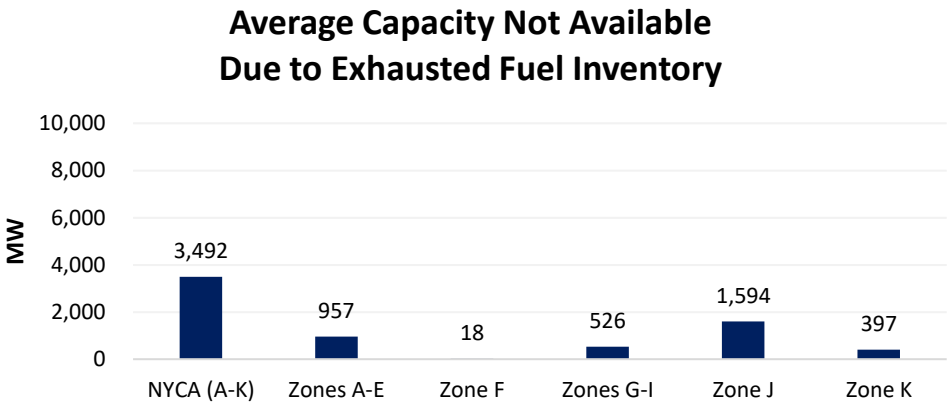
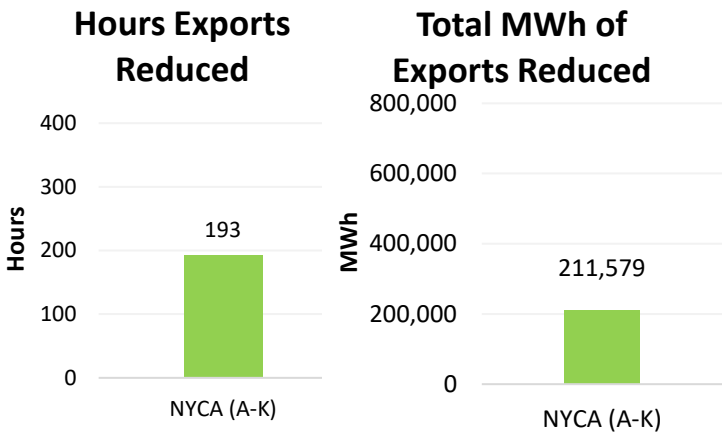
Reserve Violations	
Total Hrs.	125
Total MWh	256,289
Avg. MW	628.2
First Hour with Viol.	69

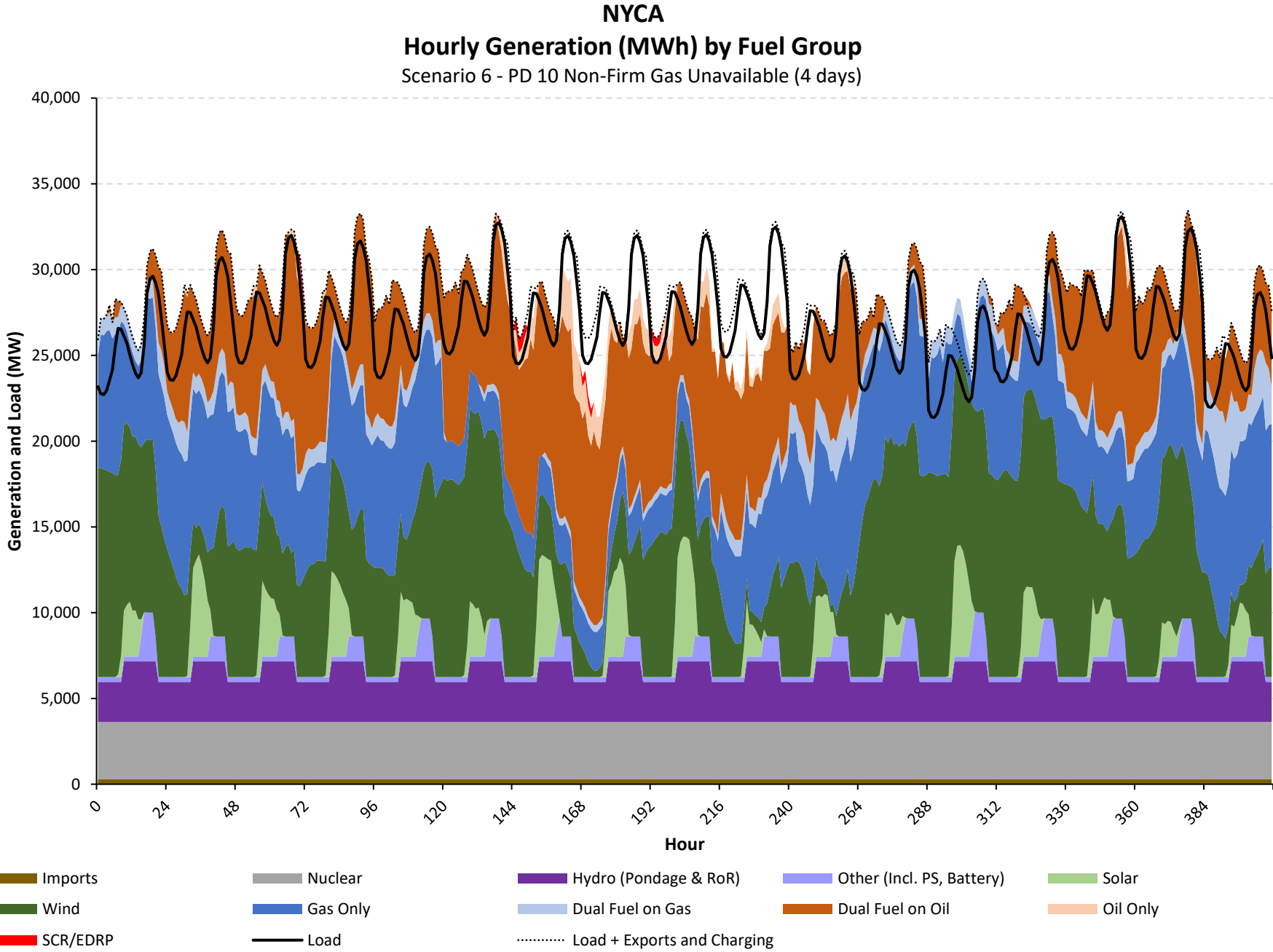
Loss of Load	
Total Hrs.	86
Total MWh	241,919
Avg. MW	592.9
First Hour with Losses	141

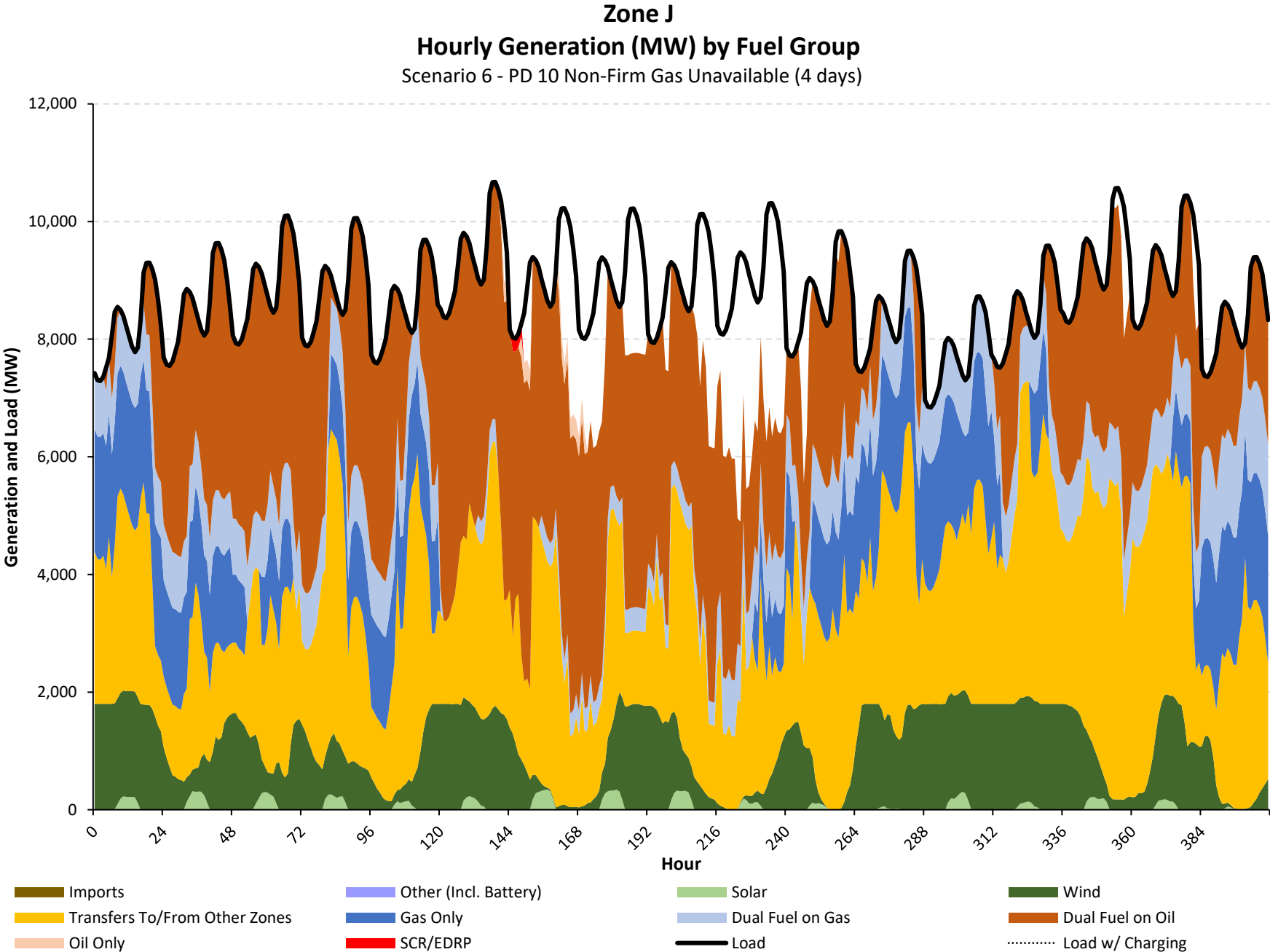
Full Period Results Summary

Case Name: Scenario 6 - PD 10 Non-Firm Gas Unavailable (4 days)

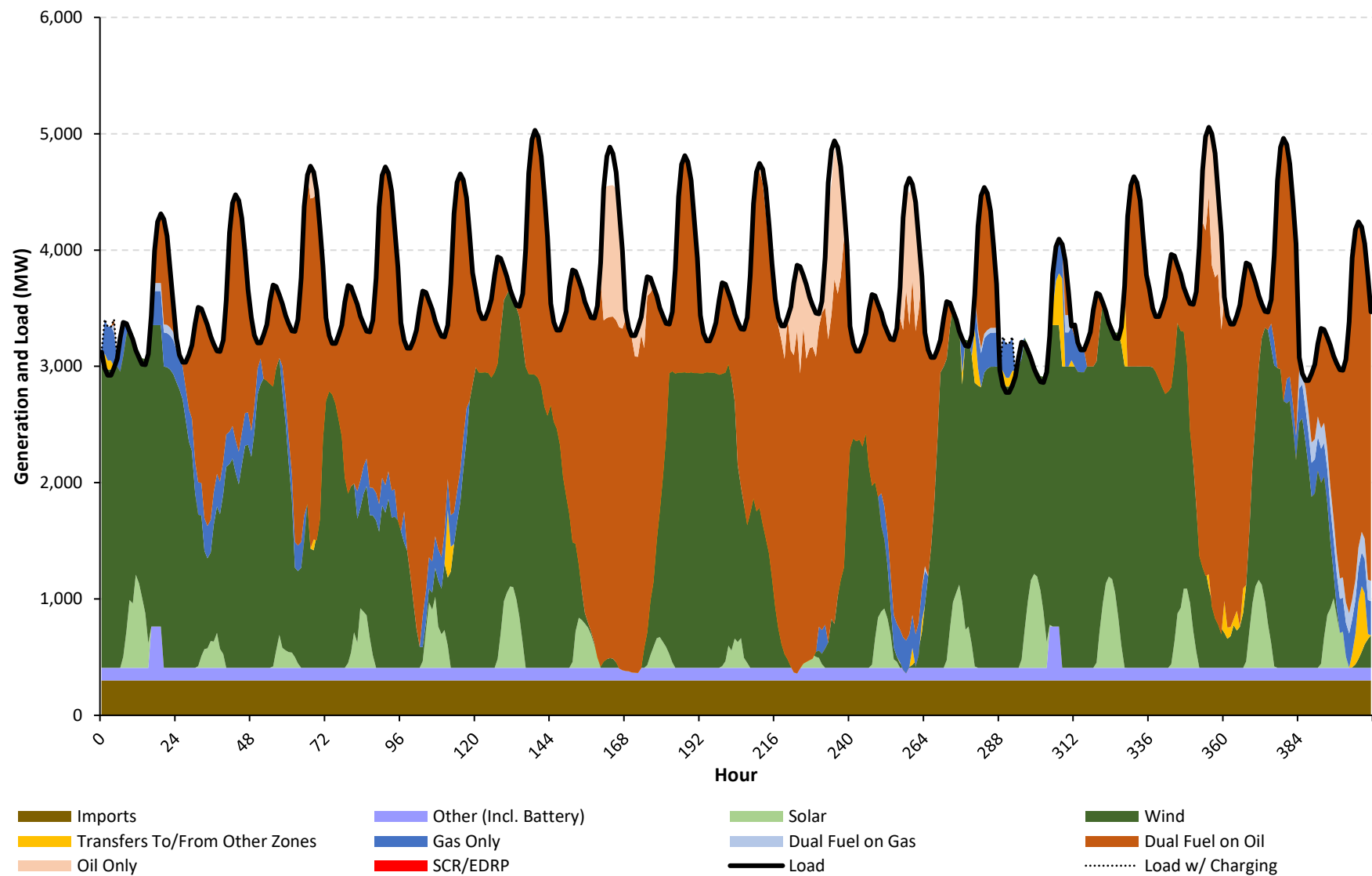
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

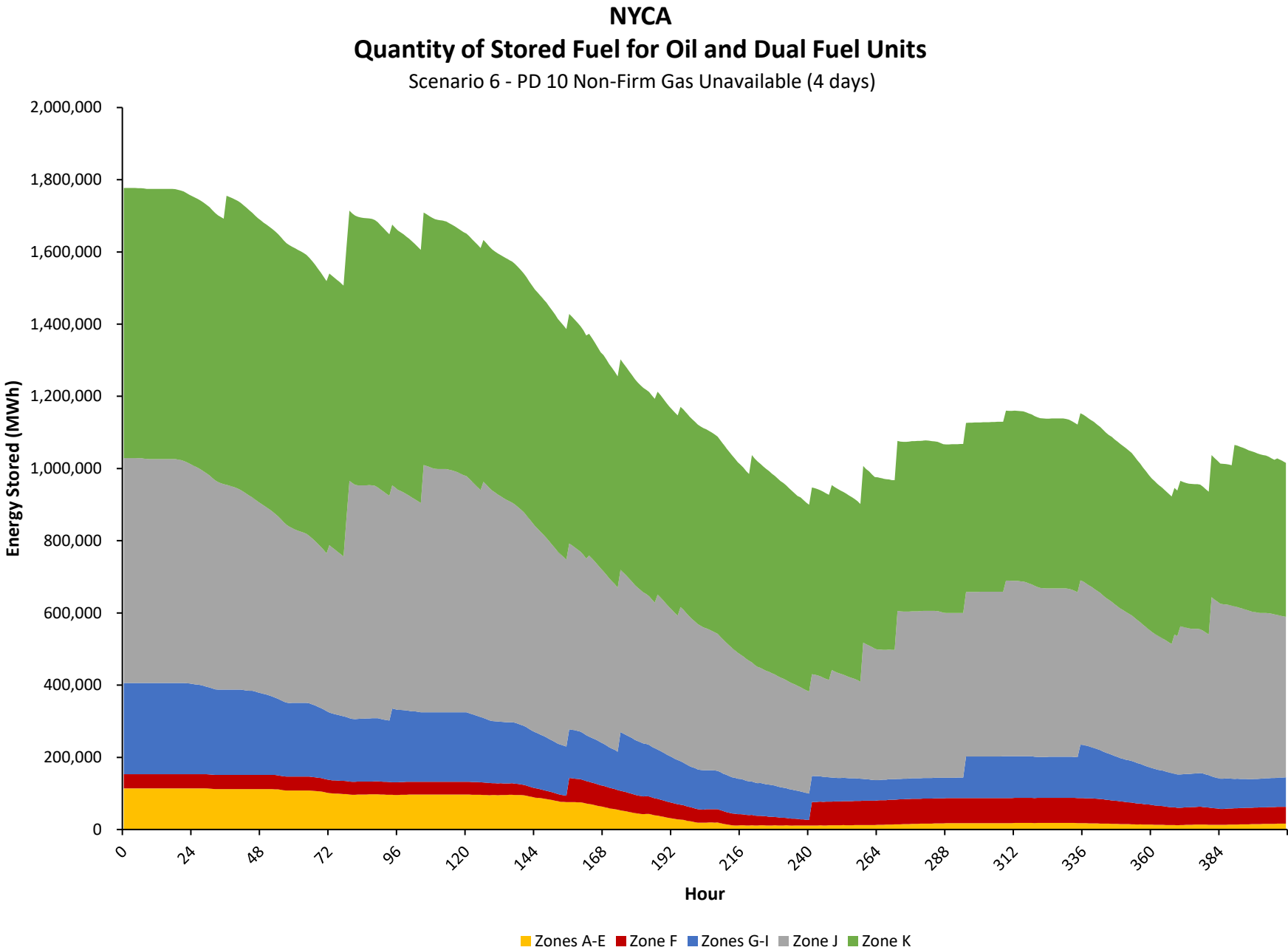


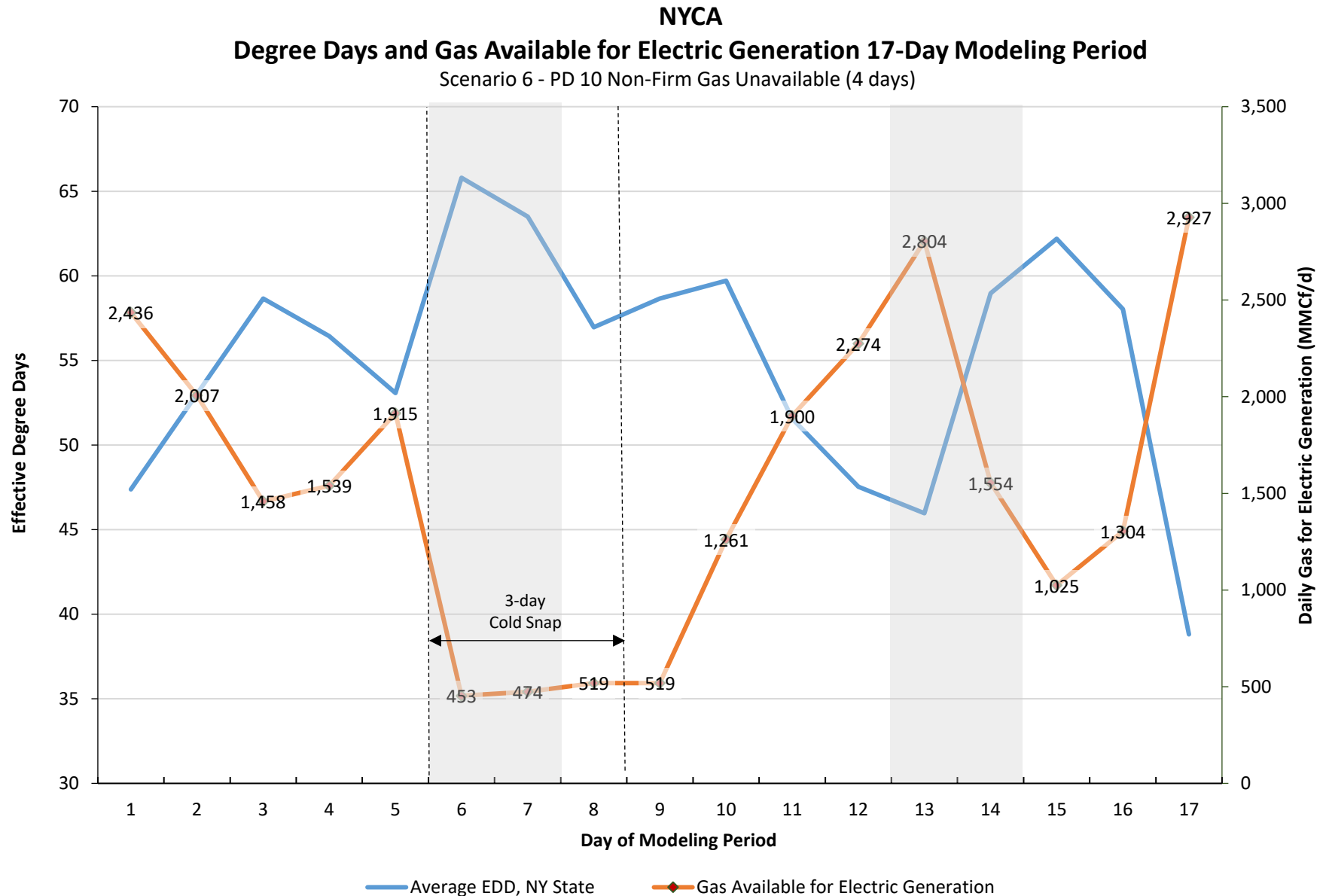




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 6 - PD 10 Non-Firm Gas Unavailable (4 days)

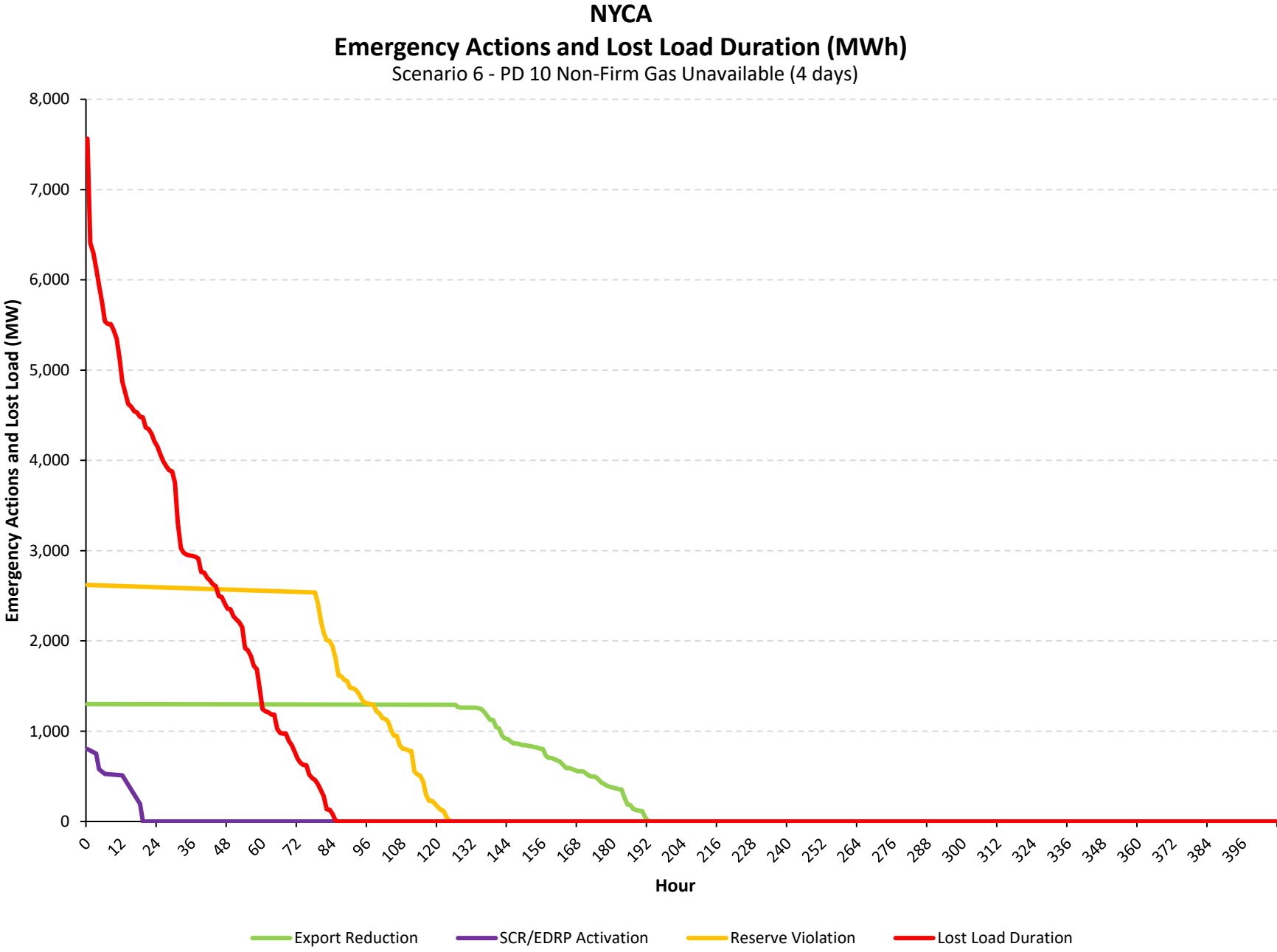


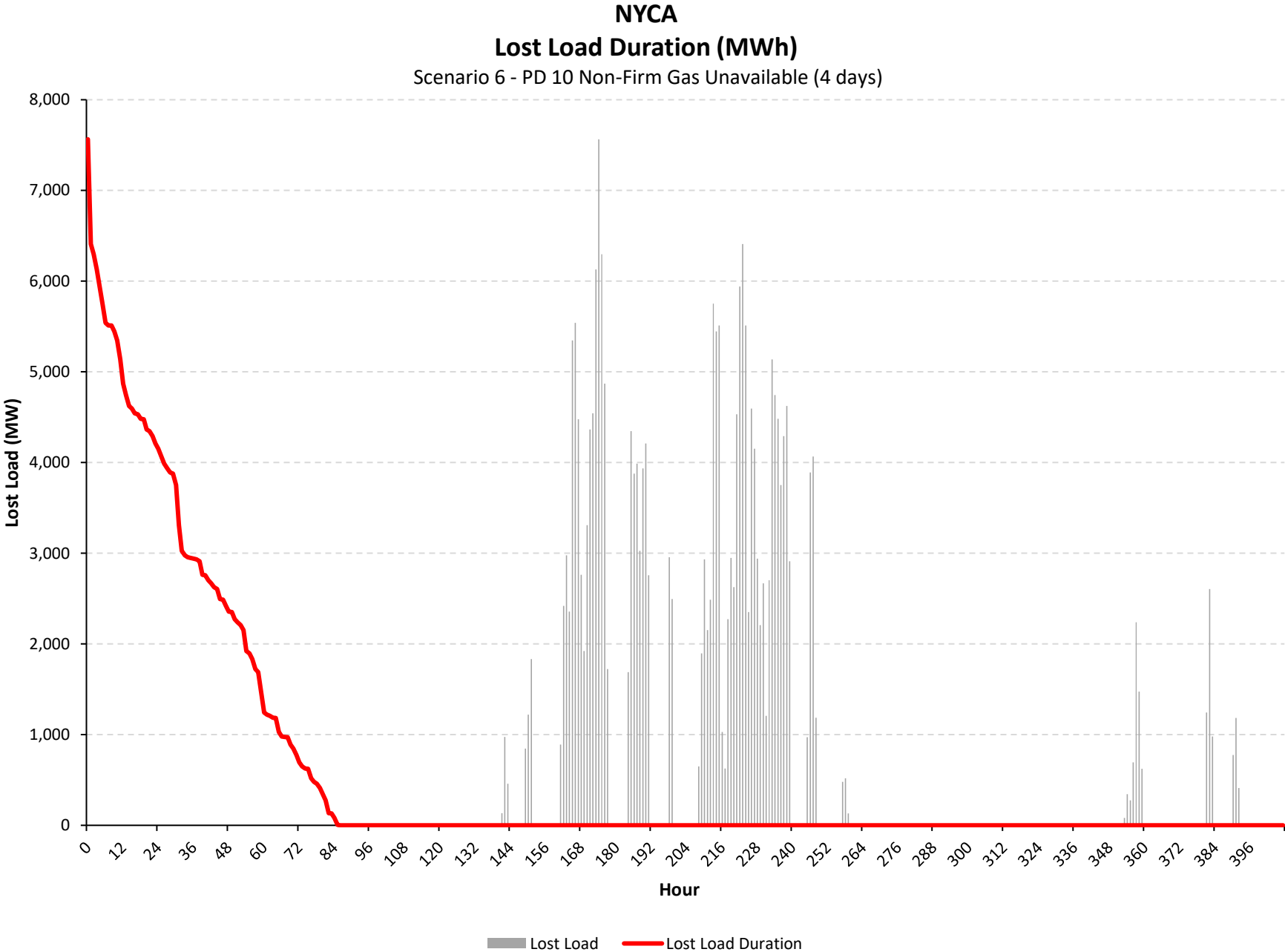




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



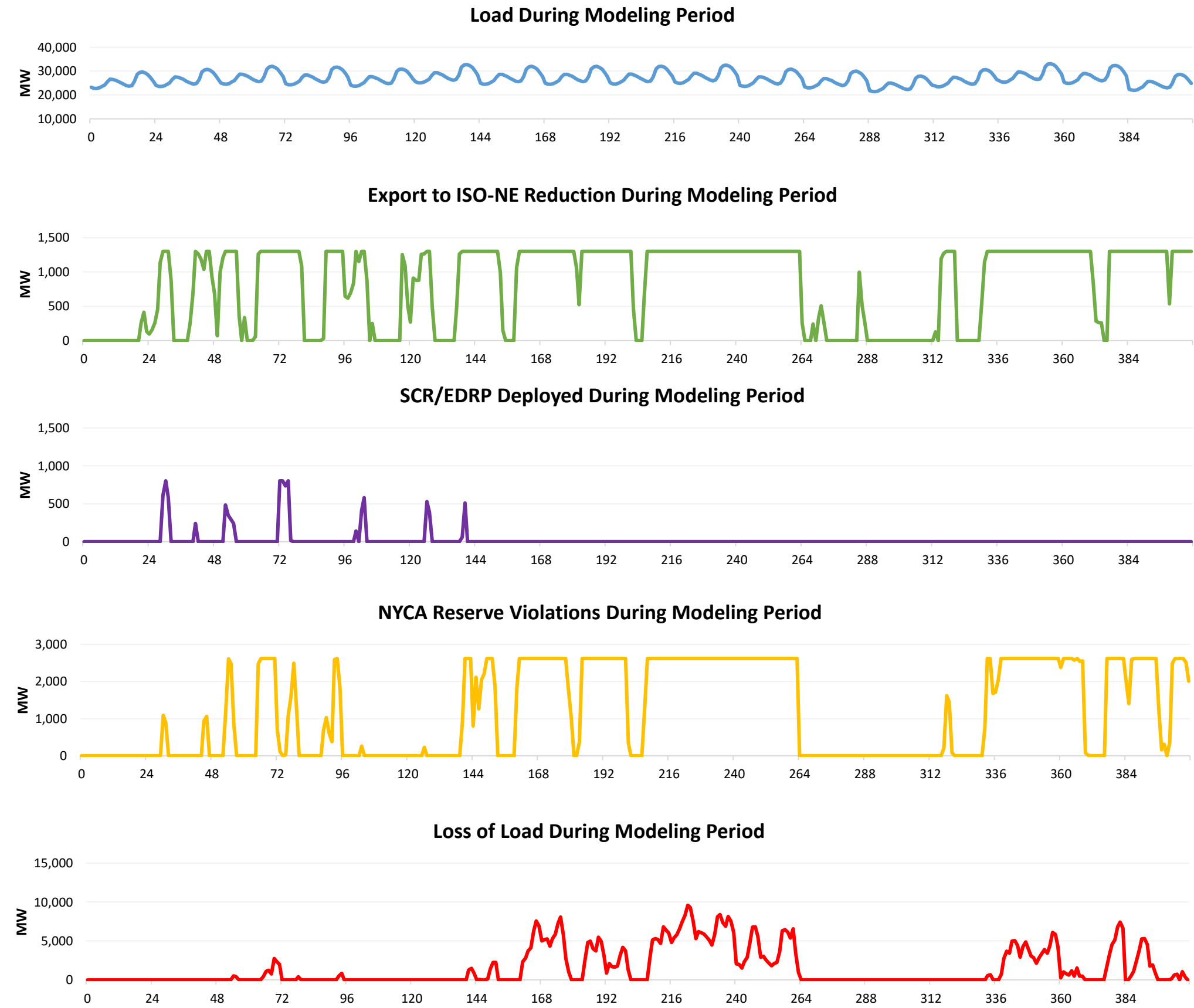


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 6 - PD 11 Combination Disruption (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 6 - PD 11 Combination Disruption



Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	291
Total MWh	334,184
Avg. MW	819.1

SCR Deployment	
Total Hrs.	20
Total MWh	9,371
Avg. MW	23.0

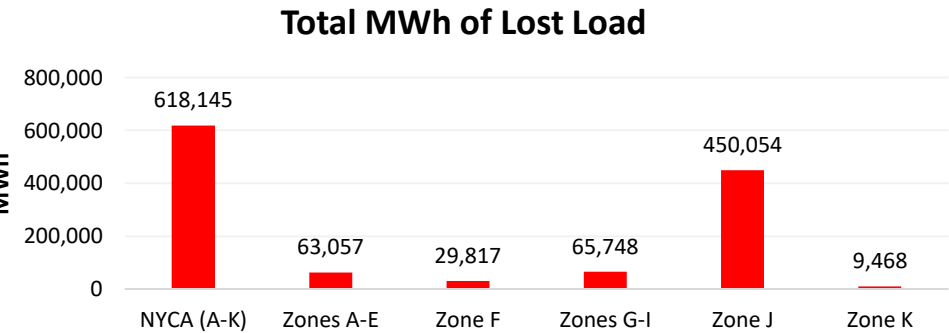
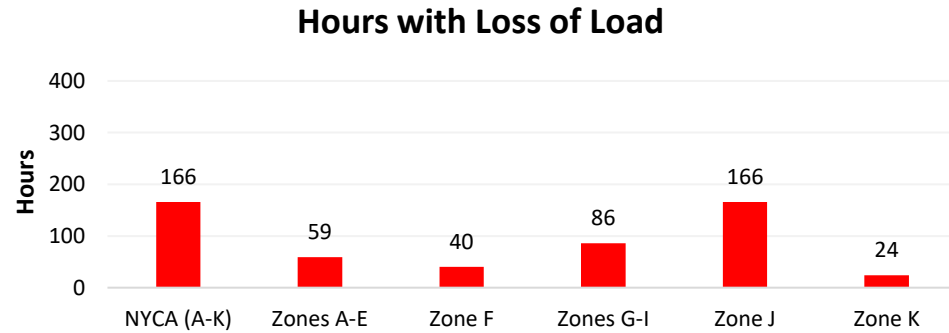
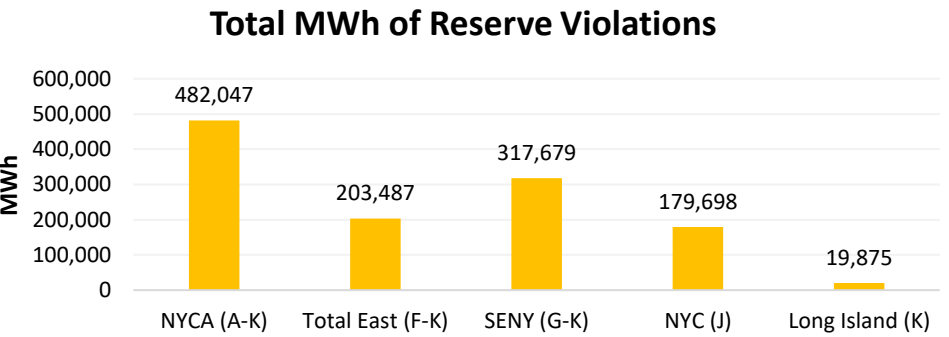
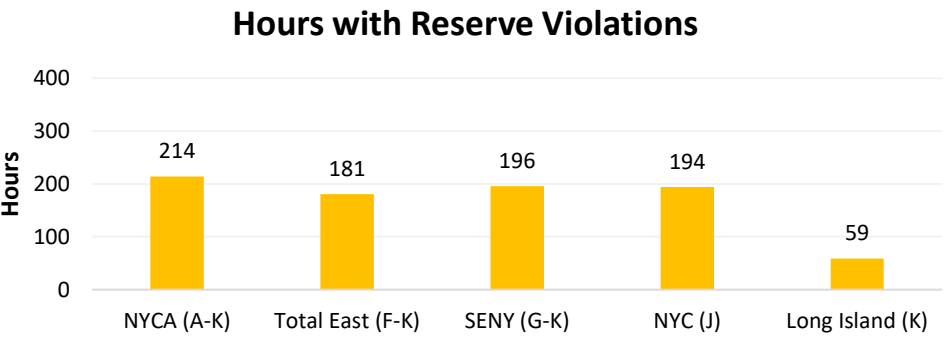
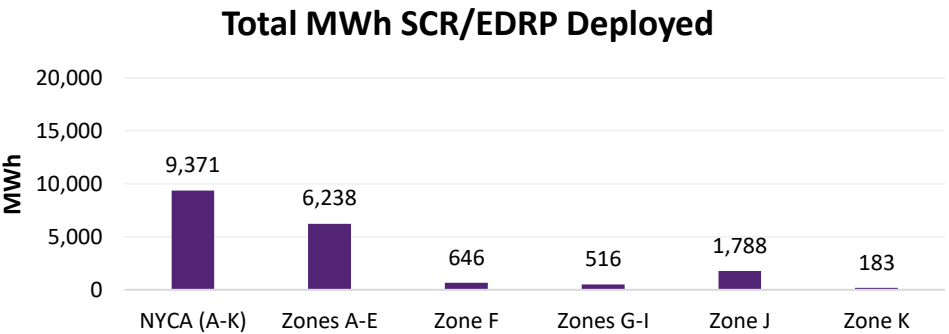
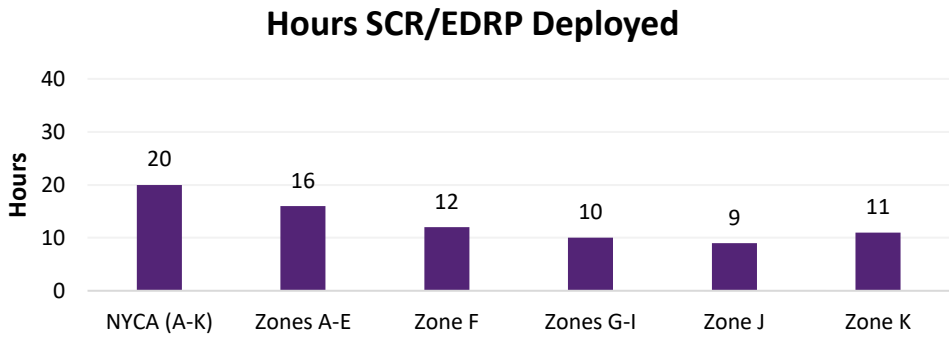
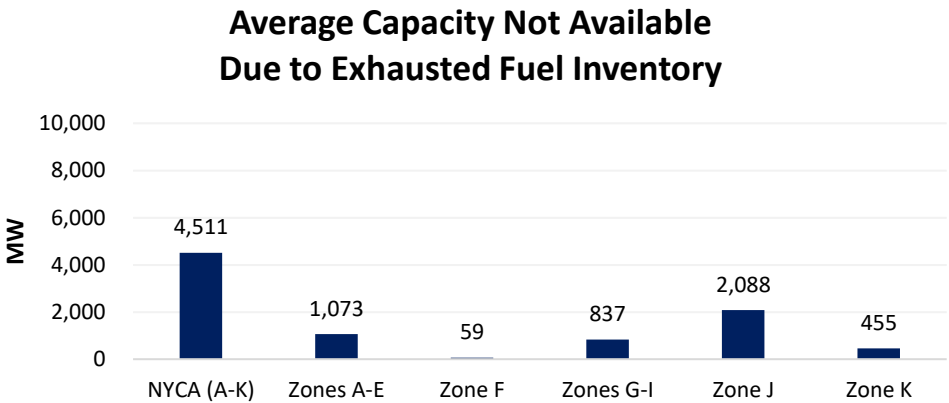
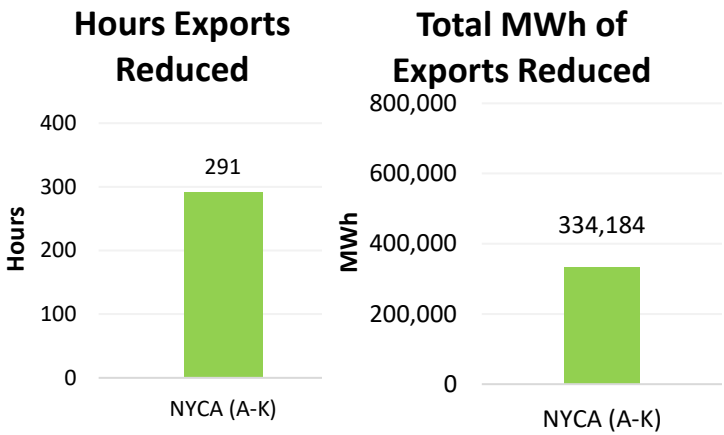
Reserve Violations	
Total Hrs.	214
Total MWh	482,047
Avg. MW	1,181.5
First Hour with Viol.	30

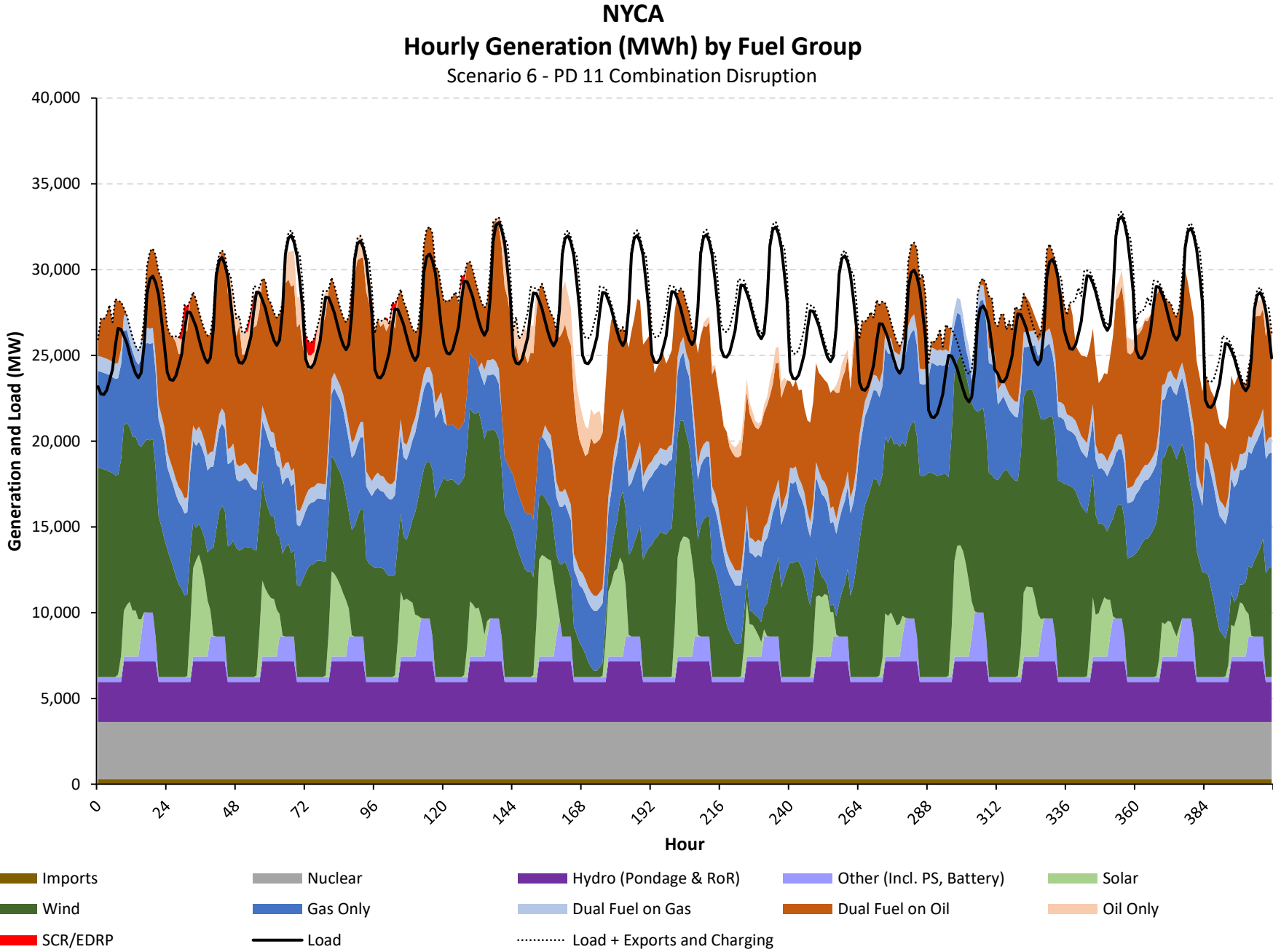
Loss of Load	
Total Hrs.	166
Total MWh	618,145
Avg. MW	1,515.1
First Hour with Losses	54

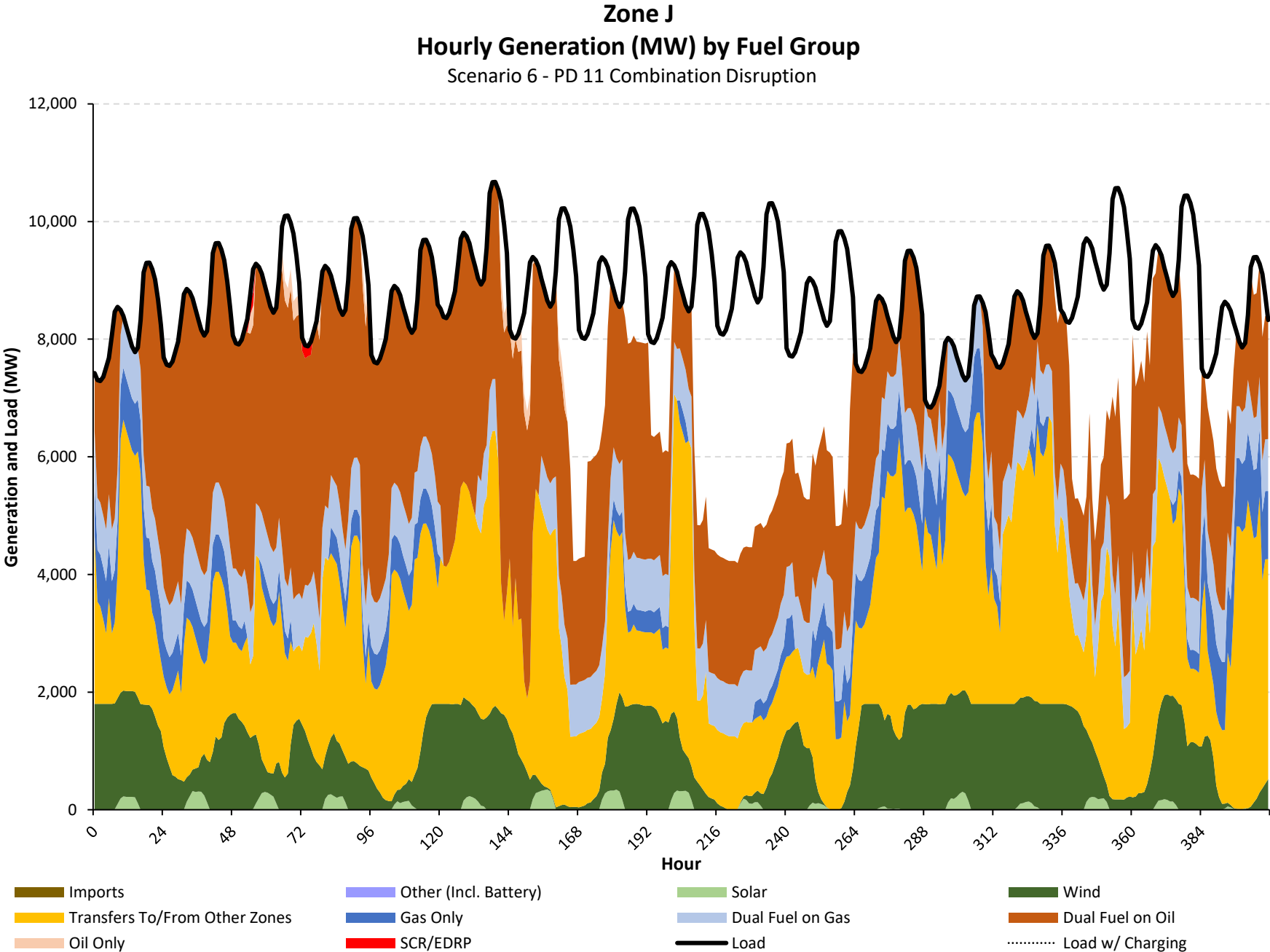
Full Period Results Summary

Case Name: Scenario 6 - PD 11 Combination Disruption

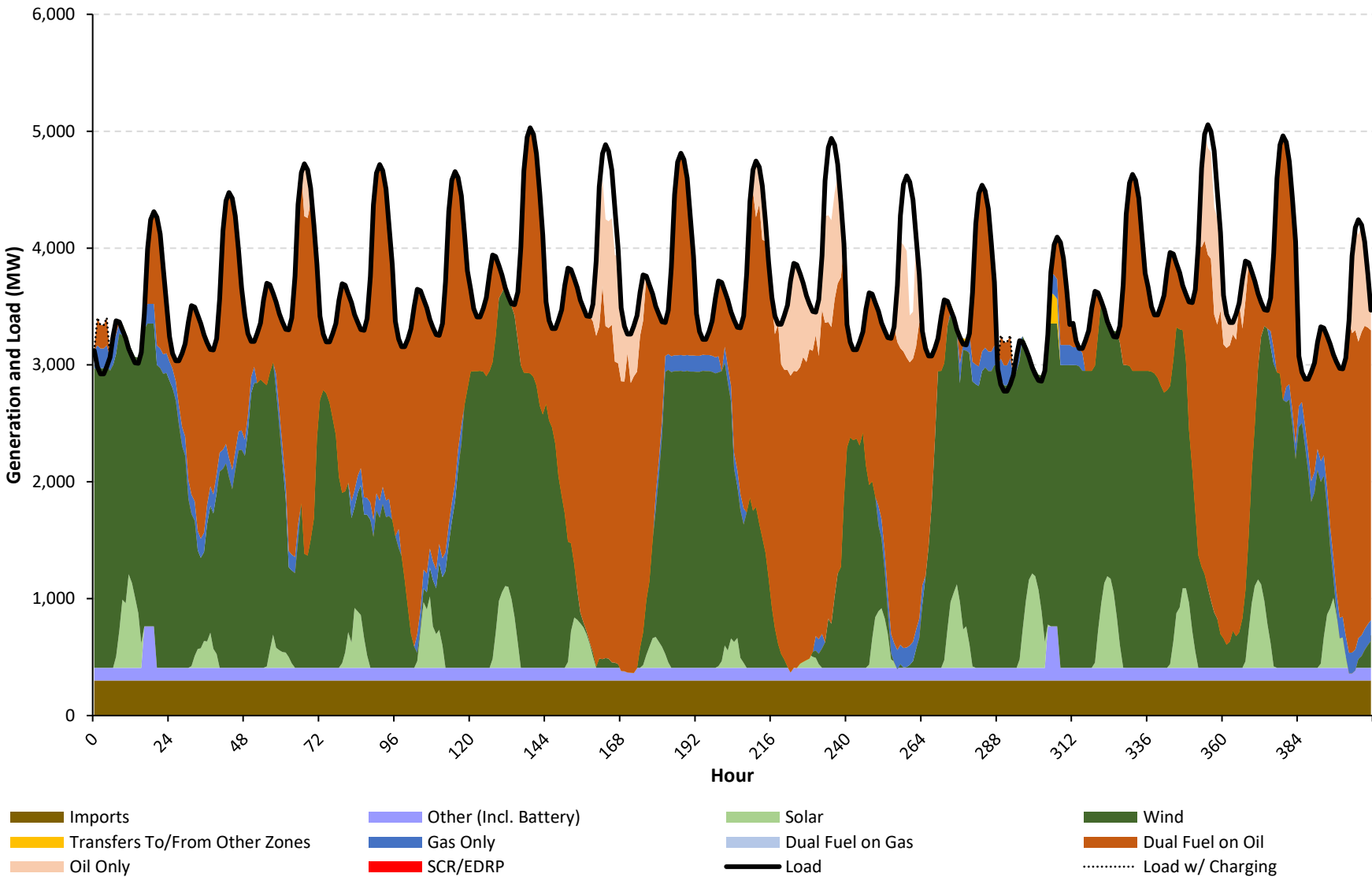
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	Historical
Renewables:	Delayed
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

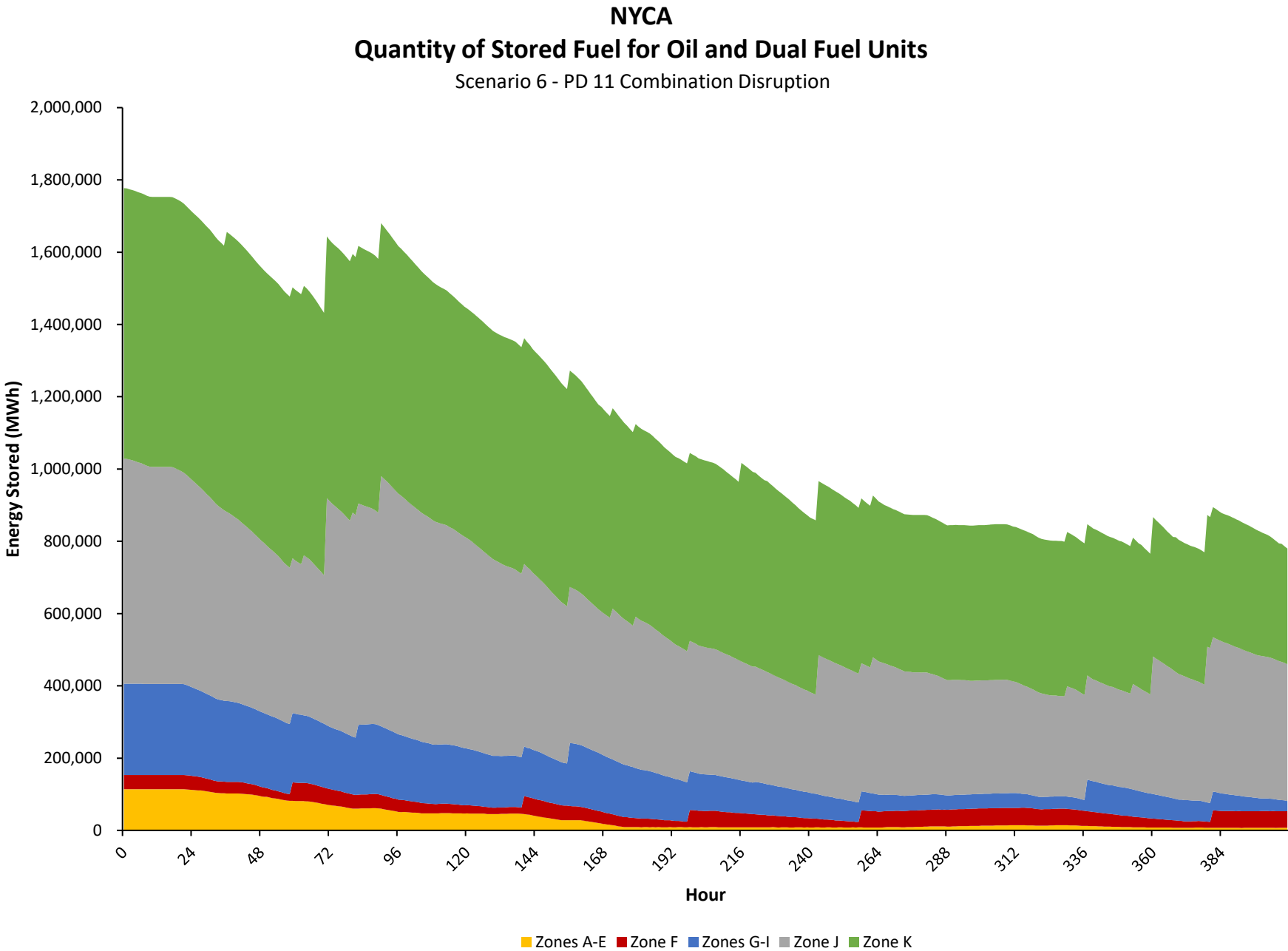




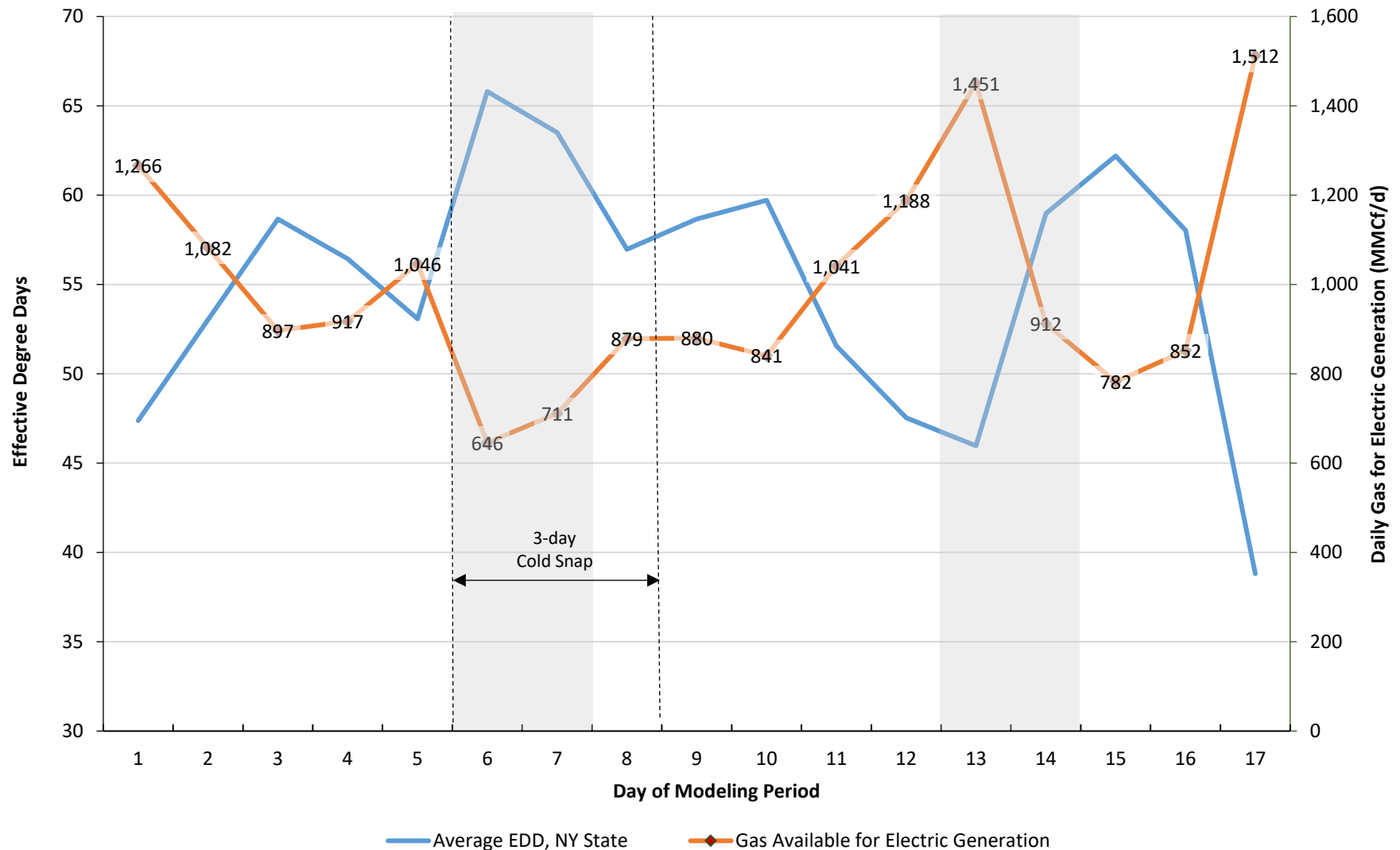


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 6 - PD 11 Combination Disruption



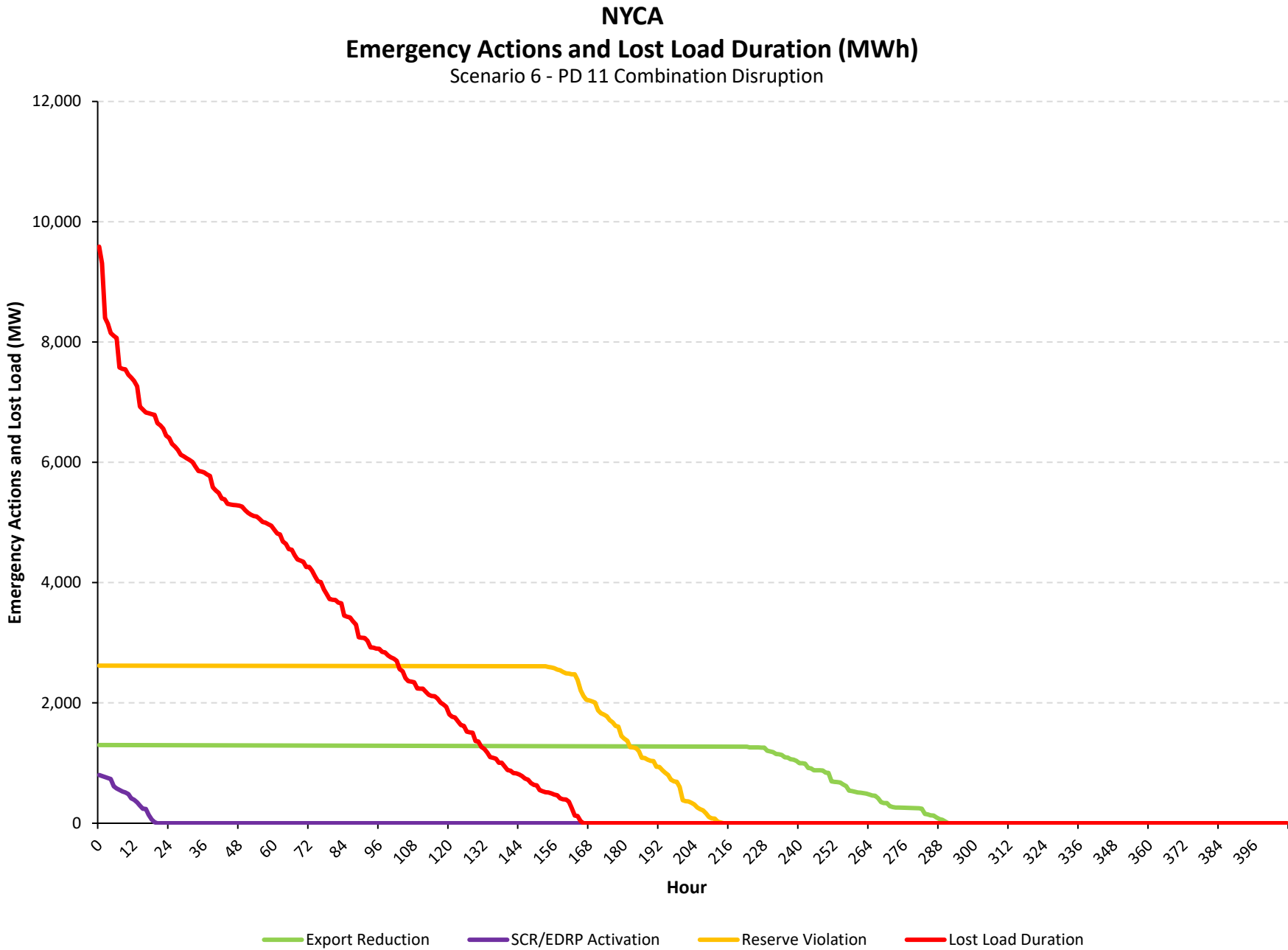


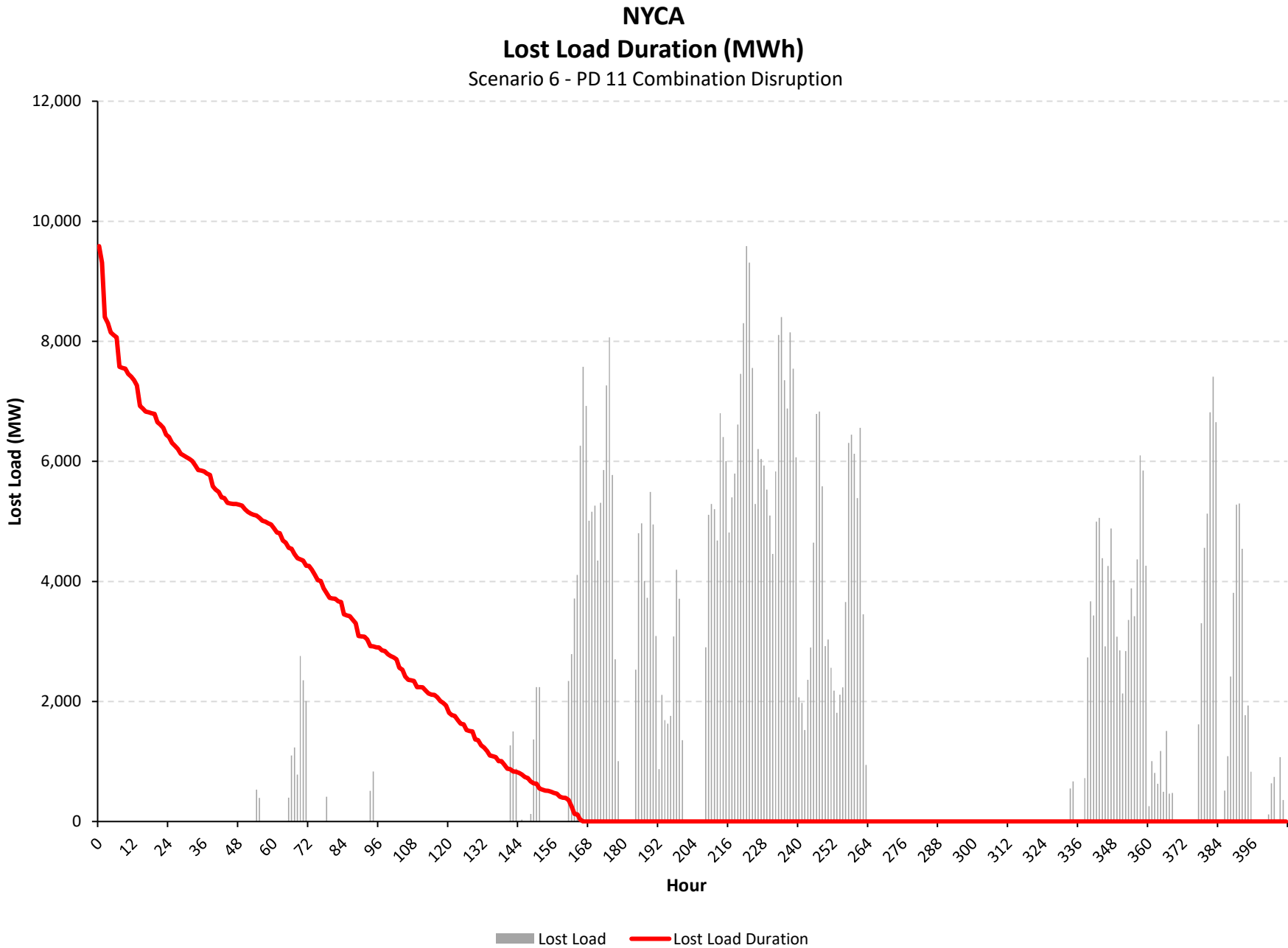
NYCA **Degree Days and Gas Available for Electric Generation 17-Day Modeling Period** Scenario 6 - PD 11 Combination Disruption



Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



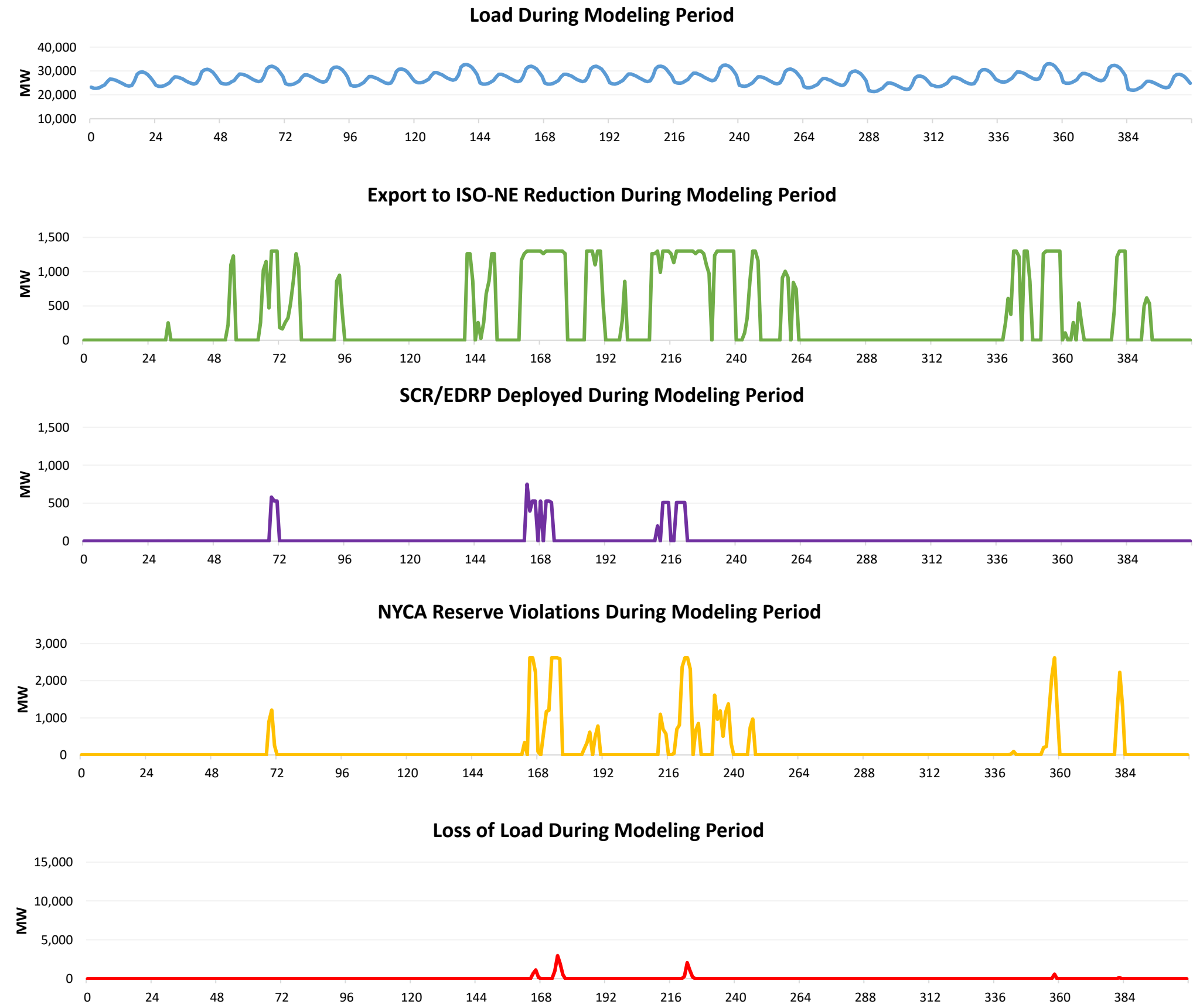


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 7 - PD 1 No Disruptions (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 7 - PD 1 No Disruptions



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	127
Total MWh	128,707
Avg. MW	315.5

SCR Deployment	
Total Hrs.	19
Total MWh	9,693
Avg. MW	23.8

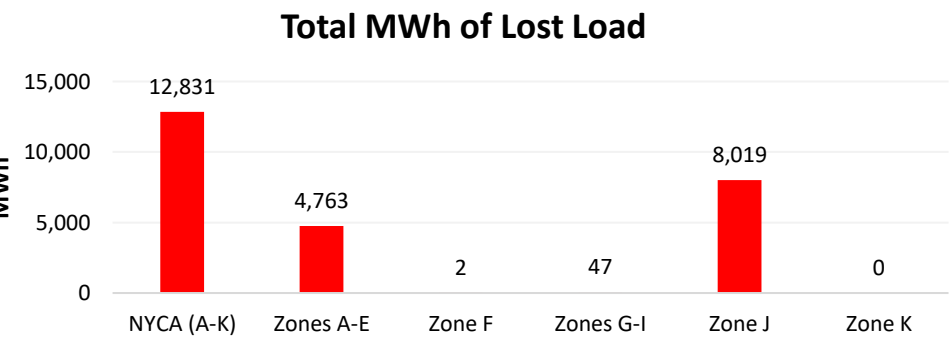
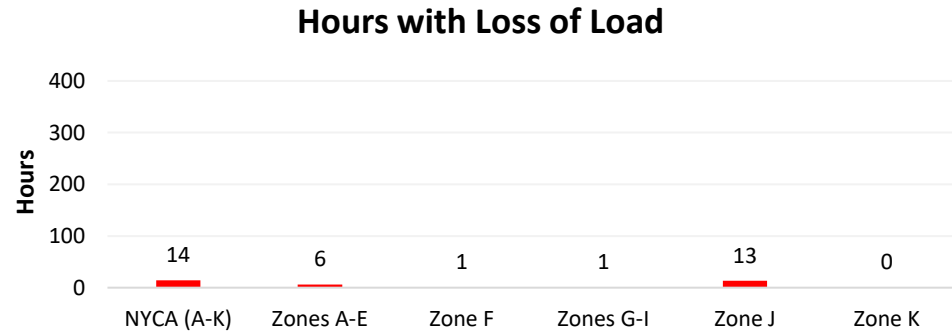
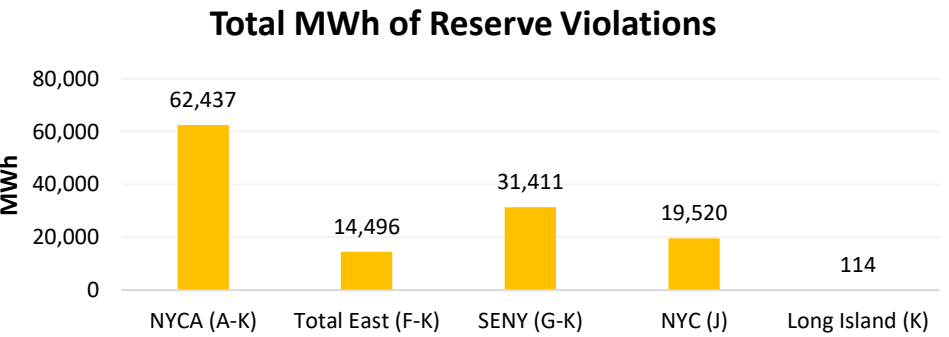
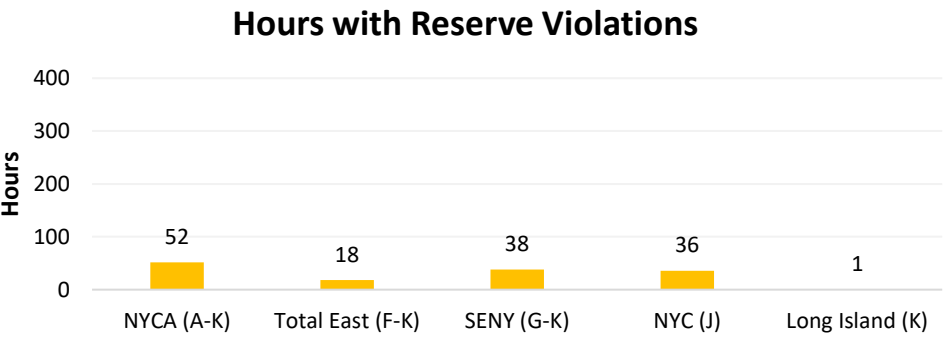
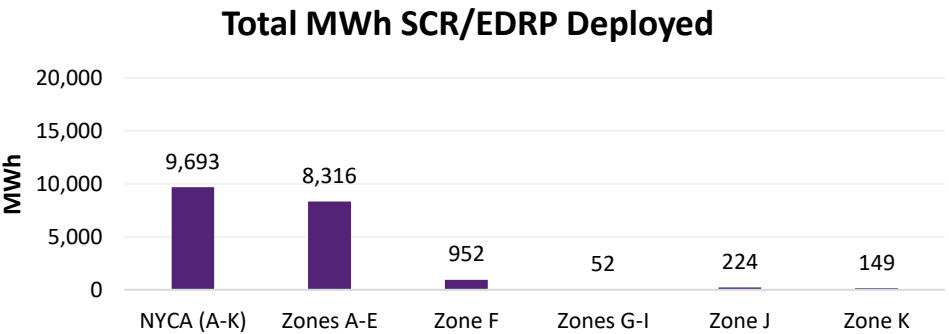
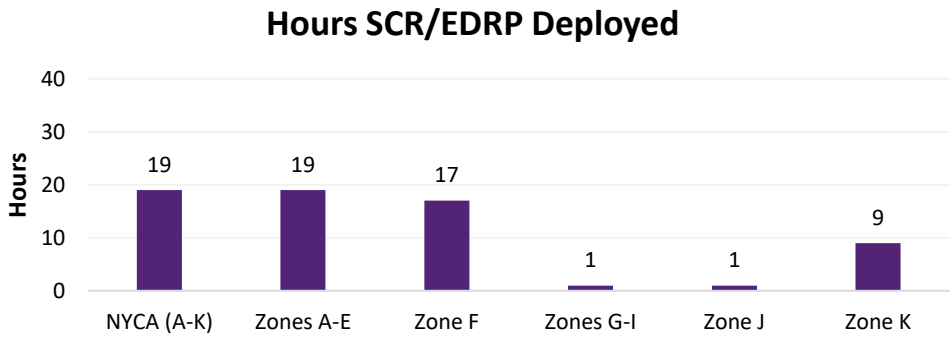
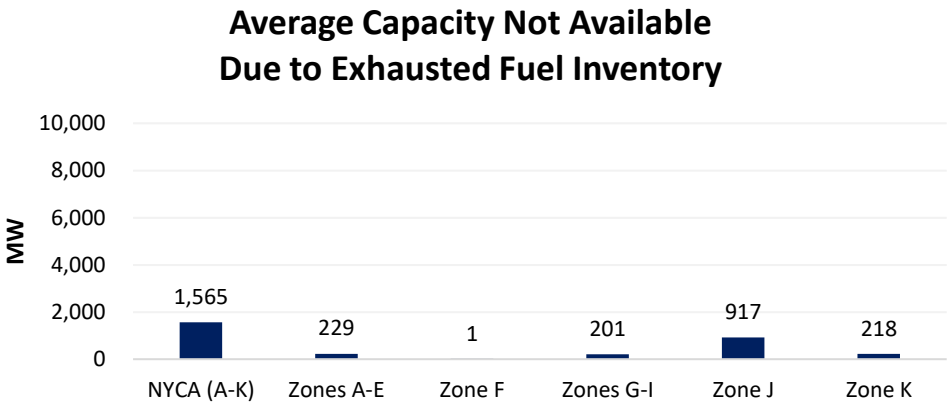
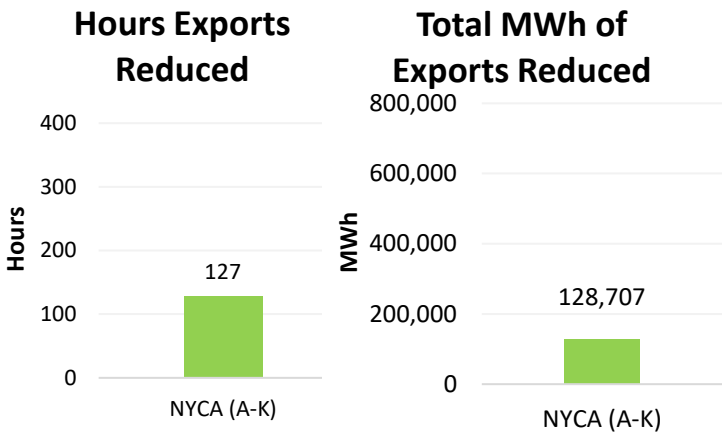
Reserve Violations	
Total Hrs.	52
Total MWh	62,437
Avg. MW	153.0
First Hour with Viol.	69

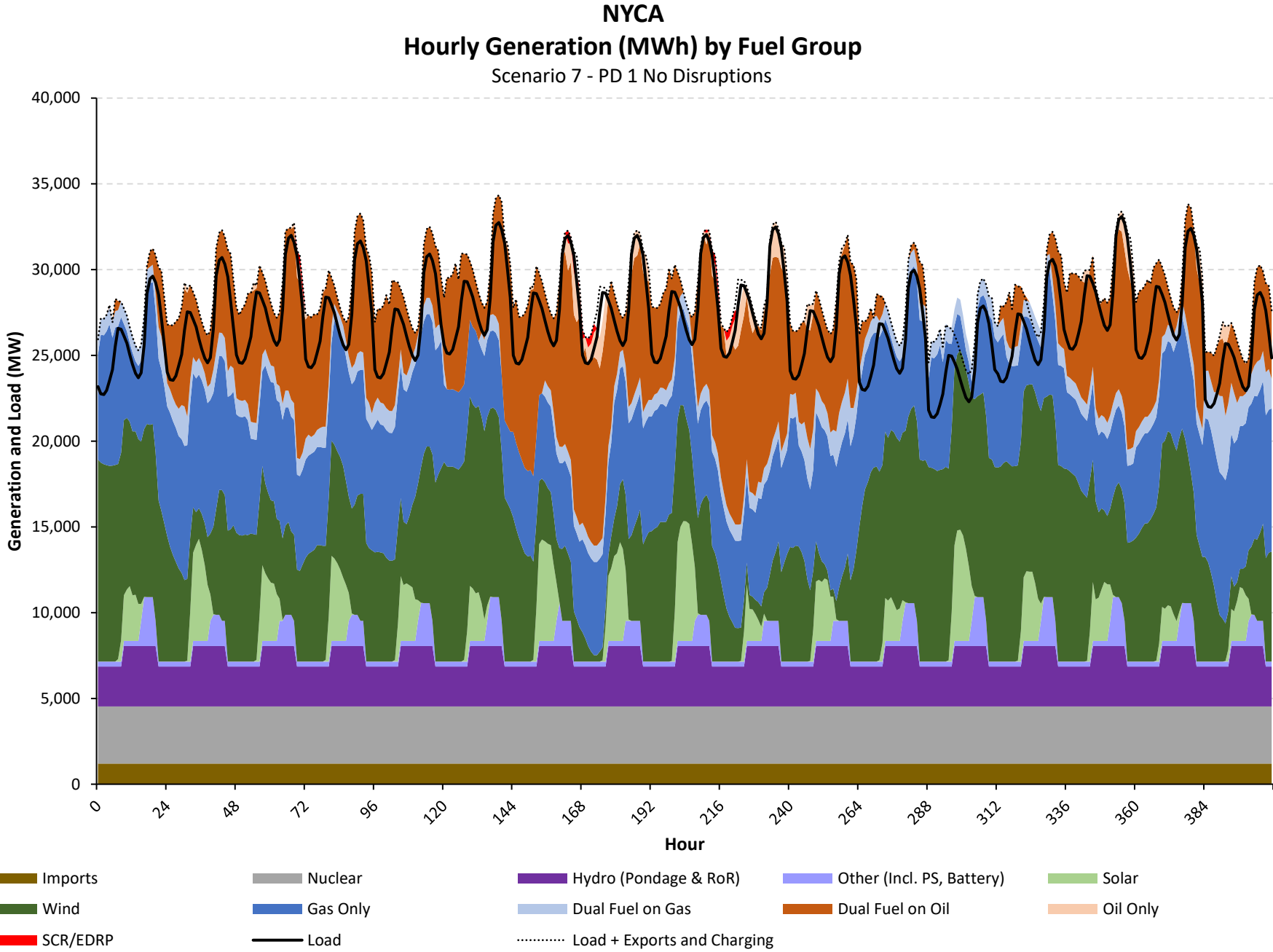
Loss of Load	
Total Hrs.	14
Total MWh	12,831
Avg. MW	31.4
First Hour with Losses	165

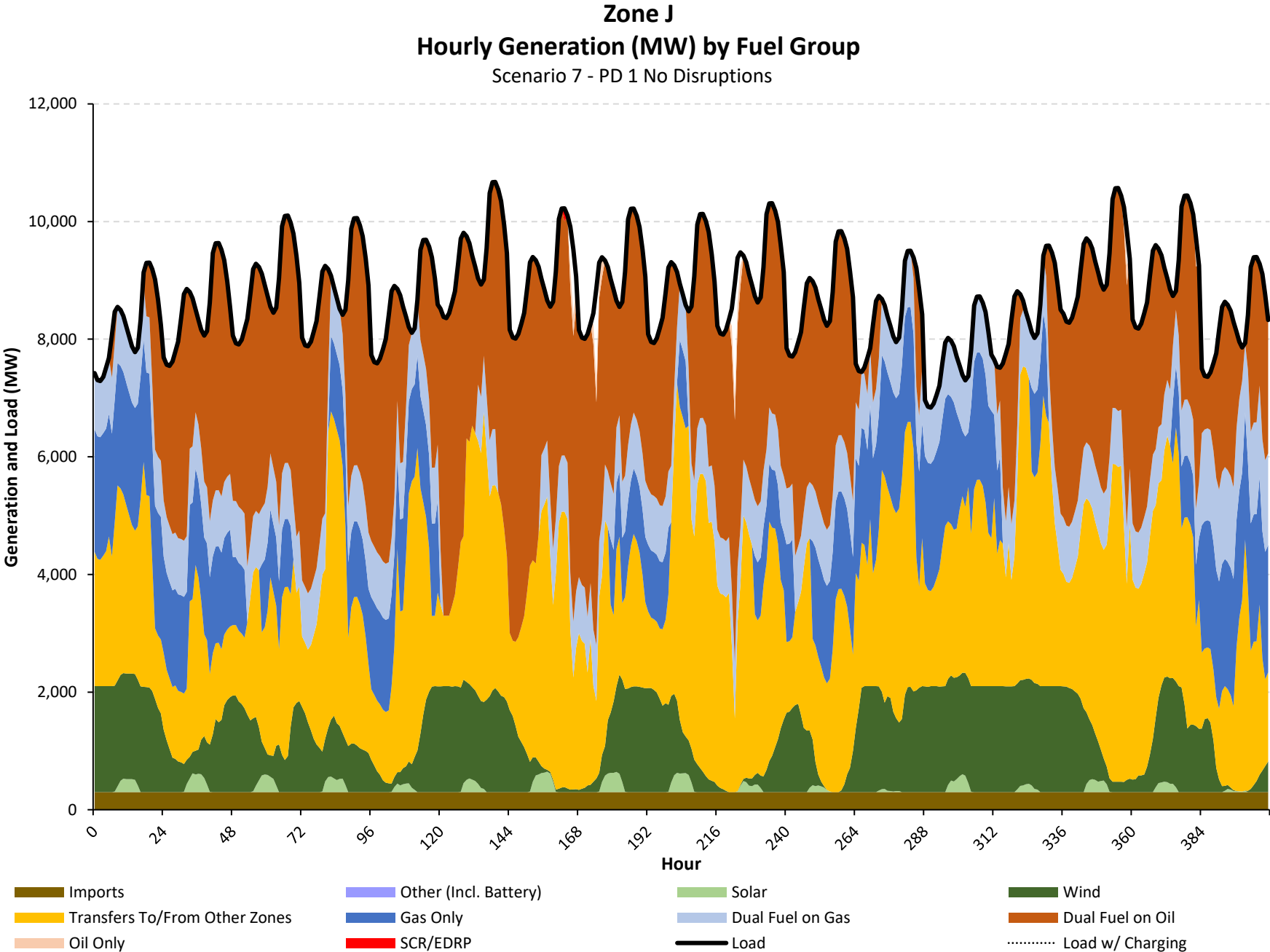
Full Period Results Summary

Case Name: Scenario 7 - PD 1 No Disruptions

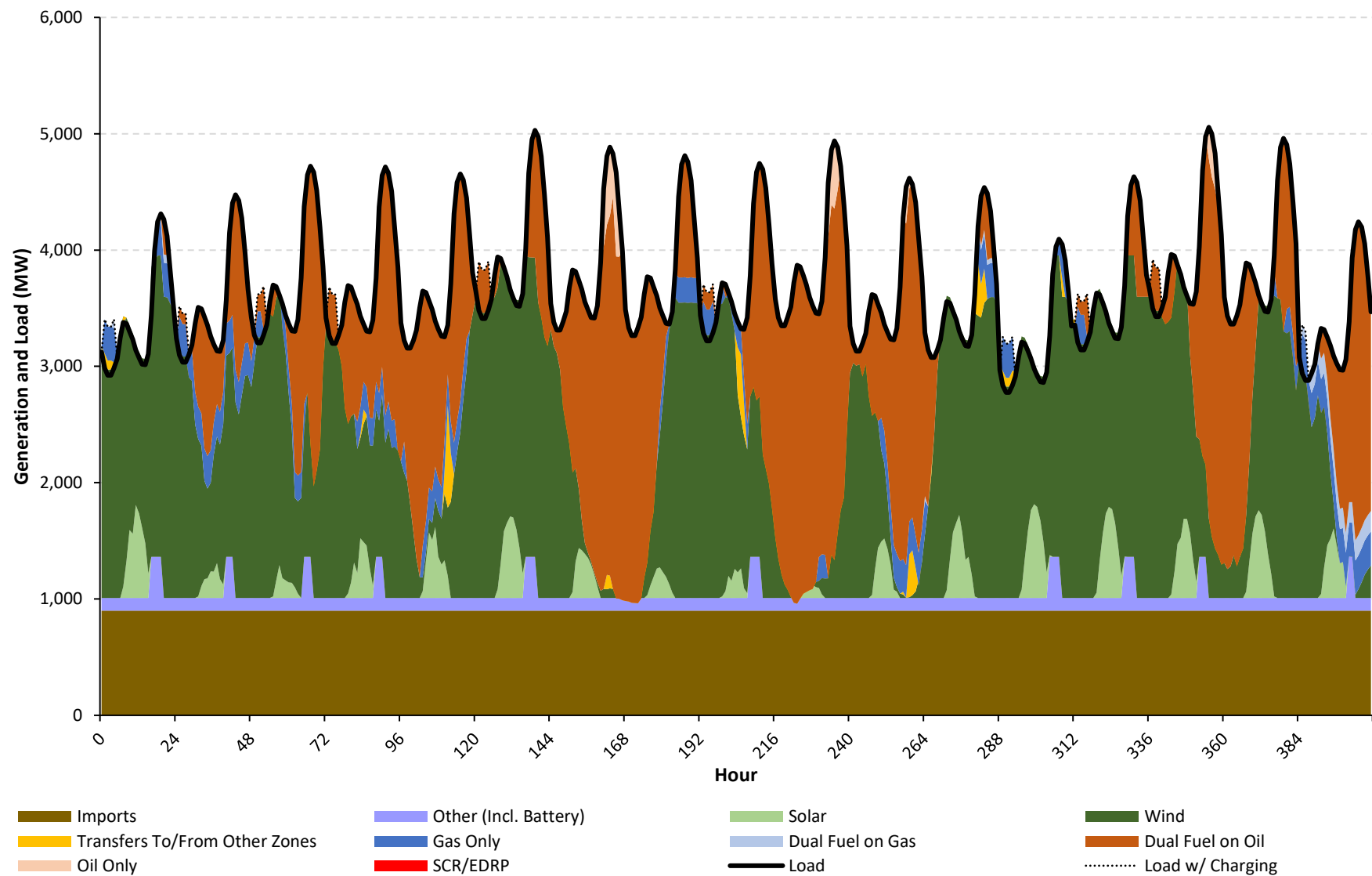
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All



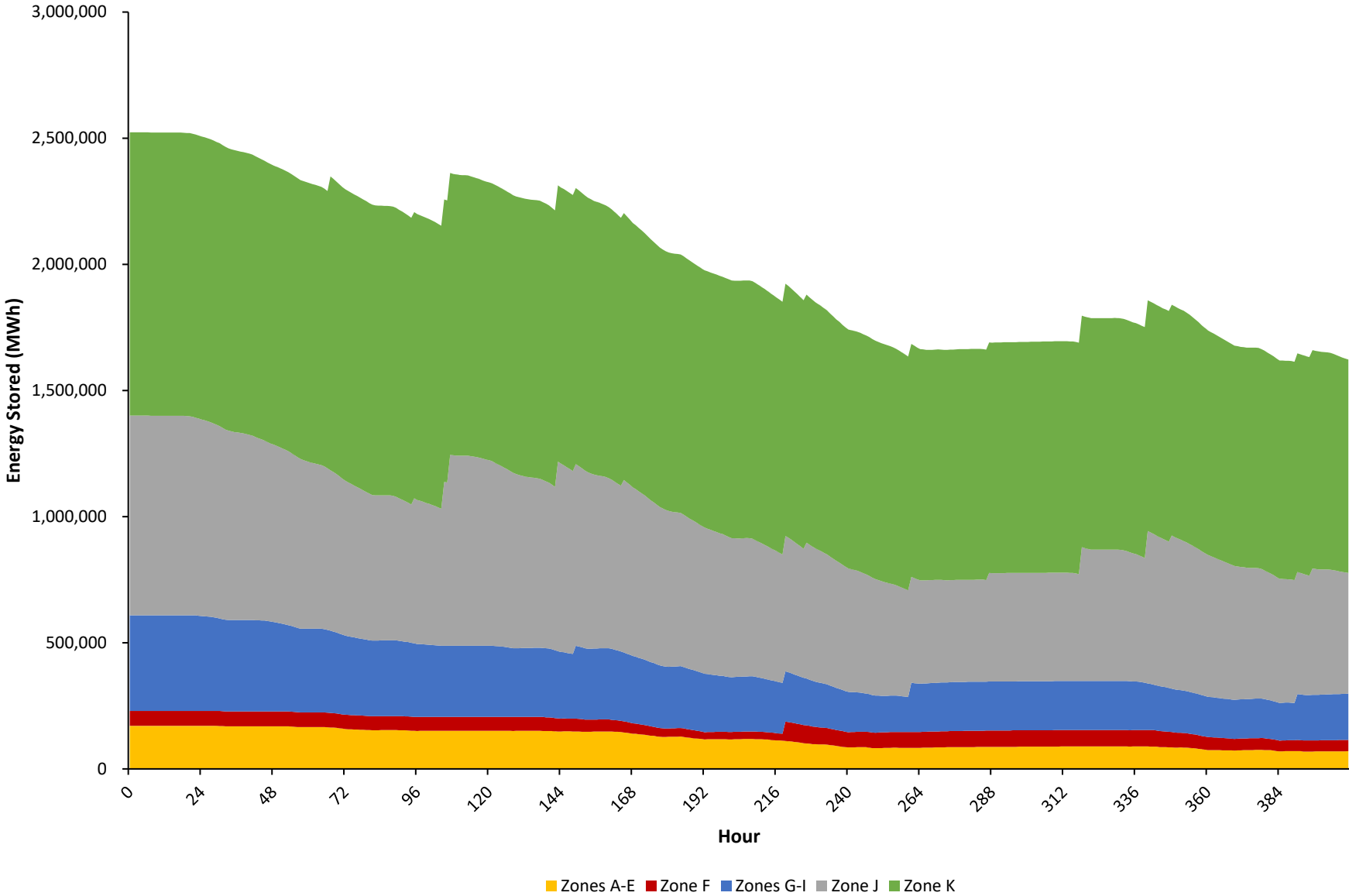


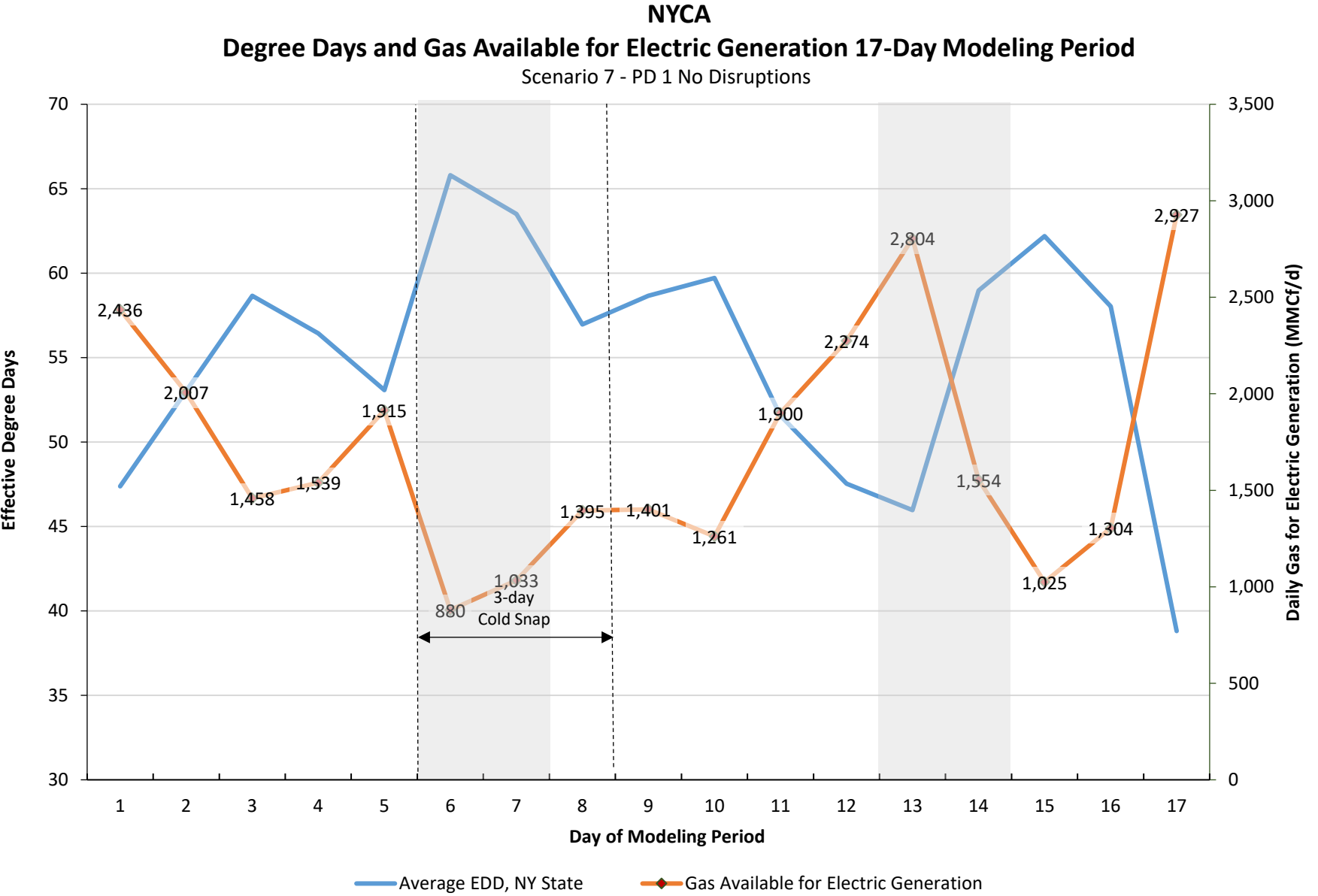


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 7 - PD 1 No Disruptions

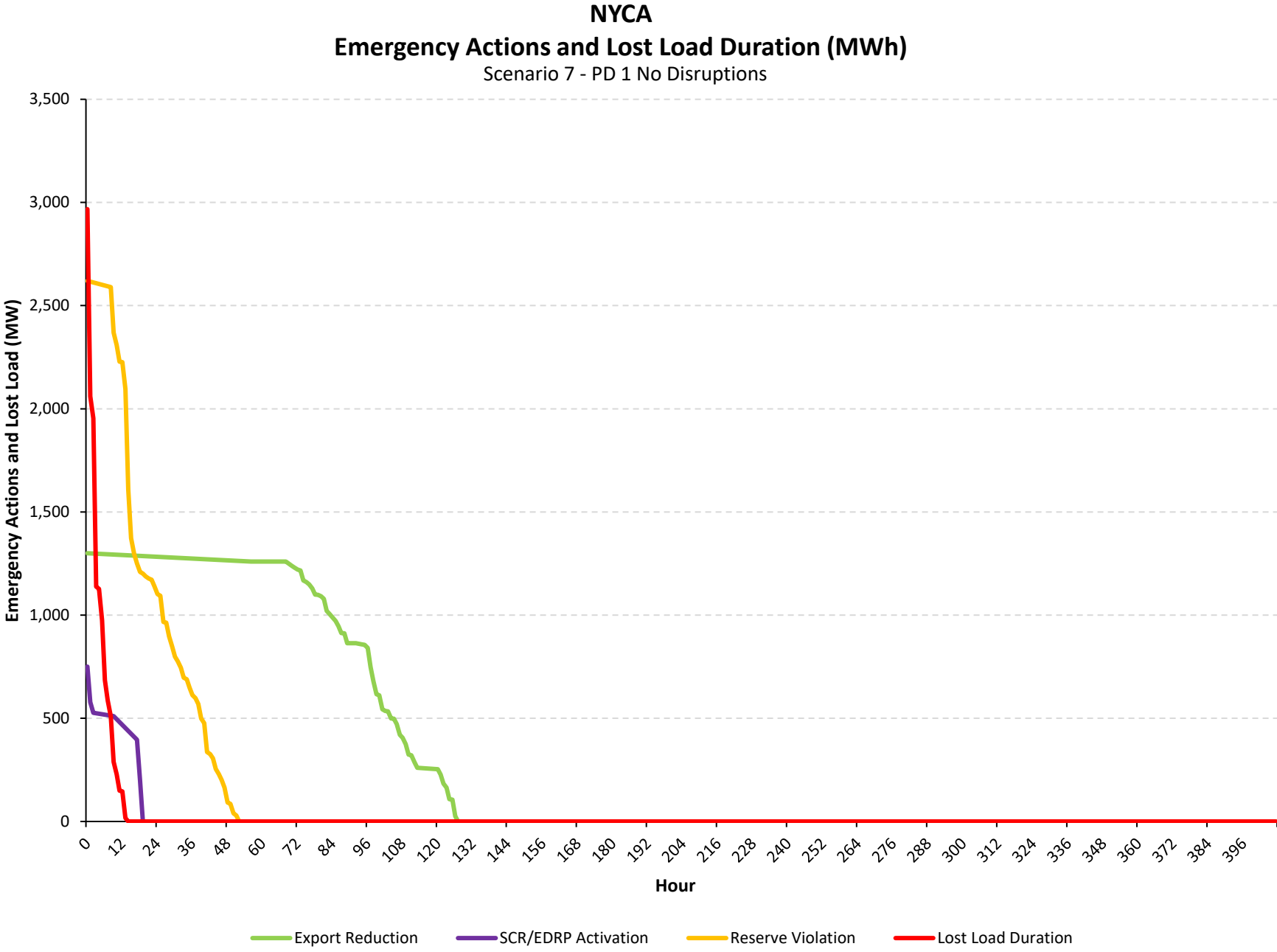


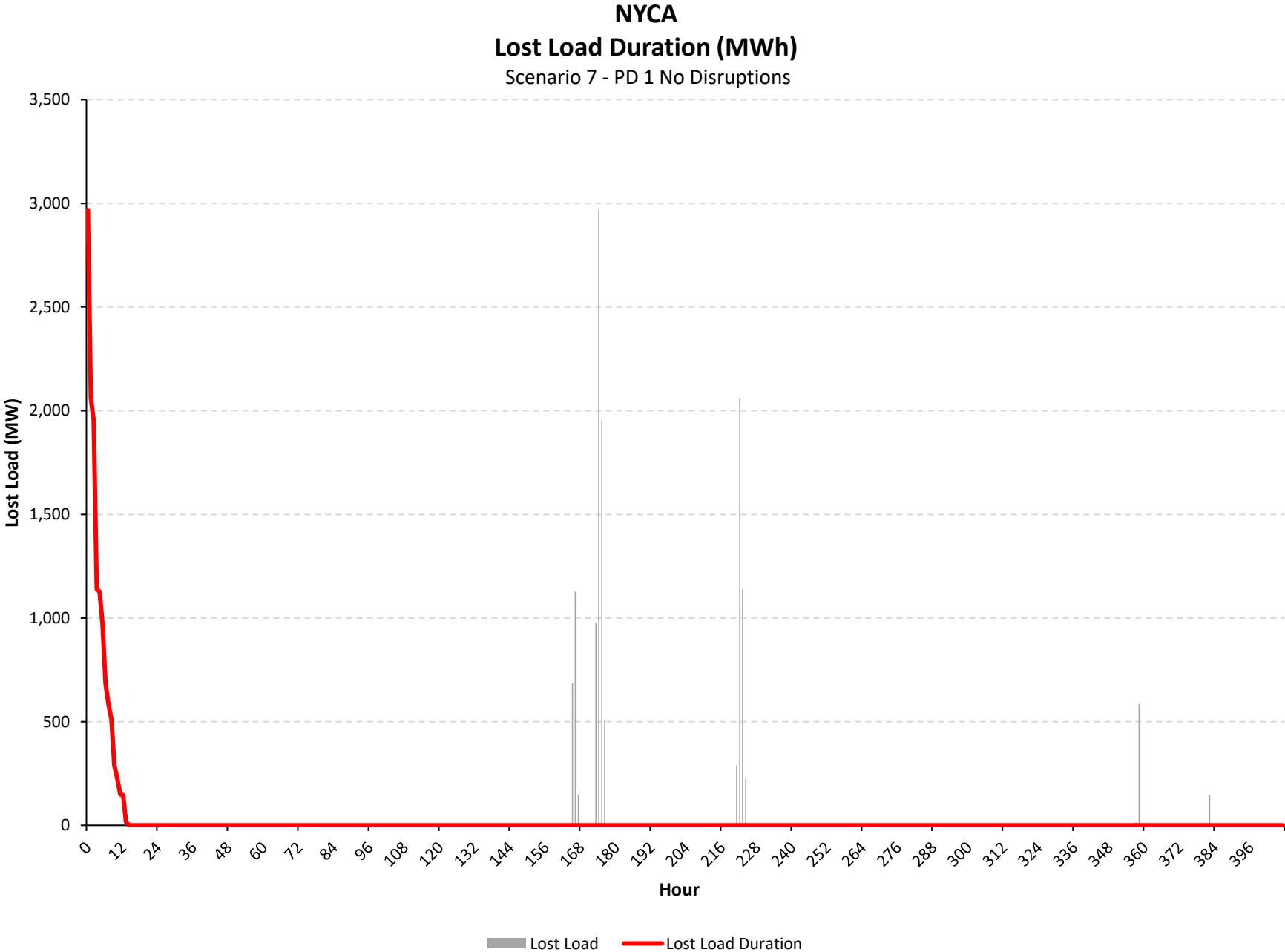
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 7 - PD 1 No Disruptions





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



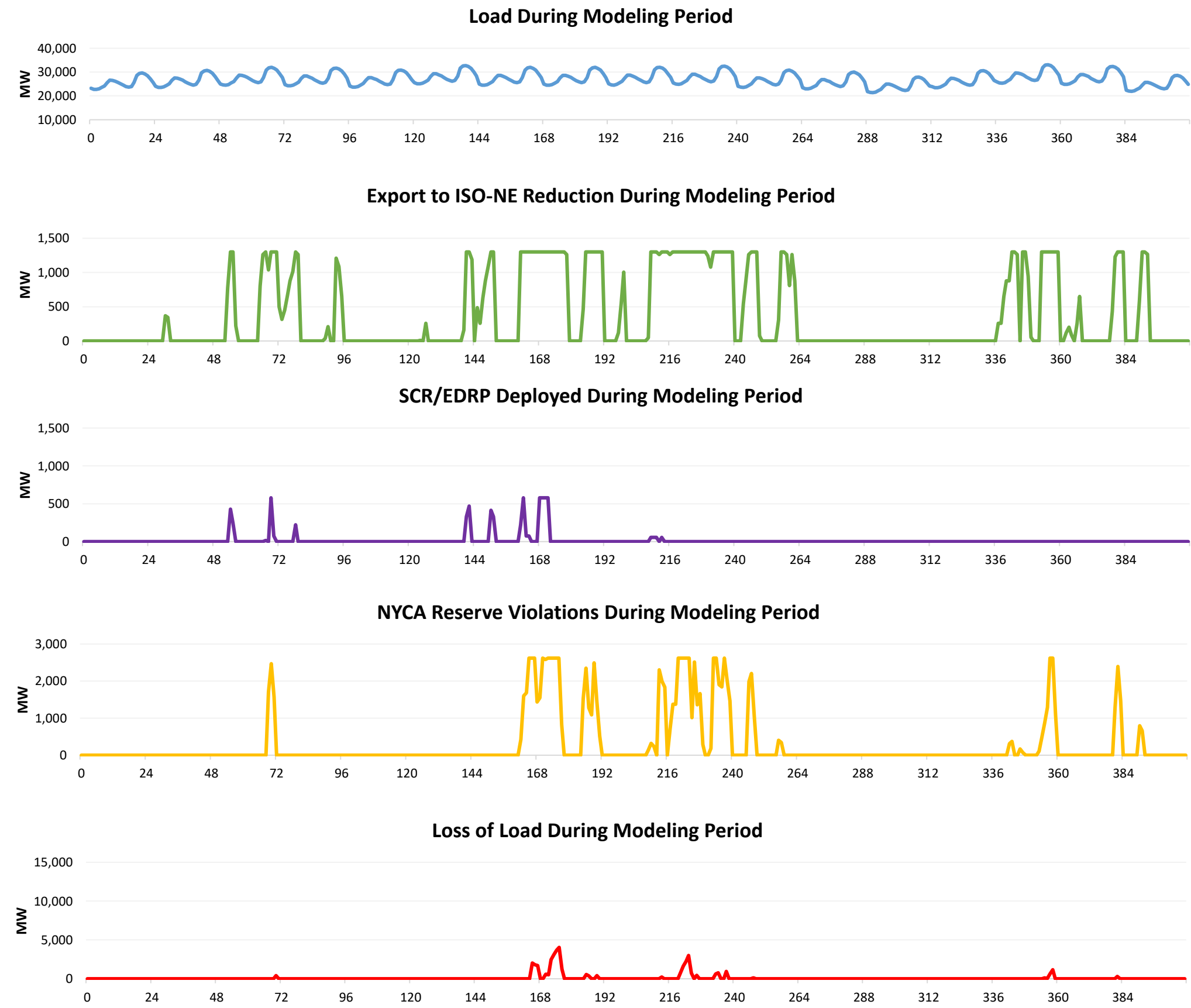


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 7 - PD 2 High Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 7 - PD 2 High Outage



Case Summary	
Derate (EFORD) Increase:	High
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	148
Total MWh	151,525
Avg. MW	371.4

SCR Deployment	
Total Hrs.	22
Total MWh	6,577
Avg. MW	16.1

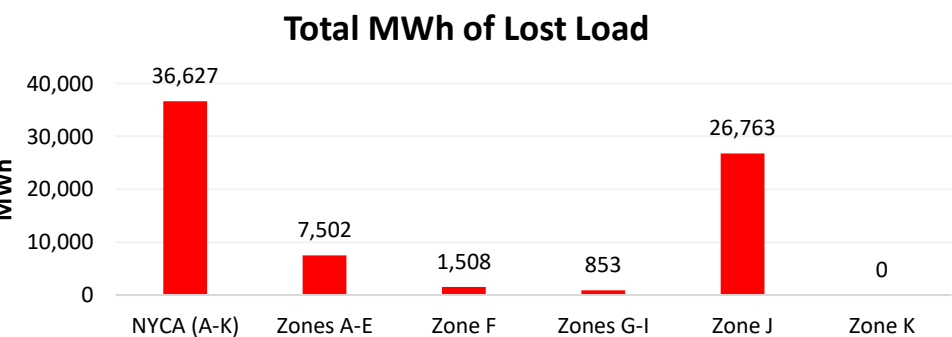
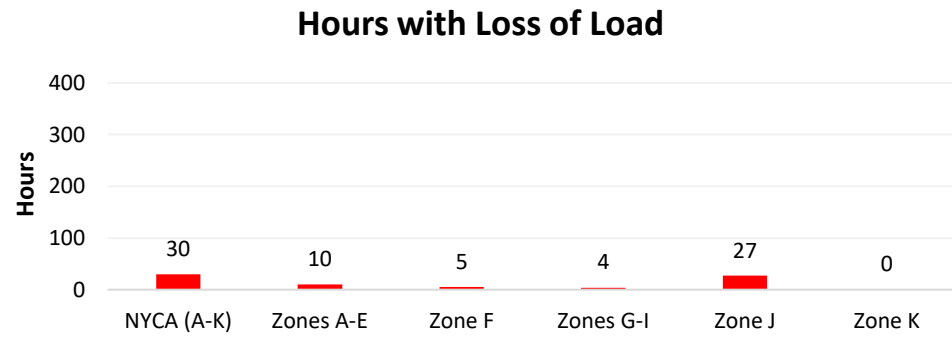
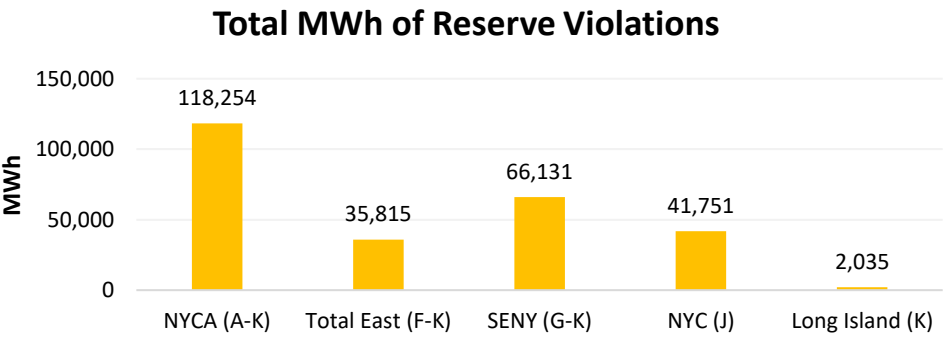
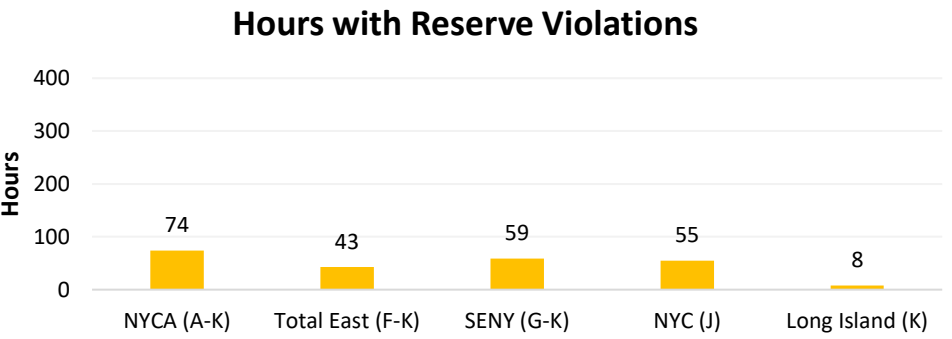
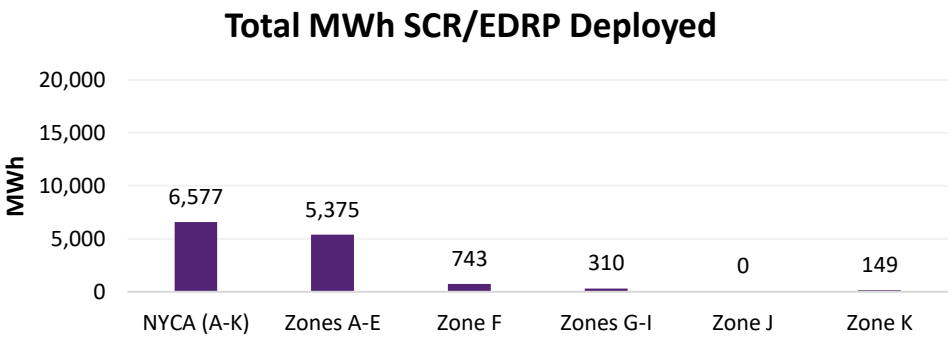
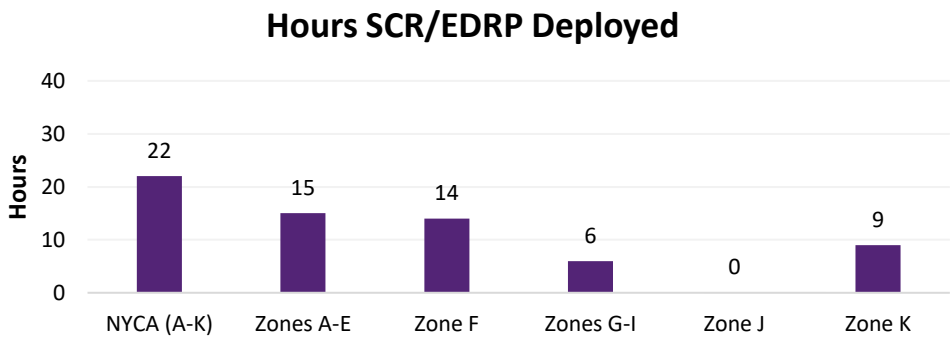
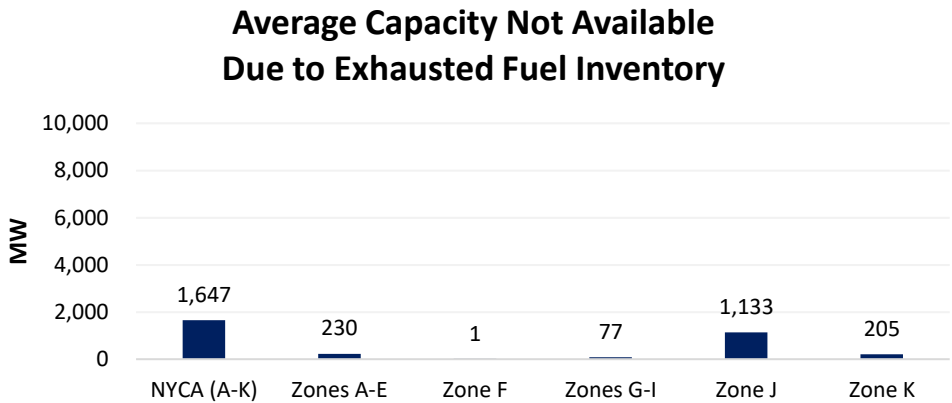
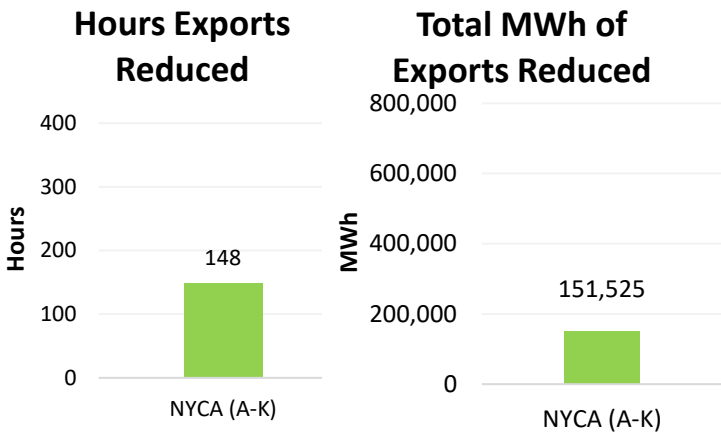
Reserve Violations	
Total Hrs.	74
Total MWh	118,254
Avg. MW	289.8
First Hour with Viol.	69

Loss of Load	
Total Hrs.	30
Total MWh	36,627
Avg. MW	89.8
First Hour with Losses	70

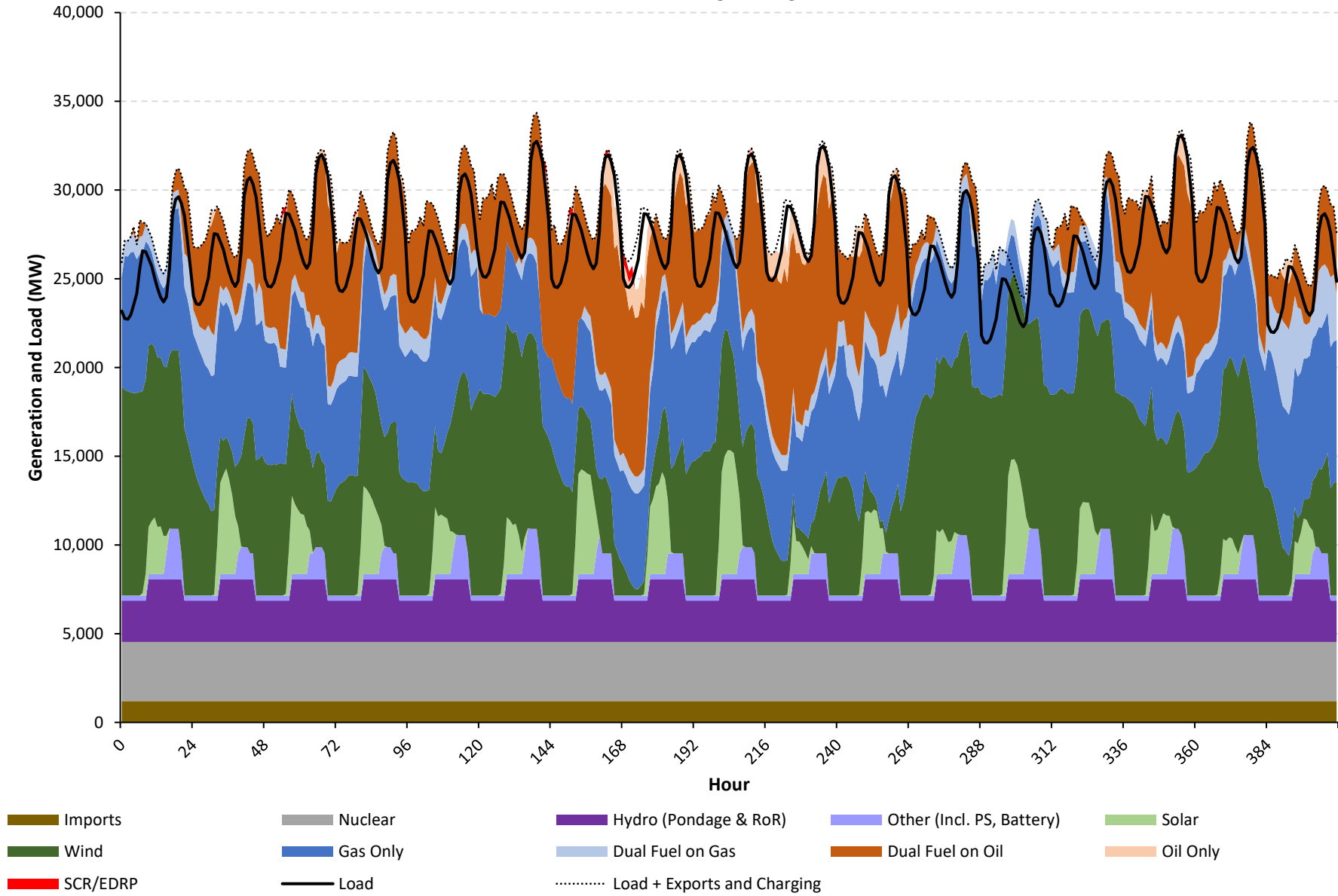
Full Period Results Summary

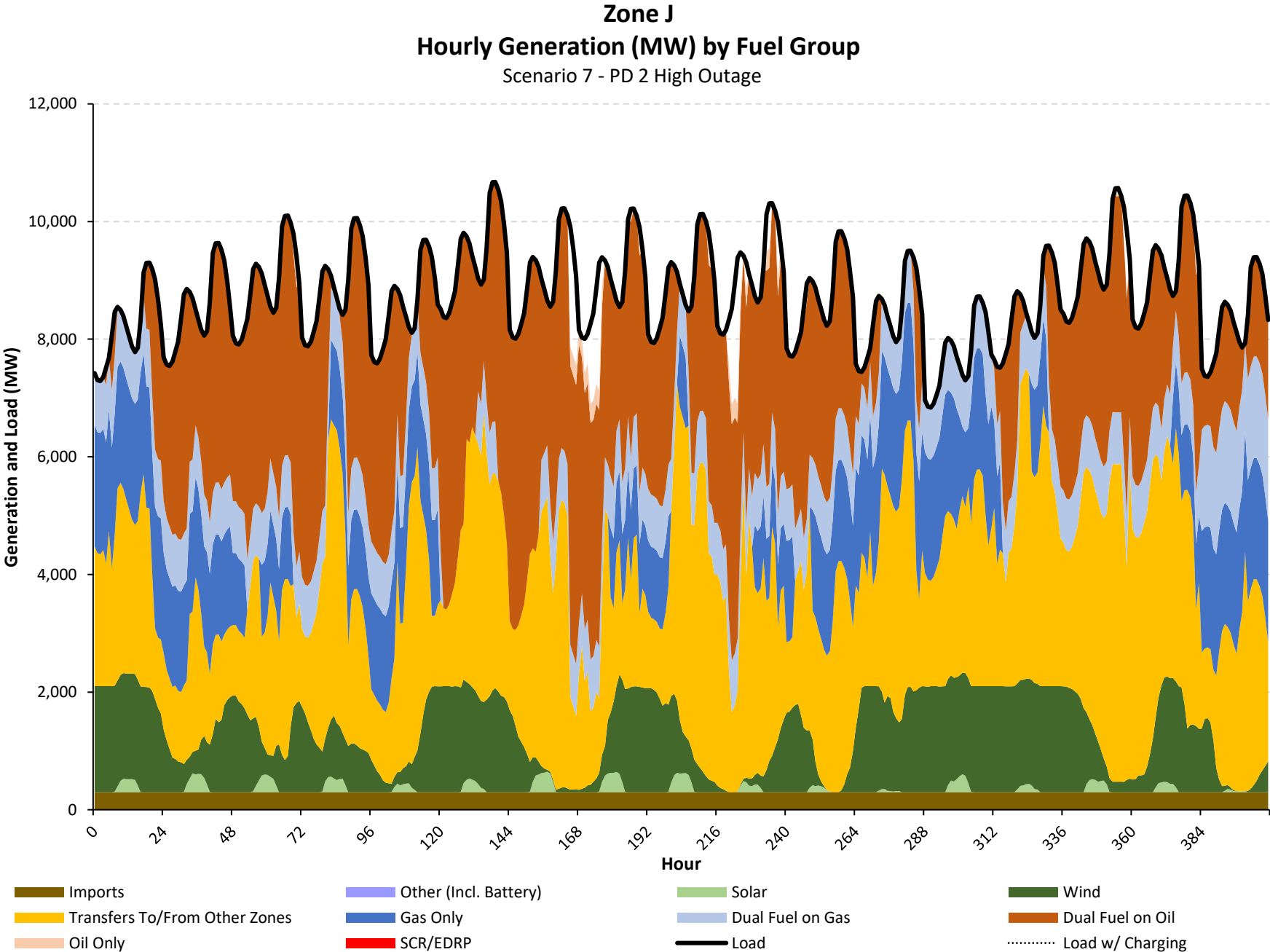
Case Name: Scenario 7 - PD 2 High Outage

Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

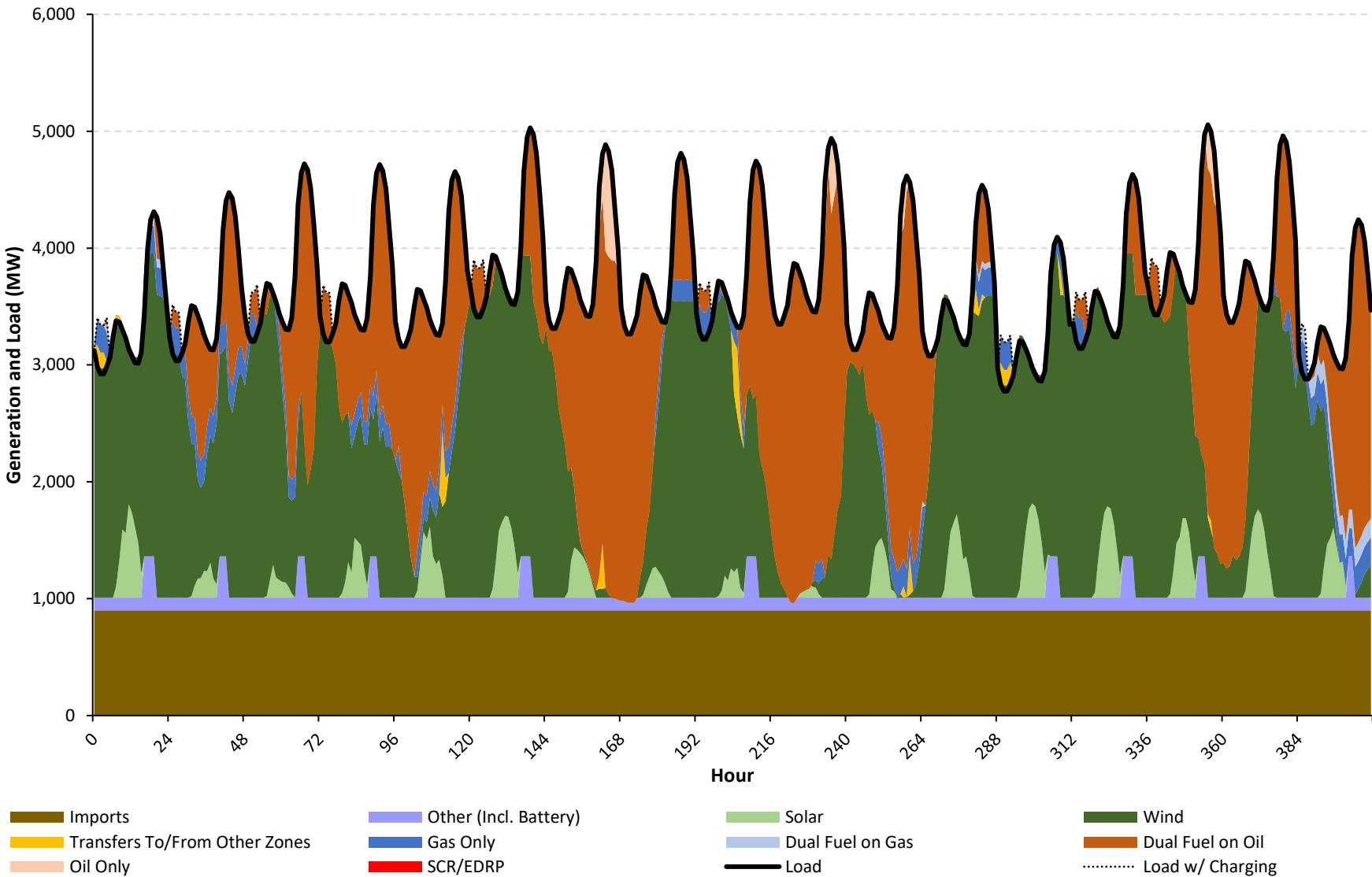


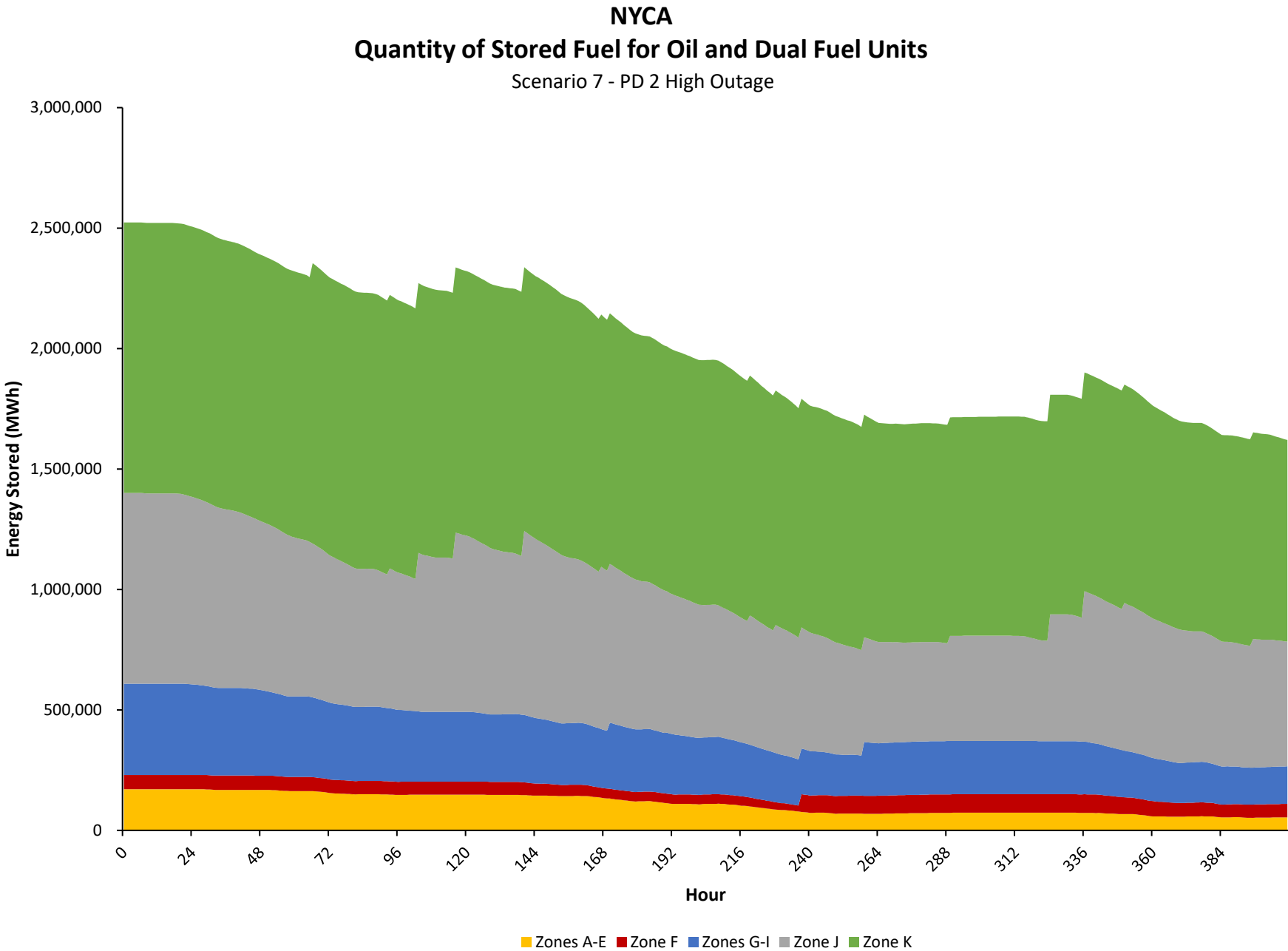
NYCA
Hourly Generation (MWh) by Fuel Group
Scenario 7 - PD 2 High Outage

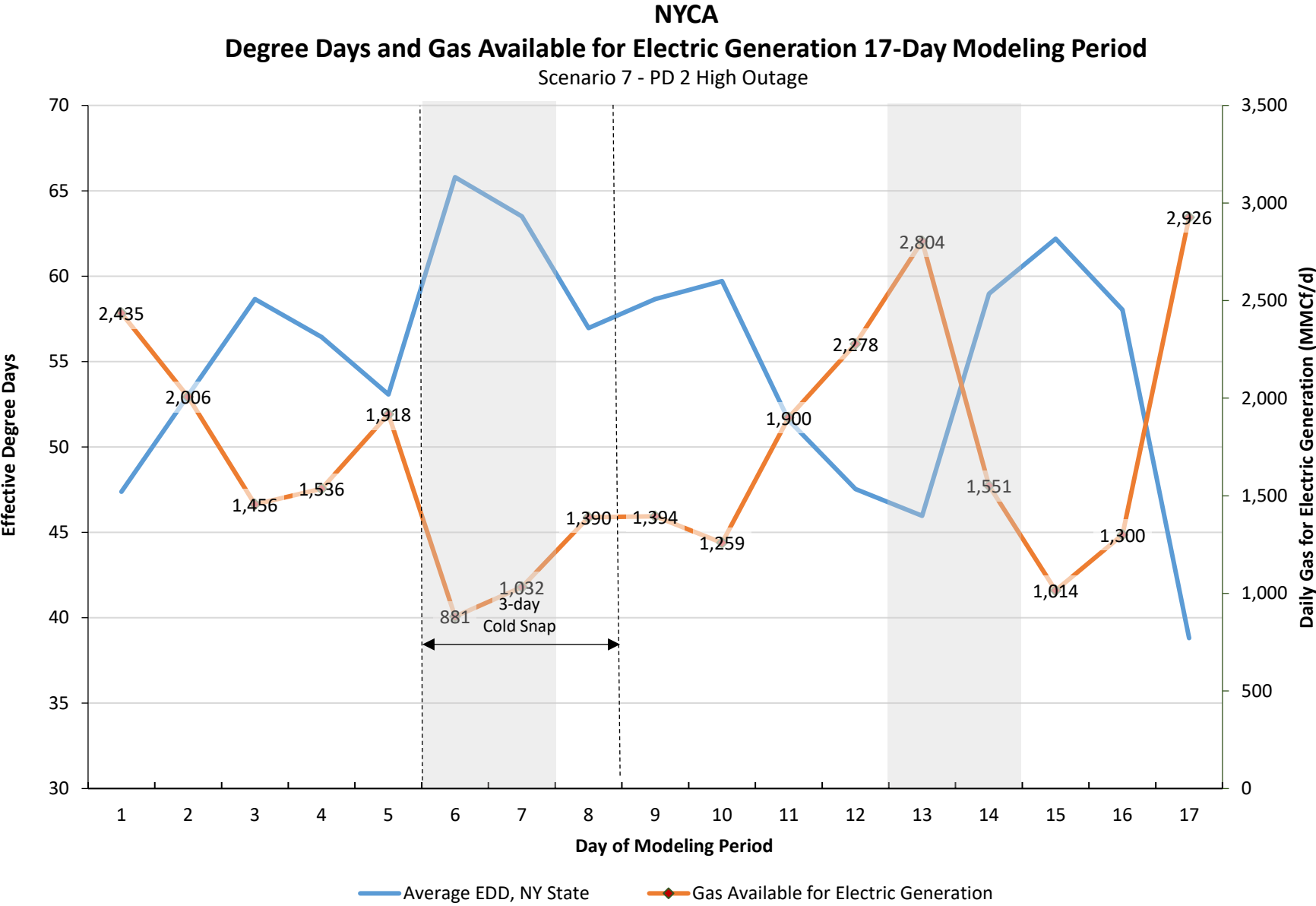




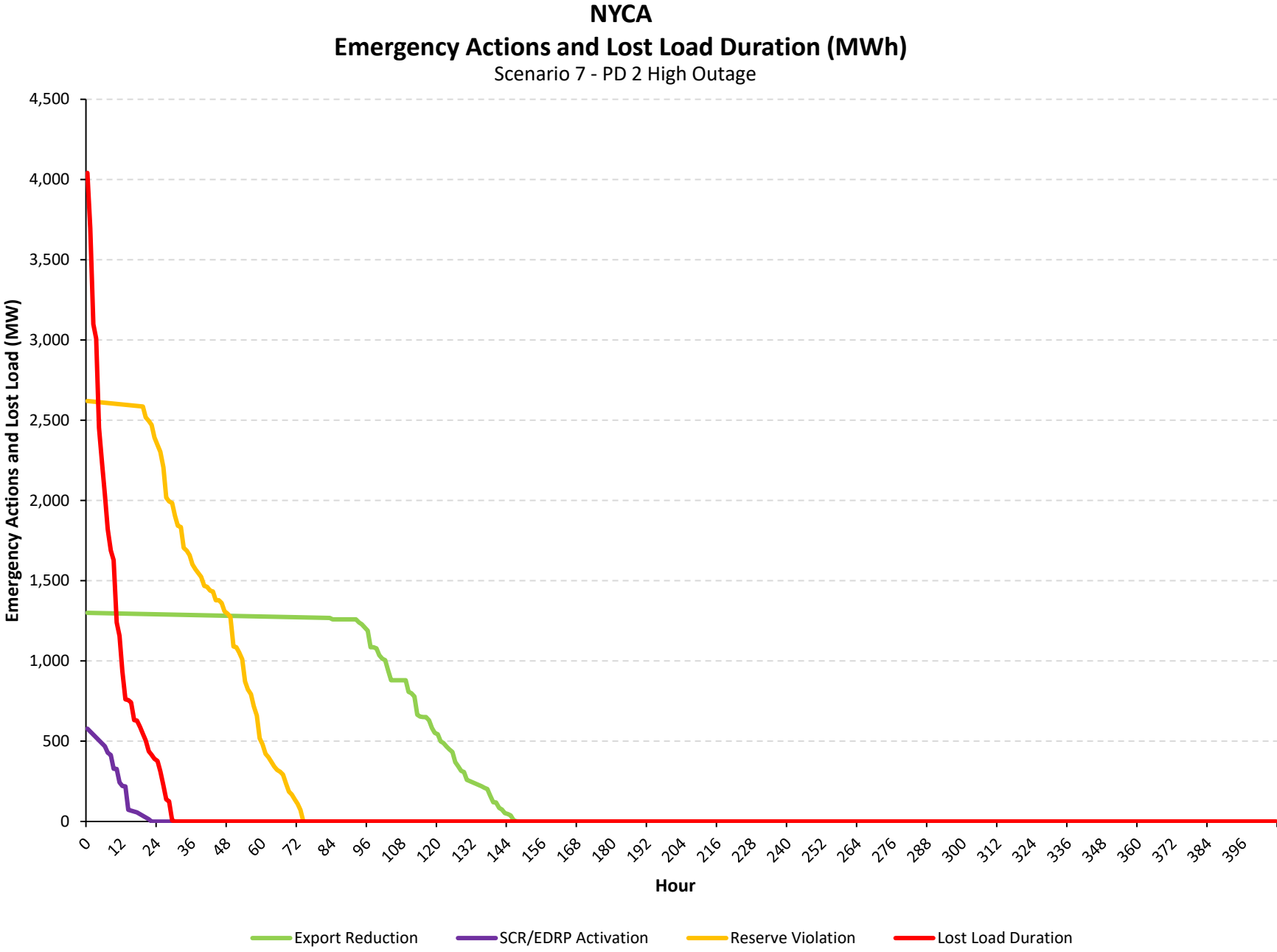
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 7 - PD 2 High Outage

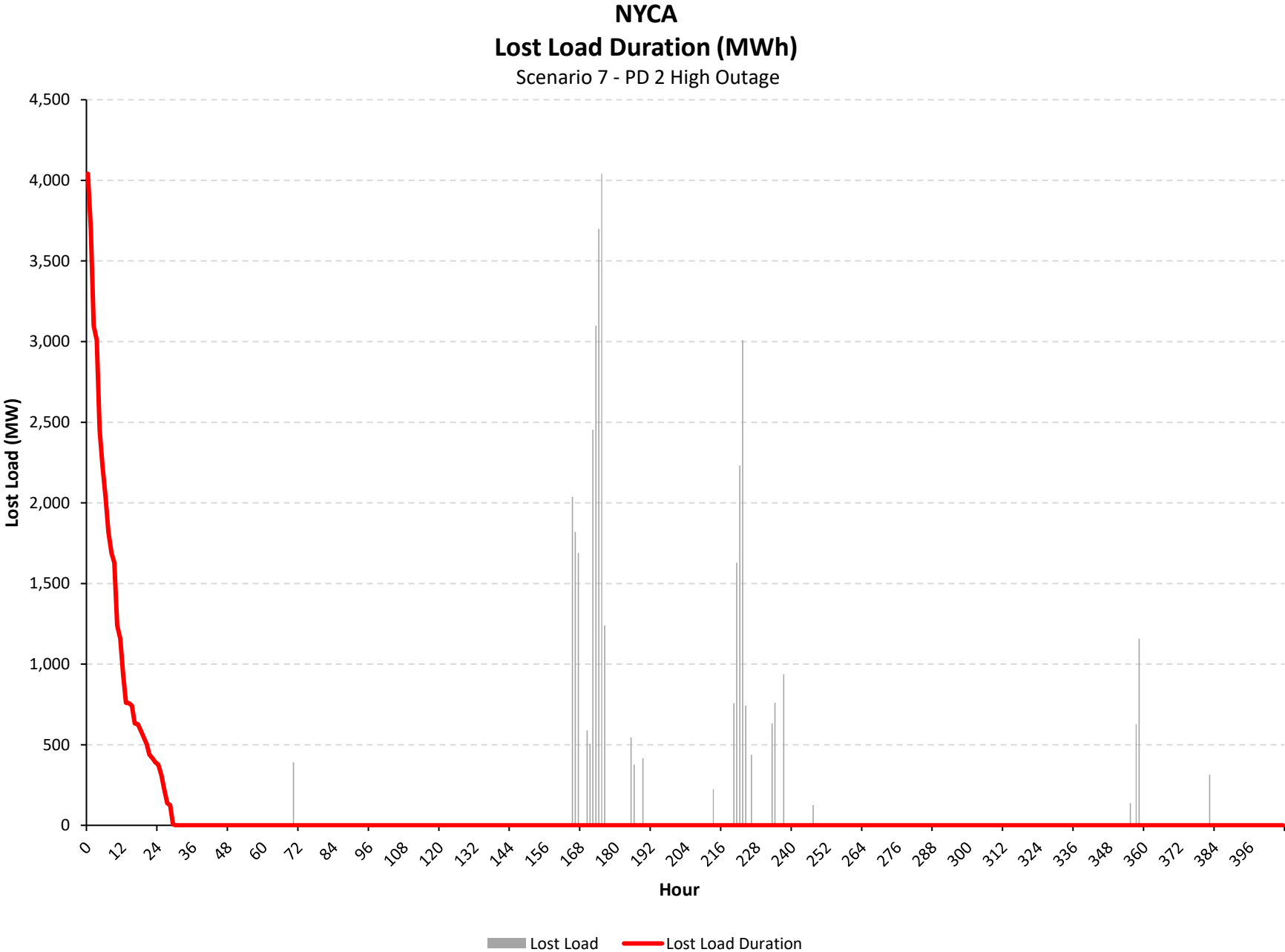






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



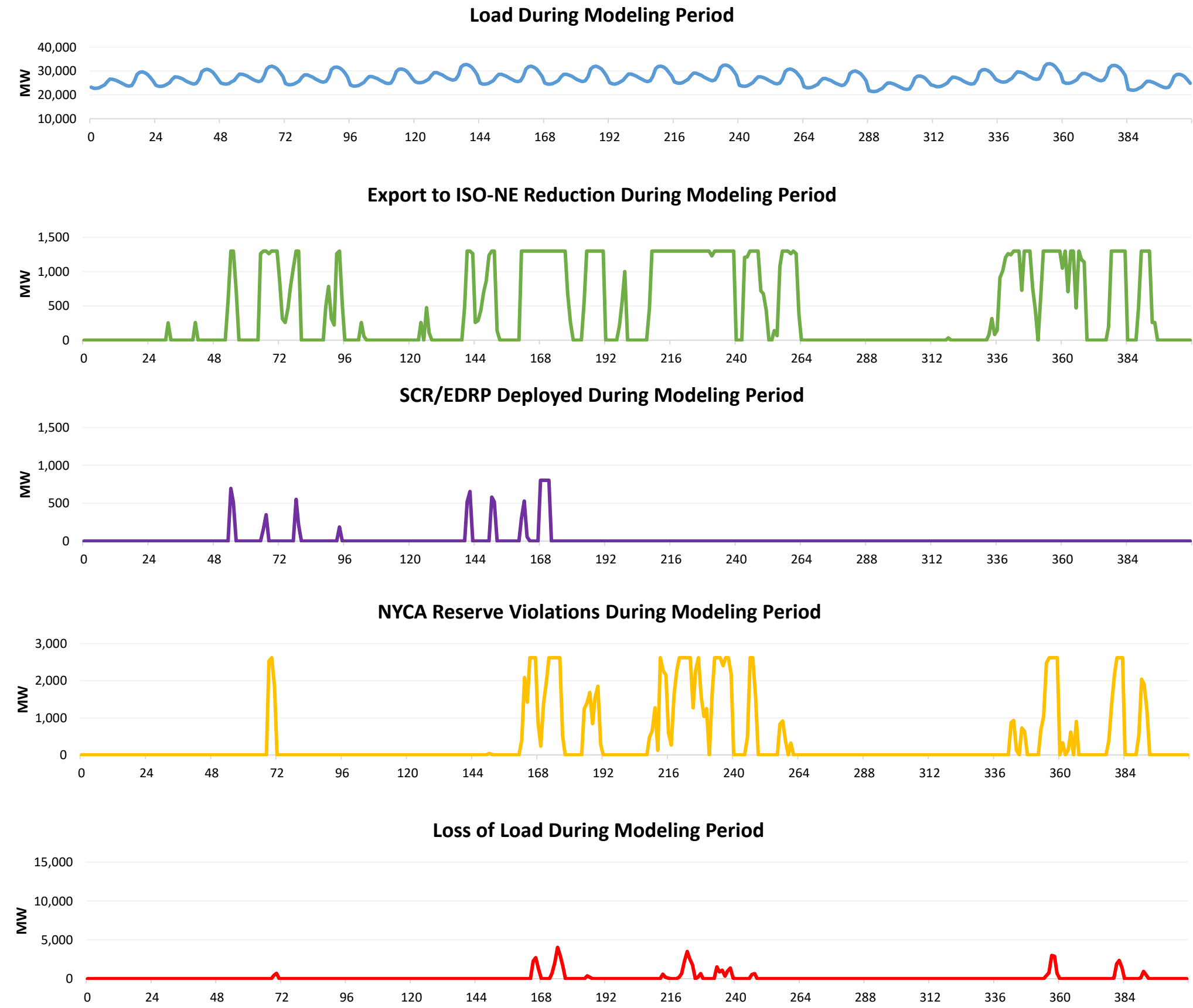


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 7 - PD 3 SENY Deactivation (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 7 - PD 3 SENY Deactivation



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	All

Export Reductions	
Total Hrs.	177
Total MWh	180,480
Avg. MW	442.4

SCR Deployment	
Total Hrs.	18
Total MWh	9,013
Avg. MW	22.1

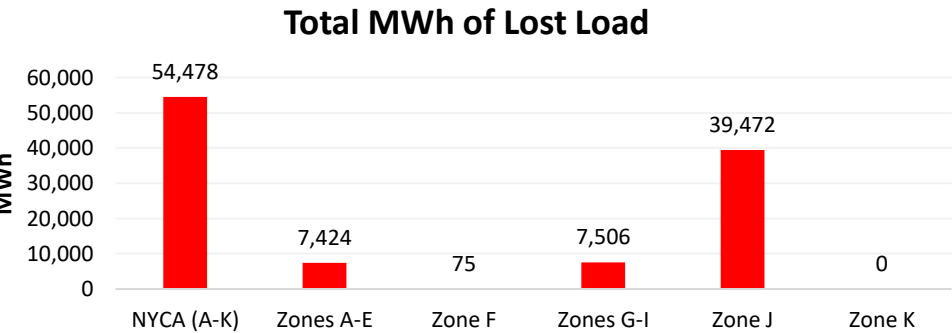
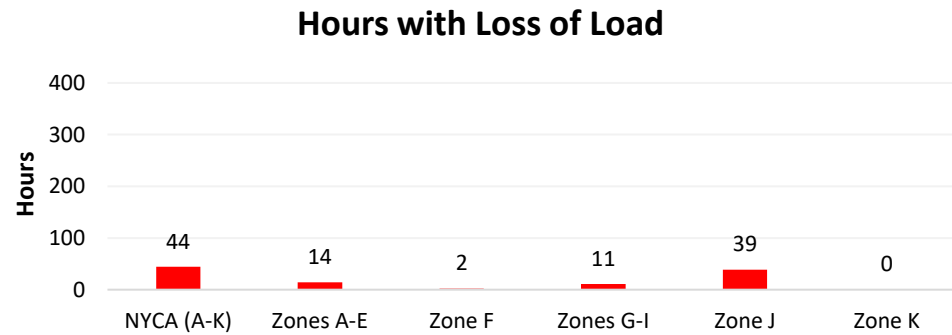
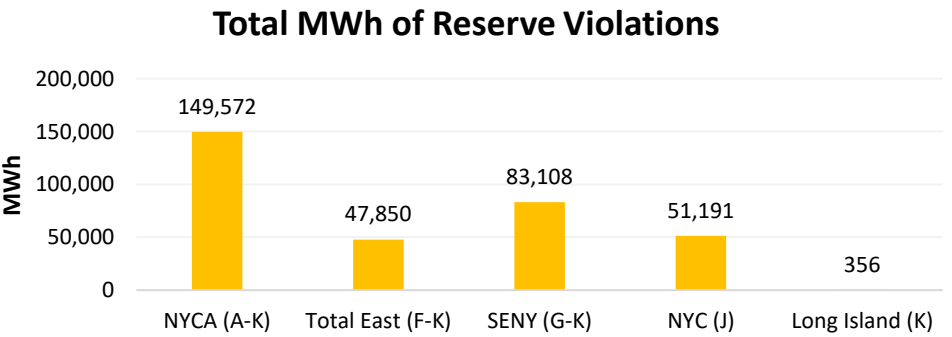
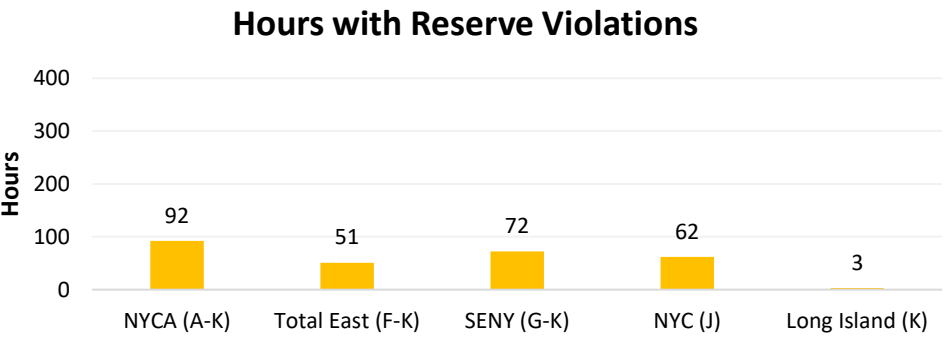
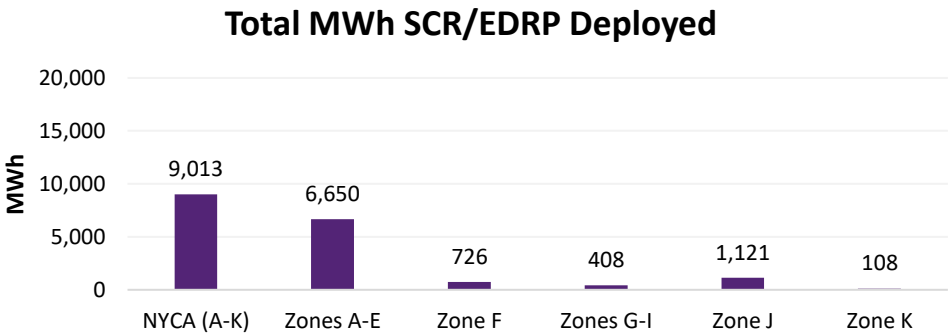
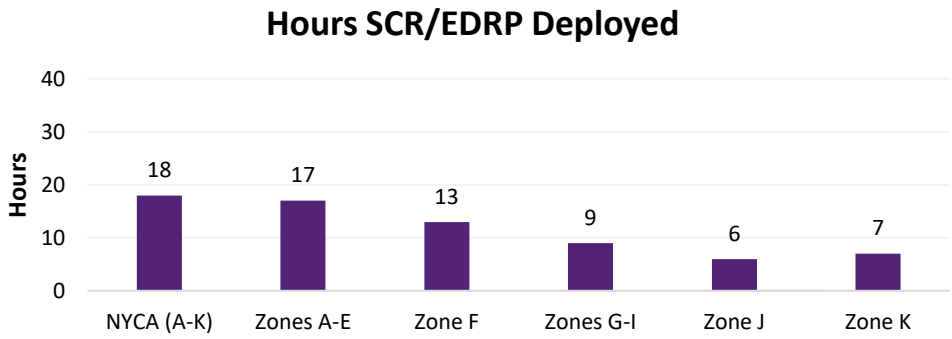
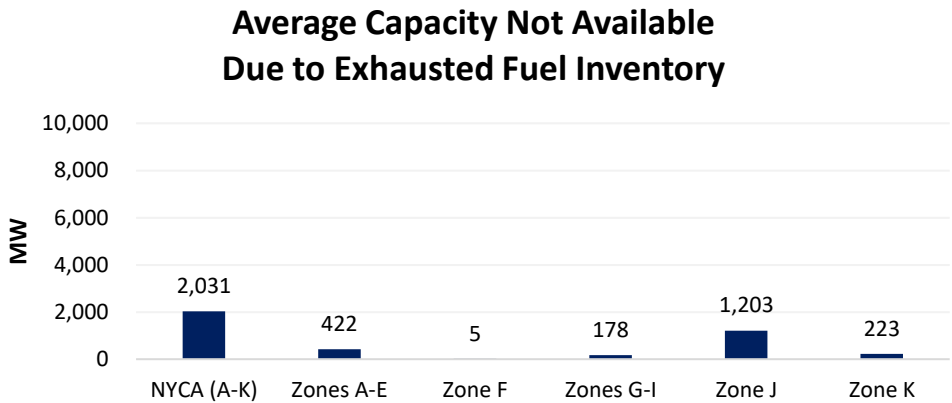
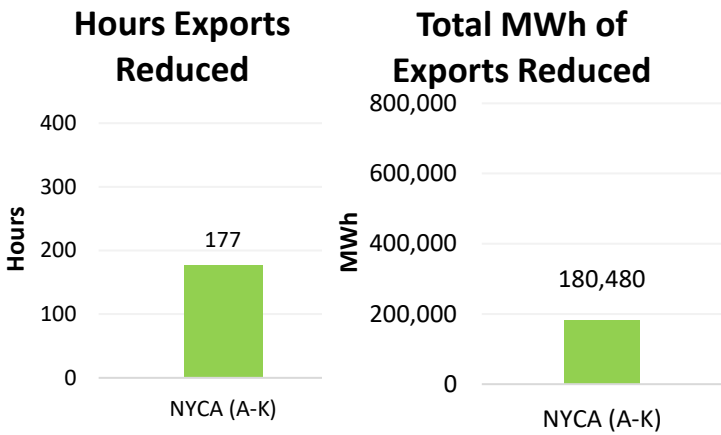
Reserve Violations	
Total Hrs.	92
Total MWh	149,572
Avg. MW	366.6
First Hour with Viol.	69

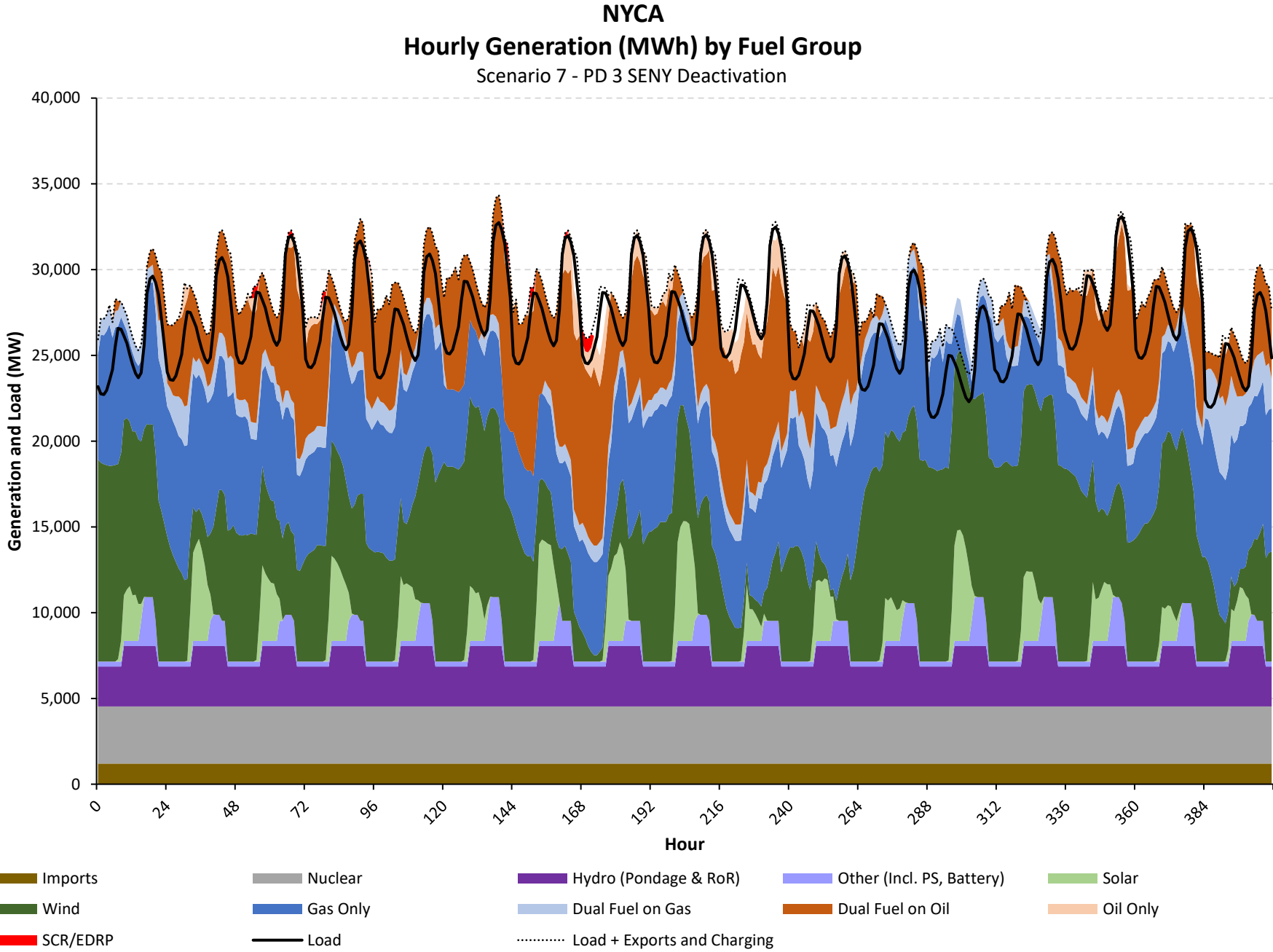
Loss of Load	
Total Hrs.	44
Total MWh	54,478
Avg. MW	133.5
First Hour with Losses	69

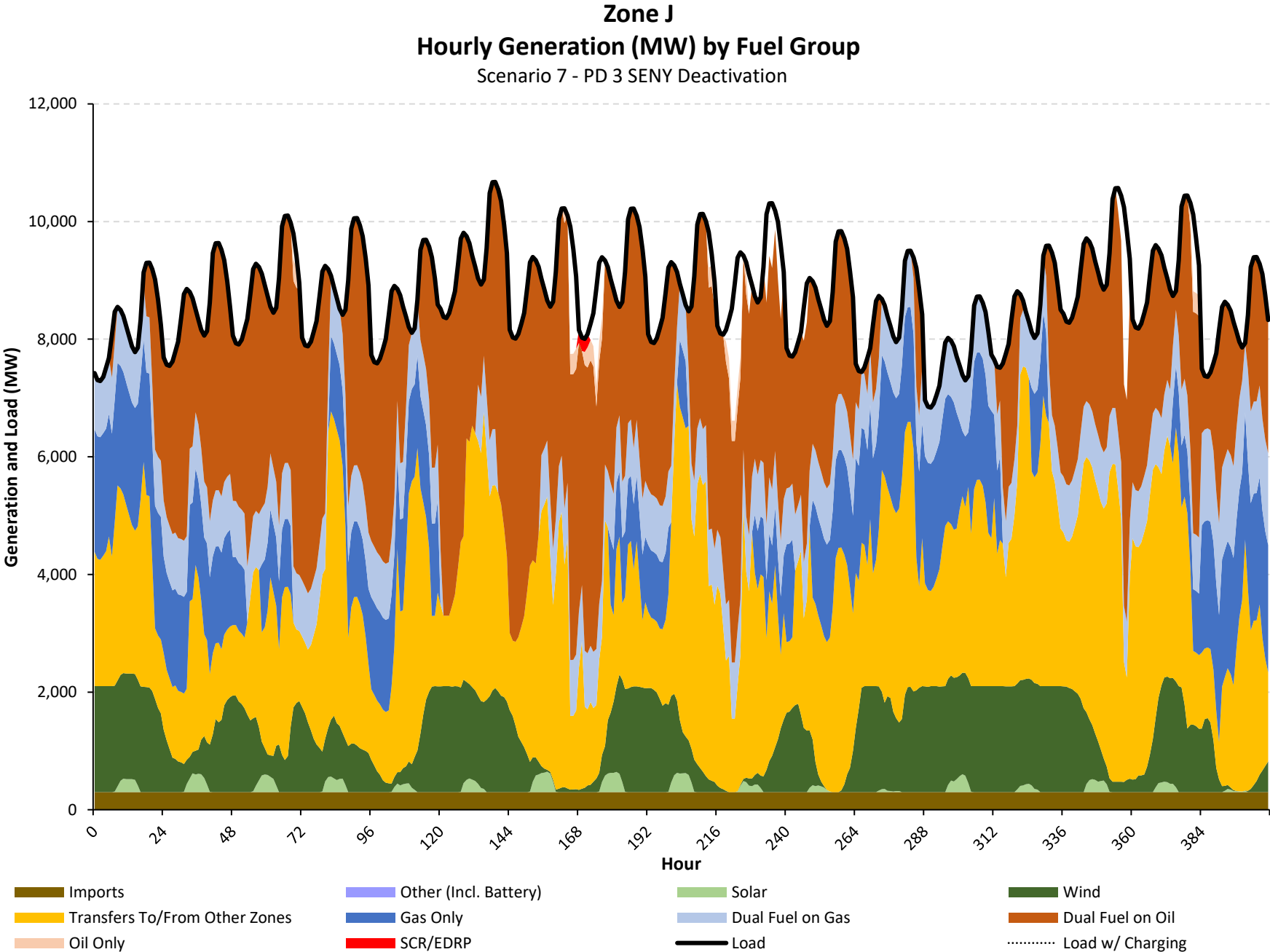
Full Period Results Summary

Case Name: Scenario 7 - PD 3 SENY Deactivation

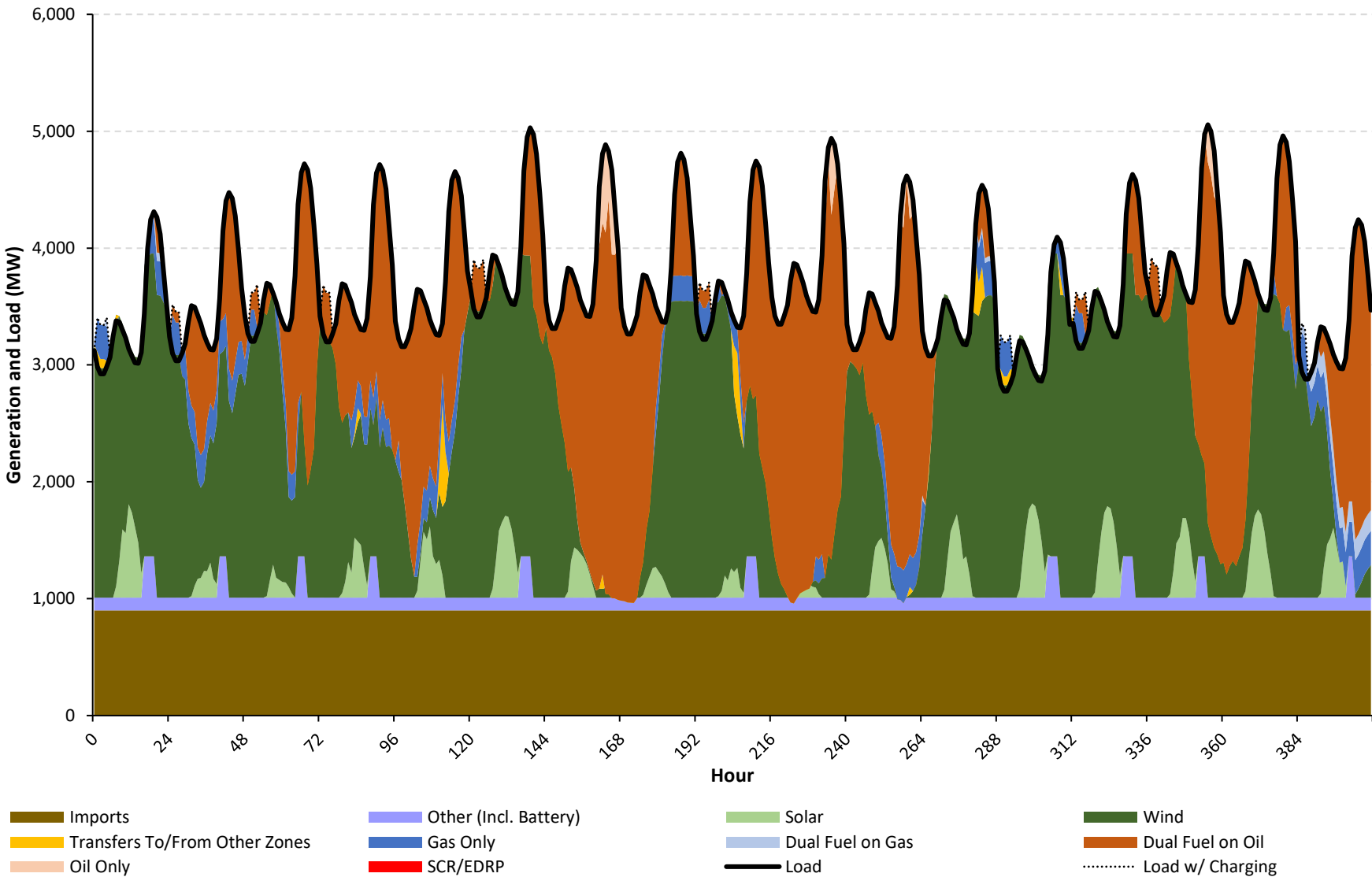
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	All

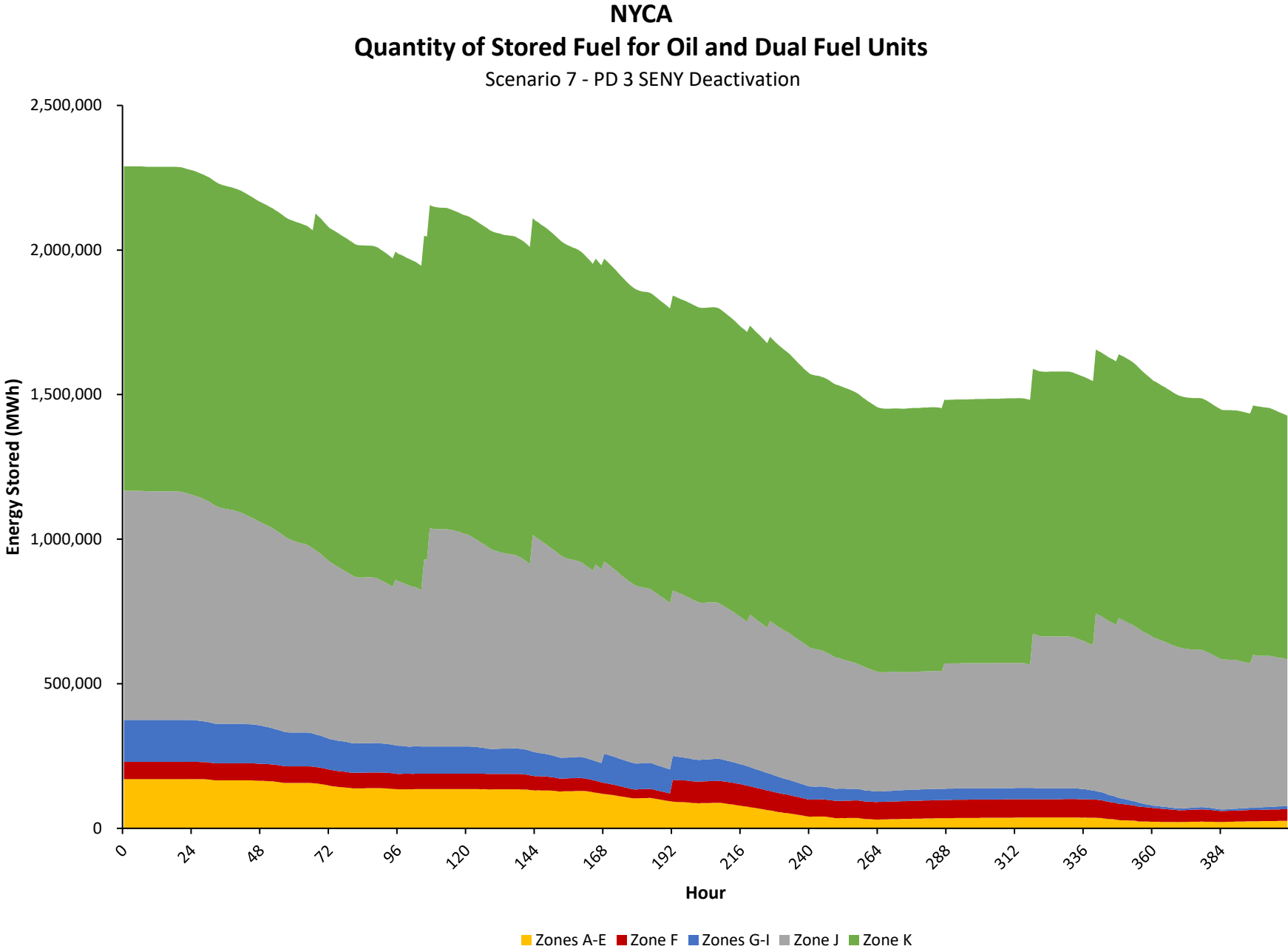


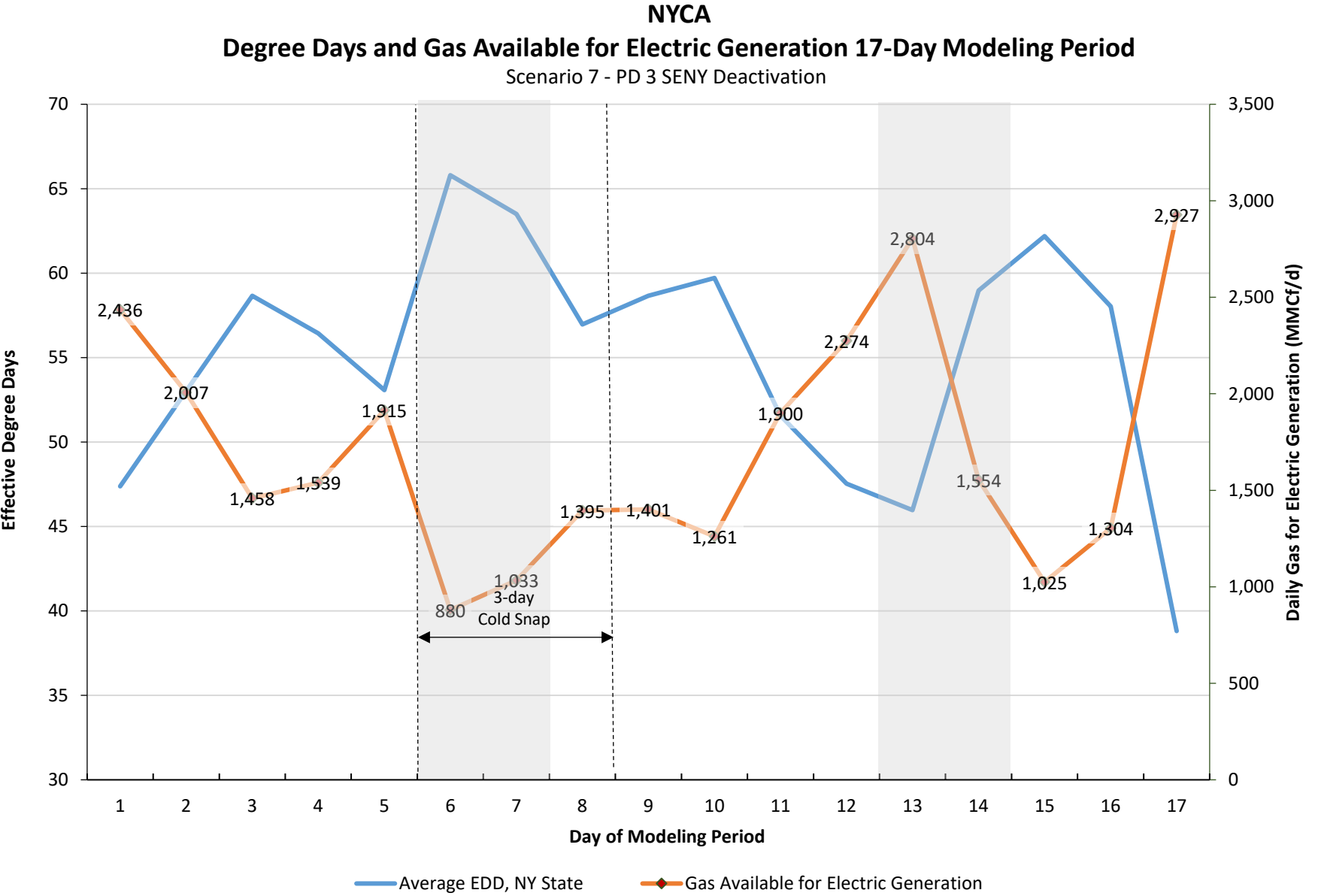




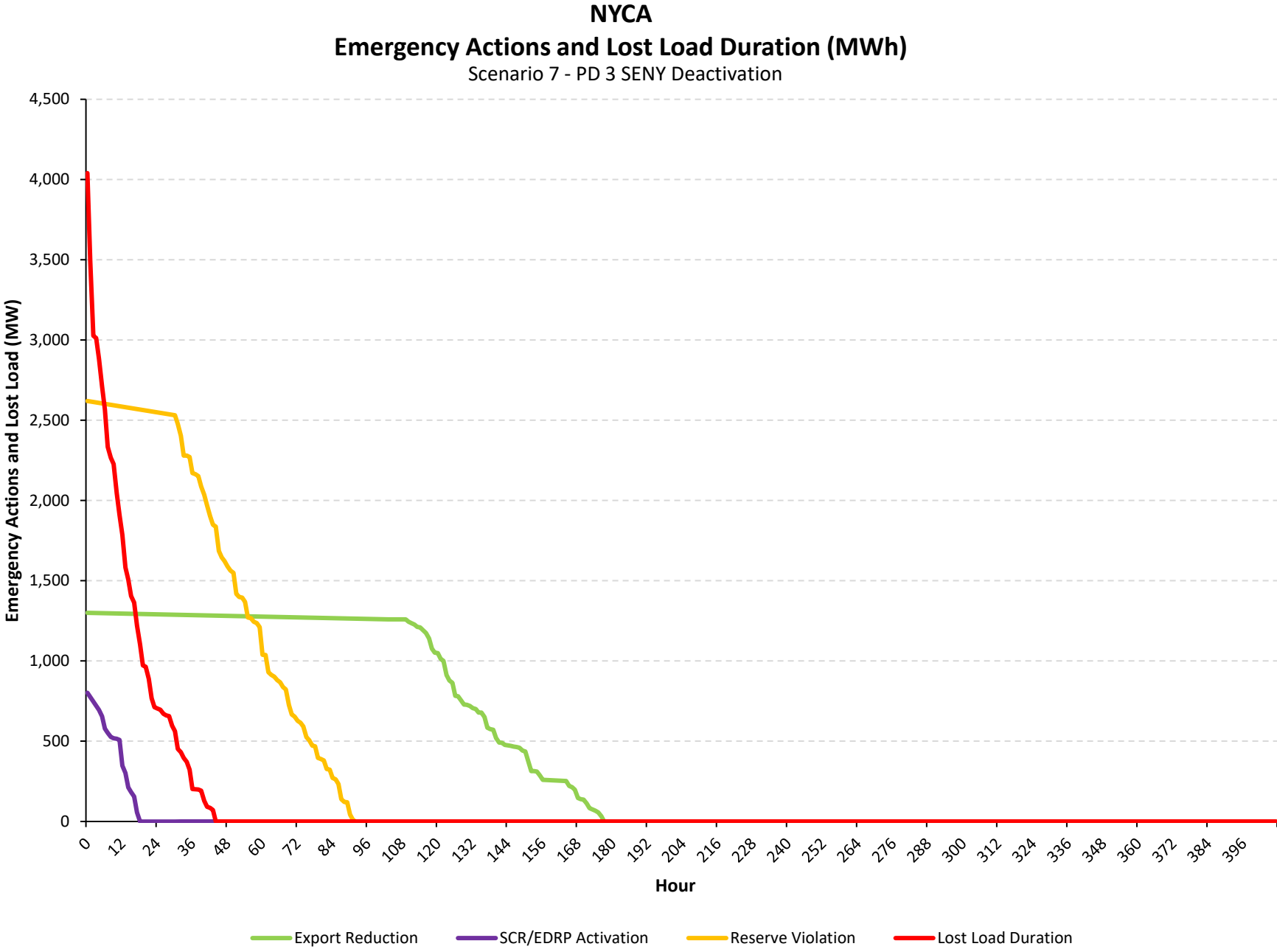
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 7 - PD 3 SENY Deactivation

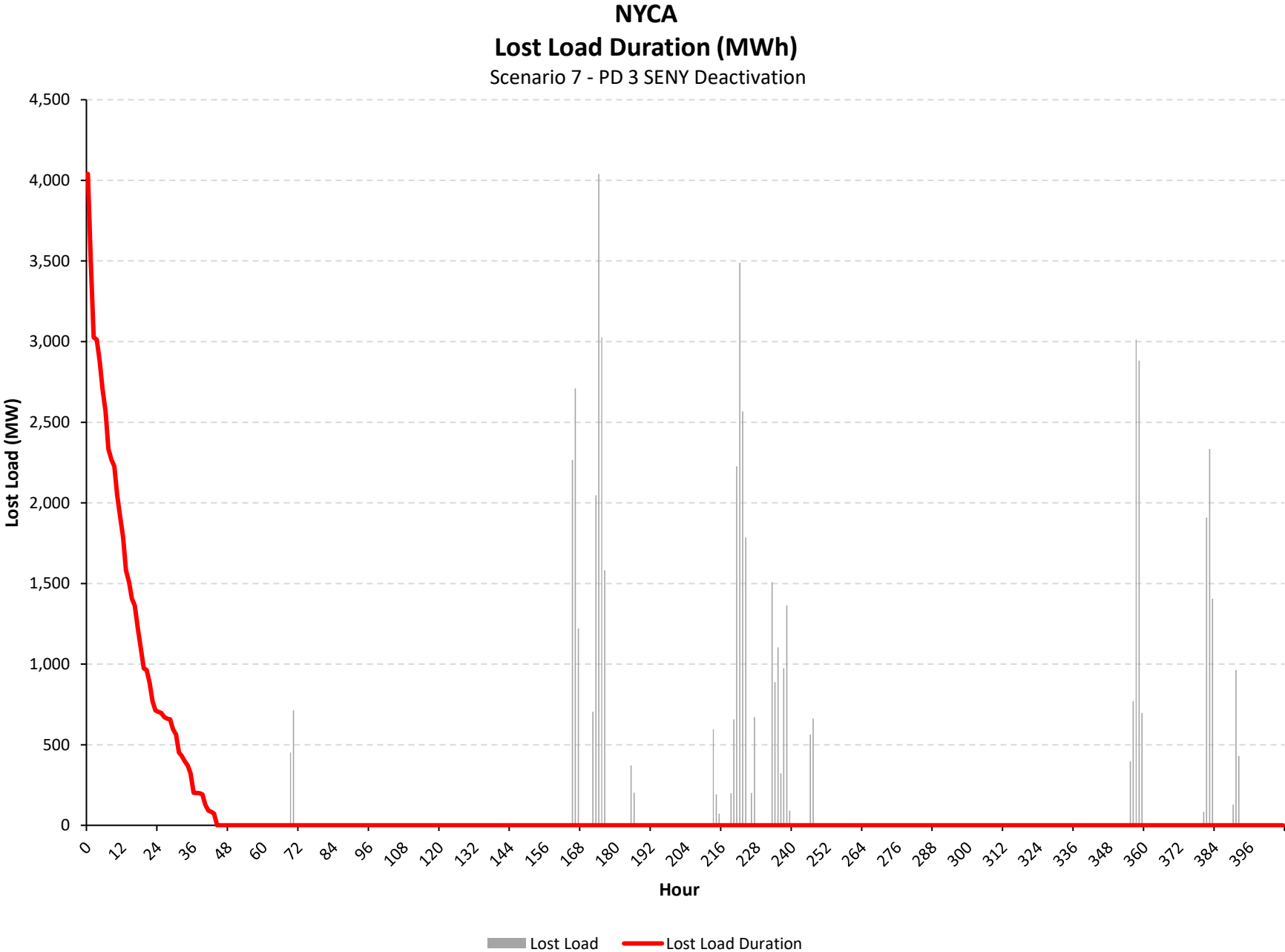






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



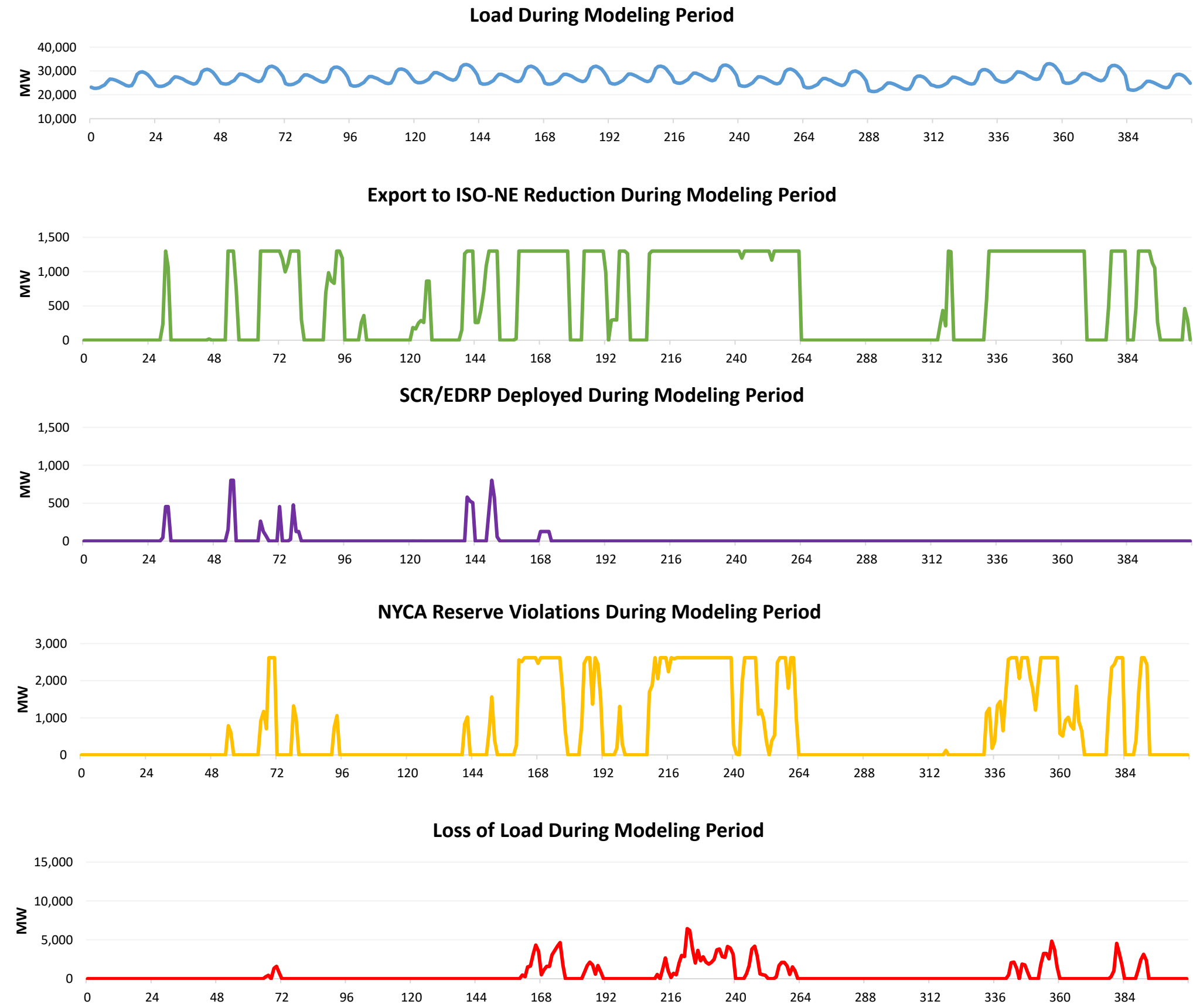


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 7 - PD 4 Nuclear Station Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 7 - PD 4 Nuclear Station Outage



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	207
Total MWh	234,398
Avg. MW	574.5

SCR Deployment	
Total Hrs.	25
Total MWh	8,315
Avg. MW	20.4

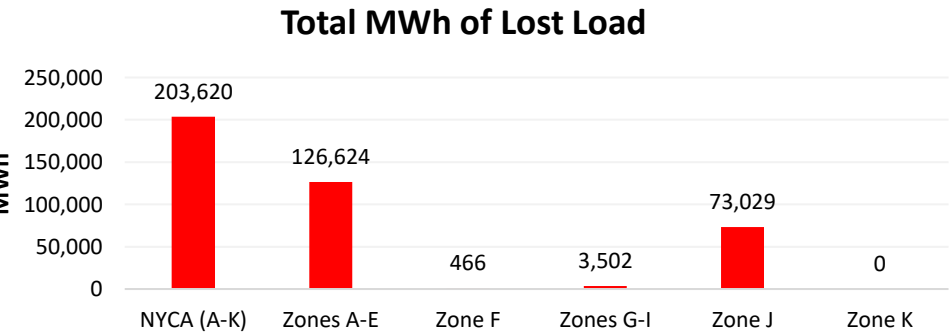
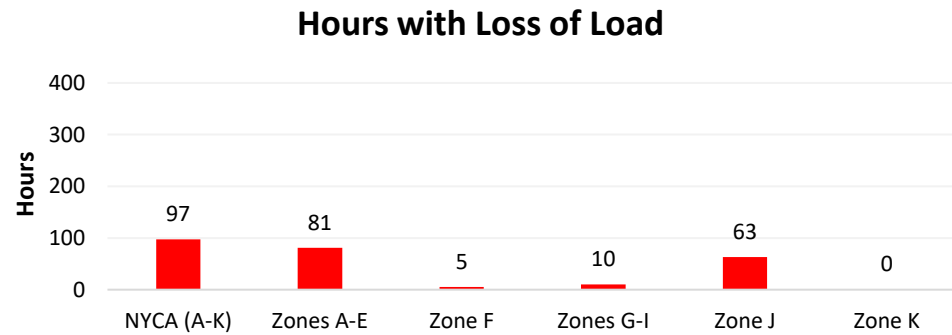
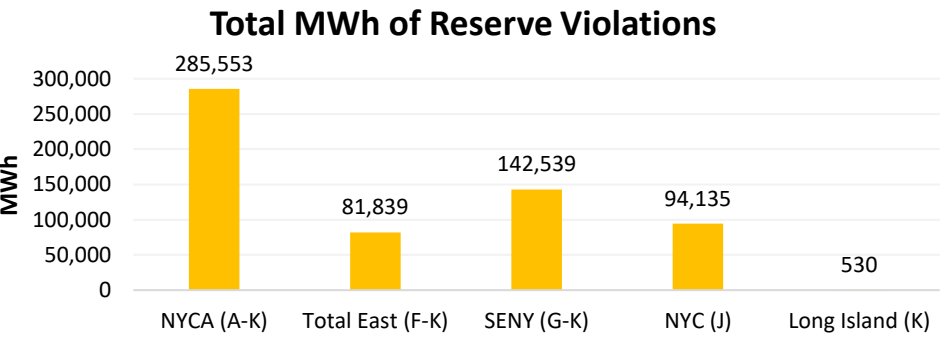
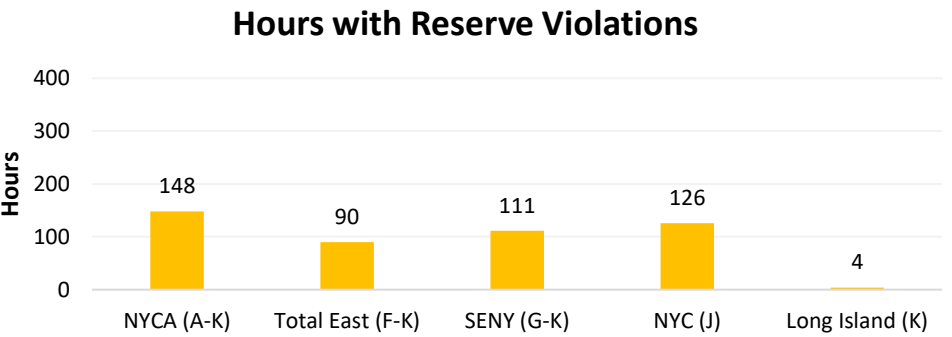
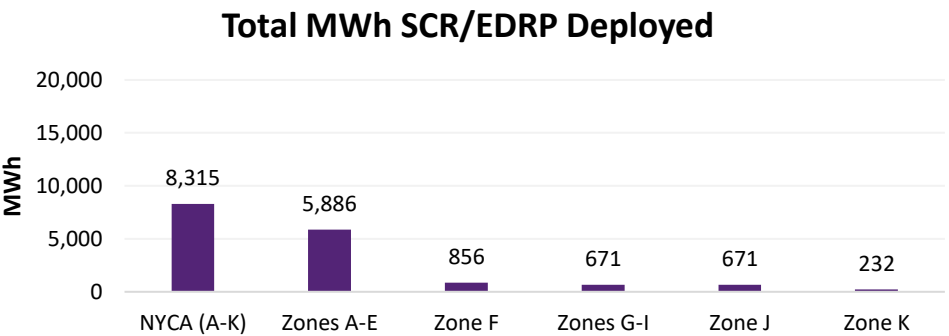
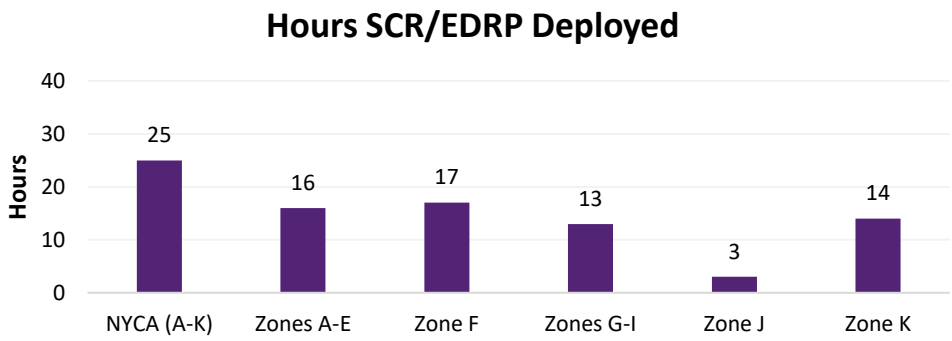
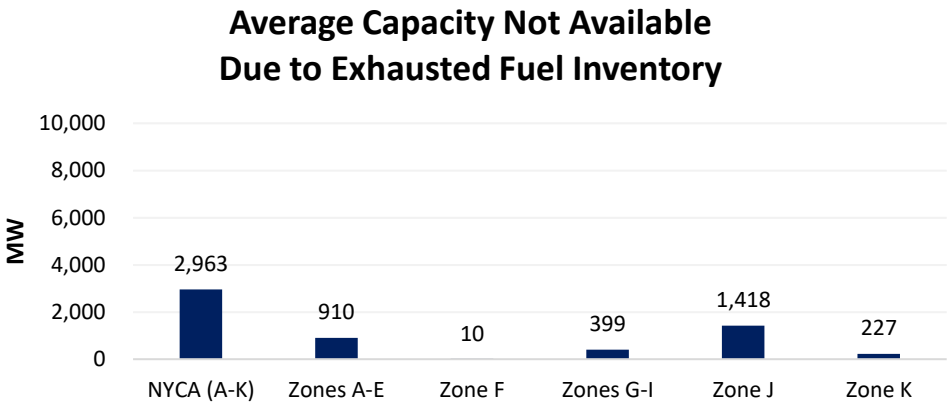
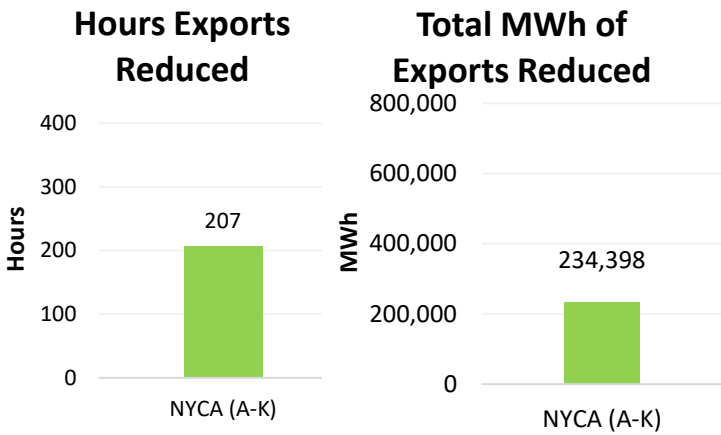
Reserve Violations	
Total Hrs.	148
Total MWh	285,553
Avg. MW	699.9
First Hour with Viol.	31

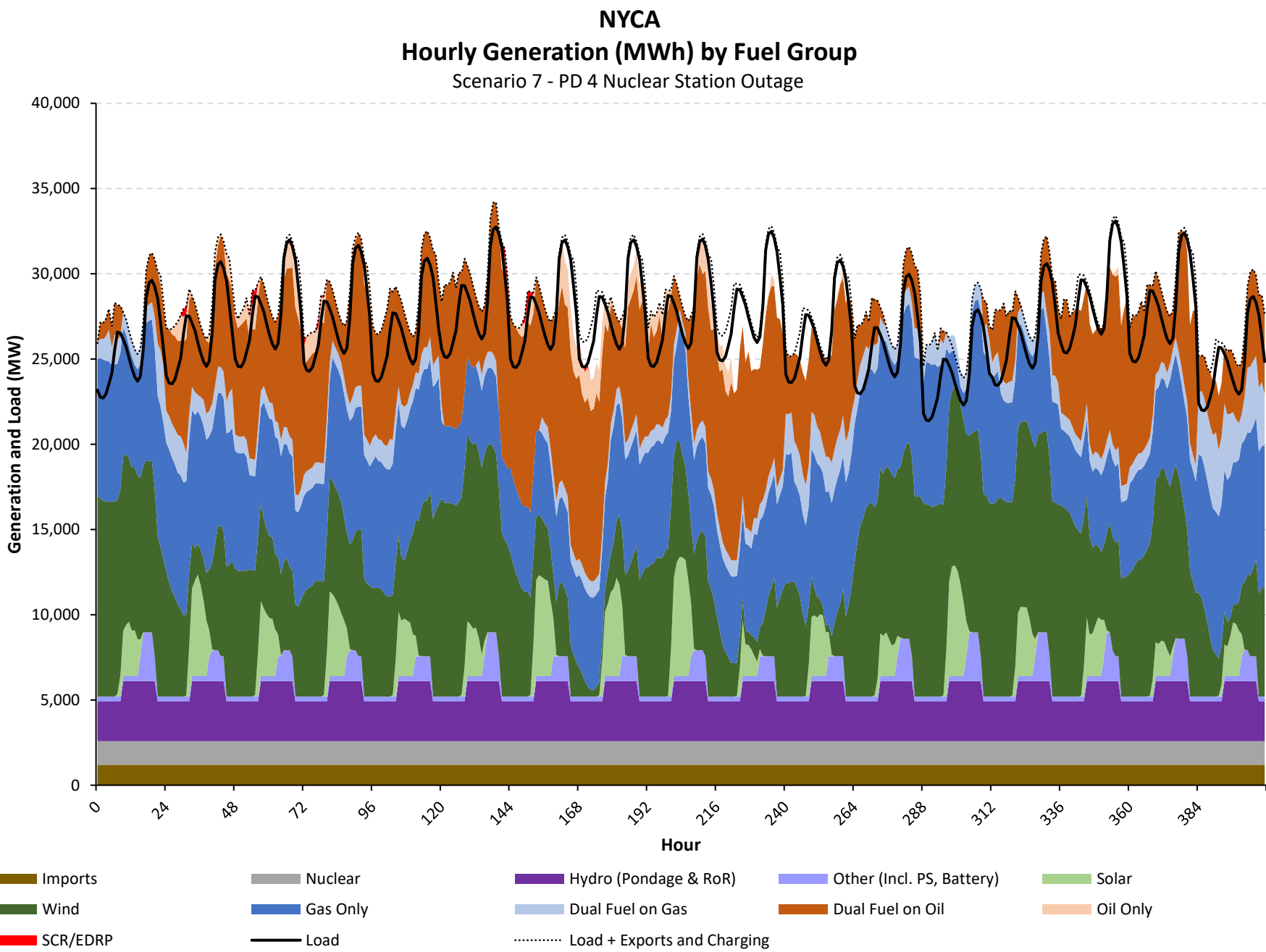
Loss of Load	
Total Hrs.	97
Total MWh	203,620
Avg. MW	499.1
First Hour with Losses	66

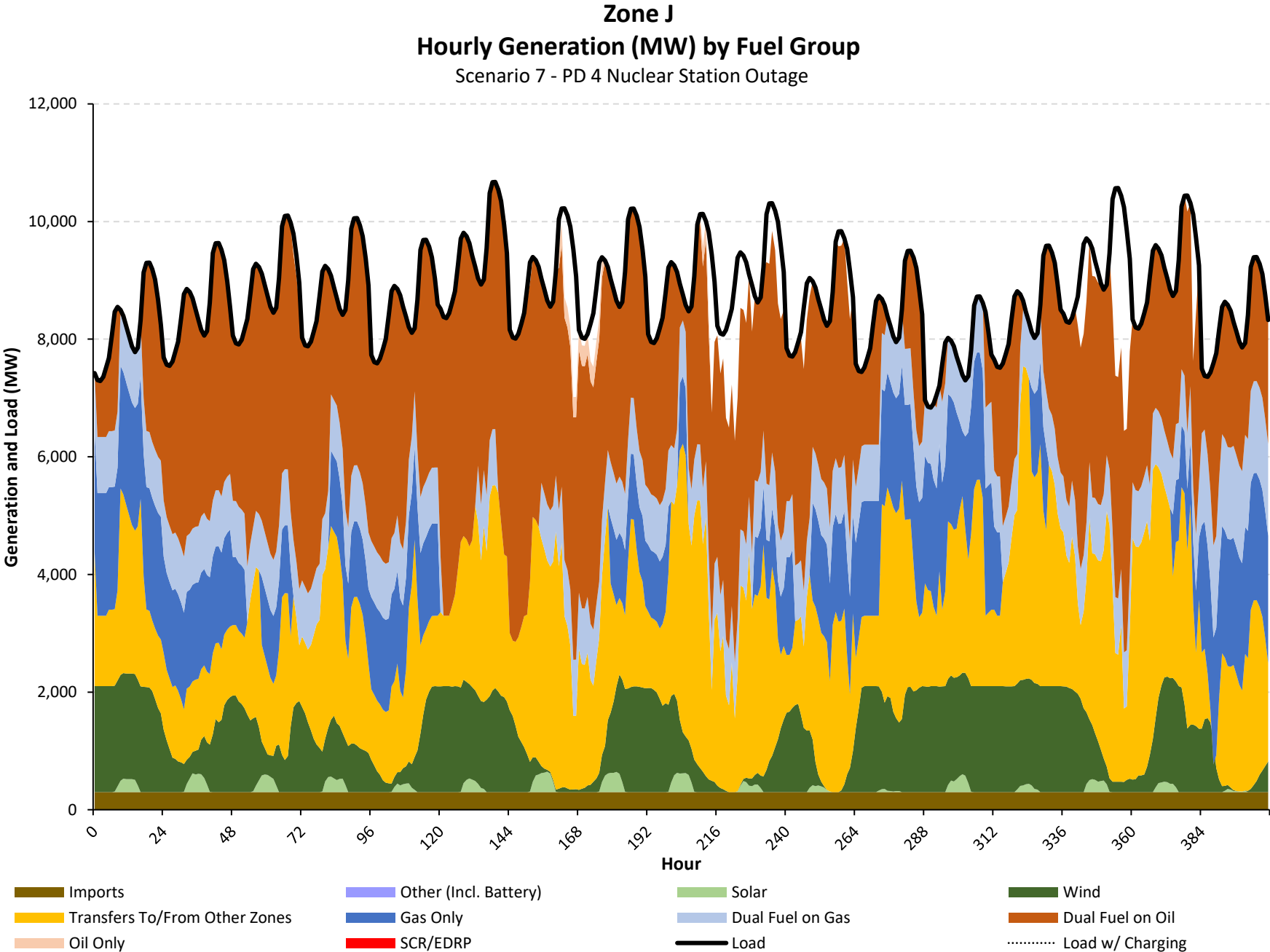
Full Period Results Summary

Case Name: Scenario 7 - PD 4 Nuclear Station Outage

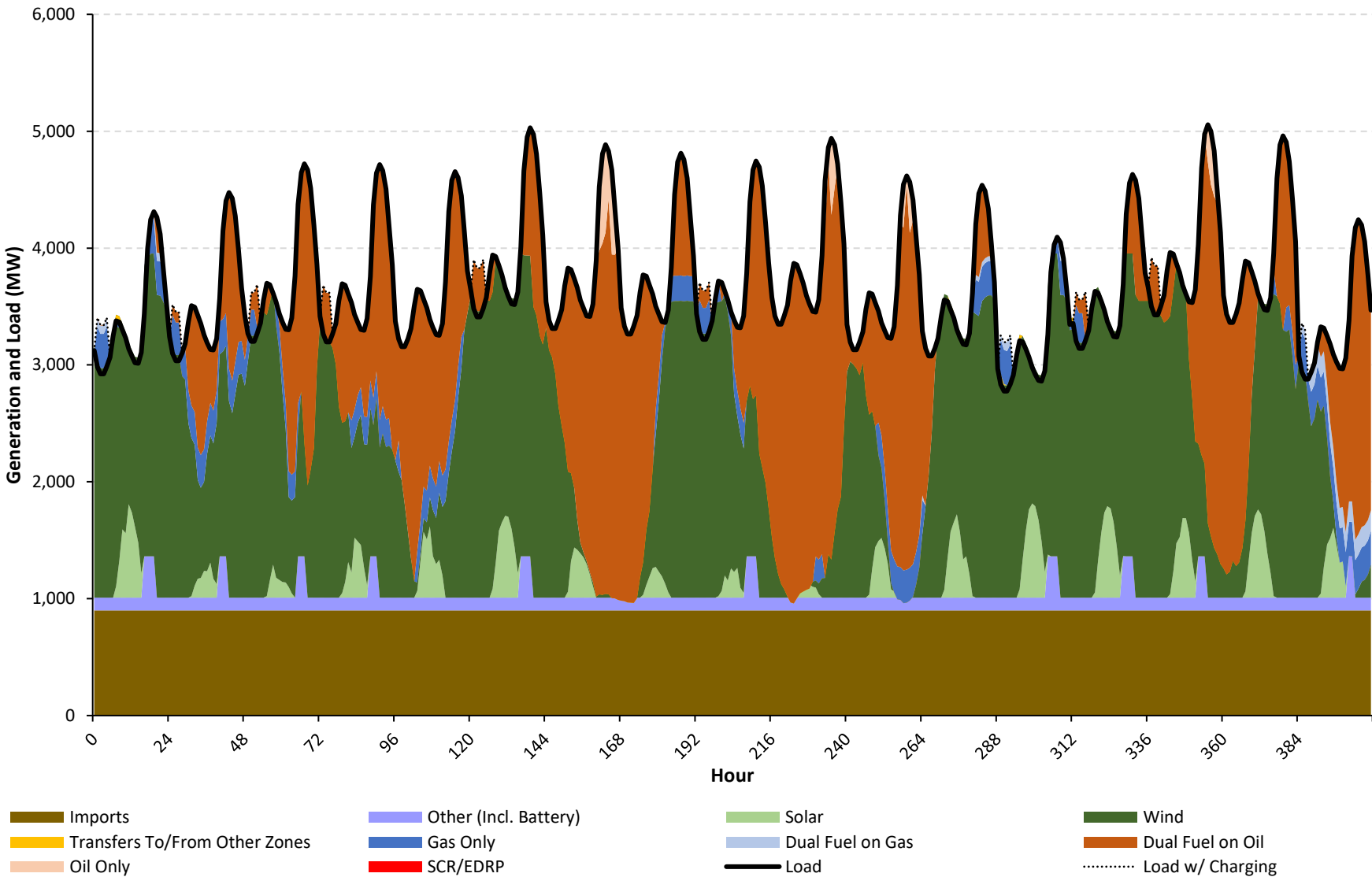
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	All

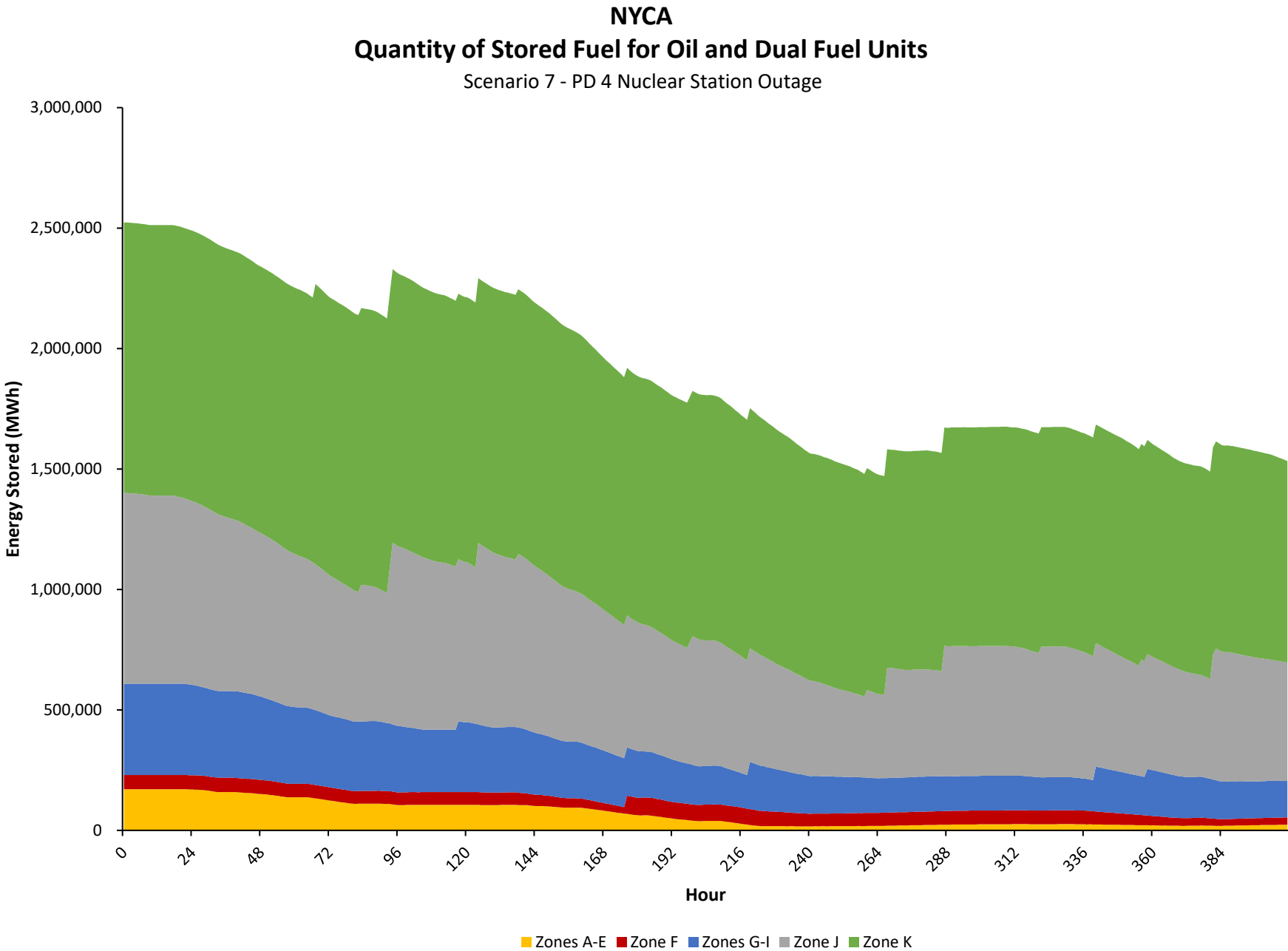


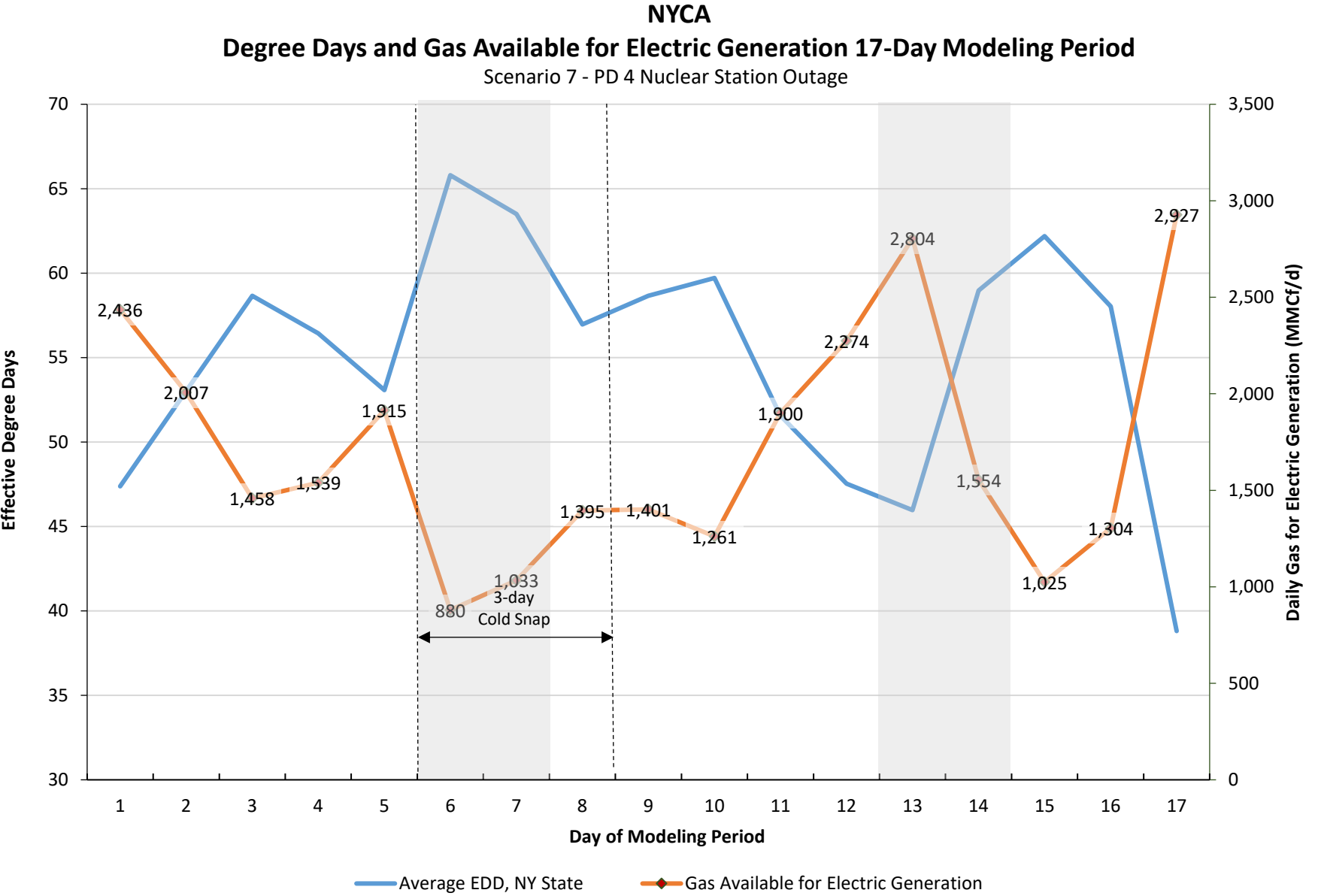




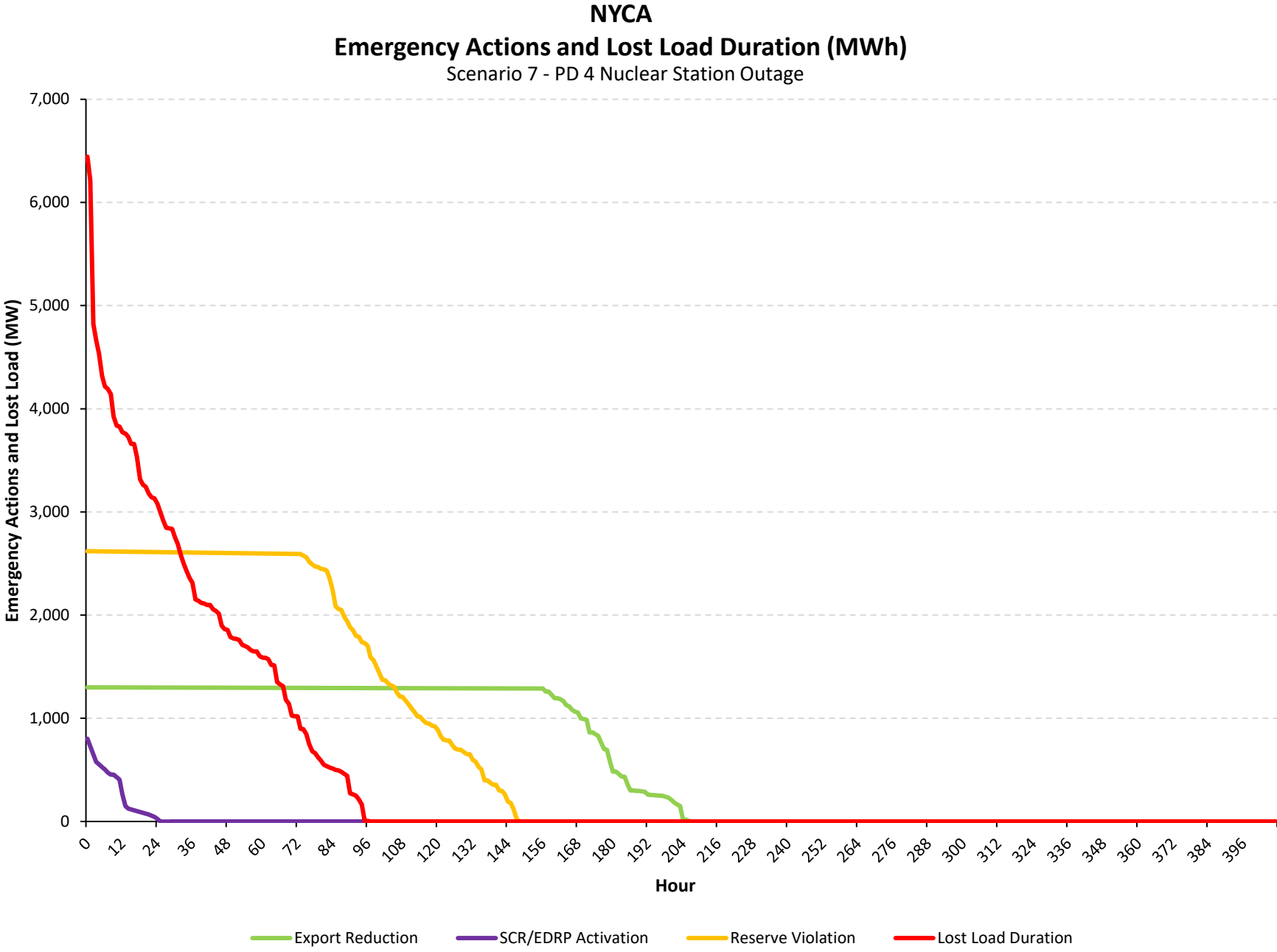
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 7 - PD 4 Nuclear Station Outage

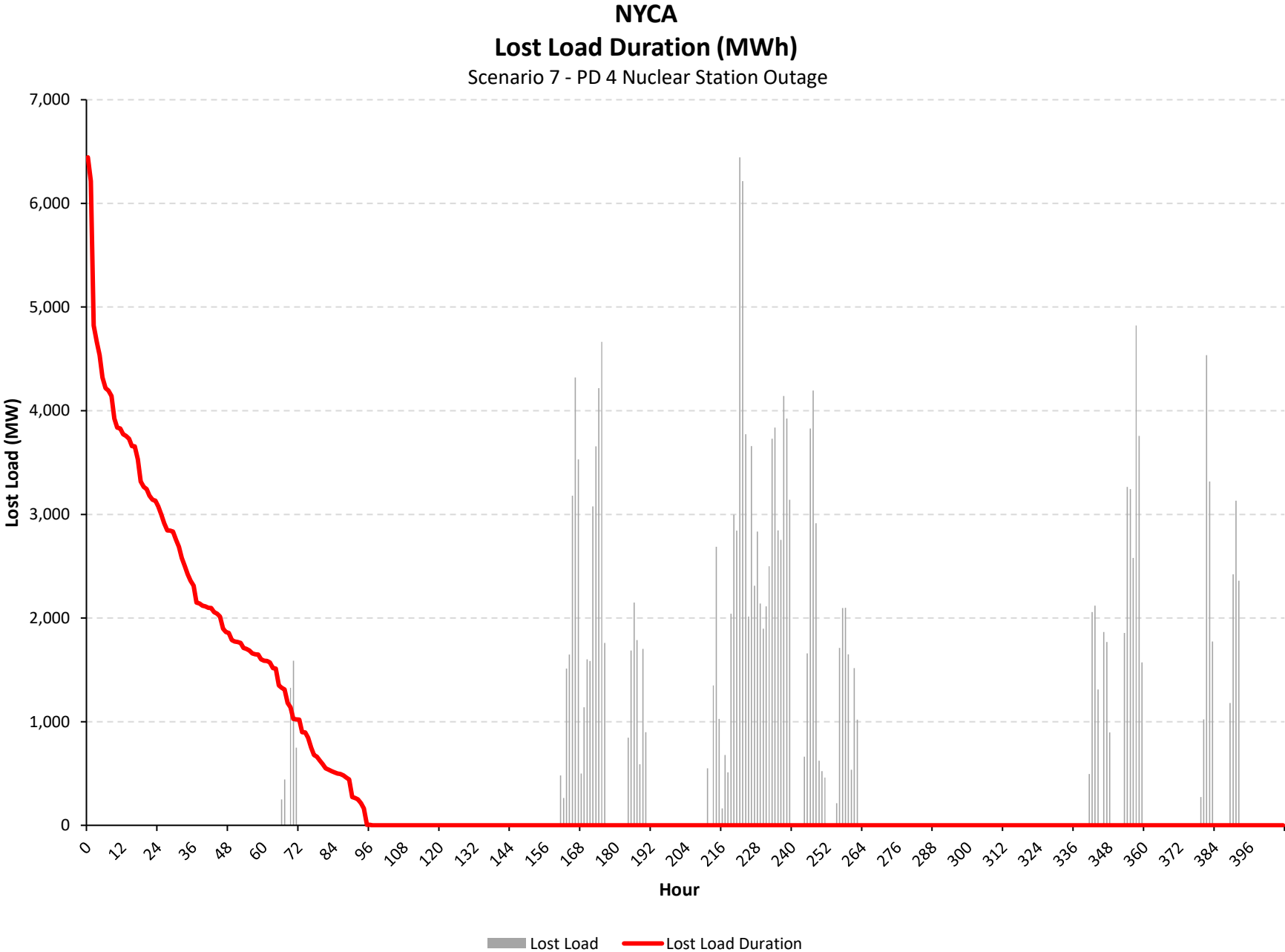






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



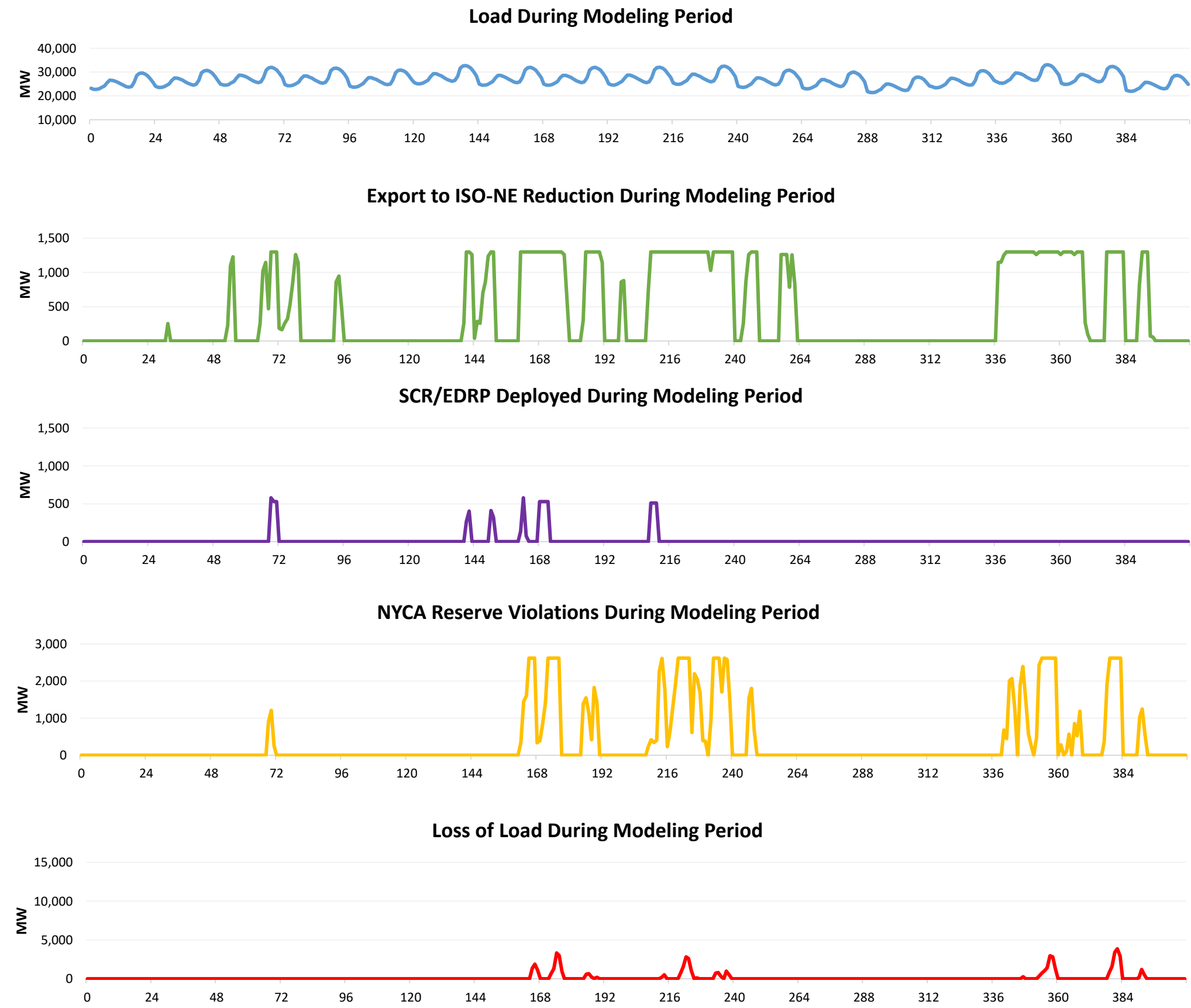


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 7 - PD 5 No Truck Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 7 - PD 5 No Truck Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	153
Total MWh	169,615
Avg. MW	415.7

SCR Deployment	
Total Hrs.	17
Total MWh	7,456
Avg. MW	18.3

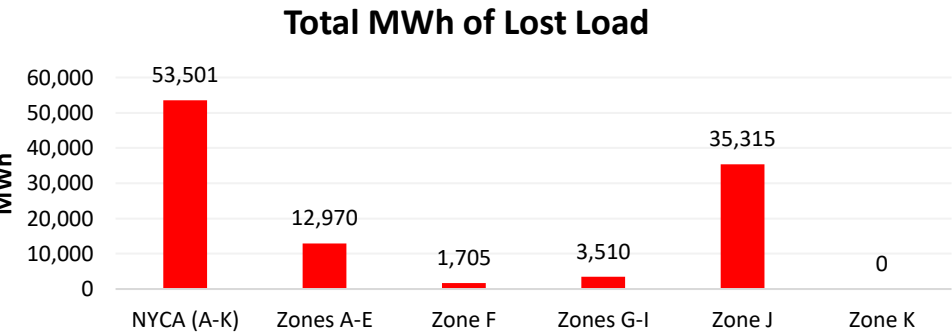
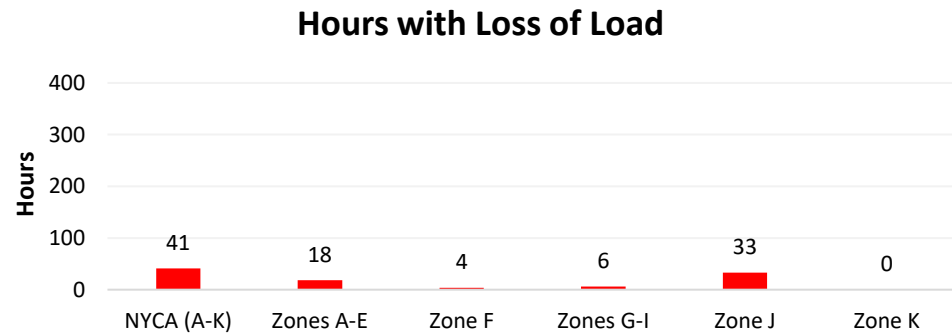
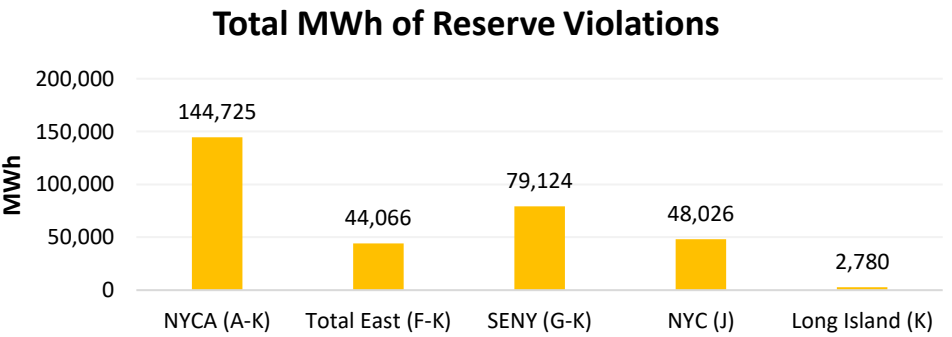
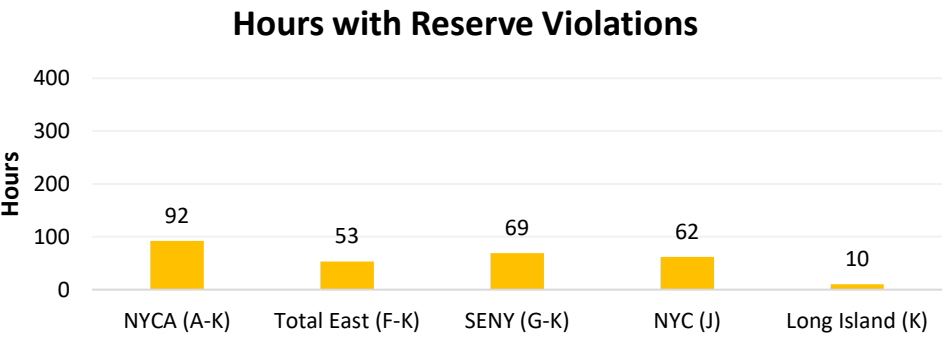
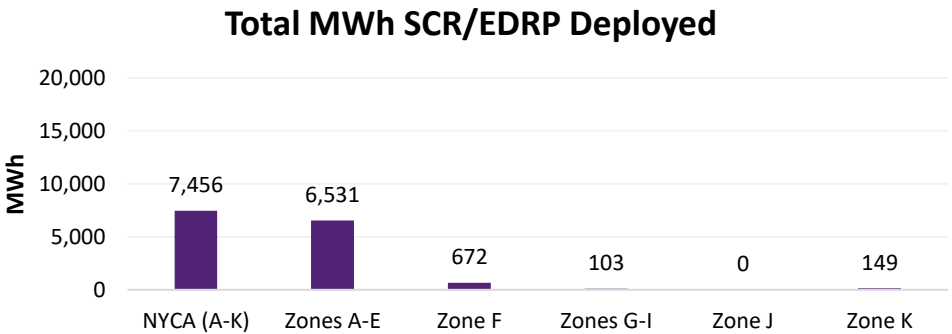
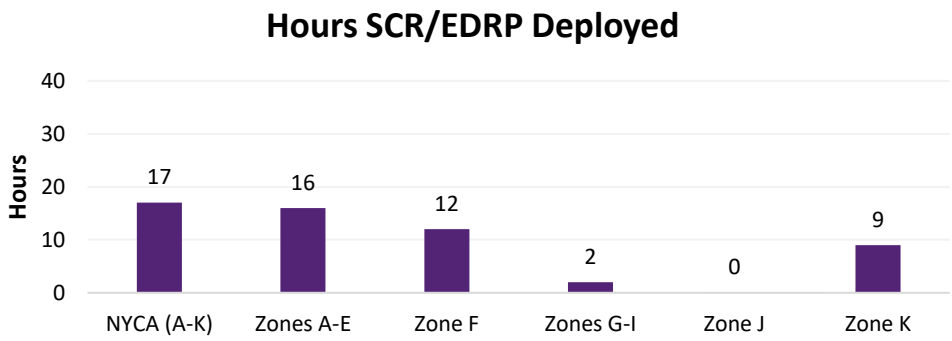
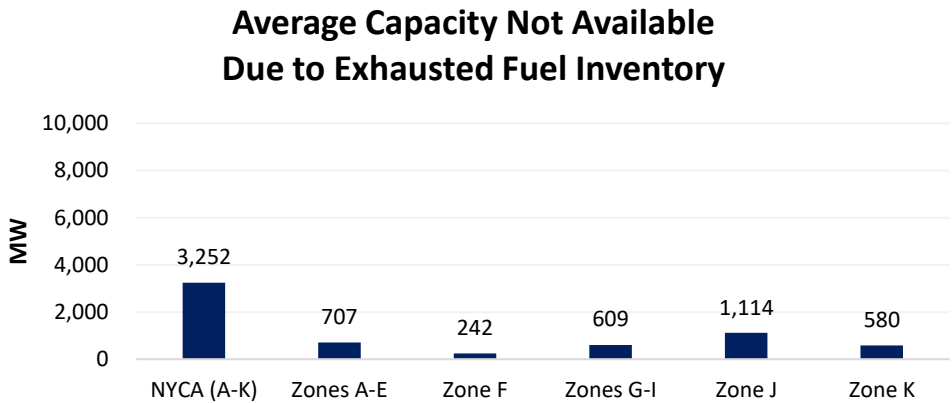
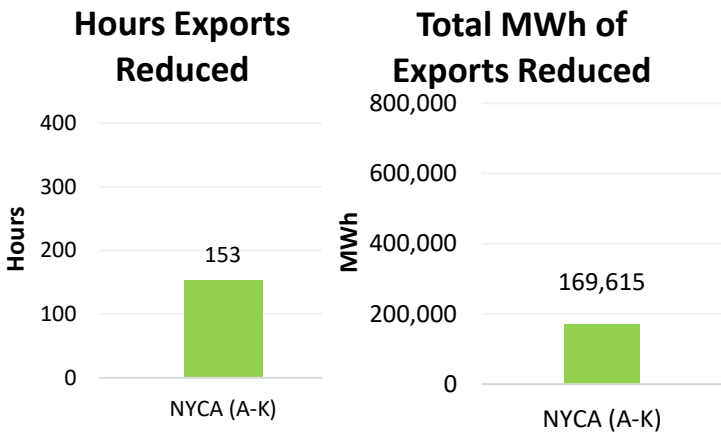
Reserve Violations	
Total Hrs.	92
Total MWh	144,725
Avg. MW	354.7
First Hour with Viol.	69

Loss of Load	
Total Hrs.	41
Total MWh	53,501
Avg. MW	131.1
First Hour with Losses	165

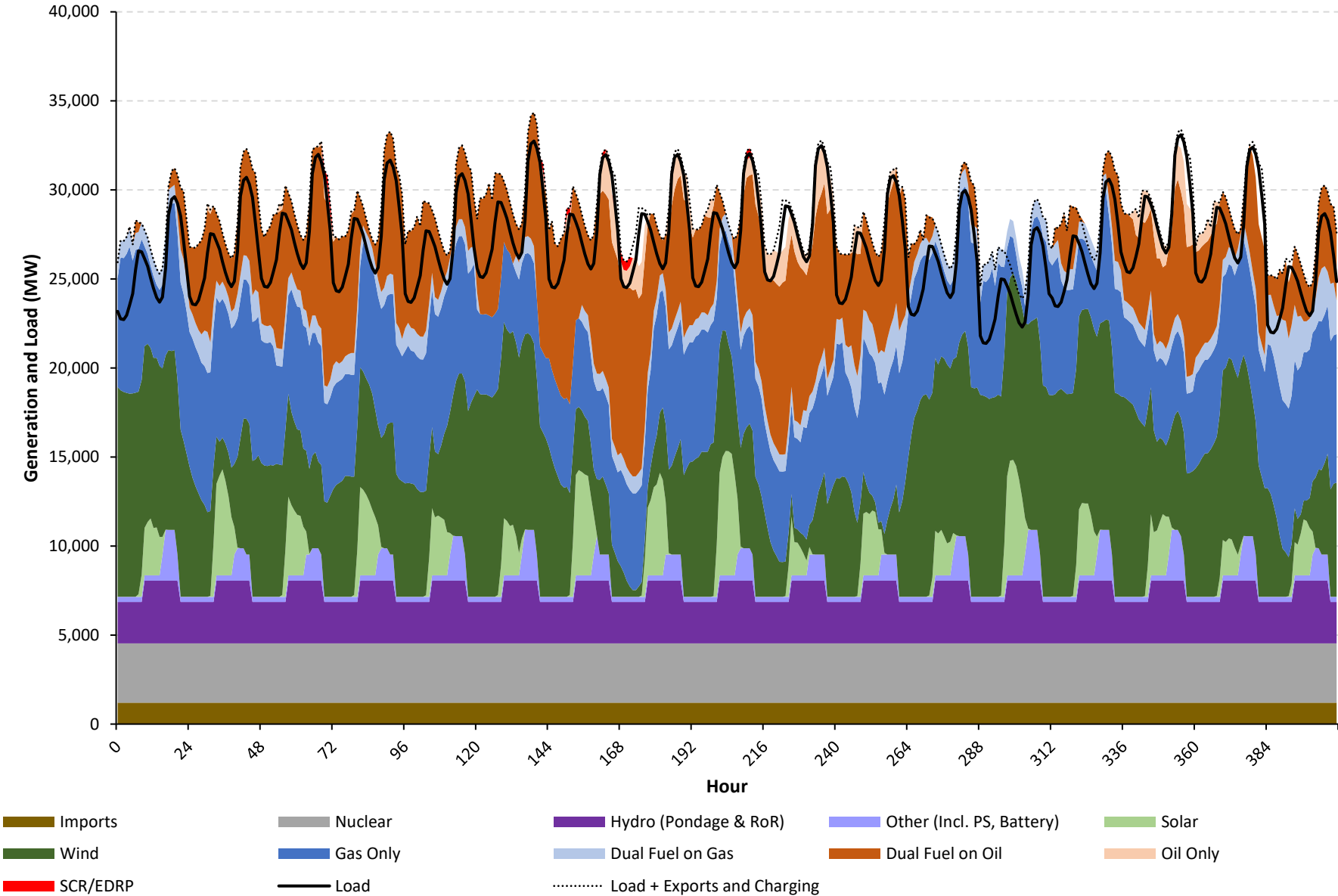
Full Period Results Summary

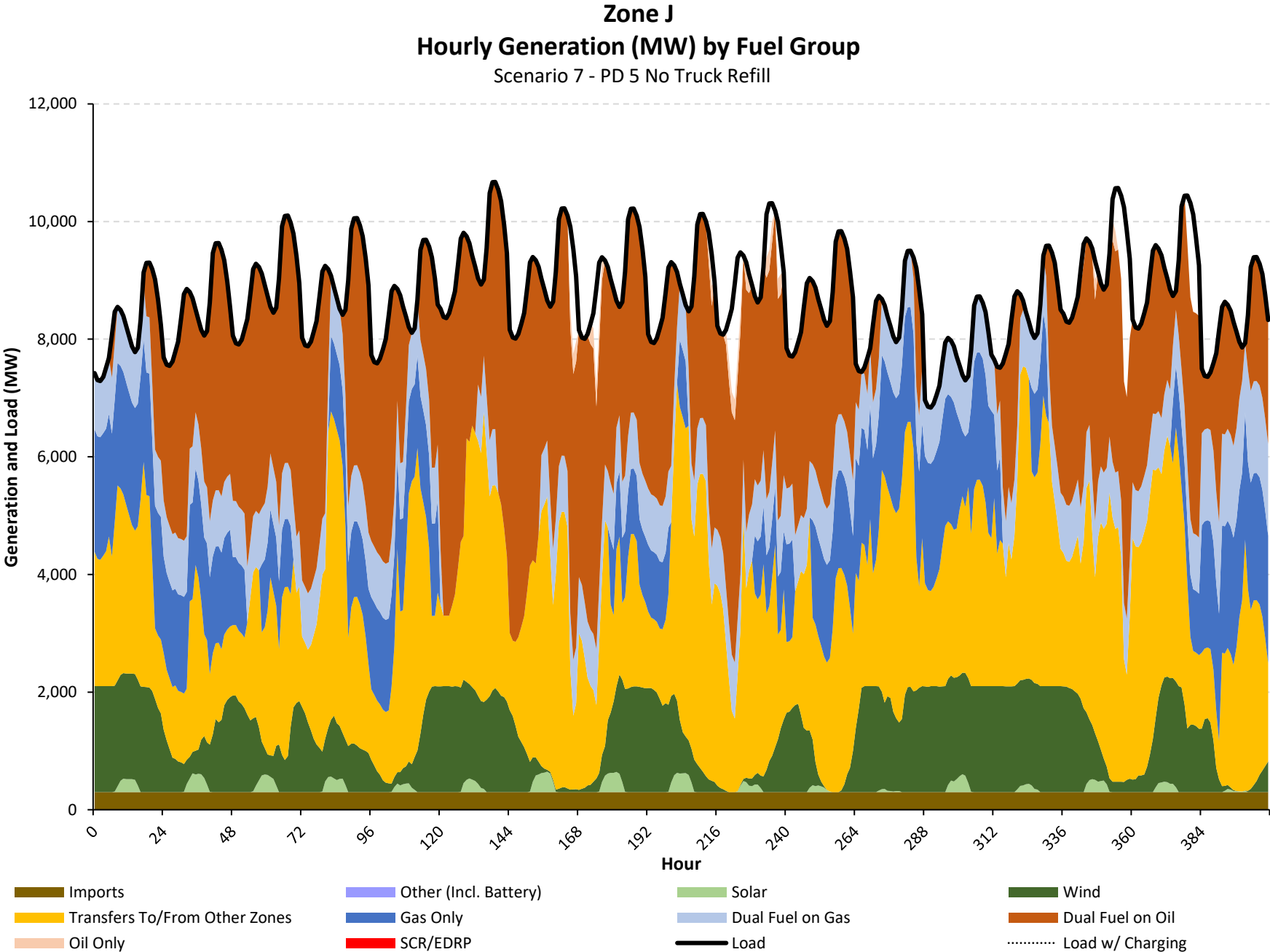
Case Name: Scenario 7 - PD 5 No Truck Refill

Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

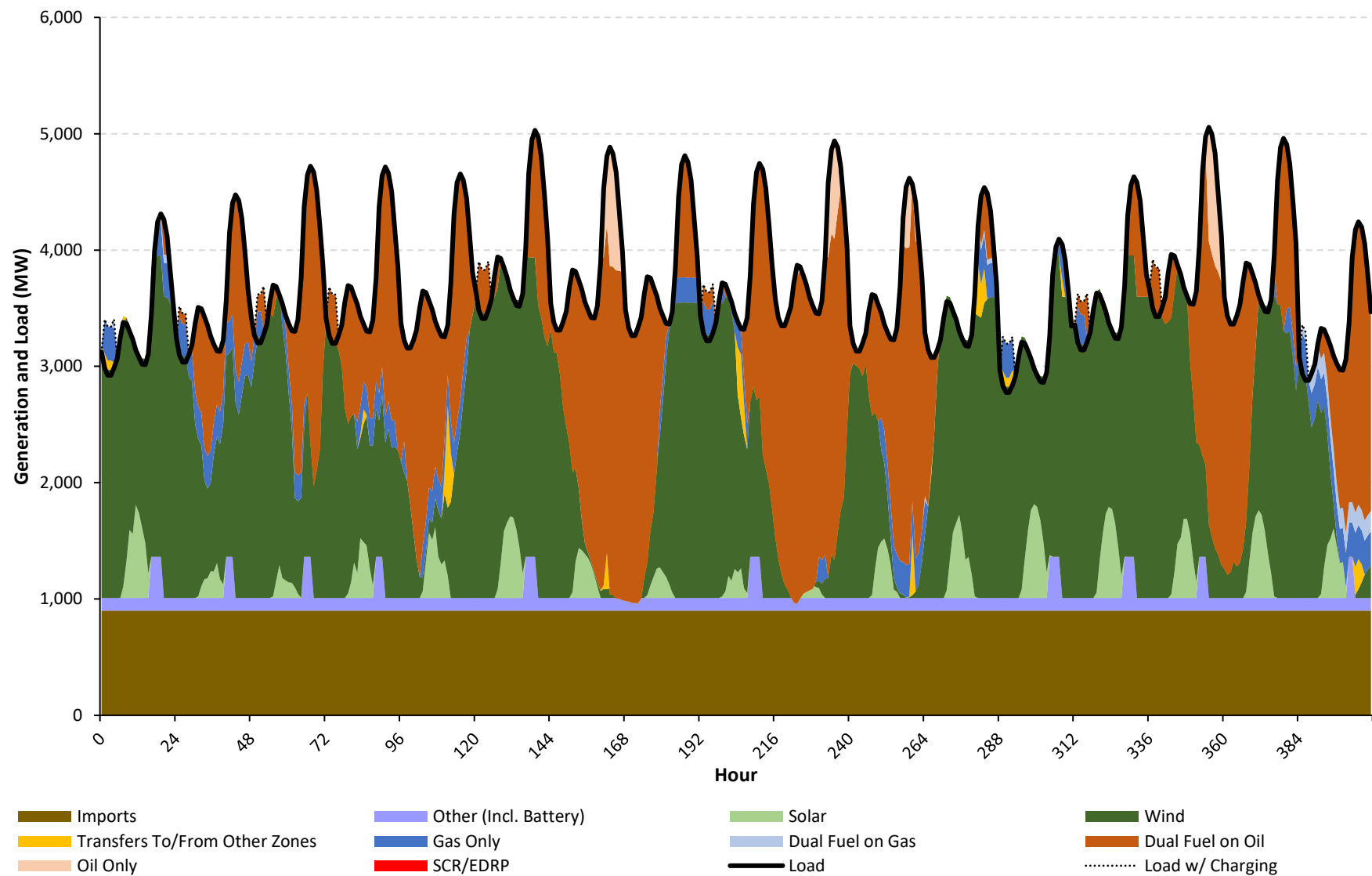


NYCA
Hourly Generation (MWh) by Fuel Group
Scenario 7 - PD 5 No Truck Refill

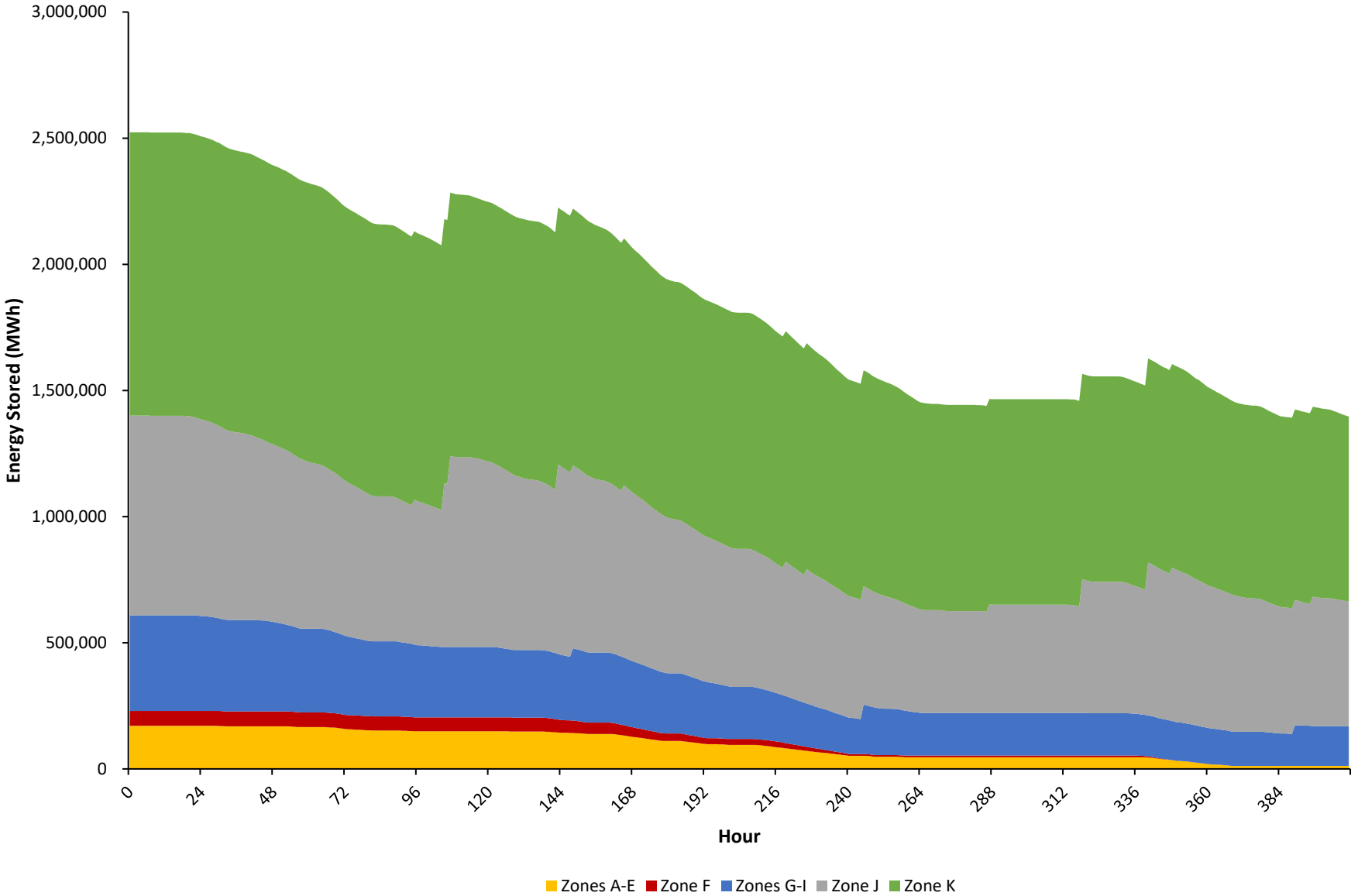


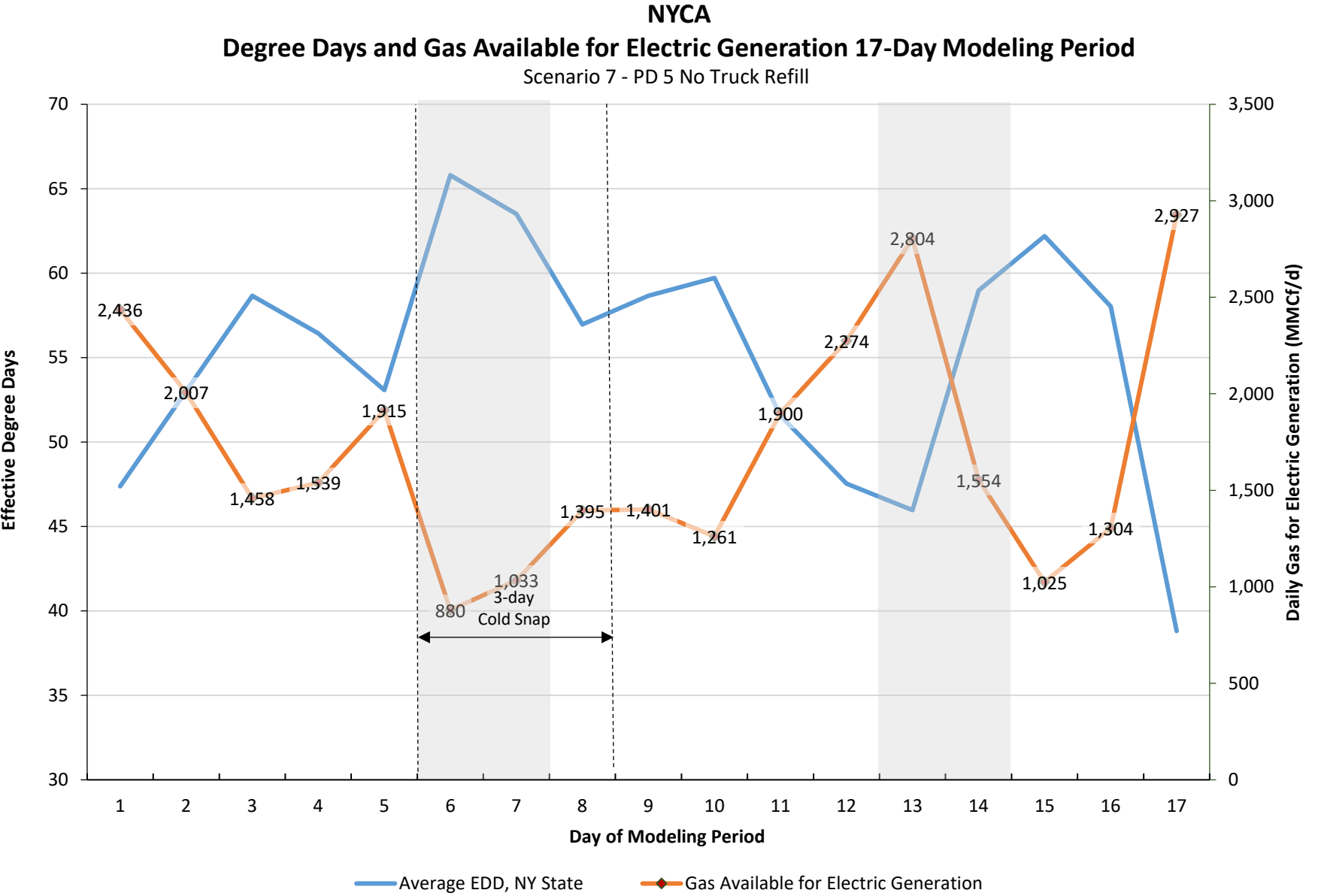


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 7 - PD 5 No Truck Refill

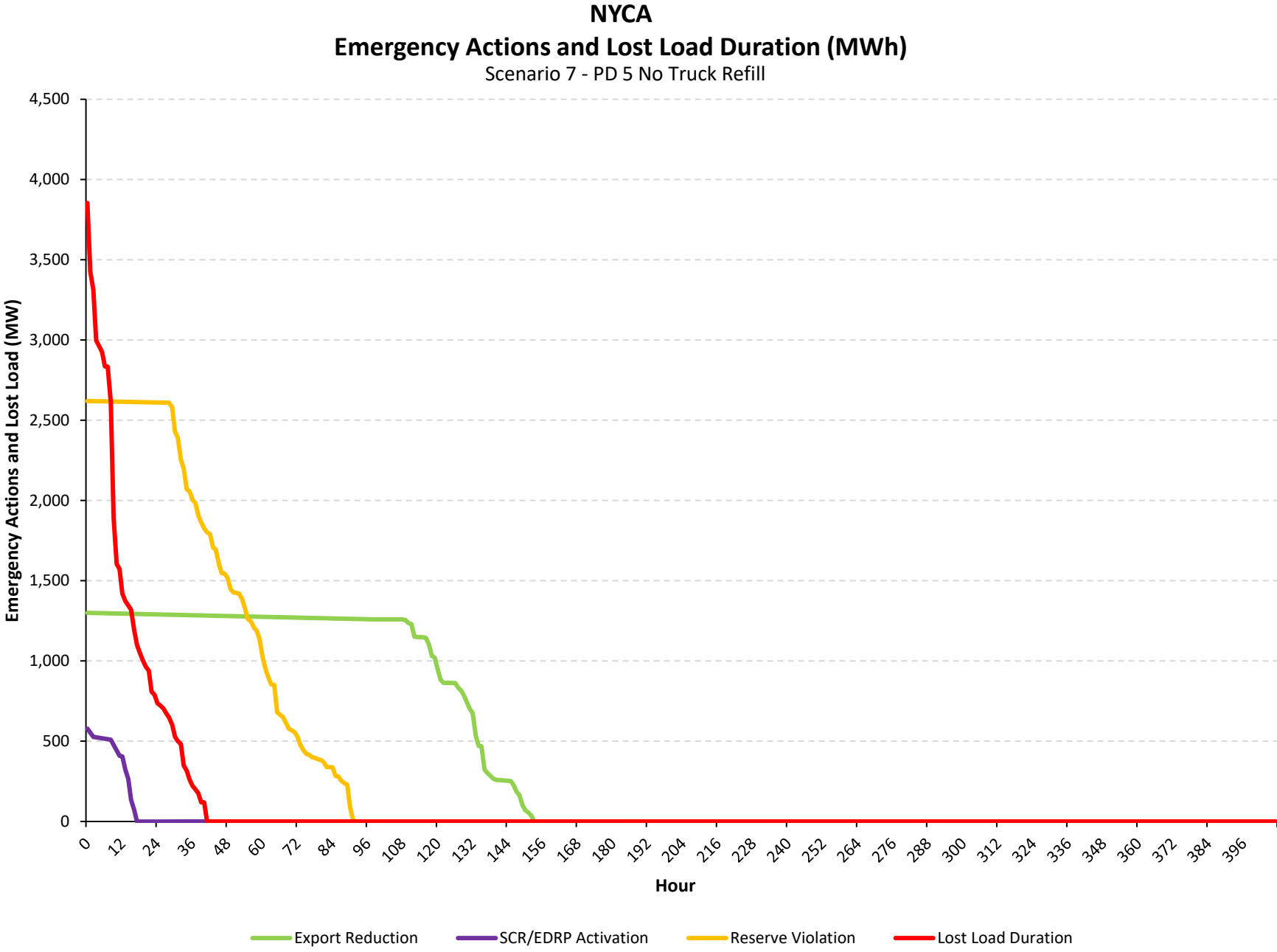


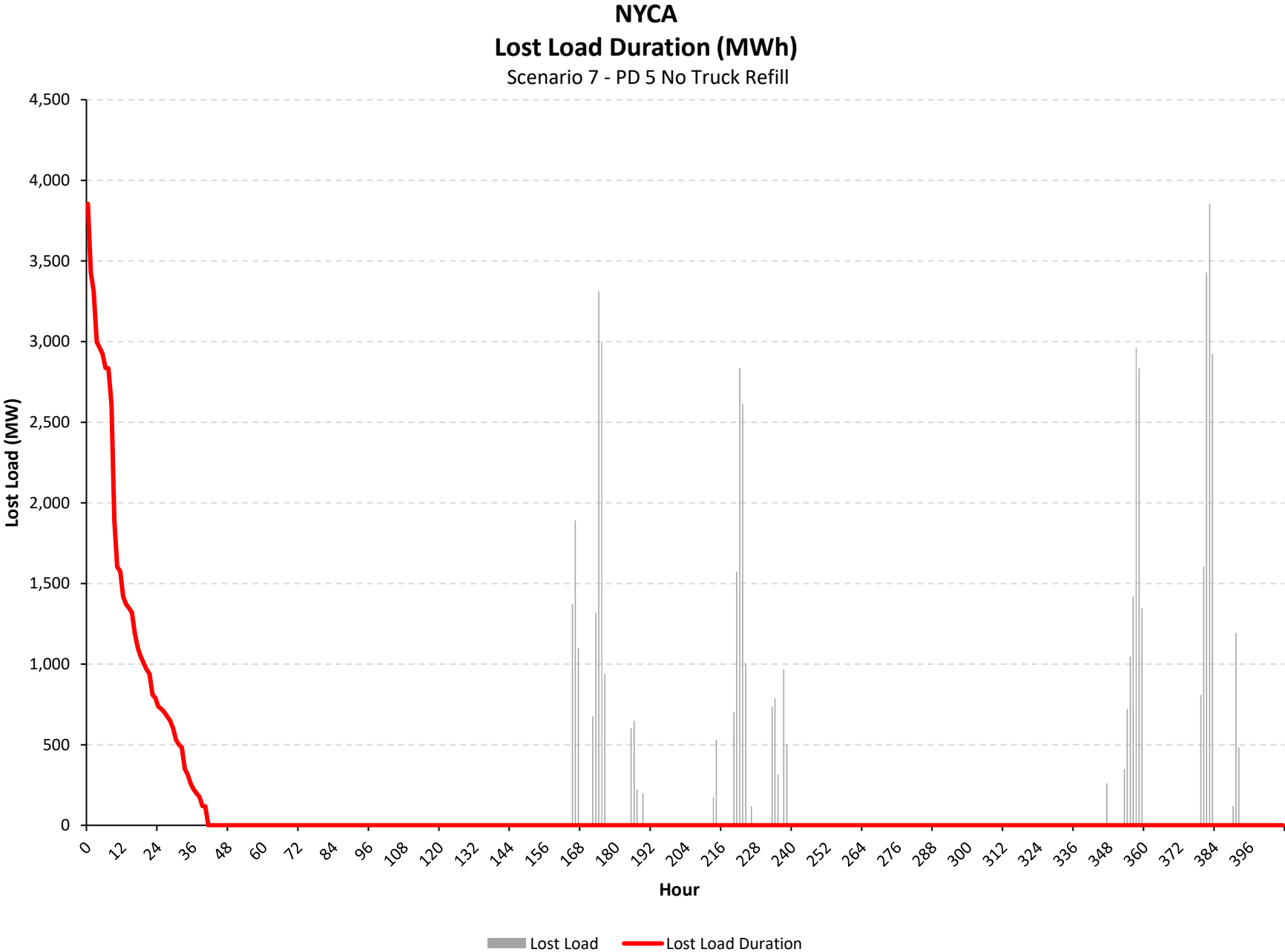
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 7 - PD 5 No Truck Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



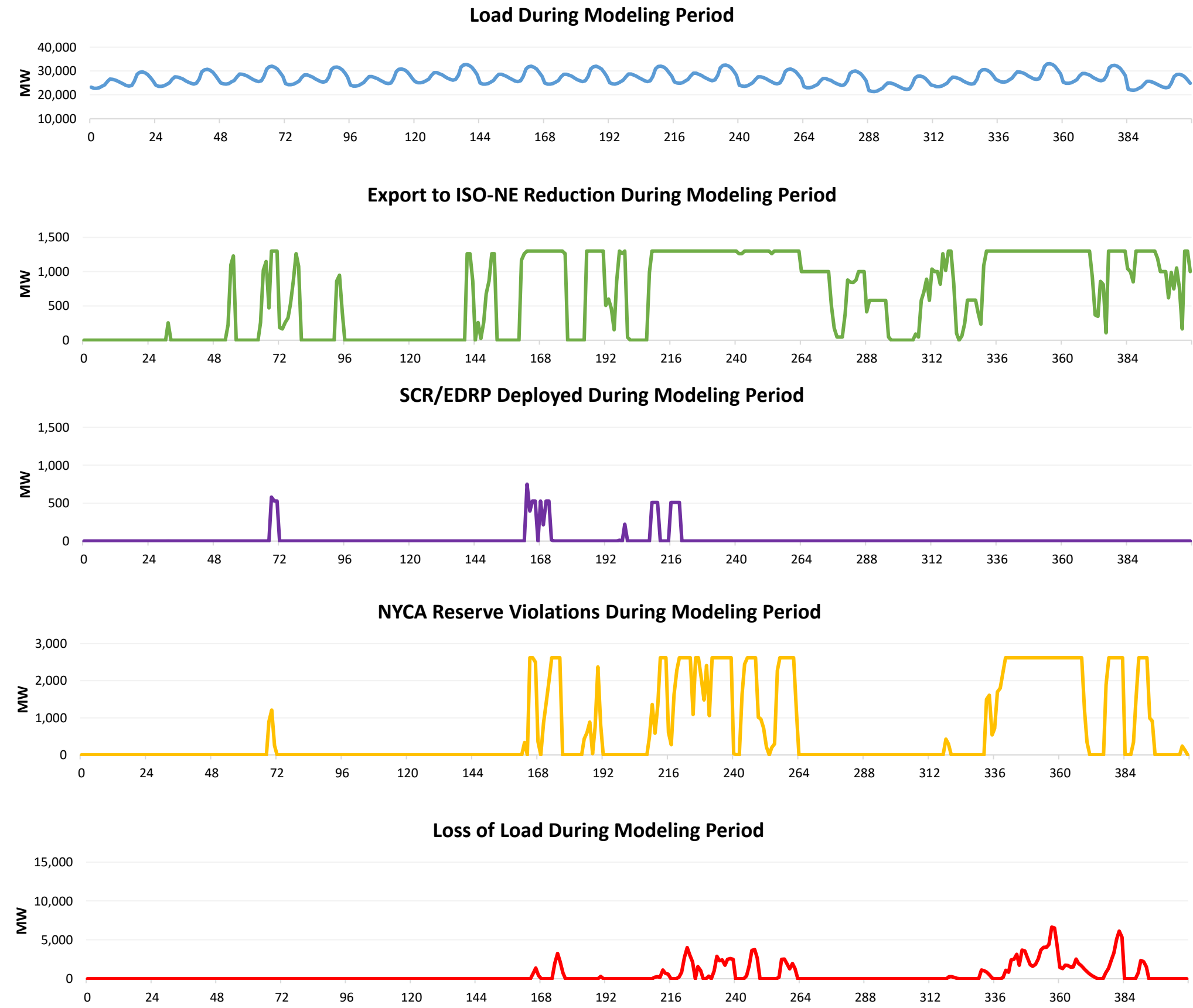


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 7 - PD 6 No Barge Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 7 - PD 6 No Barge Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	255
Total MWh	263,036
Avg. MW	644.7

SCR Deployment	
Total Hrs.	21
Total MWh	9,448
Avg. MW	23.2

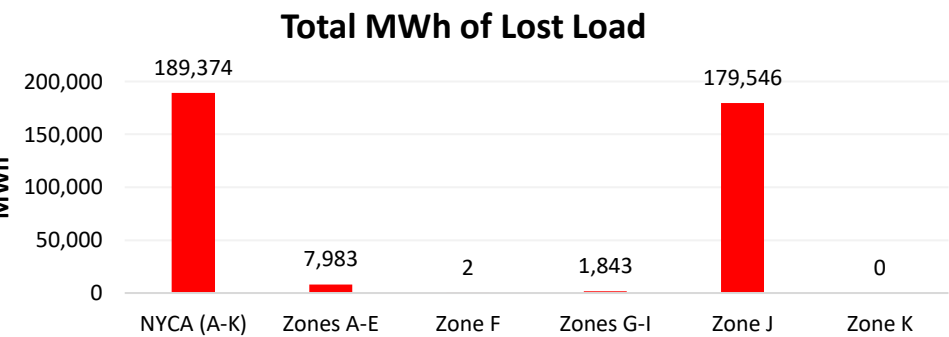
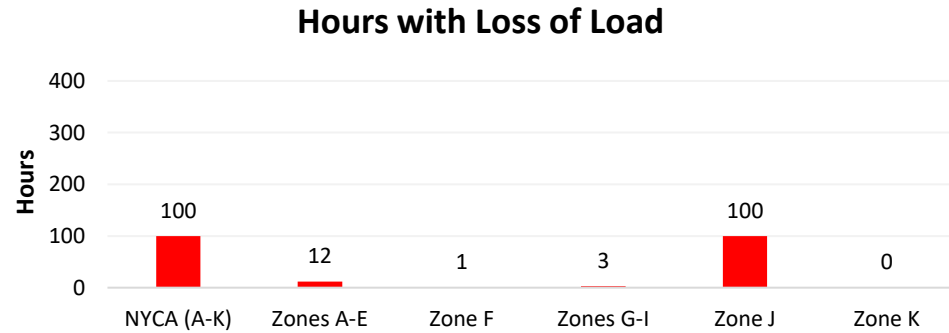
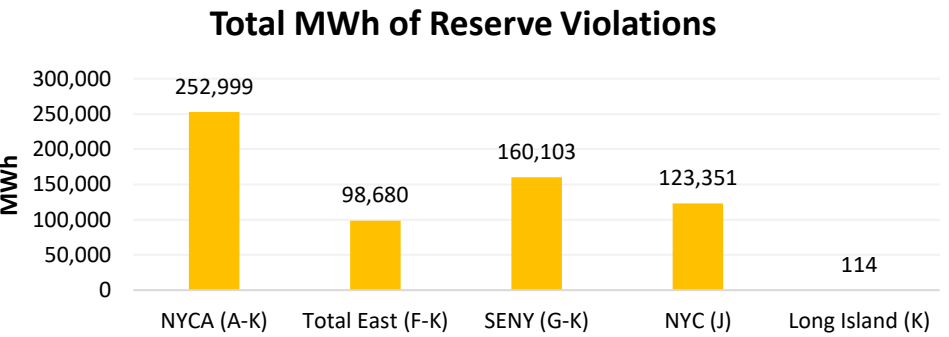
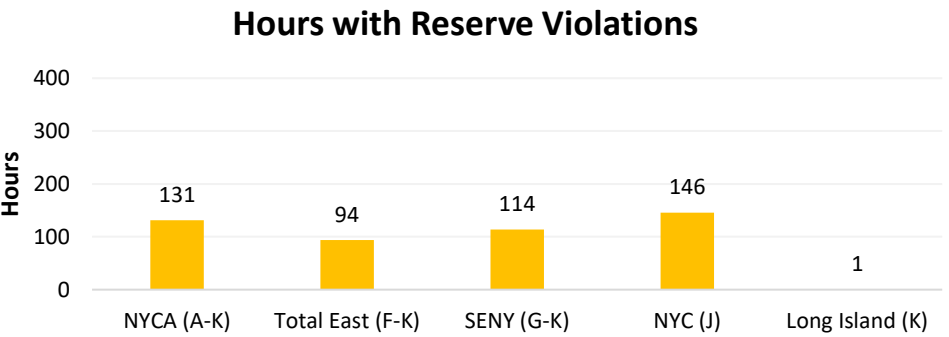
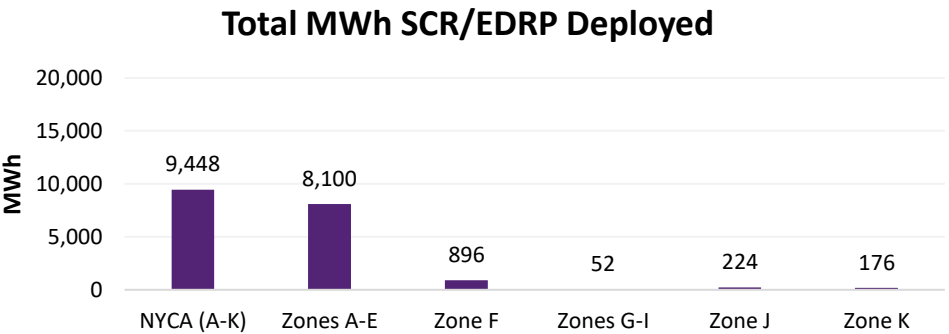
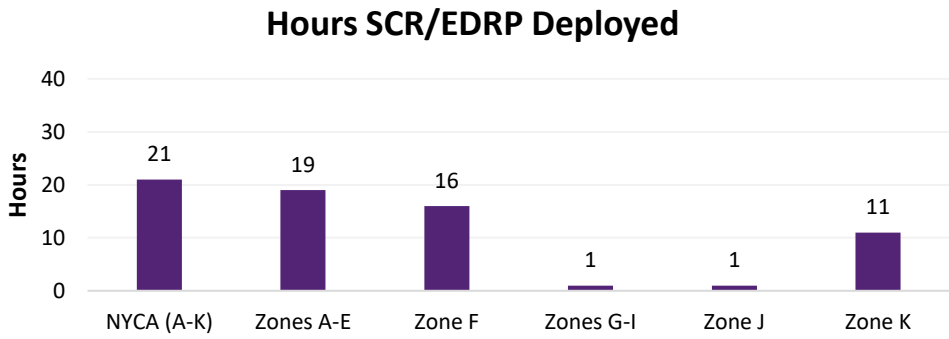
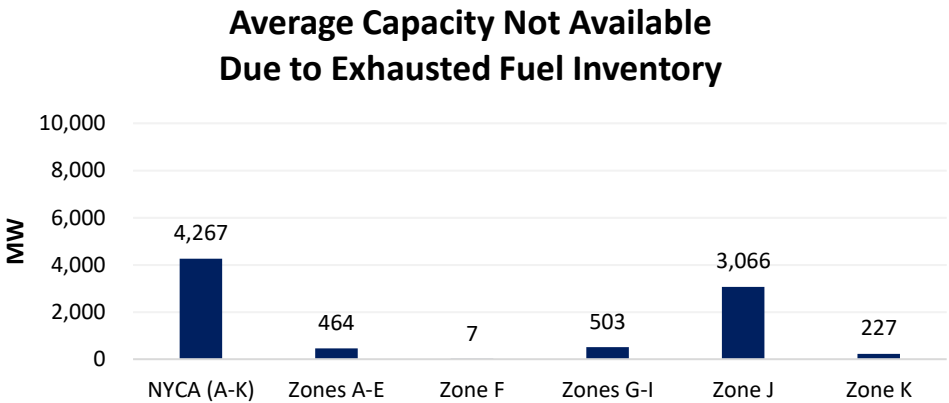
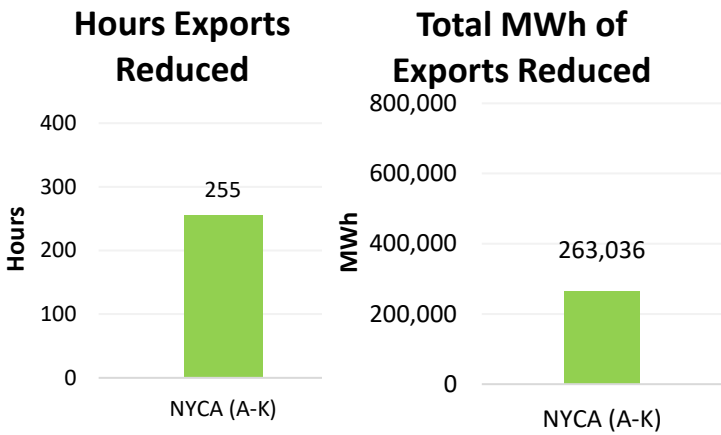
Reserve Violations	
Total Hrs.	131
Total MWh	252,999
Avg. MW	620.1
First Hour with Viol.	69

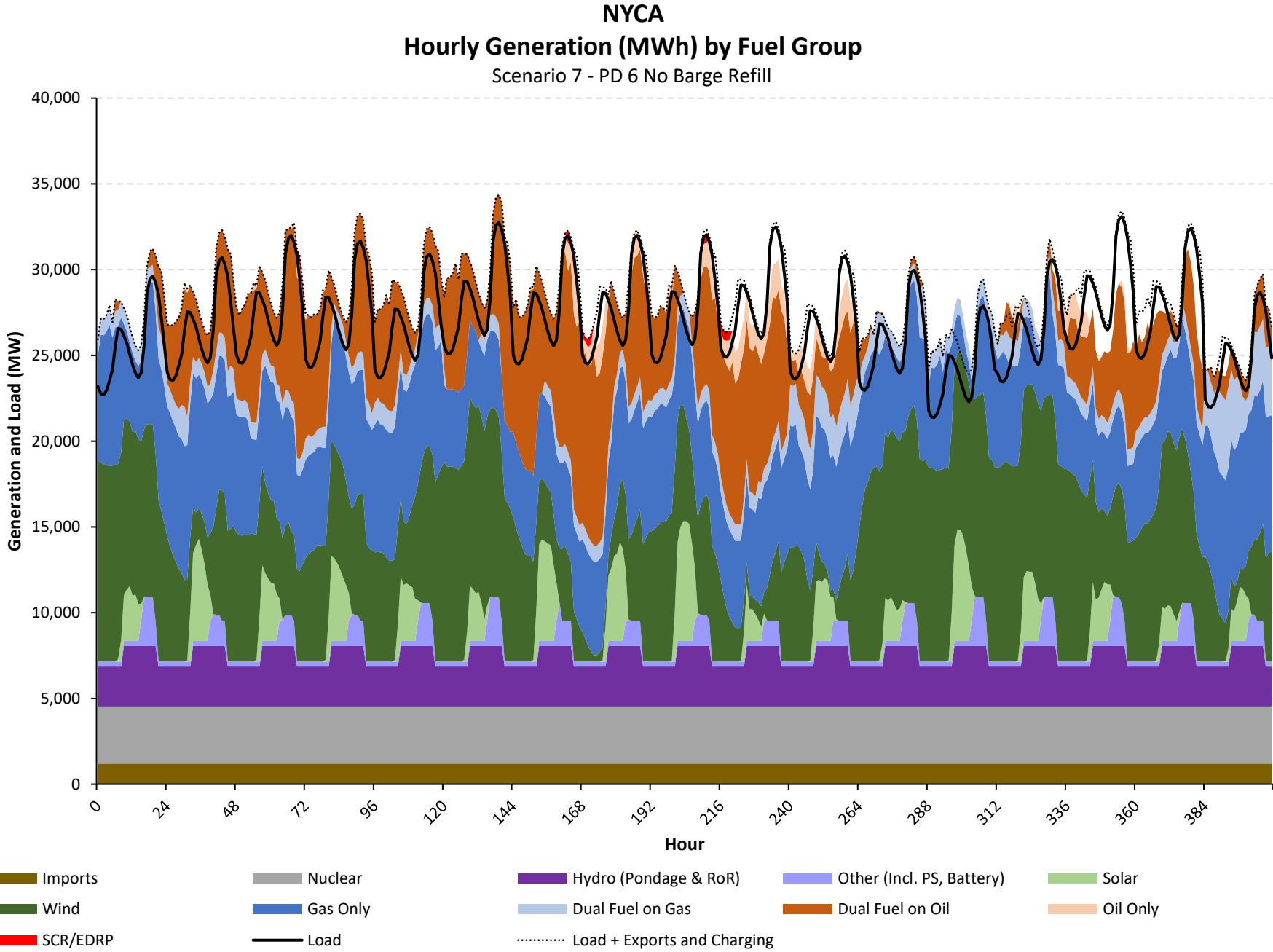
Loss of Load	
Total Hrs.	100
Total MWh	189,374
Avg. MW	464.2
First Hour with Losses	165

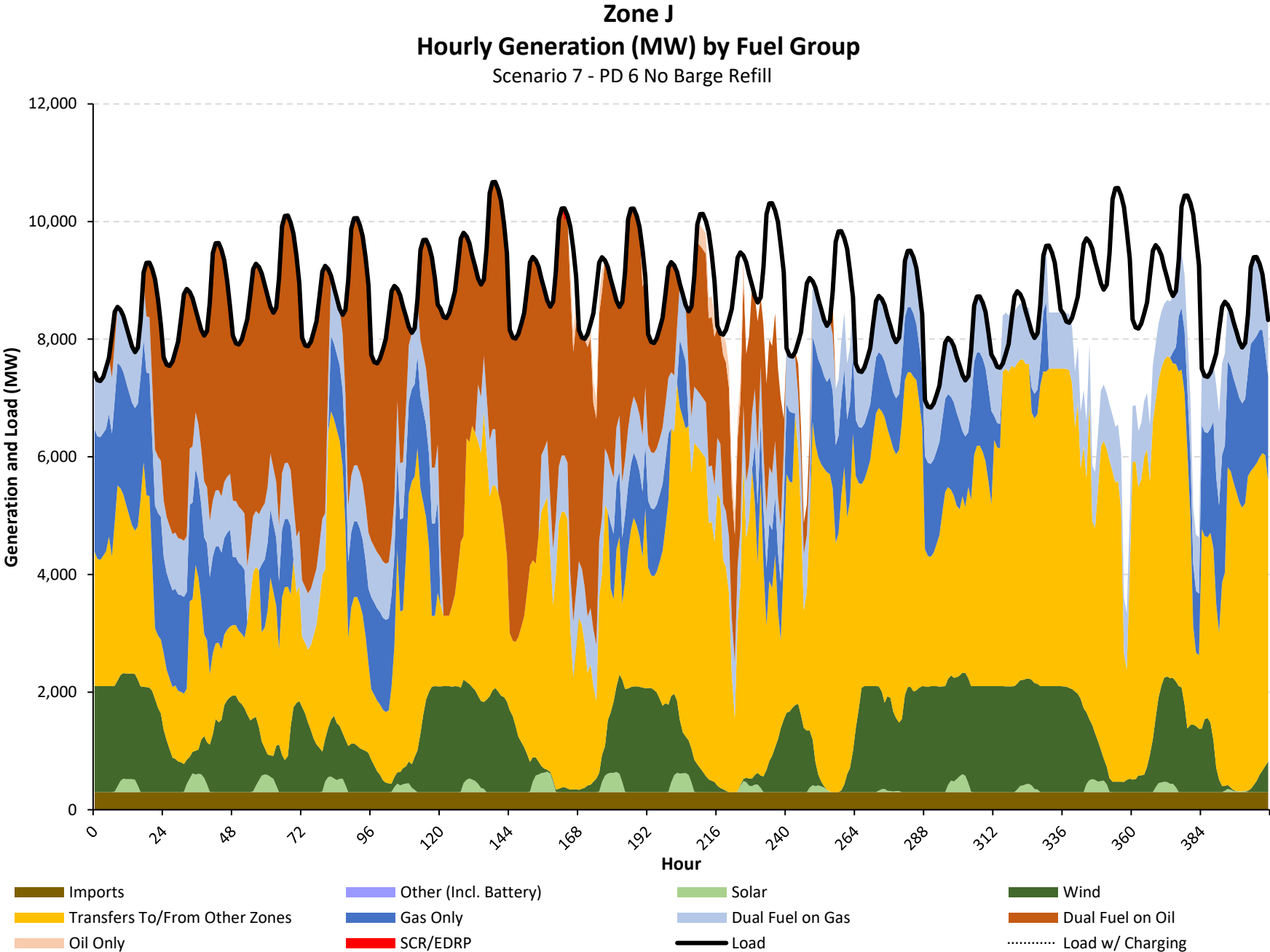
Full Period Results Summary

Case Name: Scenario 7 - PD 6 No Barge Refill

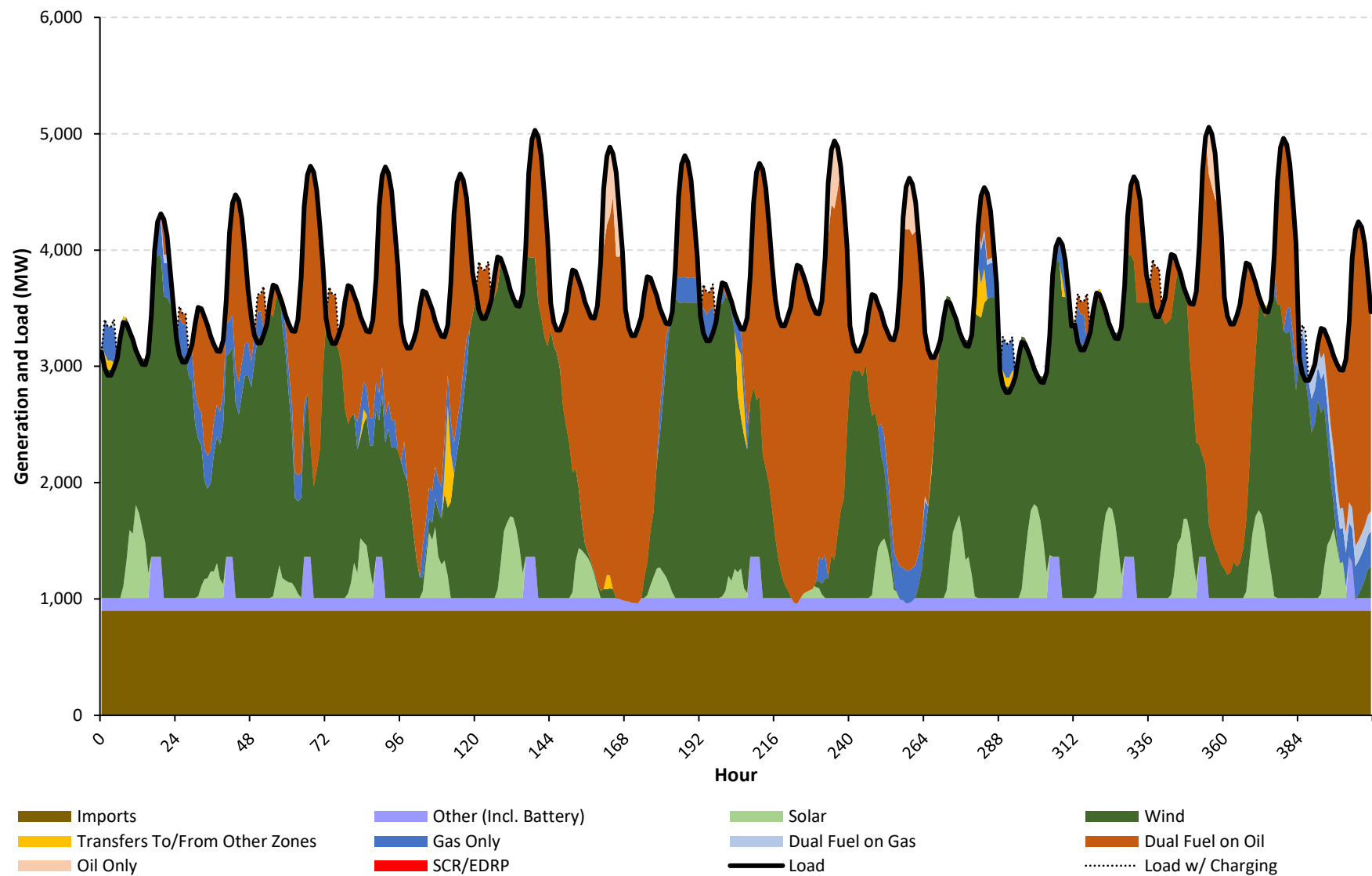
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All



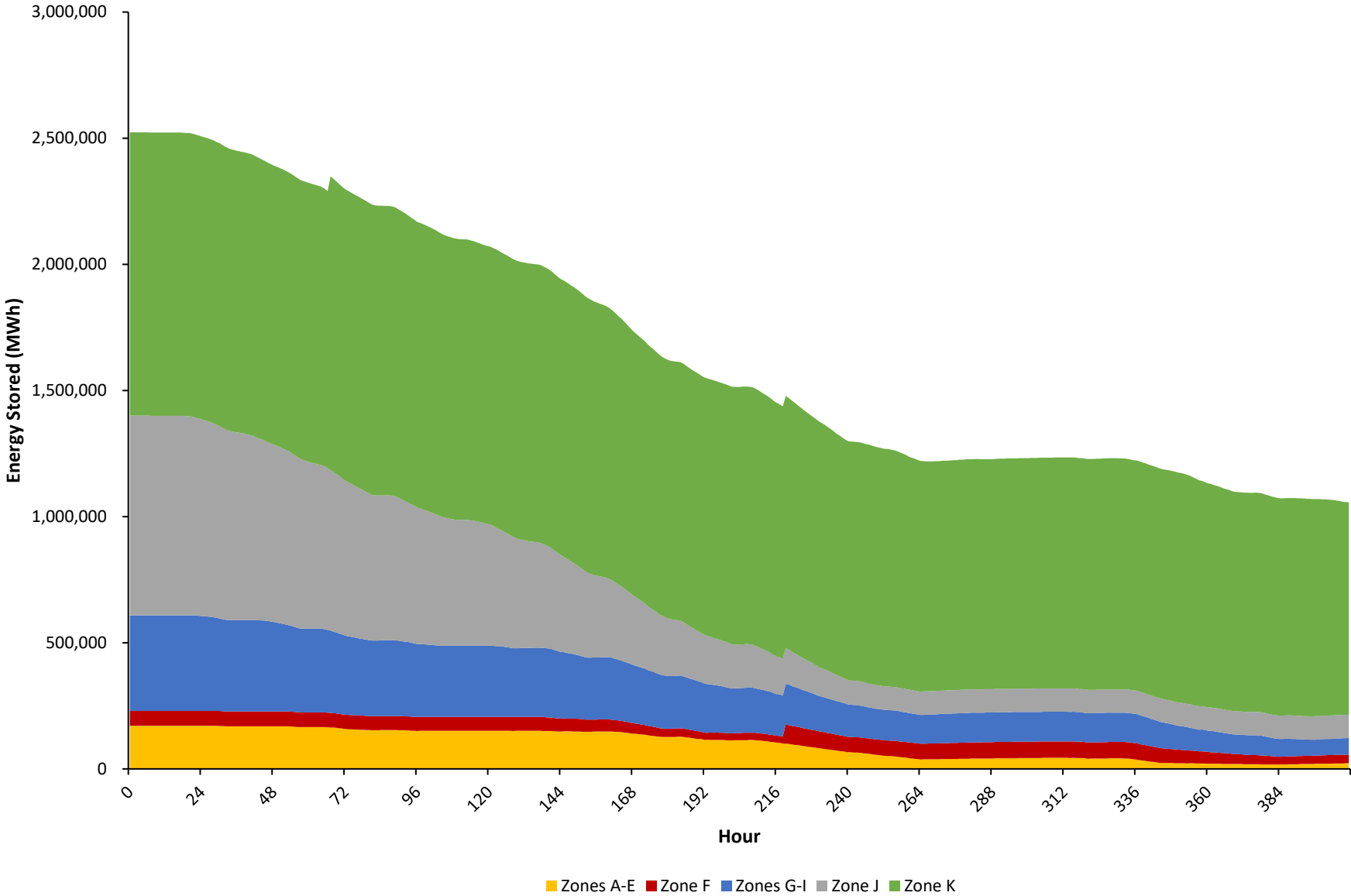


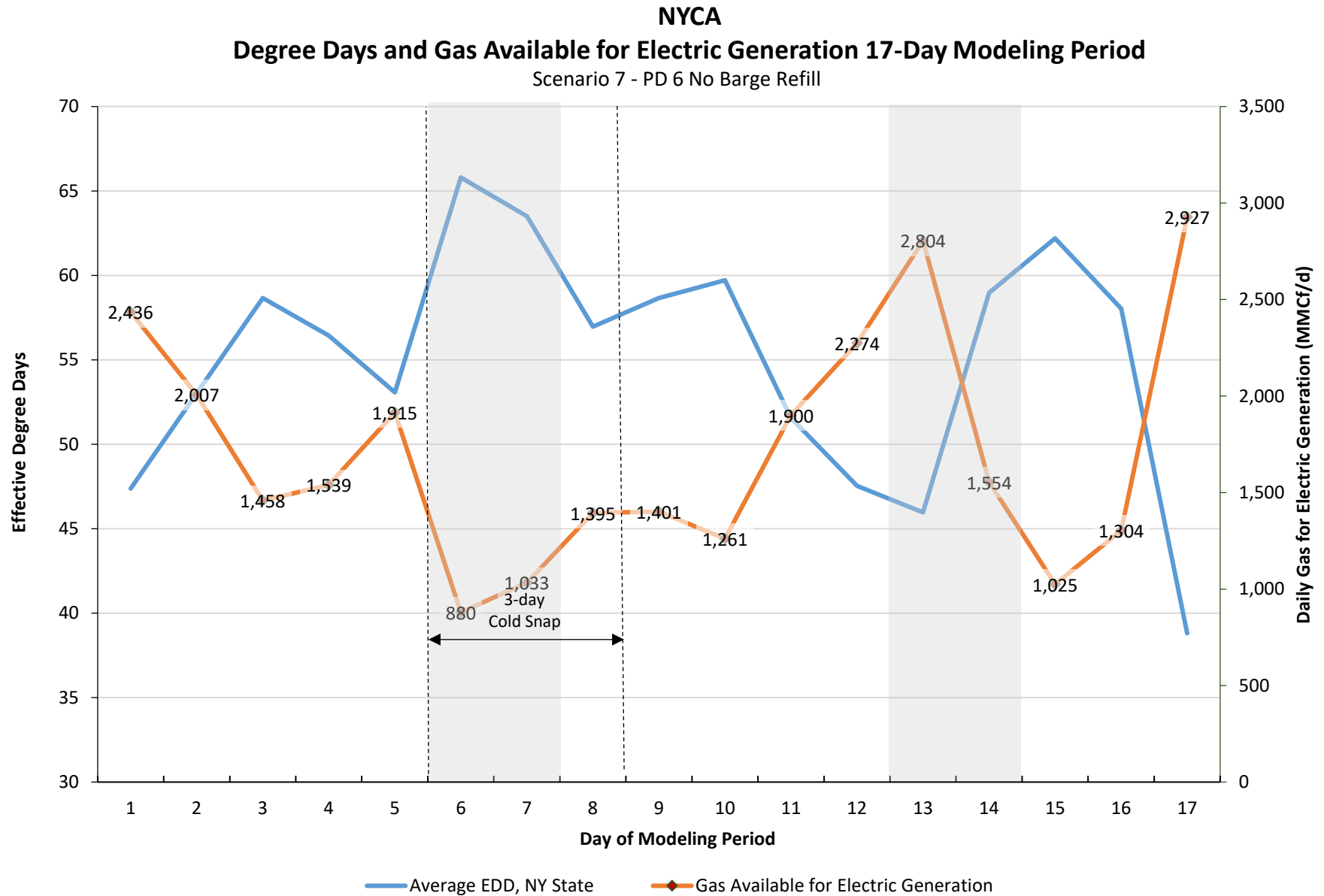


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 7 - PD 6 No Barge Refill



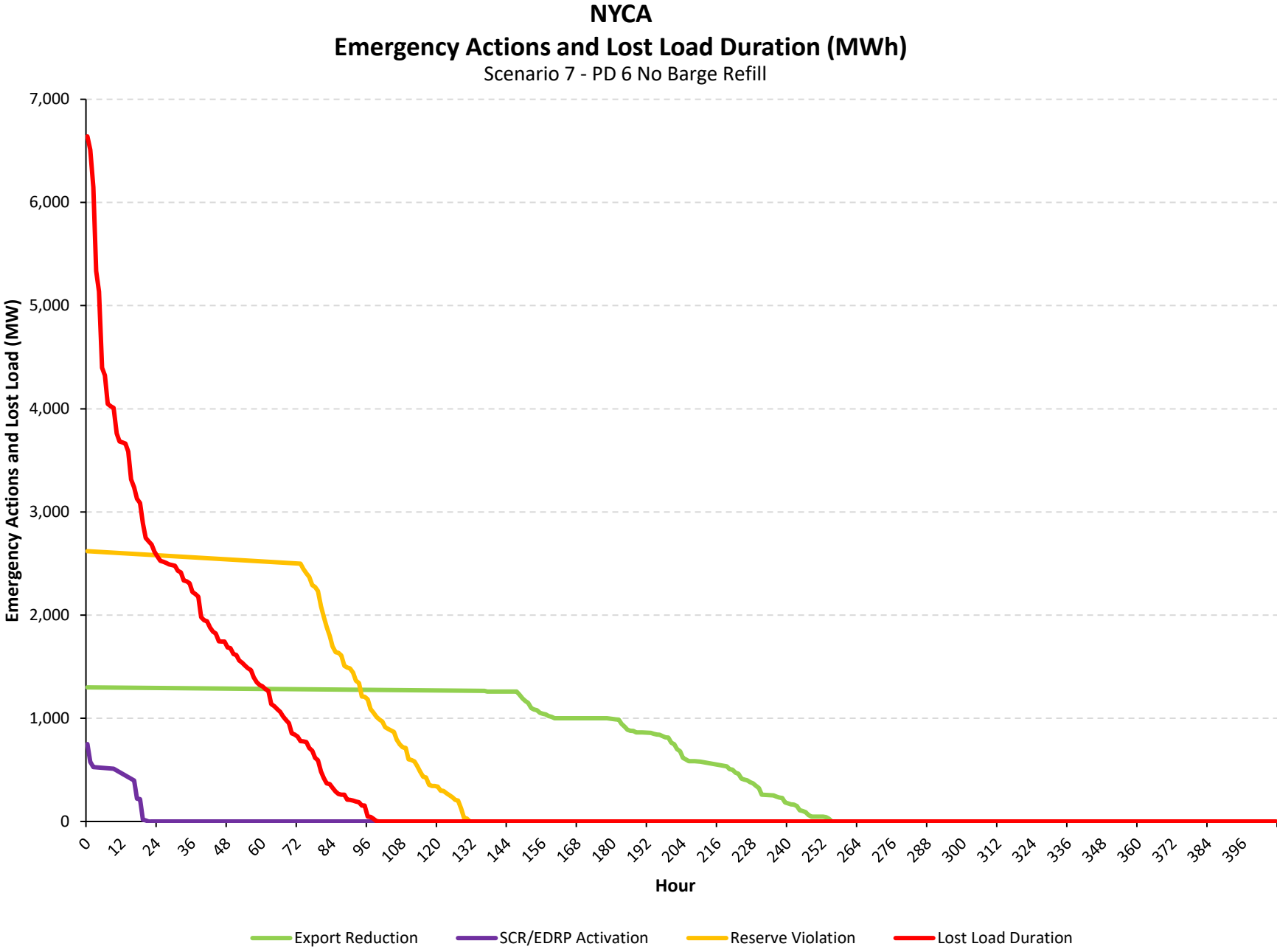
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 7 - PD 6 No Barge Refill

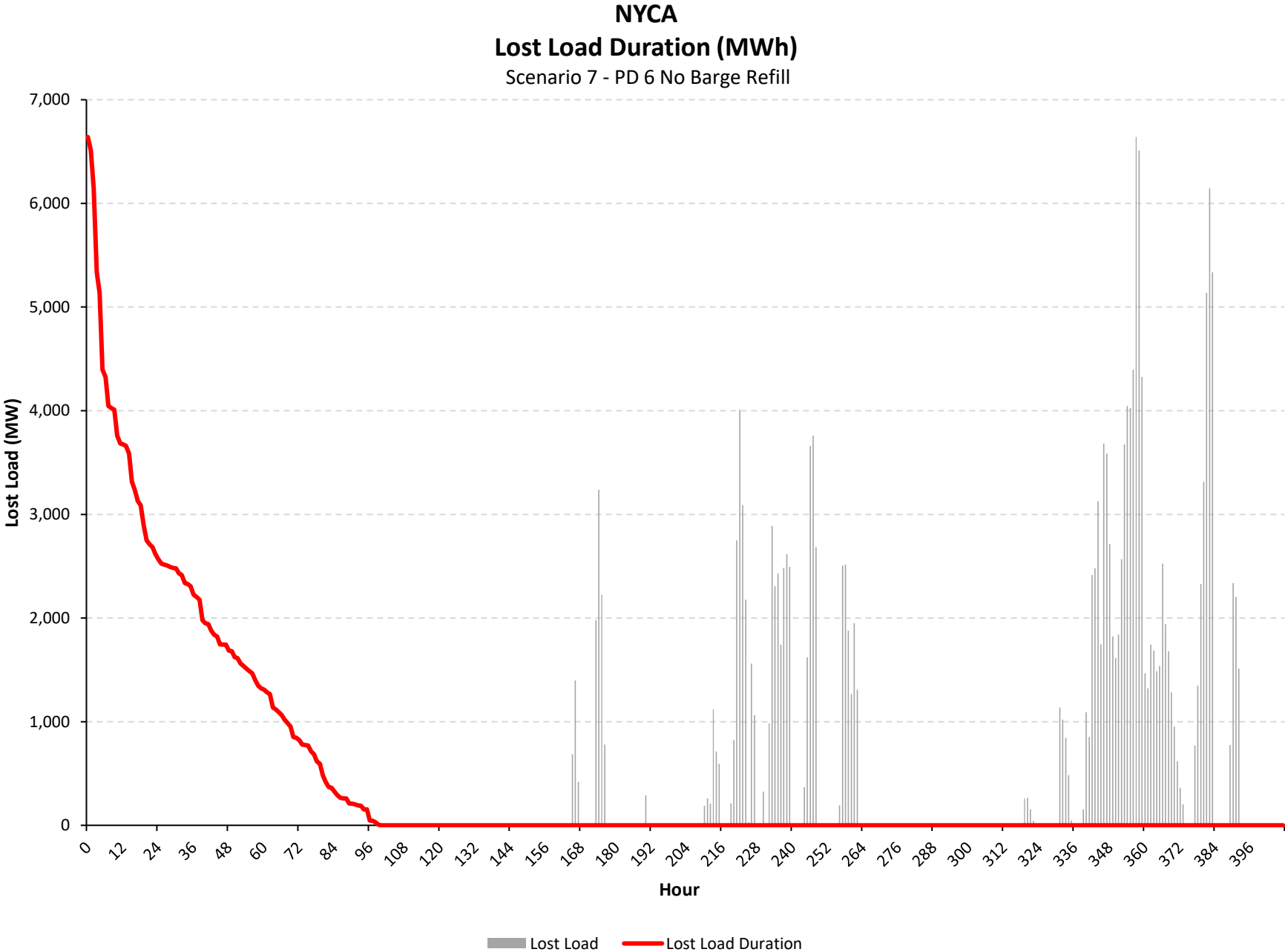




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



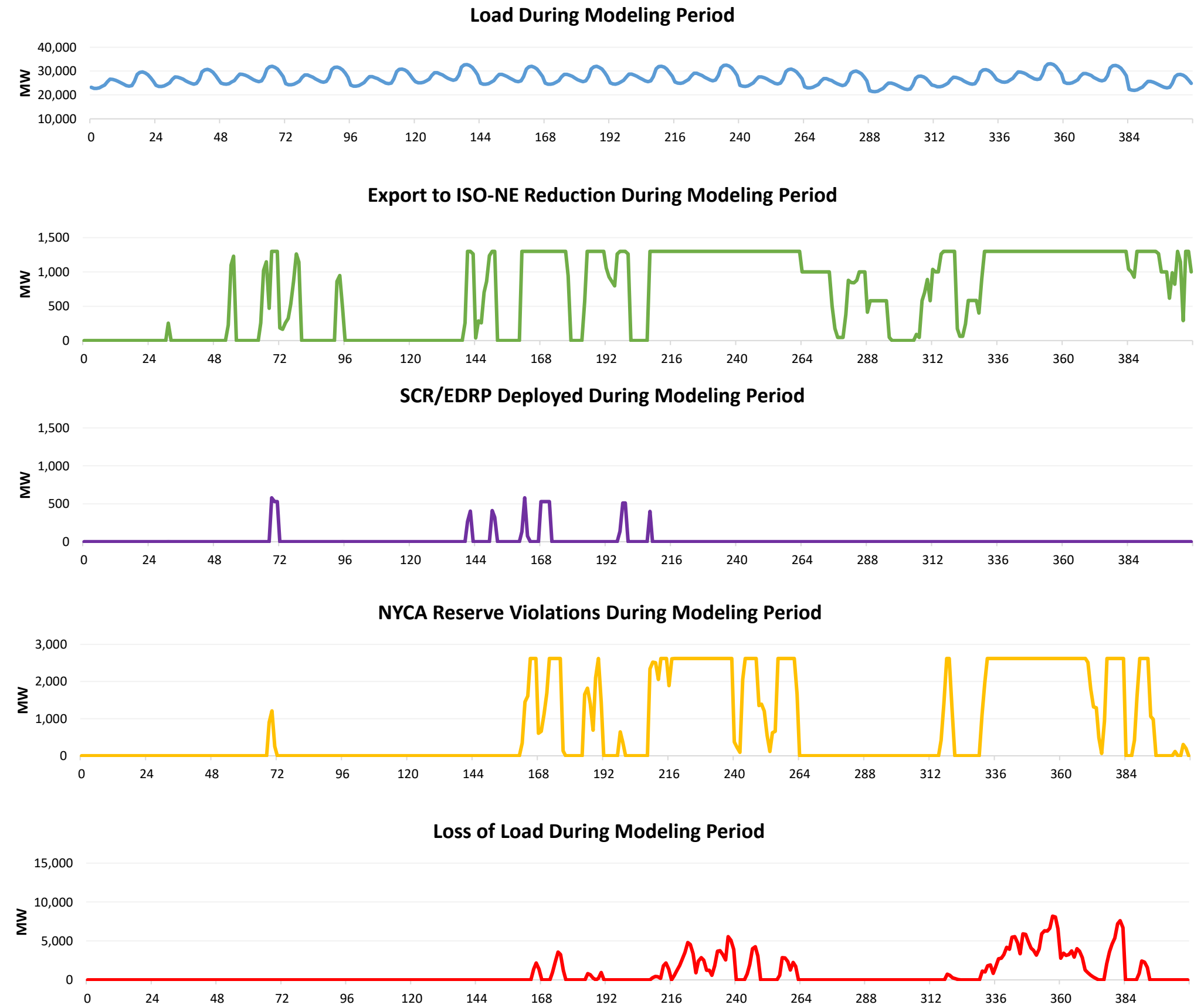


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 7 - PD 7 No Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 7 - PD 7 No Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	260
Total MWh	278,624
Avg. MW	682.9

SCR Deployment	
Total Hrs.	18
Total MWh	7,480
Avg. MW	18.3

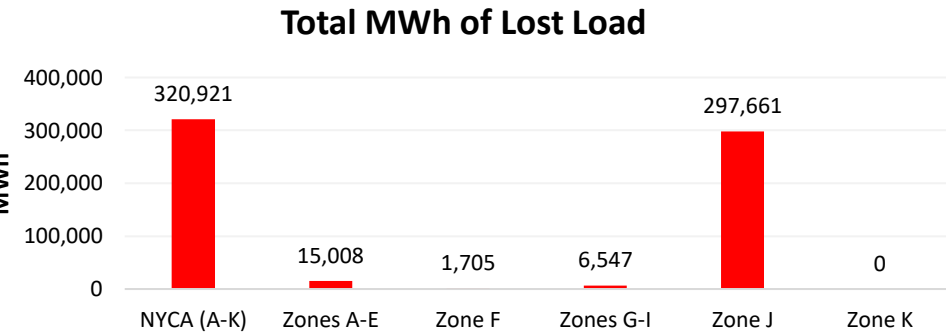
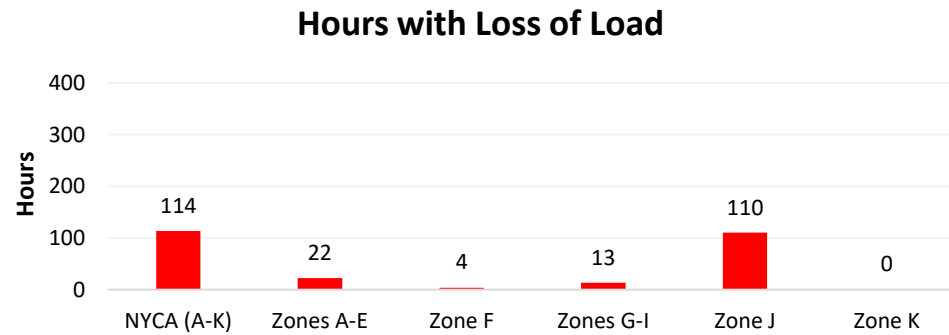
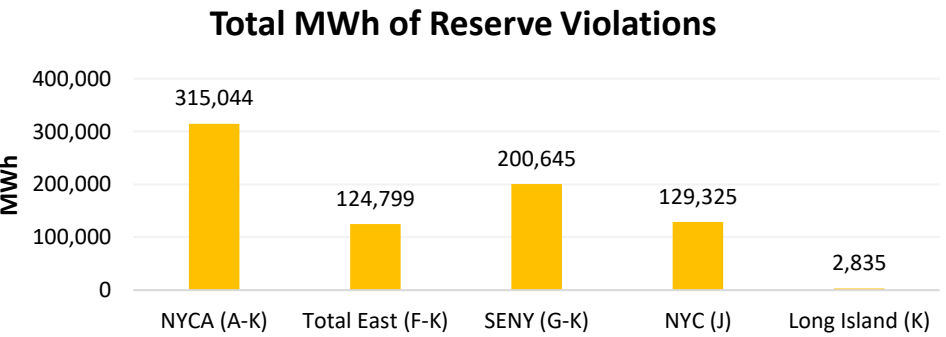
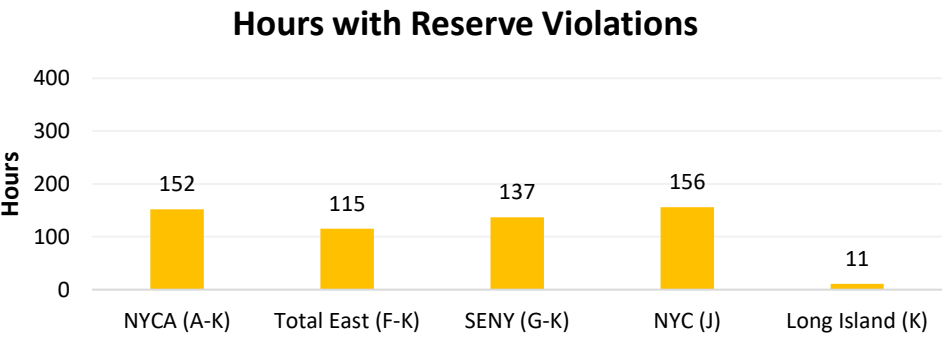
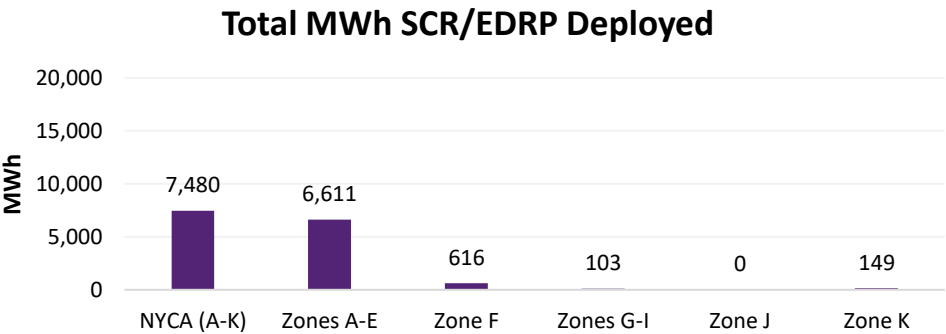
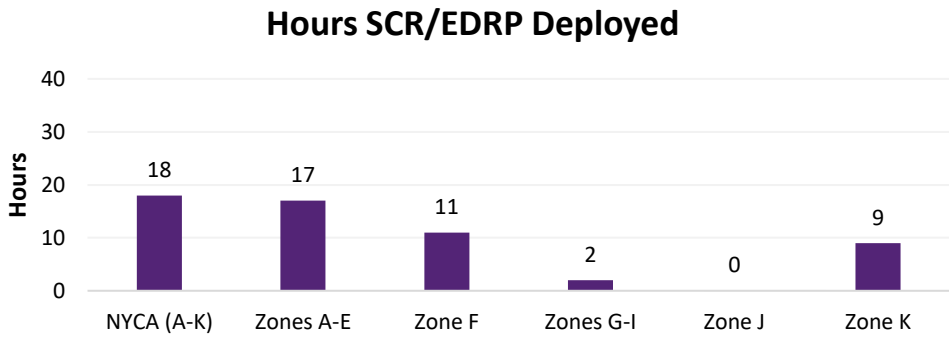
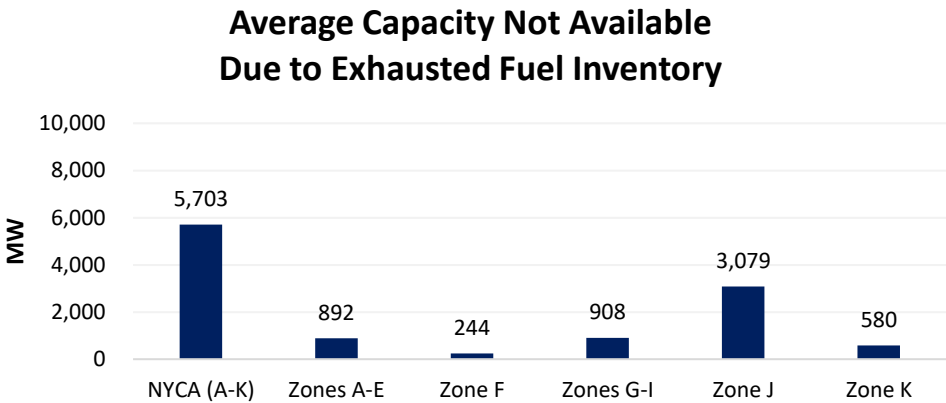
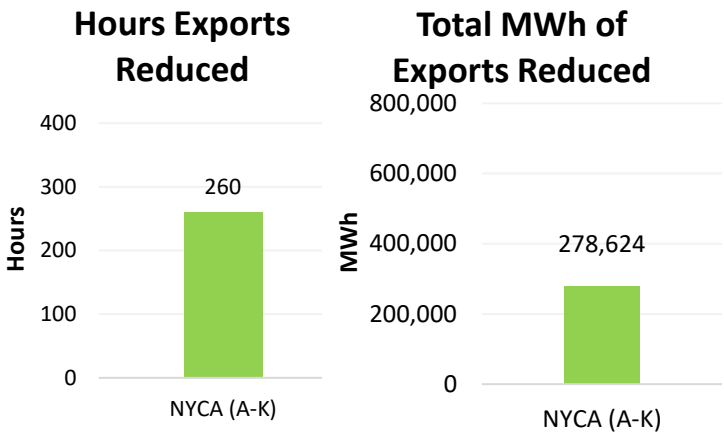
Reserve Violations	
Total Hrs.	152
Total MWh	315,044
Avg. MW	772.2
First Hour with Viol.	69

Loss of Load	
Total Hrs.	114
Total MWh	320,921
Avg. MW	786.6
First Hour with Losses	165

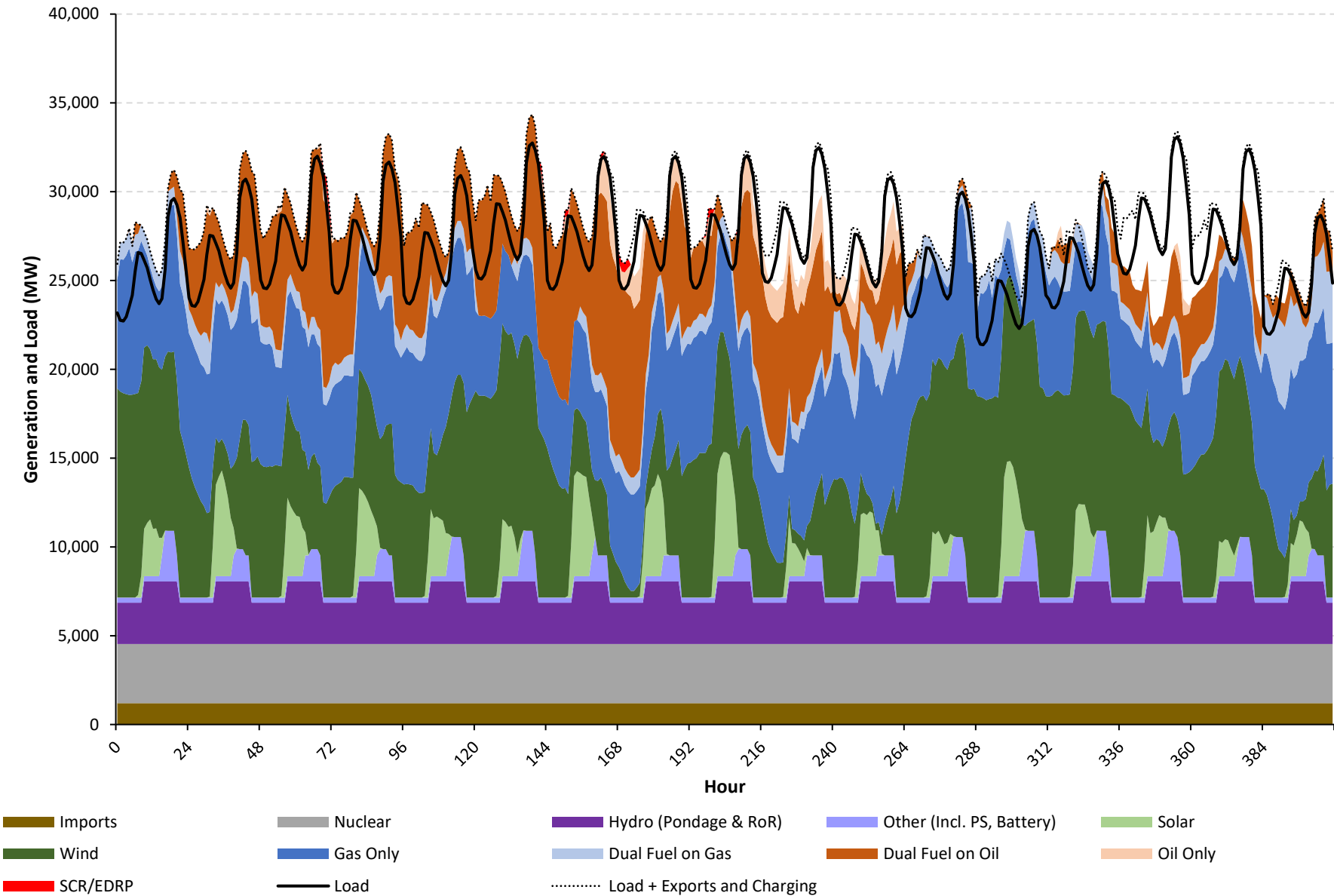
Full Period Results Summary

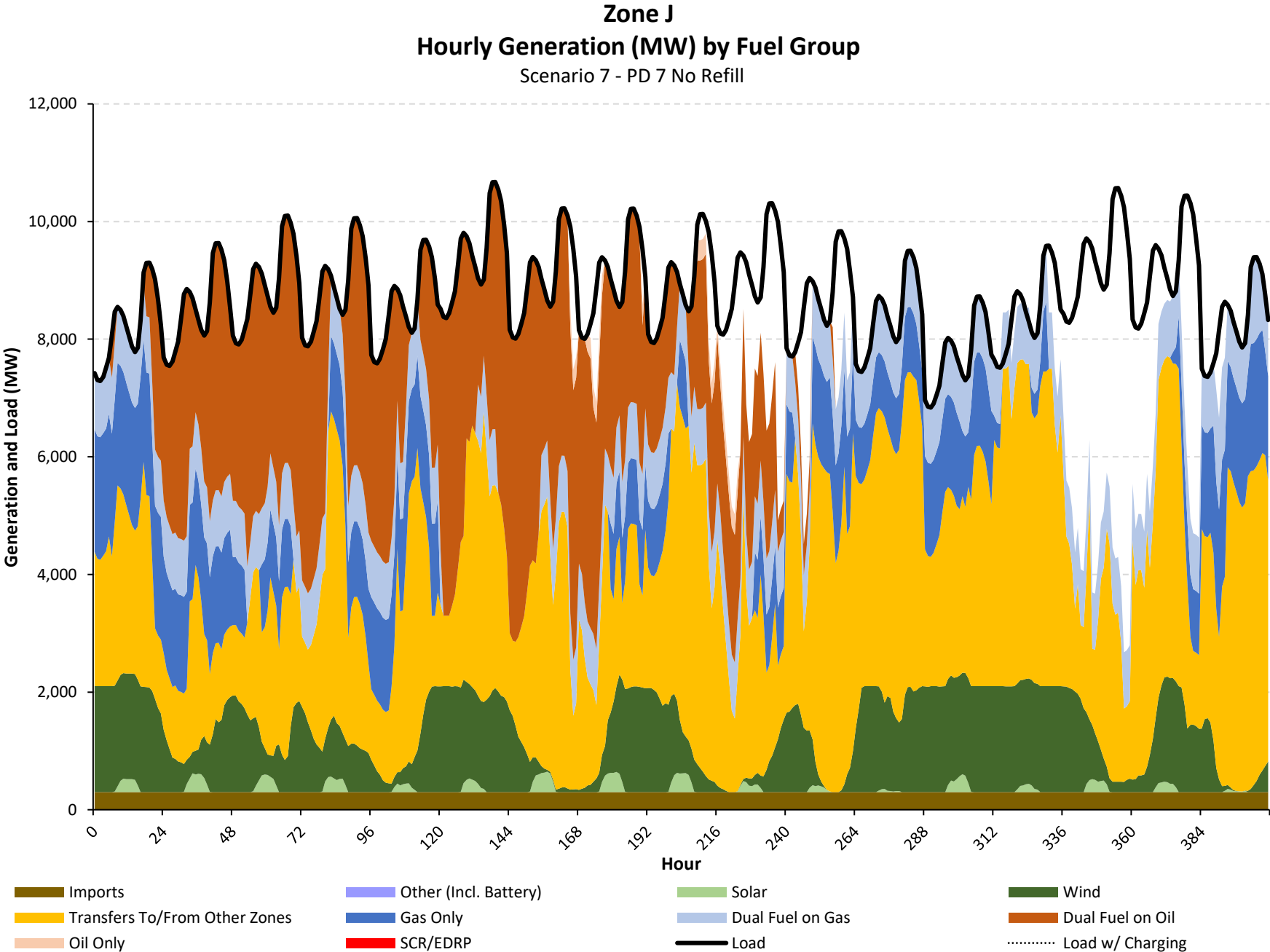
Case Name: Scenario 7 - PD 7 No Refill

Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

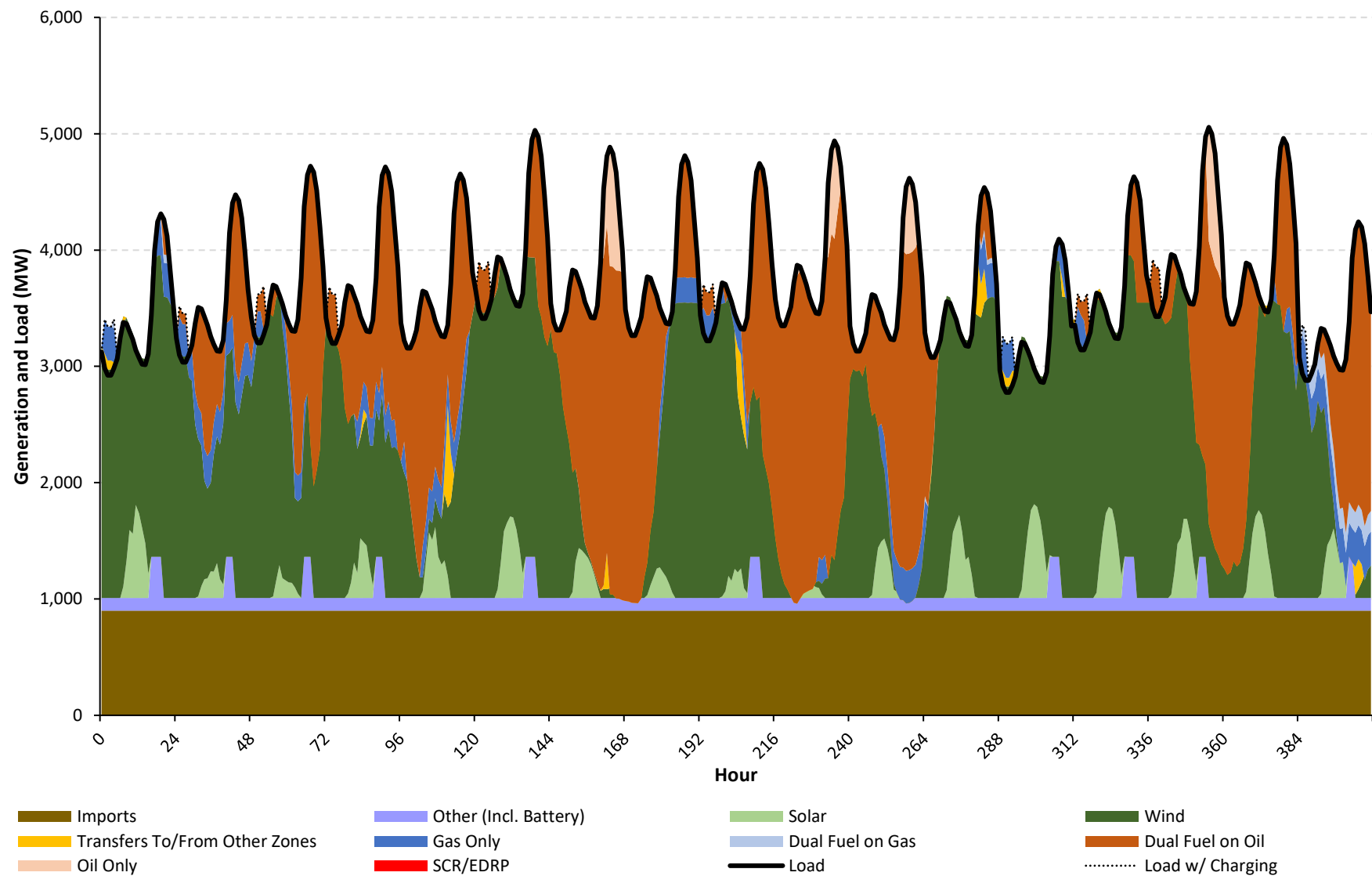


NYCA
Hourly Generation (MWh) by Fuel Group
Scenario 7 - PD 7 No Refill

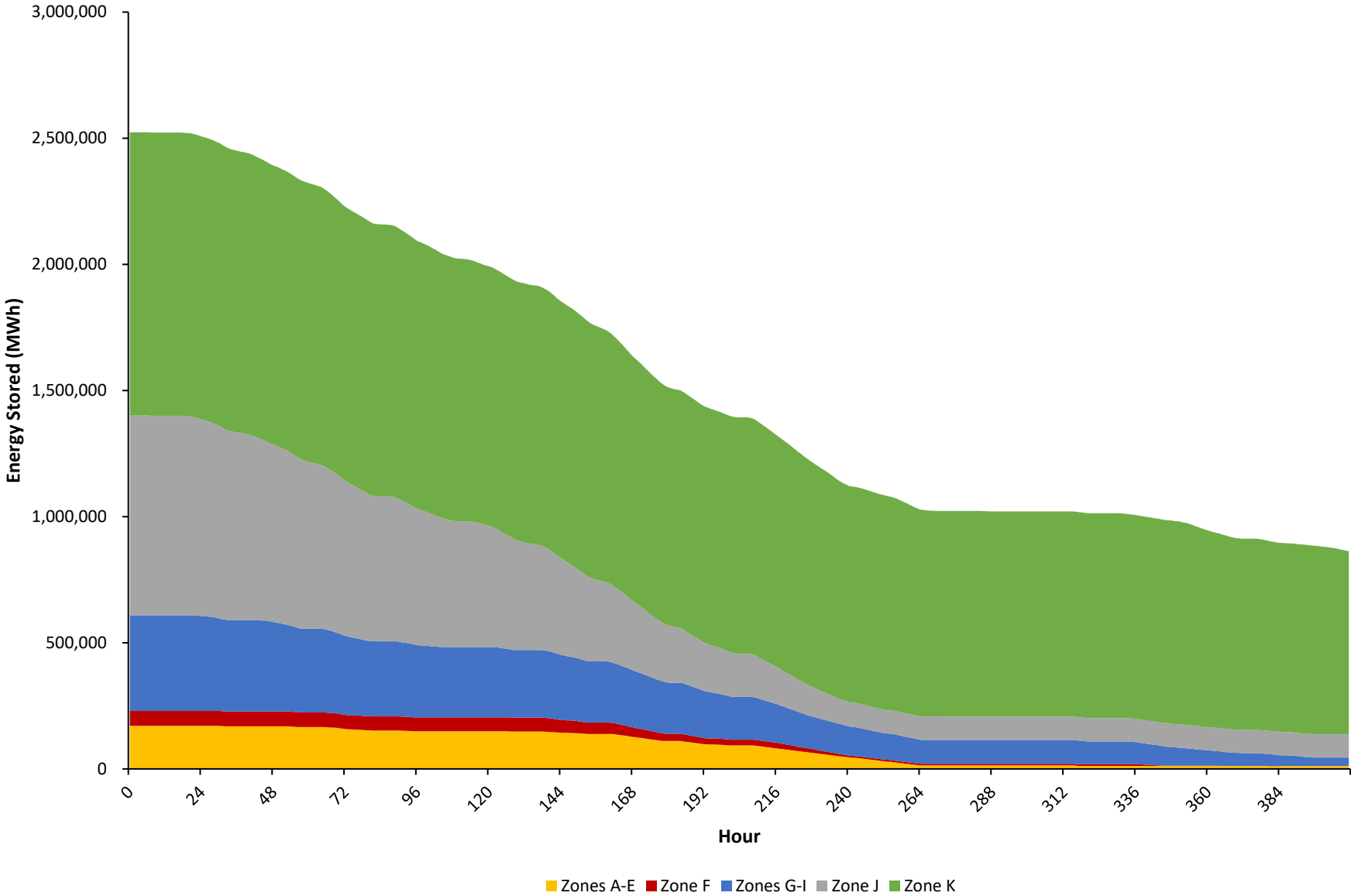


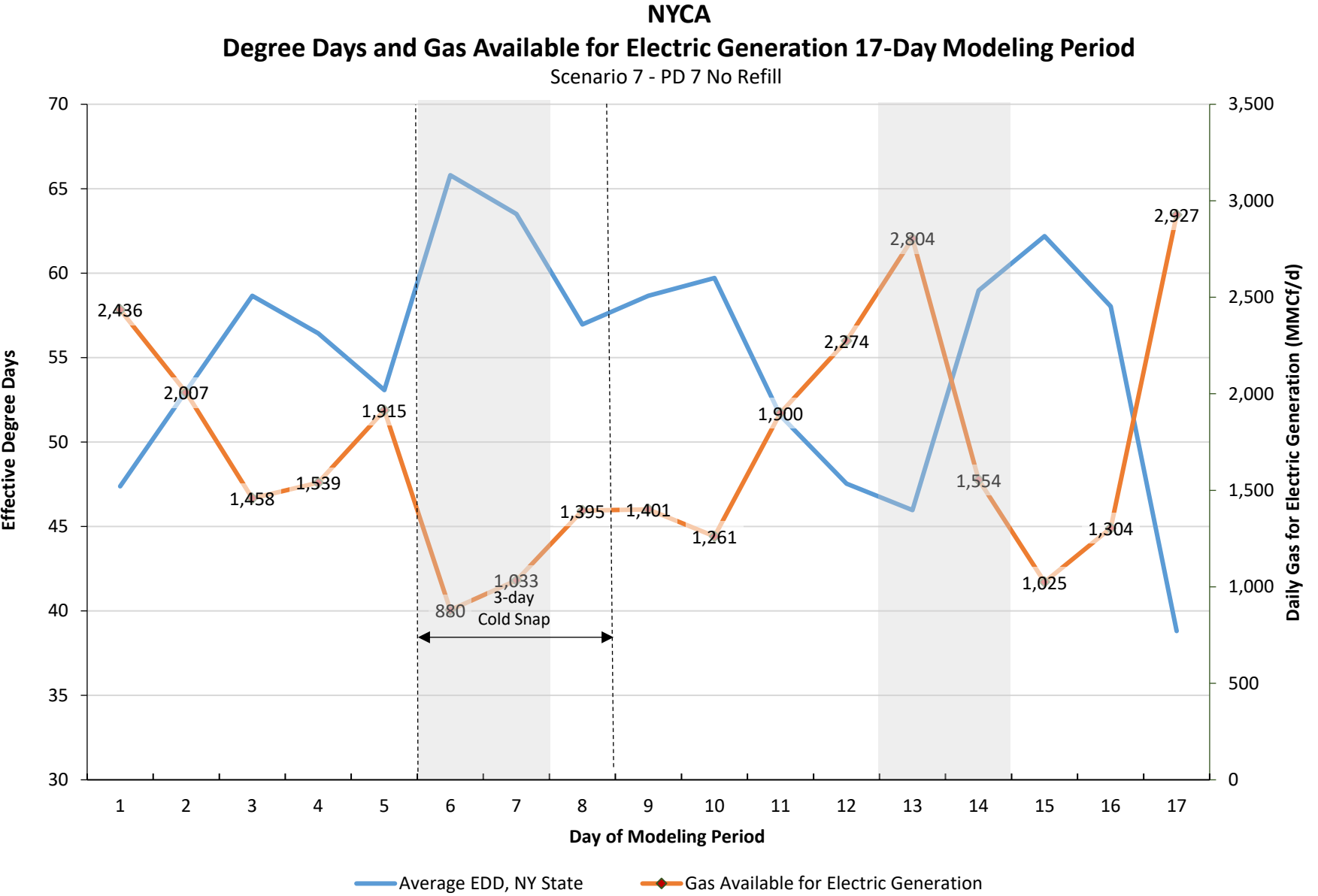


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 7 - PD 7 No Refill

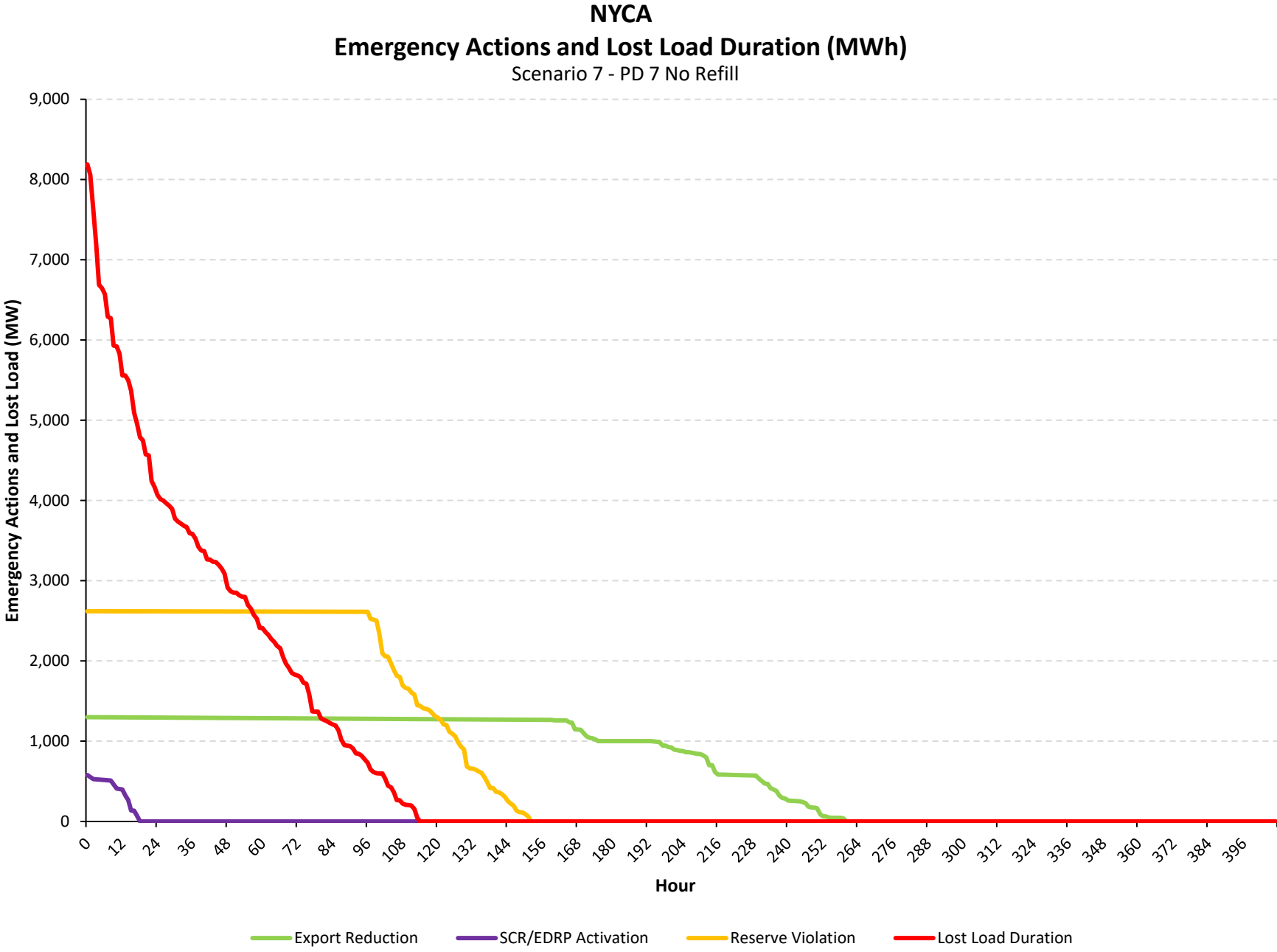


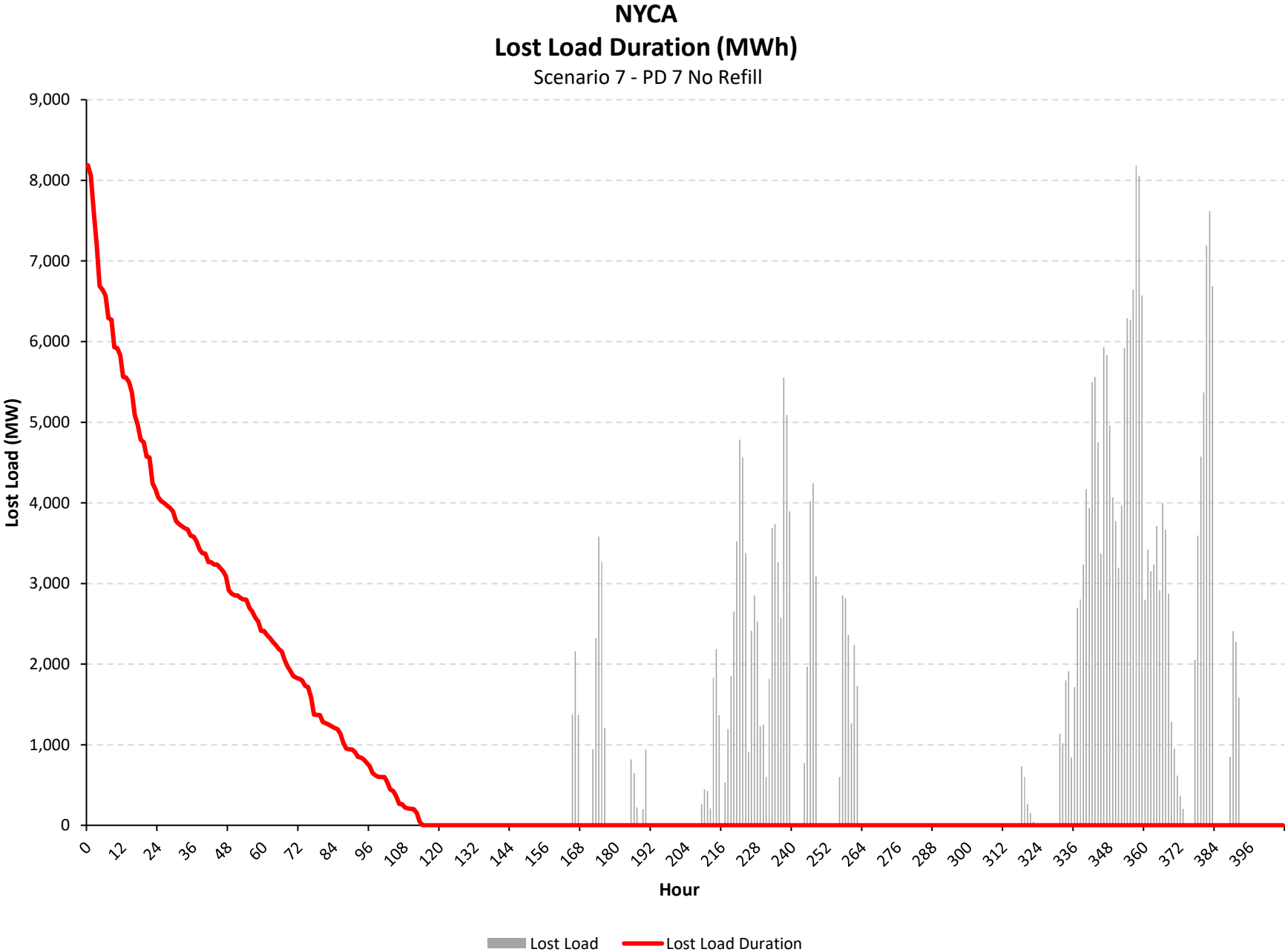
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 7 - PD 7 No Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



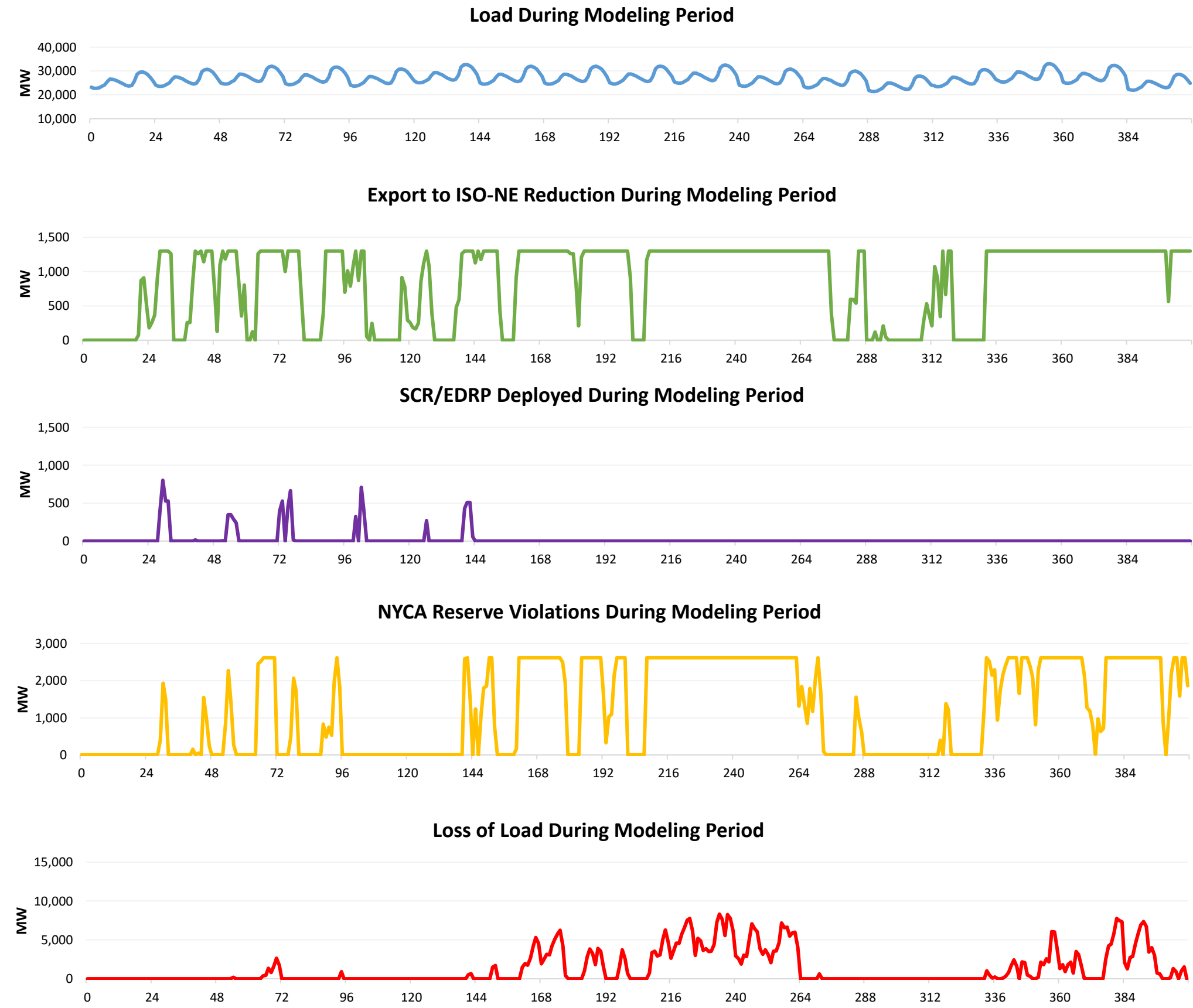


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 7 - PD 8 Non-Firm Gas Unavailable (F-K) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 7 - PD 8 Non-Firm Gas Unavailable (F-K)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	308
Total MWh	353,216
Avg. MW	865.7

SCR Deployment	
Total Hrs.	23
Total MWh	8,788
Avg. MW	21.5

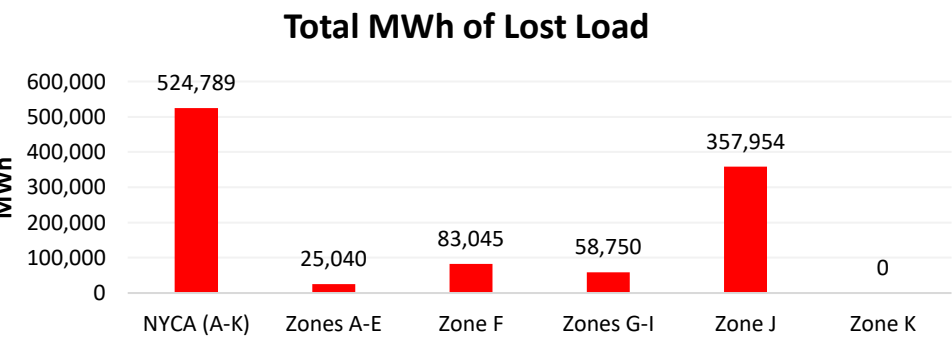
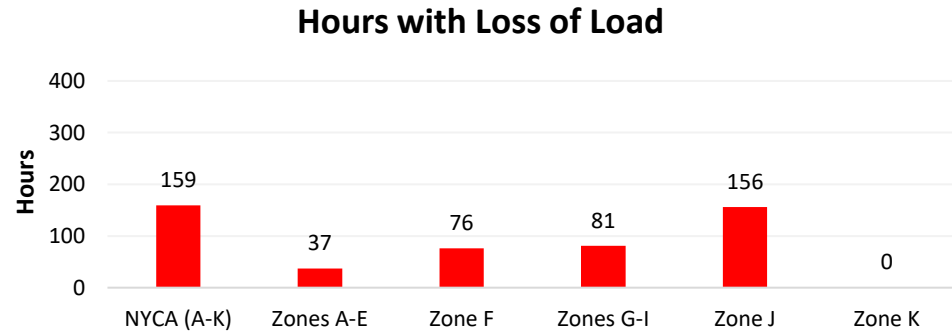
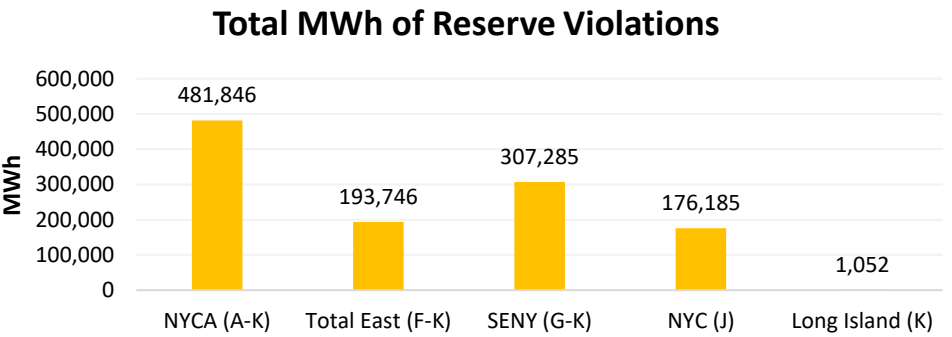
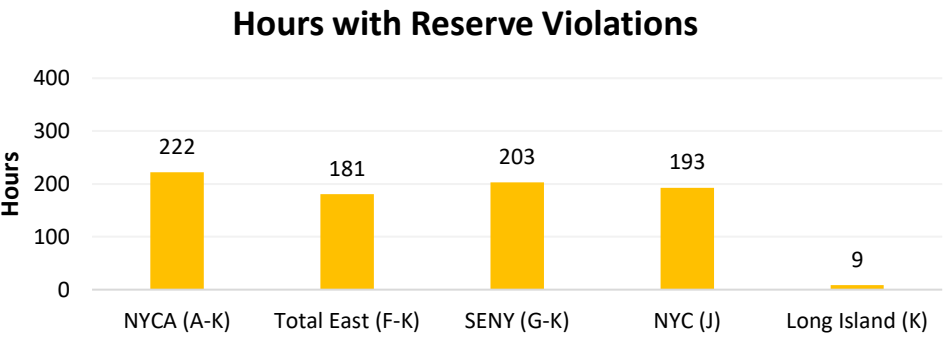
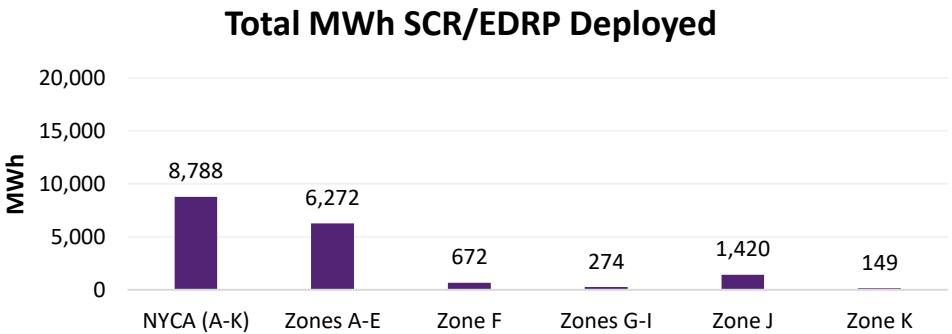
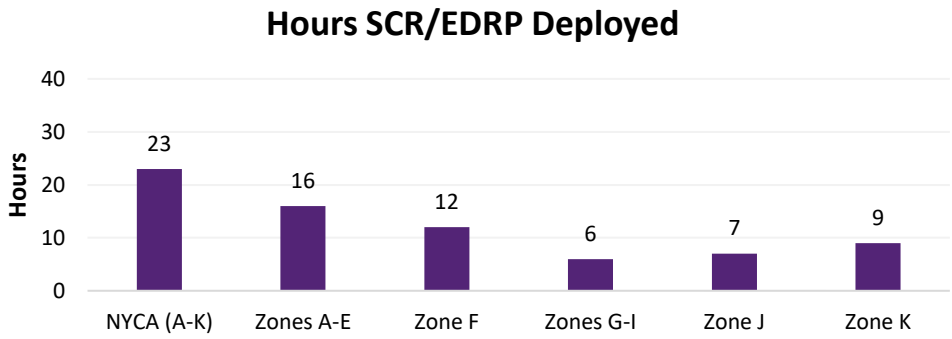
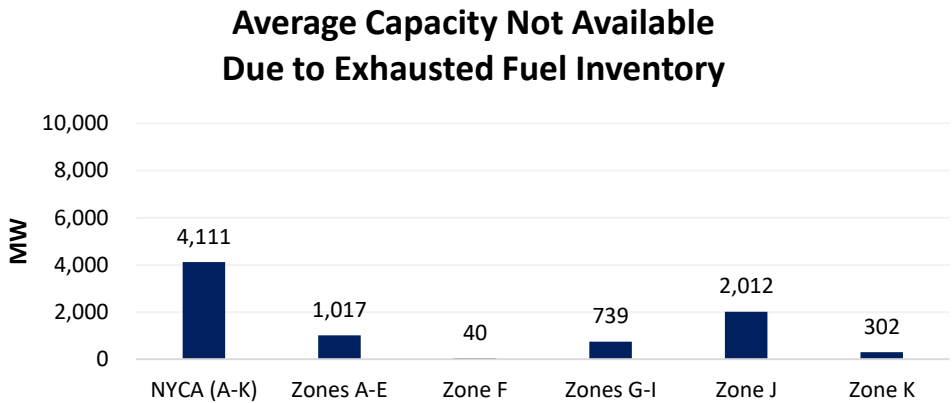
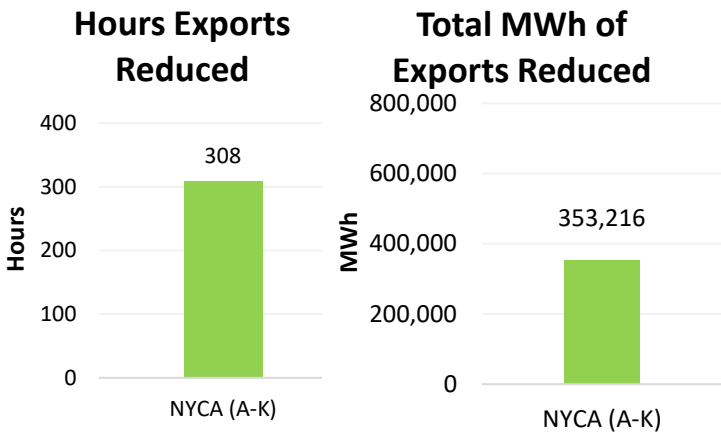
Reserve Violations	
Total Hrs.	222
Total MWh	481,846
Avg. MW	1,181.0
First Hour with Viol.	29

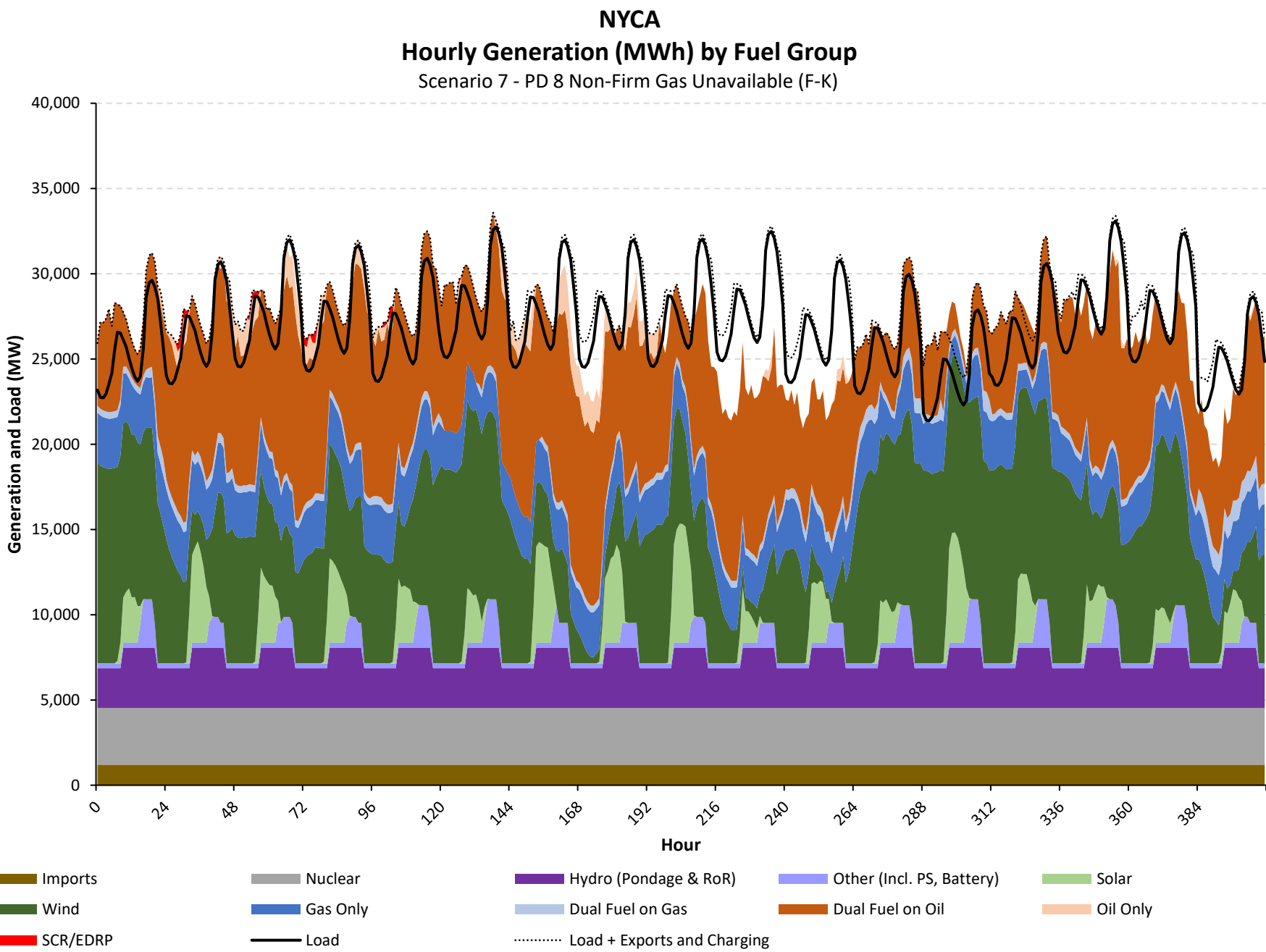
Loss of Load	
Total Hrs.	159
Total MWh	524,789
Avg. MW	1,286.2
First Hour with Losses	54

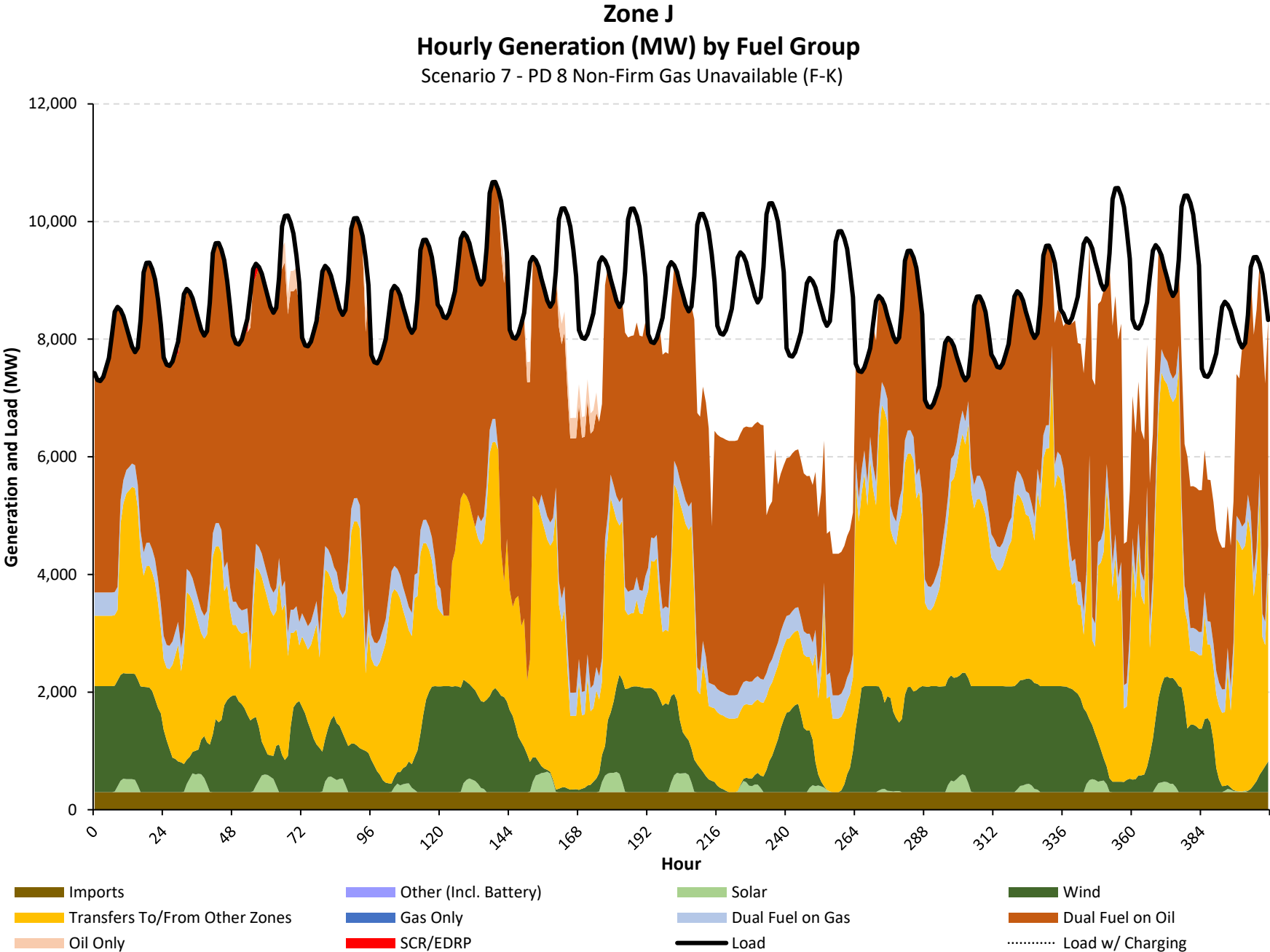
Full Period Results Summary

Case Name: Scenario 7 - PD 8 Non-Firm Gas Unavailable (F-K)

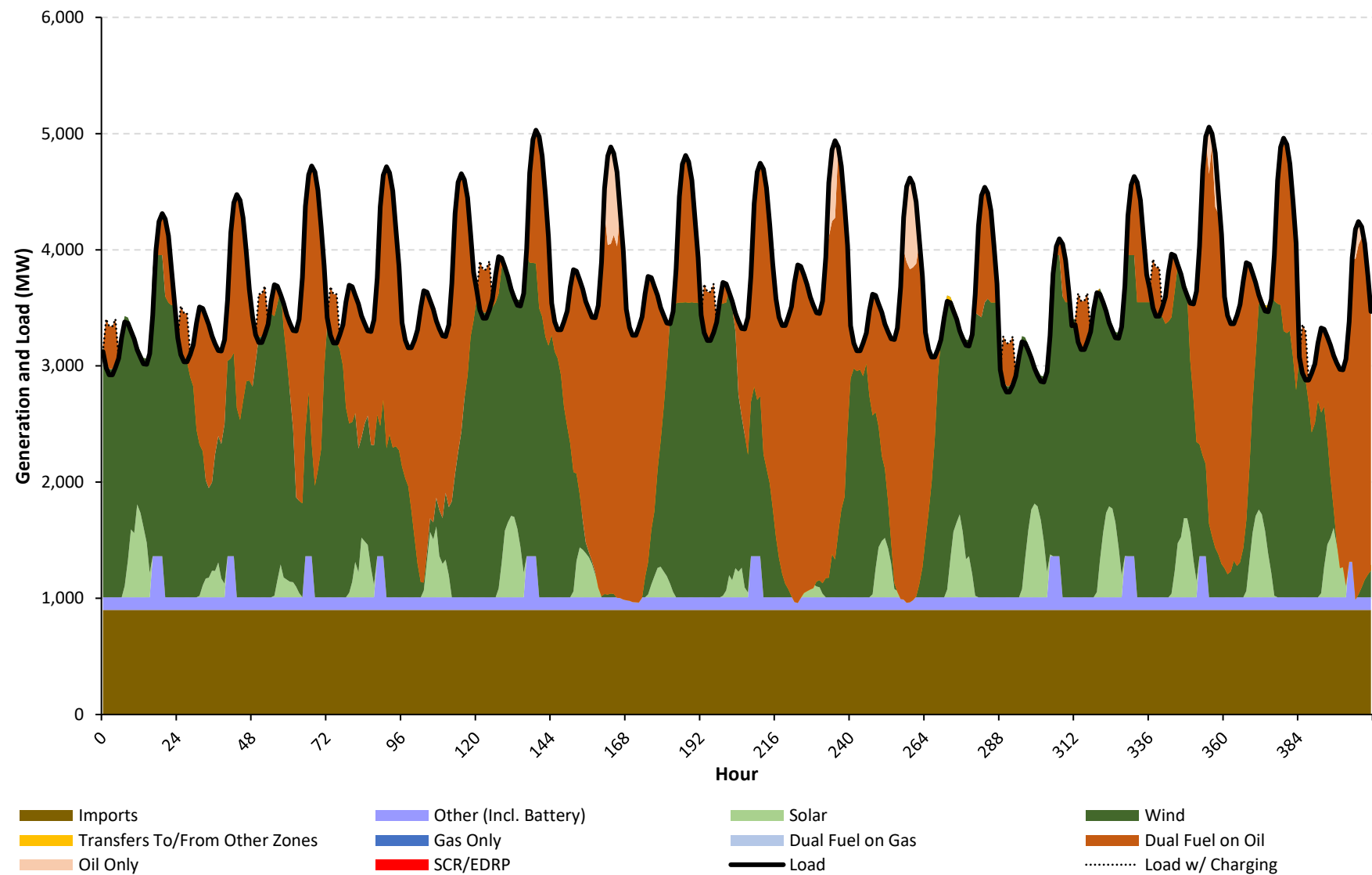
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

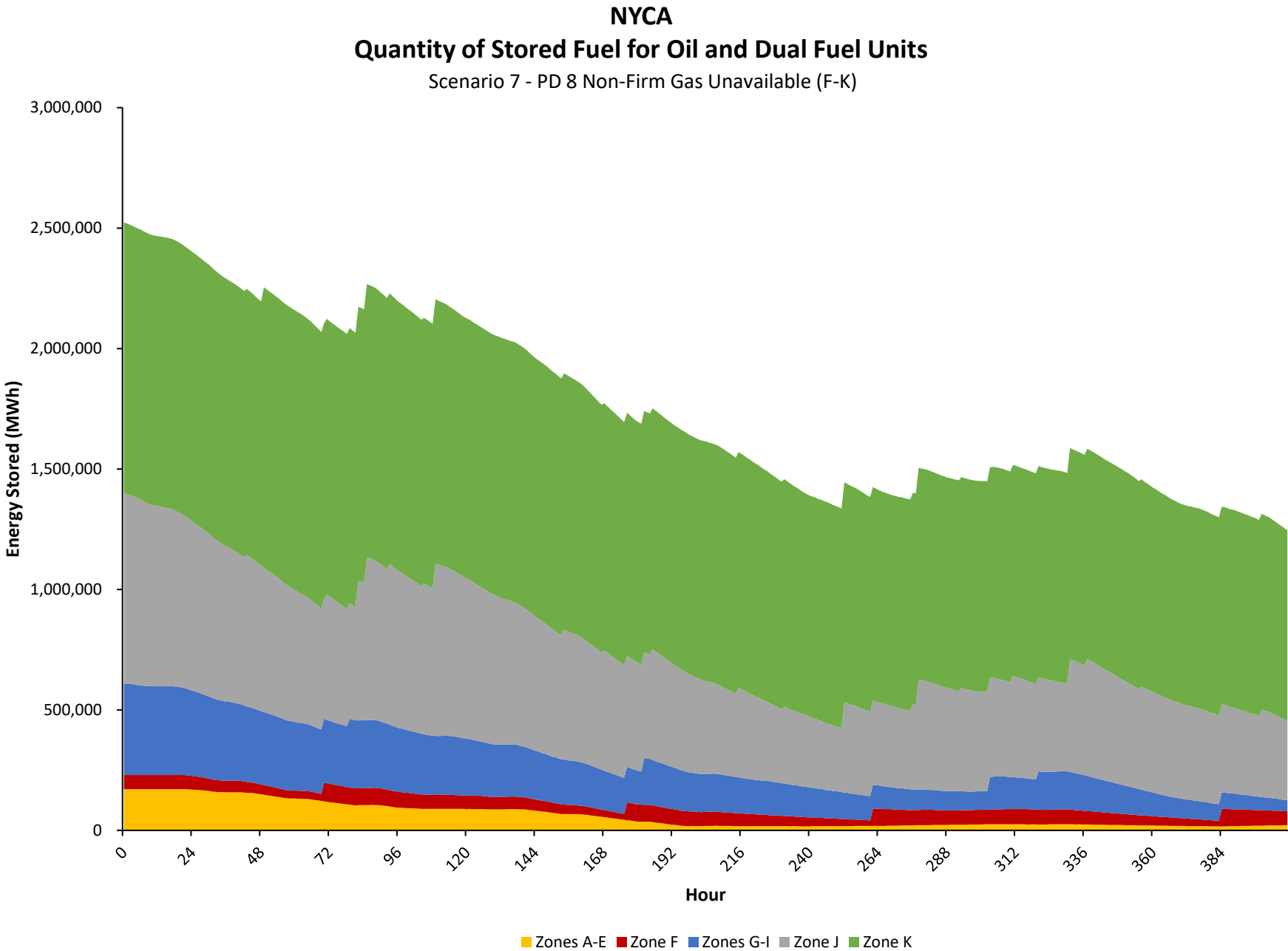


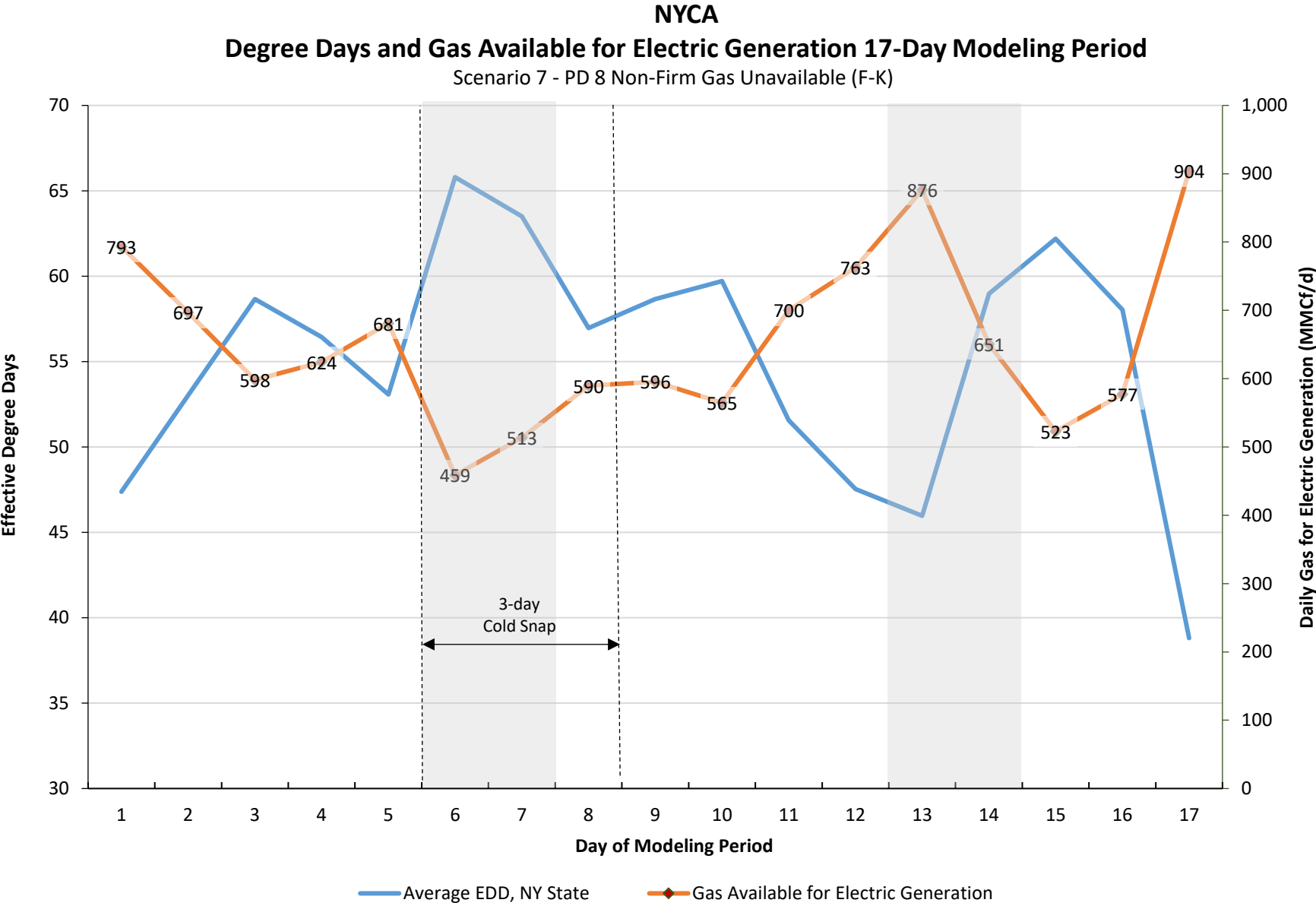




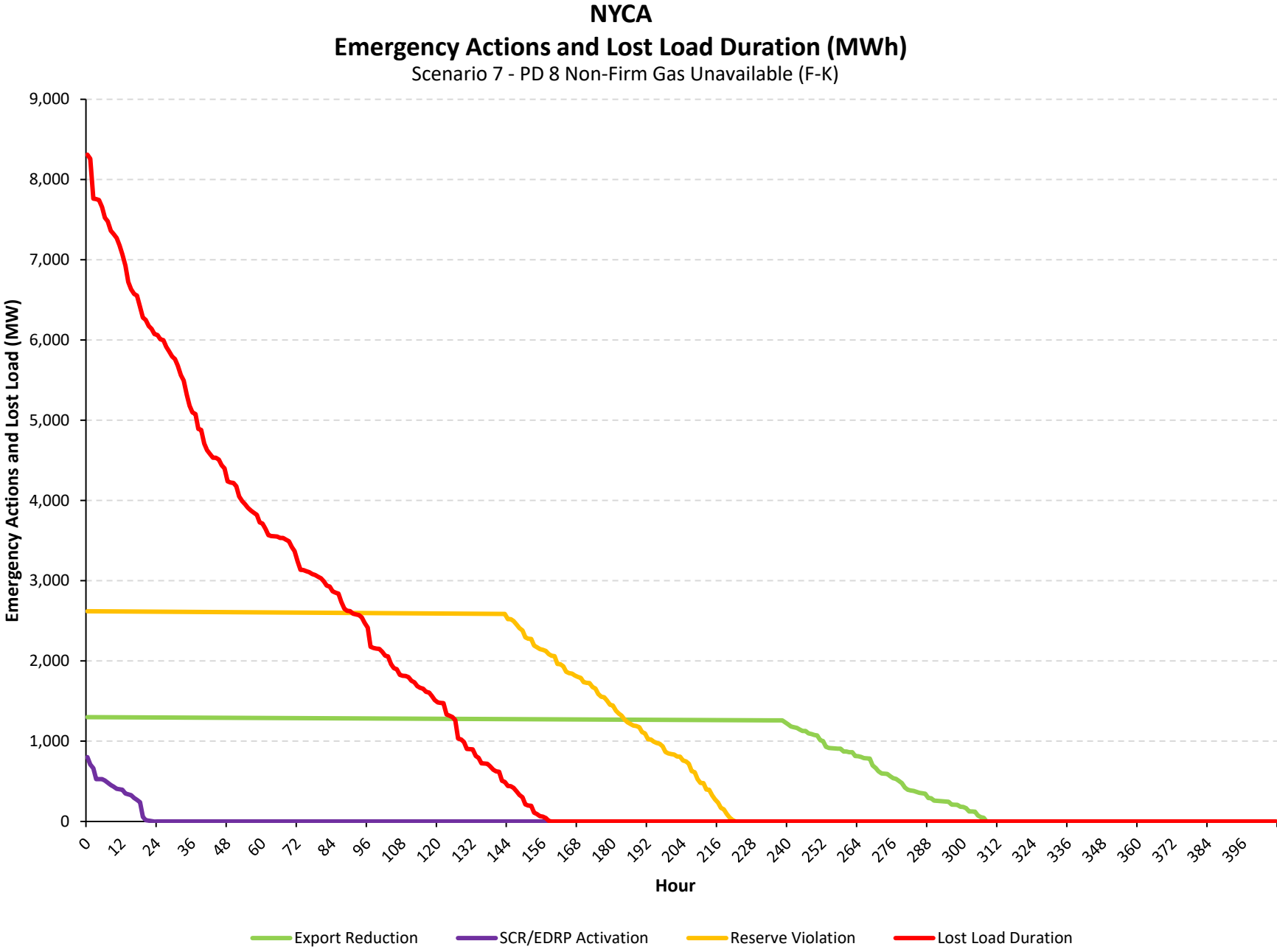
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 7 - PD 8 Non-Firm Gas Unavailable (F-K)

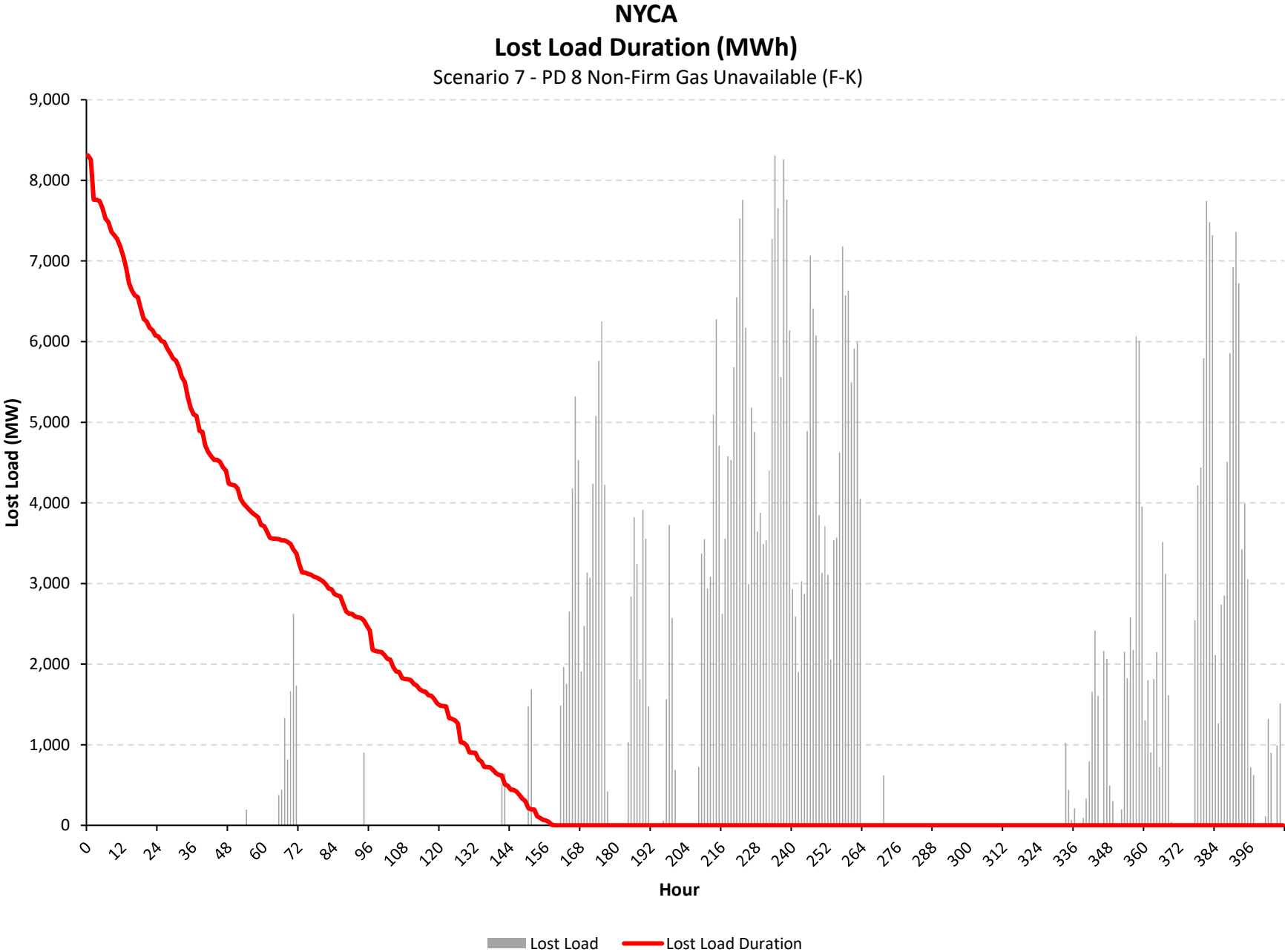






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



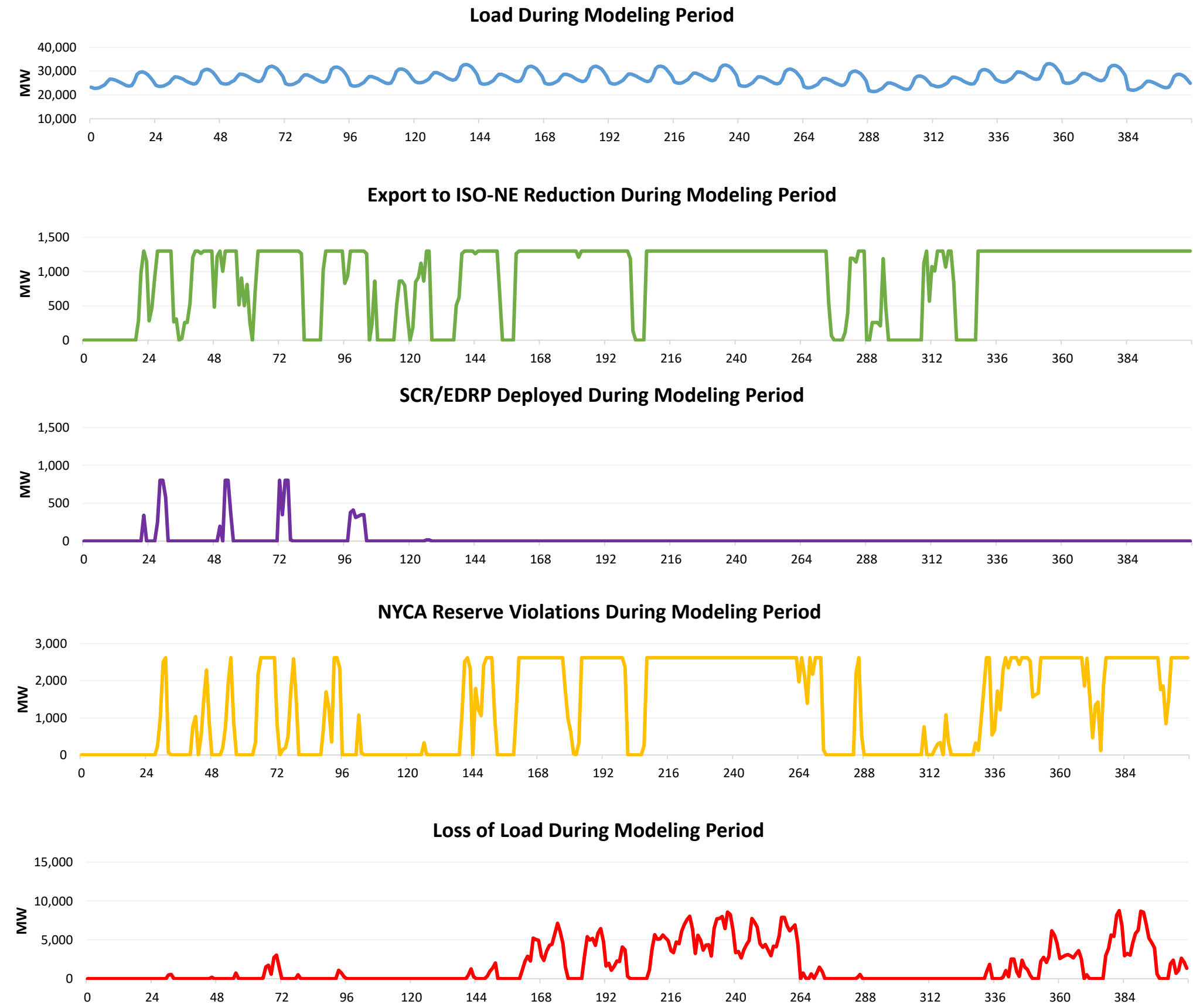


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 7 - PD 9 Non-Firm Gas Unavailable (NYCA) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 7 - PD 9 Non-Firm Gas Unavailable (NYCA)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	325
Total MWh	383,560
Avg. MW	940.1

SCR Deployment	
Total Hrs.	22
Total MWh	9,837
Avg. MW	24.1

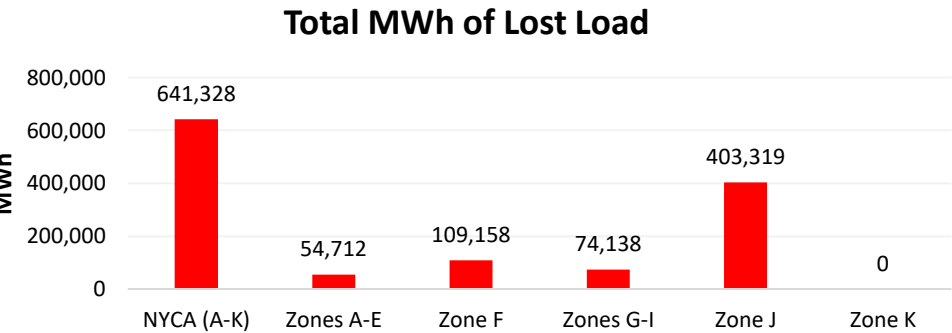
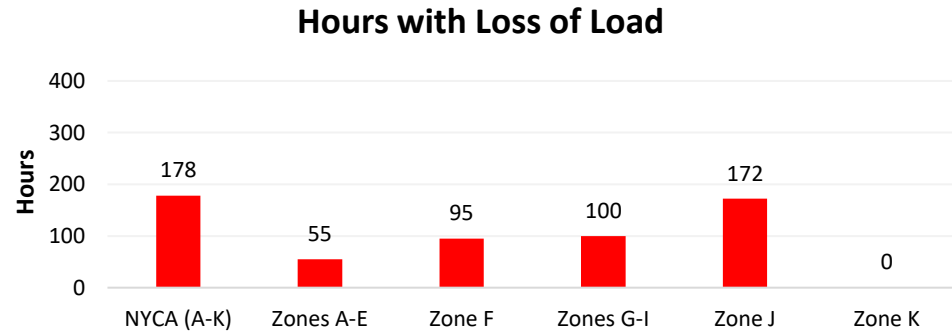
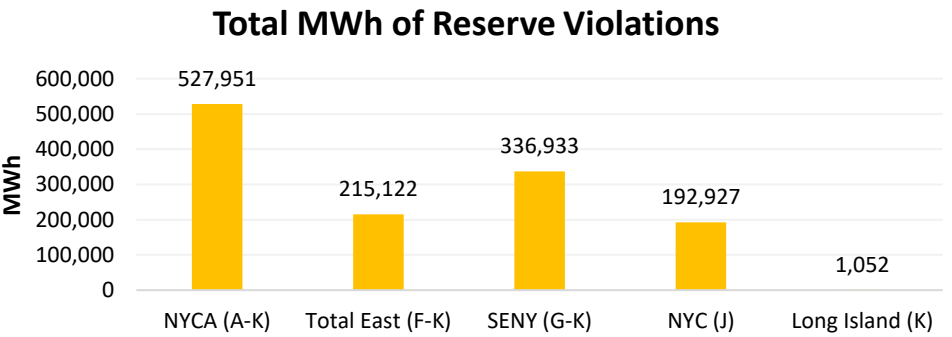
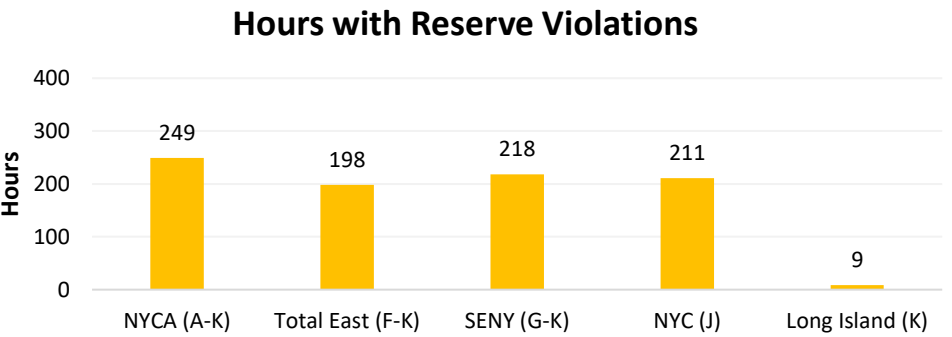
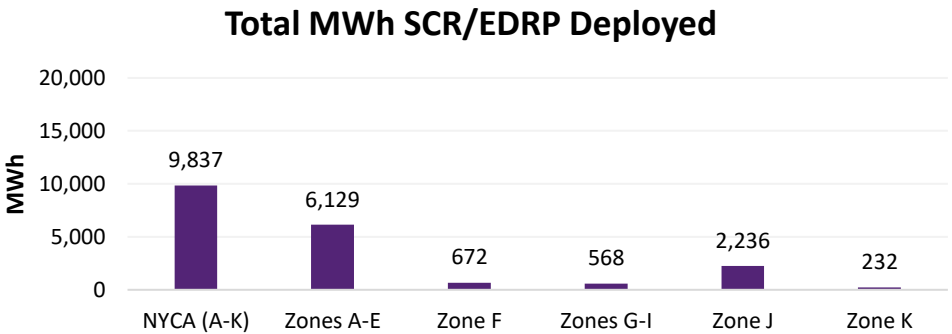
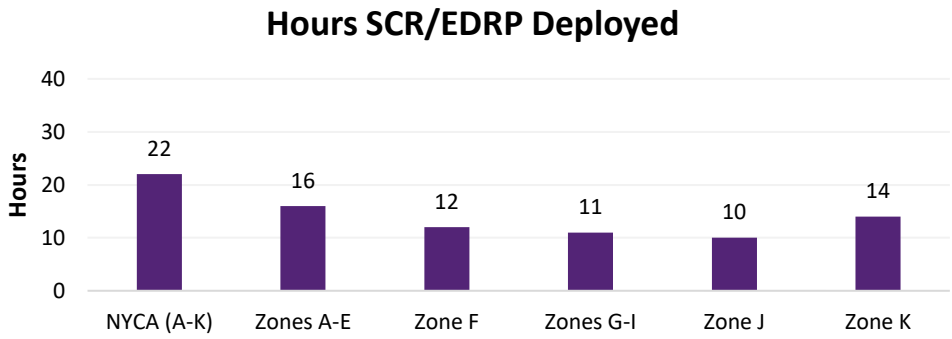
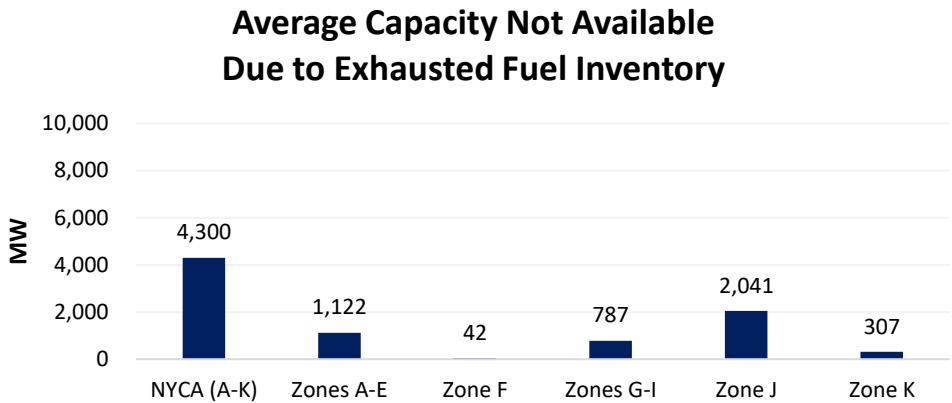
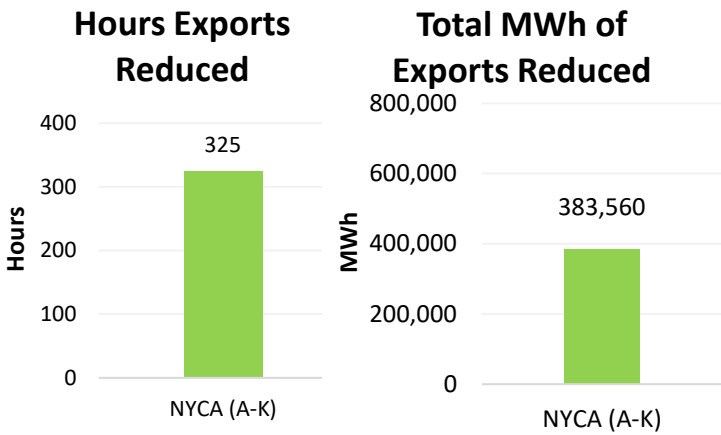
Reserve Violations	
Total Hrs.	249
Total MWh	527,951
Avg. MW	1,294.0
First Hour with Viol.	28

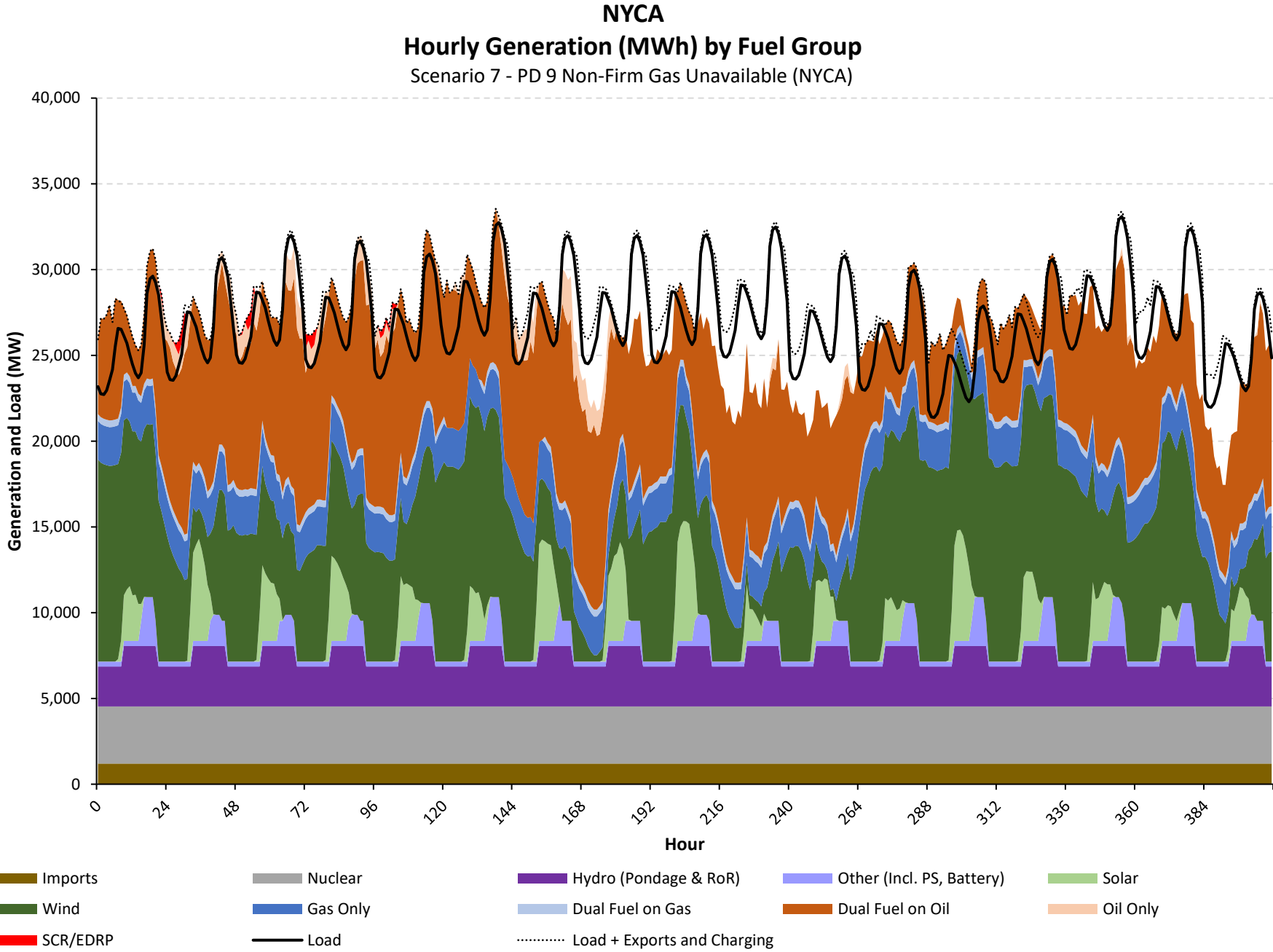
Loss of Load	
Total Hrs.	178
Total MWh	641,328
Avg. MW	1,571.9
First Hour with Losses	30

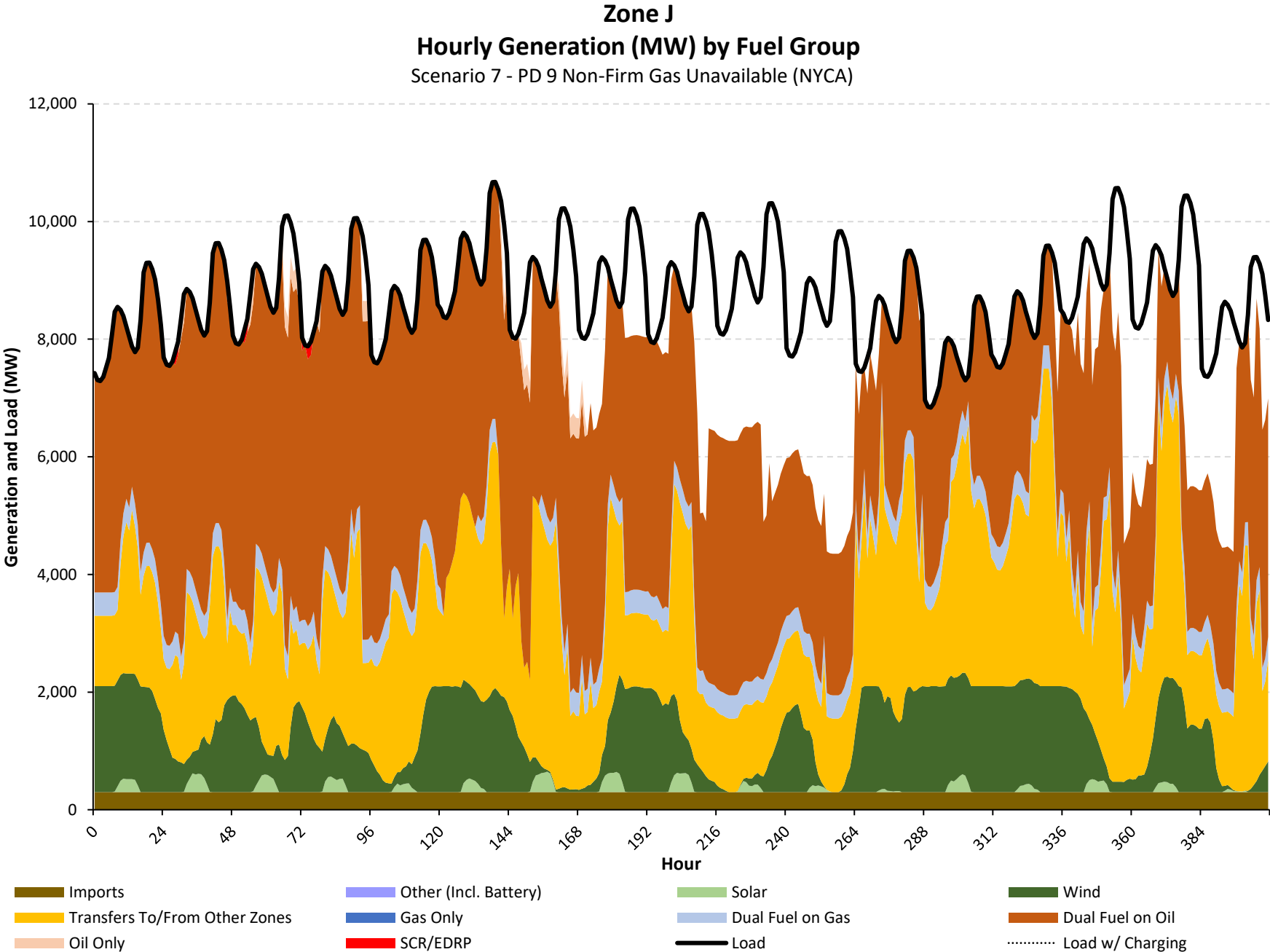
Full Period Results Summary

Case Name: Scenario 7 - PD 9 Non-Firm Gas Unavailable (NYCA)

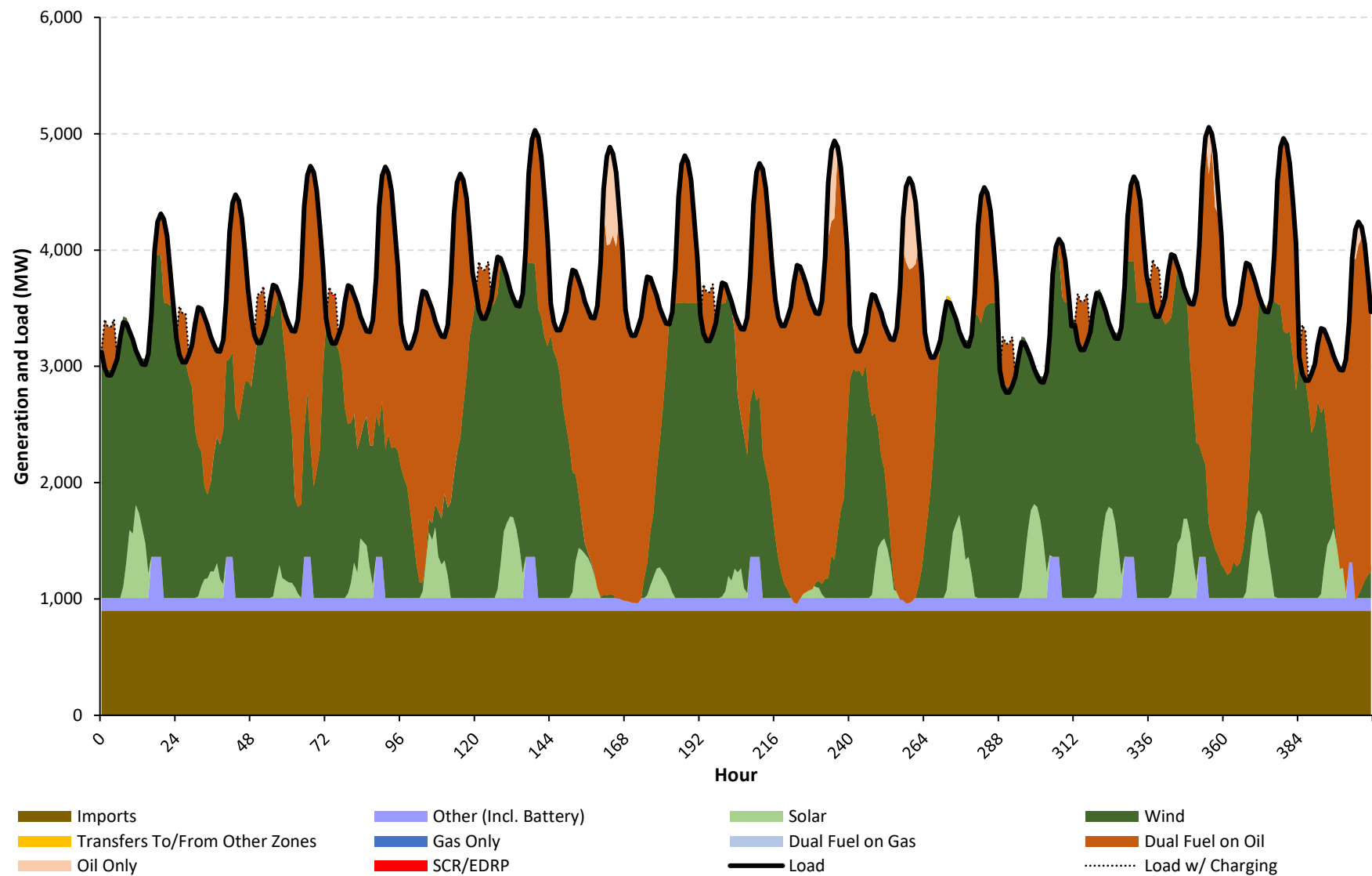
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All



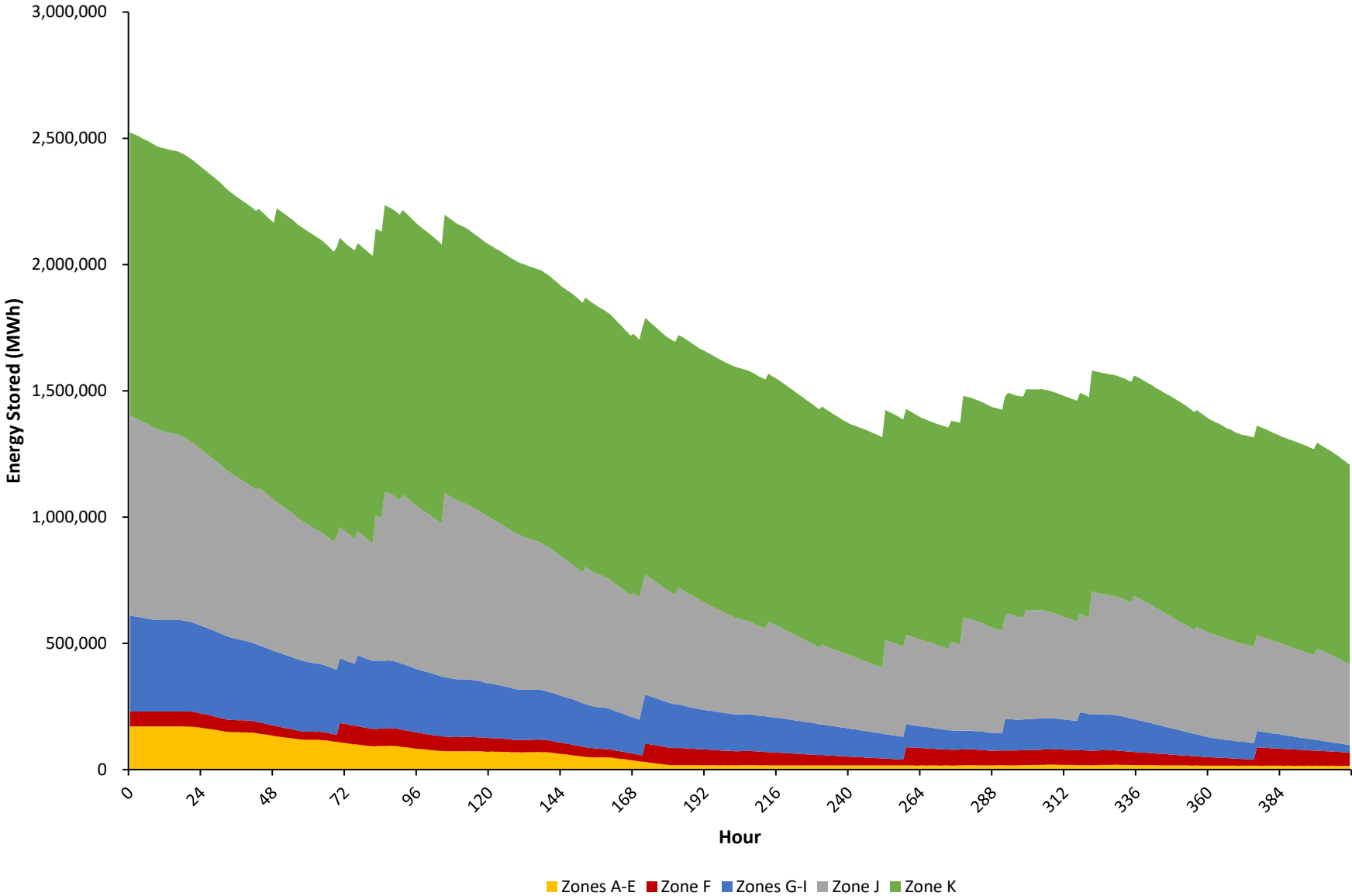


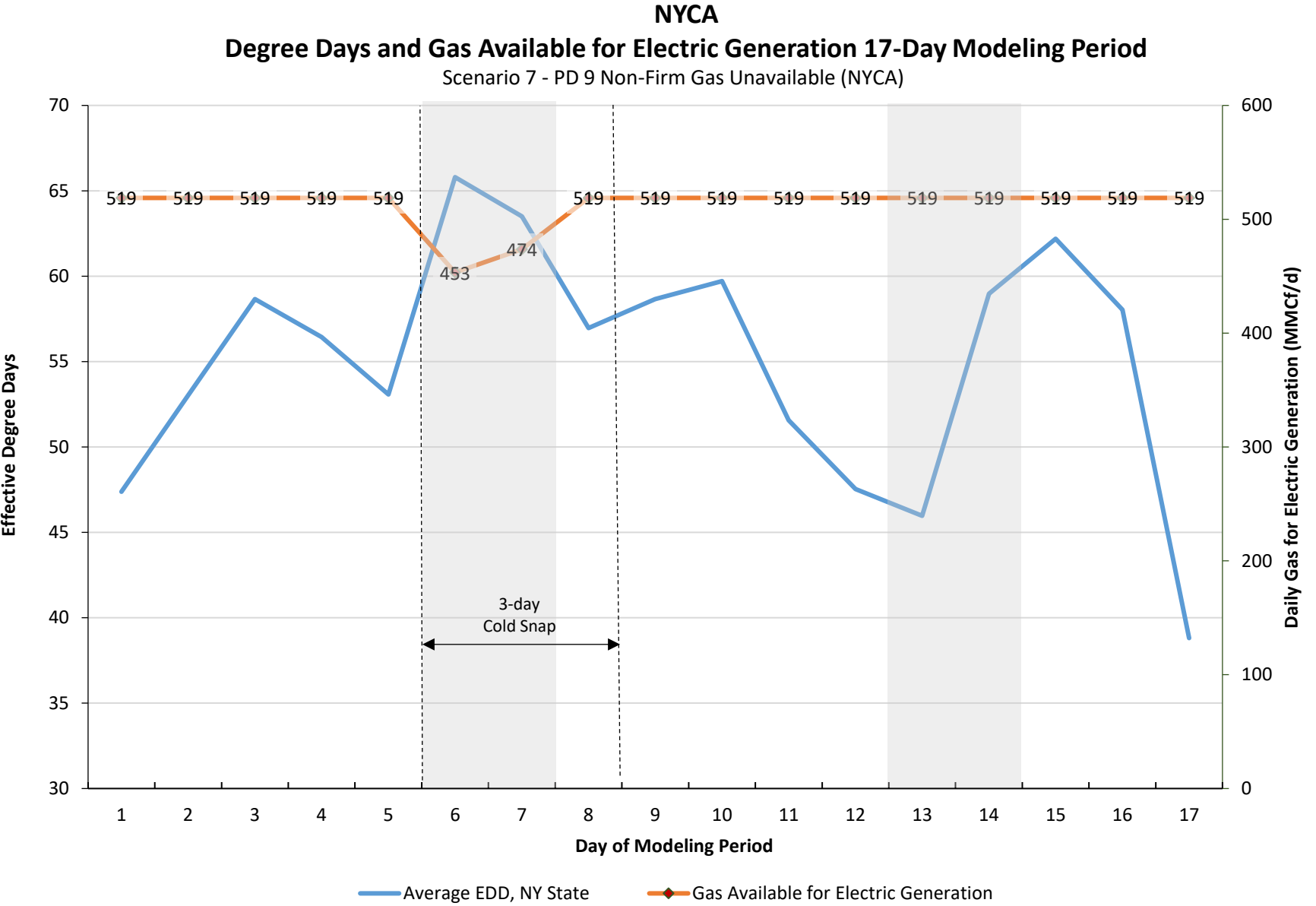


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 7 - PD 9 Non-Firm Gas Unavailable (NYCA)

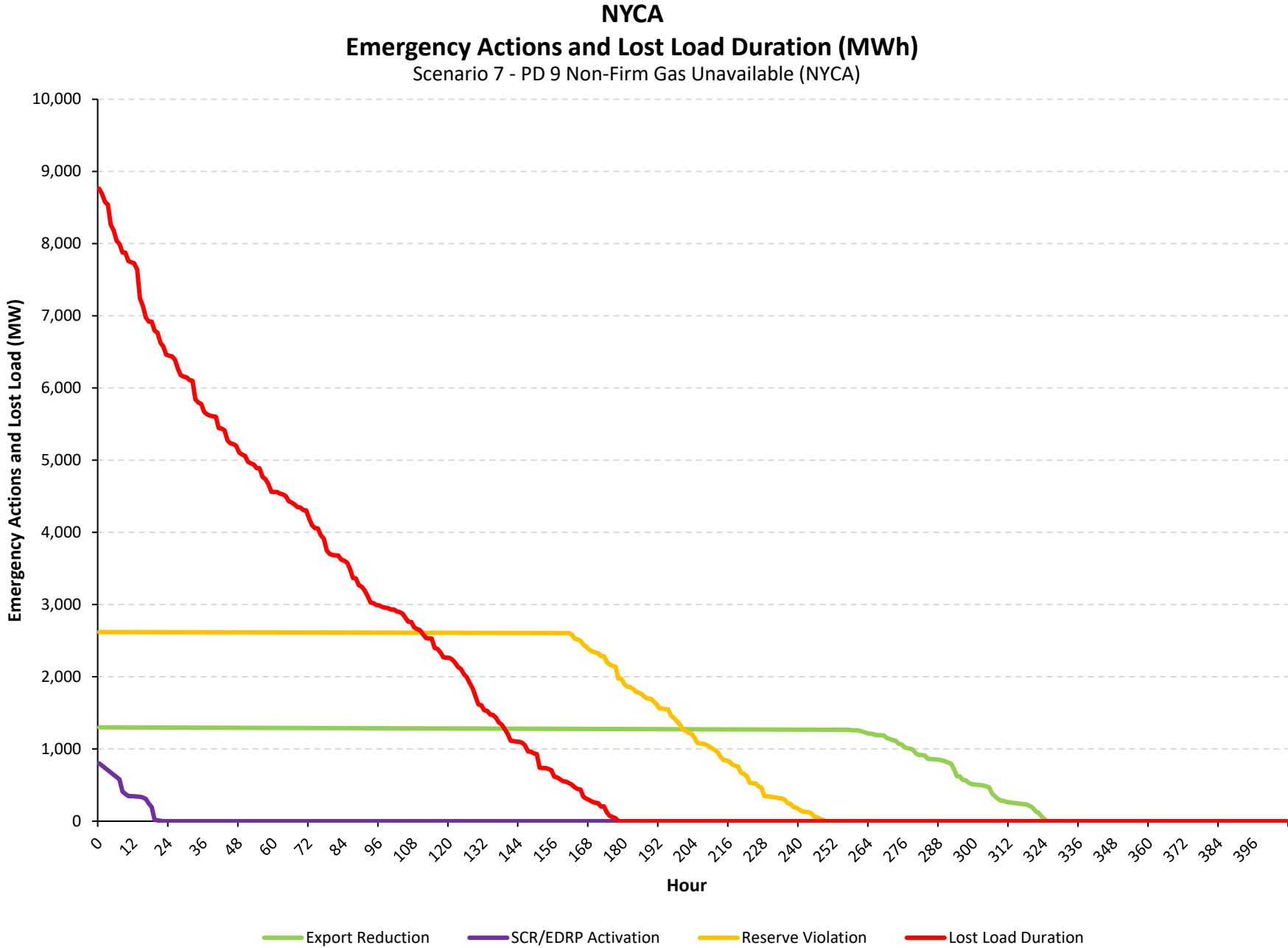


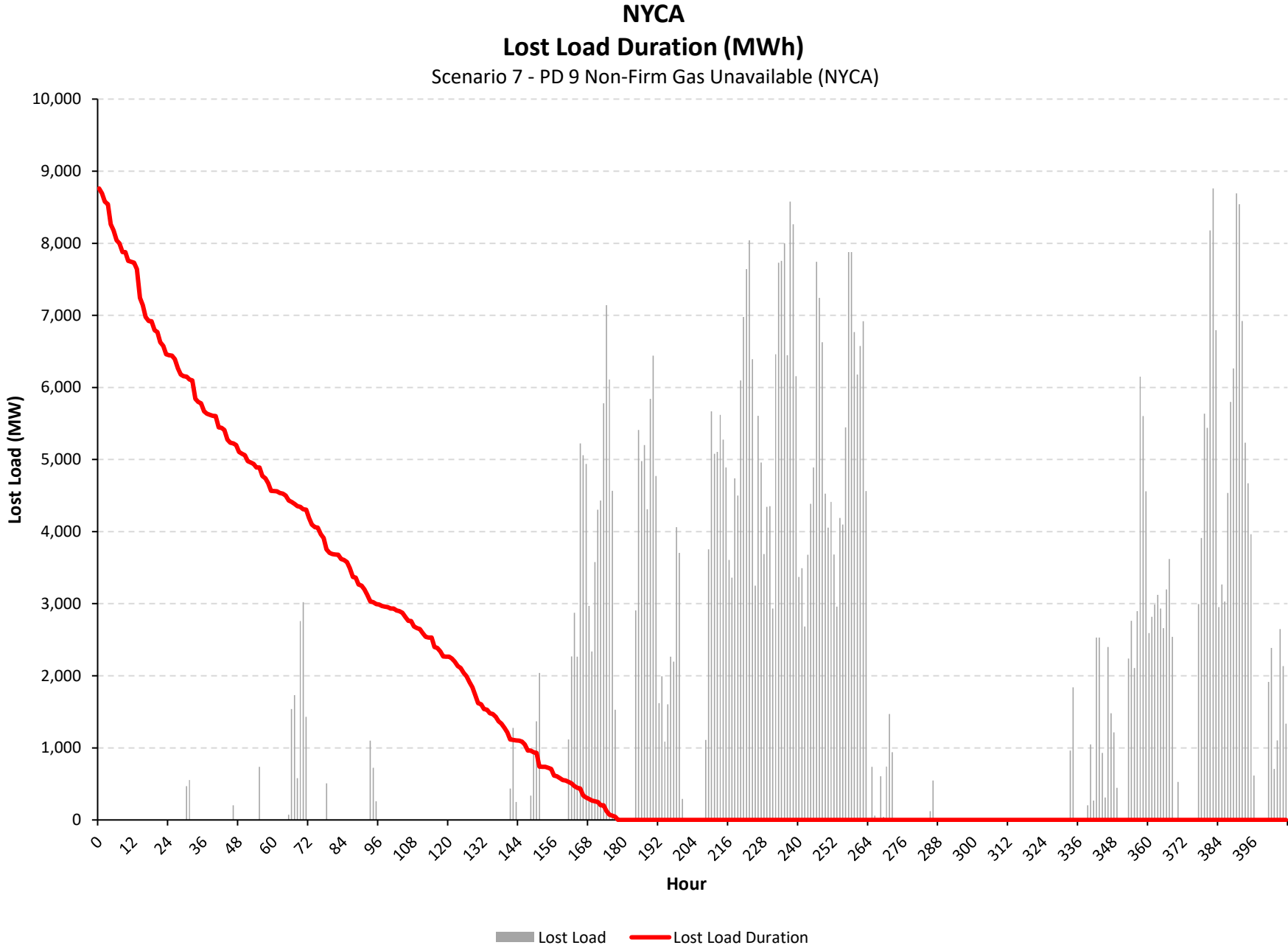
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 7 - PD 9 Non-Firm Gas Unavailable (NYCA)





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



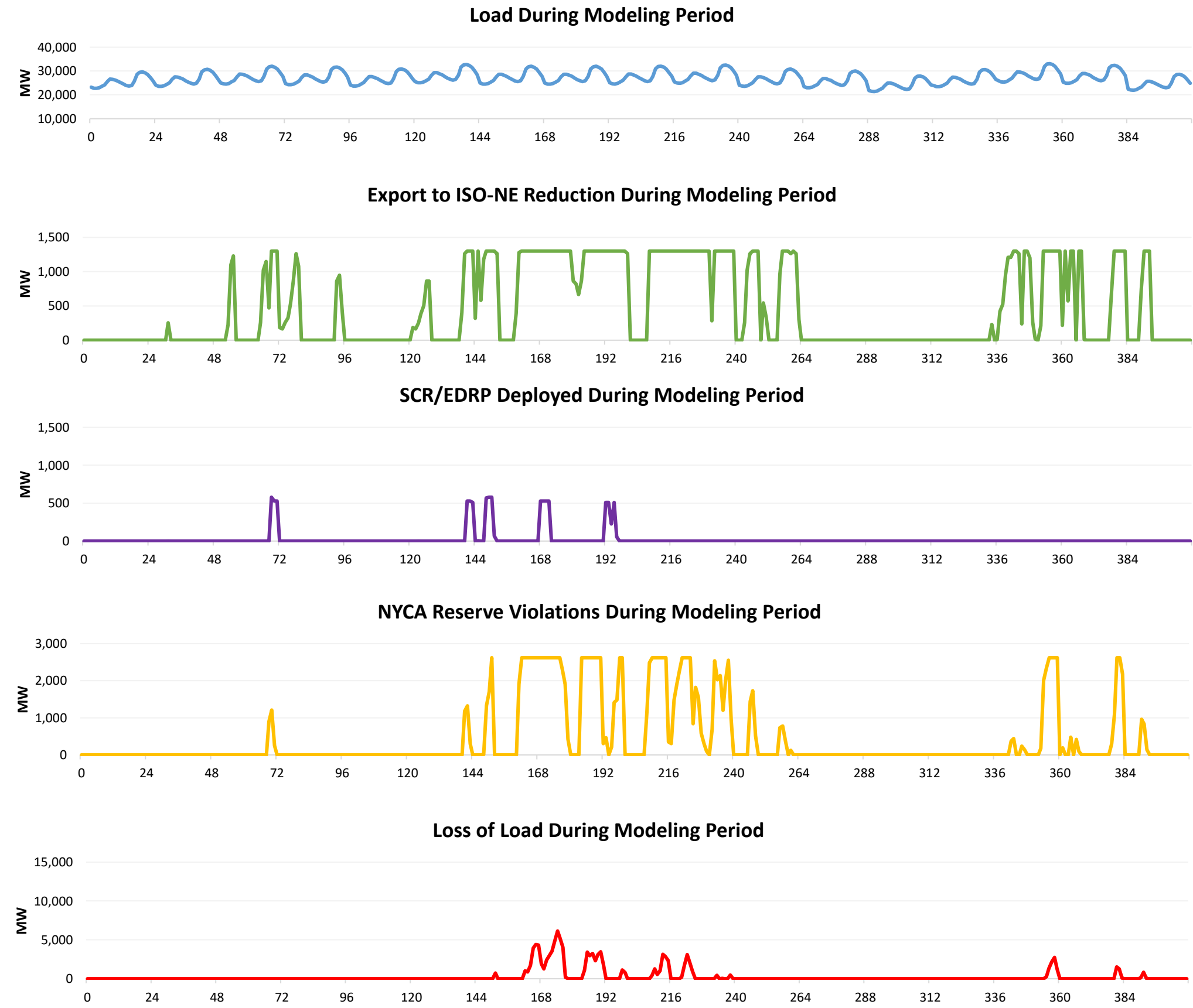


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 7 - PD 10 Non-Firm Gas Unavailable (4 days) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 7 - PD 10 Non-Firm Gas Unavailable (4 days)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	176
Total MWh	184,811
Avg. MW	453.0

SCR Deployment	
Total Hrs.	20
Total MWh	8,911
Avg. MW	21.8

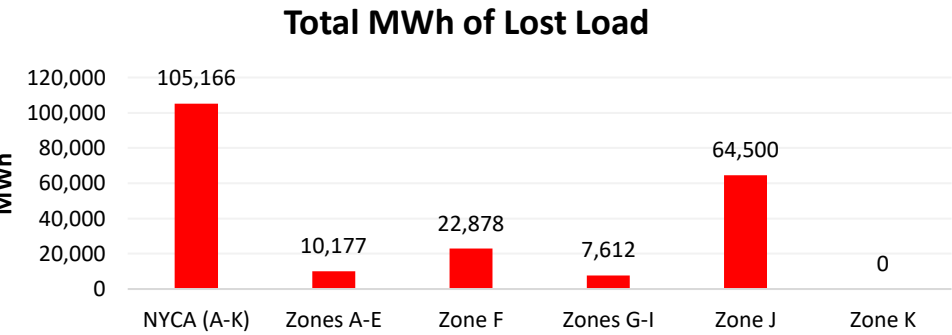
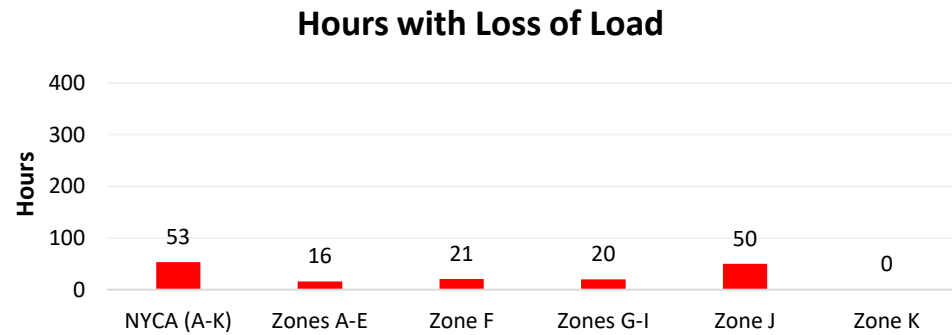
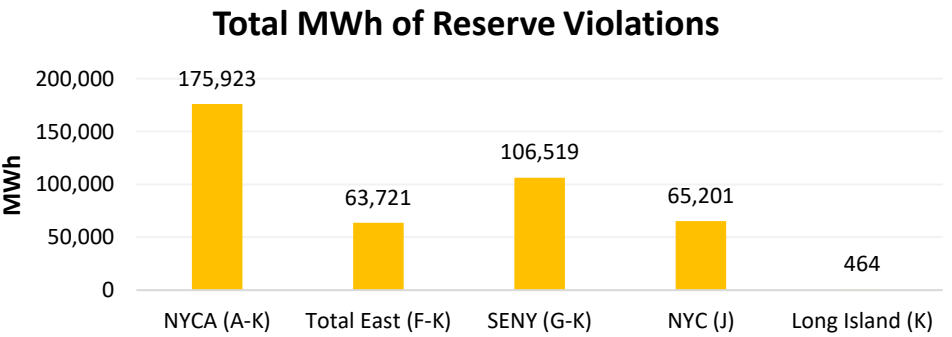
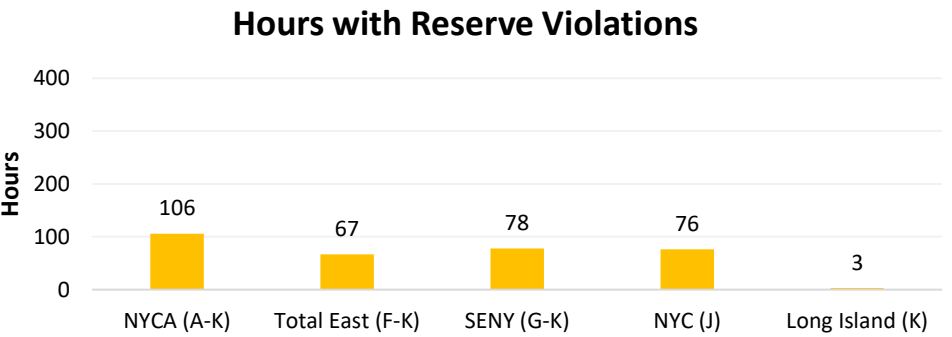
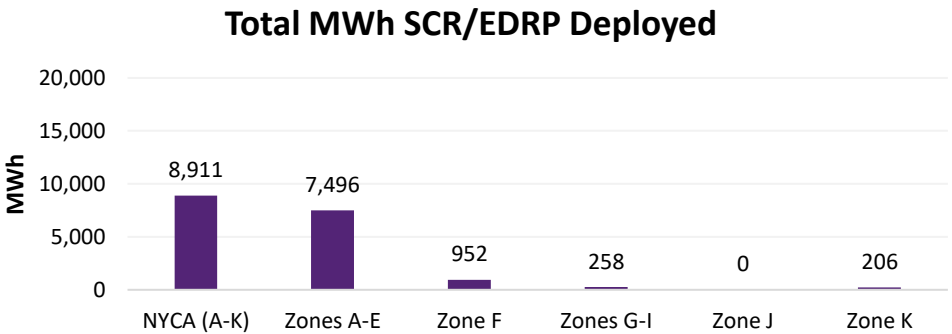
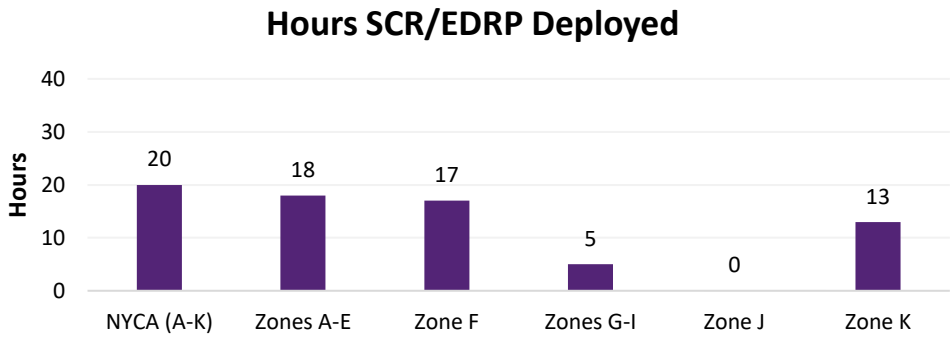
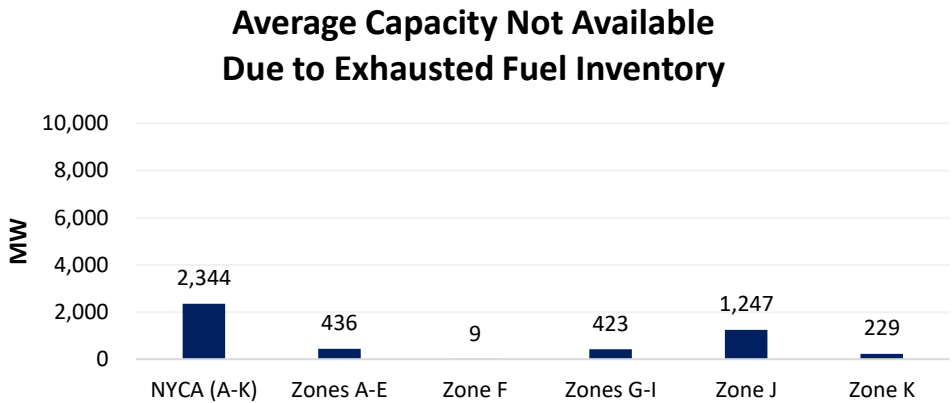
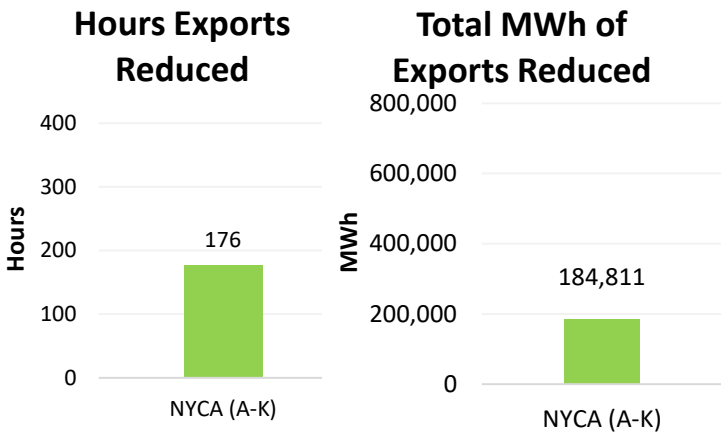
Reserve Violations	
Total Hrs.	106
Total MWh	175,923
Avg. MW	431.2
First Hour with Viol.	69

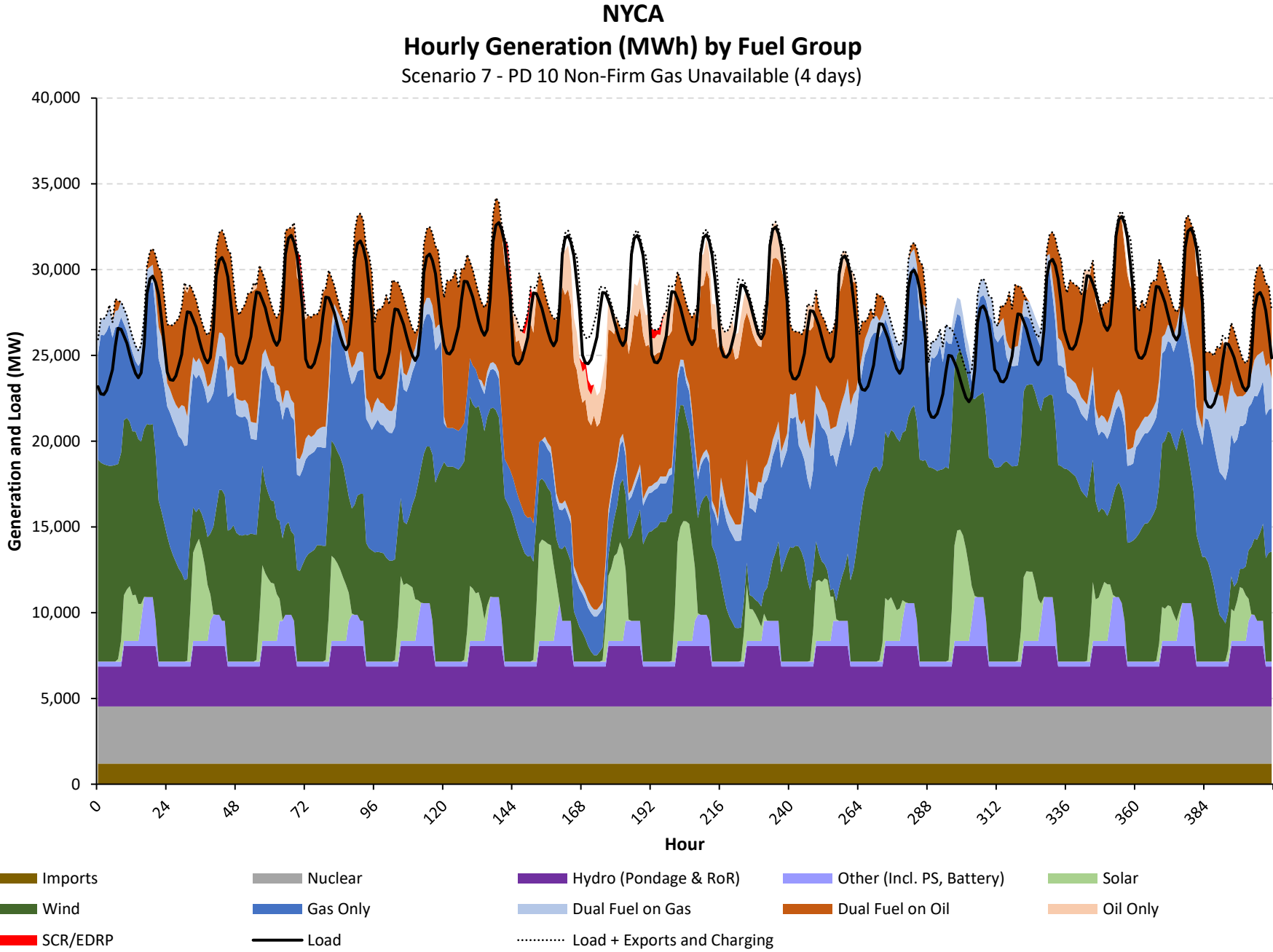
Loss of Load	
Total Hrs.	53
Total MWh	105,166
Avg. MW	257.8
First Hour with Losses	151

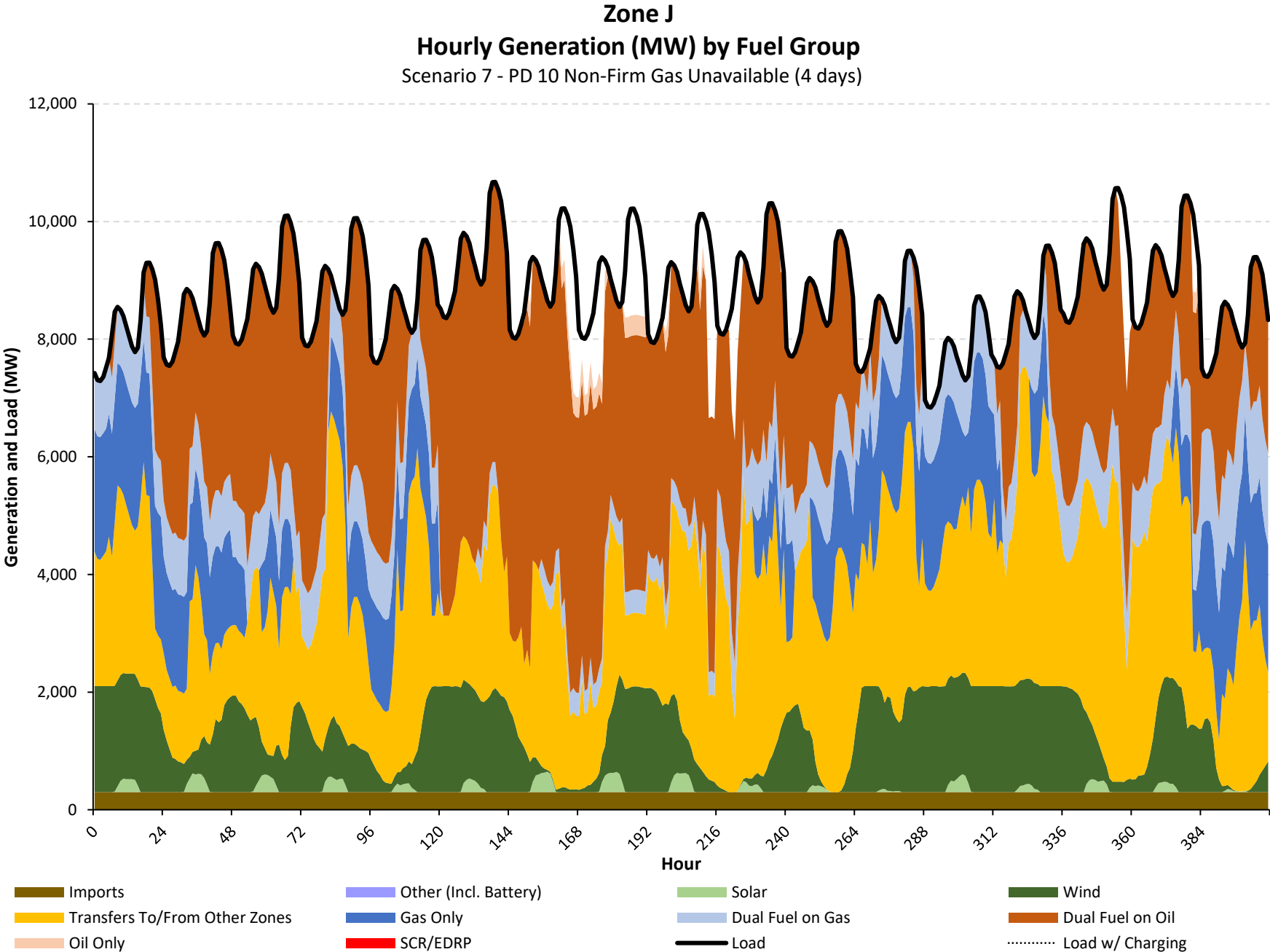
Full Period Results Summary

Case Name: Scenario 7 - PD 10 Non-Firm Gas Unavailable (4 days)

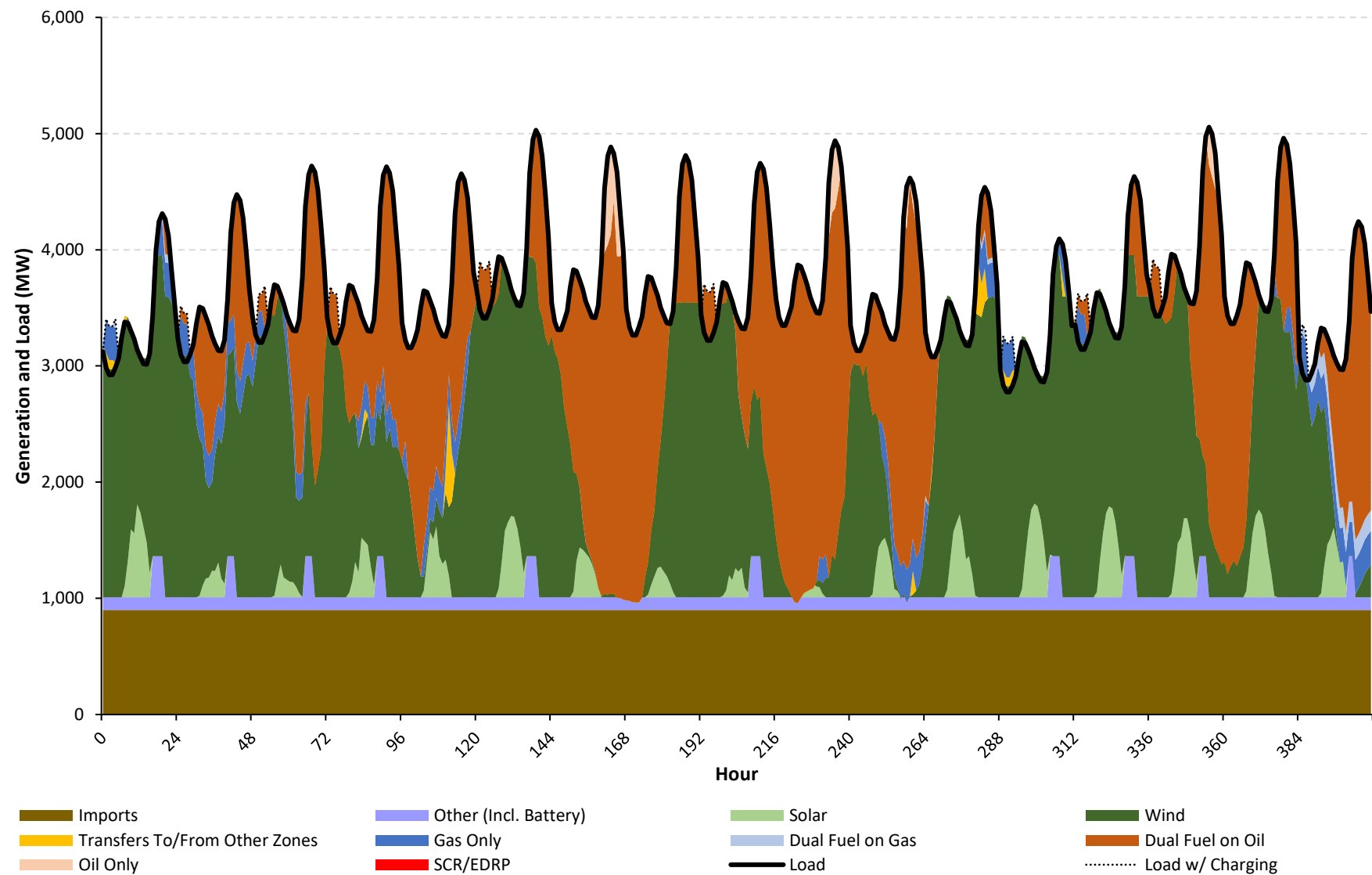
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

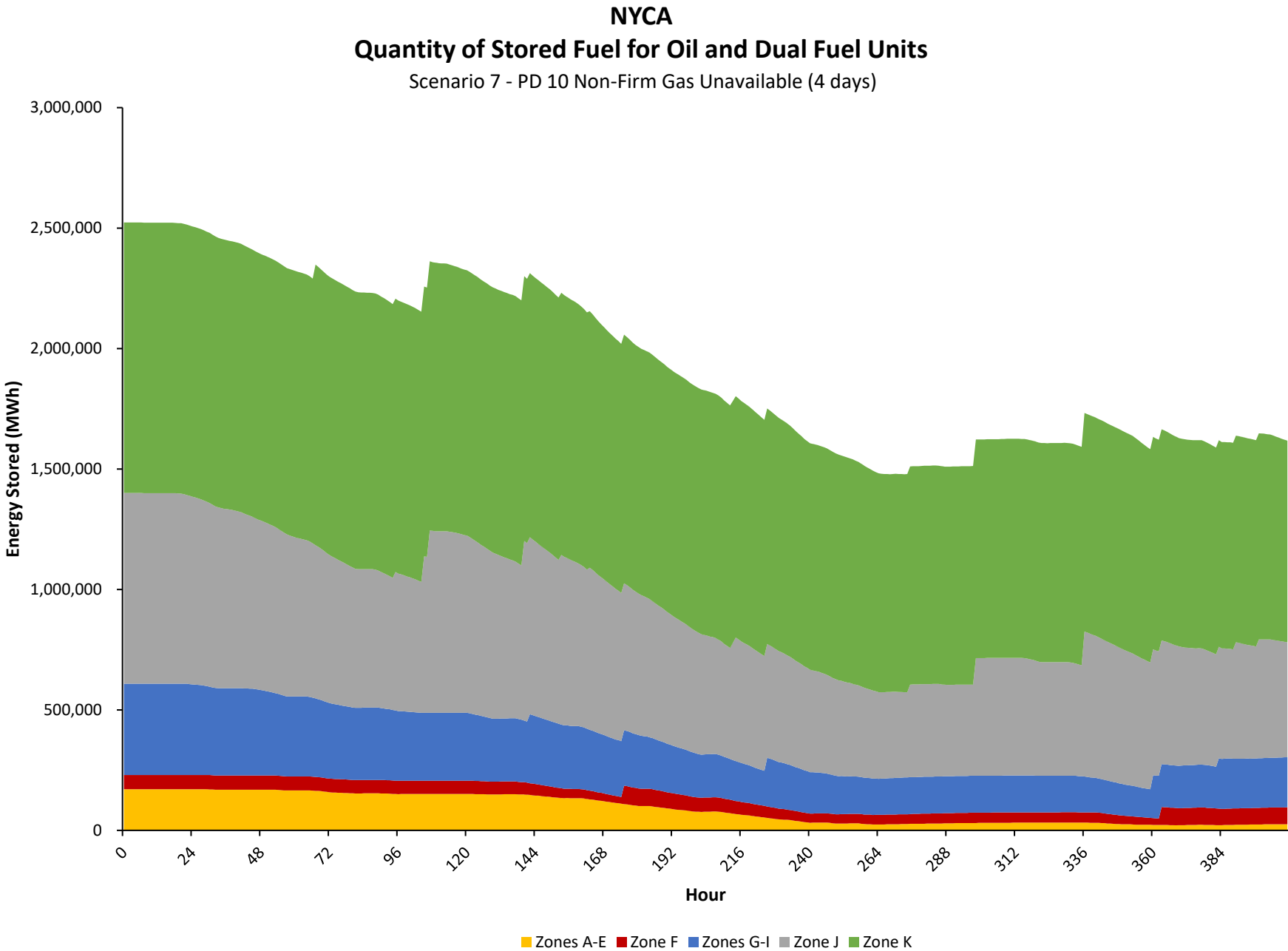


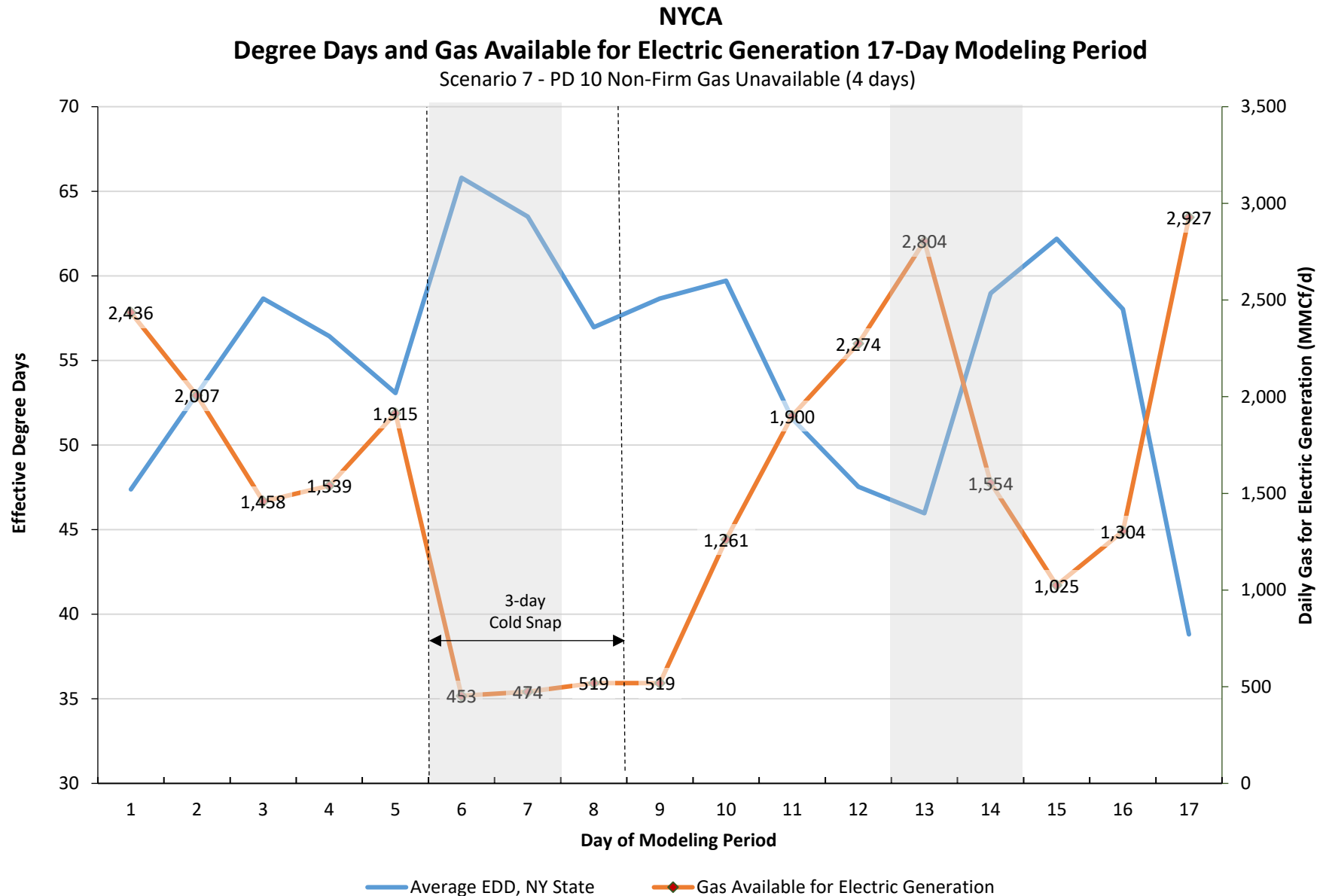




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 7 - PD 10 Non-Firm Gas Unavailable (4 days)

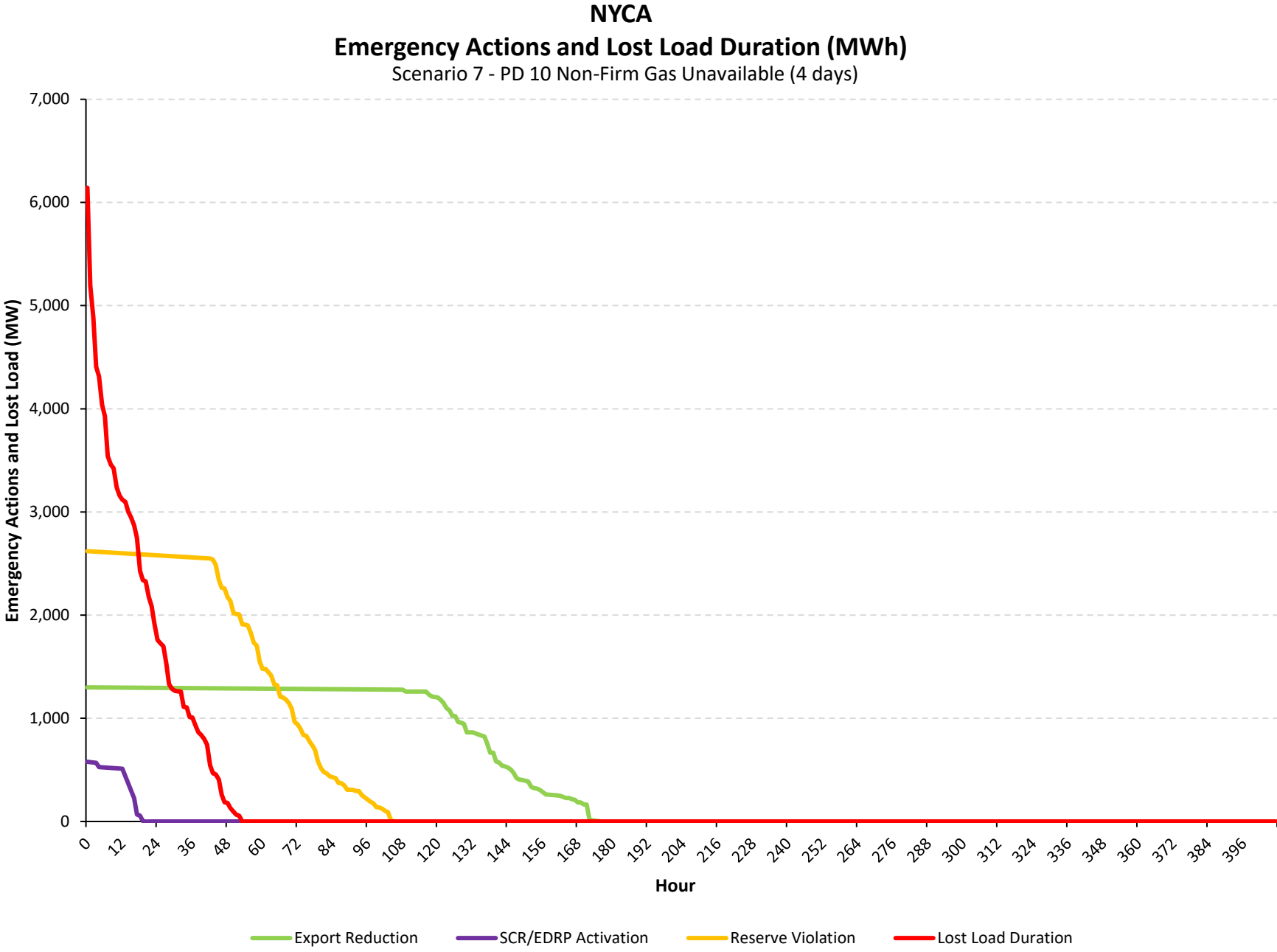


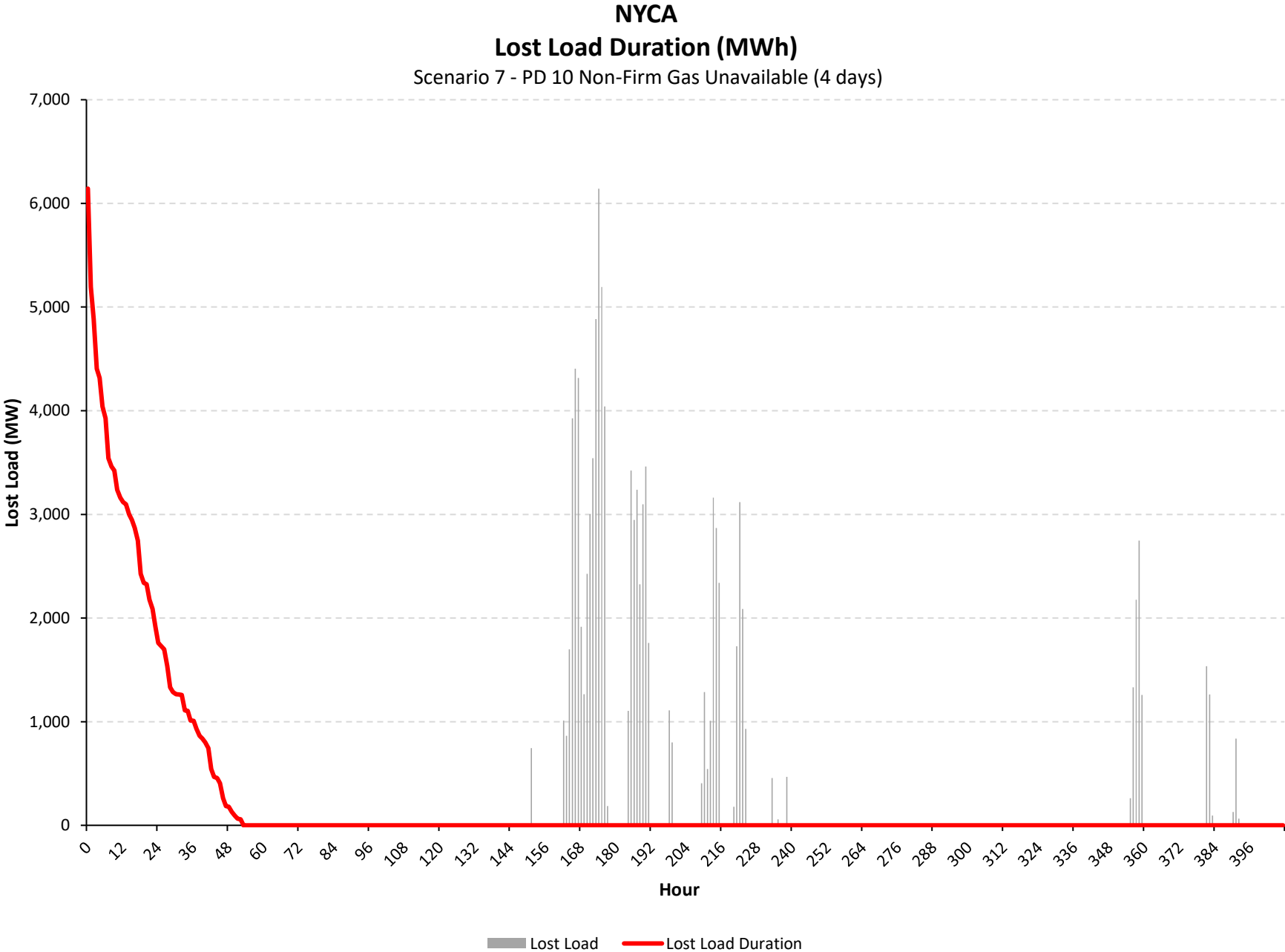




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



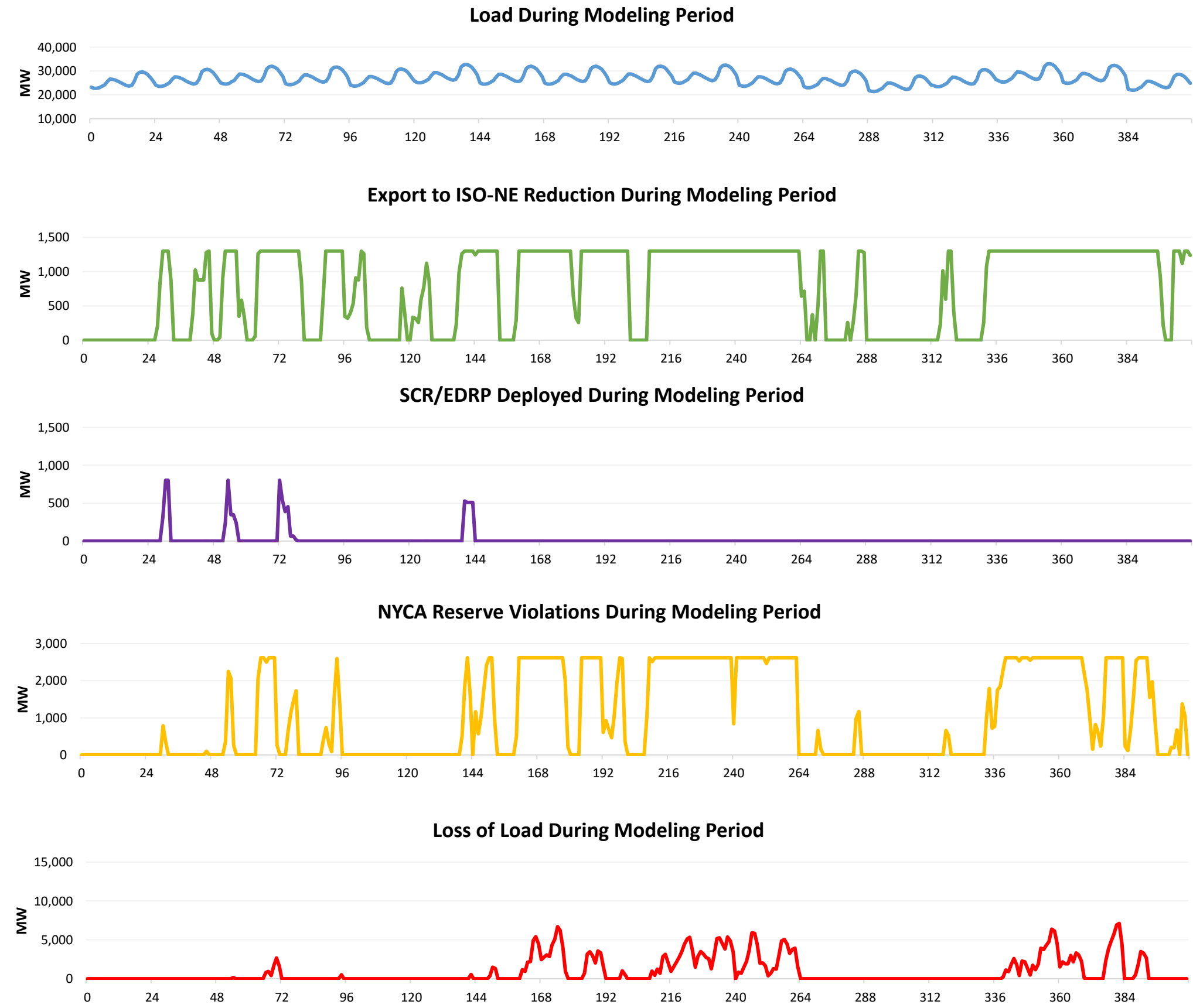


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 7 - PD 11 Combination Disruption (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 7 - PD 11 Combination Disruption



Case Summary	
Derate (EFORD) Increase:	High
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All

Export Reductions	
Total Hrs.	274
Total MWh	315,266
Avg. MW	772.7

SCR Deployment	
Total Hrs.	19
Total MWh	8,281
Avg. MW	20.3

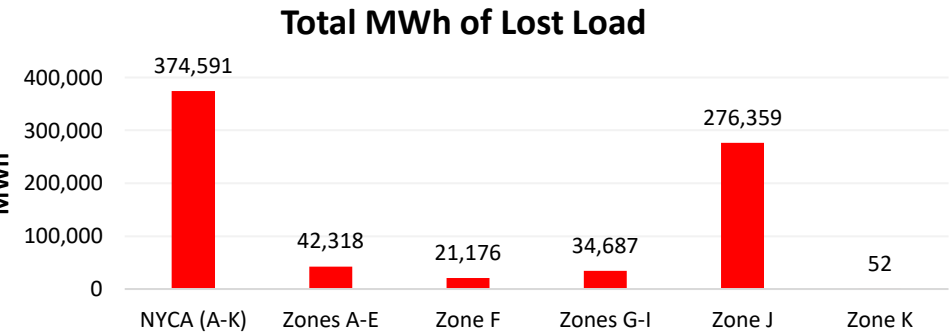
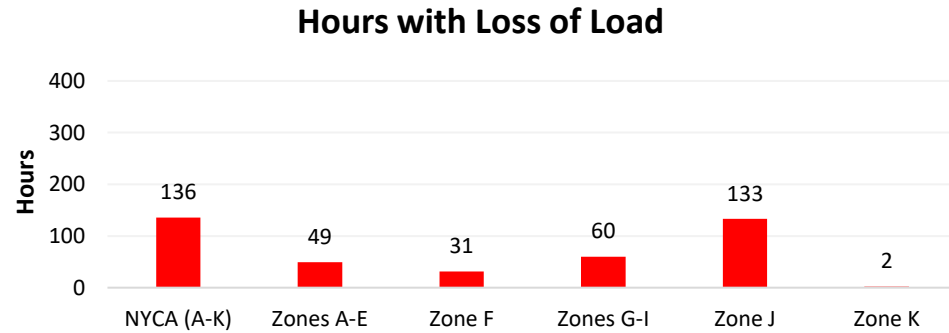
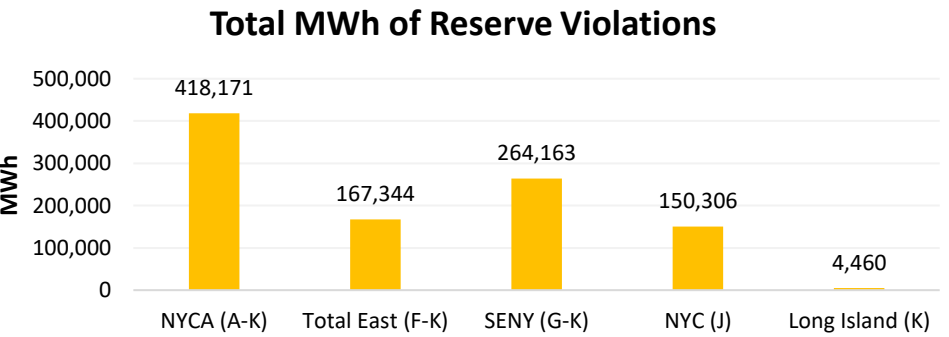
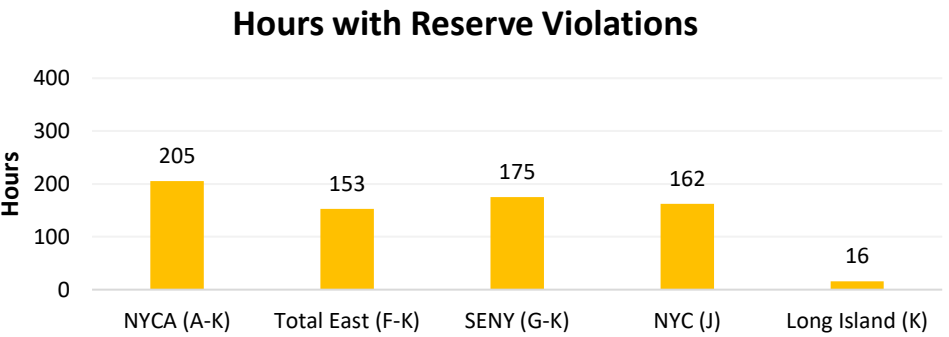
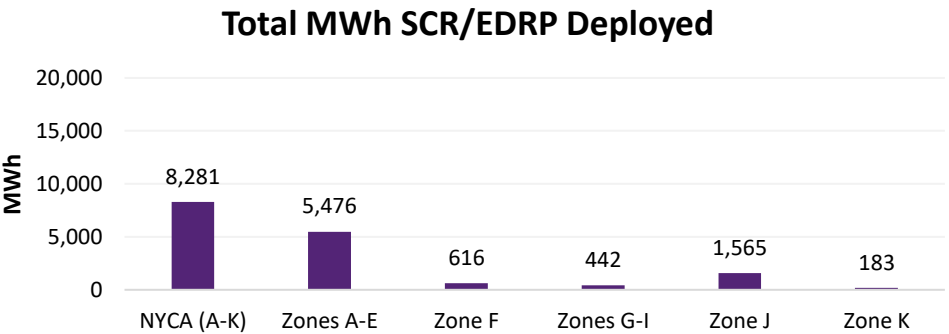
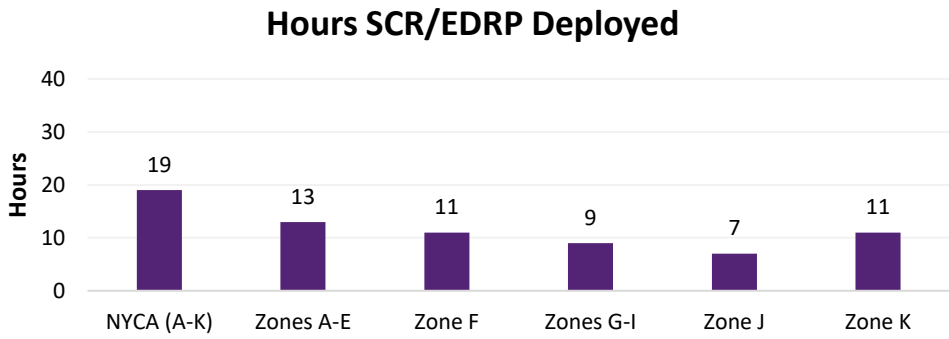
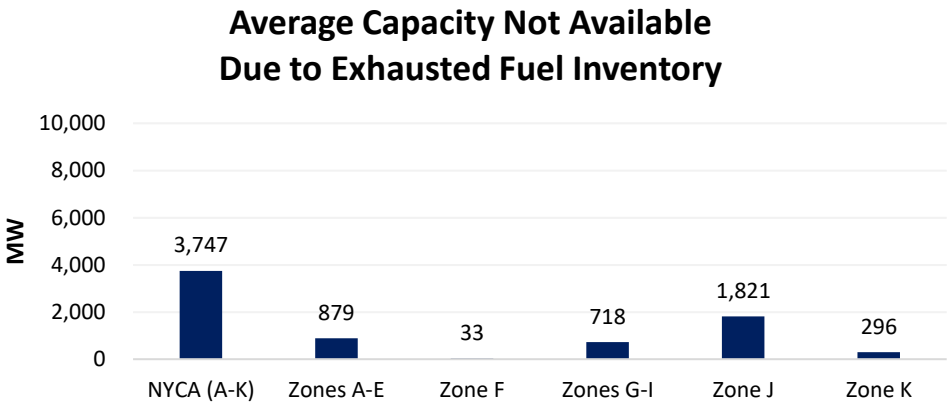
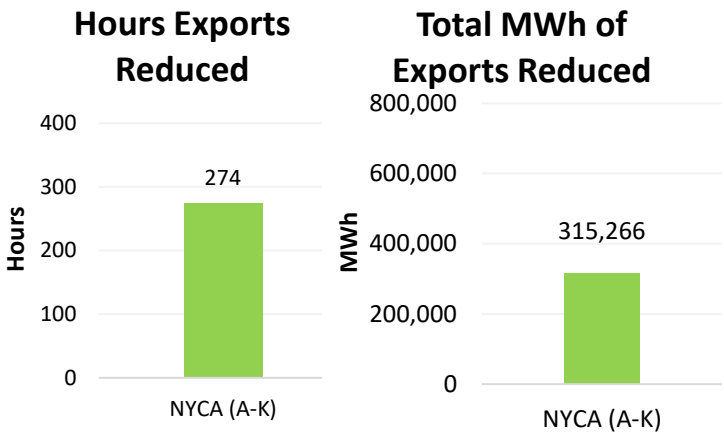
Reserve Violations	
Total Hrs.	205
Total MWh	418,171
Avg. MW	1,024.9
First Hour with Viol.	30

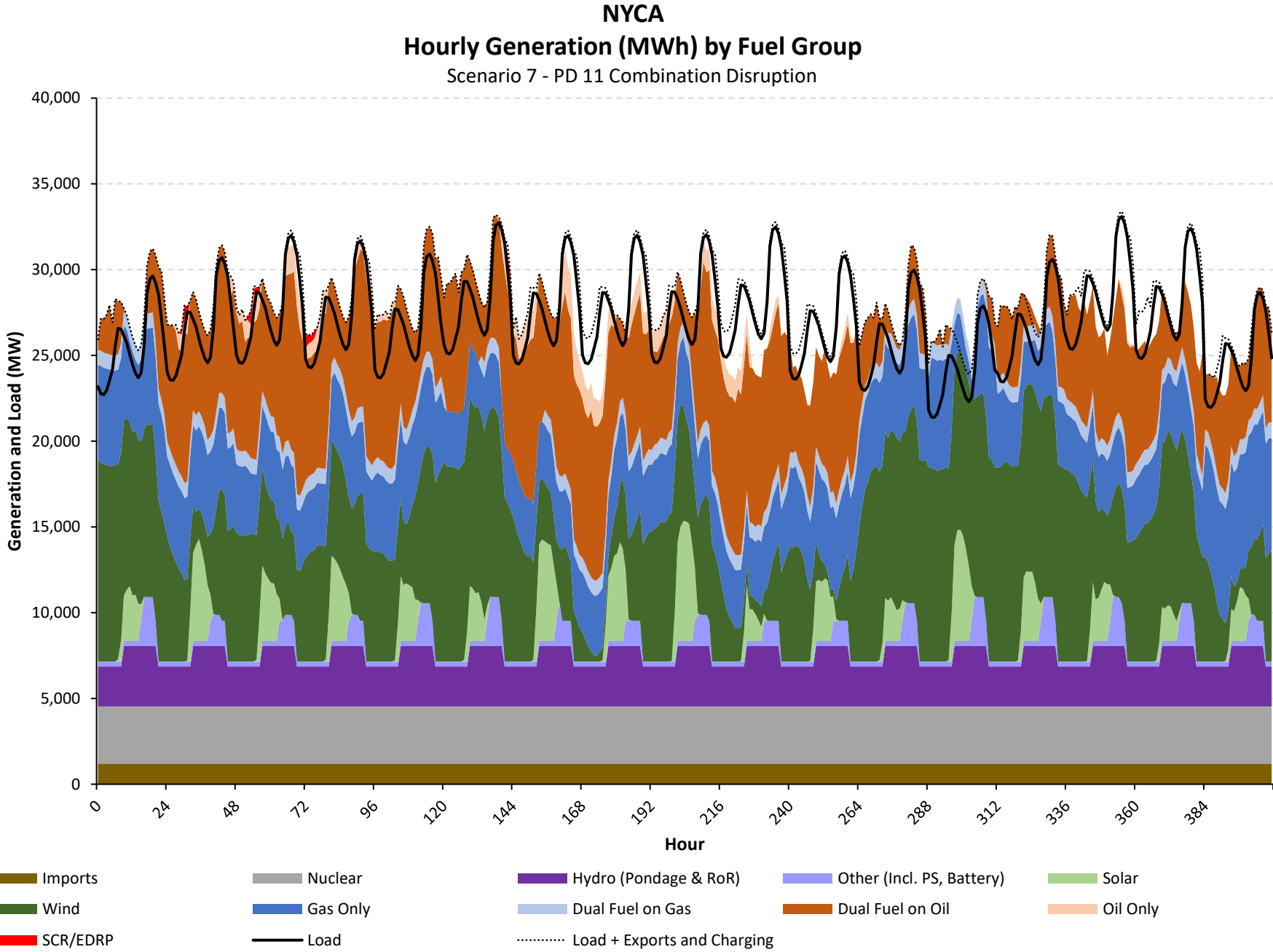
Loss of Load	
Total Hrs.	136
Total MWh	374,591
Avg. MW	918.1
First Hour with Losses	54

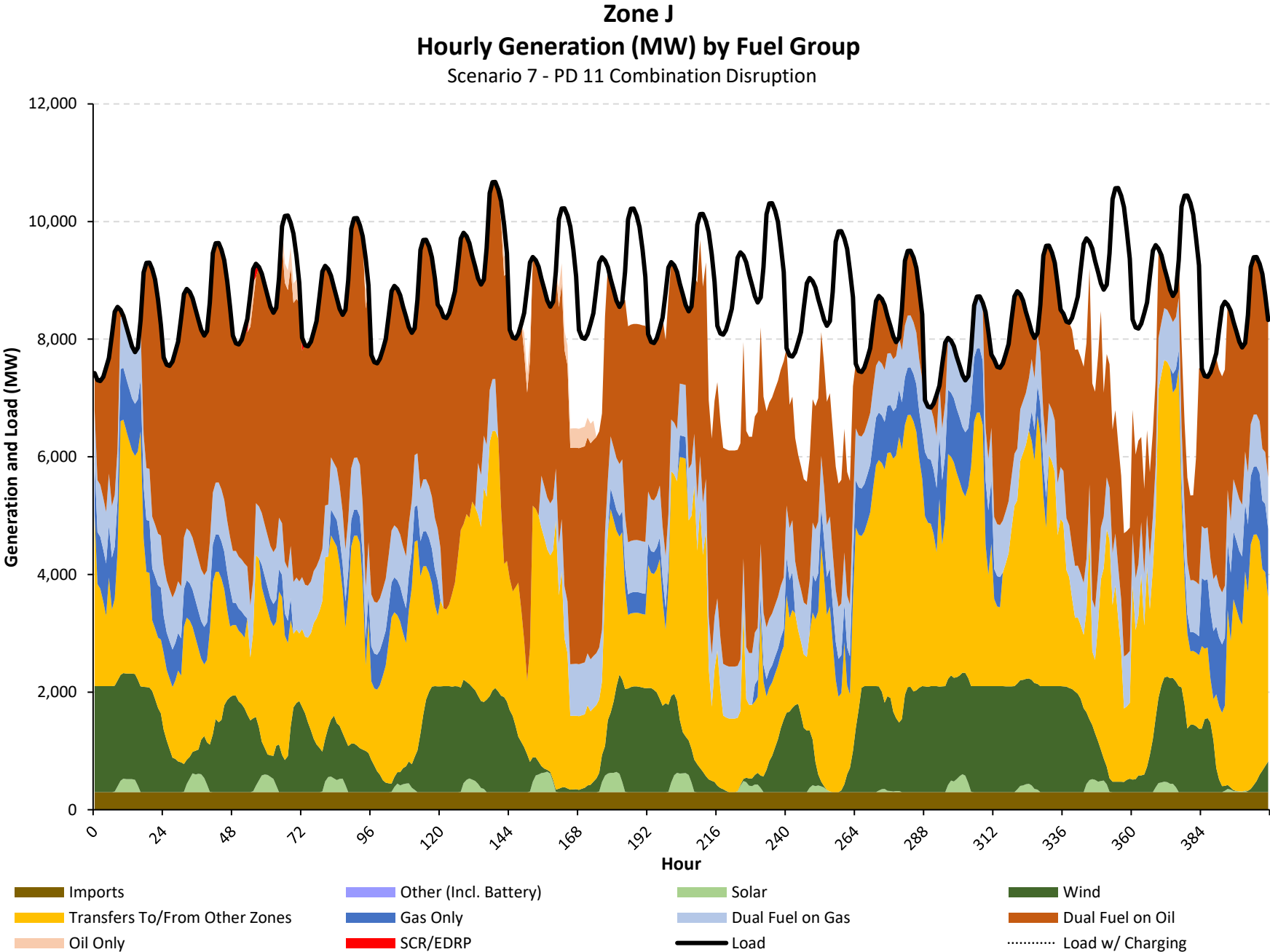
Full Period Results Summary

Case Name: Scenario 7 - PD 11 Combination Disruption

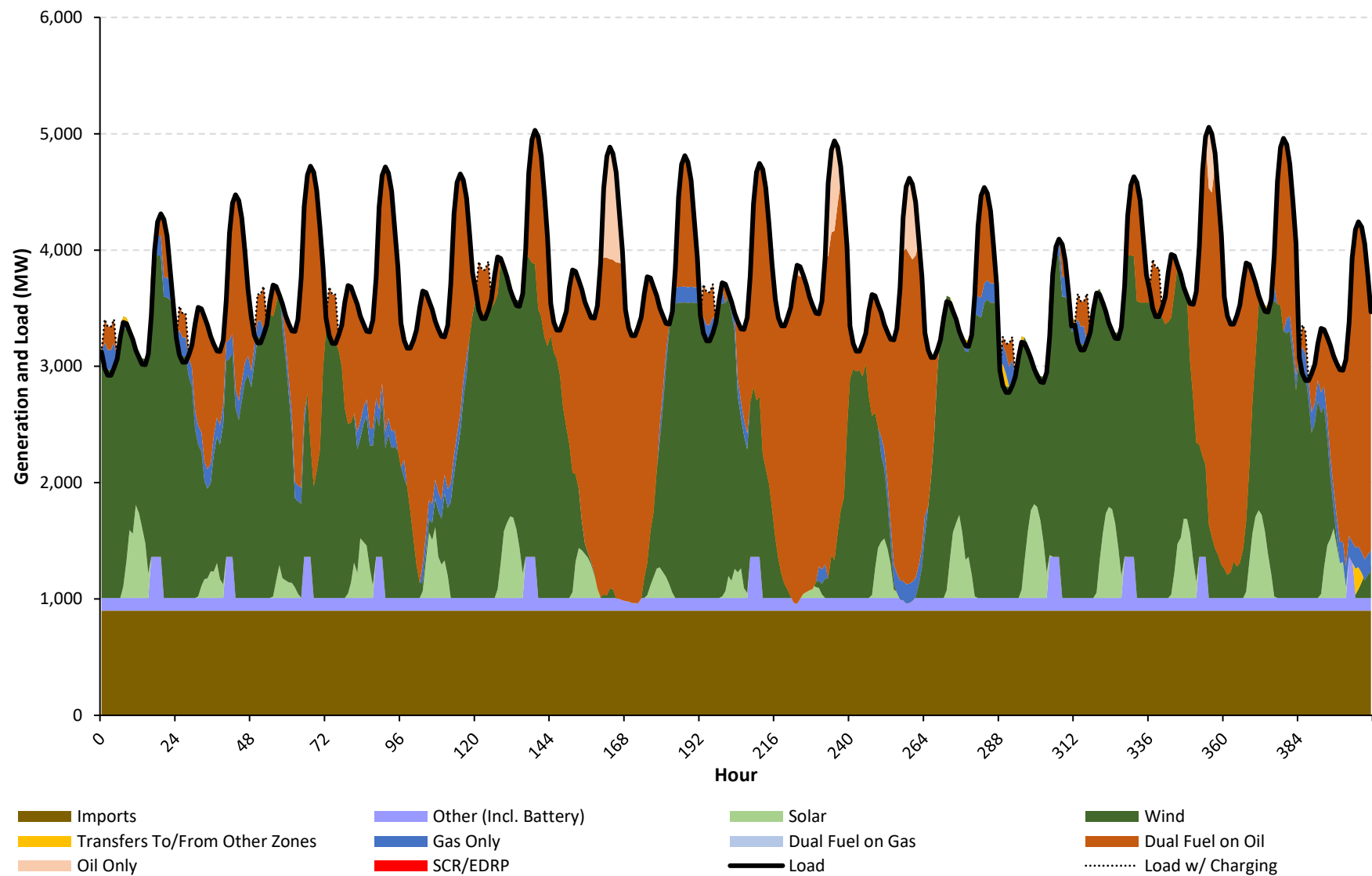
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	All



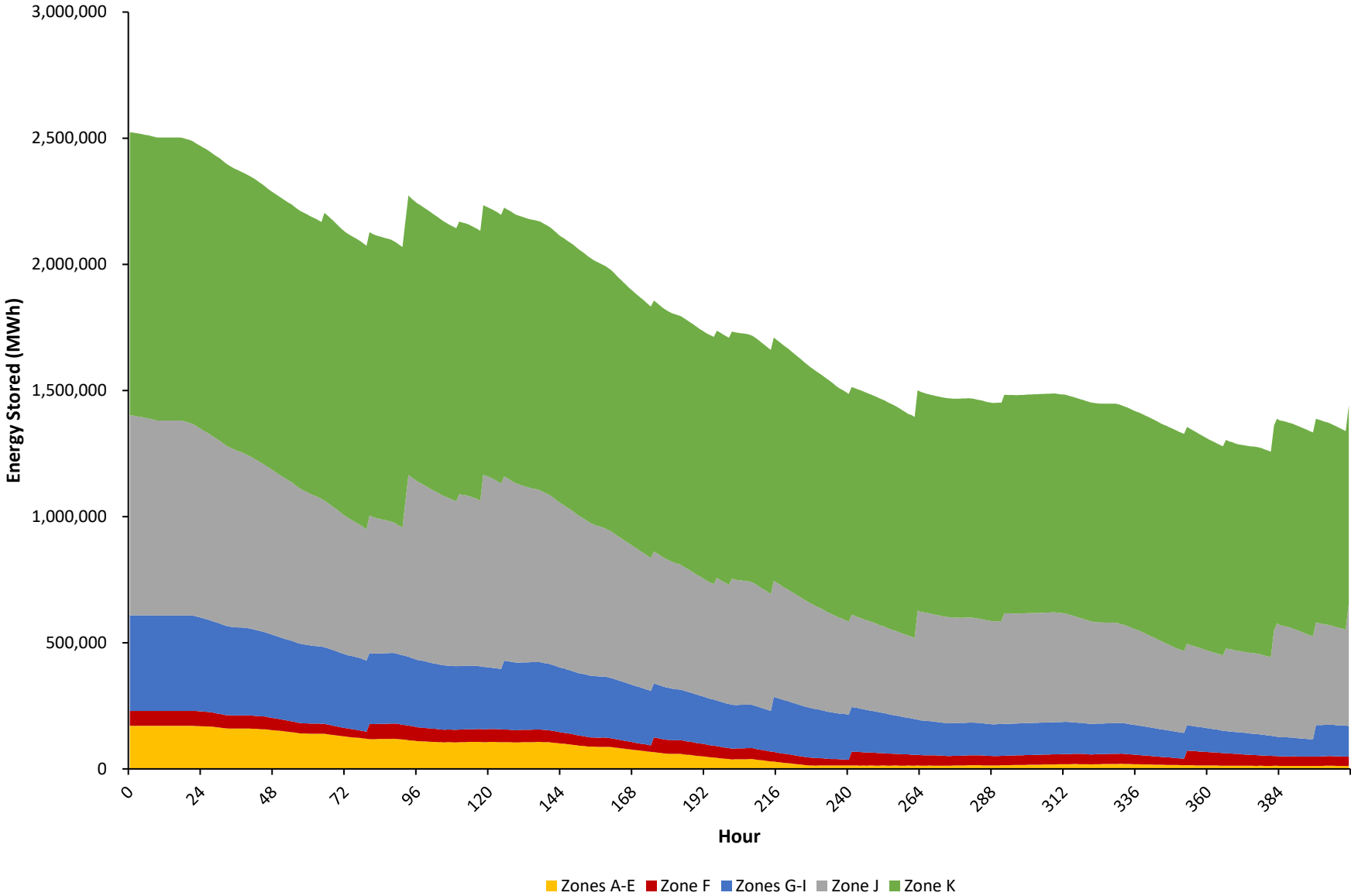




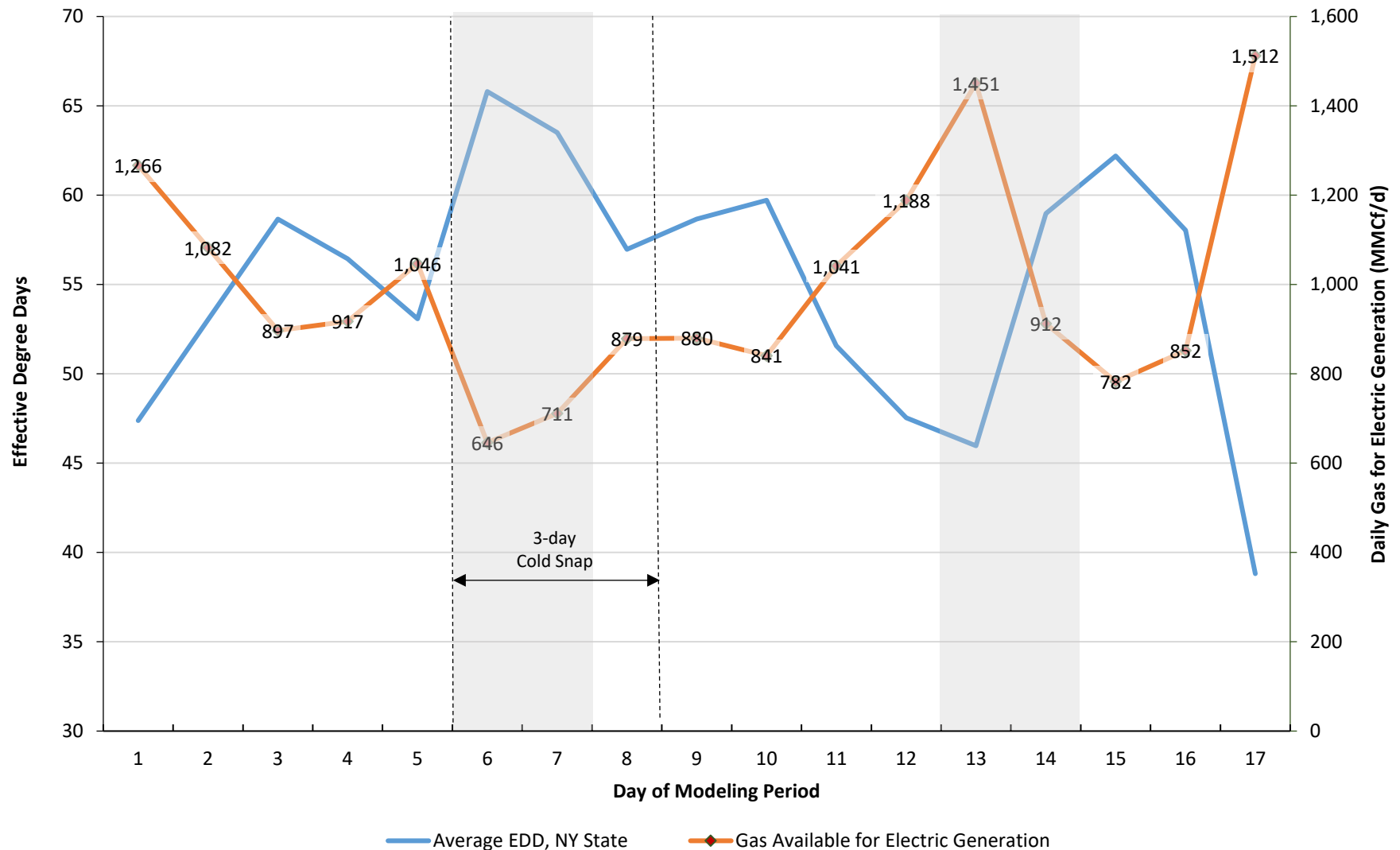
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 7 - PD 11 Combination Disruption



NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 7 - PD 11 Combination Disruption

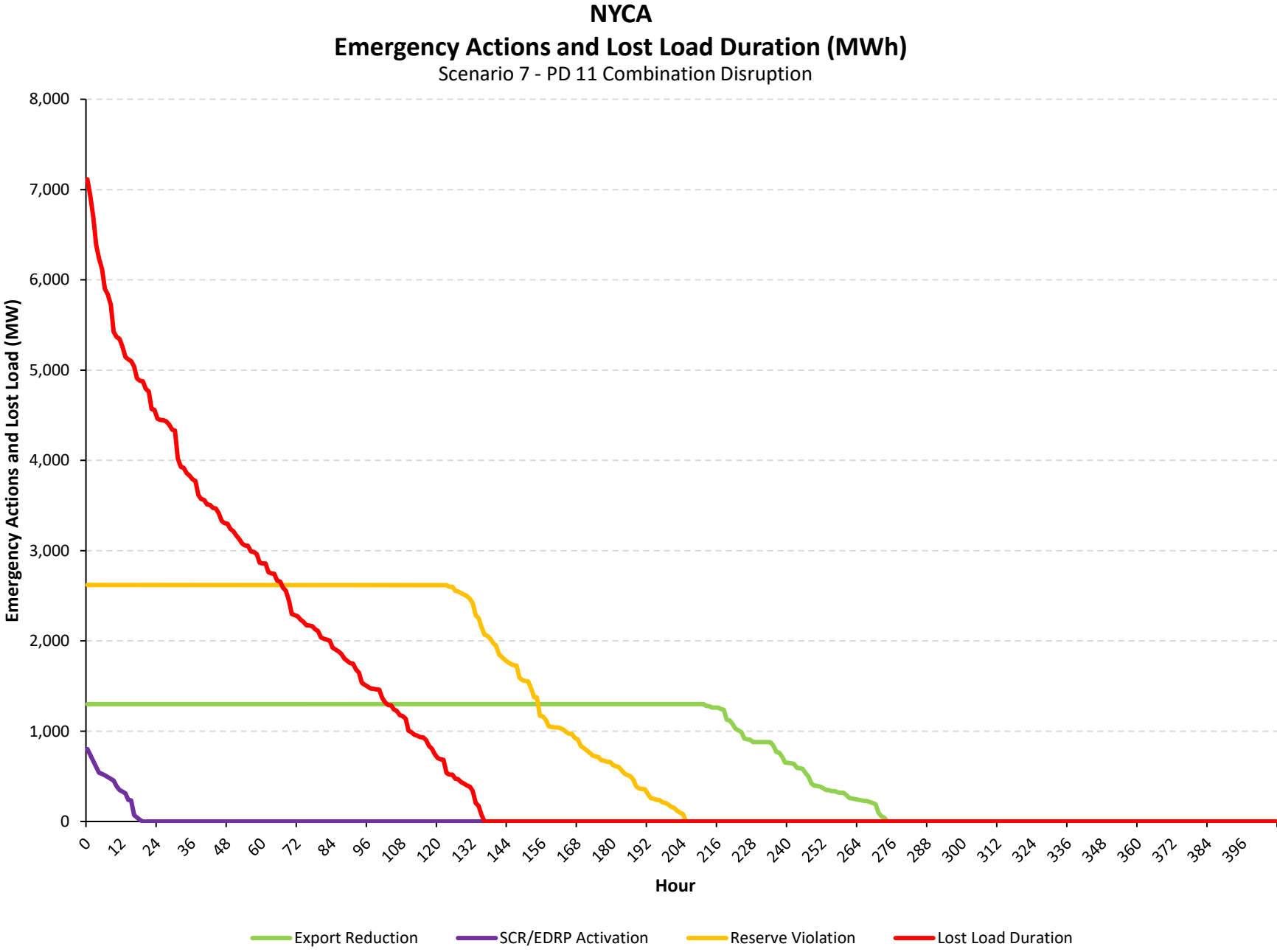


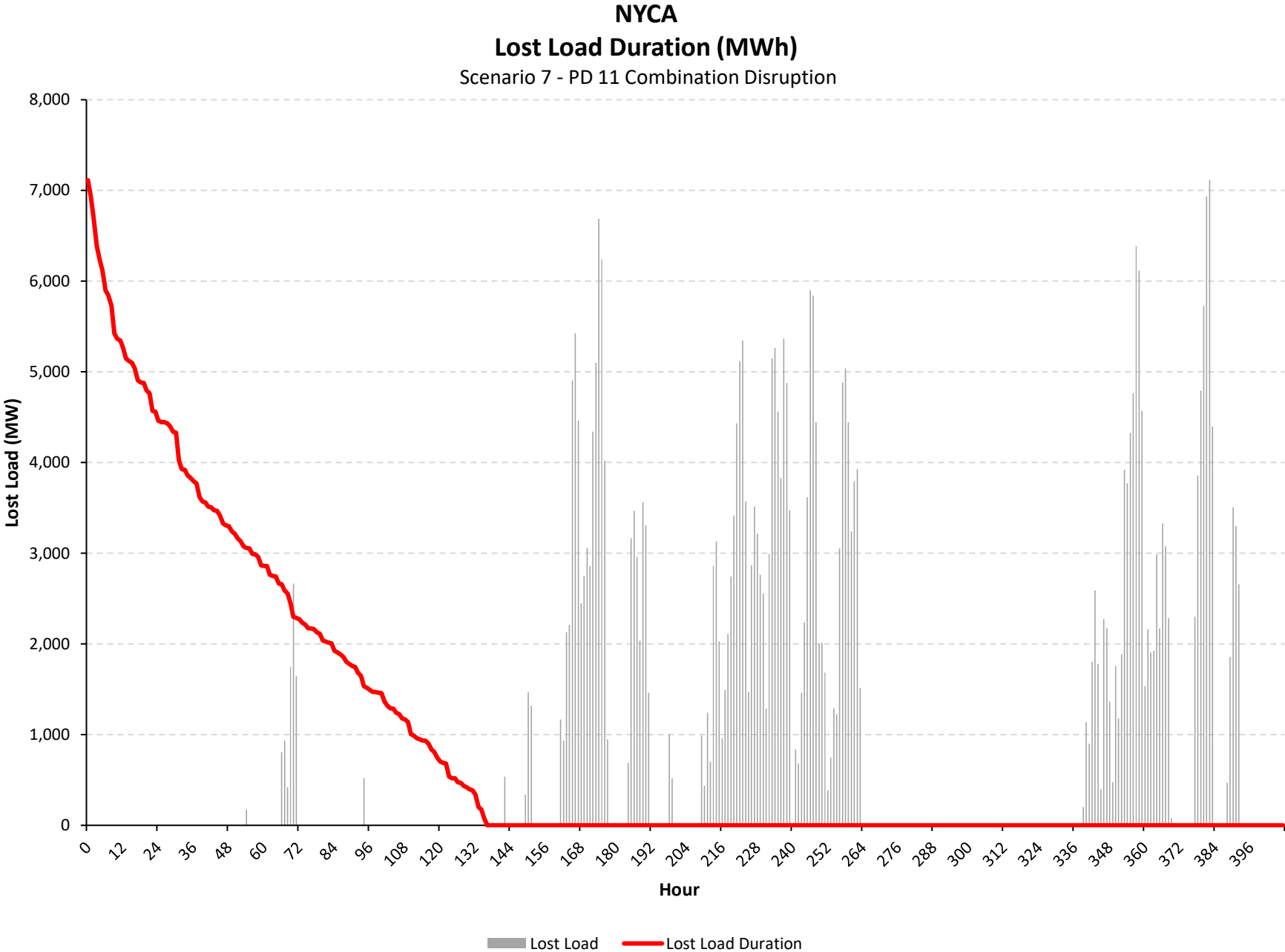
NYCA **Degree Days and Gas Available for Electric Generation 17-Day Modeling Period** Scenario 7 - PD 11 Combination Disruption



Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



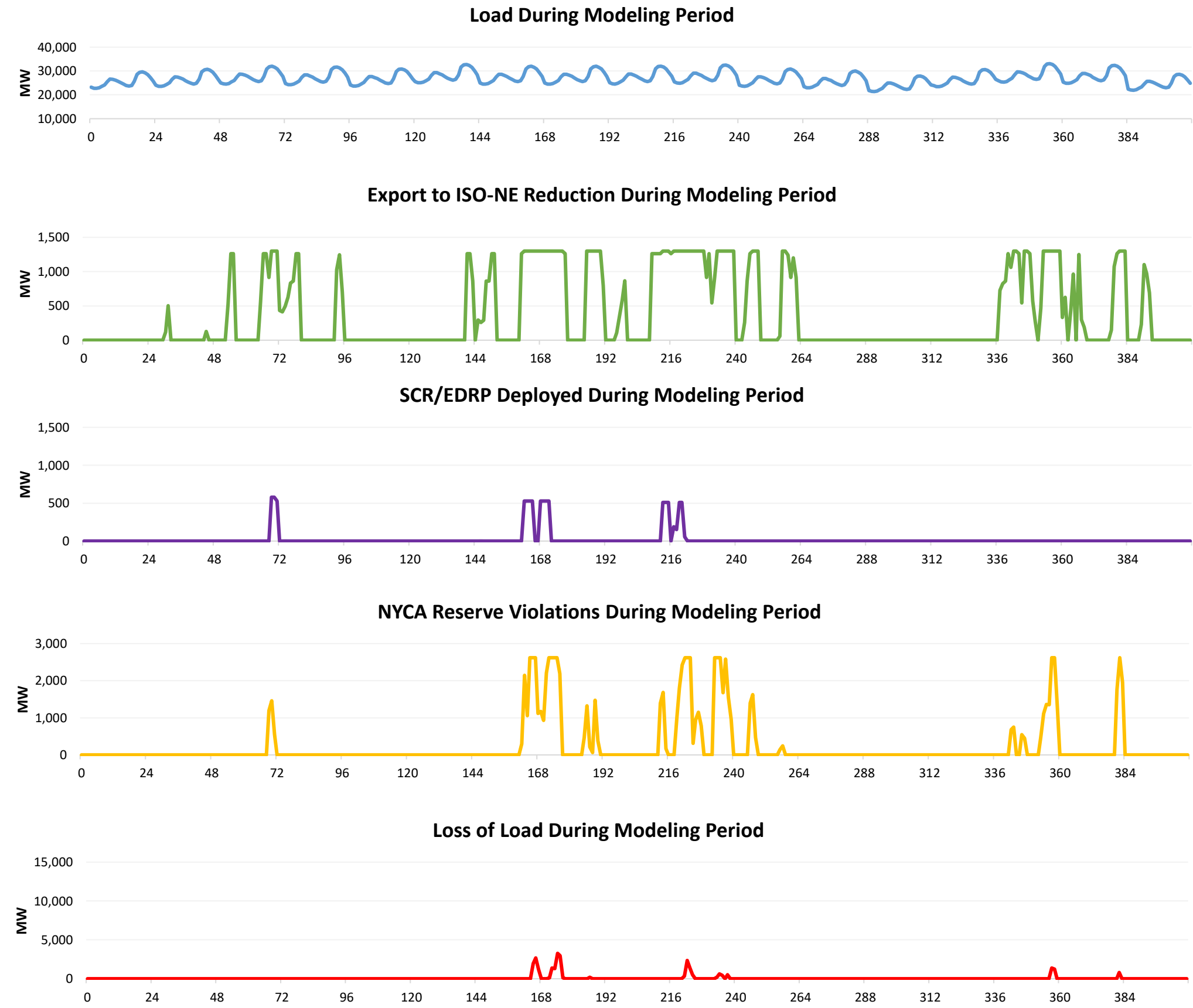


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 8 - PD 1 No Disruptions (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 8 - PD 1 No Disruptions



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	145
Total MWh	150,476
Avg. MW	368.8

SCR Deployment	
Total Hrs.	19
Total MWh	8,845
Avg. MW	21.7

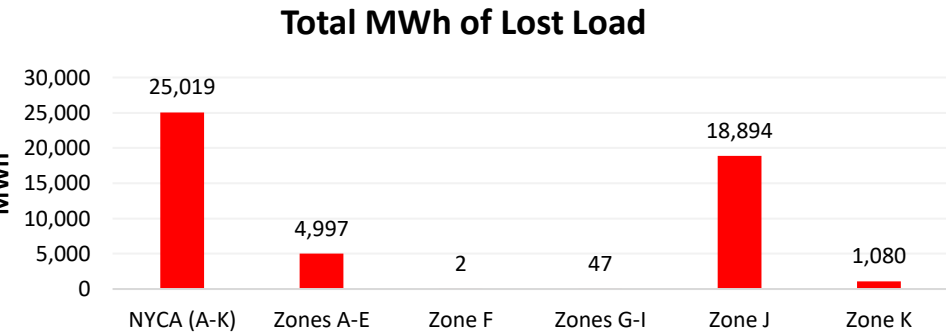
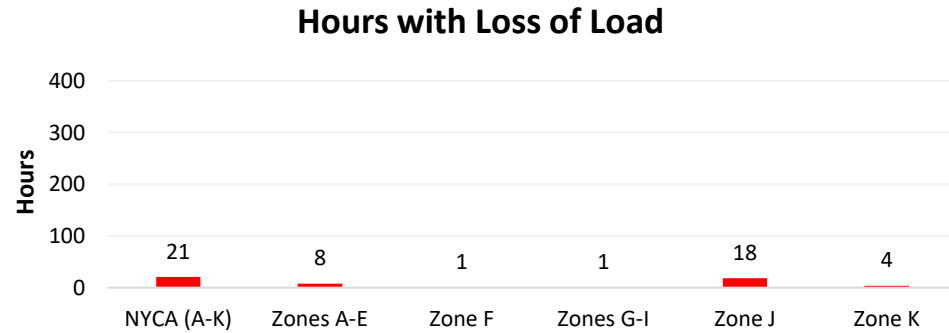
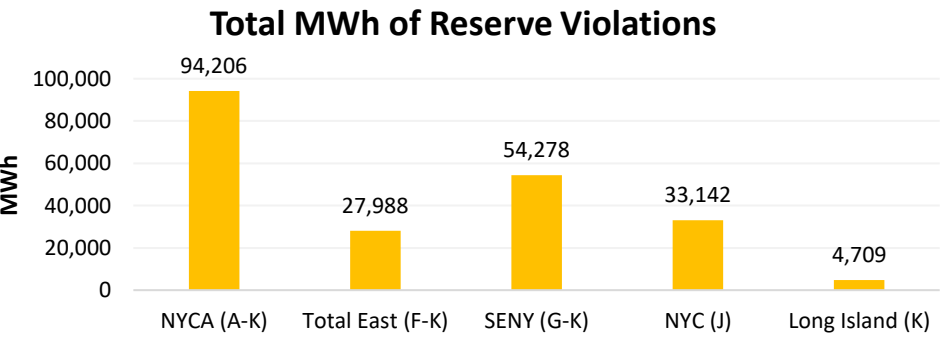
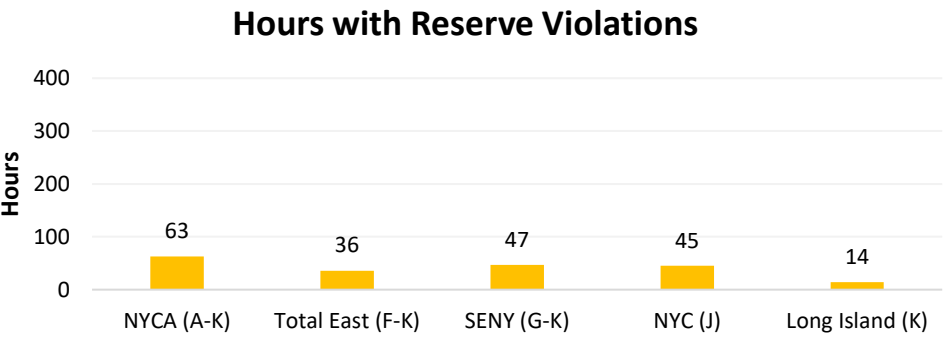
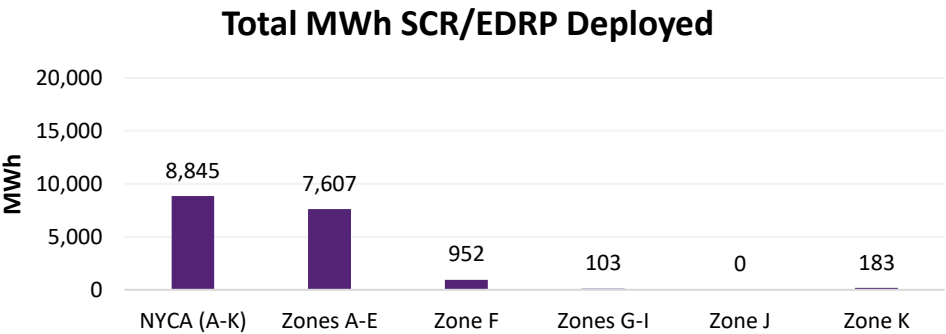
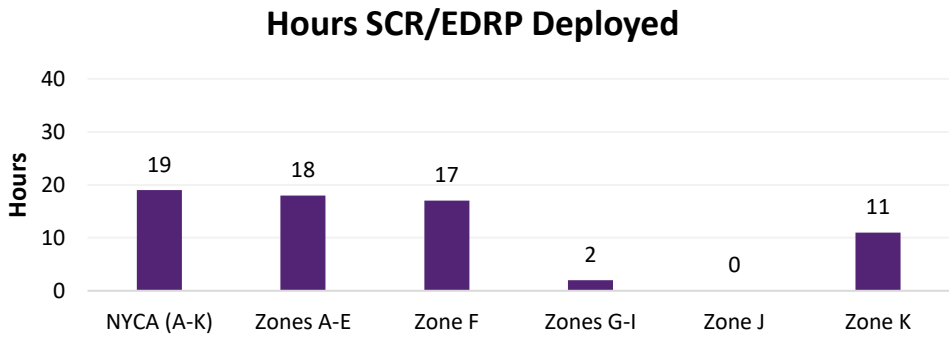
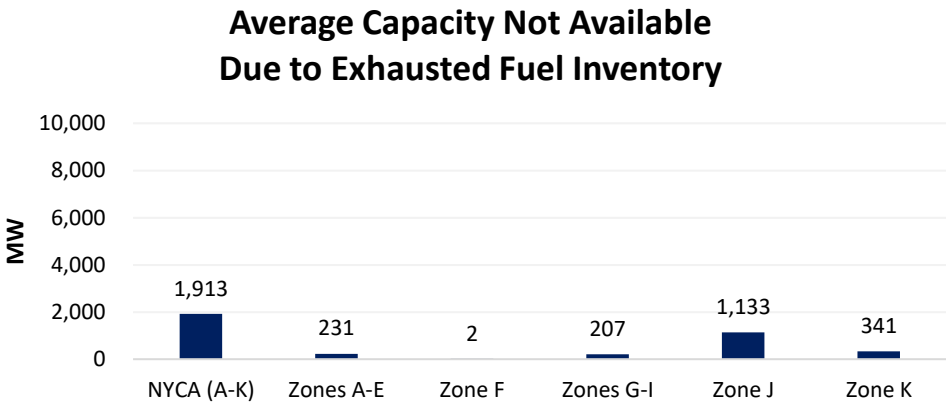
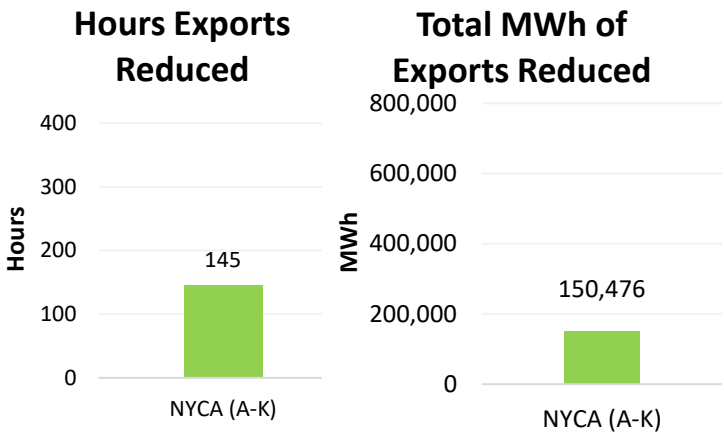
Reserve Violations	
Total Hrs.	63
Total MWh	94,206
Avg. MW	230.9
First Hour with Viol.	69

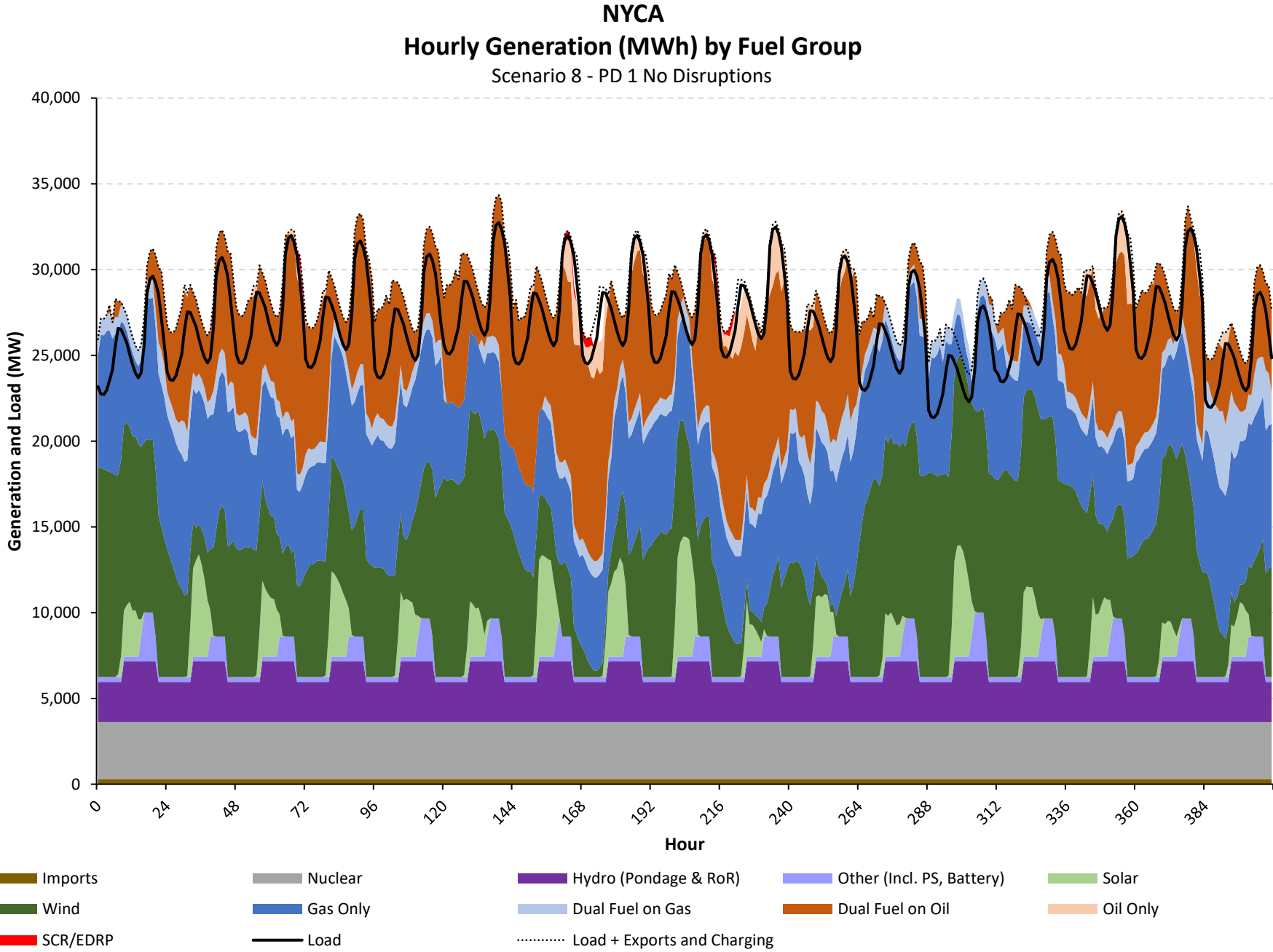
Loss of Load	
Total Hrs.	21
Total MWh	25,019
Avg. MW	61.3
First Hour with Losses	165

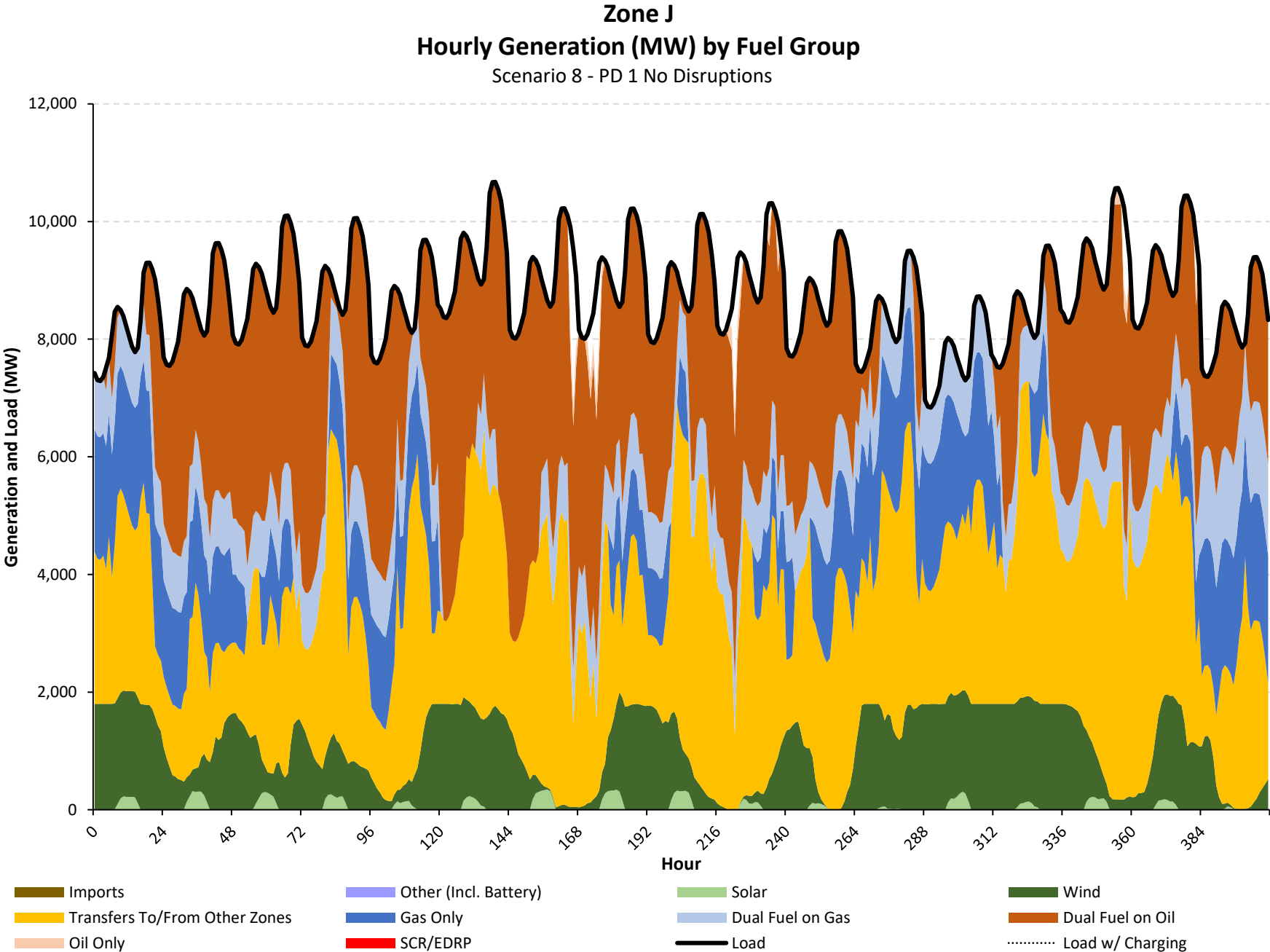
Full Period Results Summary

Case Name: Scenario 8 - PD 1 No Disruptions

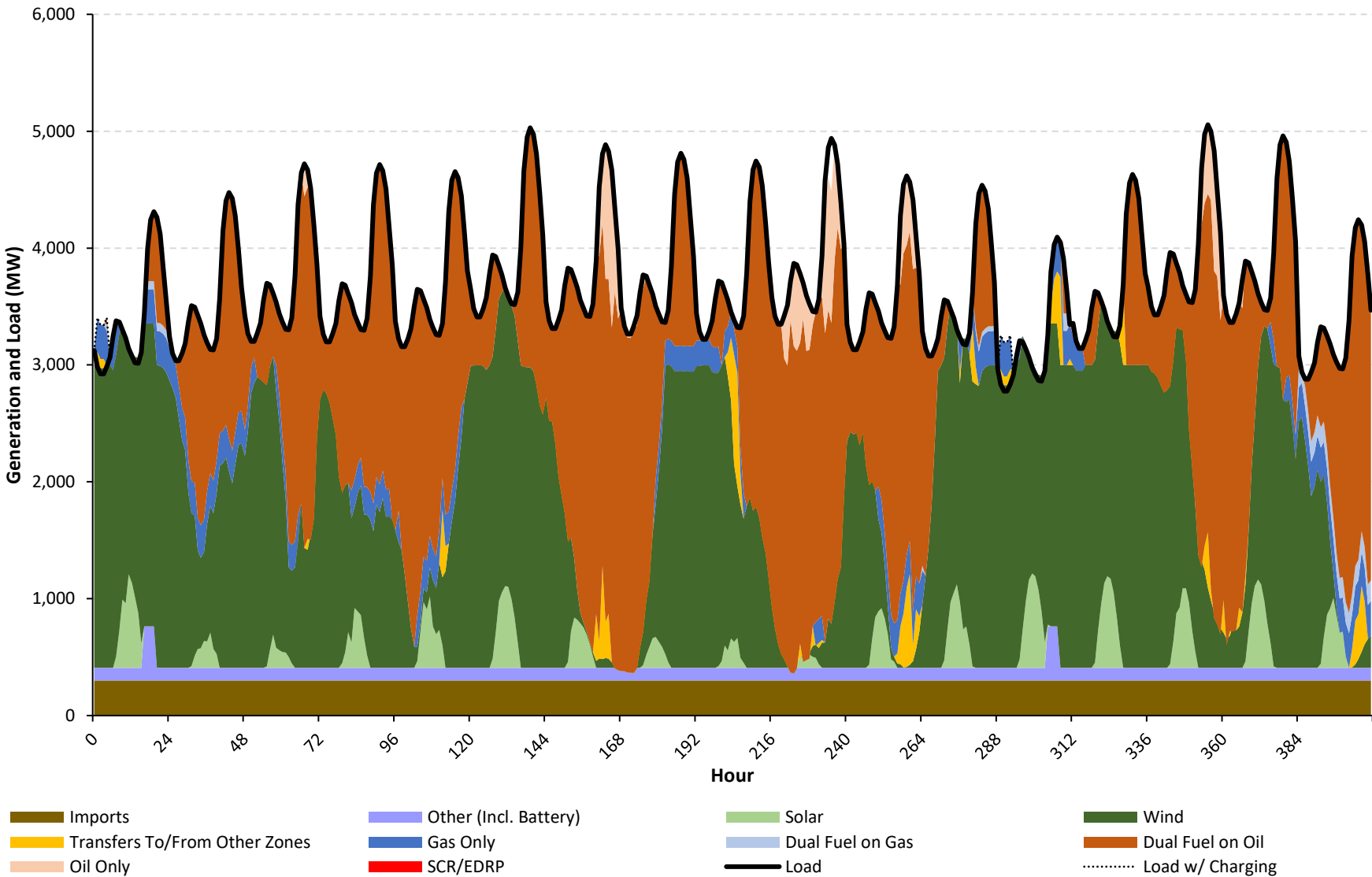
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



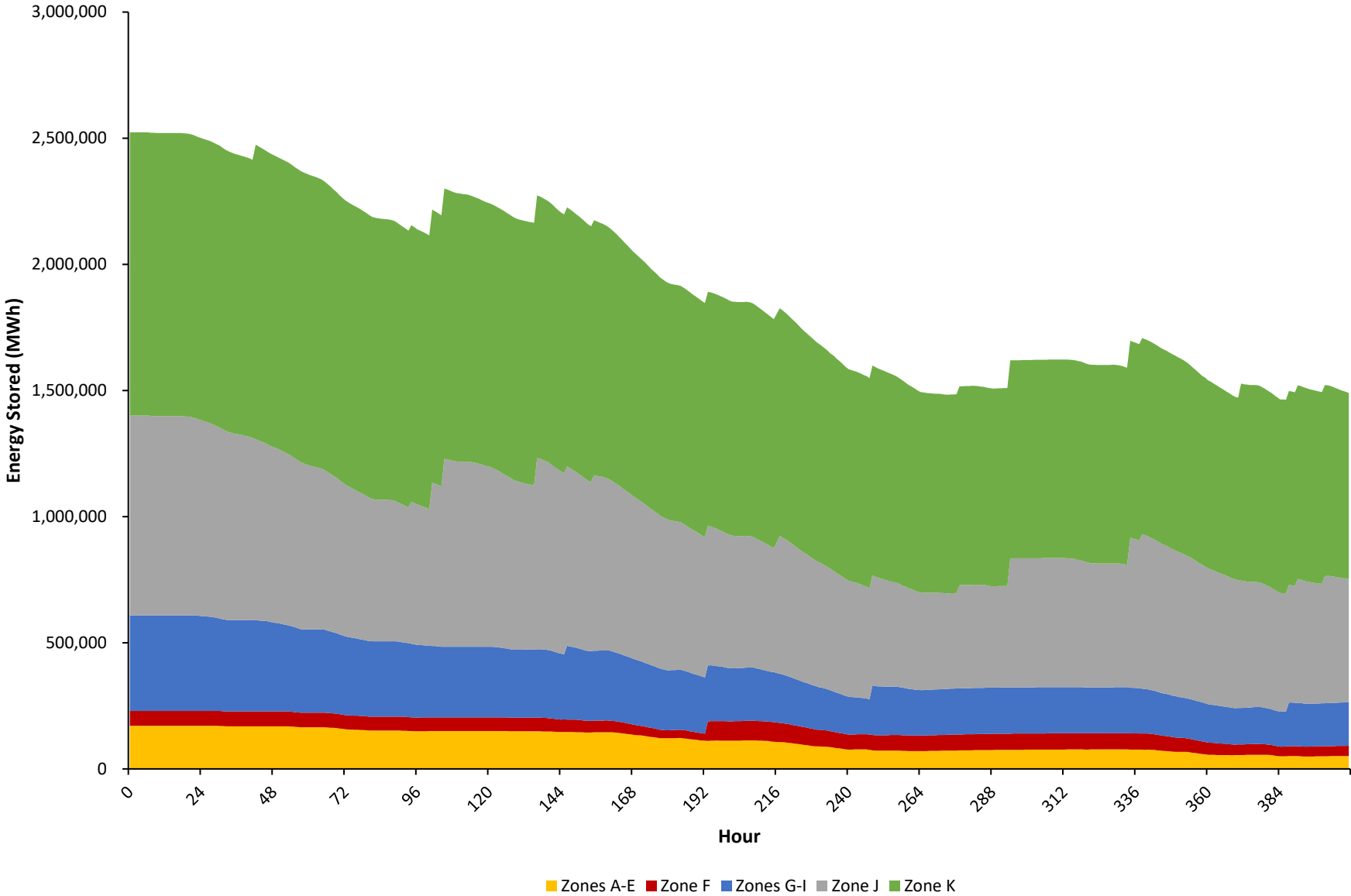


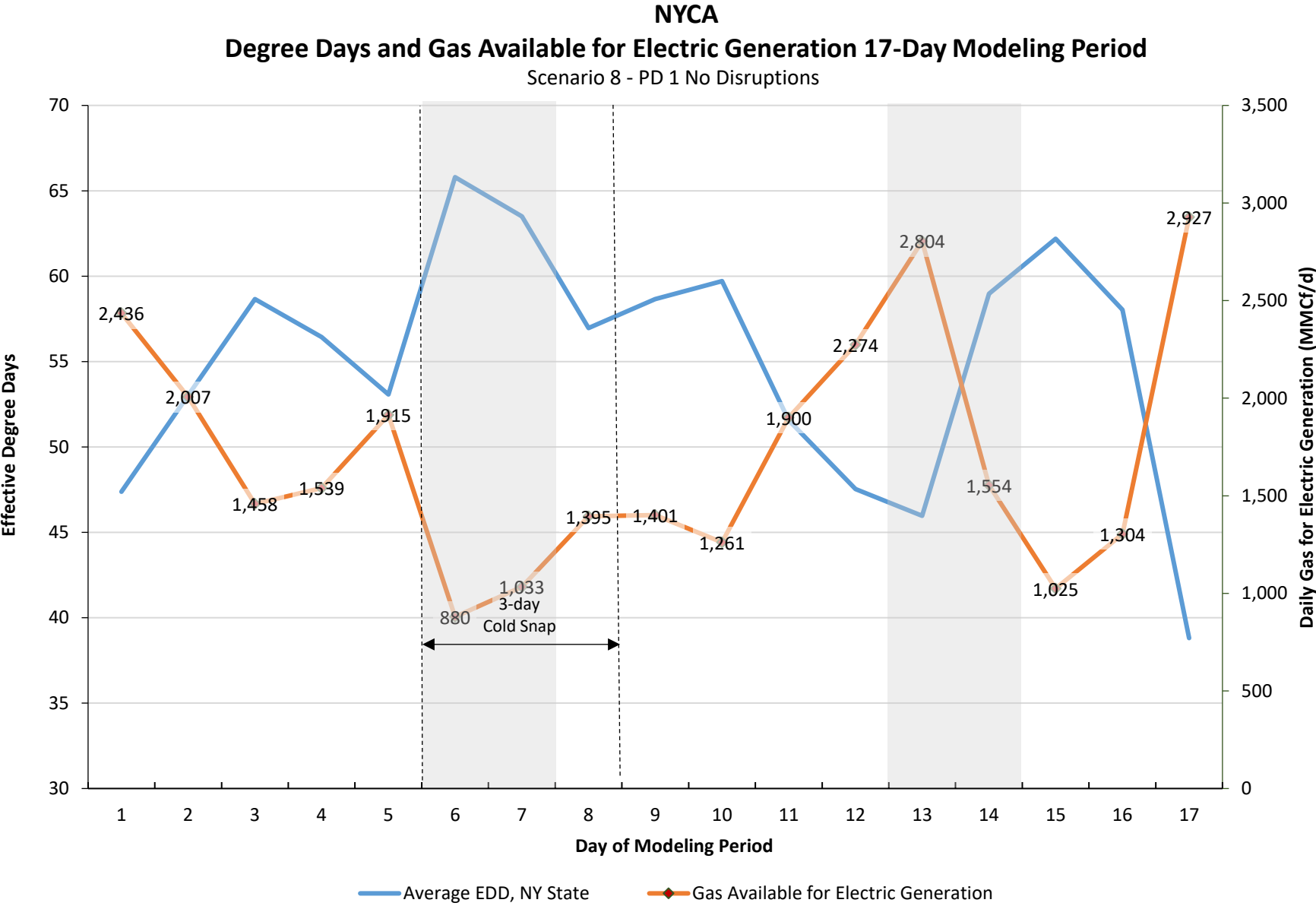


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 8 - PD 1 No Disruptions

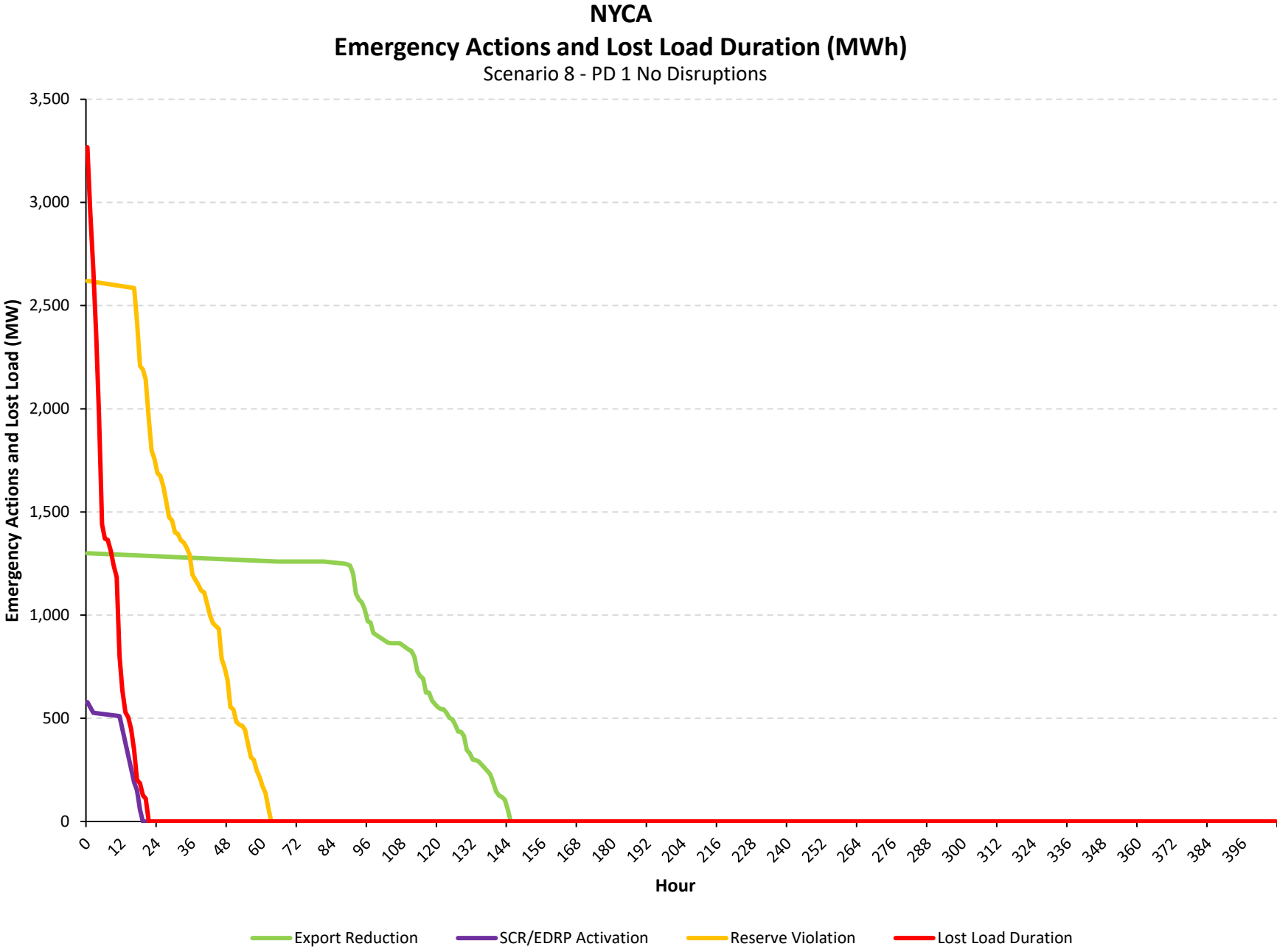


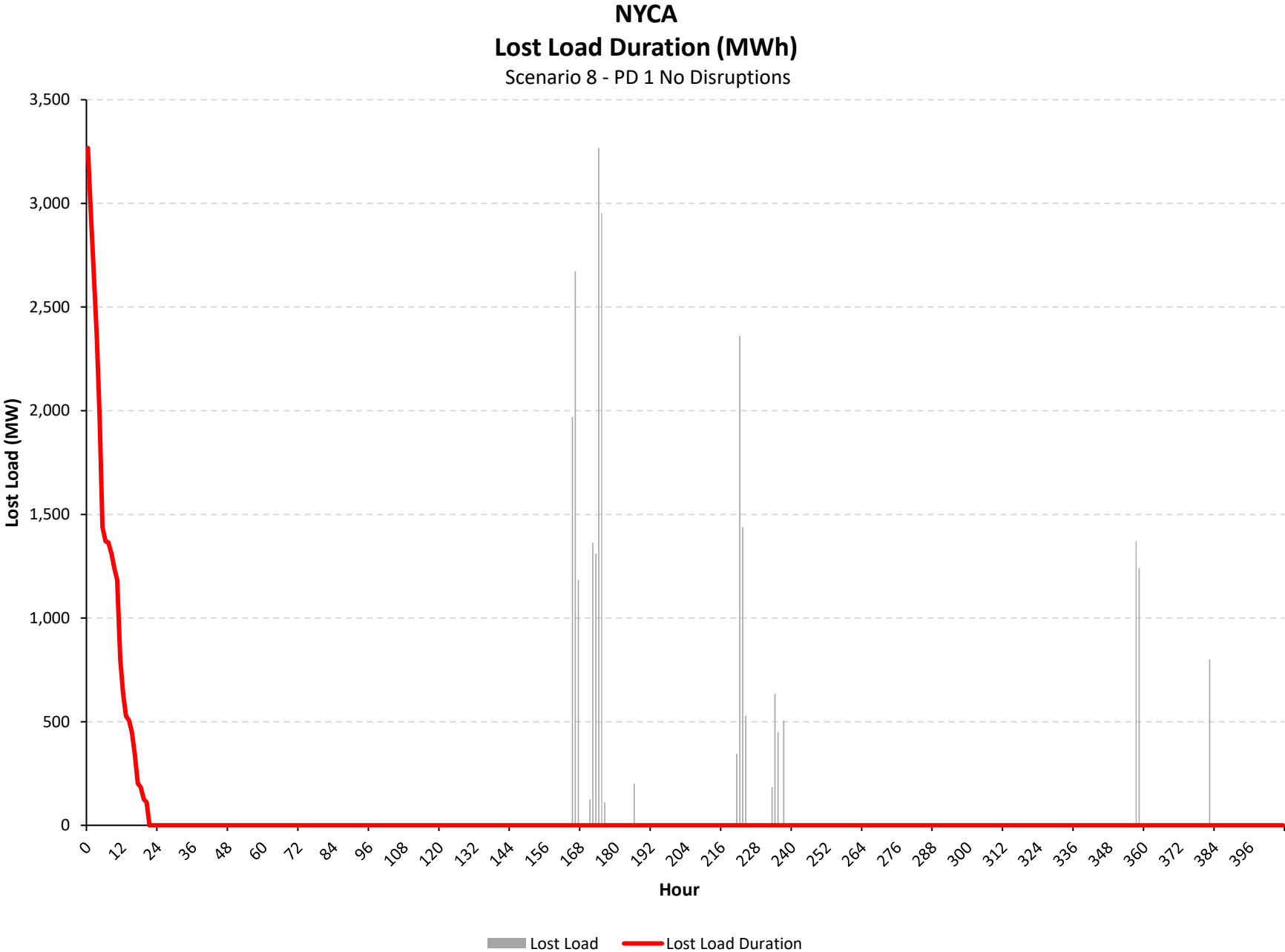
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 8 - PD 1 No Disruptions





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



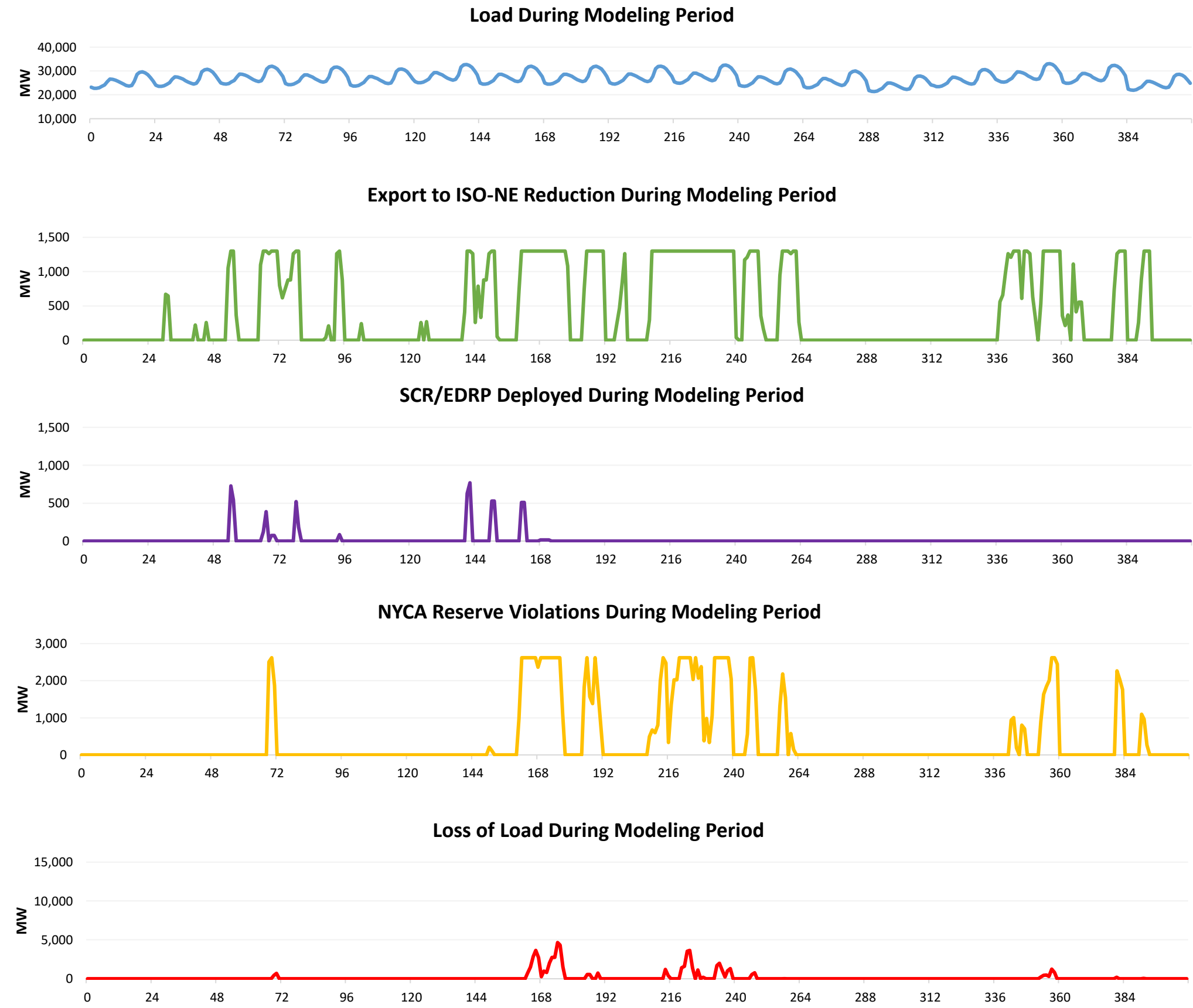


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 8 - PD 2 High Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 8 - PD 2 High Outage



Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	163
Total MWh	170,653
Avg. MW	418.3

SCR Deployment	
Total Hrs.	19
Total MWh	6,254
Avg. MW	15.3

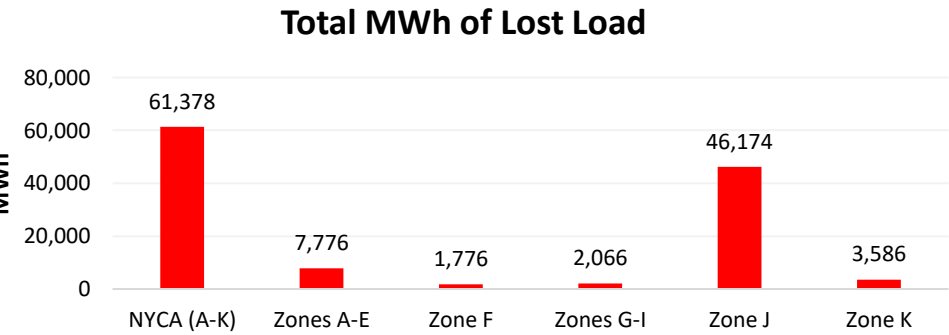
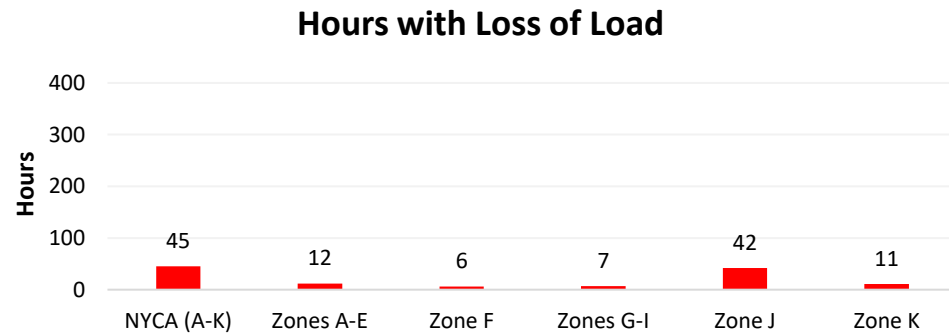
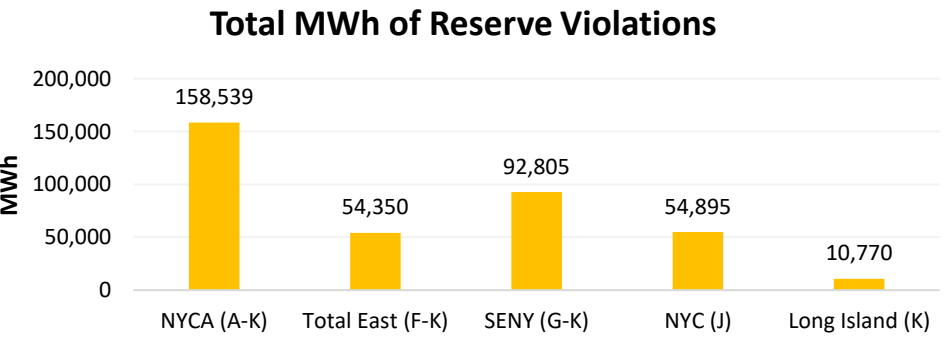
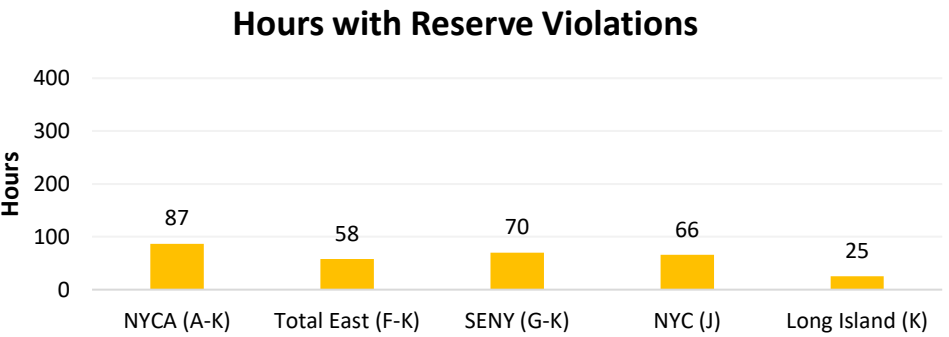
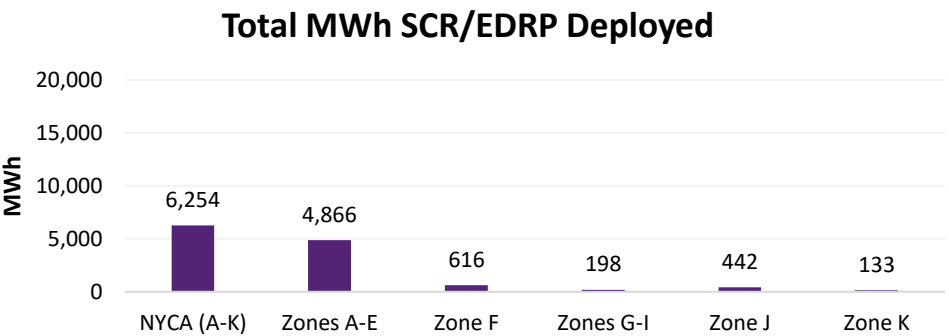
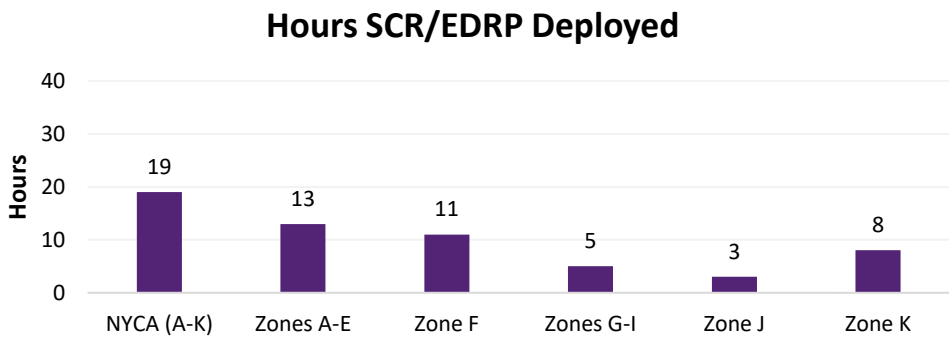
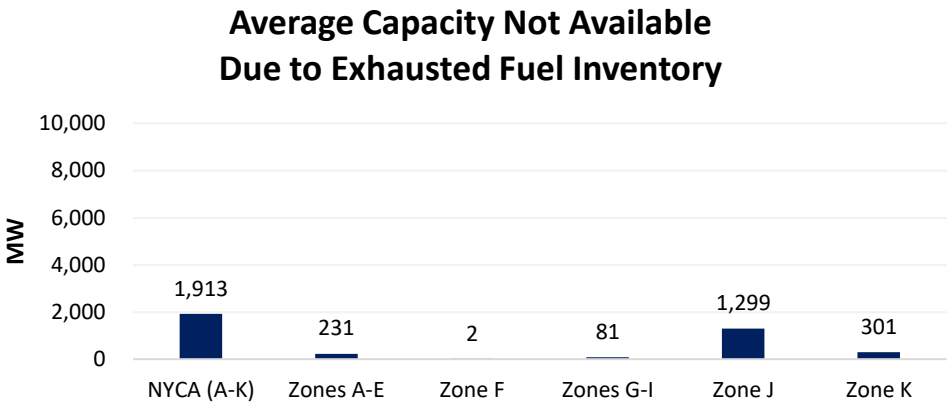
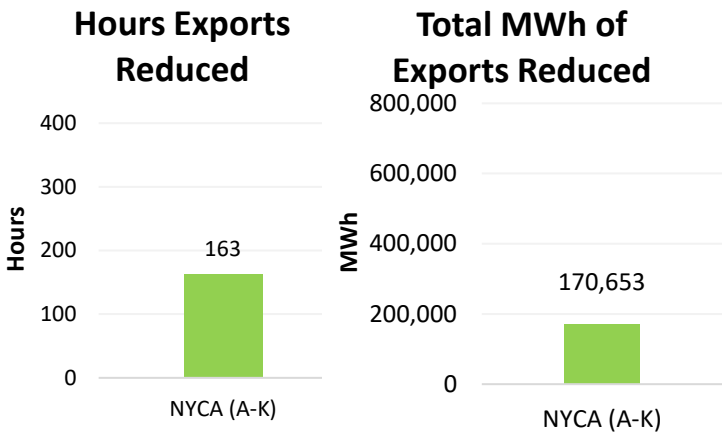
Reserve Violations	
Total Hrs.	87
Total MWh	158,539
Avg. MW	388.6
First Hour with Viol.	69

Loss of Load	
Total Hrs.	45
Total MWh	61,378
Avg. MW	150.4
First Hour with Losses	69

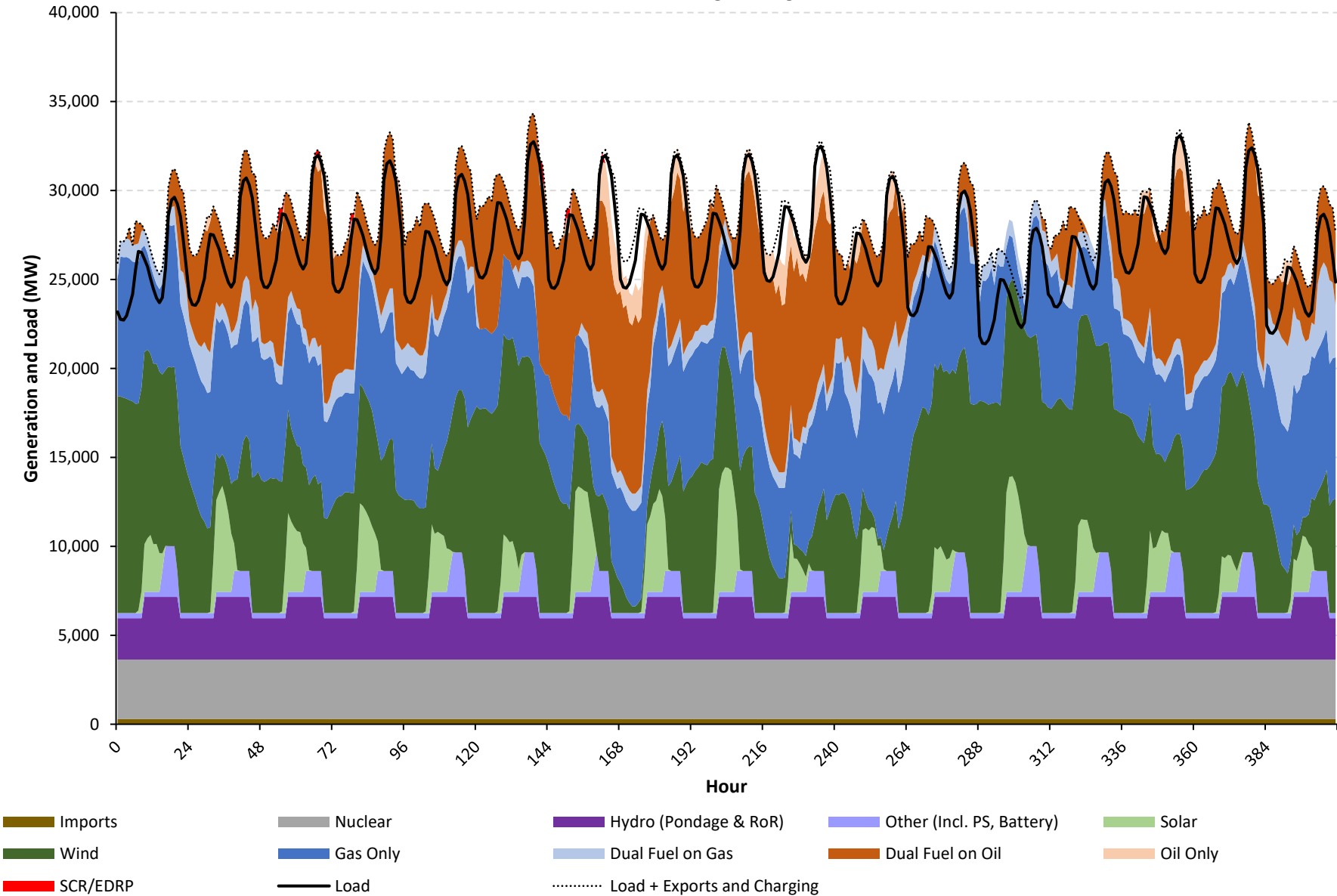
Full Period Results Summary

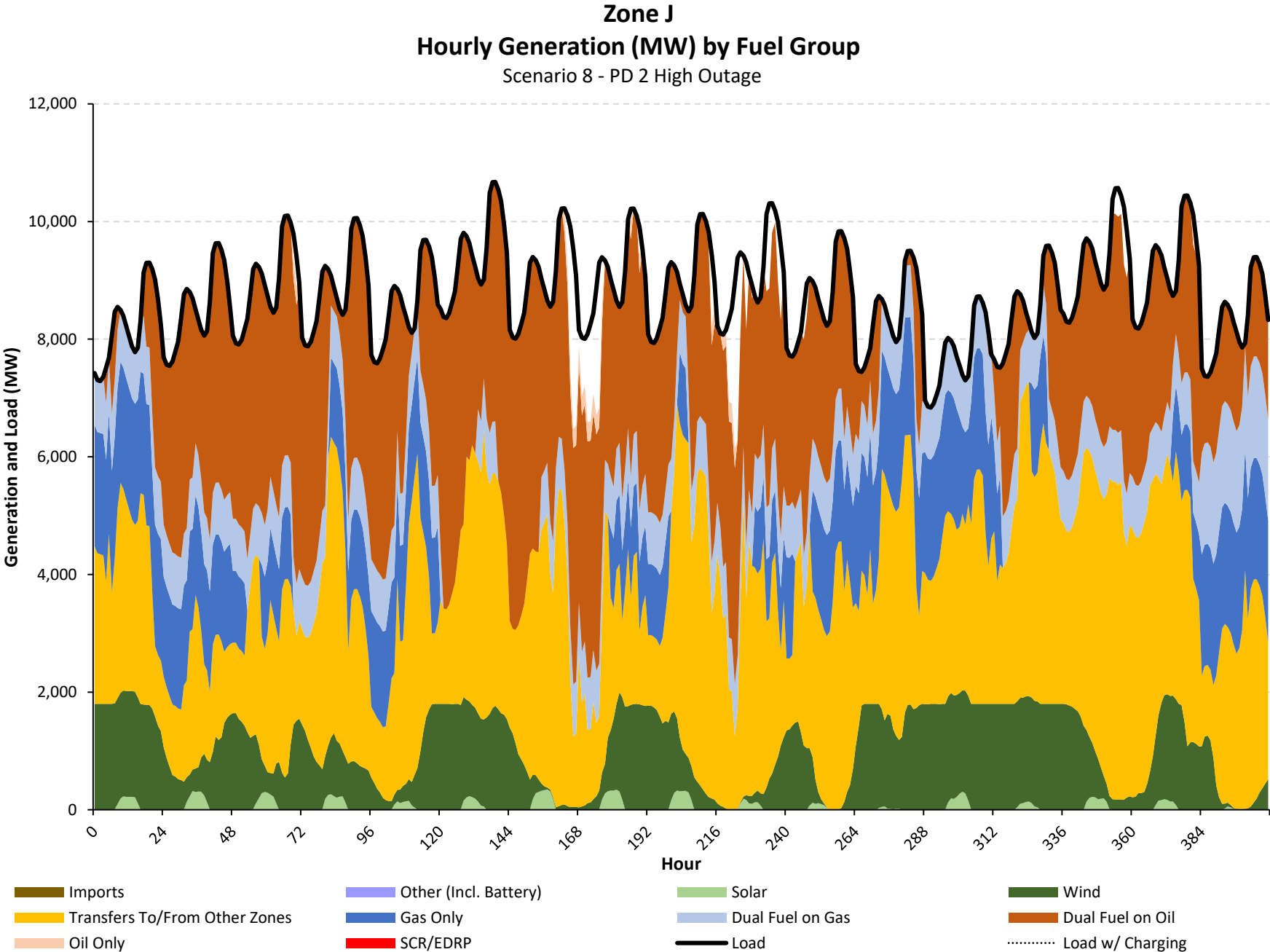
Case Name: Scenario 8 - PD 2 High Outage

Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

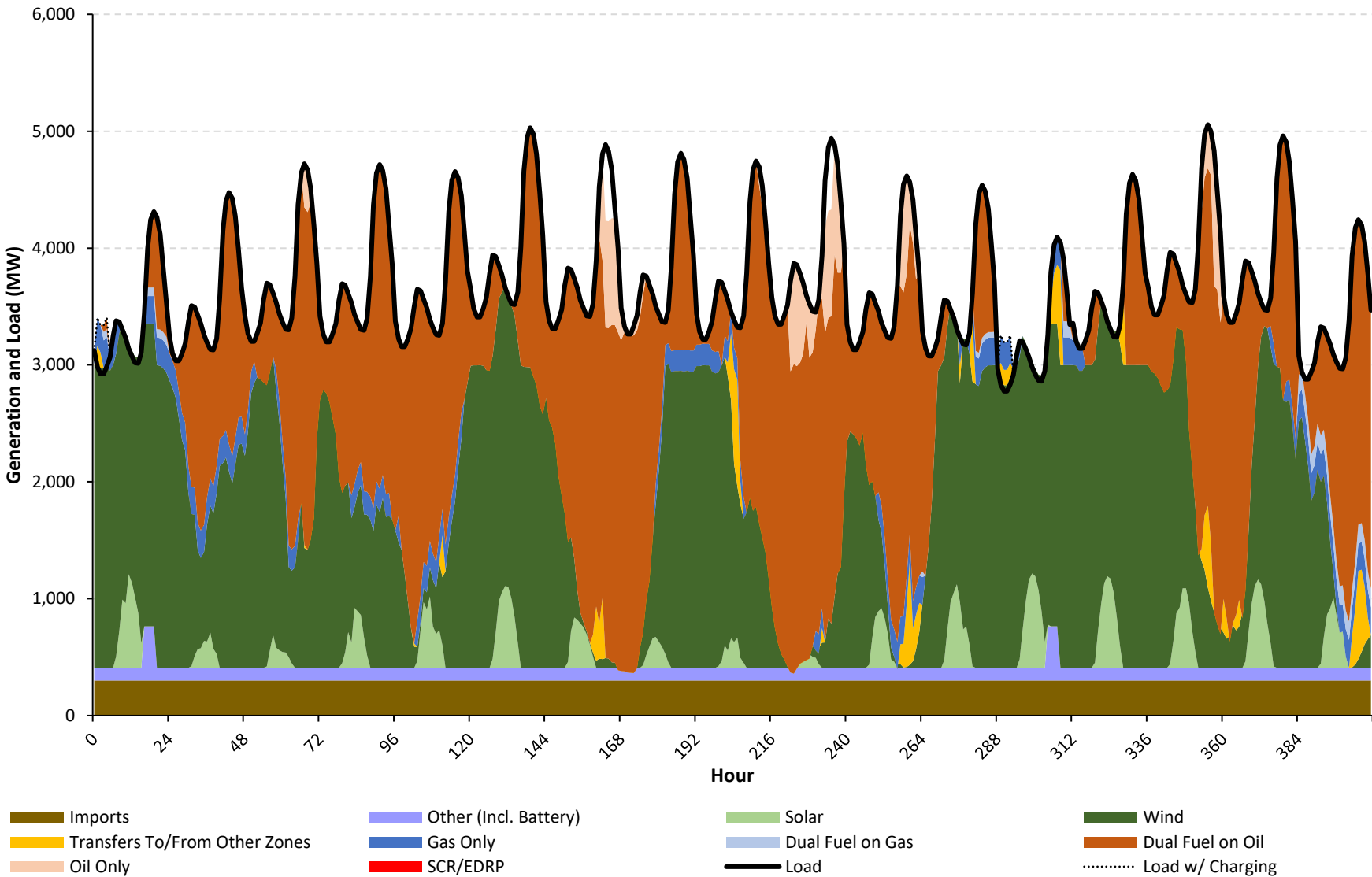


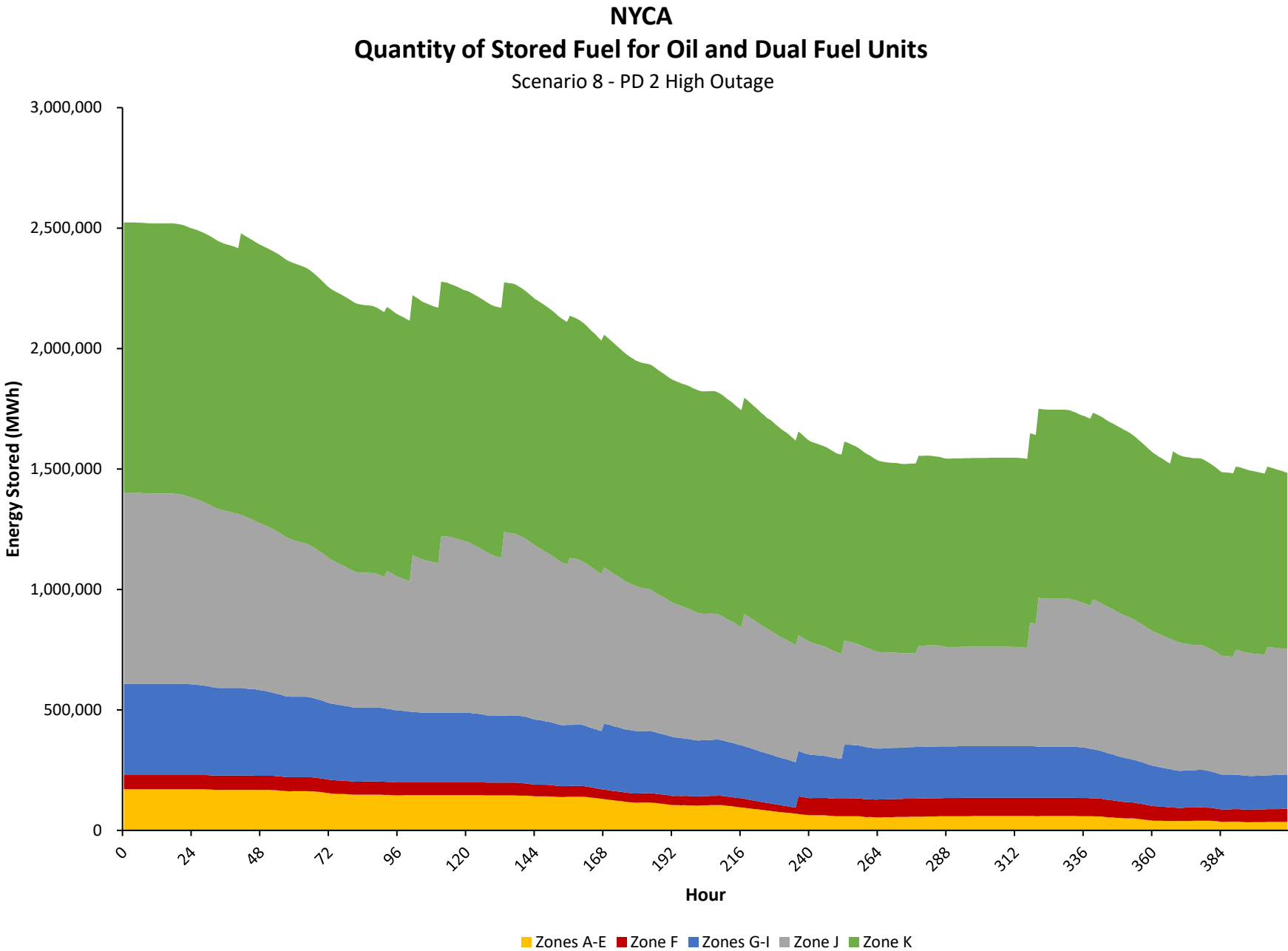
NYCA
Hourly Generation (MWh) by Fuel Group
Scenario 8 - PD 2 High Outage

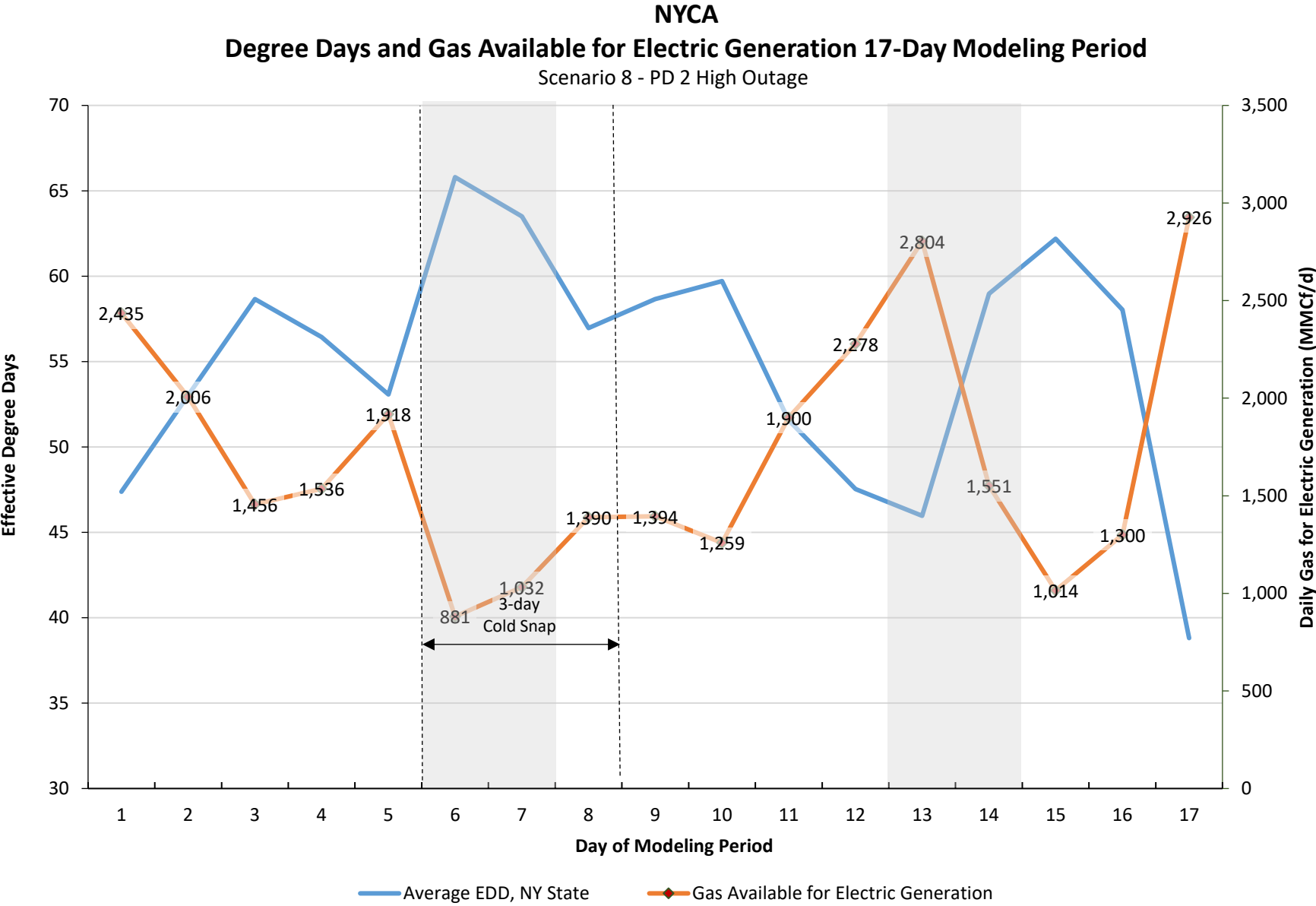




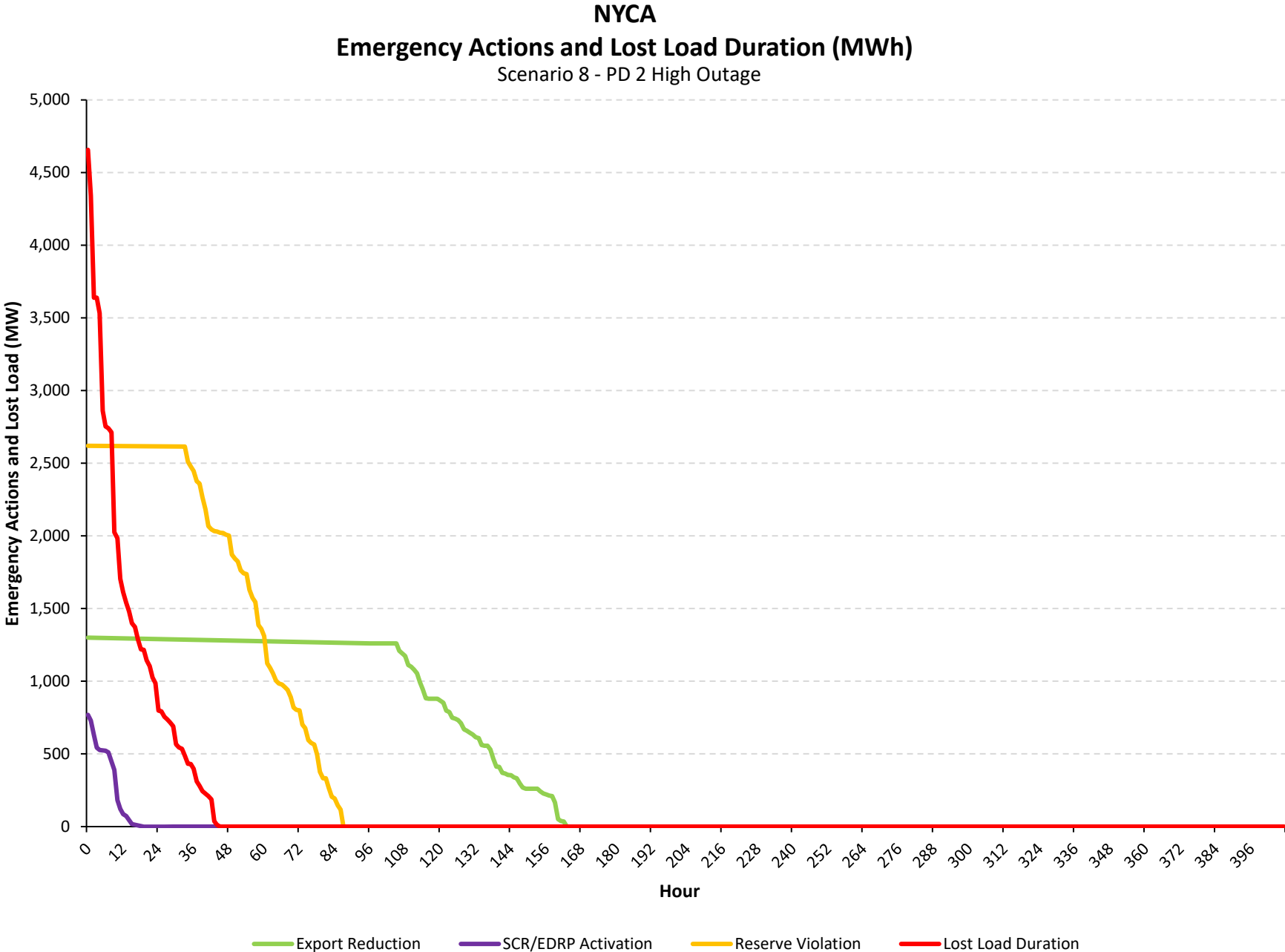
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 8 - PD 2 High Outage

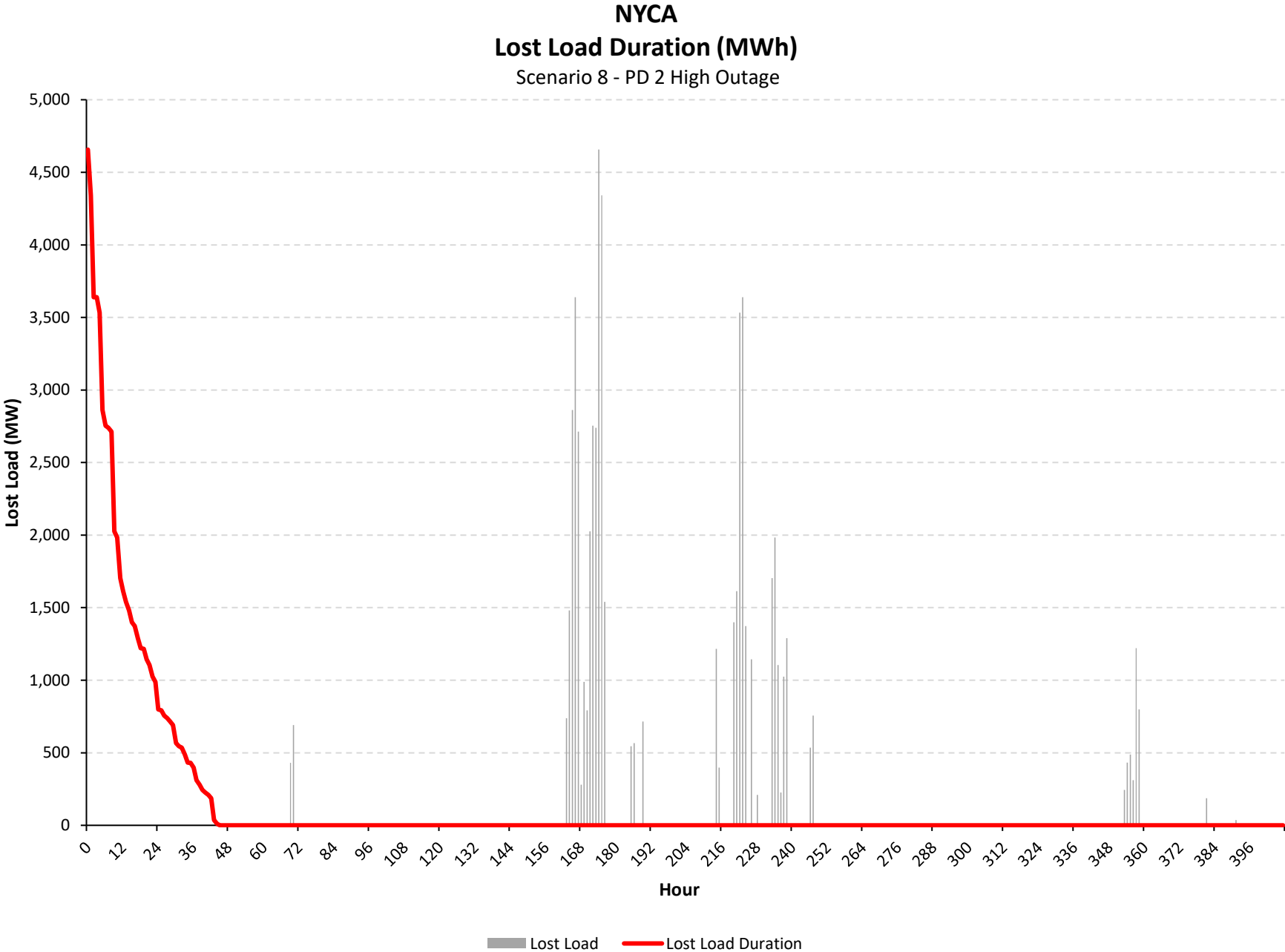






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



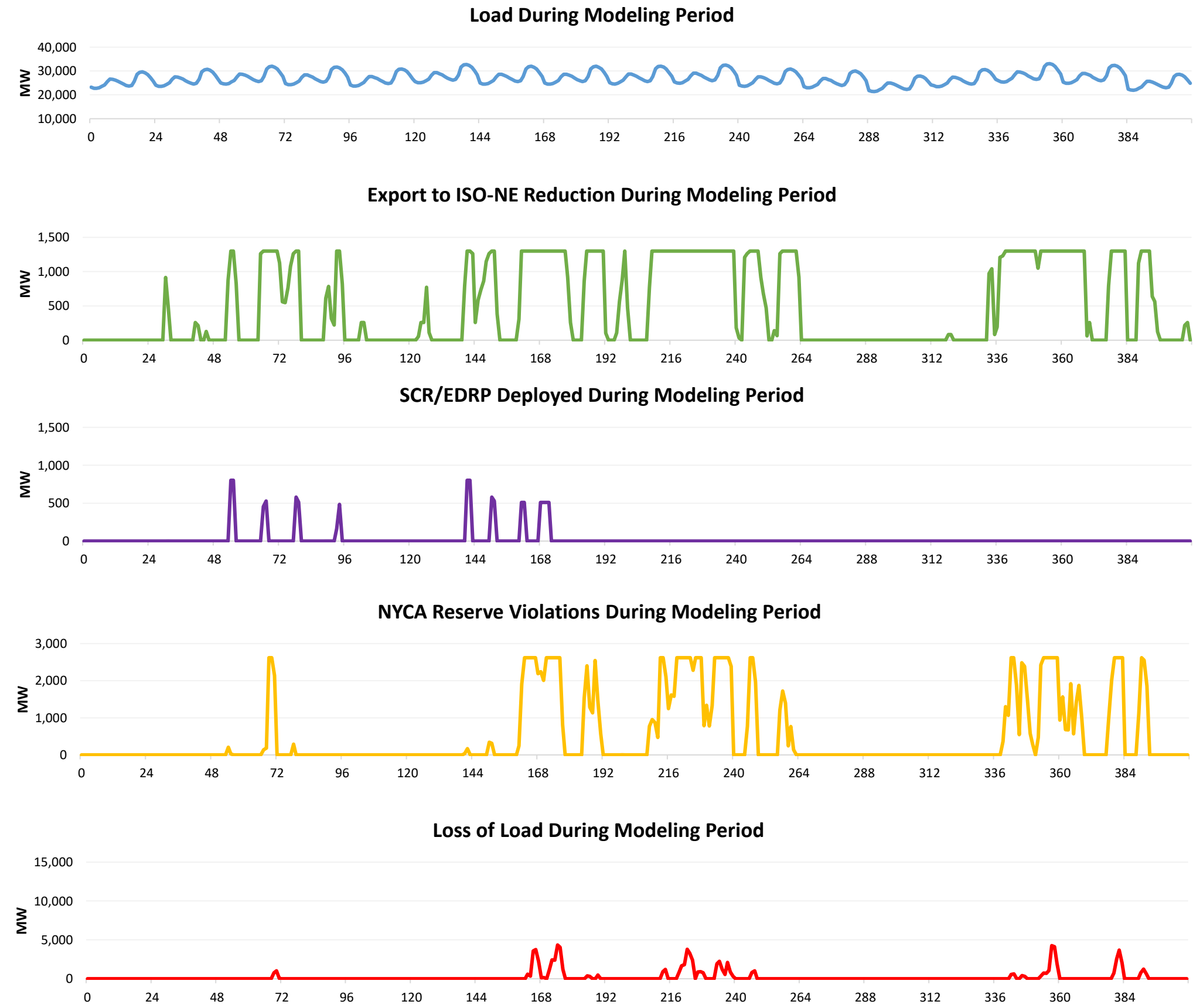


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 8 - PD 3 SENY Deactivation (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 8 - PD 3 SENY Deactivation



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	196
Total MWh	202,014
Avg. MW	495.1

SCR Deployment	
Total Hrs.	18
Total MWh	10,093
Avg. MW	24.7

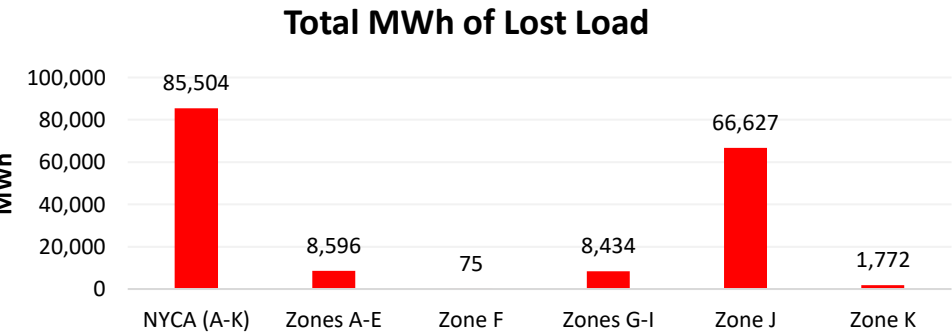
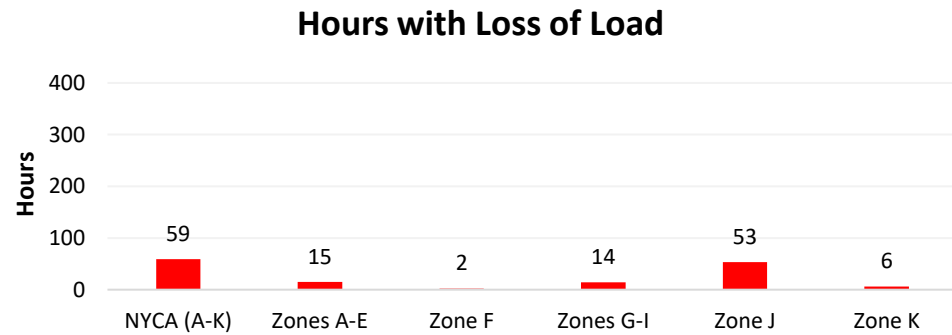
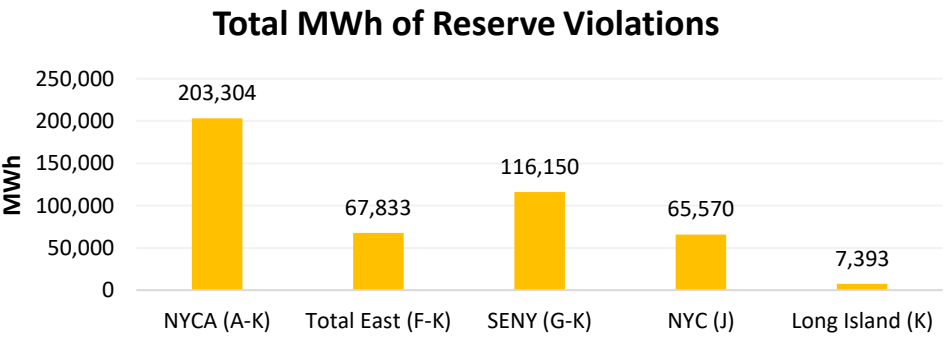
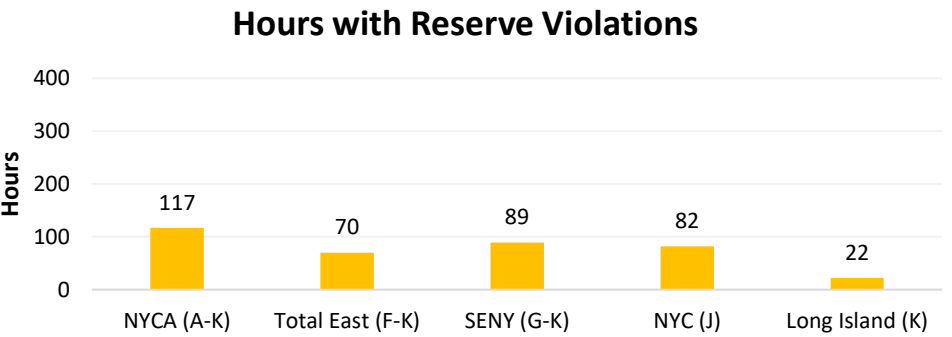
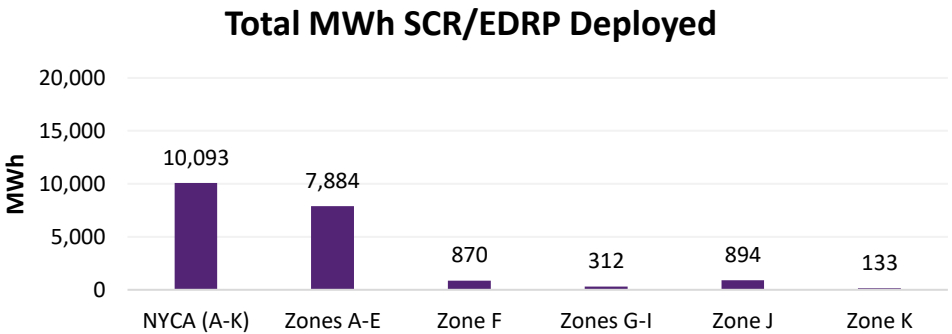
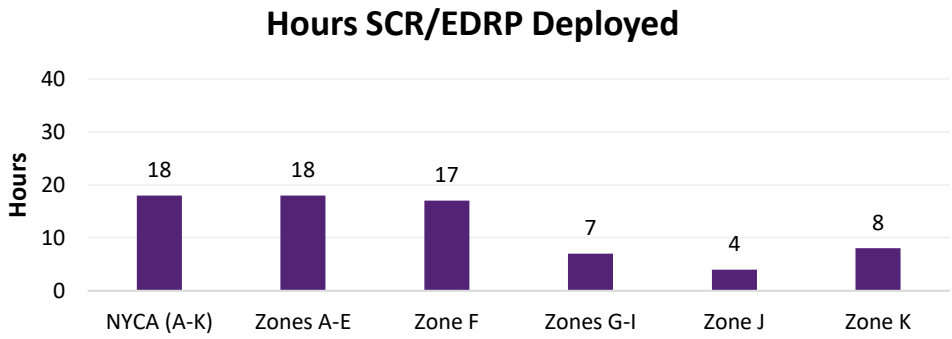
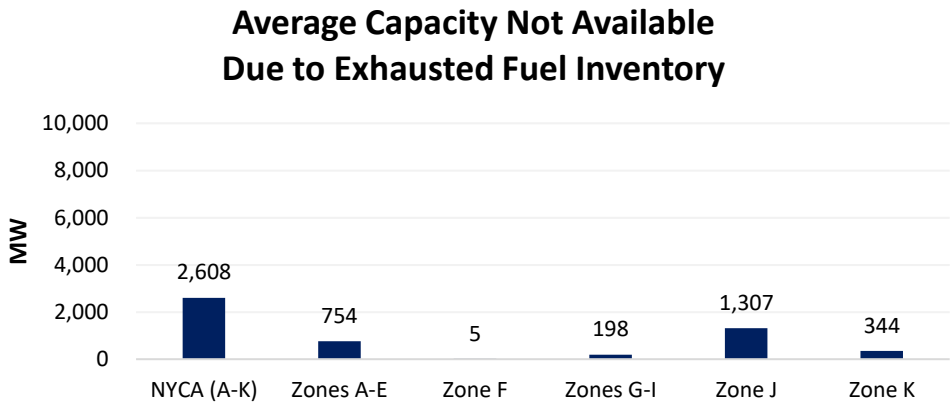
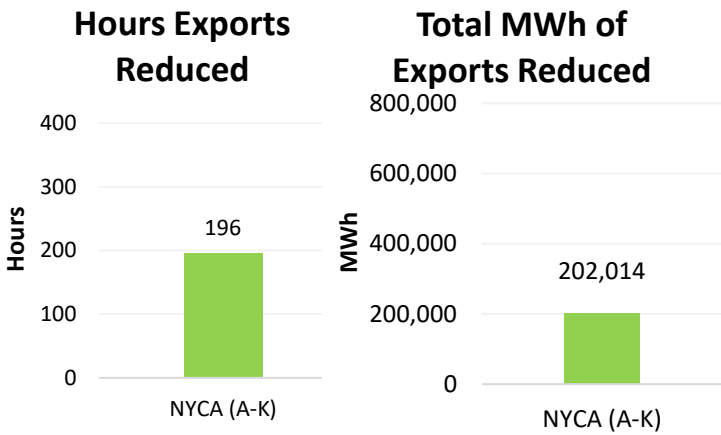
Reserve Violations	
Total Hrs.	117
Total MWh	203,304
Avg. MW	498.3
First Hour with Viol.	54

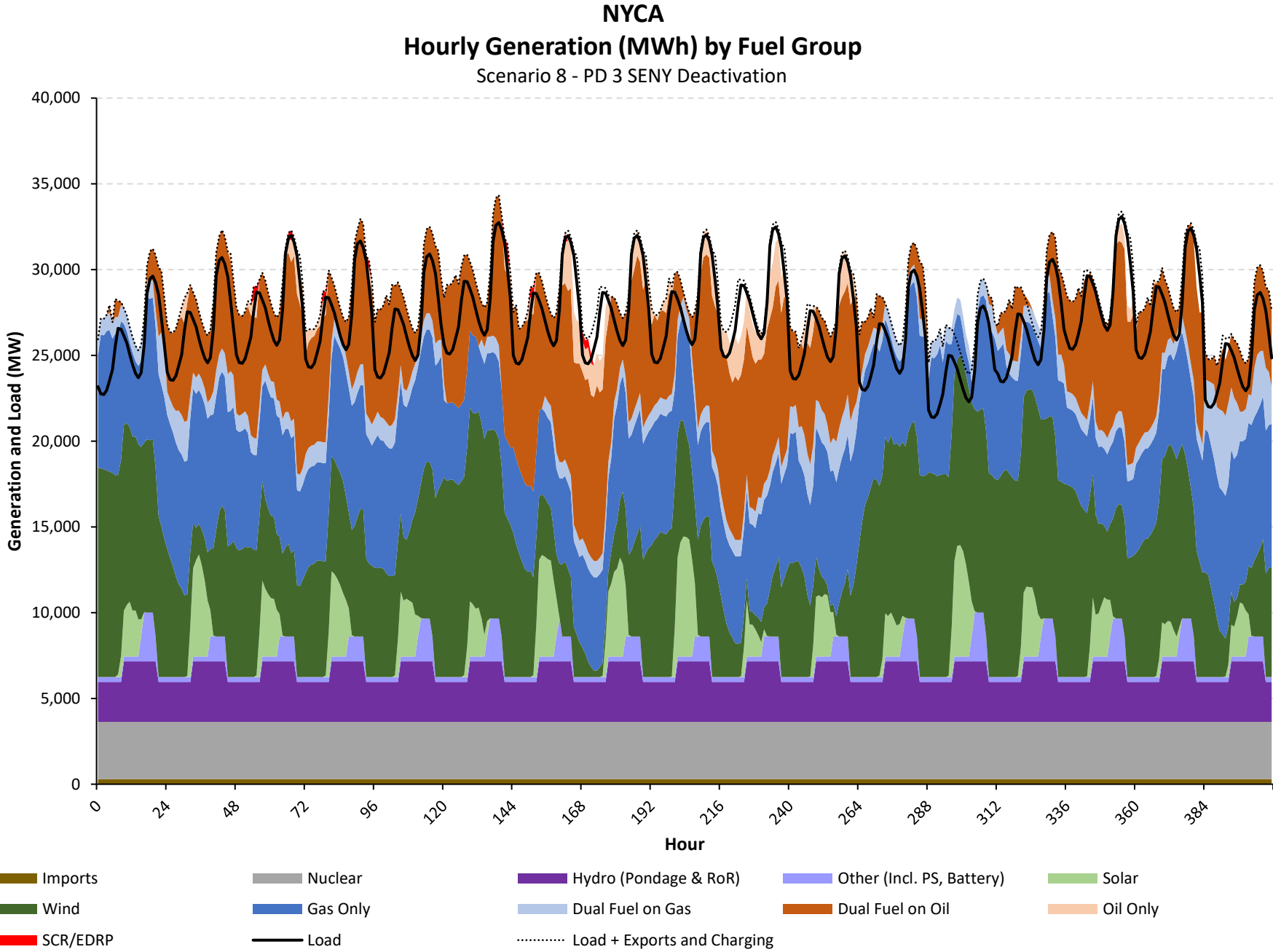
Loss of Load	
Total Hrs.	59
Total MWh	85,504
Avg. MW	209.6
First Hour with Losses	69

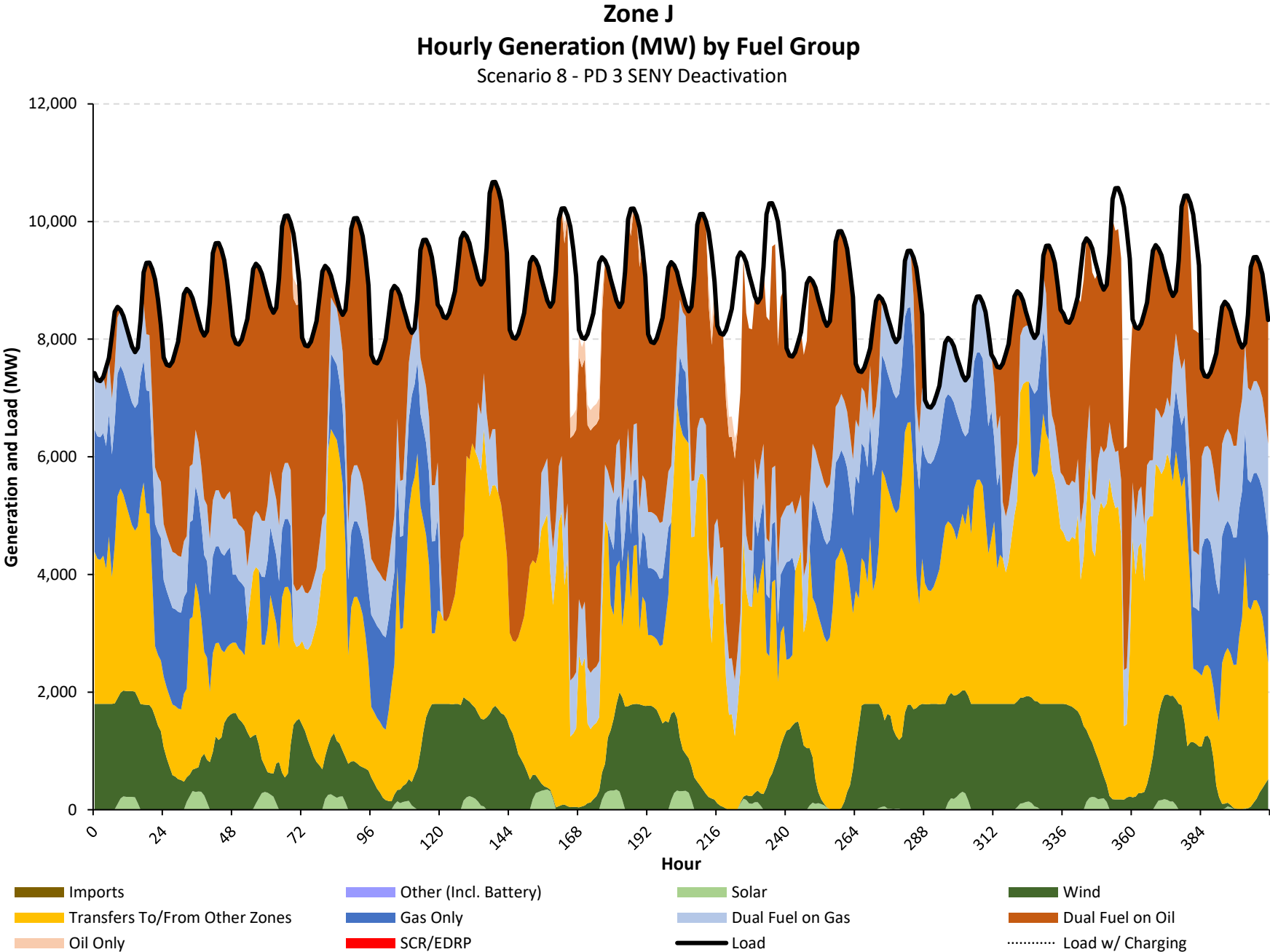
Full Period Results Summary

Case Name: Scenario 8 - PD 3 SENY Deactivation

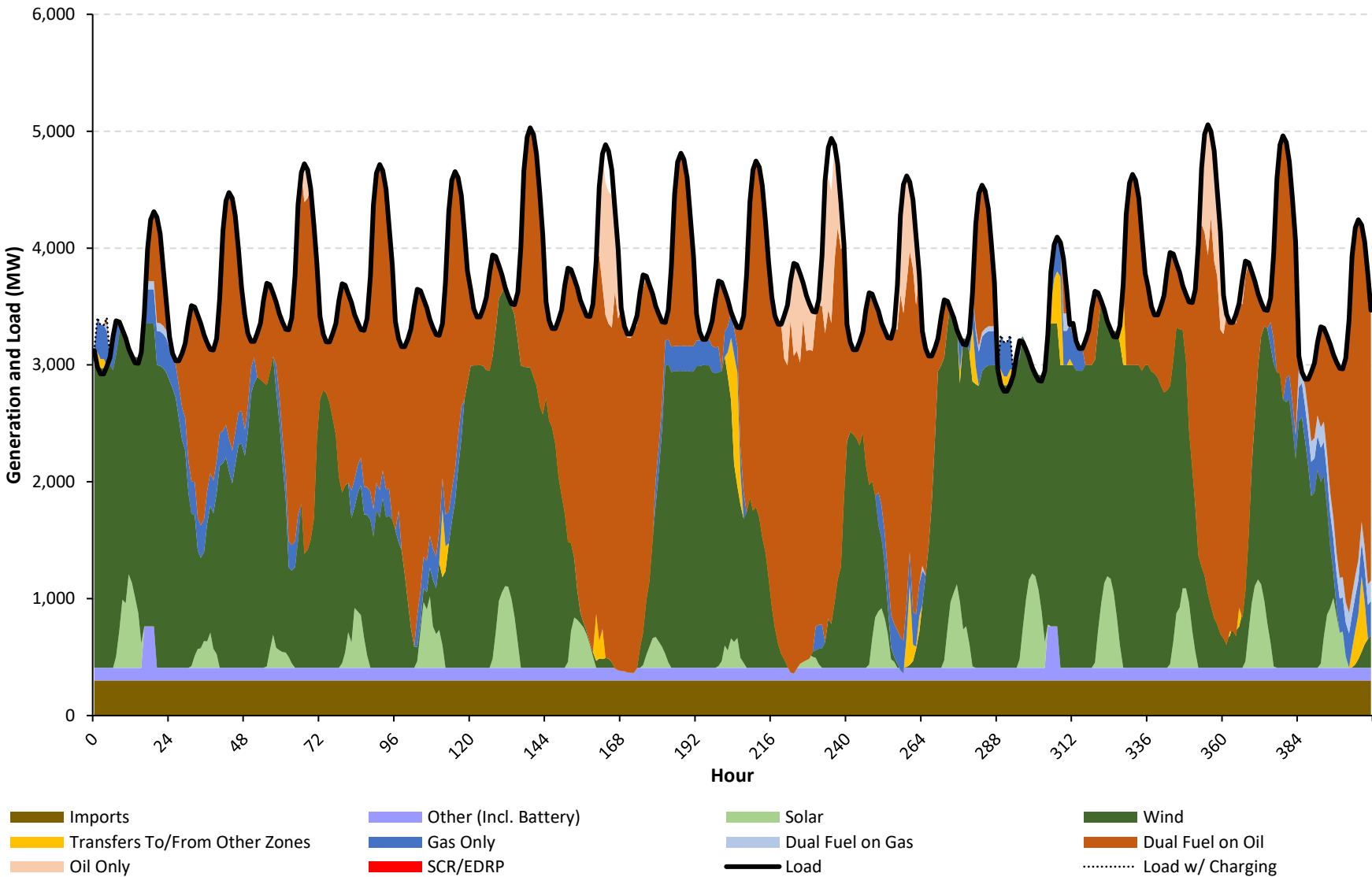
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	Roseton
Import Scenario:	Net Zero

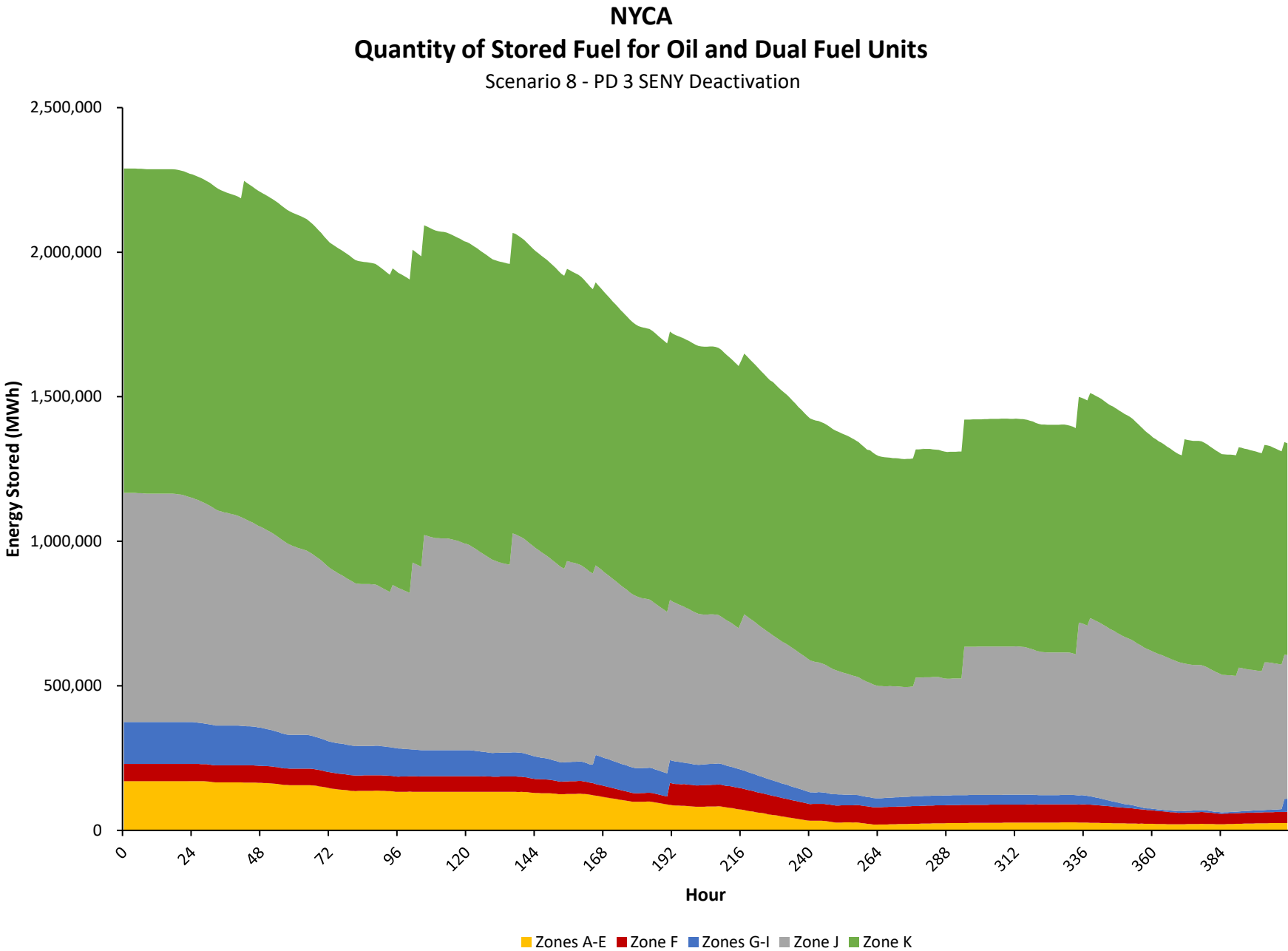


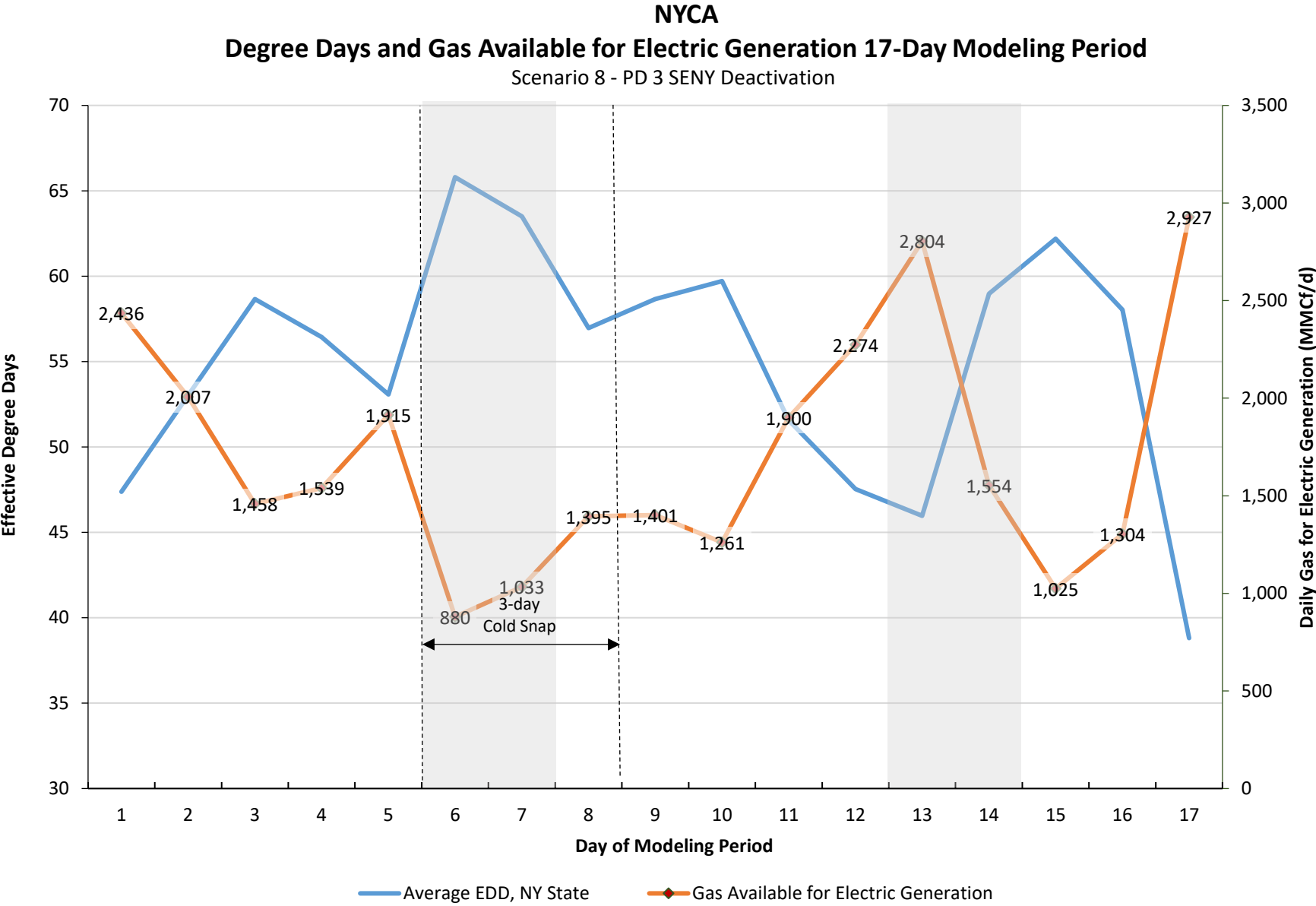




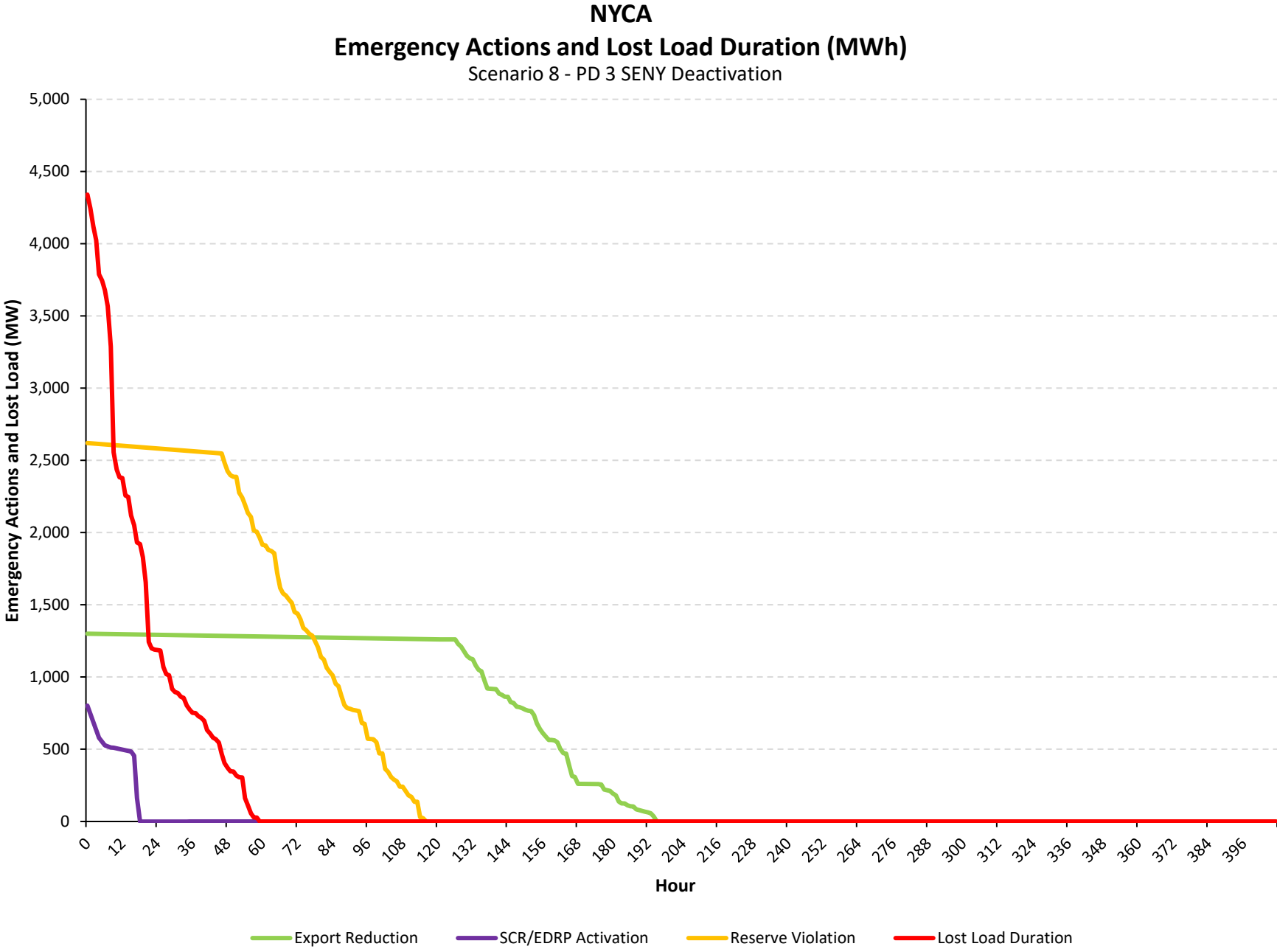
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 8 - PD 3 SENY Deactivation

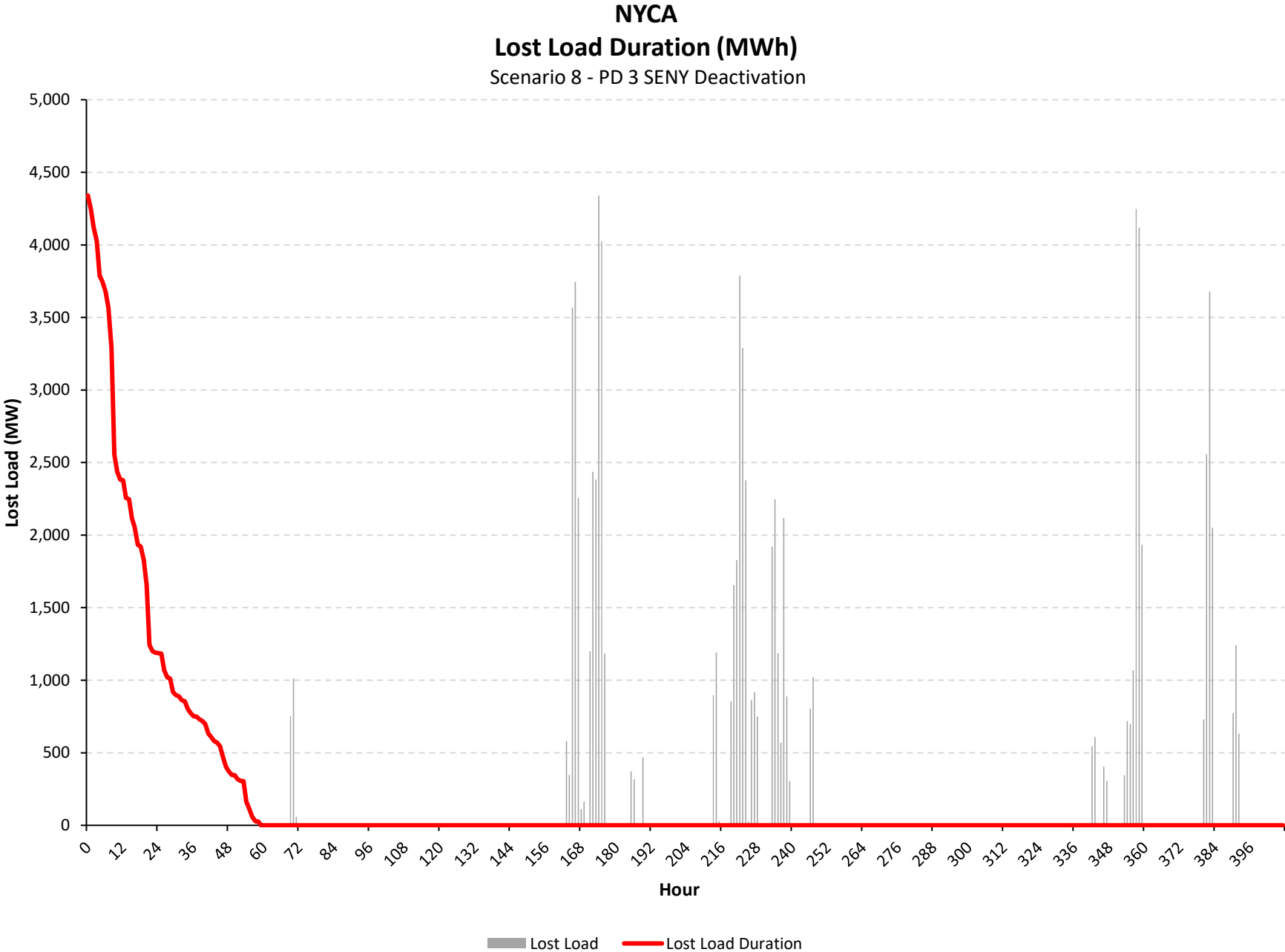






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



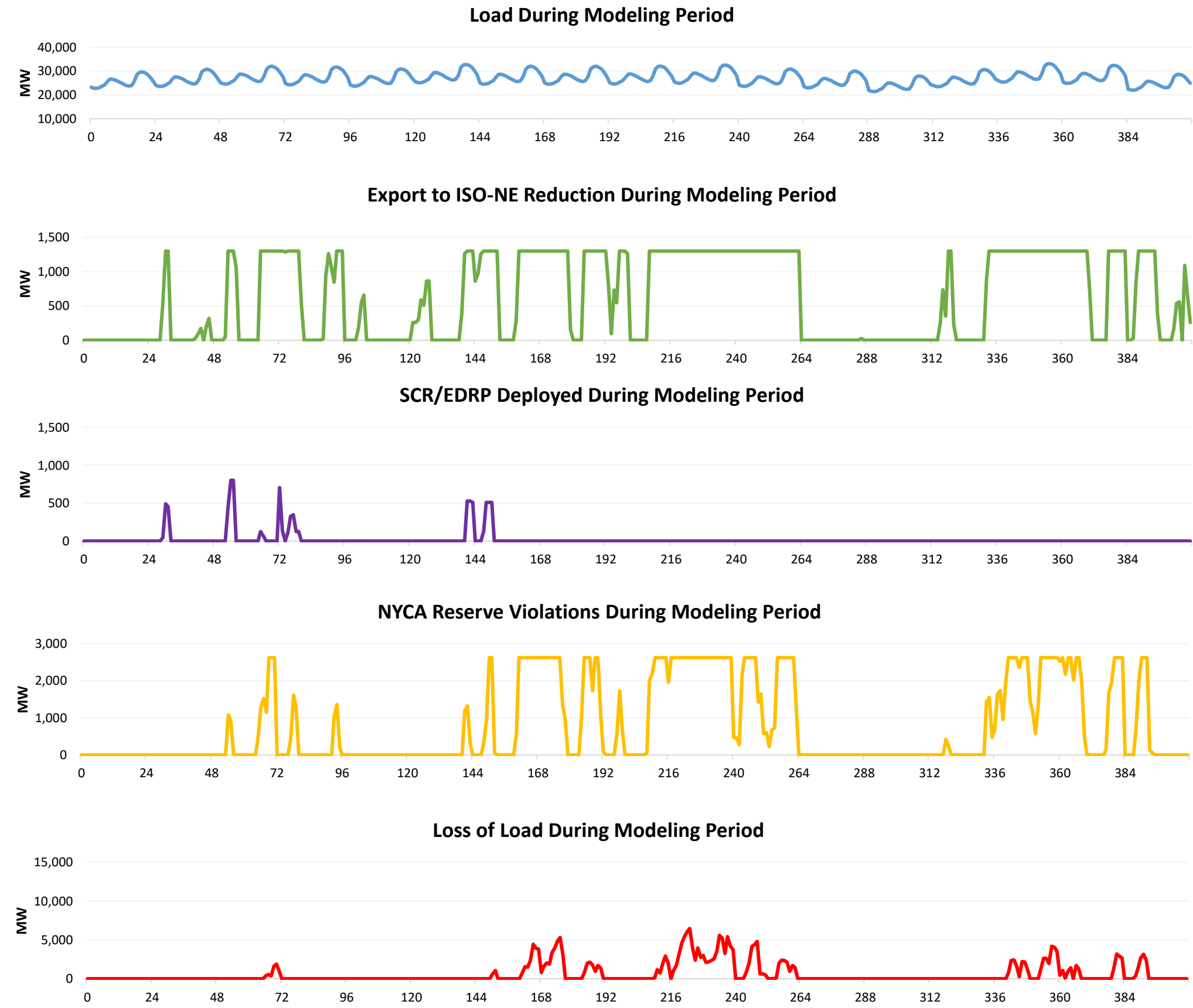


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 8 - PD 4 Nuclear Station Outage (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 8 - PD 4 Nuclear Station Outage



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	225
Total MWh	252,045
Avg. MW	617.8

SCR Deployment	
Total Hrs.	22
Total MWh	8,337
Avg. MW	20.4

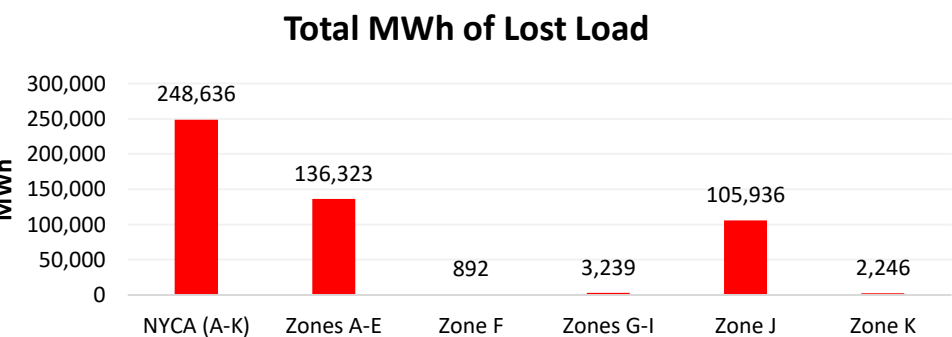
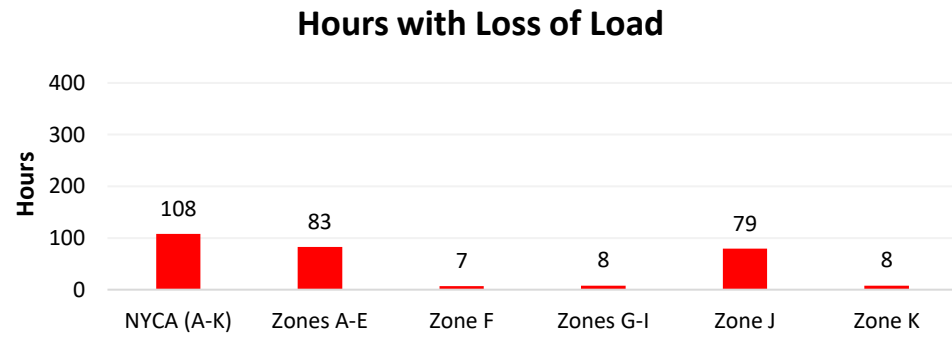
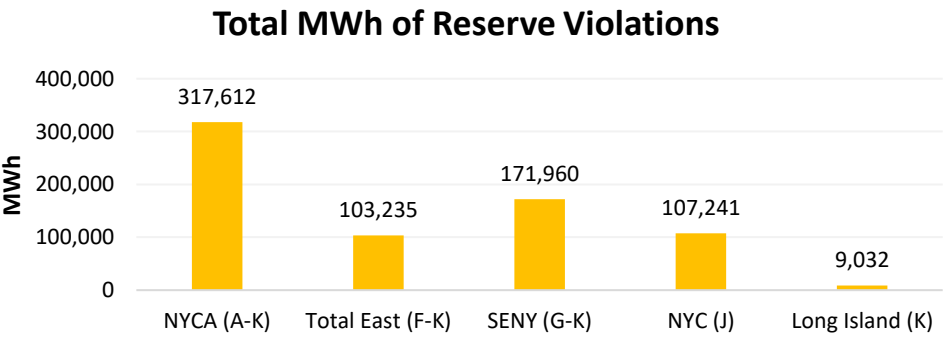
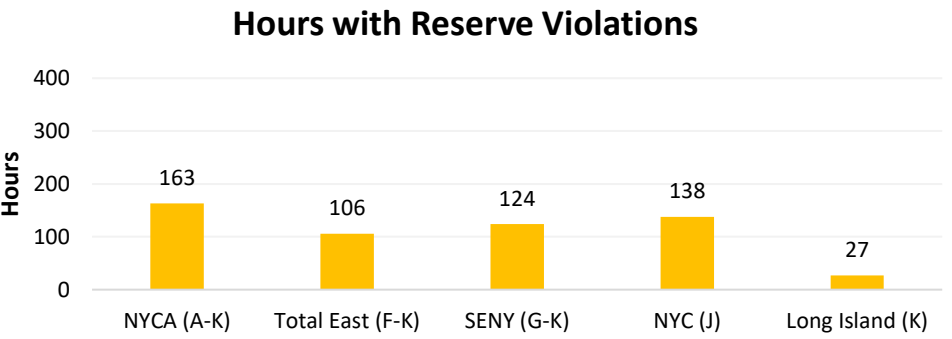
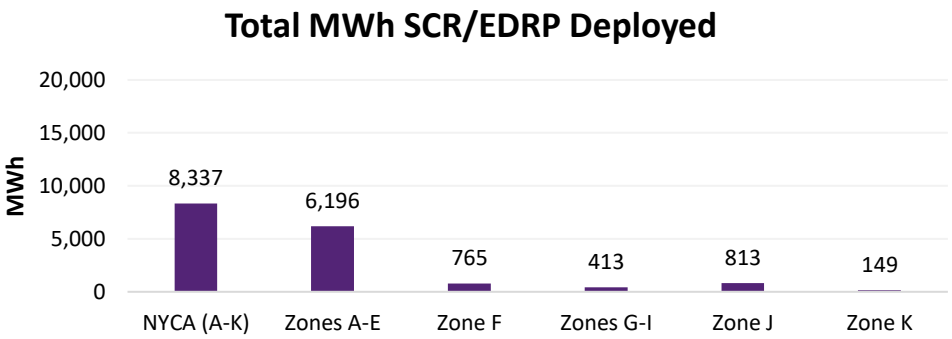
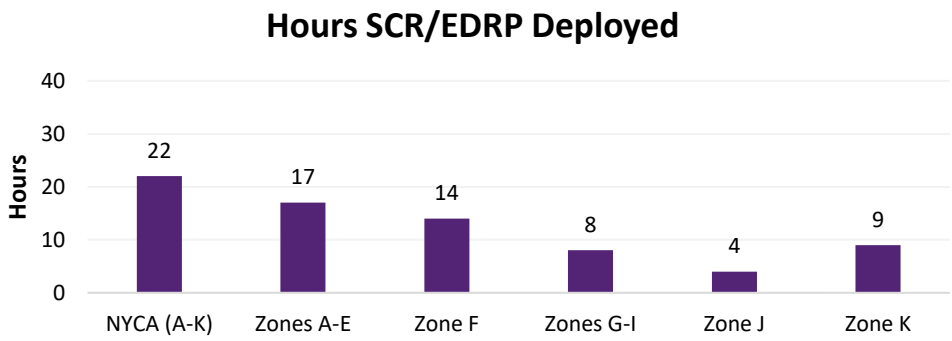
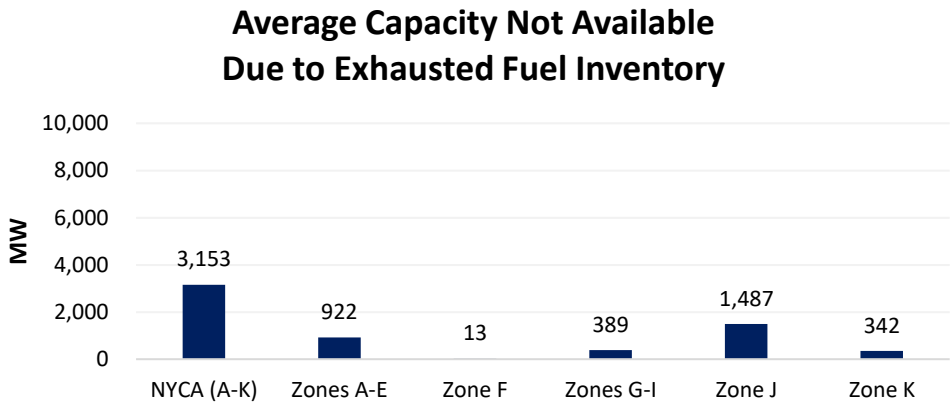
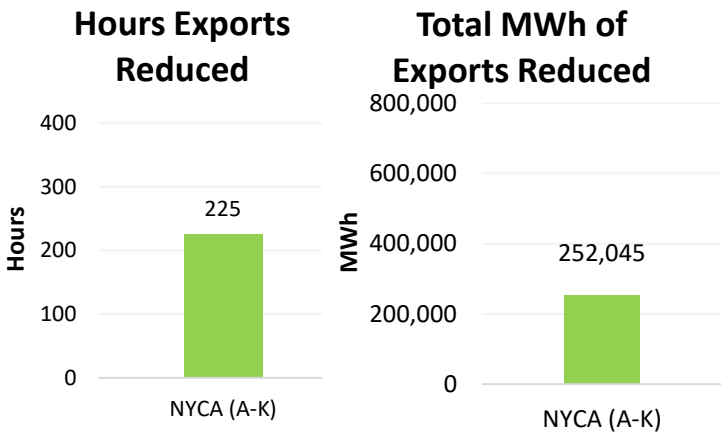
Reserve Violations	
Total Hrs.	163
Total MWh	317,612
Avg. MW	778.5
First Hour with Viol.	31

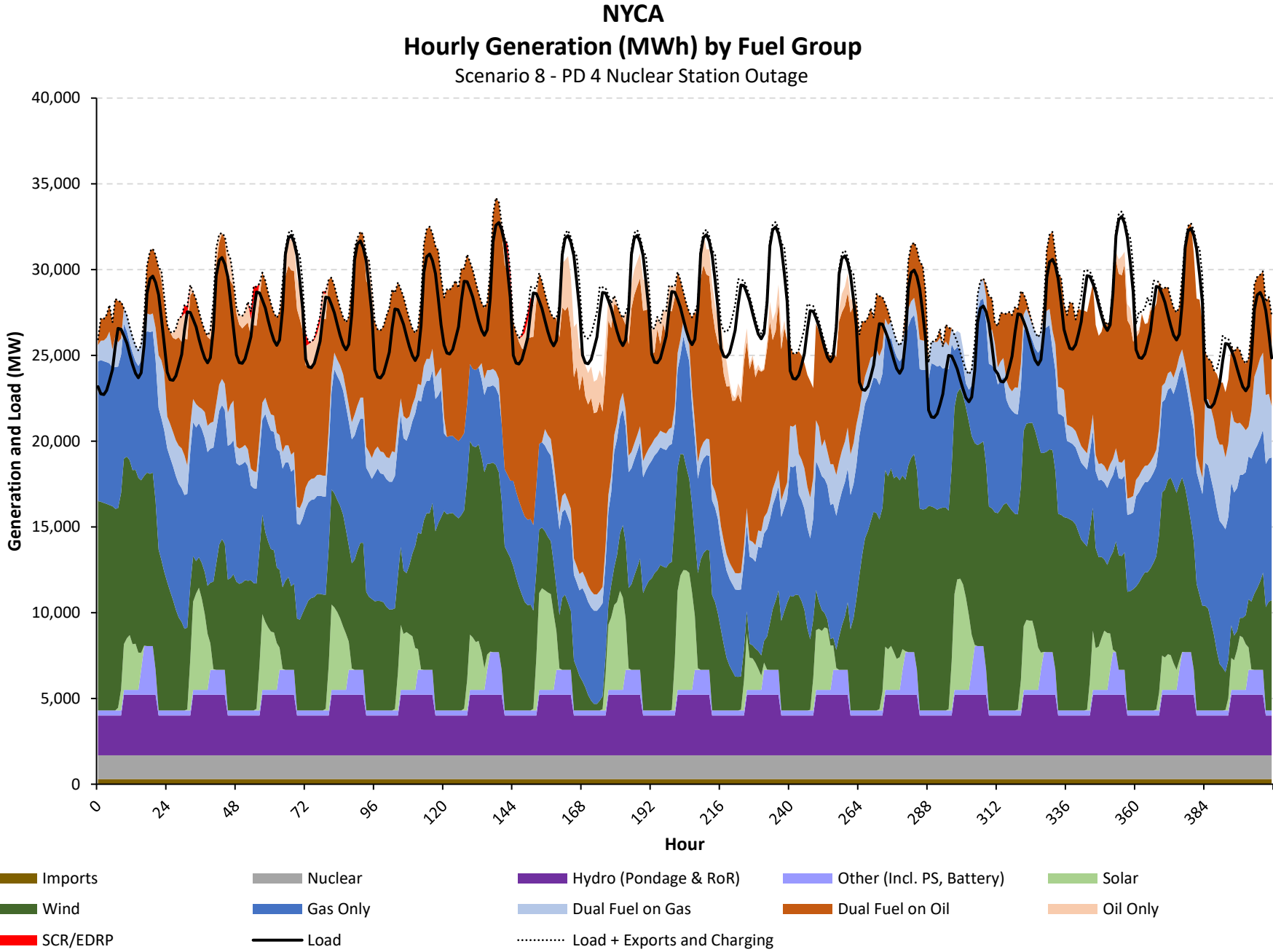
Loss of Load	
Total Hrs.	108
Total MWh	248,636
Avg. MW	609.4
First Hour with Losses	66

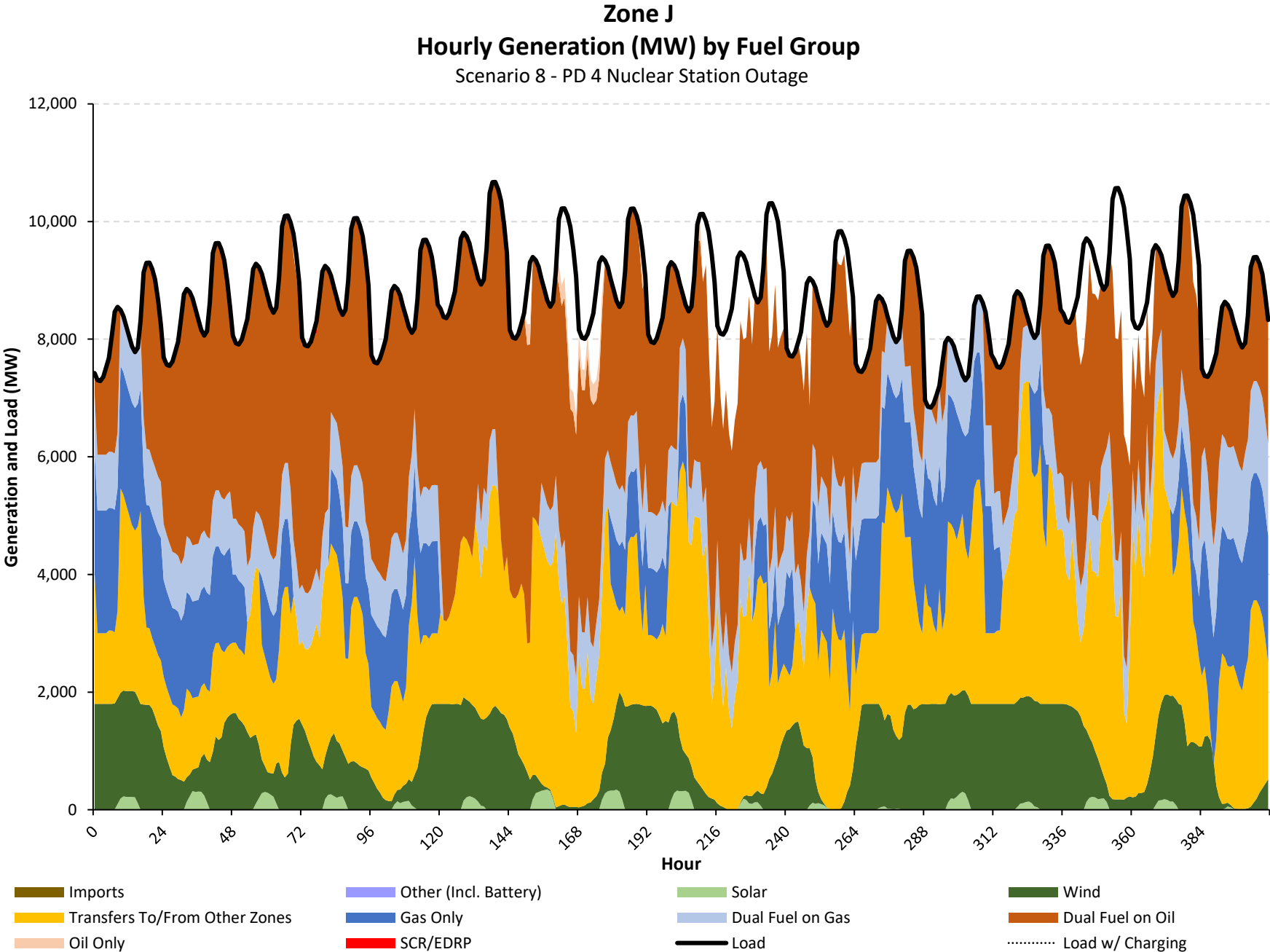
Full Period Results Summary

Case Name: Scenario 8 - PD 4 Nuclear Station Outage

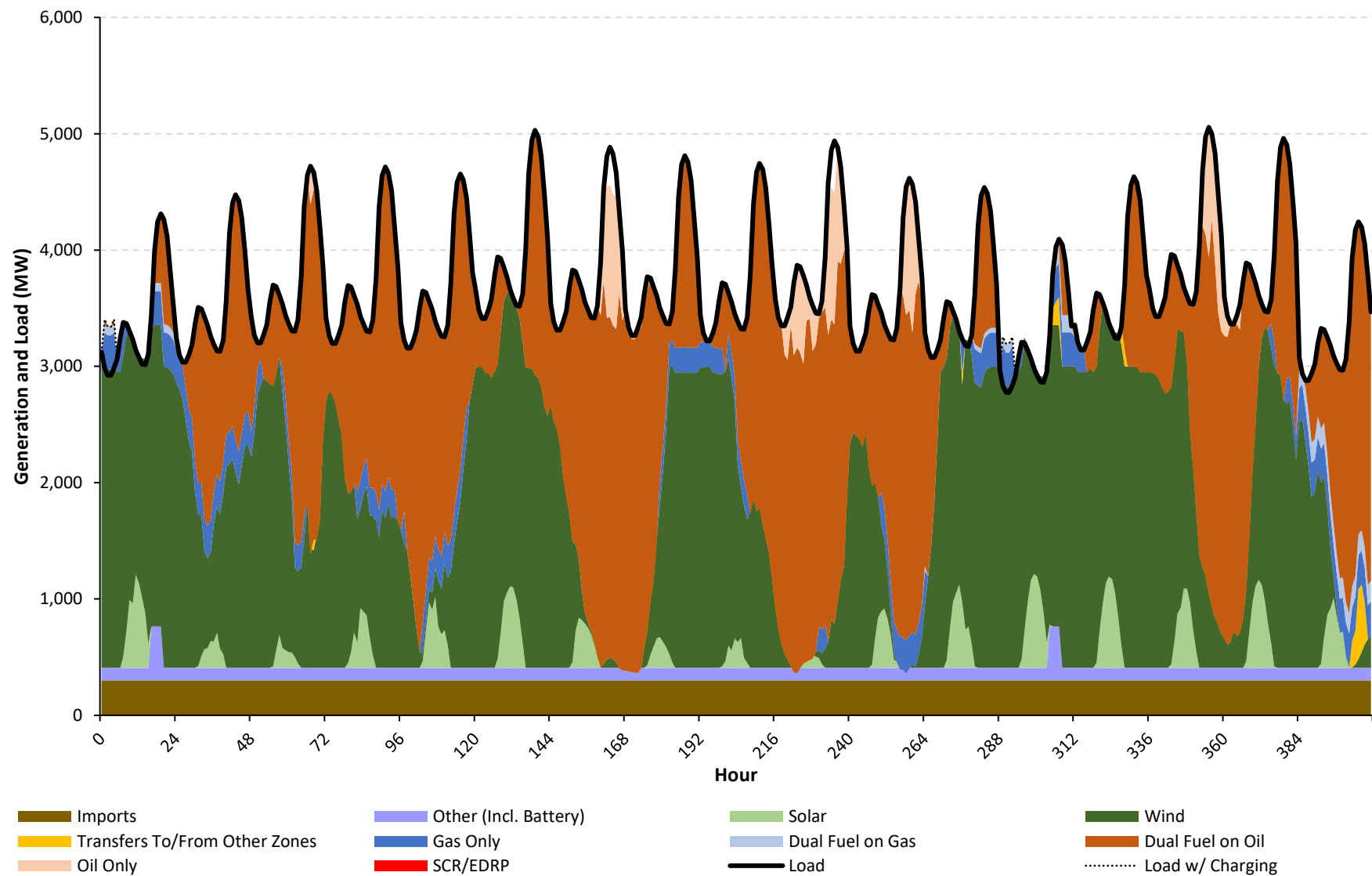
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	On
Plant Outage:	None
Import Scenario:	Net Zero



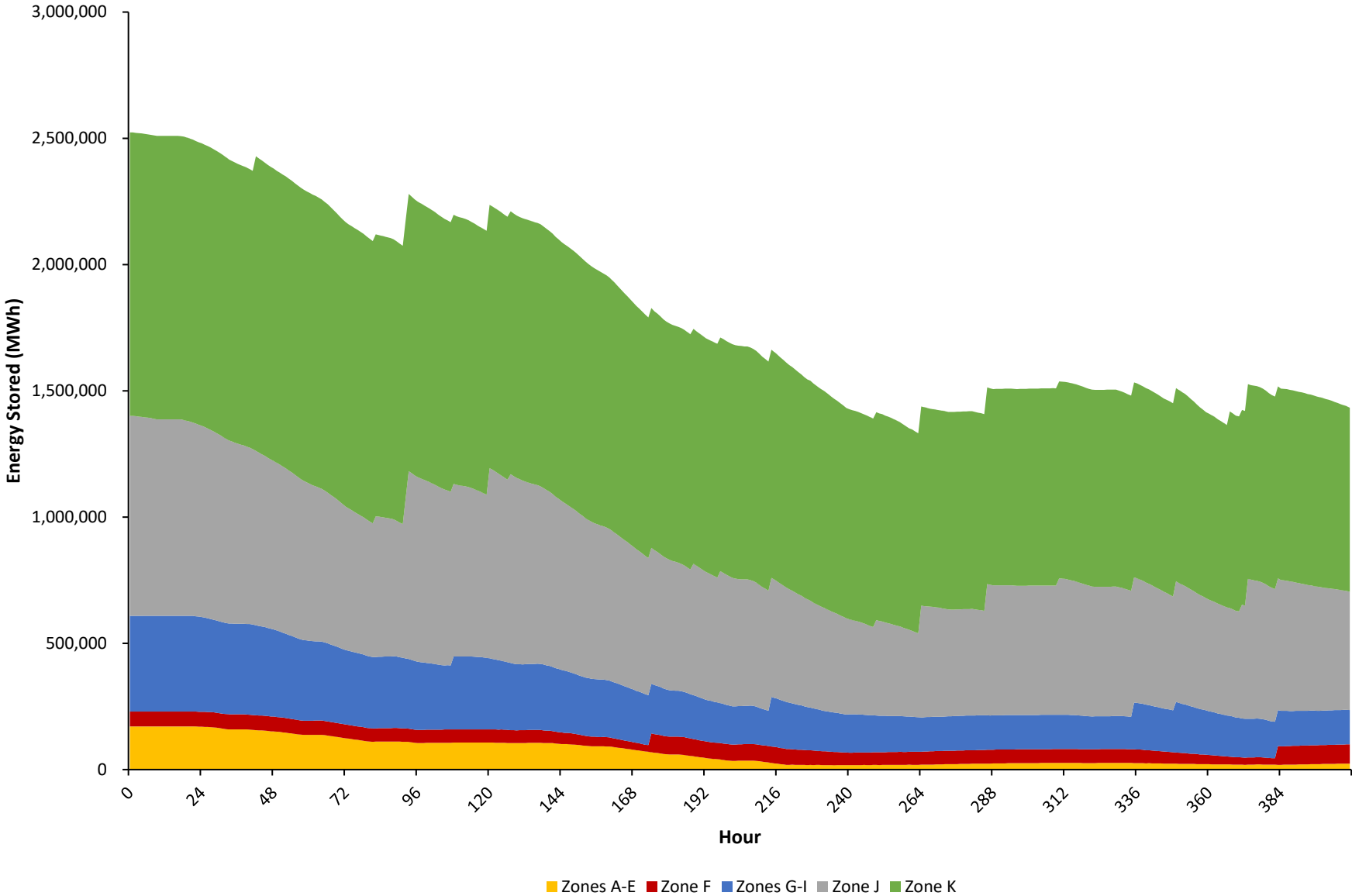


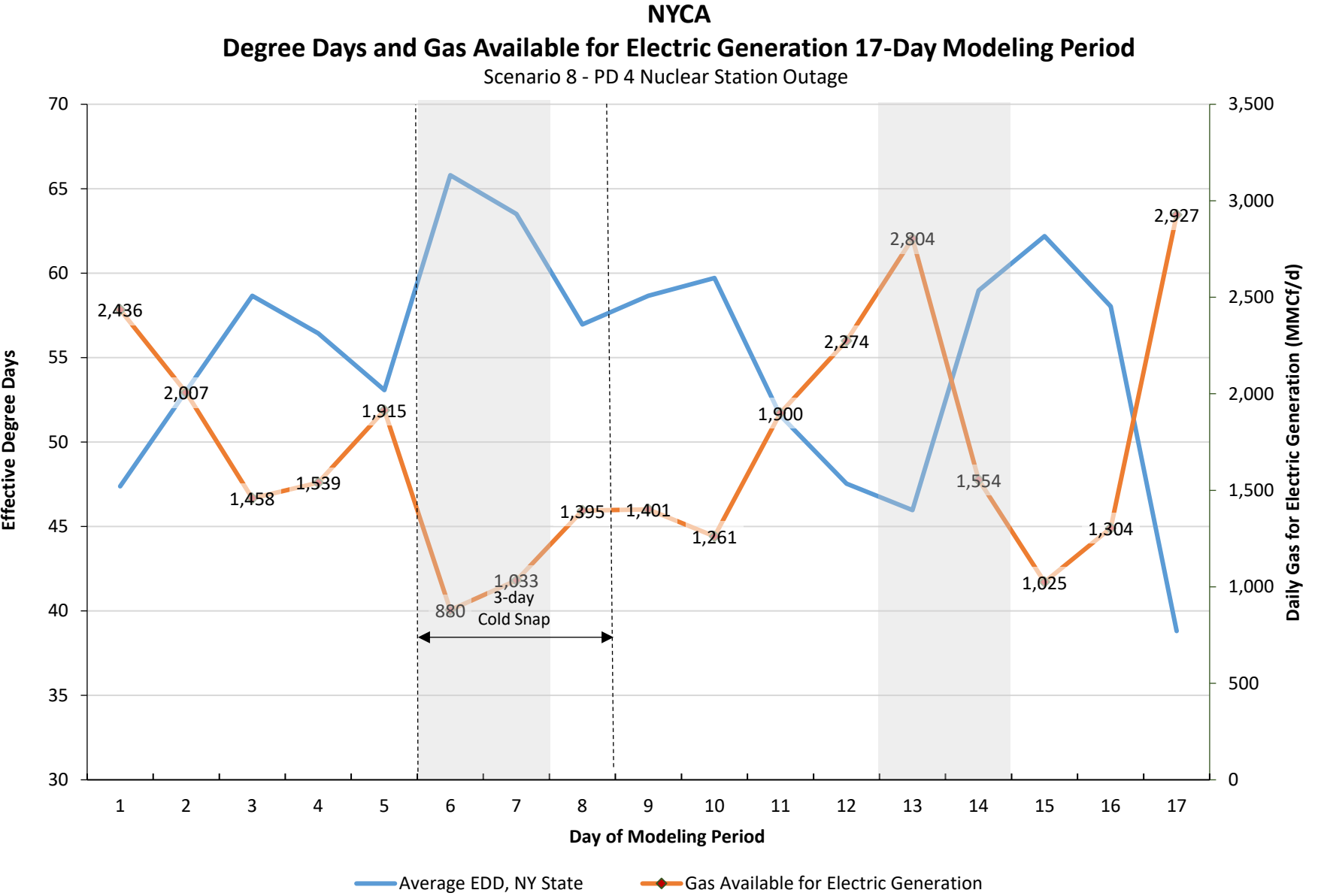


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 8 - PD 4 Nuclear Station Outage

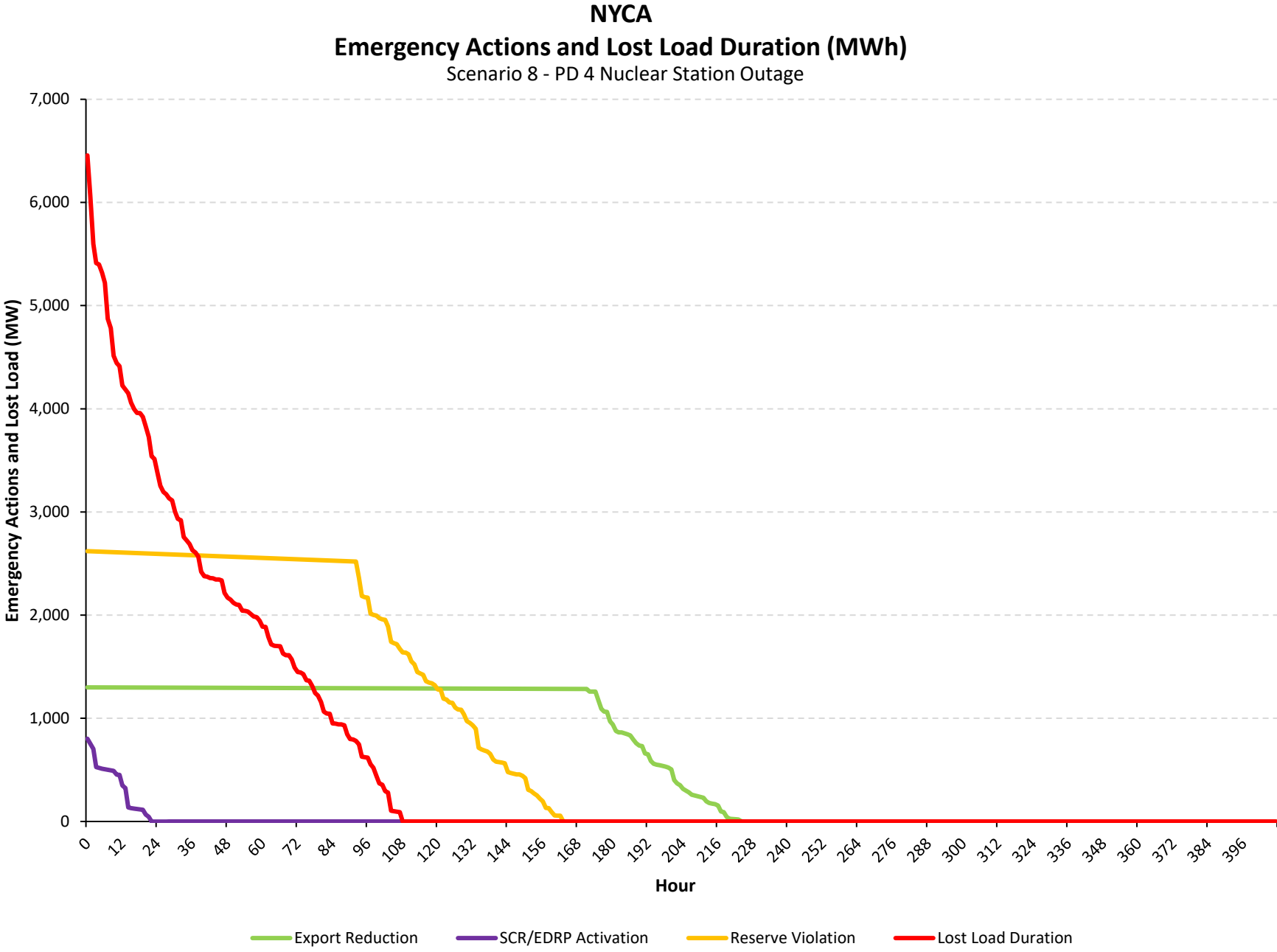


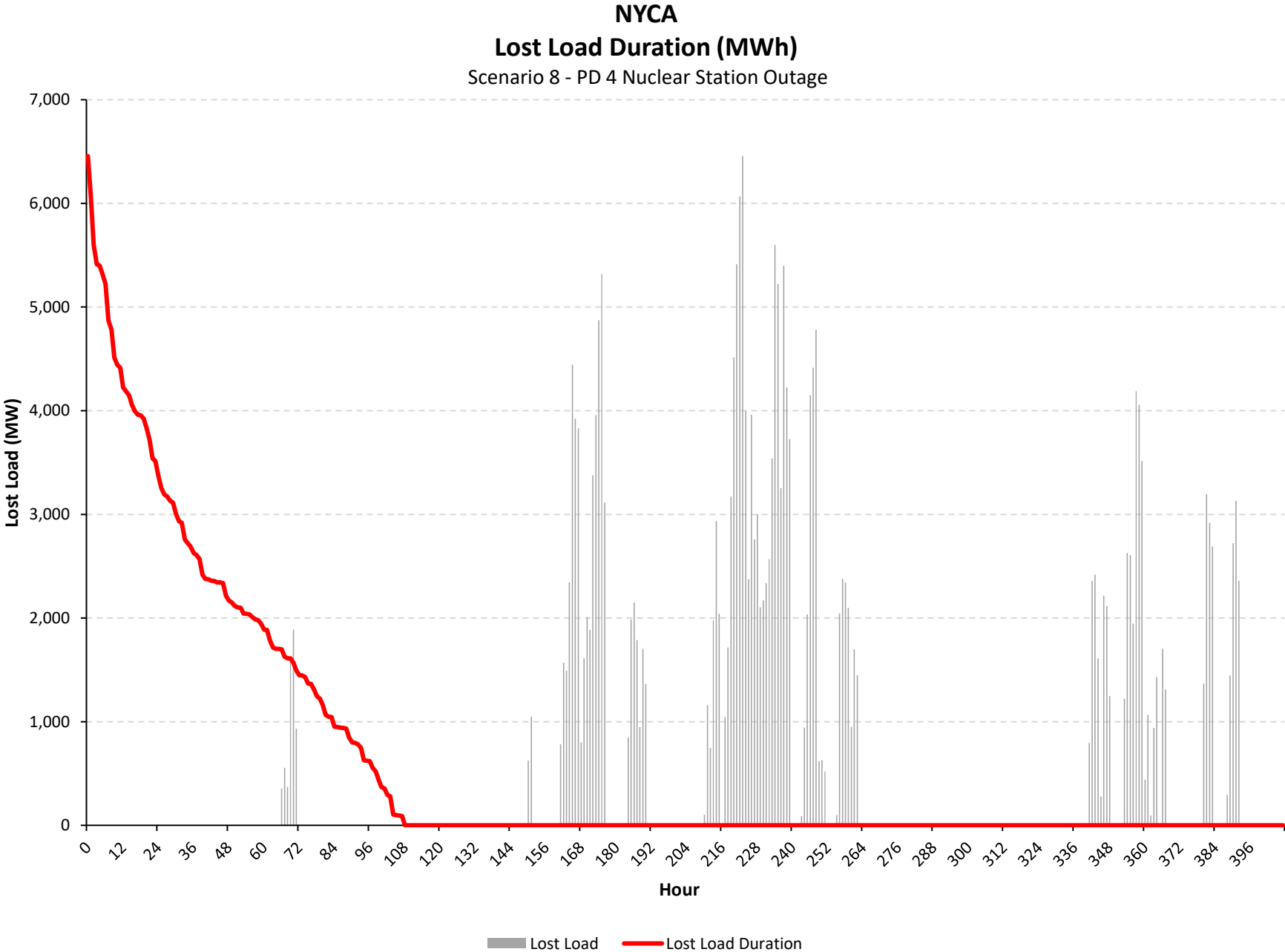
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 8 - PD 4 Nuclear Station Outage





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



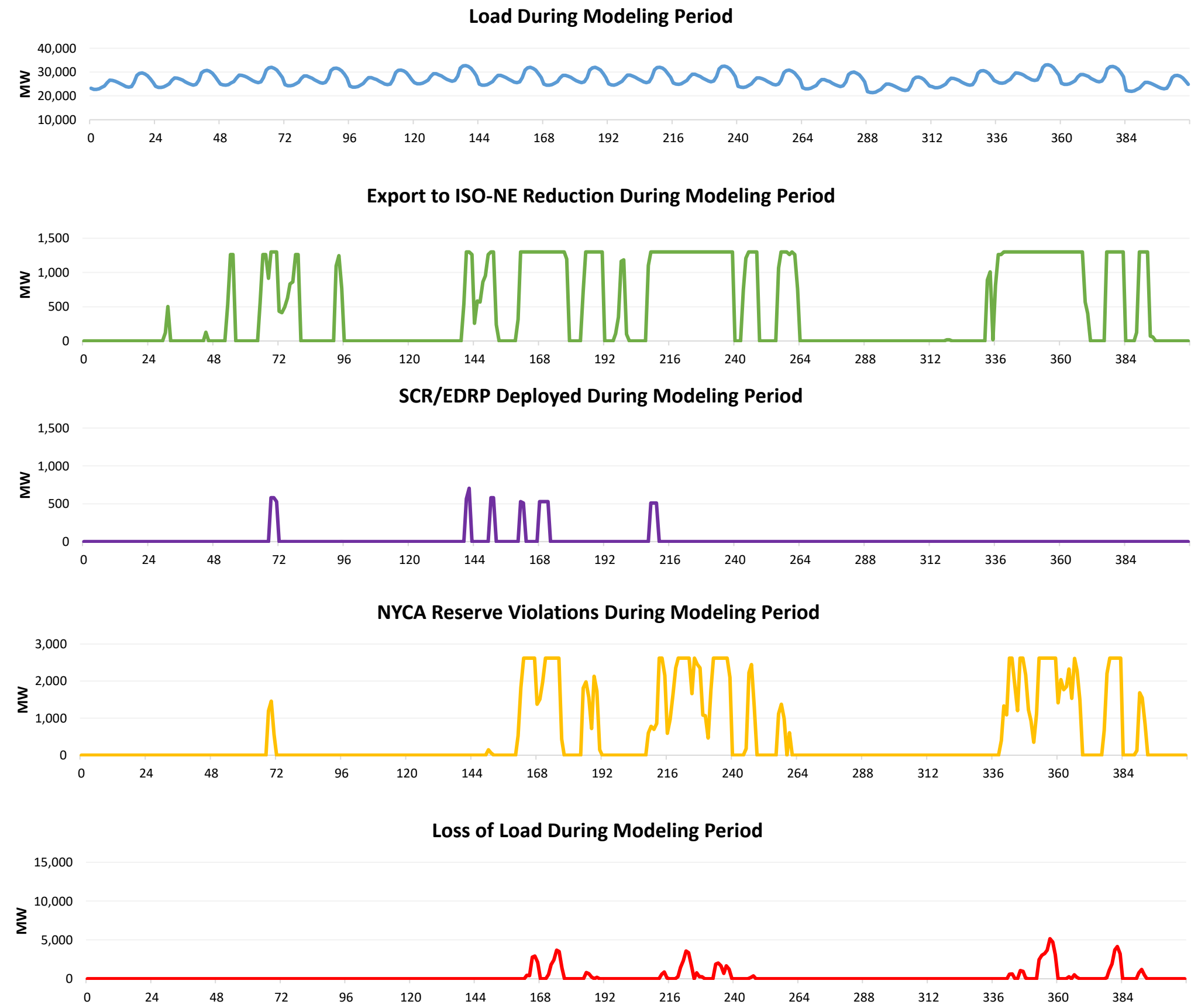


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 8 - PD 5 No Truck Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 8 - PD 5 No Truck Refill



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	169
Total MWh	186,953
Avg. MW	458.2

SCR Deployment	
Total Hrs.	16
Total MWh	8,785
Avg. MW	21.5

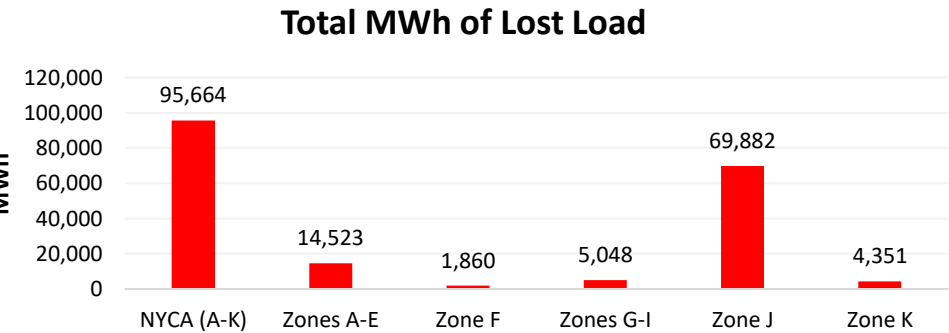
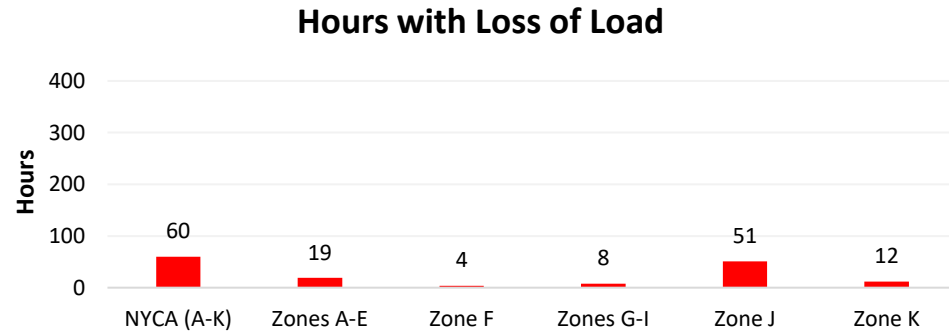
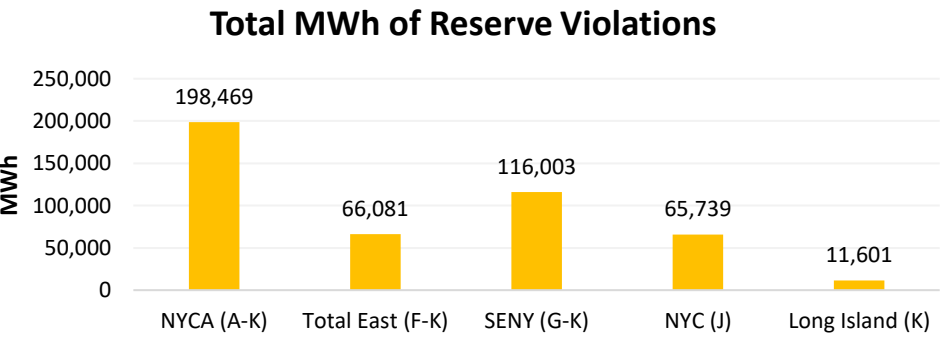
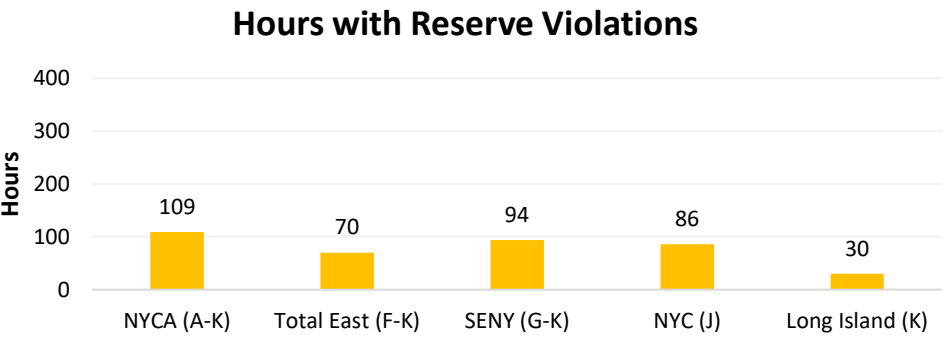
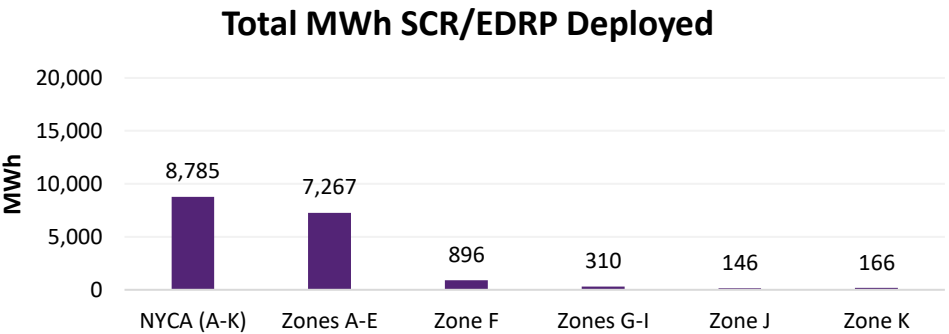
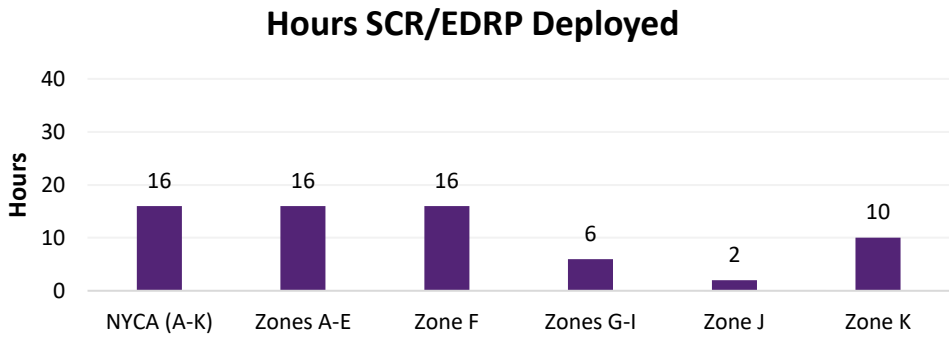
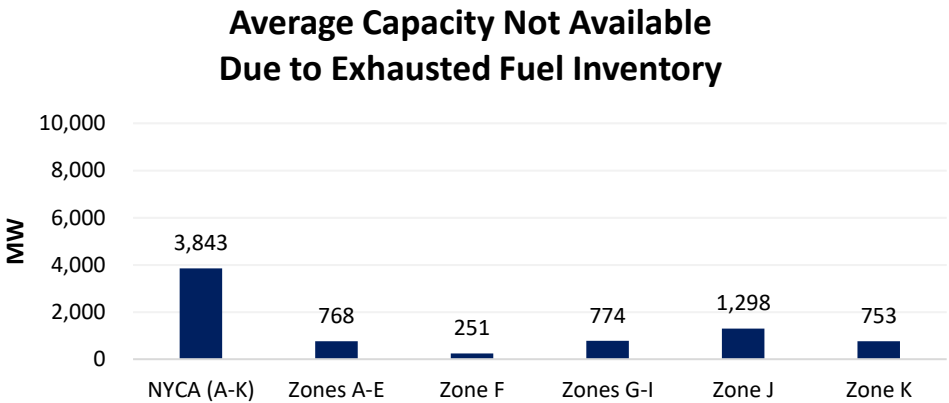
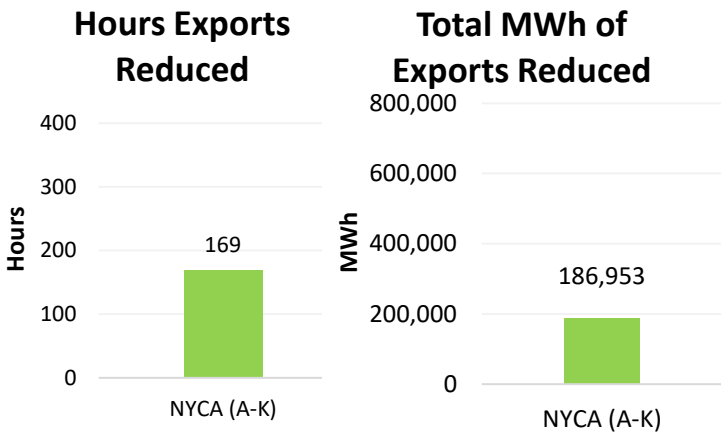
Reserve Violations	
Total Hrs.	109
Total MWh	198,469
Avg. MW	486.4
First Hour with Viol.	69

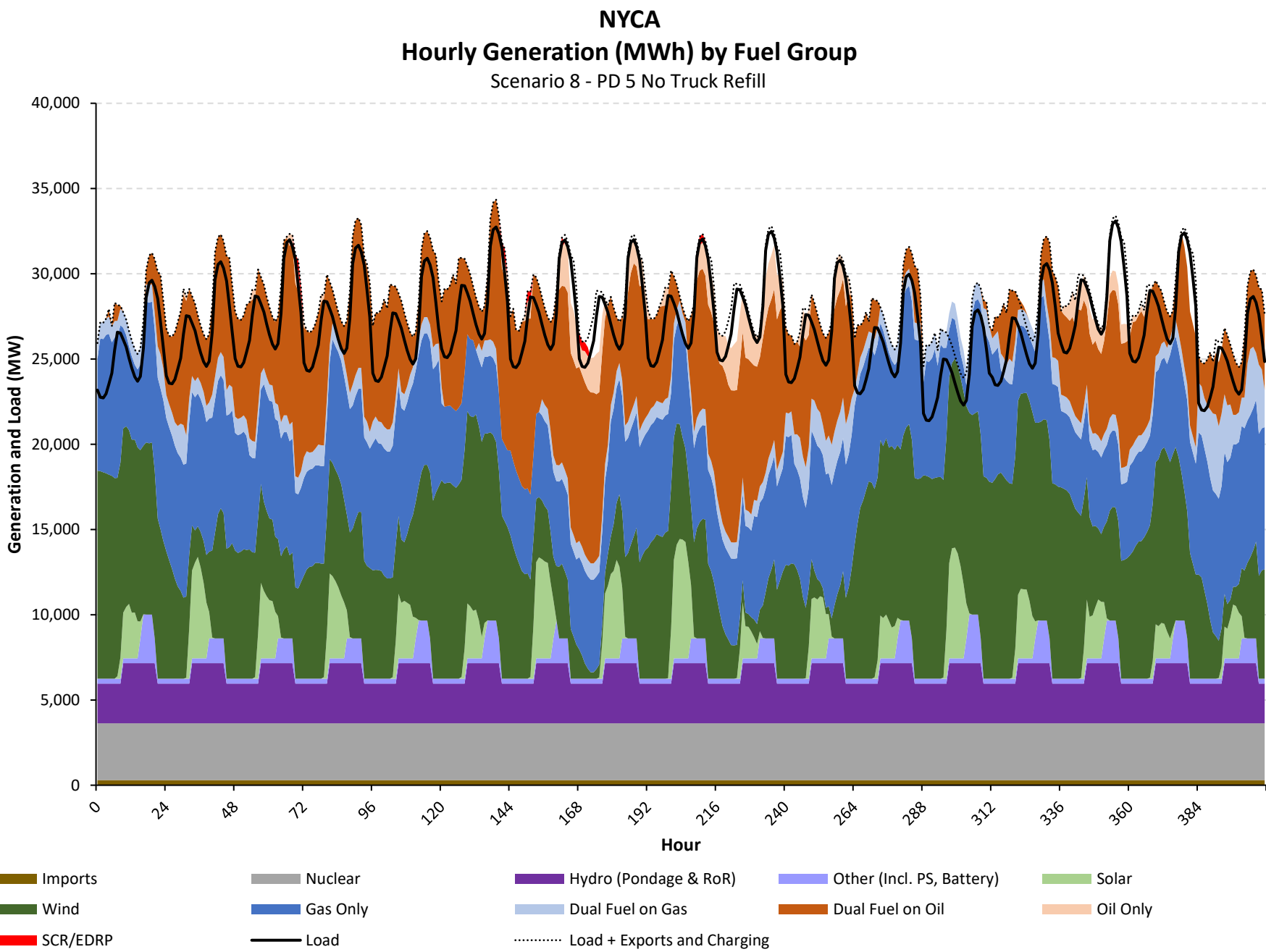
Loss of Load	
Total Hrs.	60
Total MWh	95,664
Avg. MW	234.5
First Hour with Losses	163

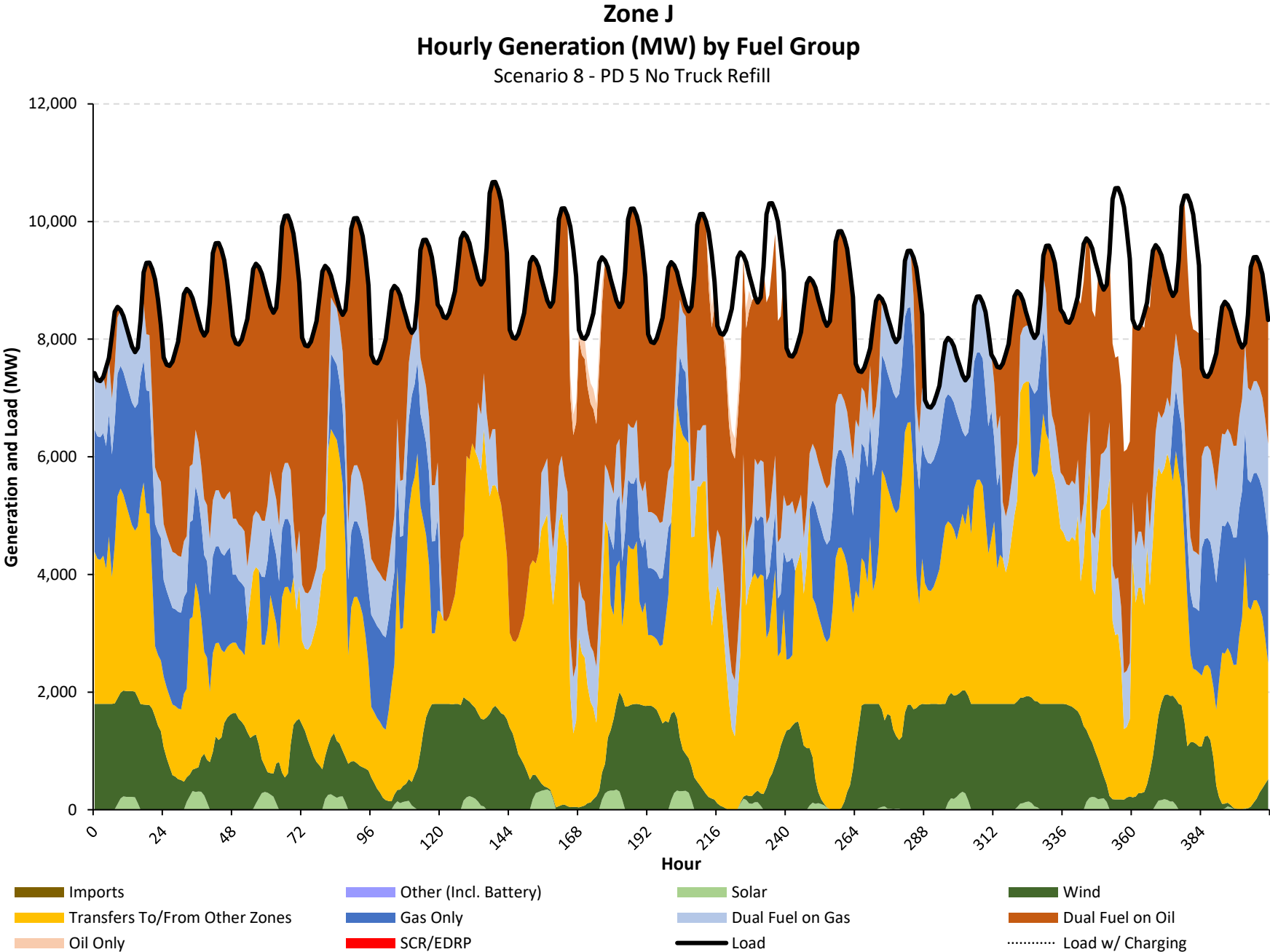
Full Period Results Summary

Case Name: Scenario 8 - PD 5 No Truck Refill

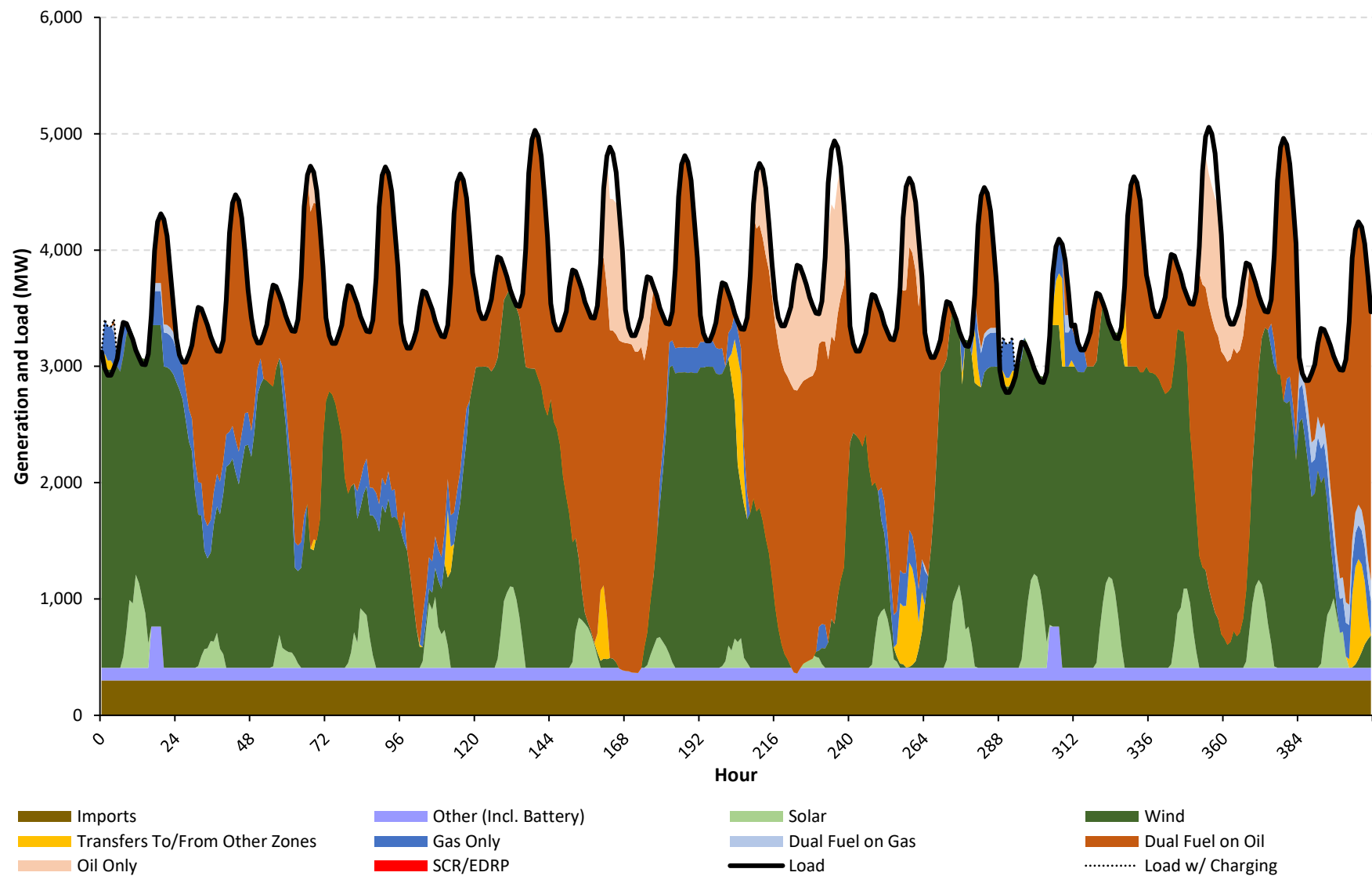
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Trucks
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



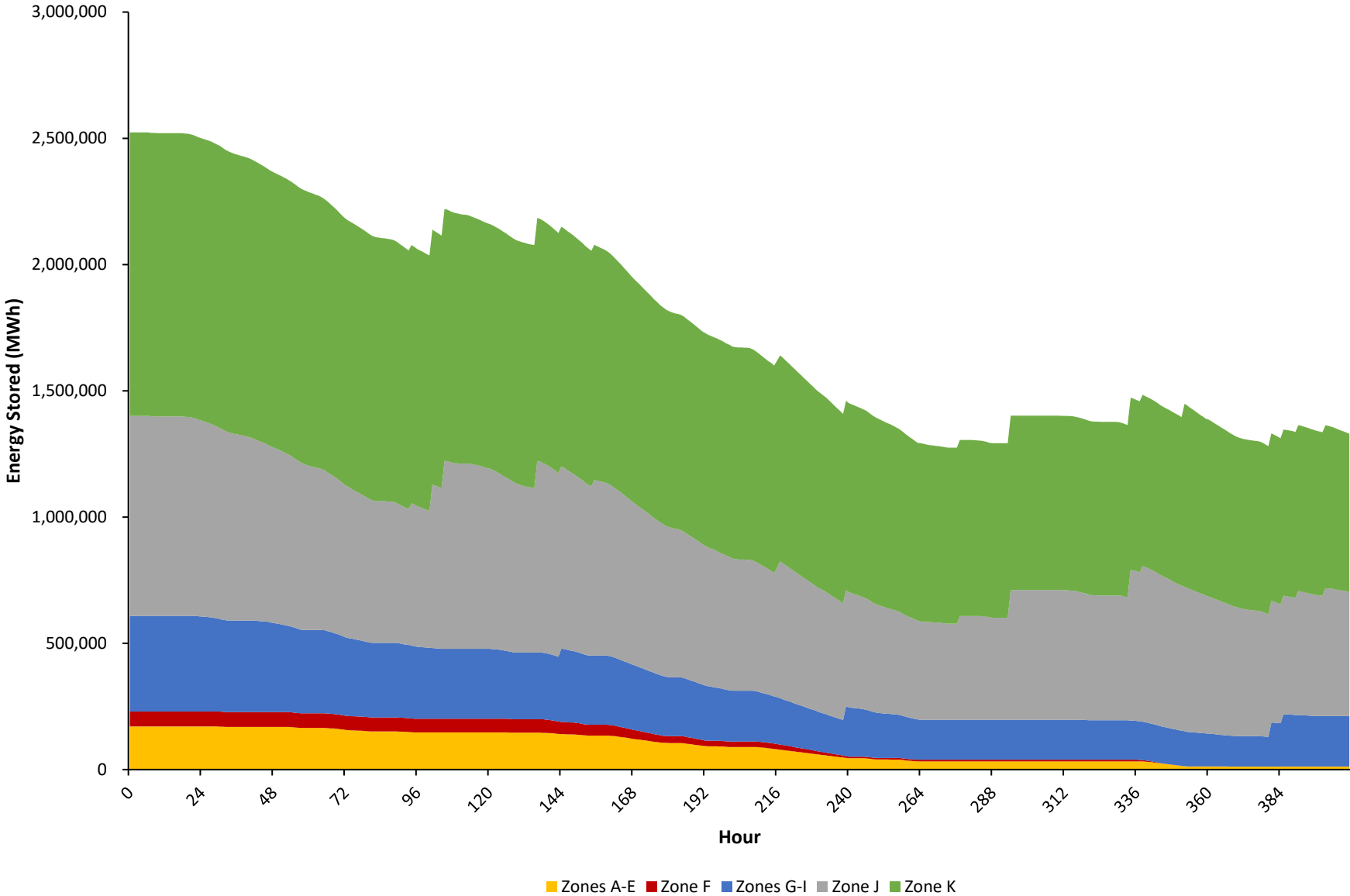


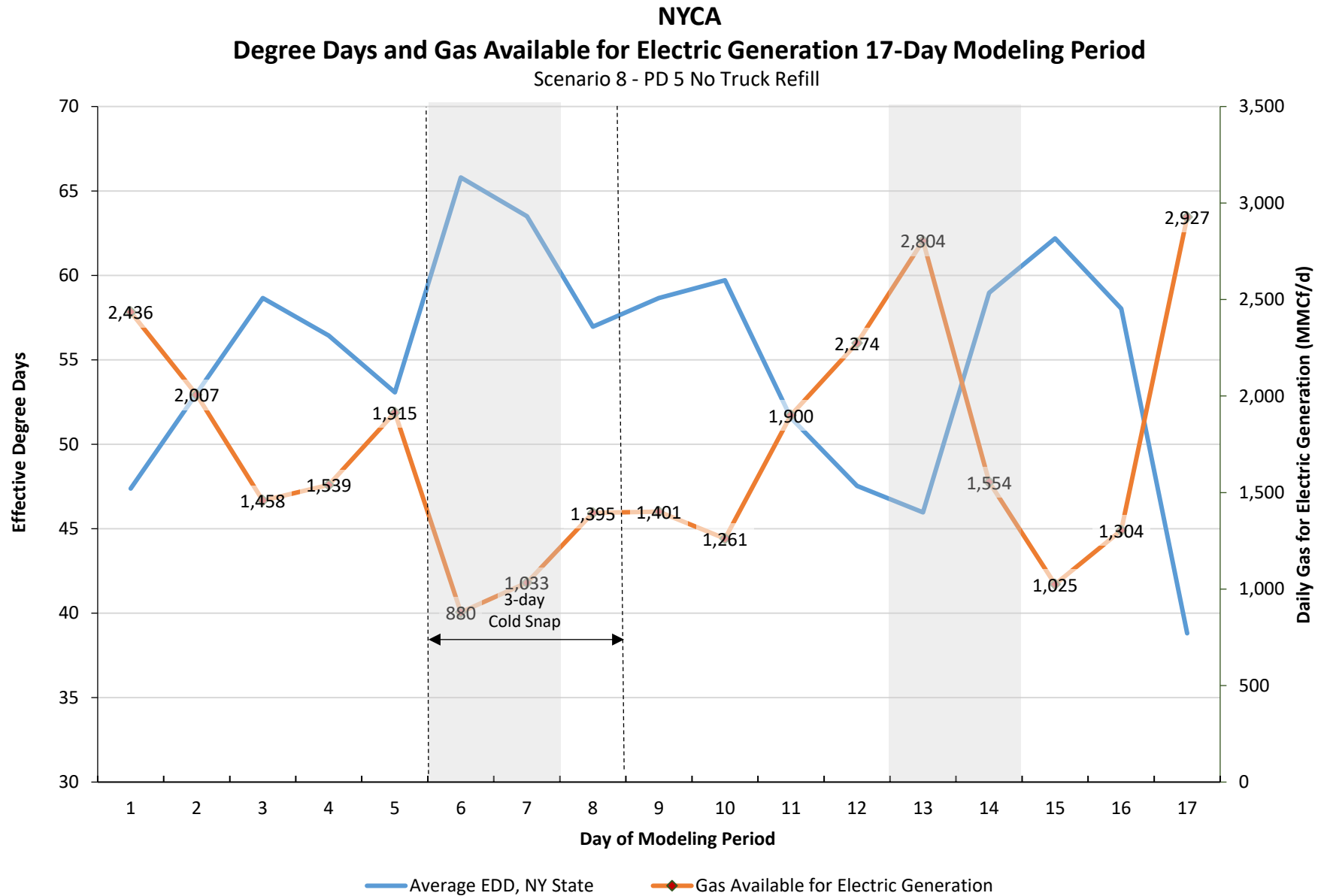


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 8 - PD 5 No Truck Refill



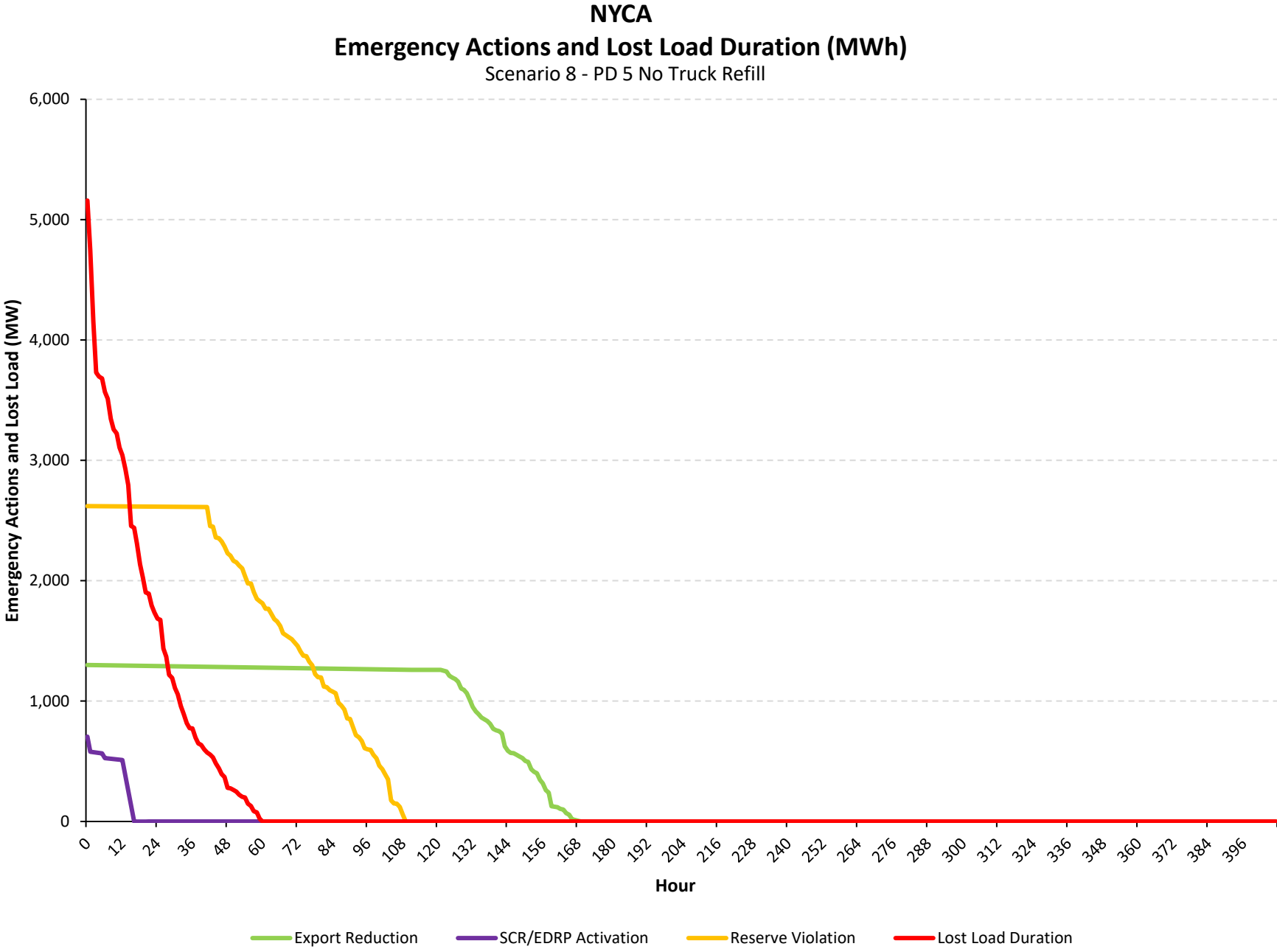
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 8 - PD 5 No Truck Refill

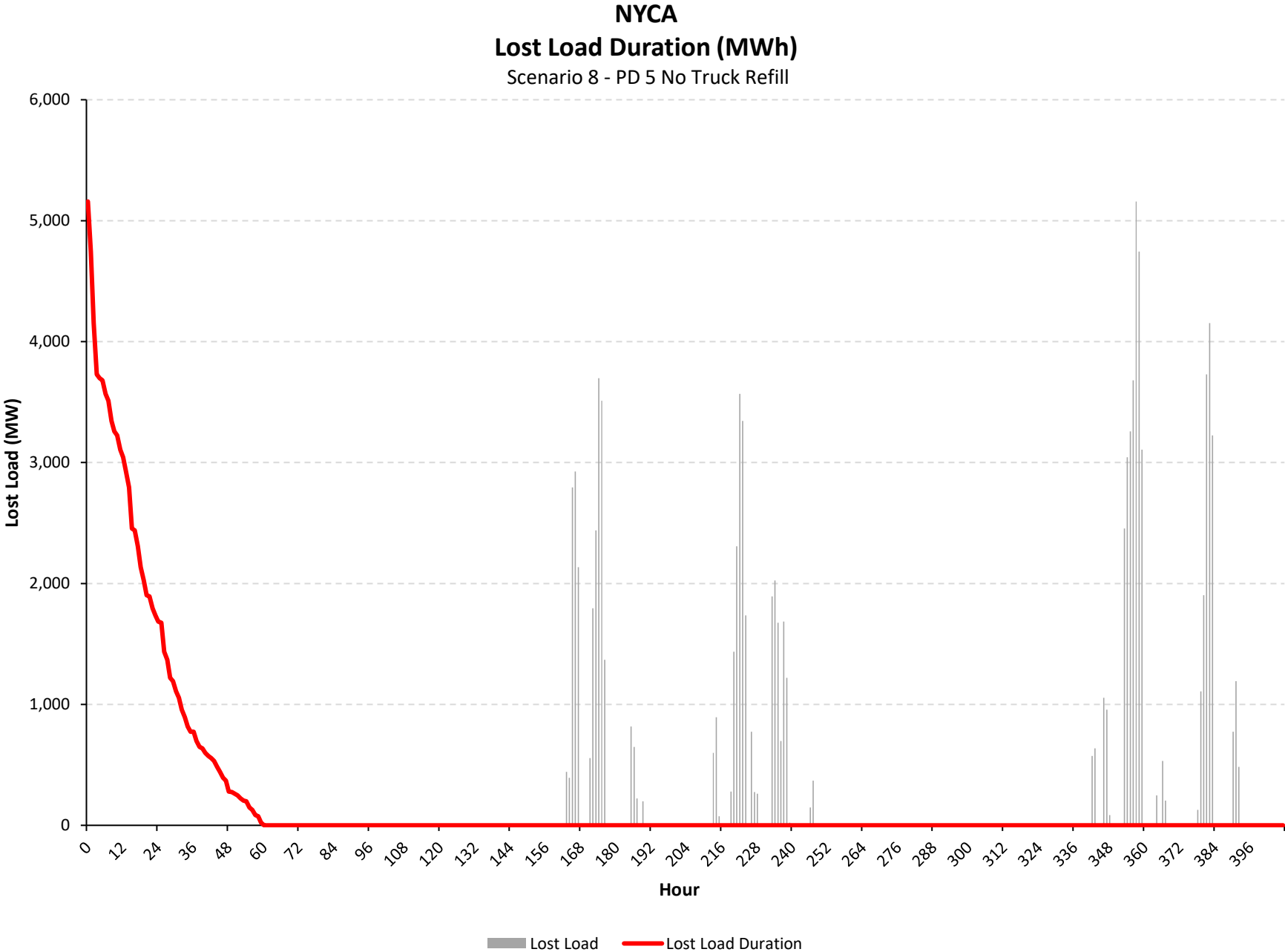




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



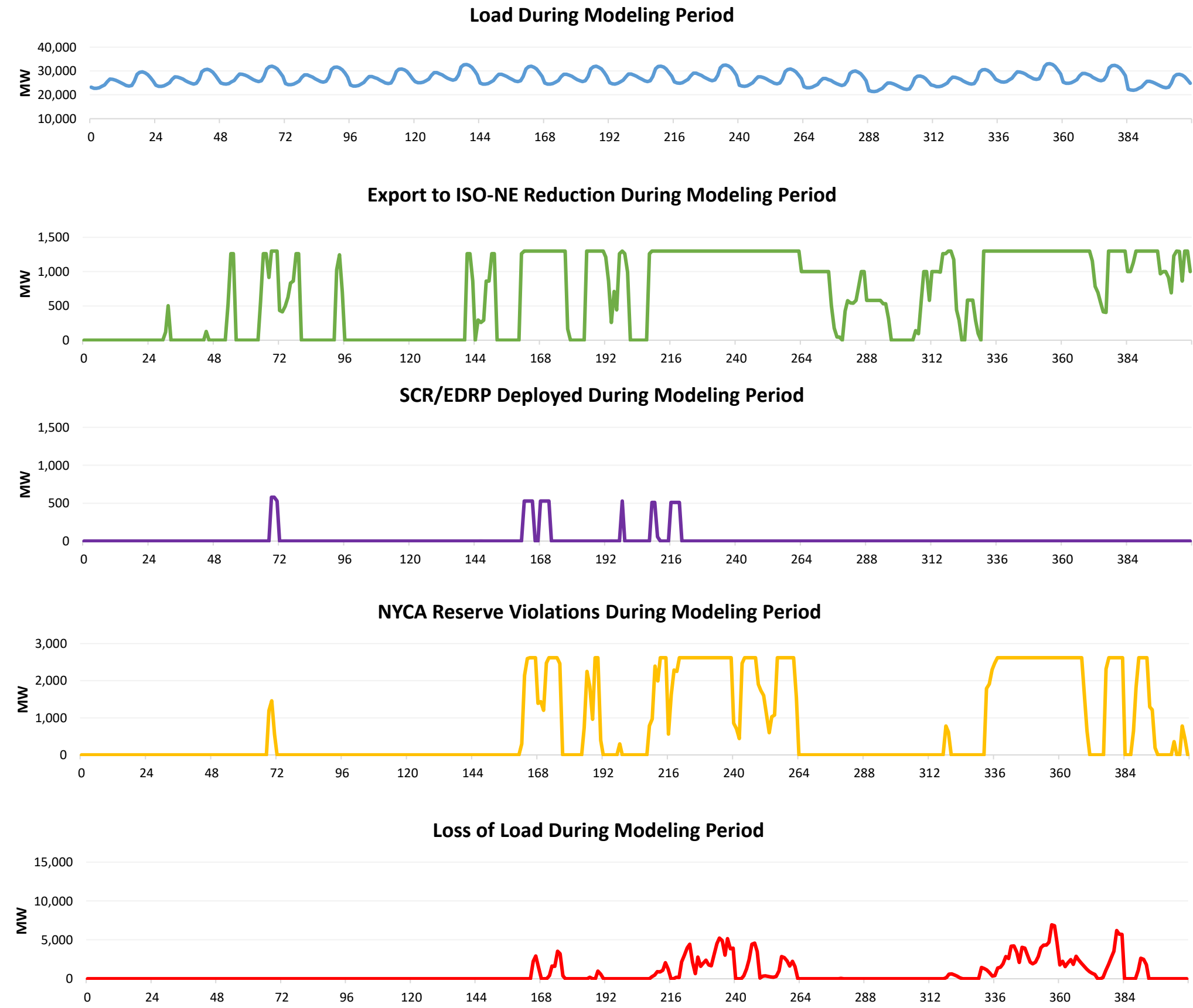


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 8 - PD 6 No Barge Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 8 - PD 6 No Barge Refill



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	255
Total MWh	273,137
Avg. MW	669.5

SCR Deployment	
Total Hrs.	19
Total MWh	9,542
Avg. MW	23.4

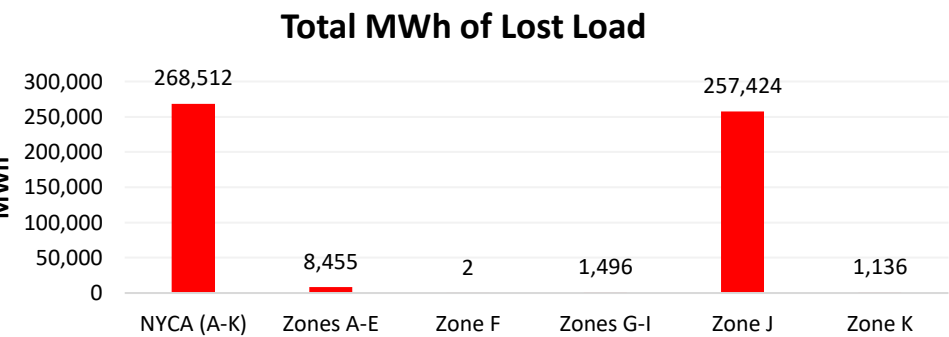
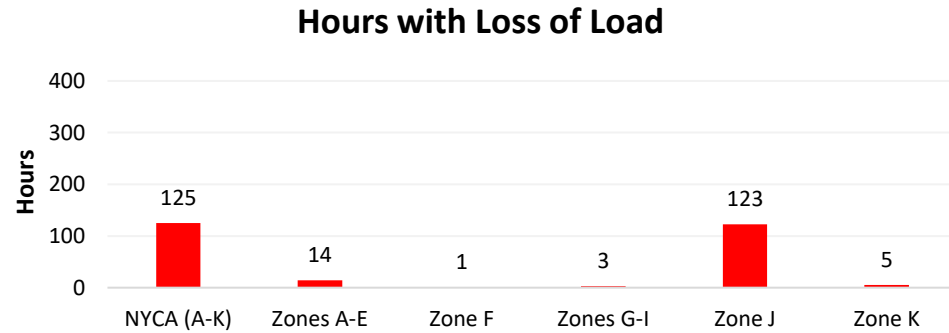
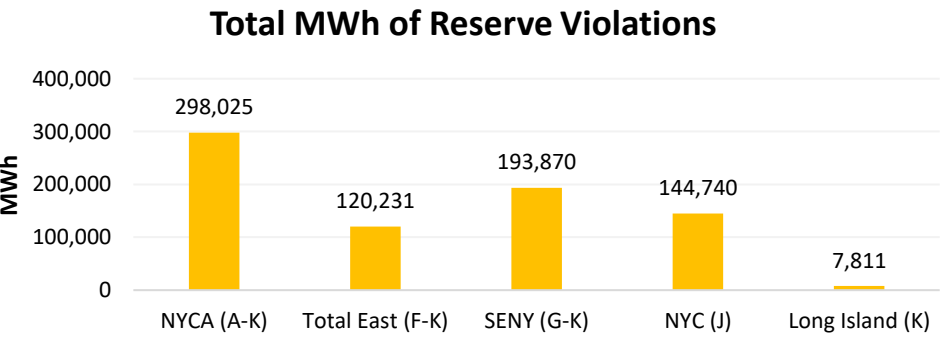
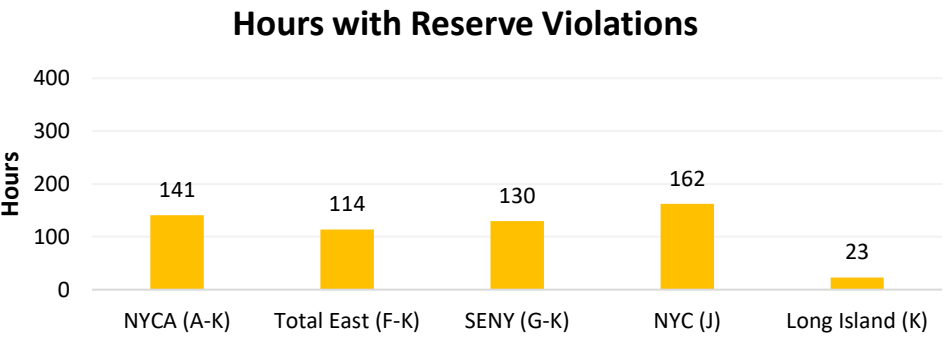
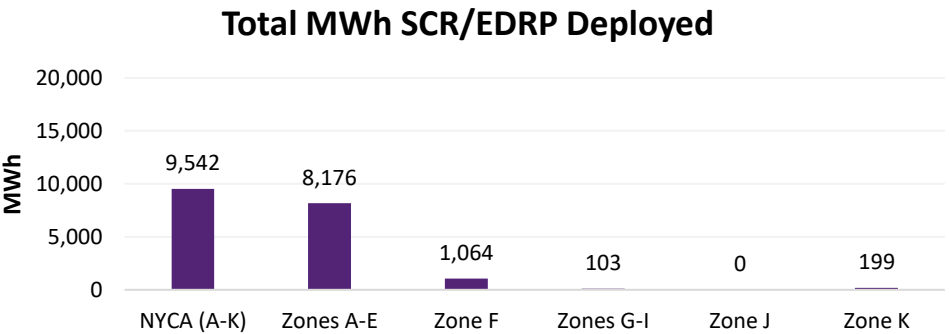
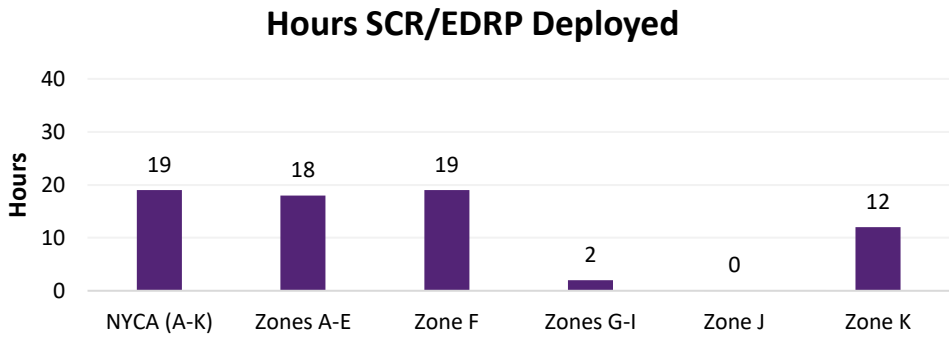
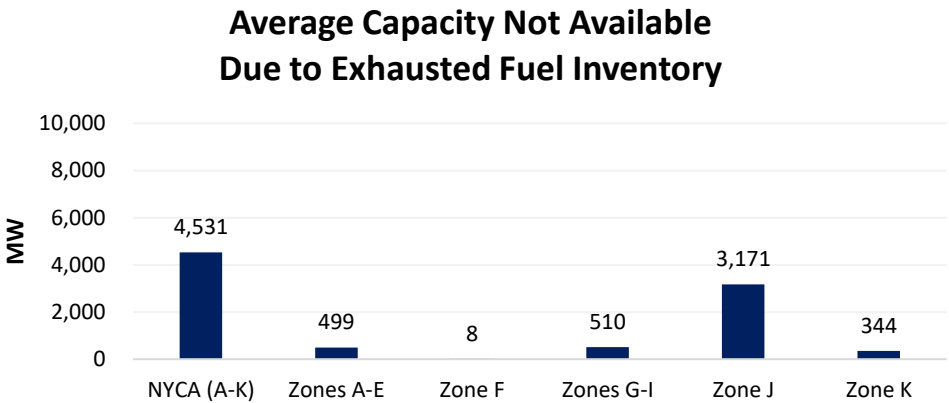
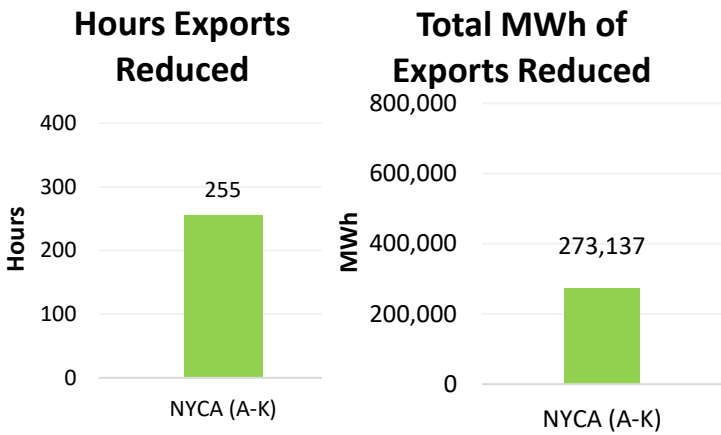
Reserve Violations	
Total Hrs.	141
Total MWh	298,025
Avg. MW	730.5
First Hour with Viol.	69

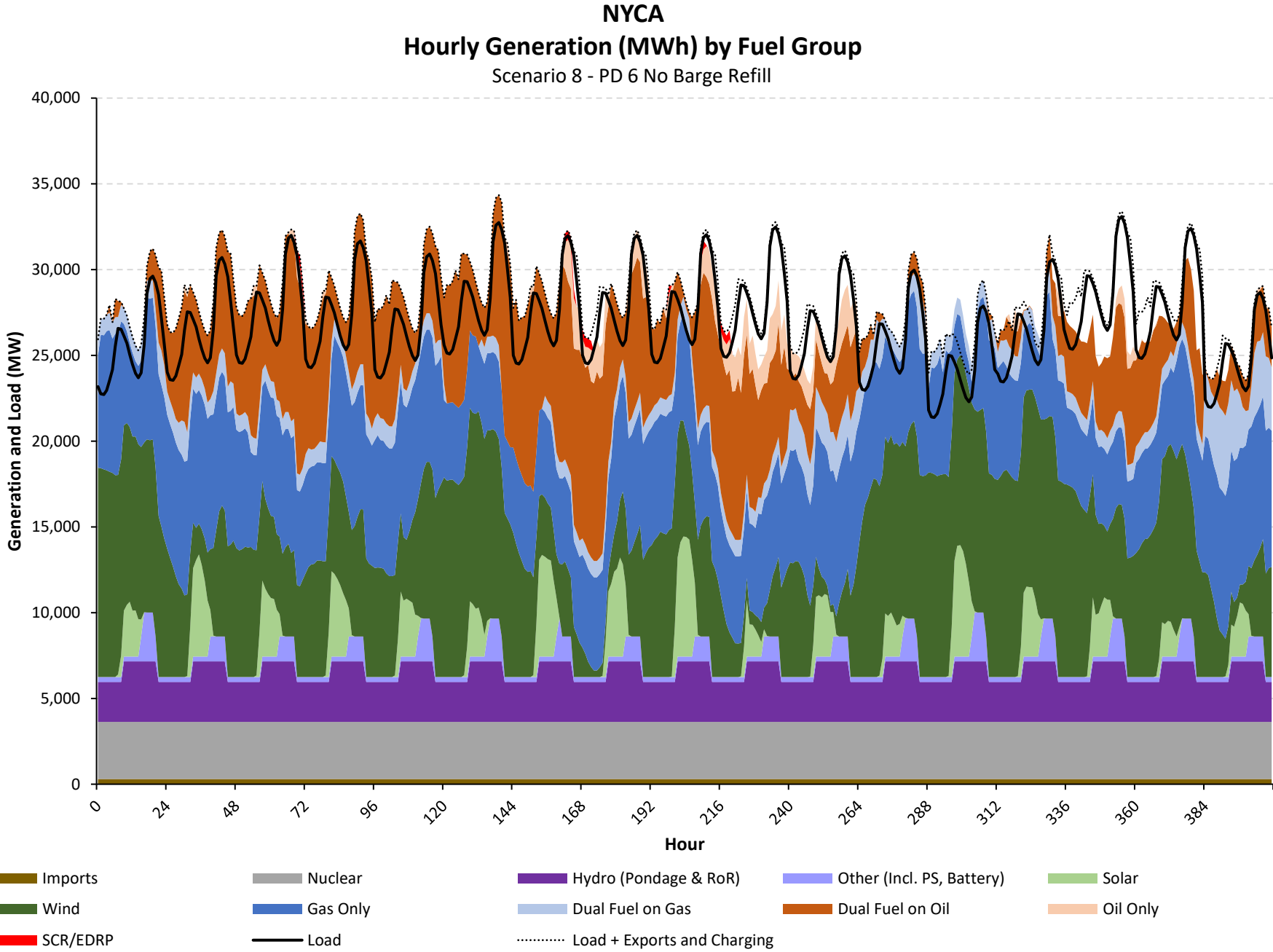
Loss of Load	
Total Hrs.	125
Total MWh	268,512
Avg. MW	658.1
First Hour with Losses	165

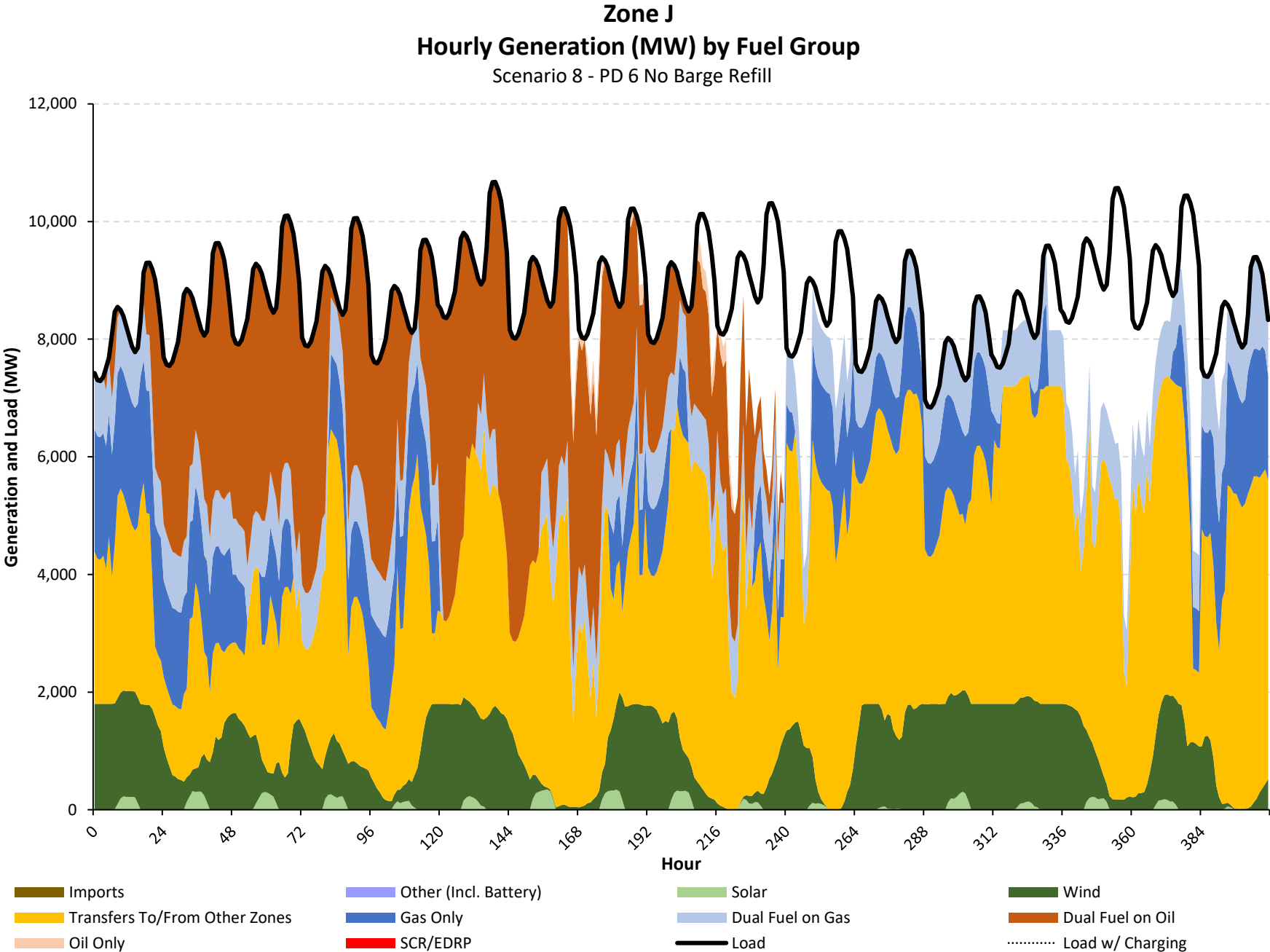
Full Period Results Summary

Case Name: Scenario 8 - PD 6 No Barge Refill

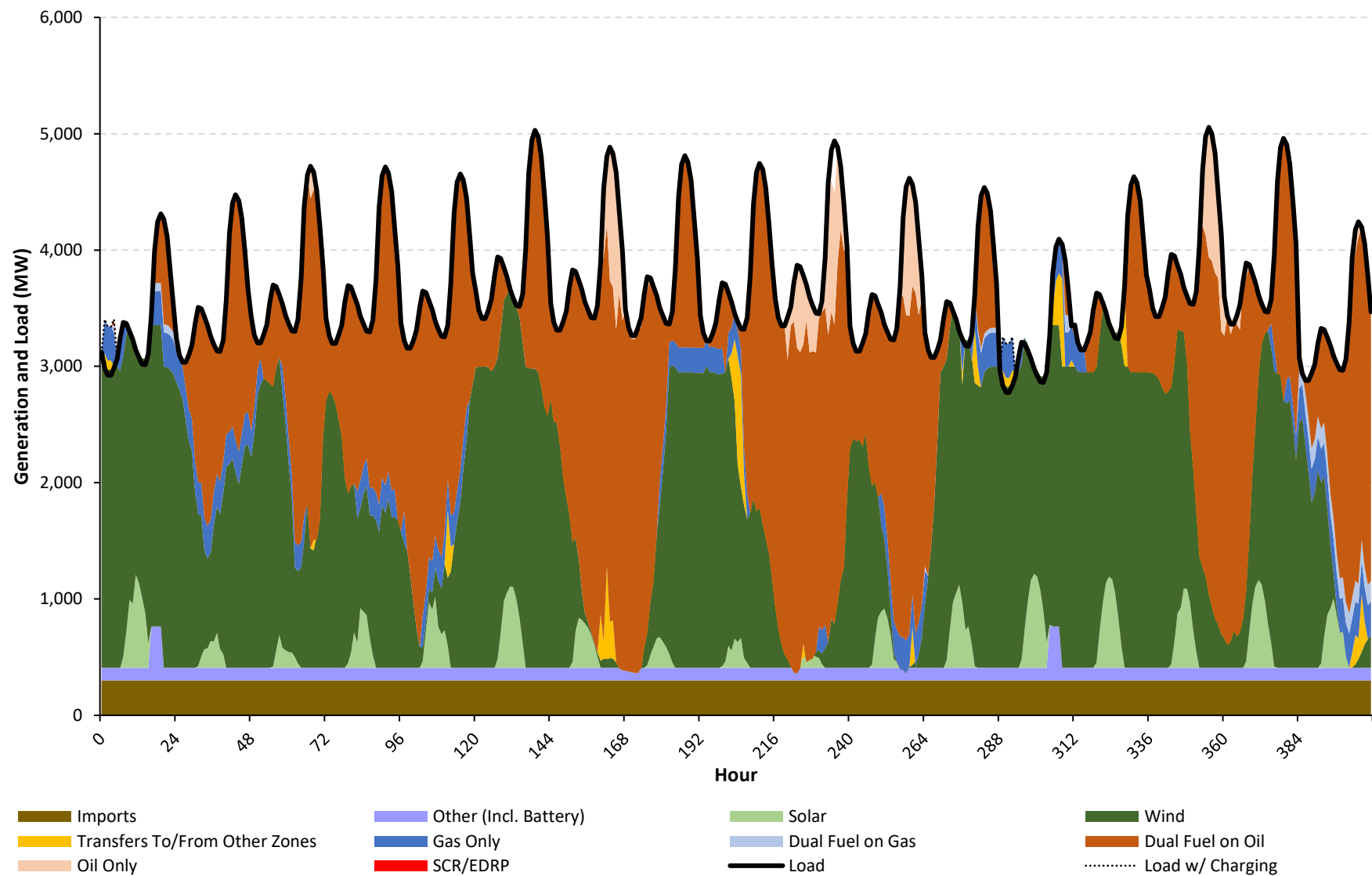
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Barge
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



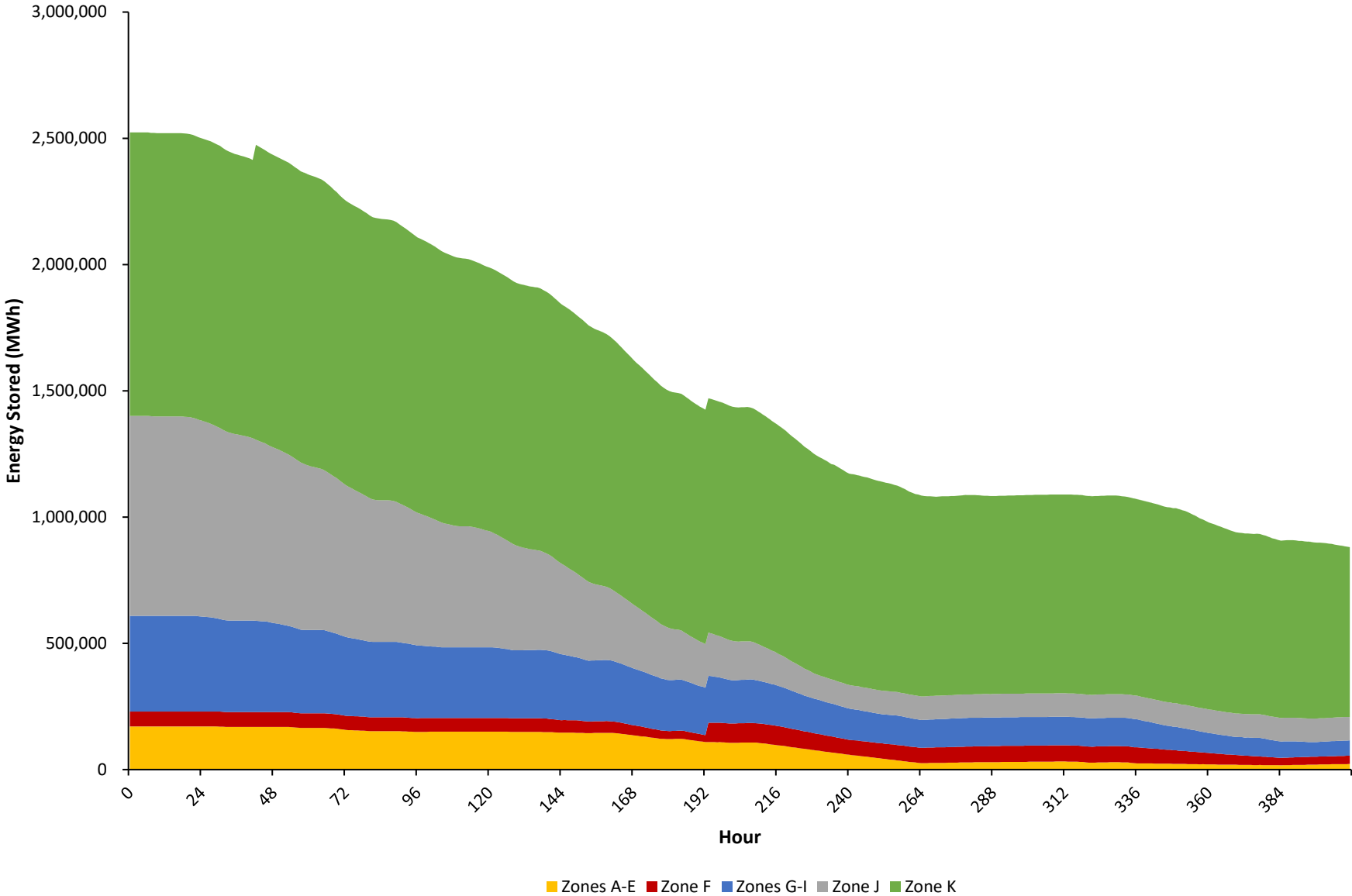


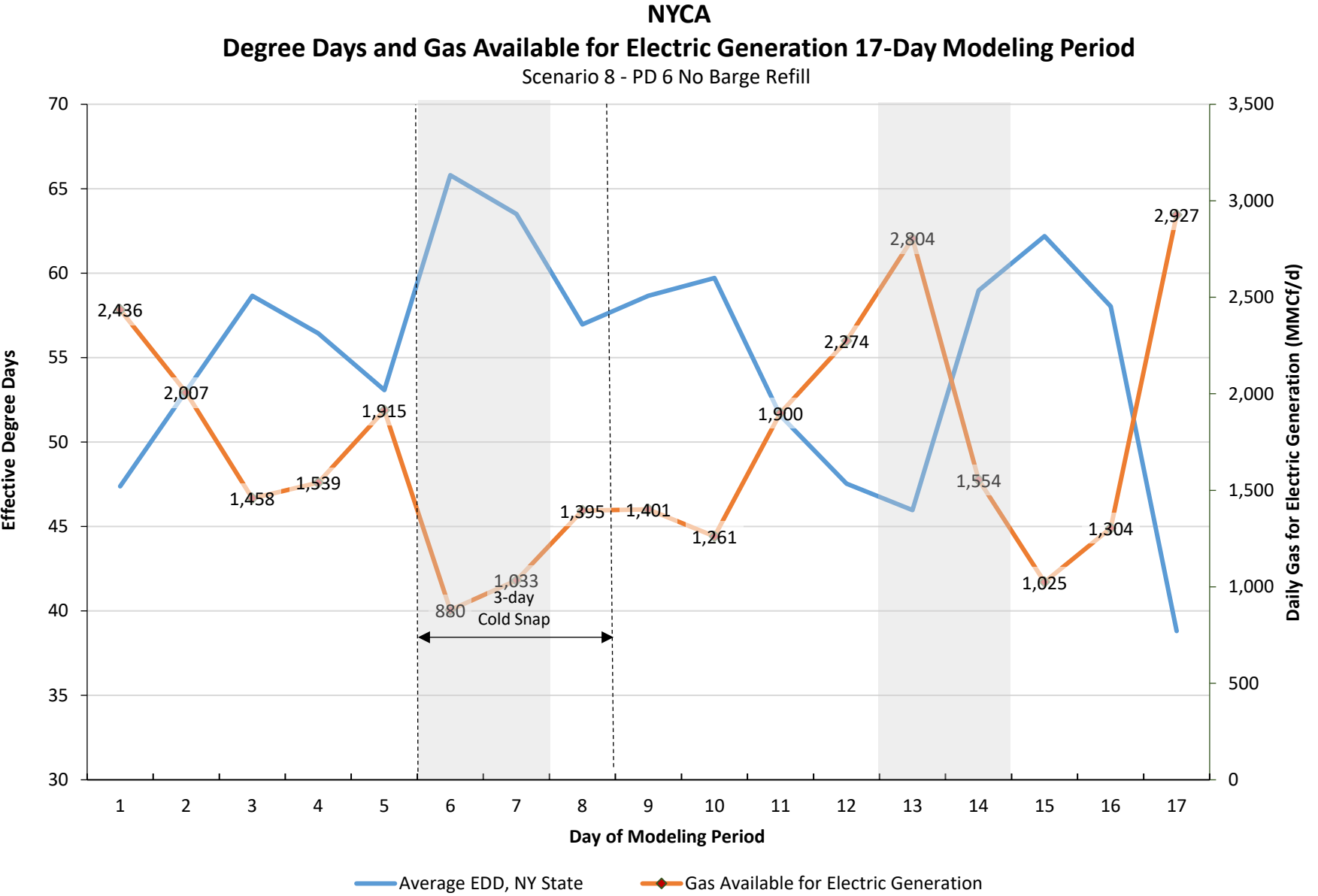


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 8 - PD 6 No Barge Refill

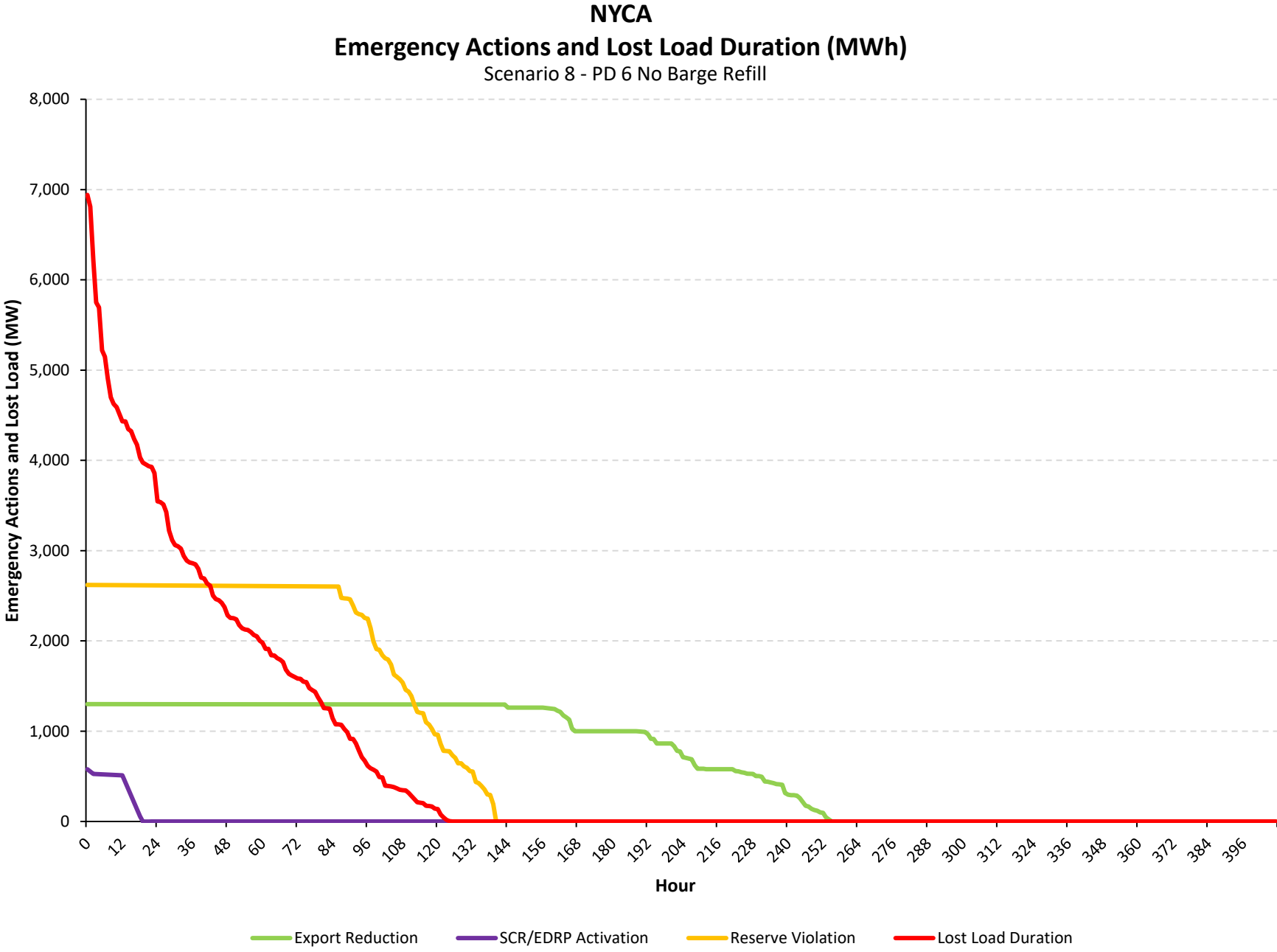


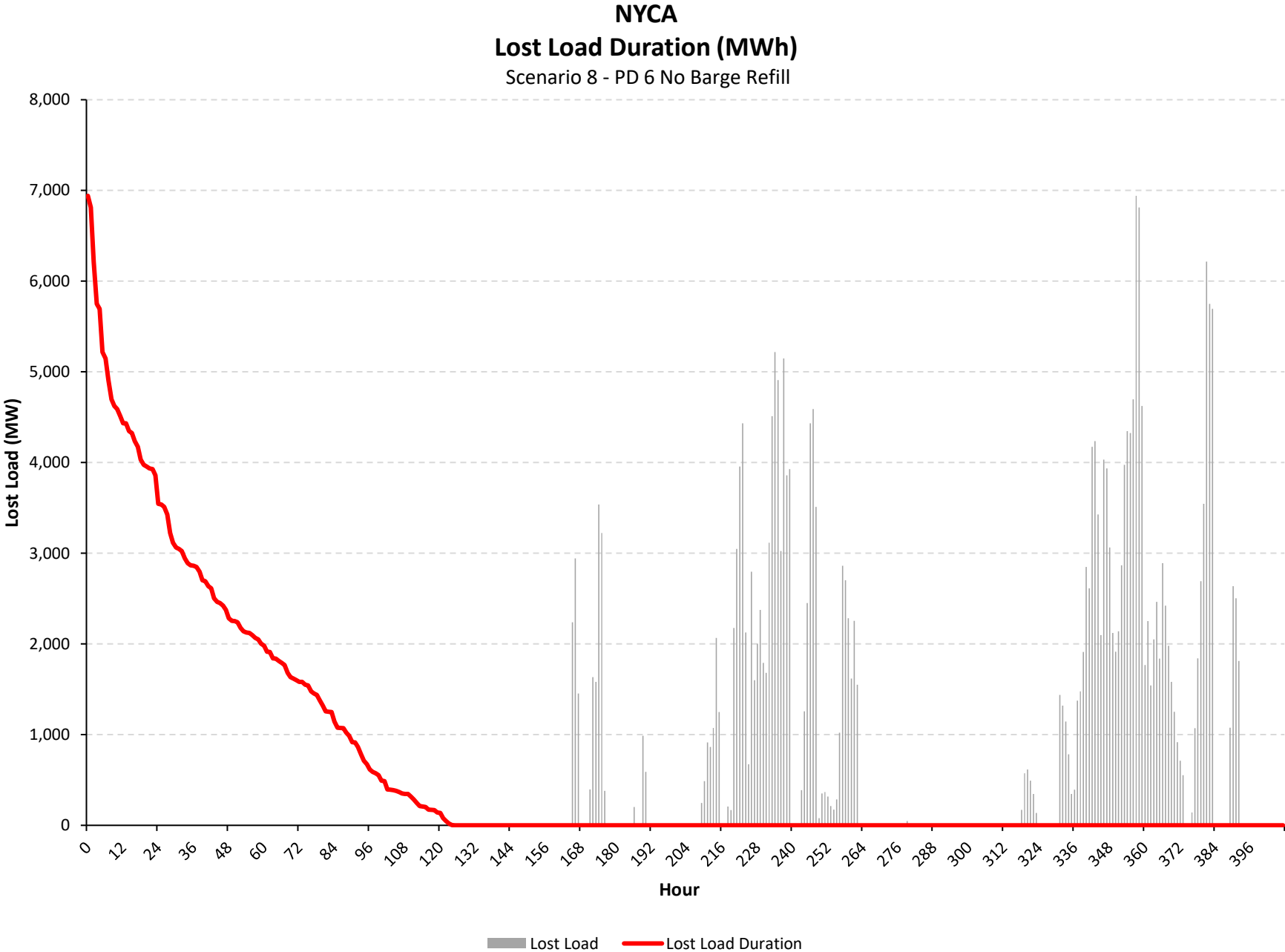
NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 8 - PD 6 No Barge Refill





Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



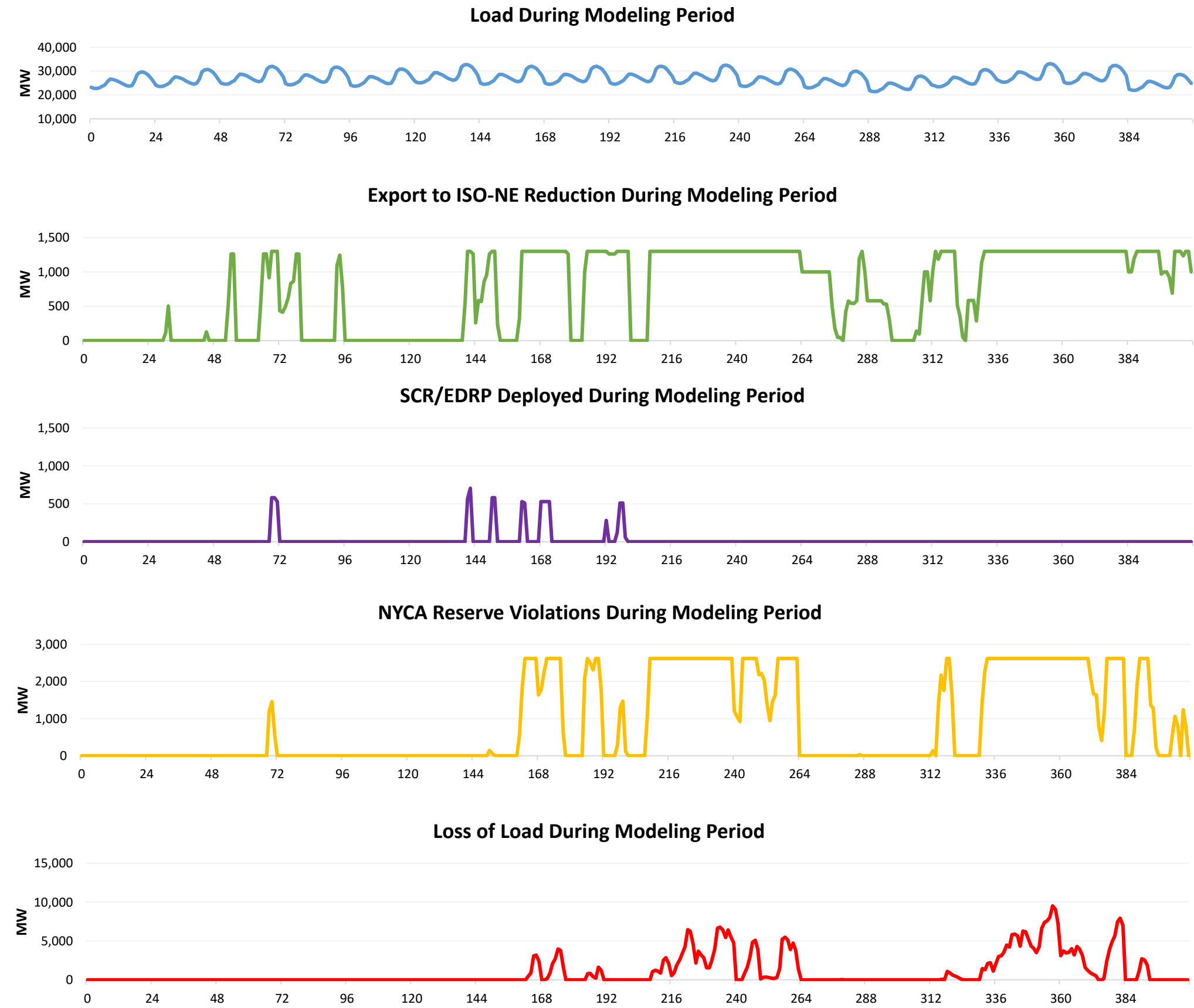


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 8 - PD 7 No Refill (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 8 - PD 7 No Refill



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	262
Total MWh	290,241
Avg. MW	711.4

SCR Deployment	
Total Hrs.	18
Total MWh	8,731
Avg. MW	21.4

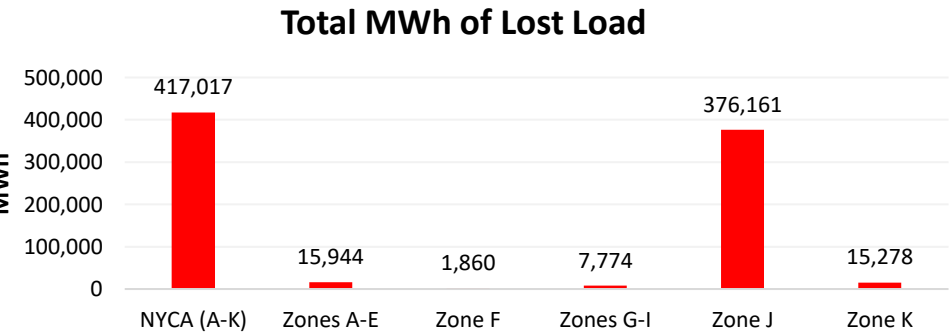
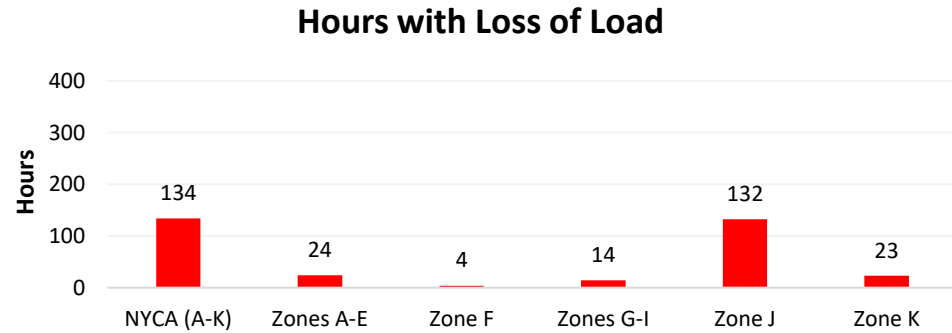
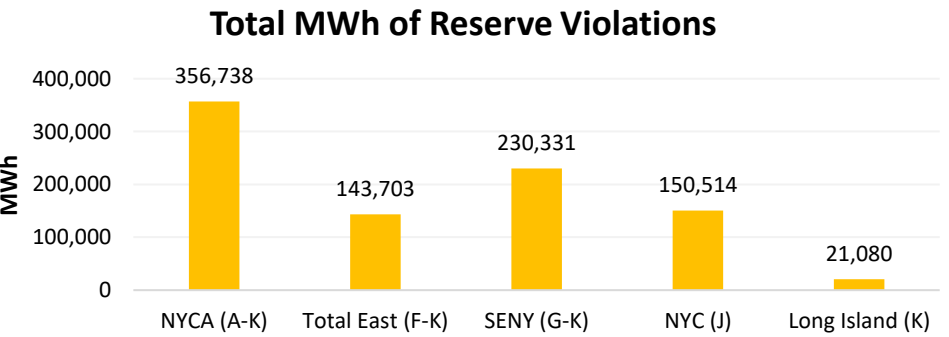
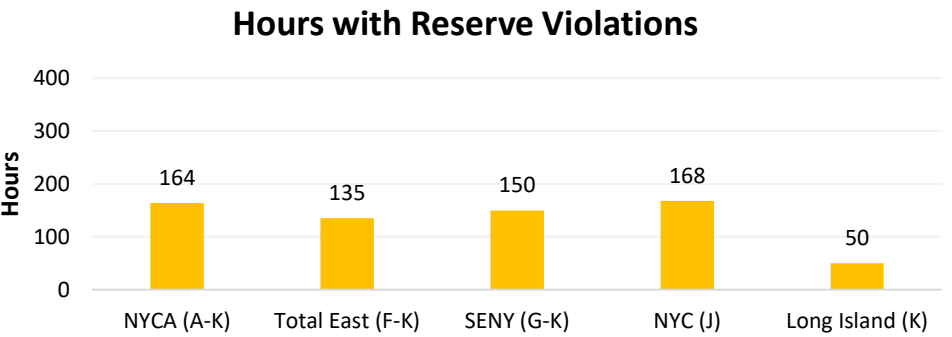
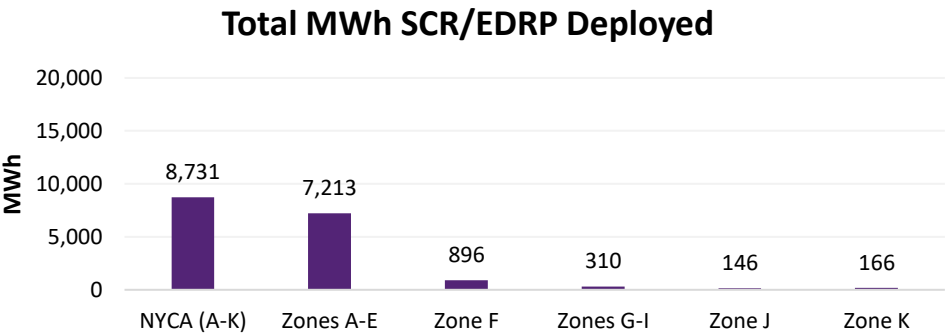
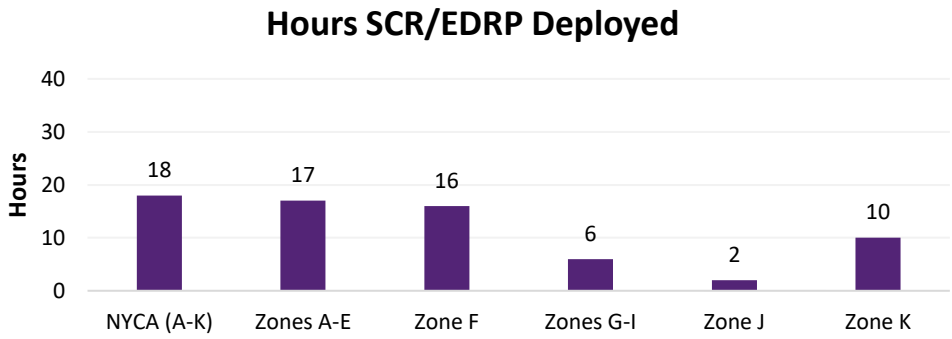
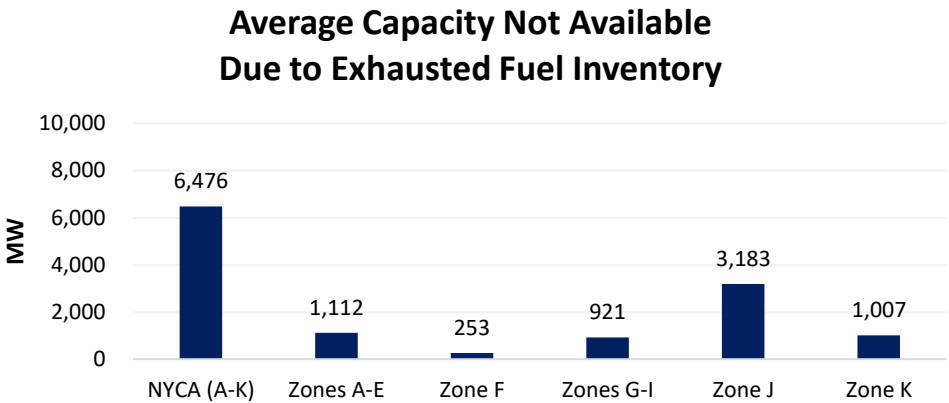
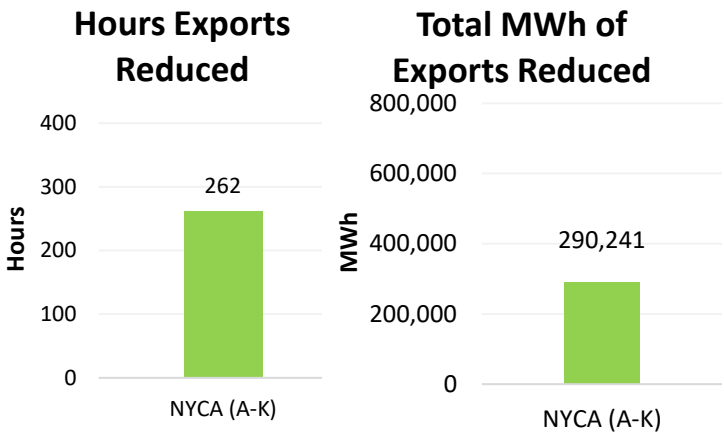
Reserve Violations	
Total Hrs.	164
Total MWh	356,738
Avg. MW	874.4
First Hour with Viol.	69

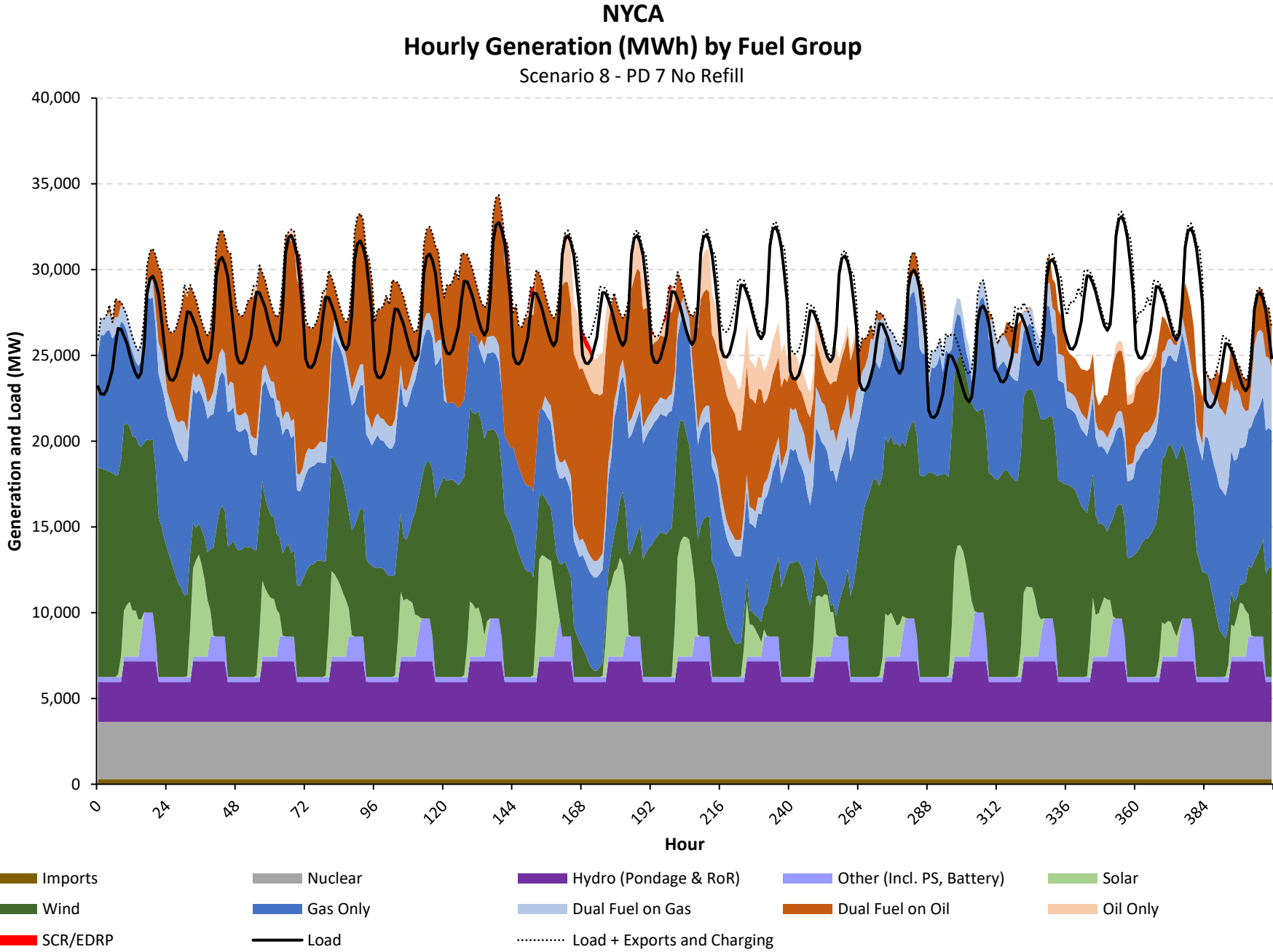
Loss of Load	
Total Hrs.	134
Total MWh	417,017
Avg. MW	1,022.1
First Hour with Losses	163

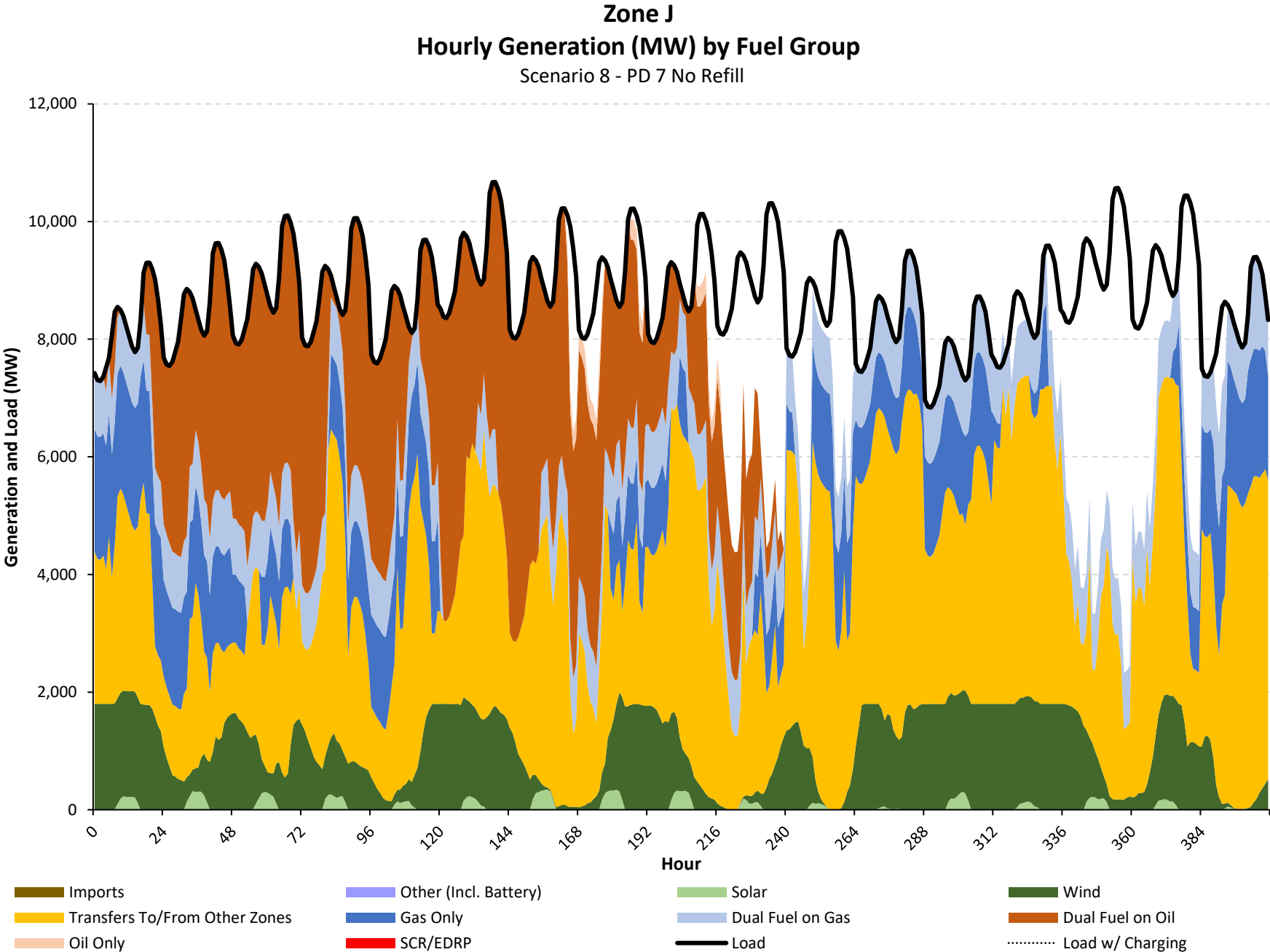
Full Period Results Summary

Case Name: Scenario 8 - PD 7 No Refill

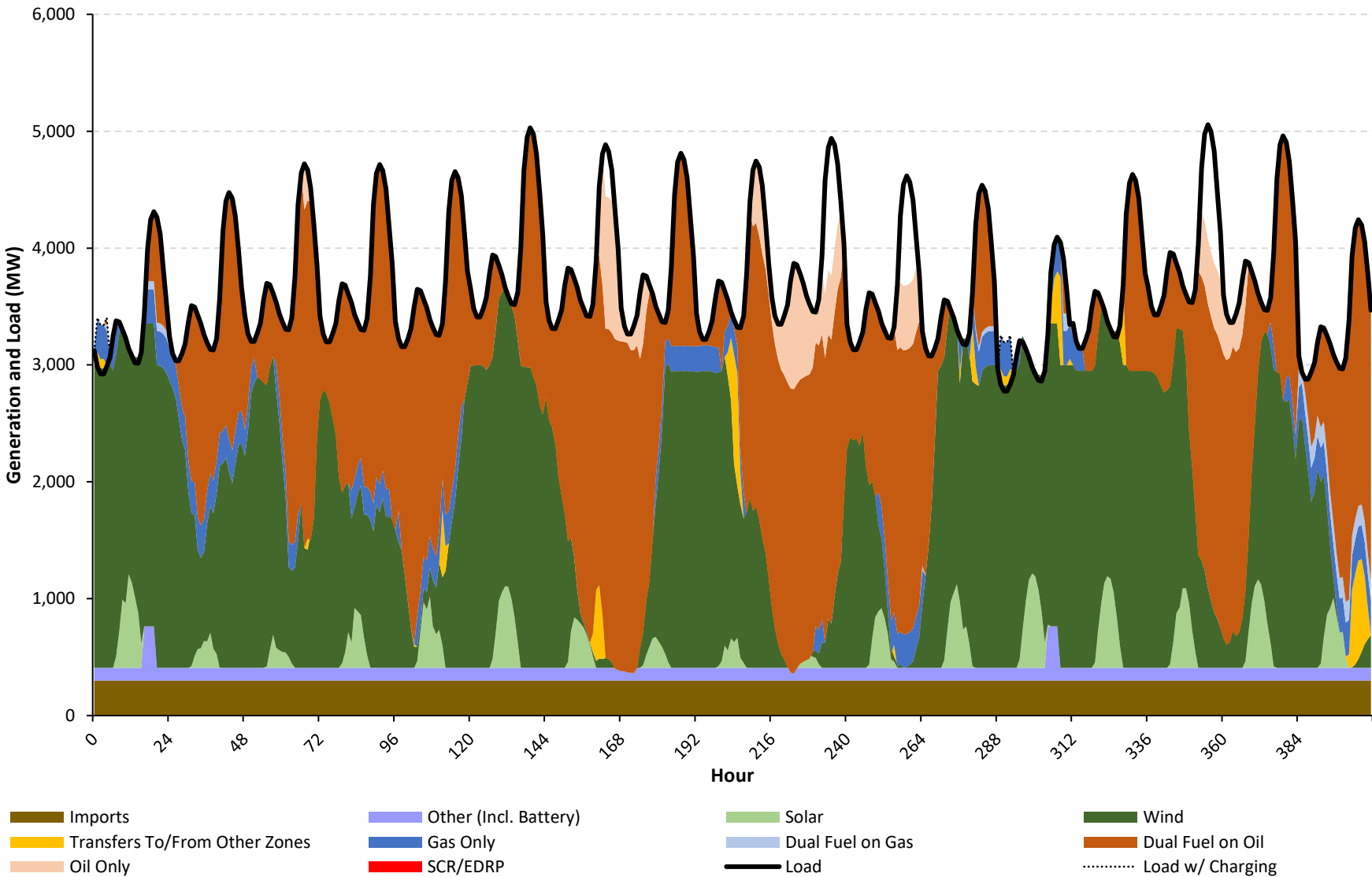
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	No Refill
Loss of Gas Fired Gen.	Off
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



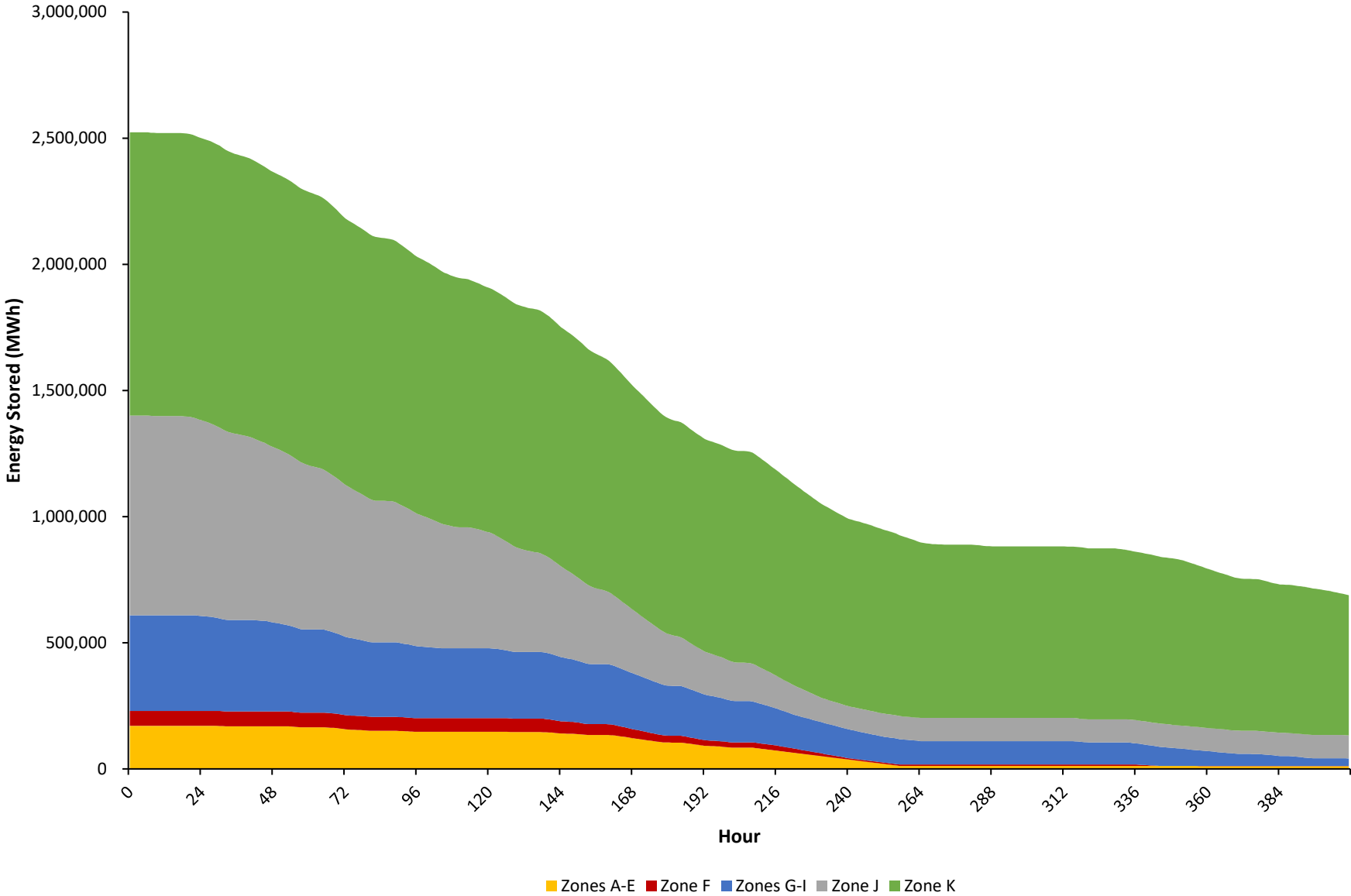


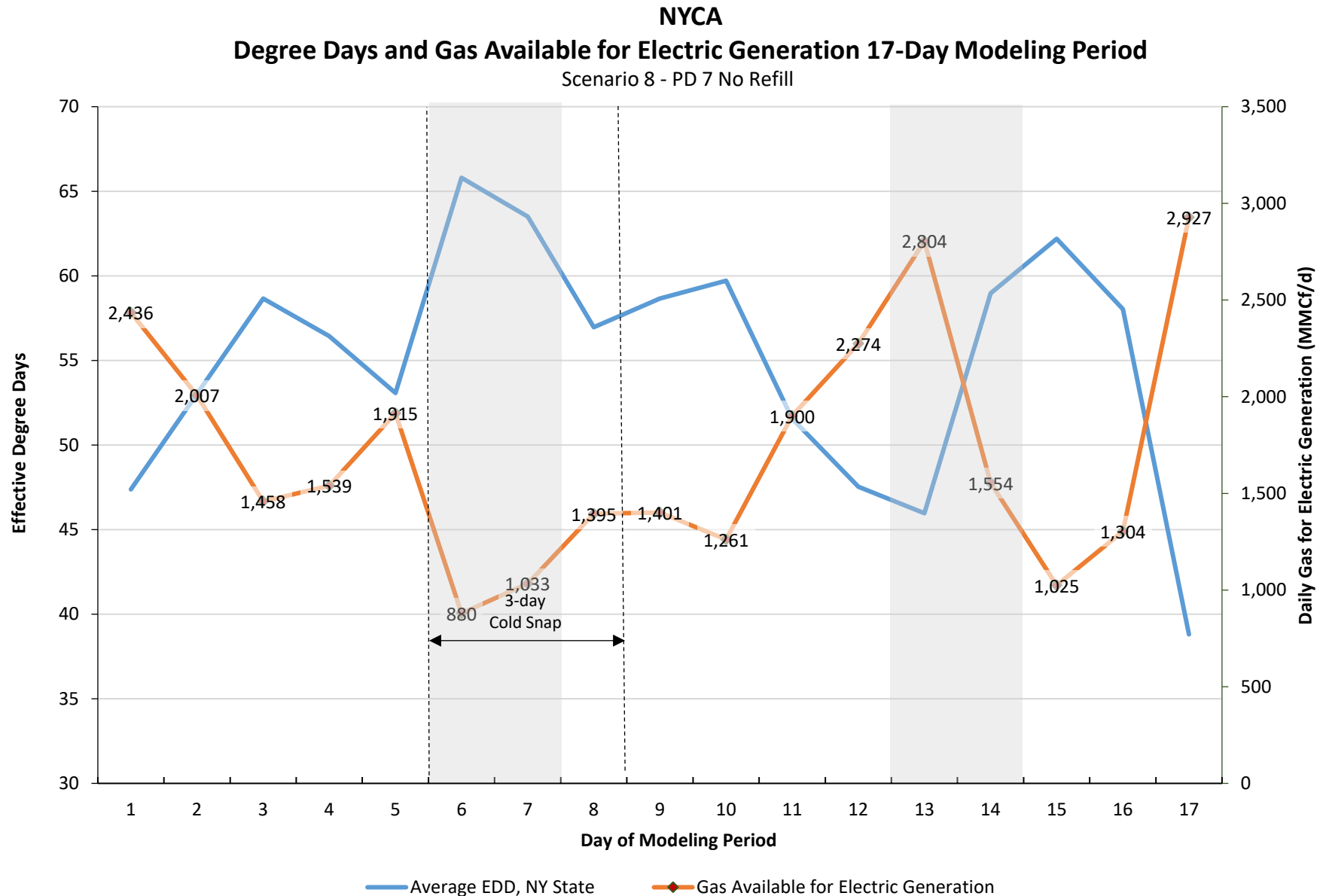


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 8 - PD 7 No Refill



NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 8 - PD 7 No Refill



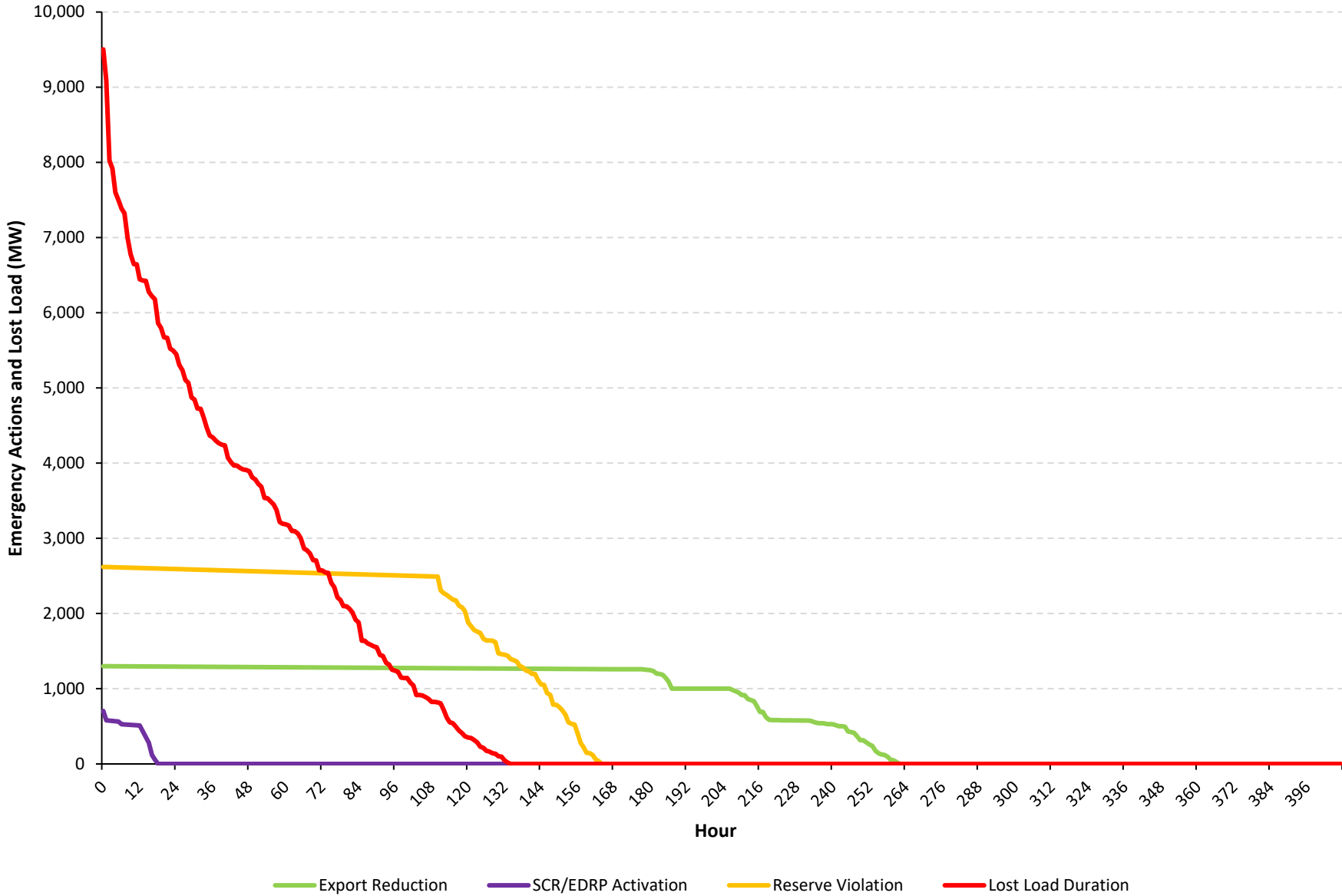


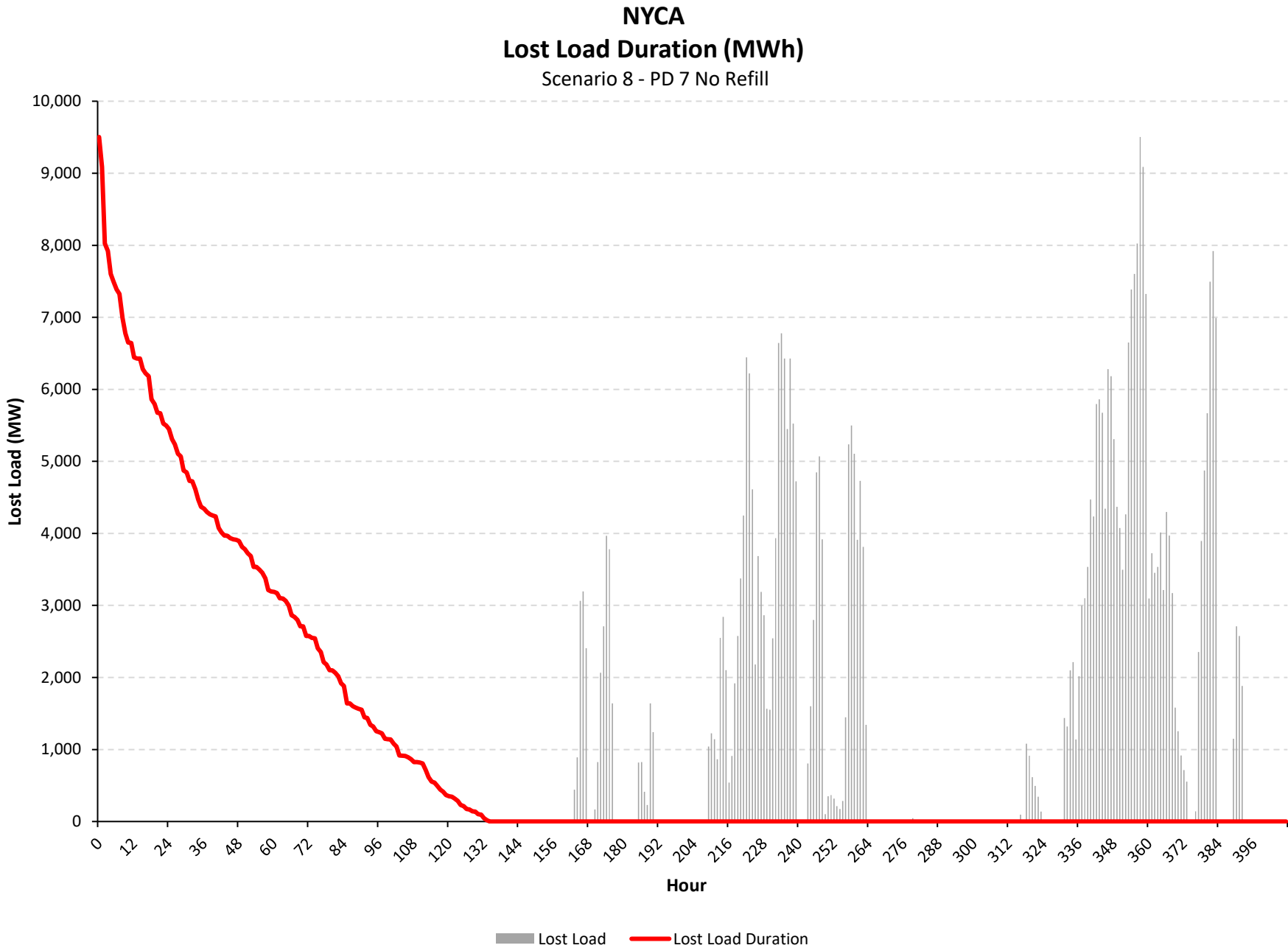
Notes:

[1] Weekends are shaded in gray.

[2] Effective degree day is defined as 65 degrees F - Temperature.

NYCA
Emergency Actions and Lost Load Duration (MWh)
Scenario 8 - PD 7 No Refill



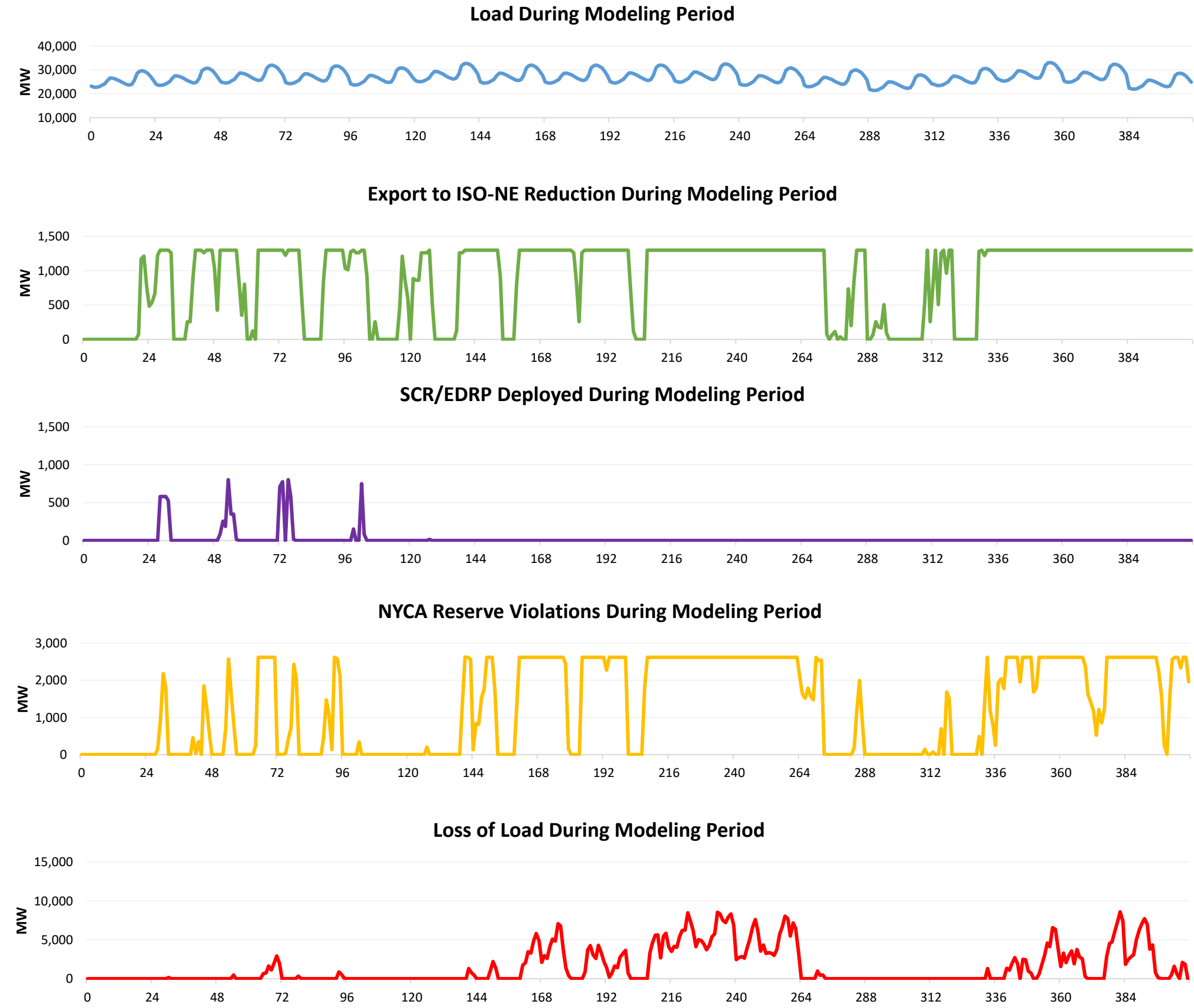


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 8 - PD 8 Non-Firm Gas Unavailable (F-K) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 8 - PD 8 Non-Firm Gas Unavailable (F-K)



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	317
Total MWh	370,750
Avg. MW	908.7

SCR Deployment	
Total Hrs.	20
Total MWh	8,185
Avg. MW	20.1

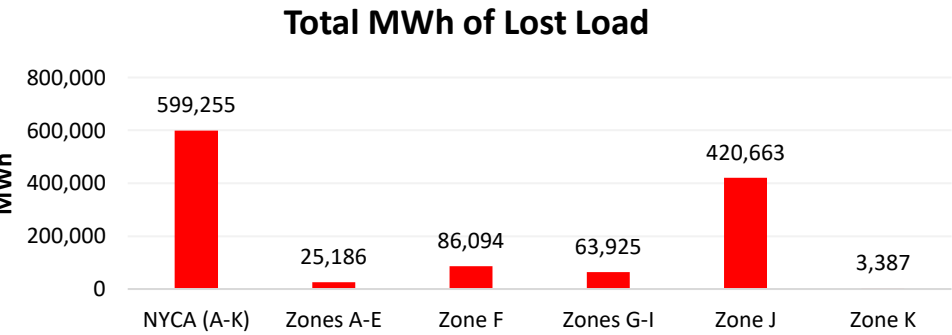
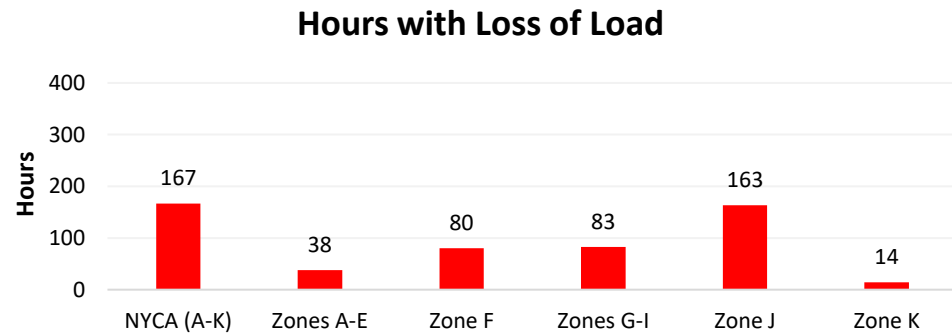
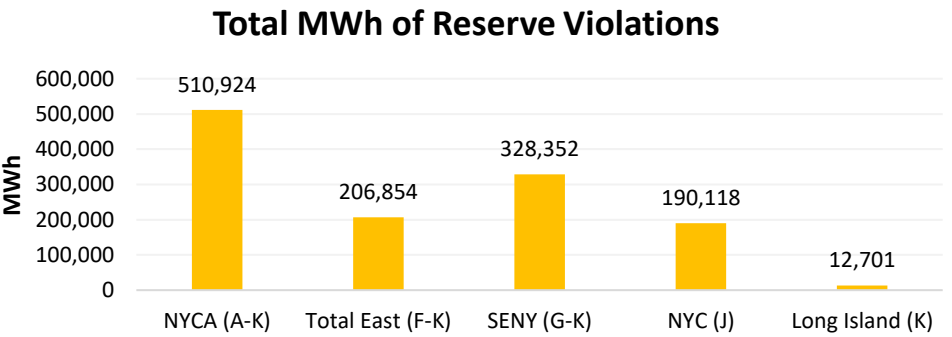
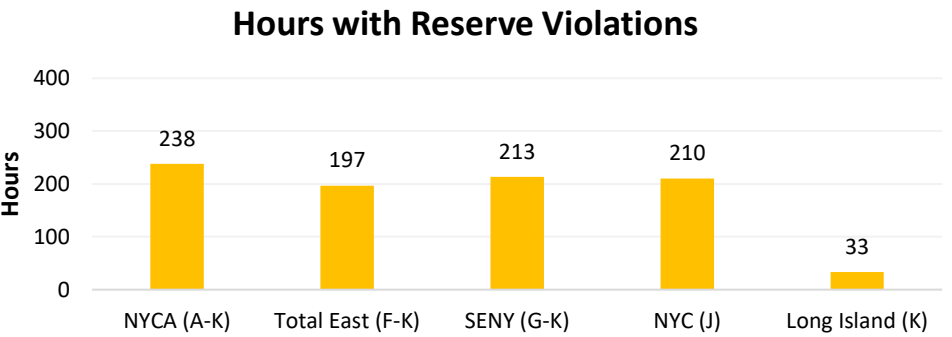
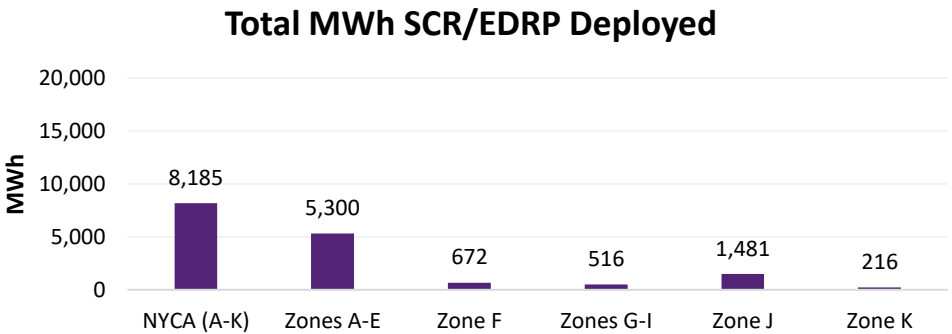
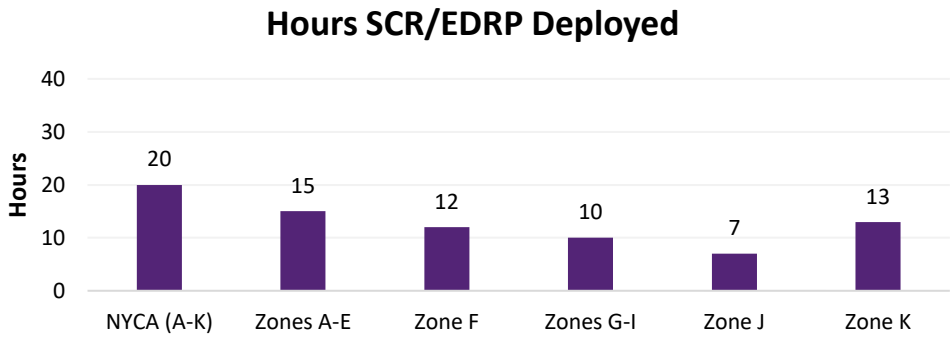
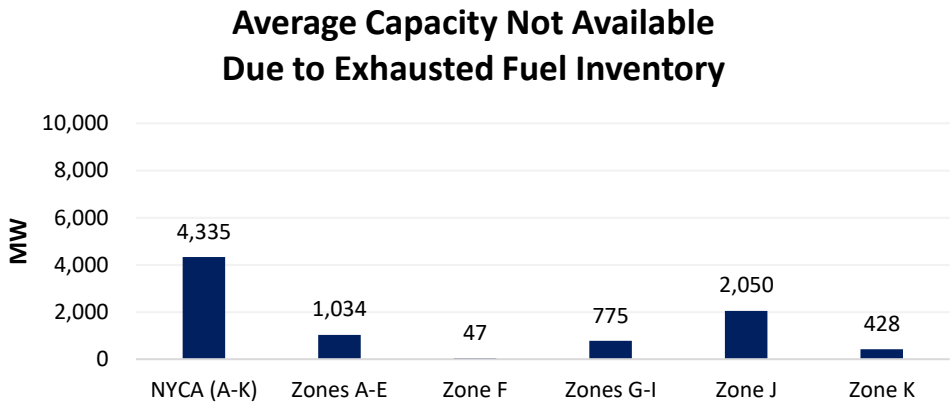
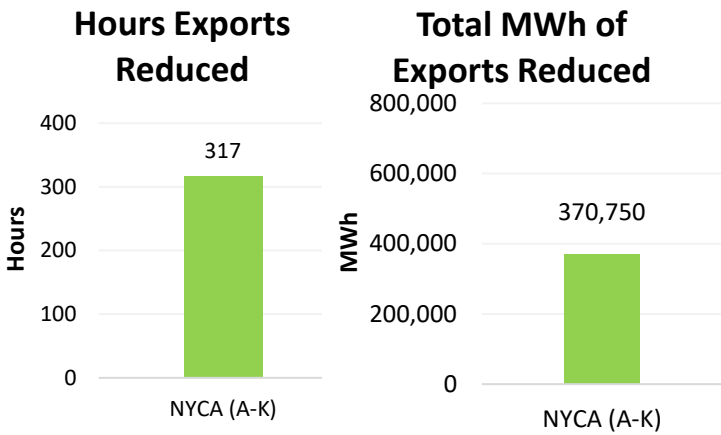
Reserve Violations	
Total Hrs.	238
Total MWh	510,924
Avg. MW	1,252.3
First Hour with Viol.	28

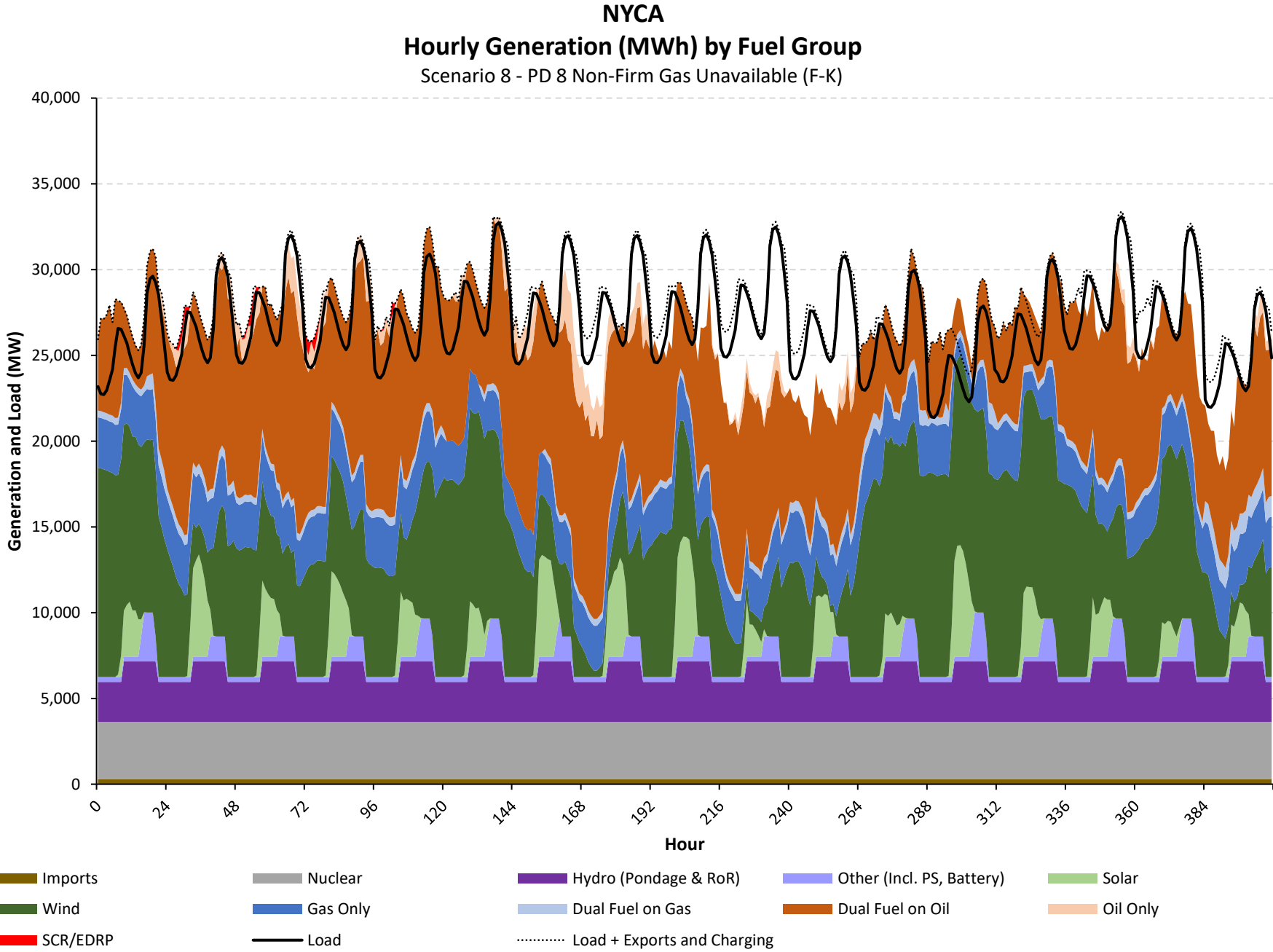
Loss of Load	
Total Hrs.	167
Total MWh	599,255
Avg. MW	1,468.8
First Hour with Losses	30

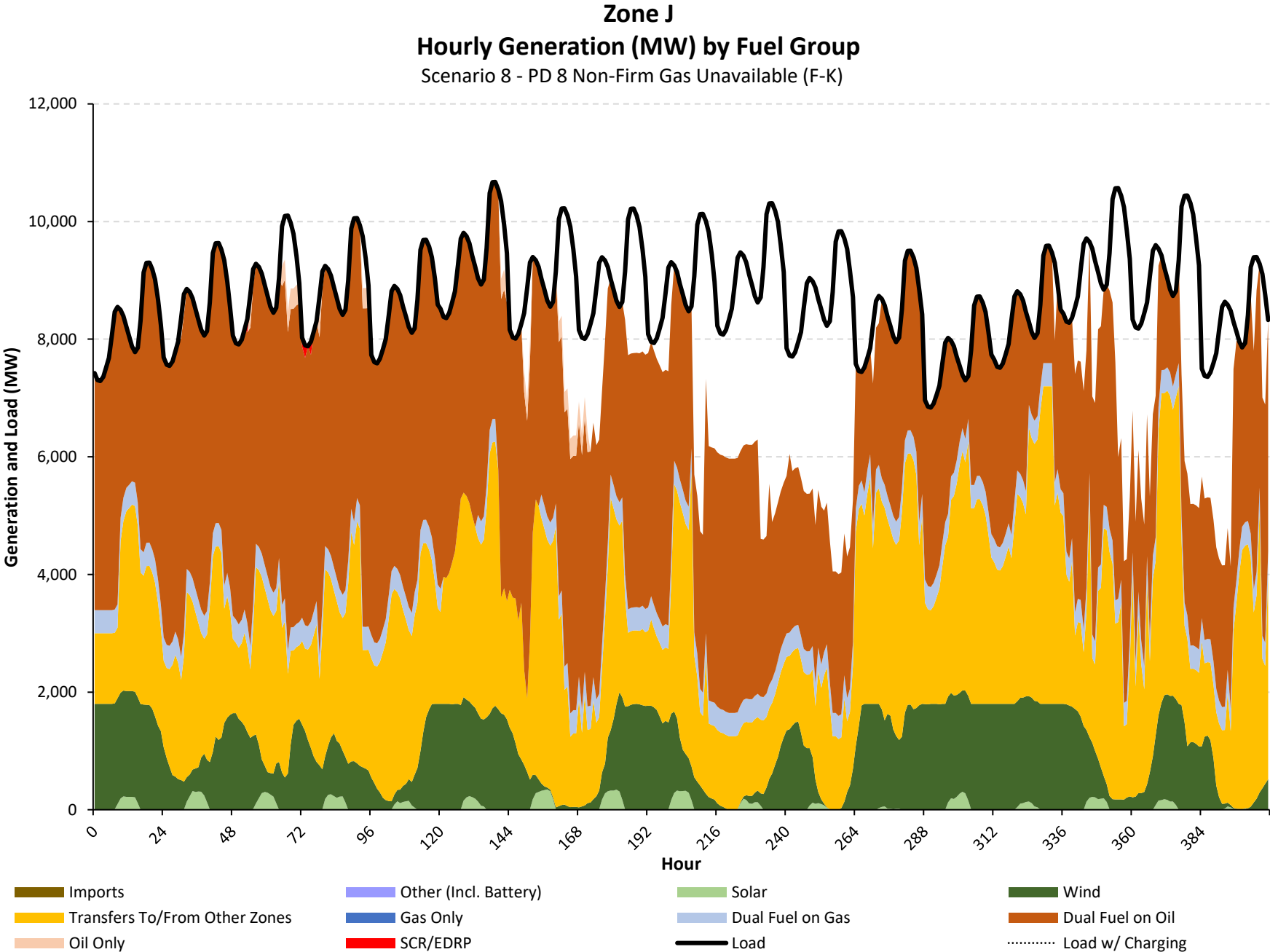
Full Period Results Summary

Case Name: Scenario 8 - PD 8 Non-Firm Gas Unavailable (F-K)

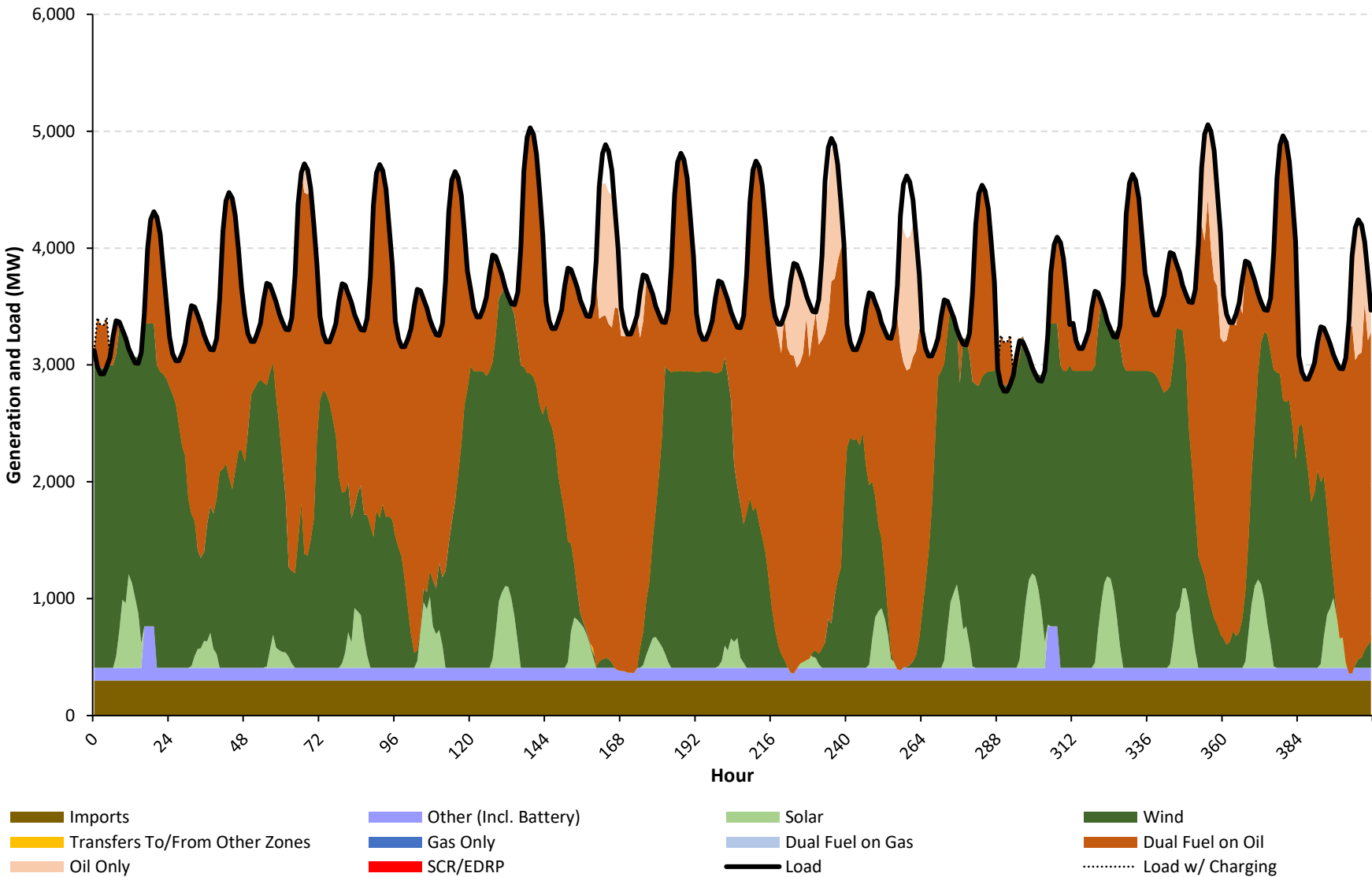
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	F-K
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

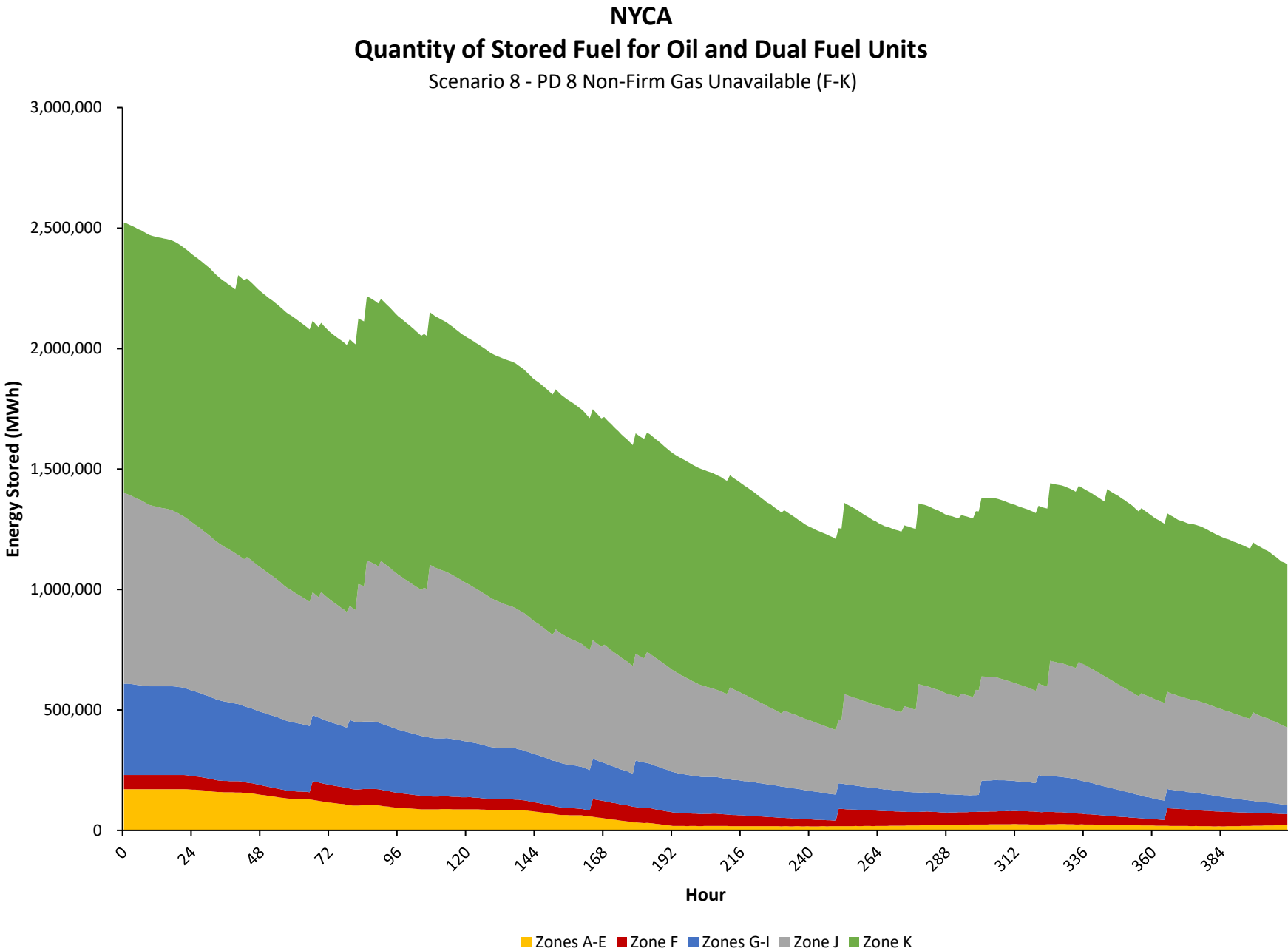


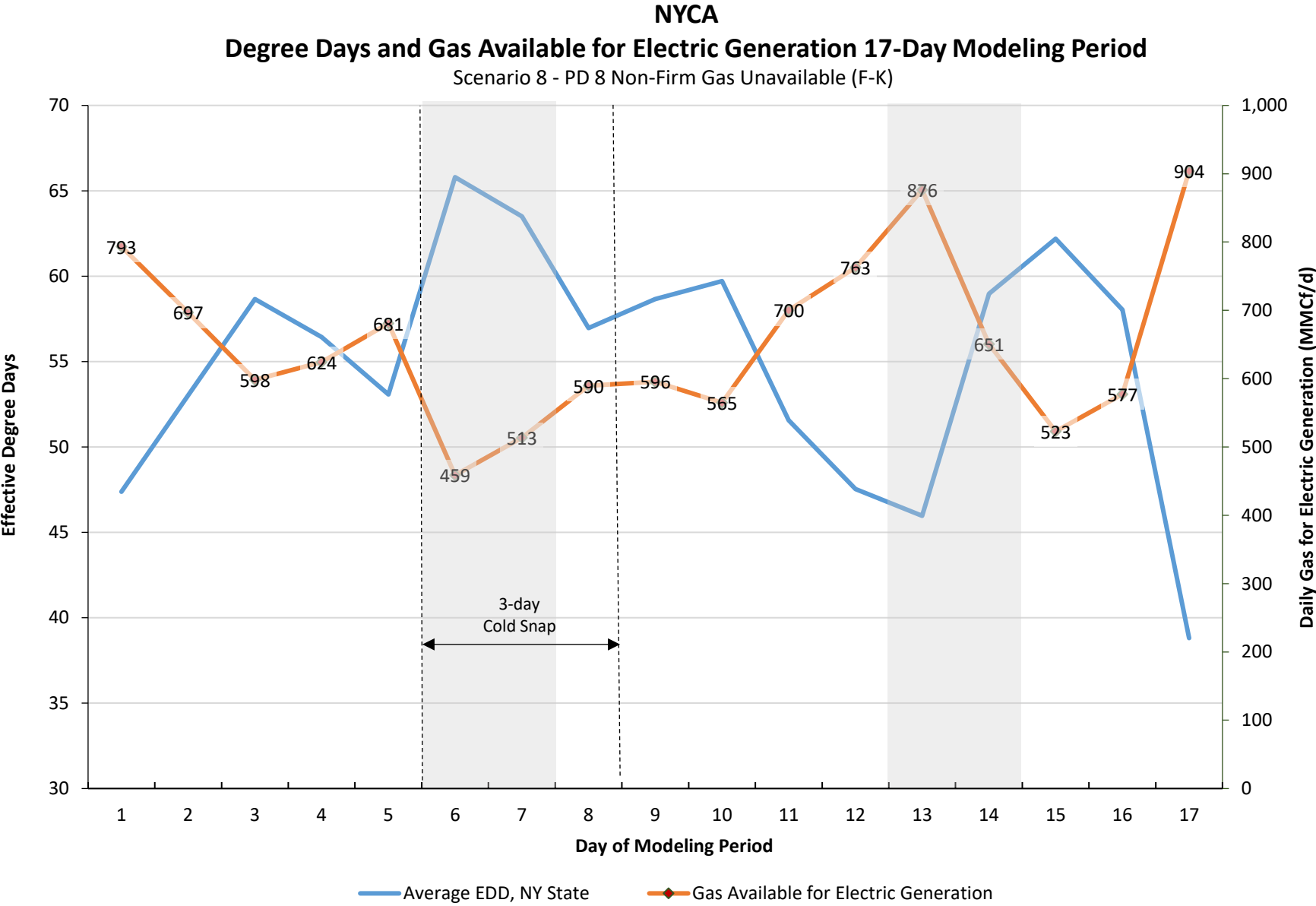




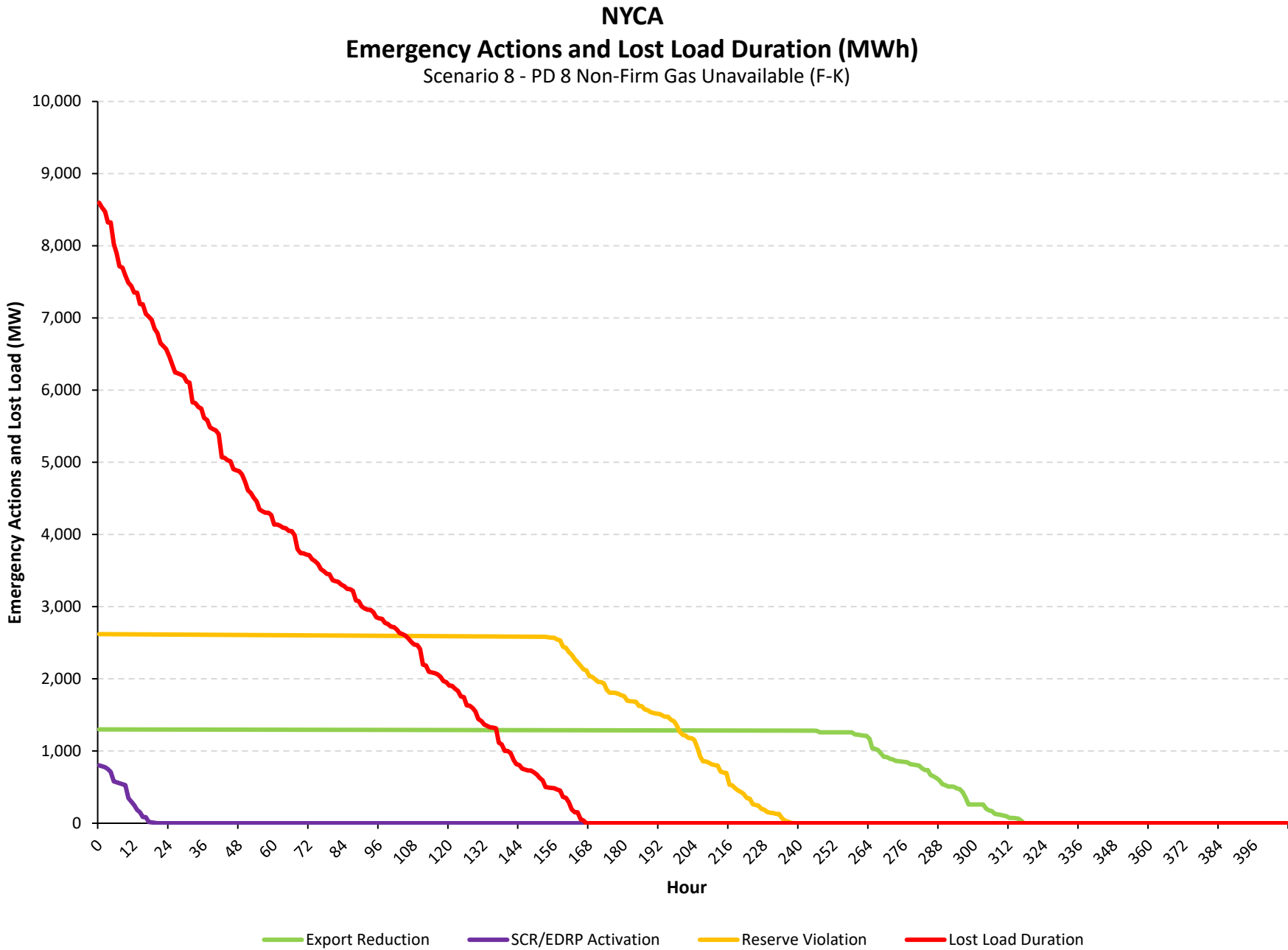
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 8 - PD 8 Non-Firm Gas Unavailable (F-K)

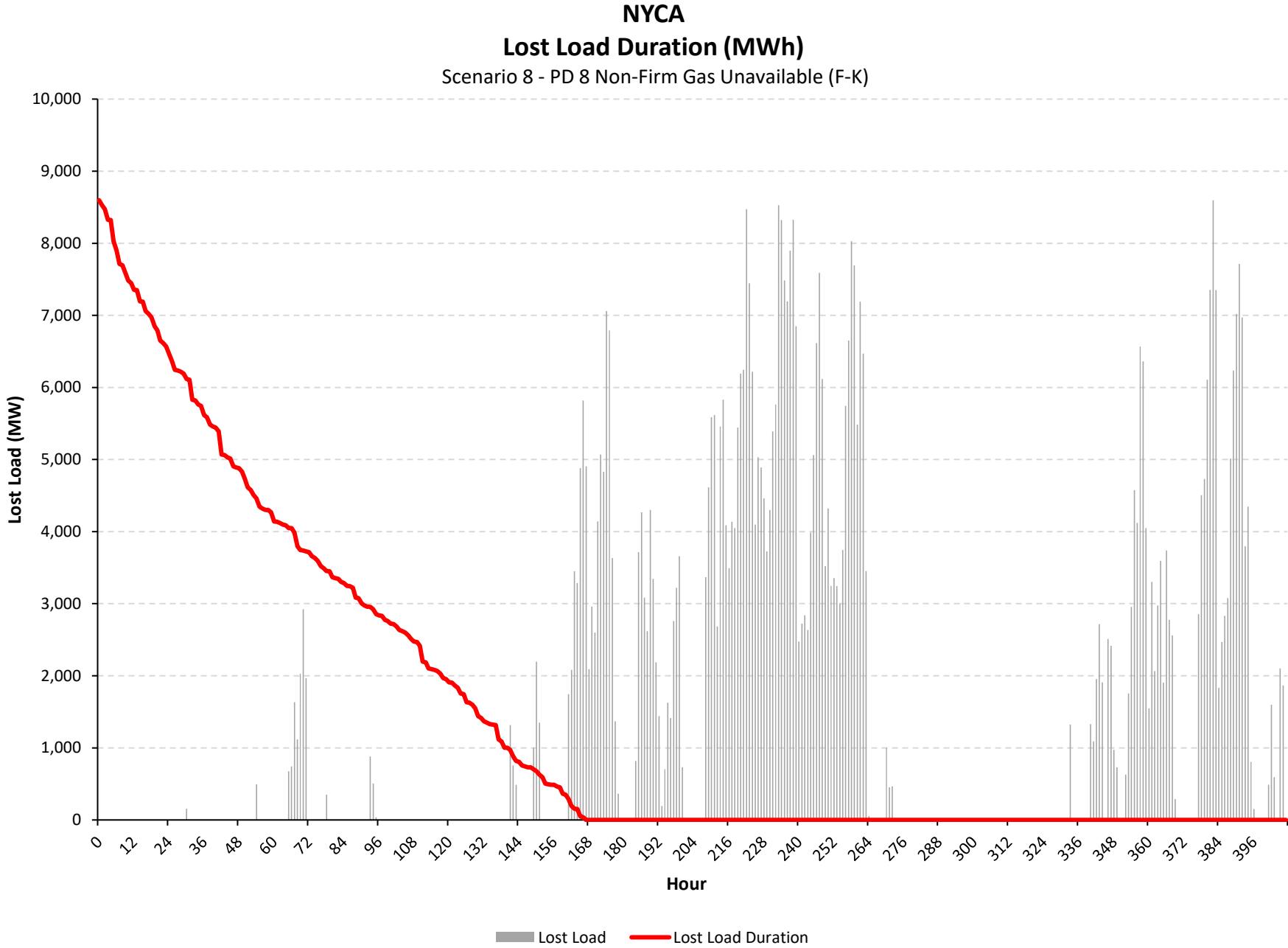






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



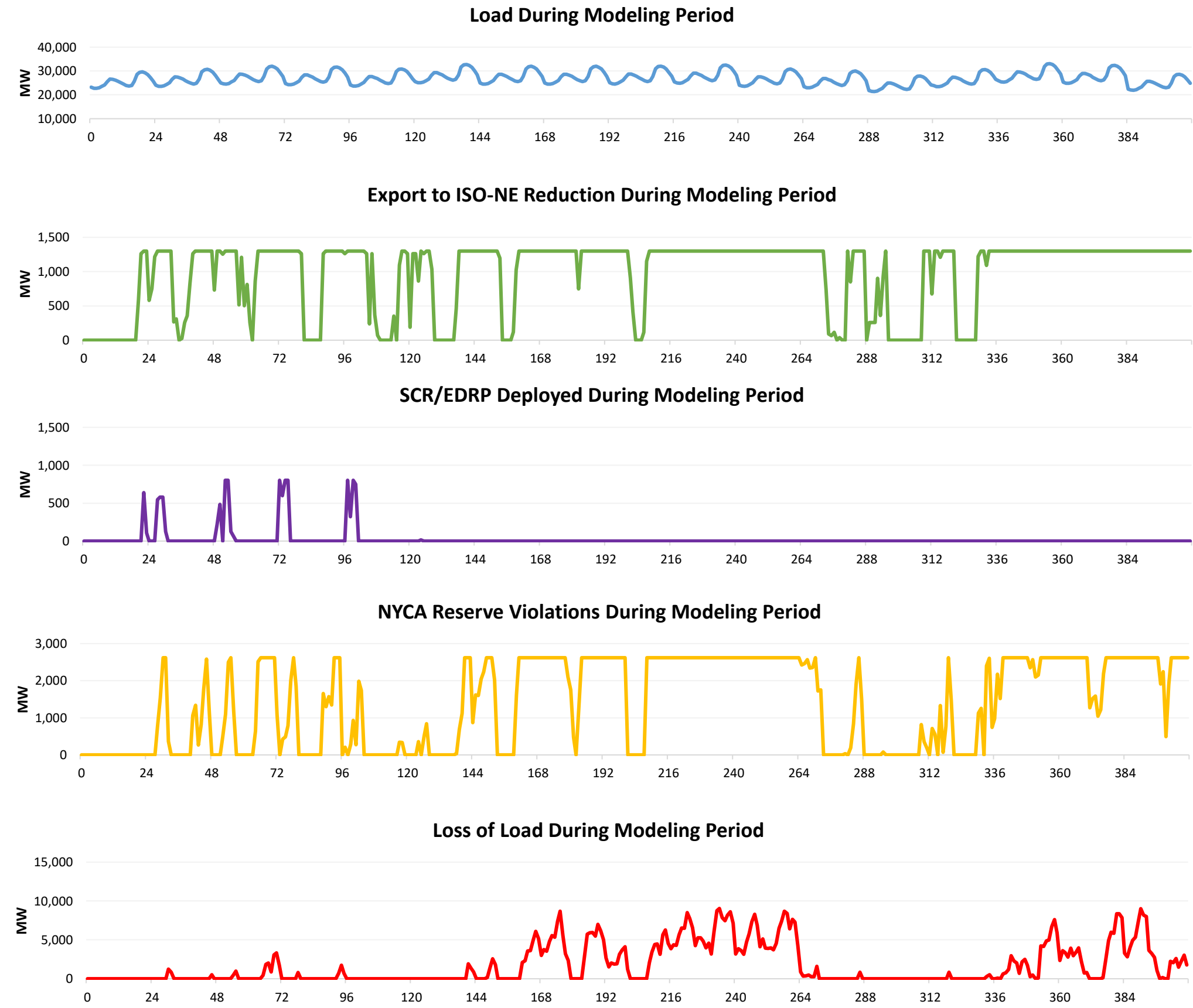


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 8 - PD 9 Non-Firm Gas Unavailable (NYCA) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 8 - PD 9 Non-Firm Gas Unavailable (NYCA)



Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	333
Total MWh	396,923
Avg. MW	972.9

SCR Deployment	
Total Hrs.	21
Total MWh	10,775
Avg. MW	26.4

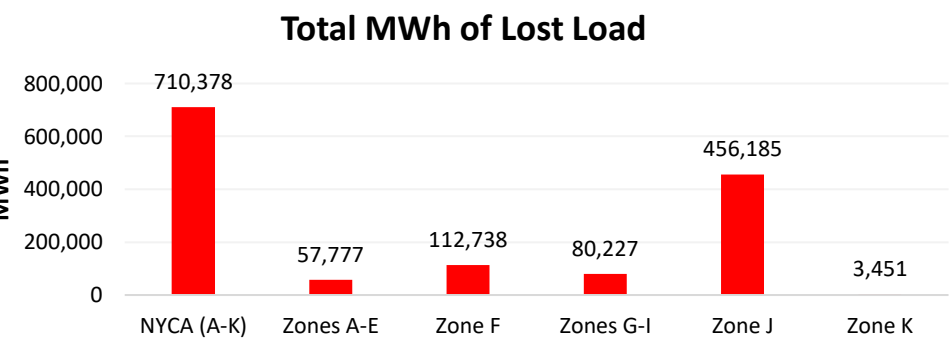
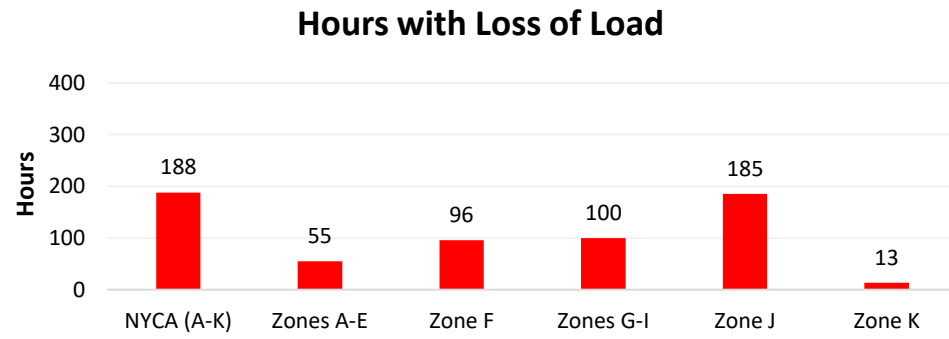
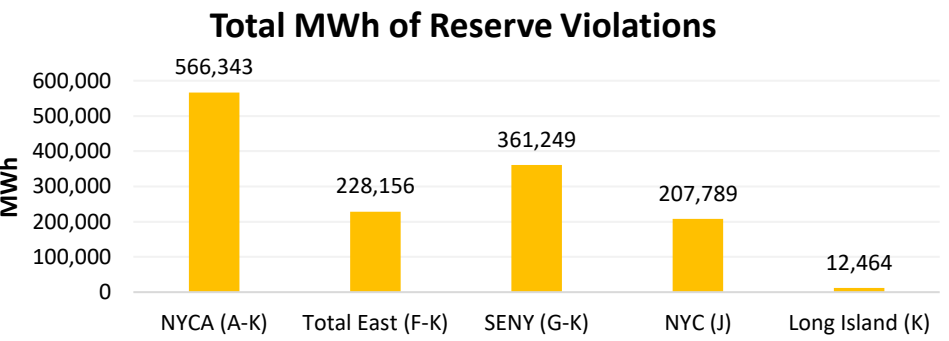
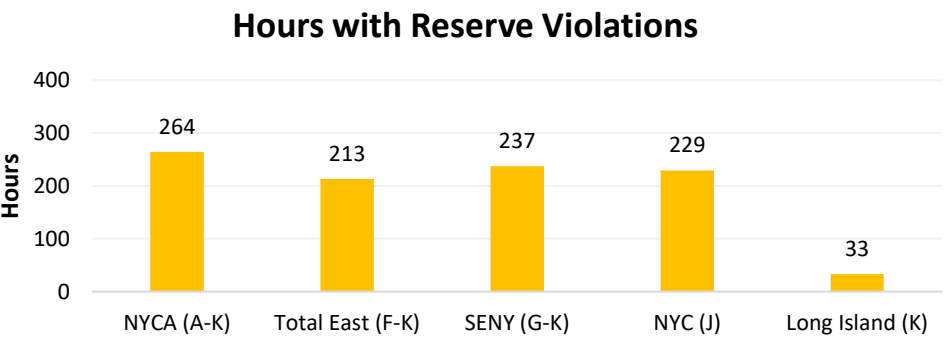
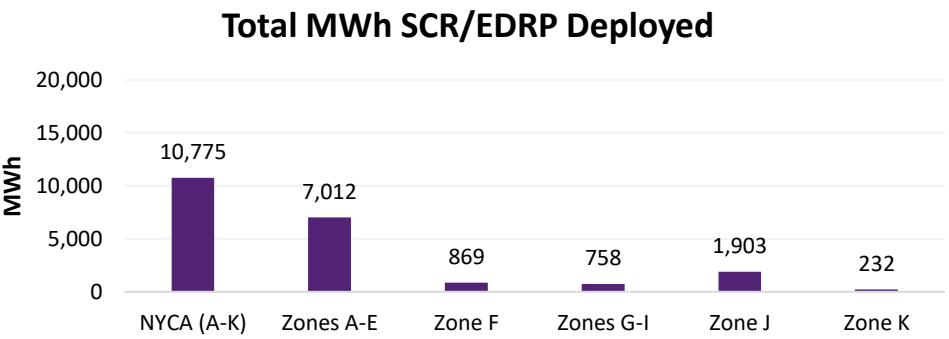
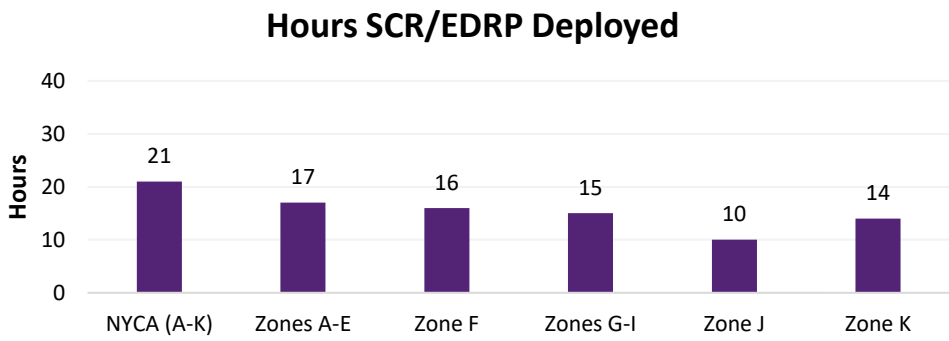
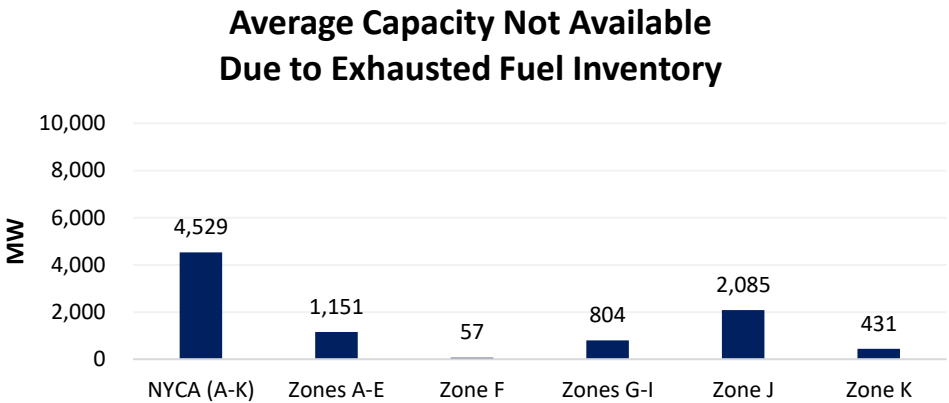
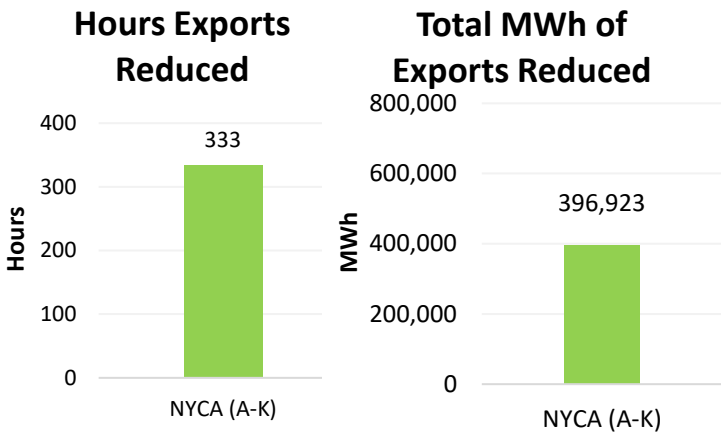
Reserve Violations	
Total Hrs.	264
Total MWh	566,343
Avg. MW	1,388.1
First Hour with Viol.	28

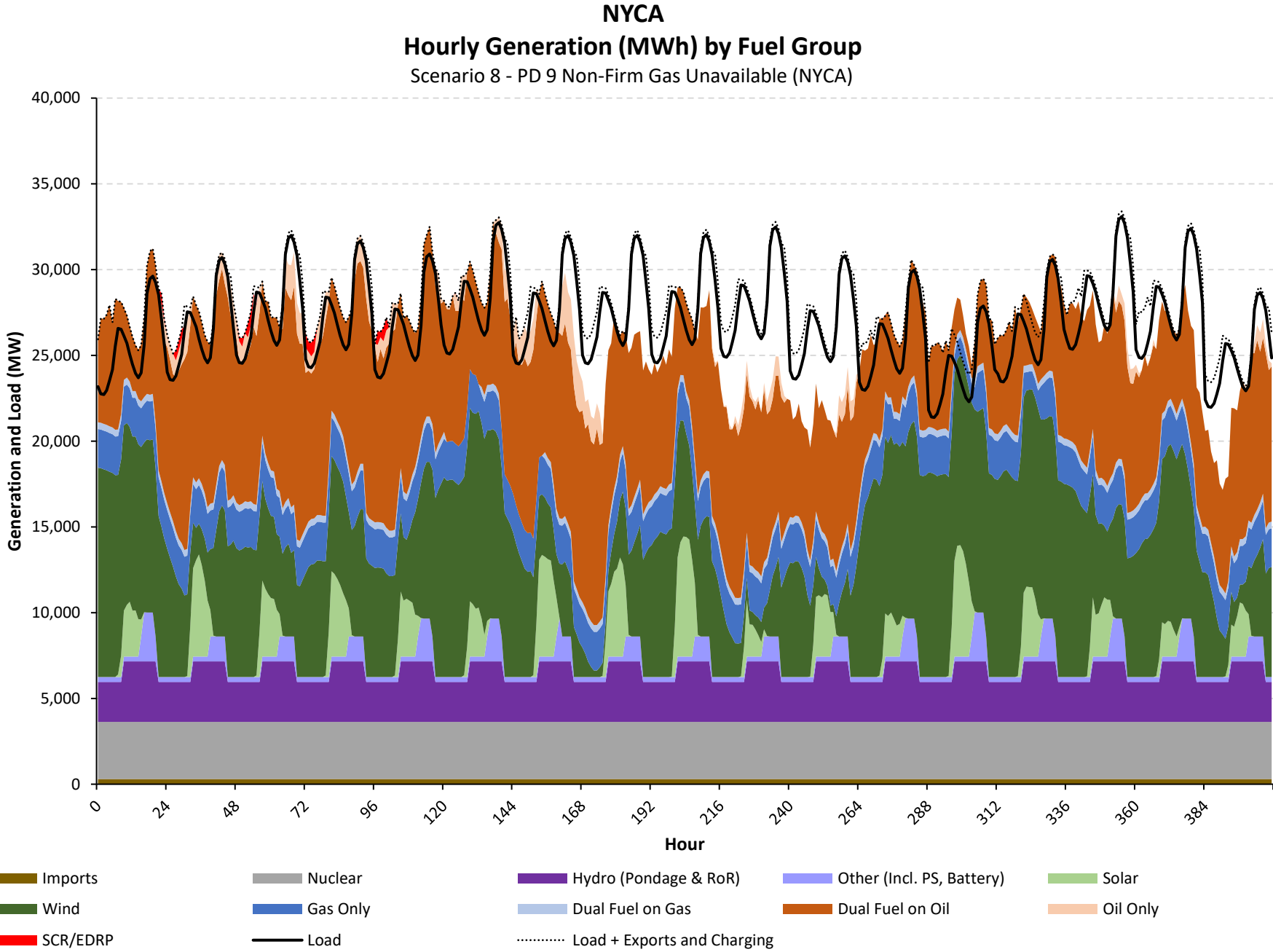
Loss of Load	
Total Hrs.	188
Total MWh	710,378
Avg. MW	1,741.1
First Hour with Losses	30

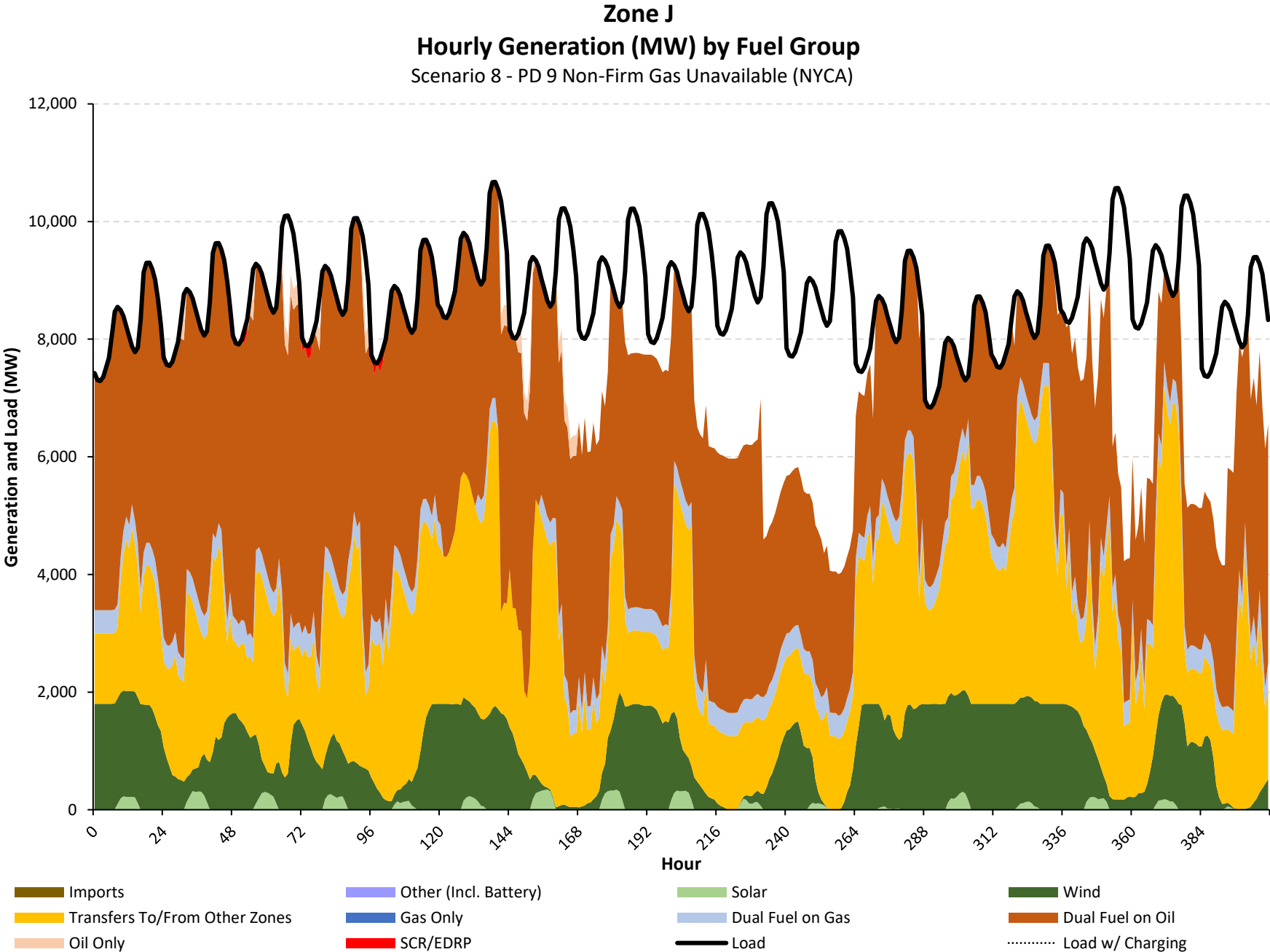
Full Period Results Summary

Case Name: Scenario 8 - PD 9 Non-Firm Gas Unavailable (NYCA)

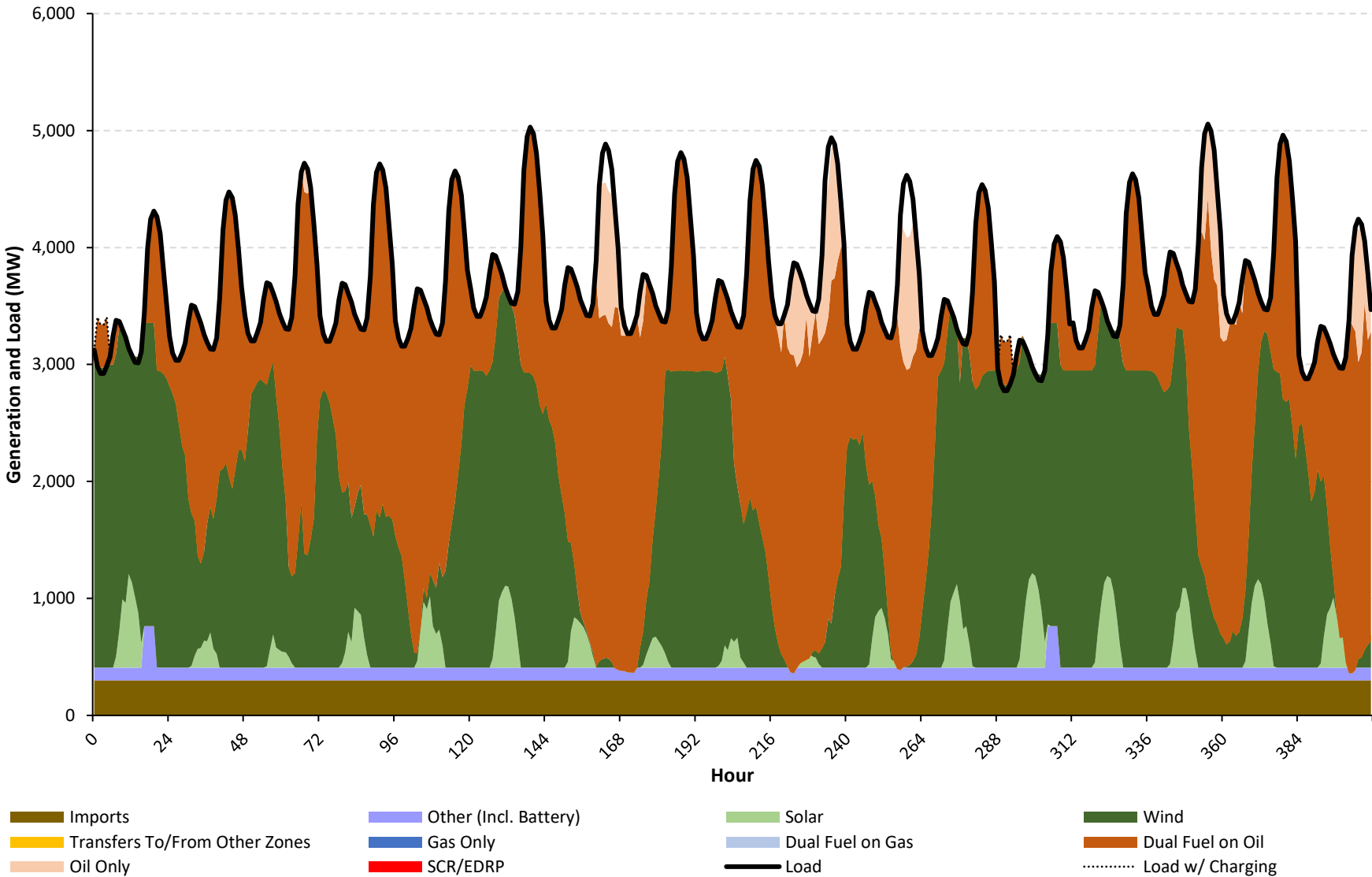
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	NYISO
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

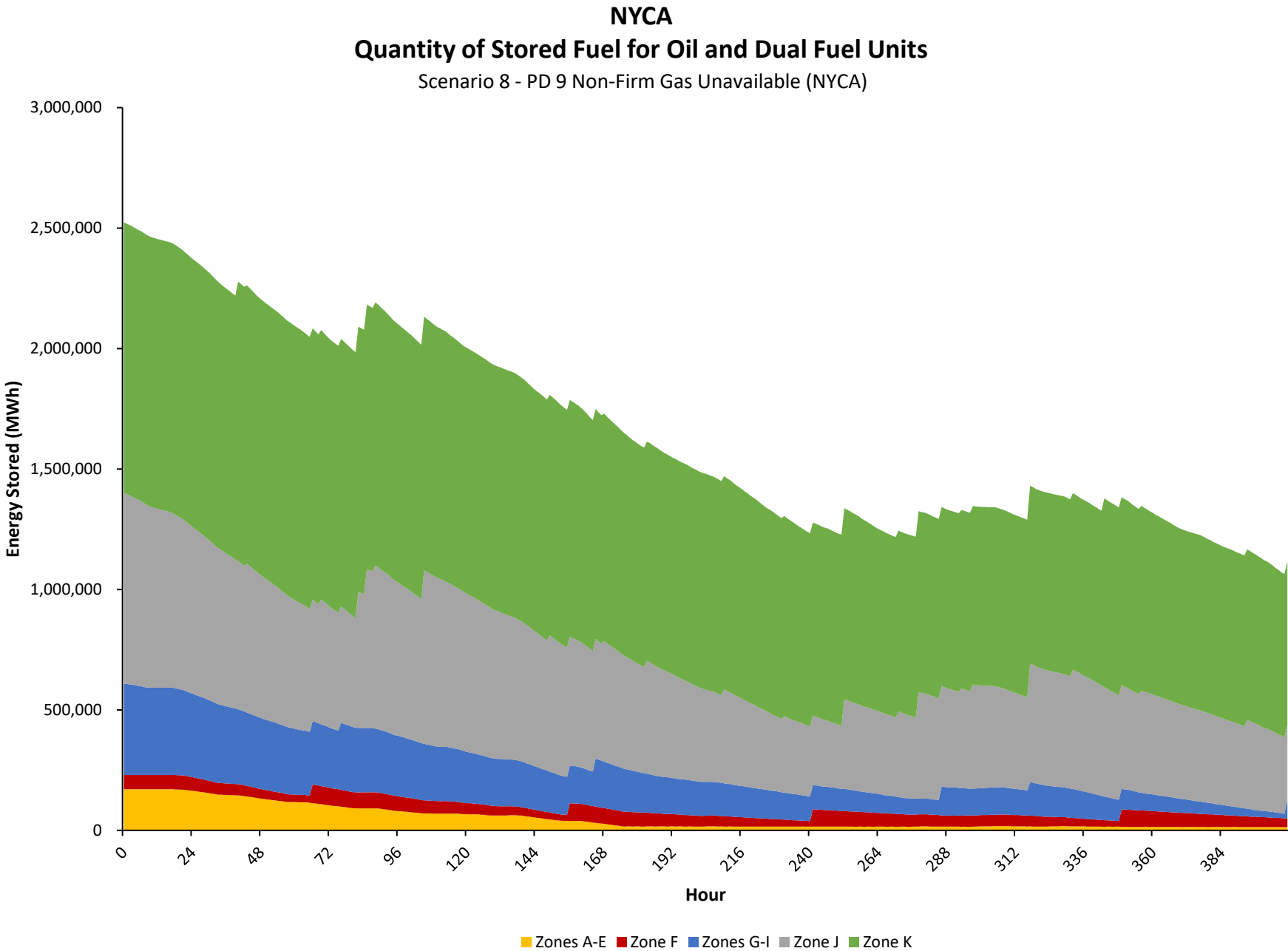


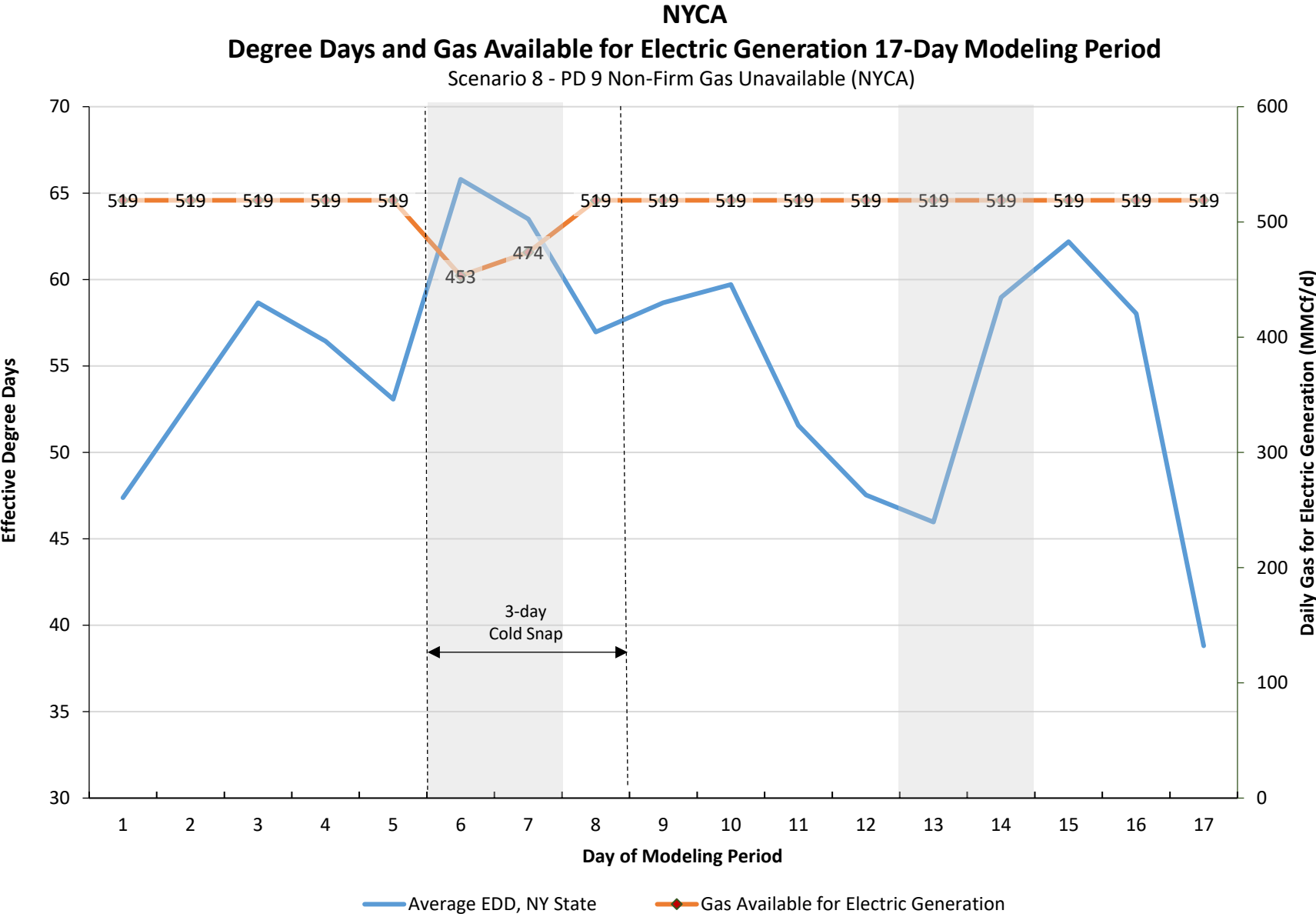




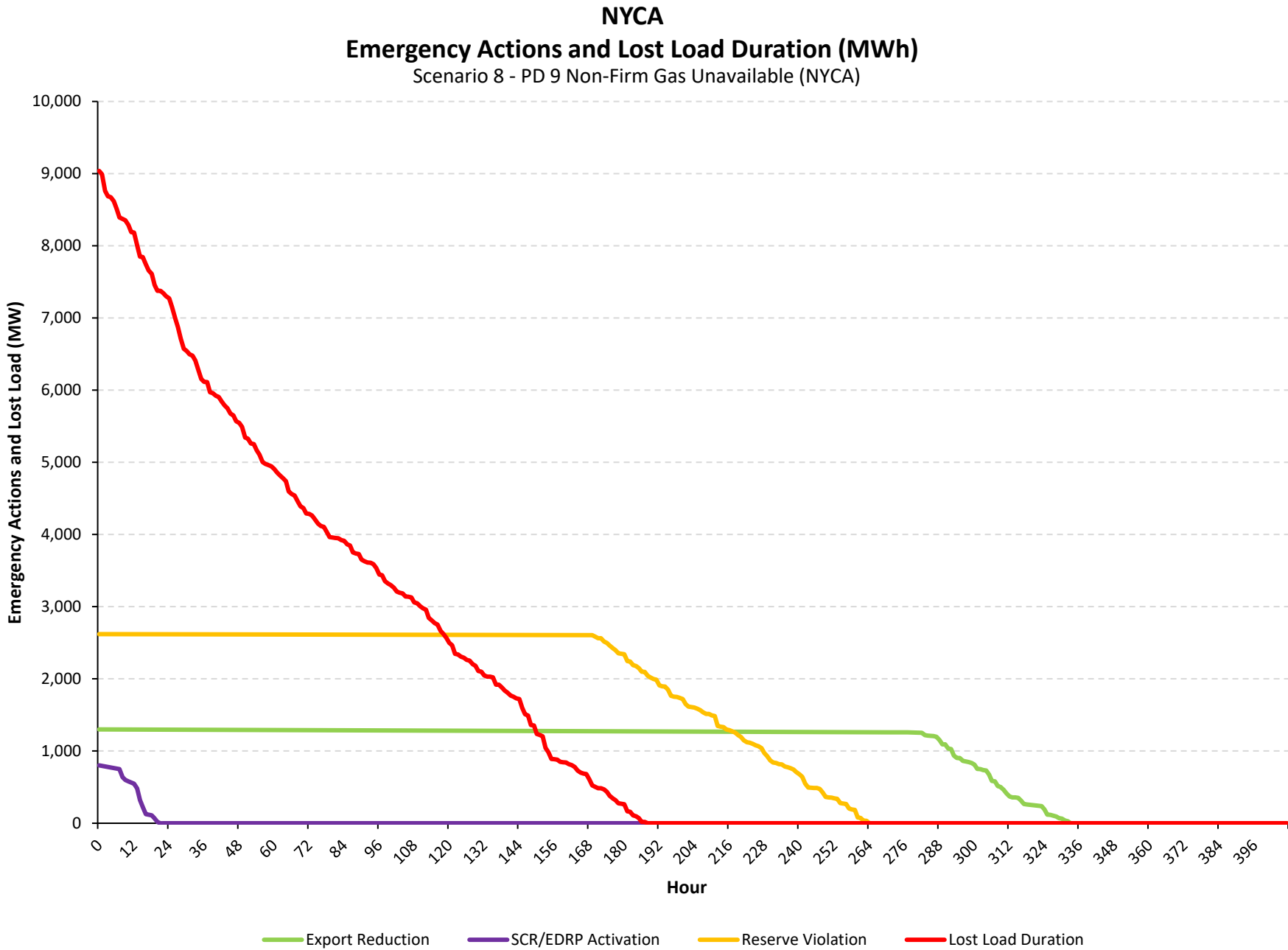
Zone K
Hourly Generation (MW) by Fuel Group
Scenario 8 - PD 9 Non-Firm Gas Unavailable (NYCA)

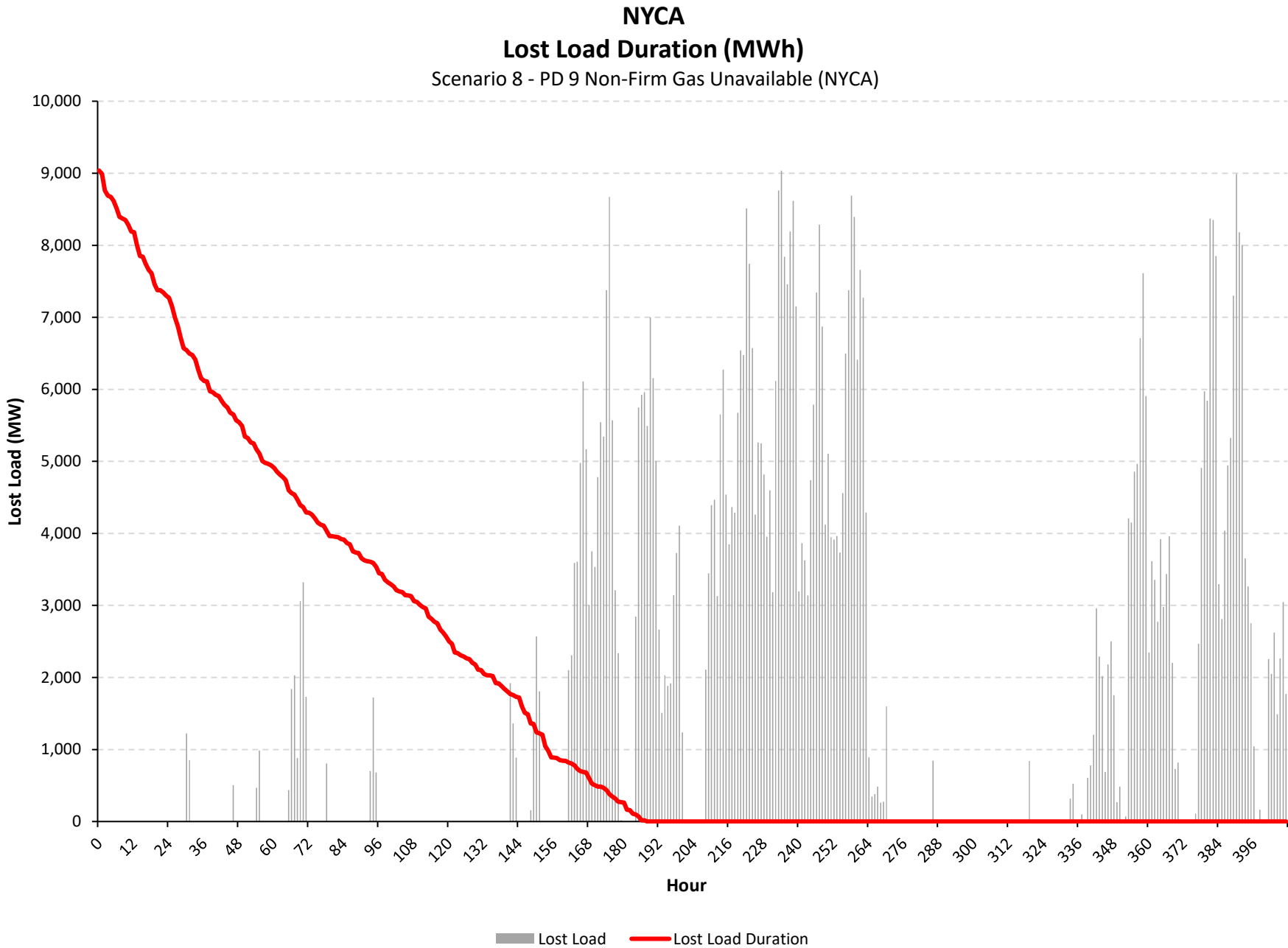






Notes:
[1] Weekends are shaded in gray.
[2] Effective degree day is defined as 65 degrees F - Temperature.



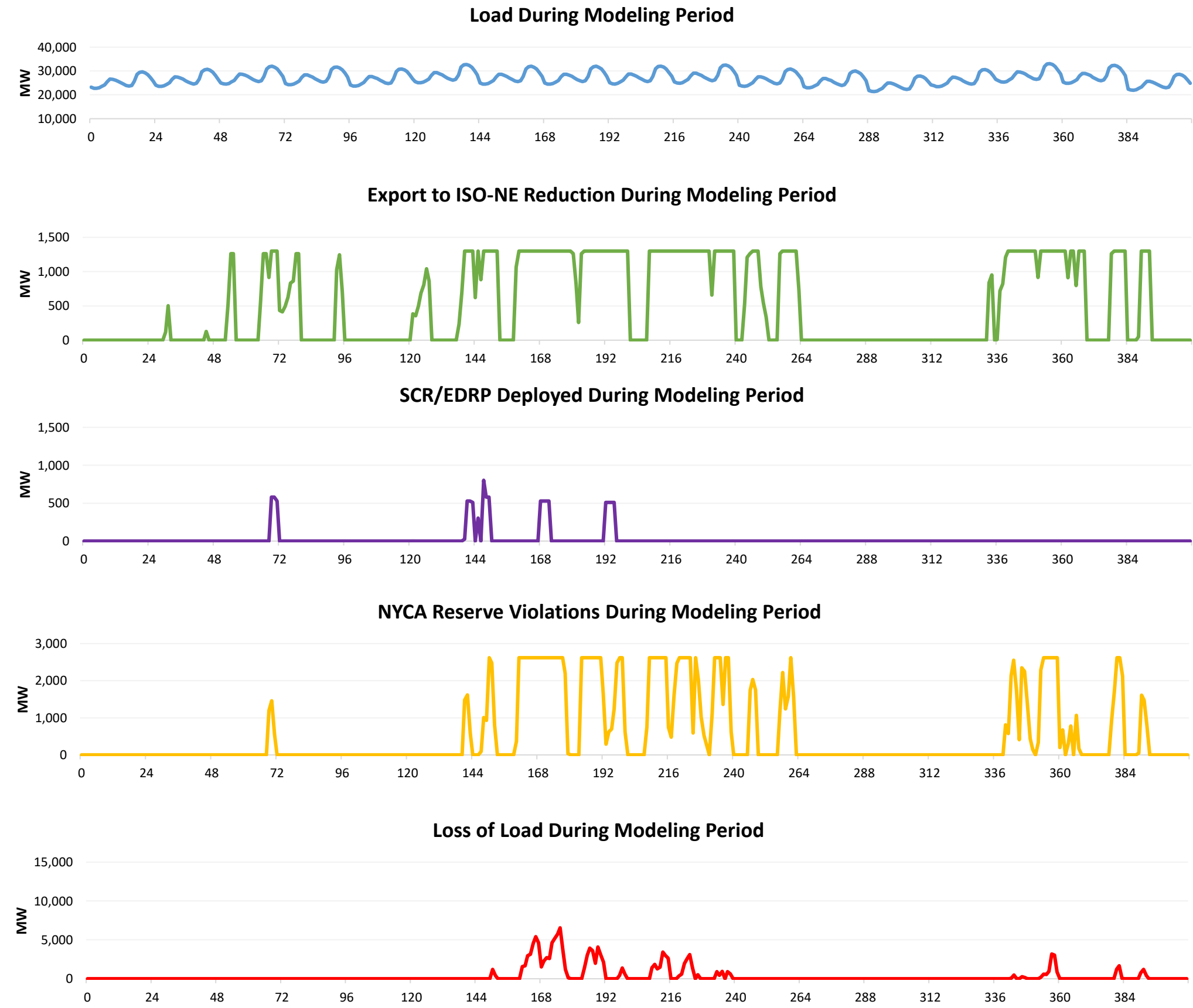


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 8 - PD 10 Non-Firm Gas Unavailable (4 days) (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 8 - PD 10 Non-Firm Gas Unavailable (4 days)



Case Summary	
Derate (EFORD) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	184
Total MWh	208,276
Avg. MW	510.5

SCR Deployment	
Total Hrs.	19
Total MWh	9,684
Avg. MW	23.7

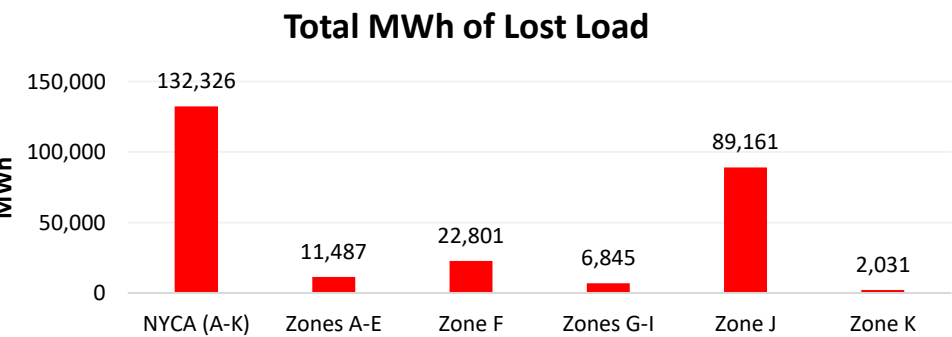
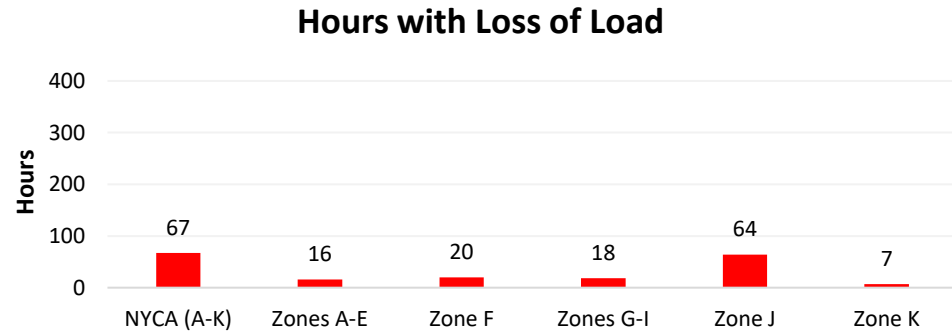
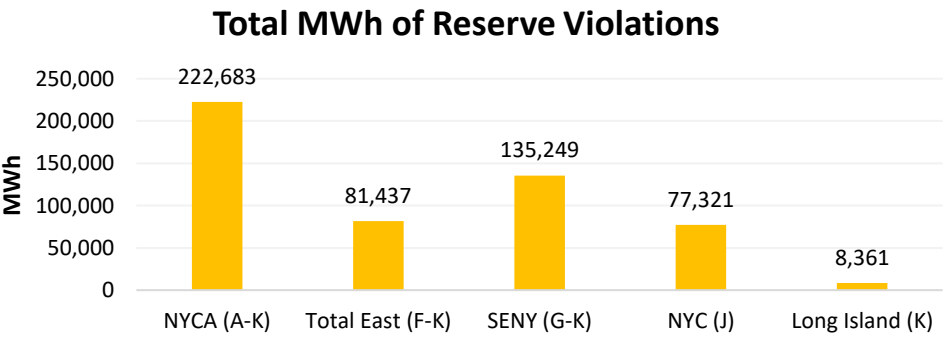
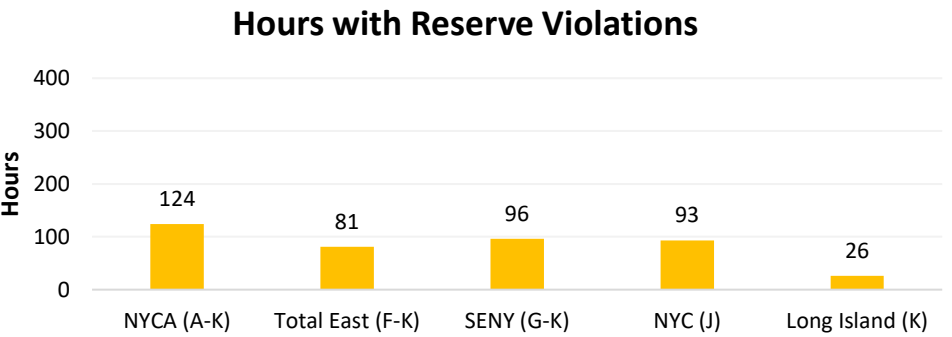
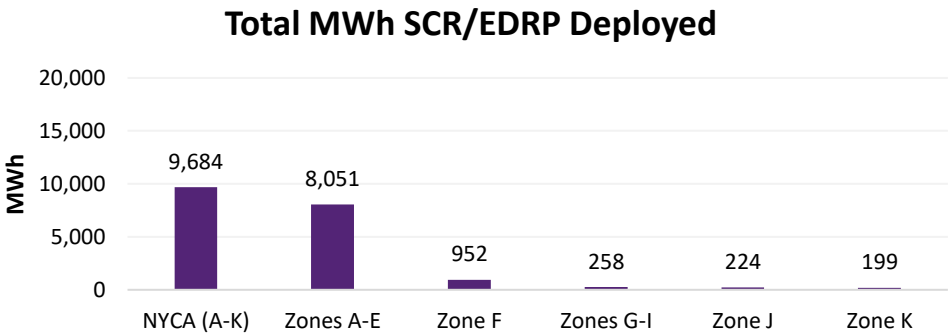
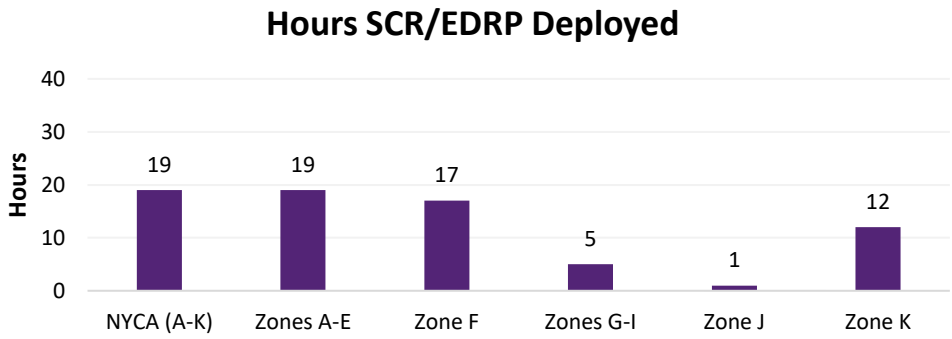
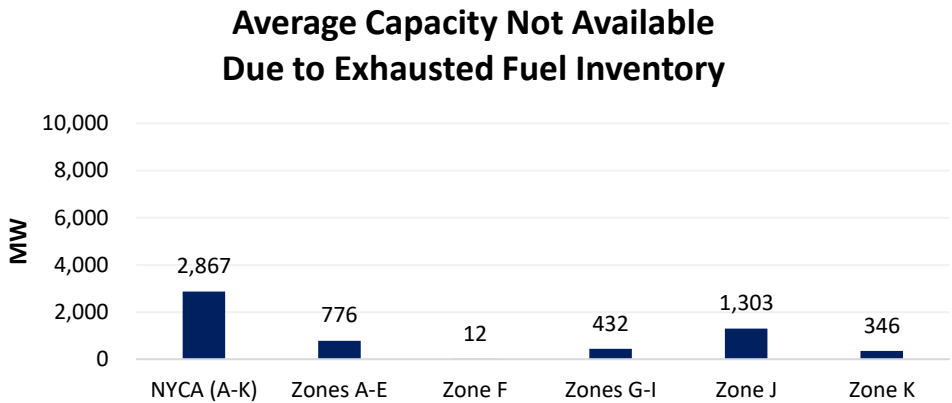
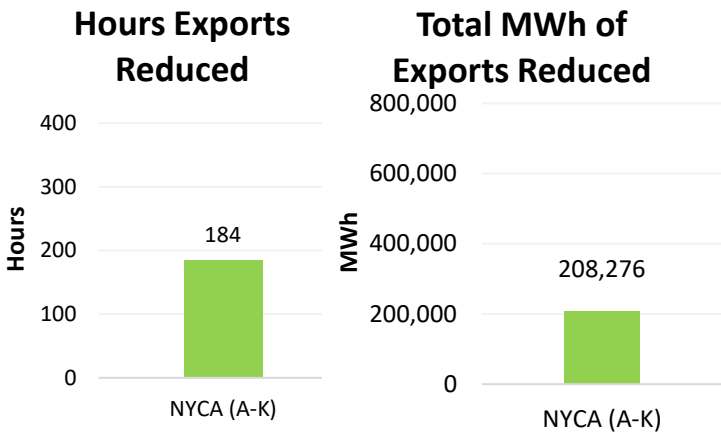
Reserve Violations	
Total Hrs.	124
Total MWh	222,683
Avg. MW	545.8
First Hour with Viol.	69

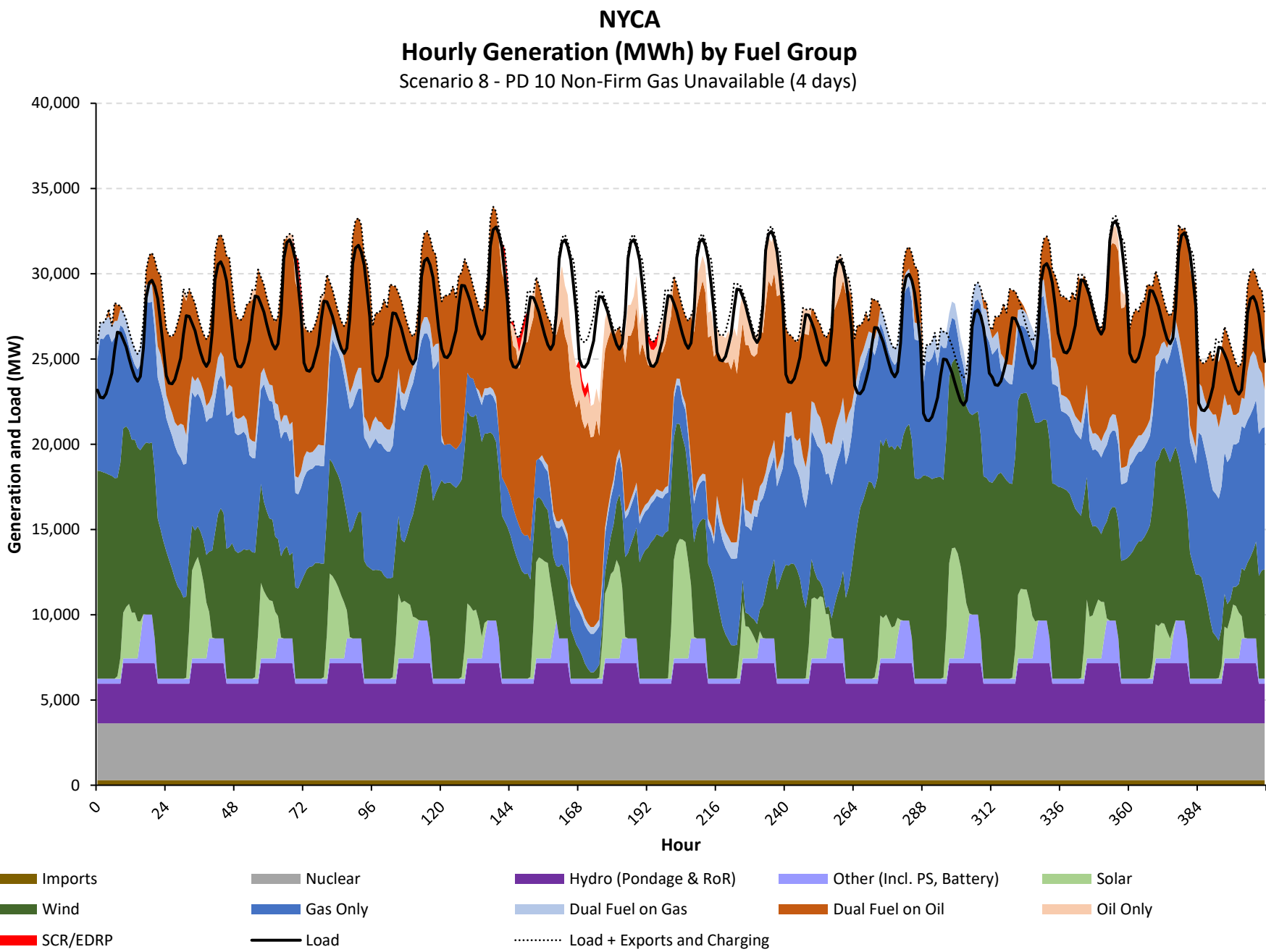
Loss of Load	
Total Hrs.	67
Total MWh	132,326
Avg. MW	324.3
First Hour with Losses	150

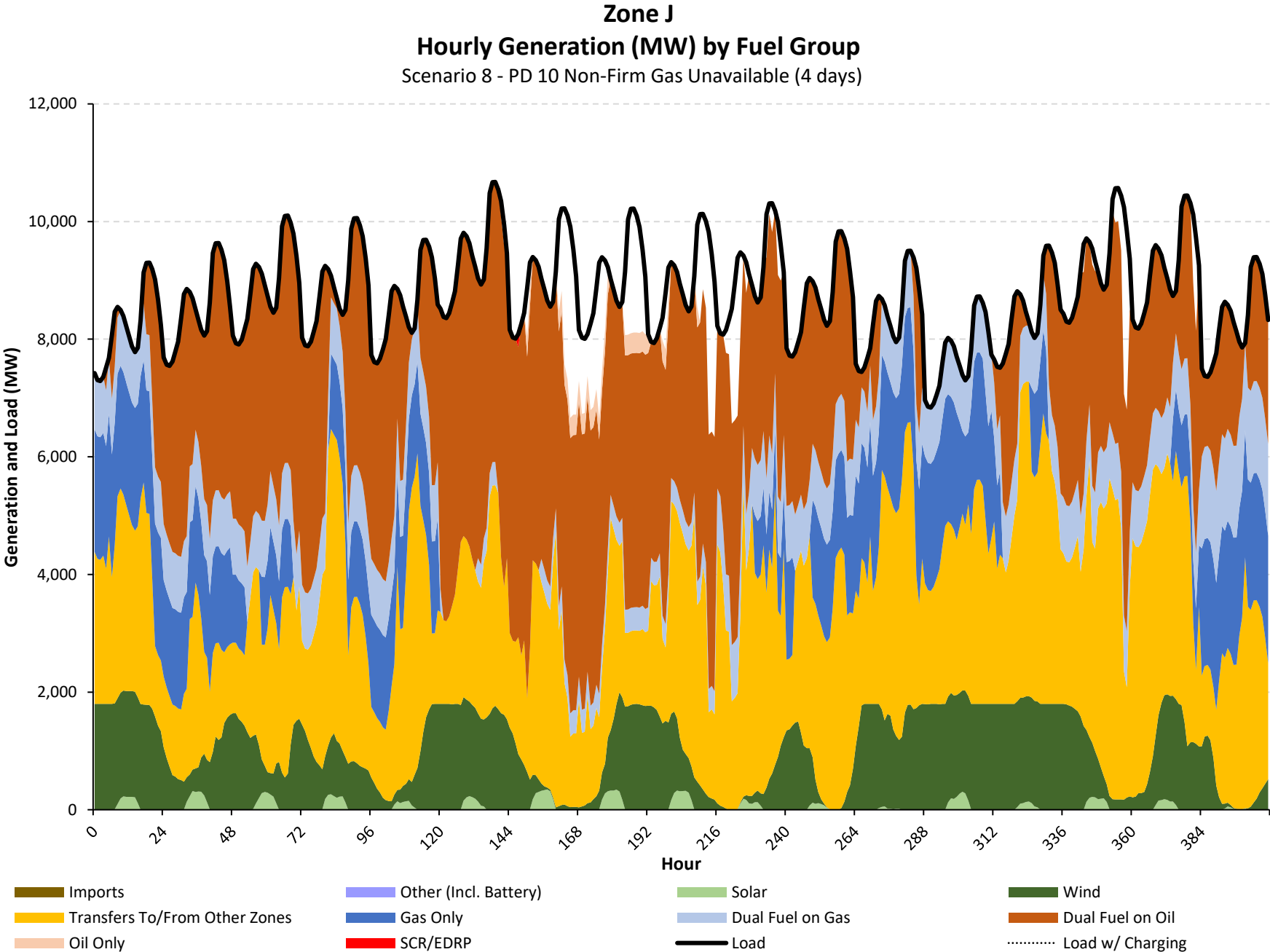
Full Period Results Summary

Case Name: Scenario 8 - PD 10 Non-Firm Gas Unavailable (4 days)

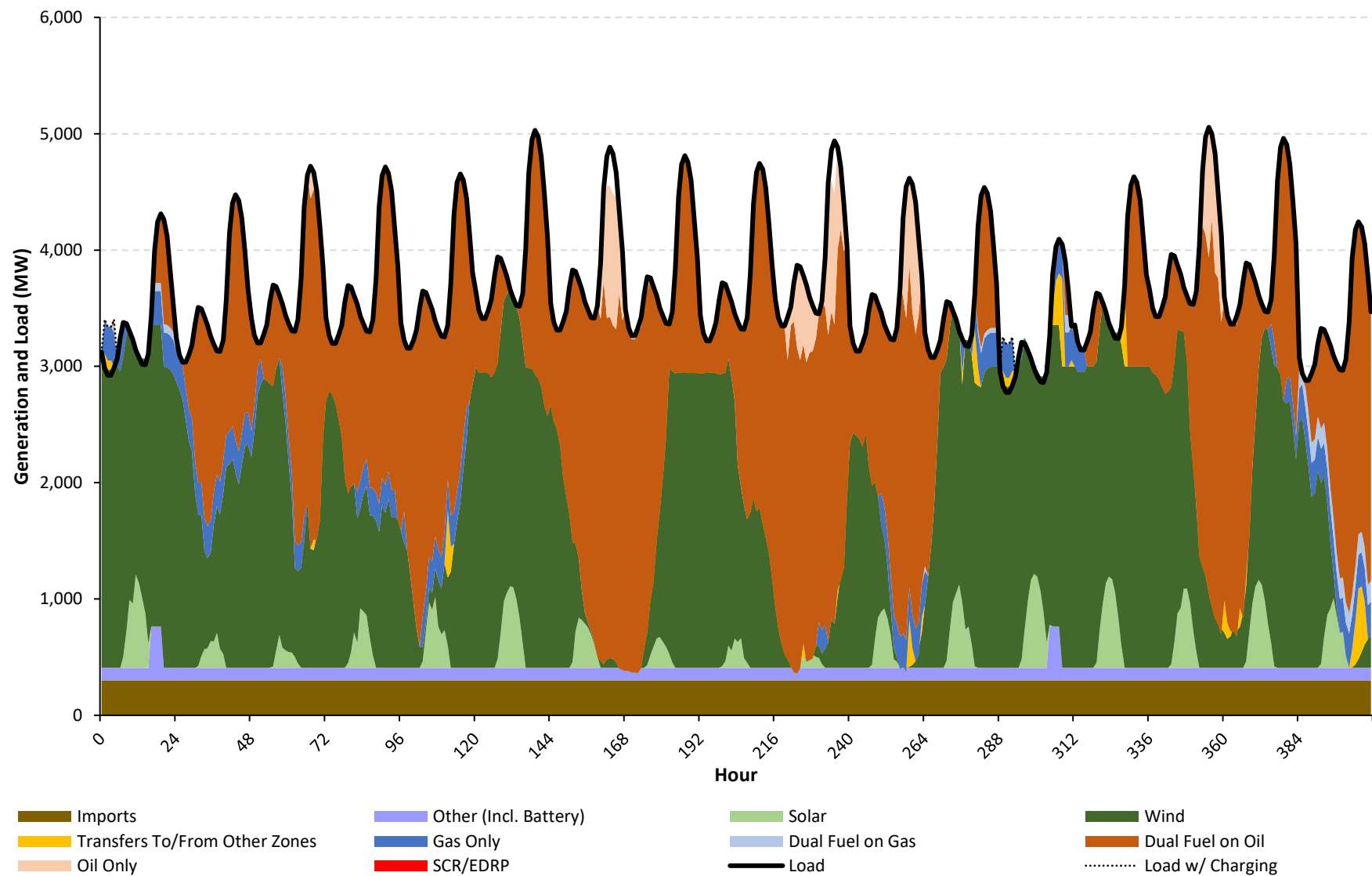
Case Summary	
Derate (EFORd) Increase:	Off
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Off
Loss of Gas Fired Gen.	3-4 days
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

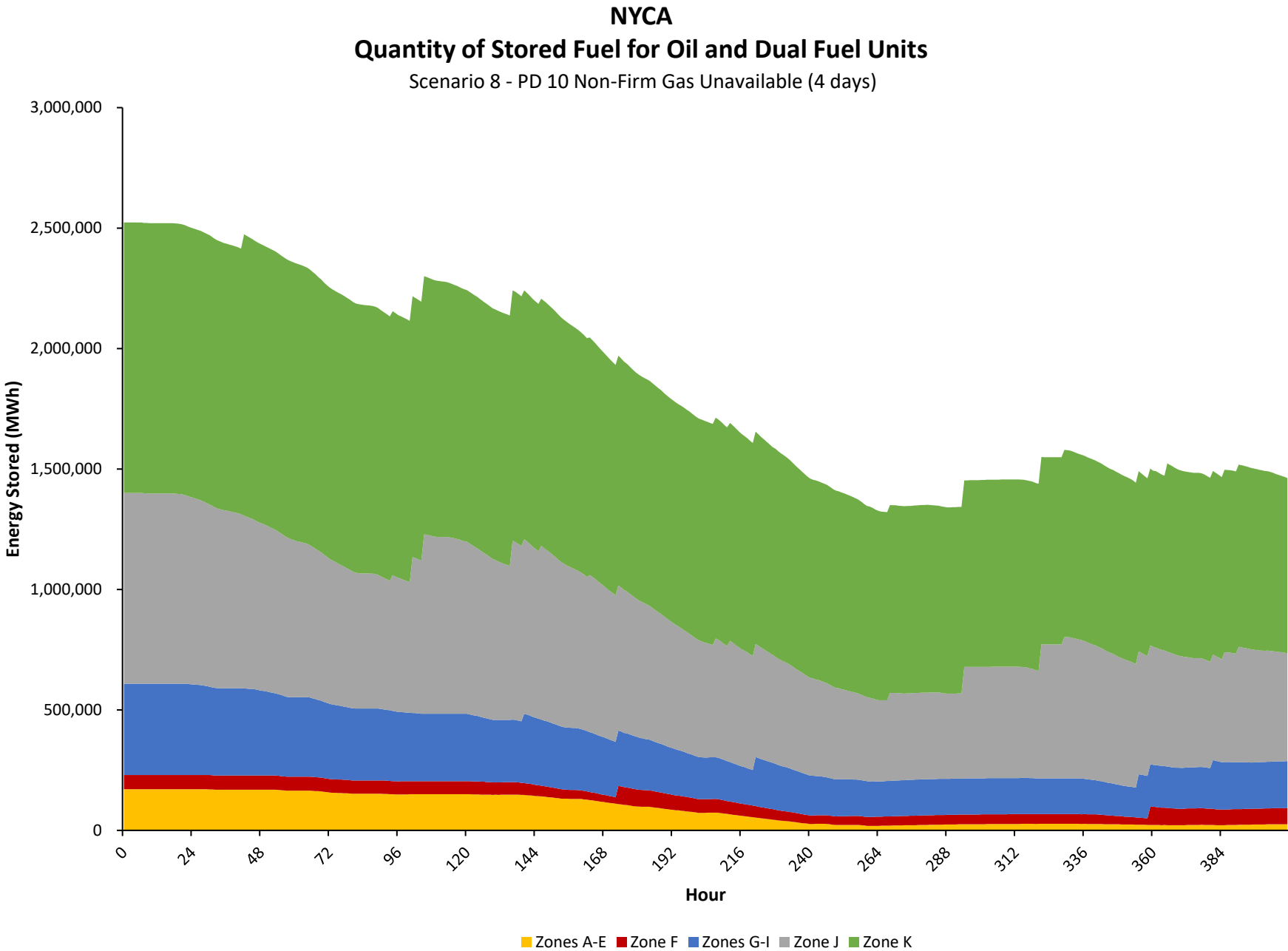


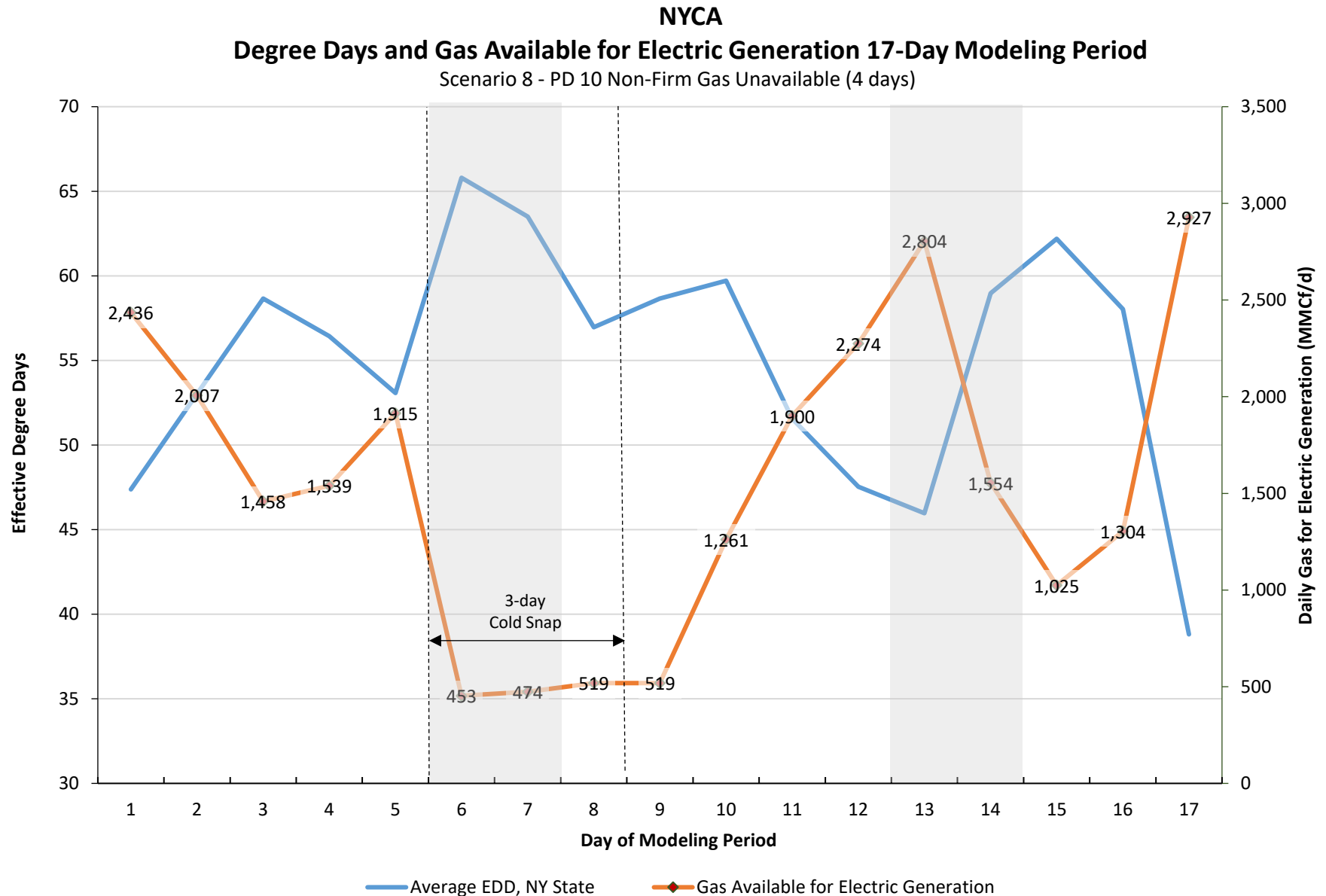




Zone K
Hourly Generation (MW) by Fuel Group
Scenario 8 - PD 10 Non-Firm Gas Unavailable (4 days)

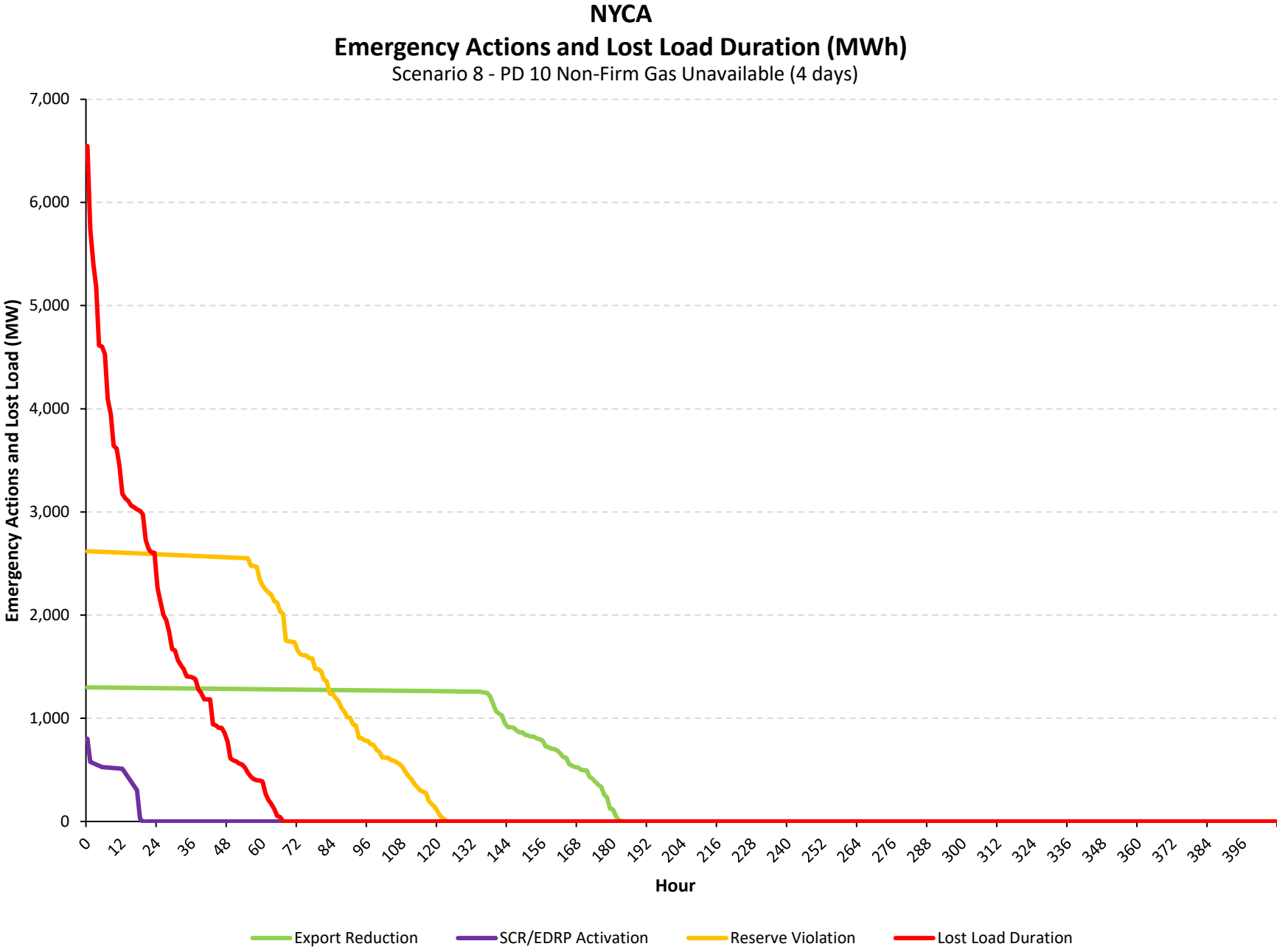


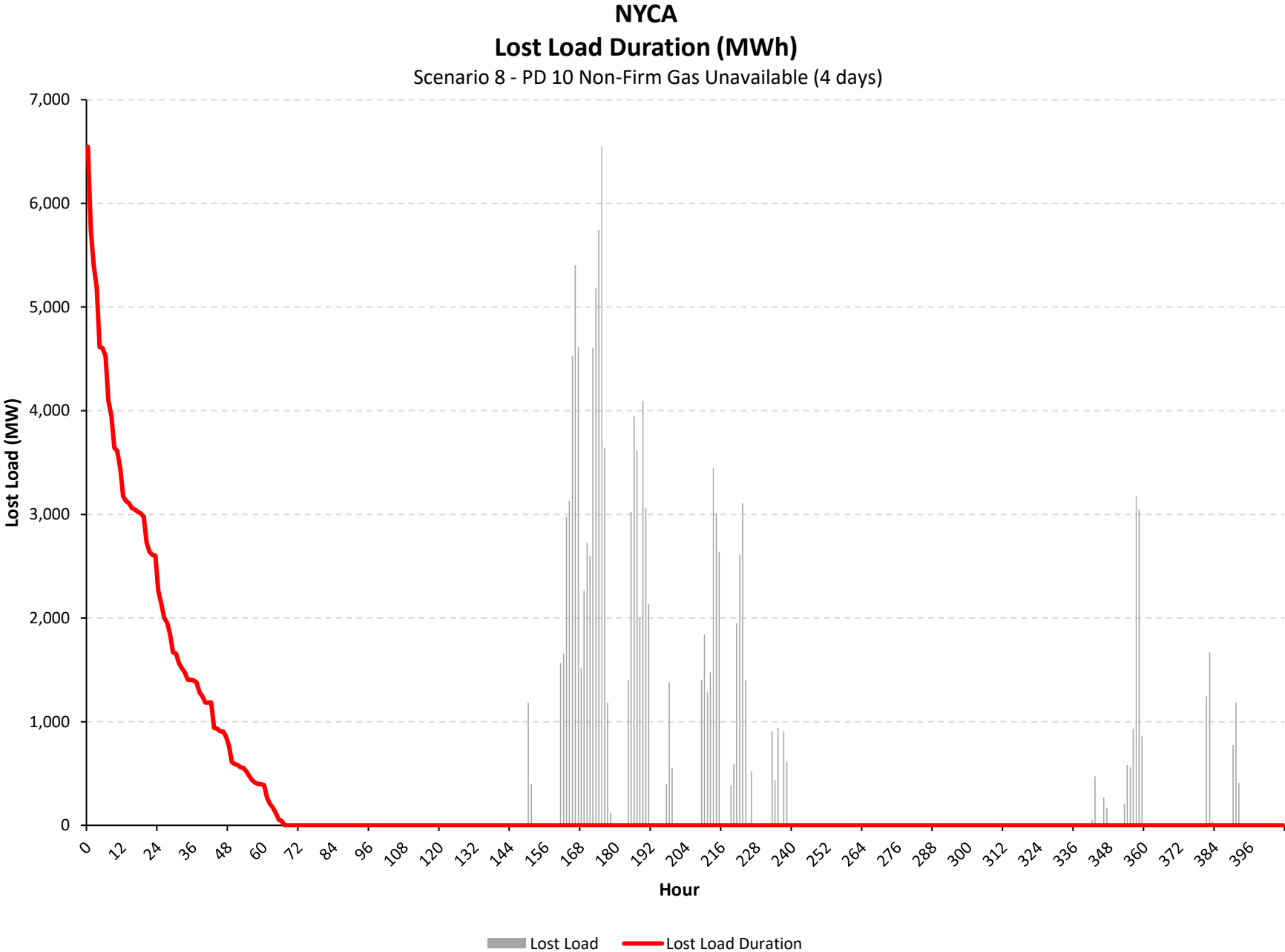




Notes:

- [1] Weekends are shaded in gray.
- [2] Effective degree day is defined as 65 degrees F - Temperature.



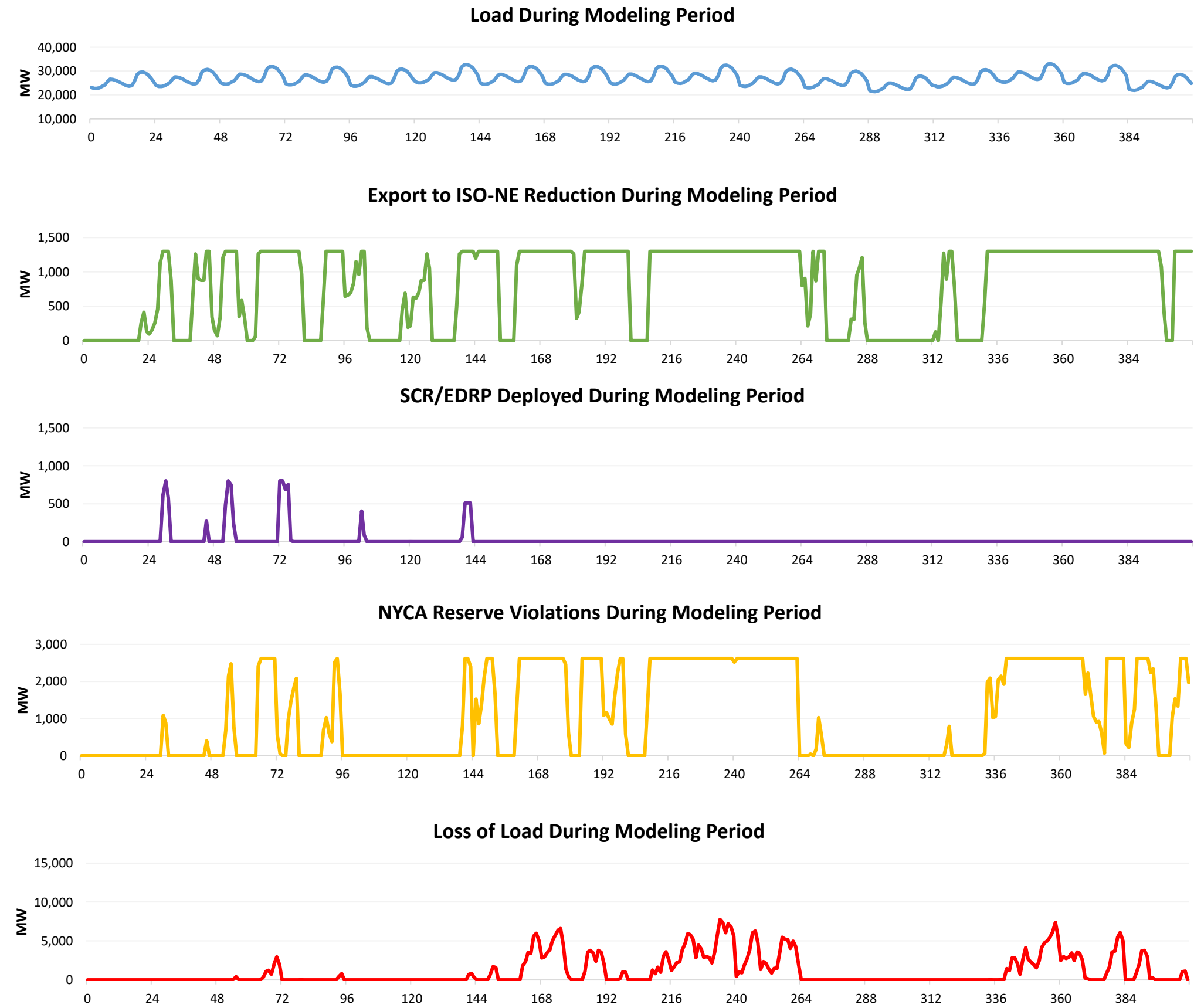


Appendix E. Diagnostic Charts for Cases with Identified Reliability Risks

Case: Scenario 8 - PD 11 Combination Disruption (Winter 2030/2031)

Hourly Results Summary

Case Name: Scenario 8 - PD 11 Combination Disruption



Case Summary	
Derate (EFORD) Increase:	High
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero

Export Reductions	
Total Hrs.	288
Total MWh	329,268
Avg. MW	807.0

SCR Deployment	
Total Hrs.	19
Total MWh	9,688
Avg. MW	23.7

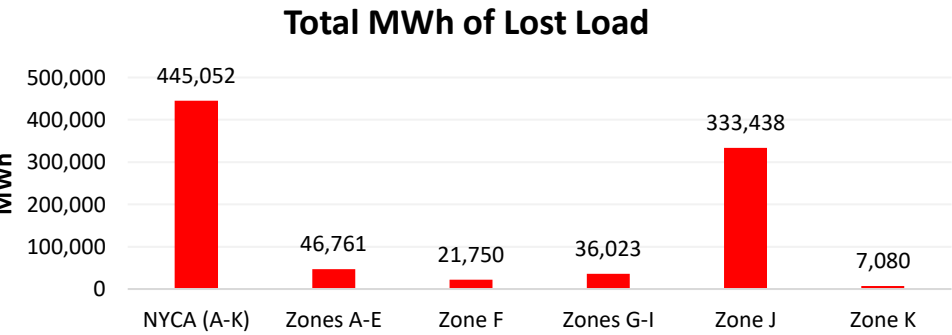
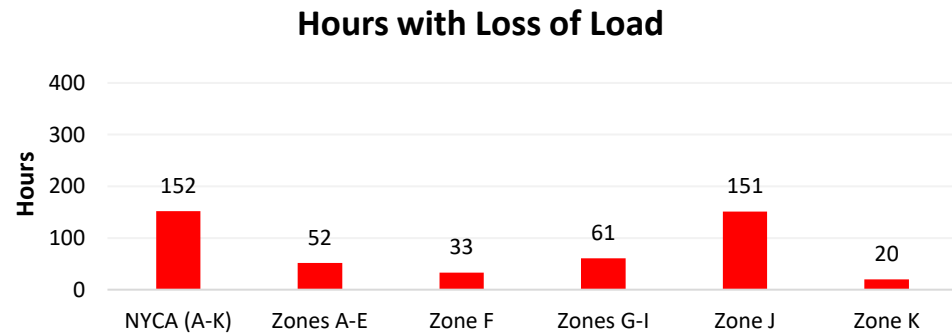
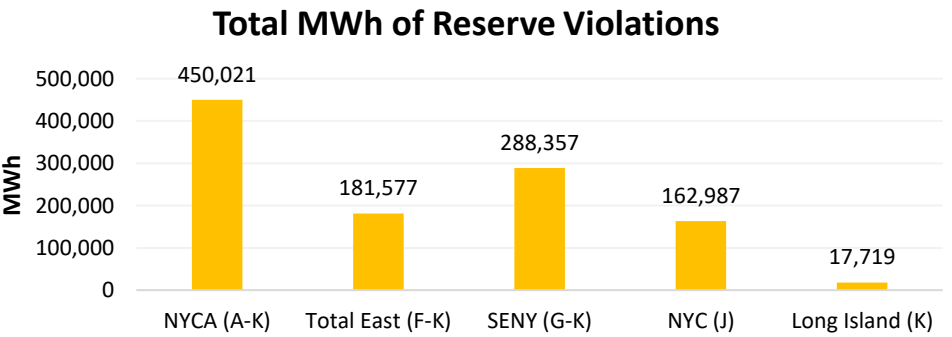
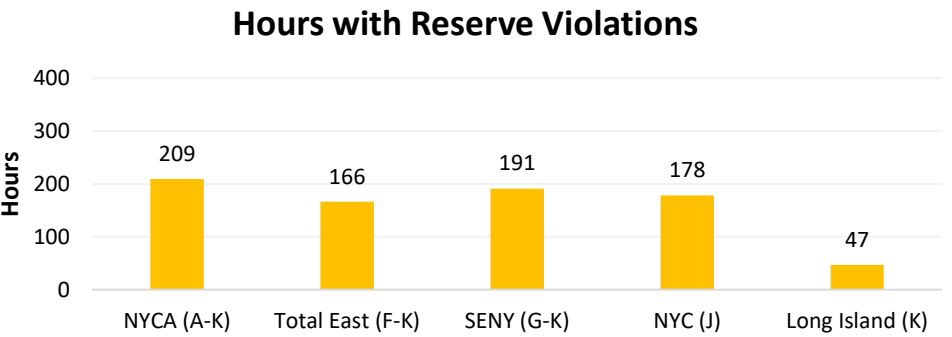
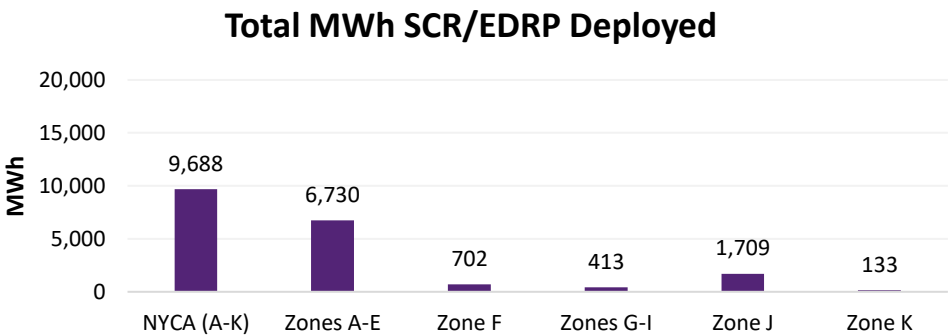
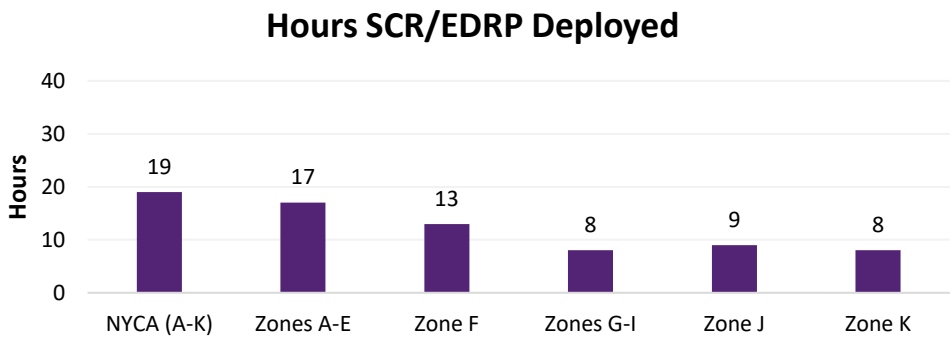
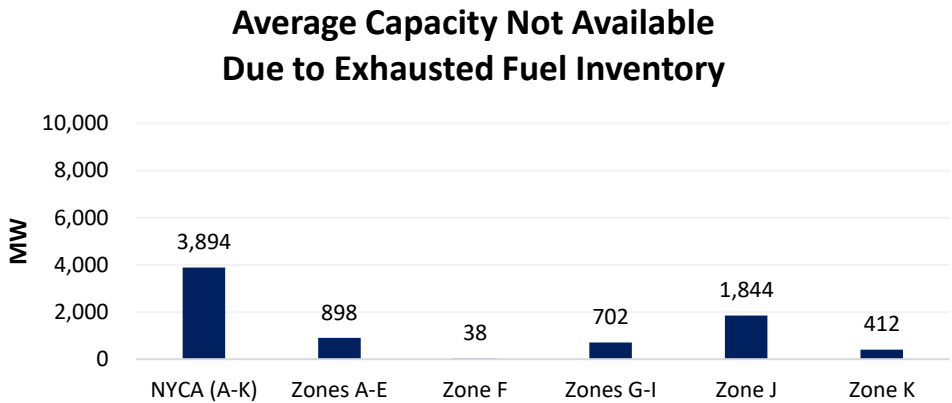
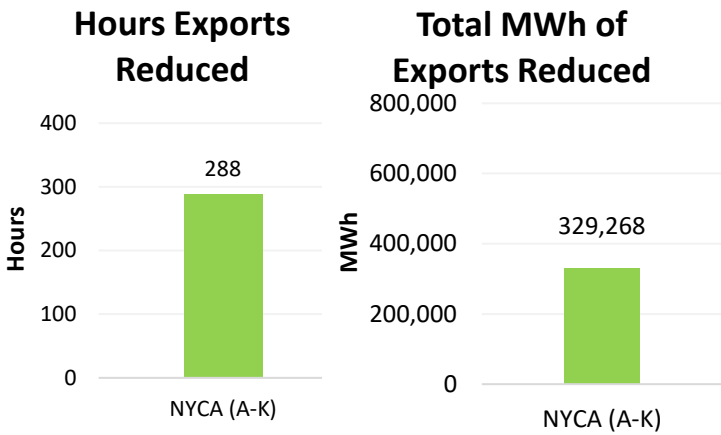
Reserve Violations	
Total Hrs.	209
Total MWh	450,021
Avg. MW	1,103.0
First Hour with Viol.	30

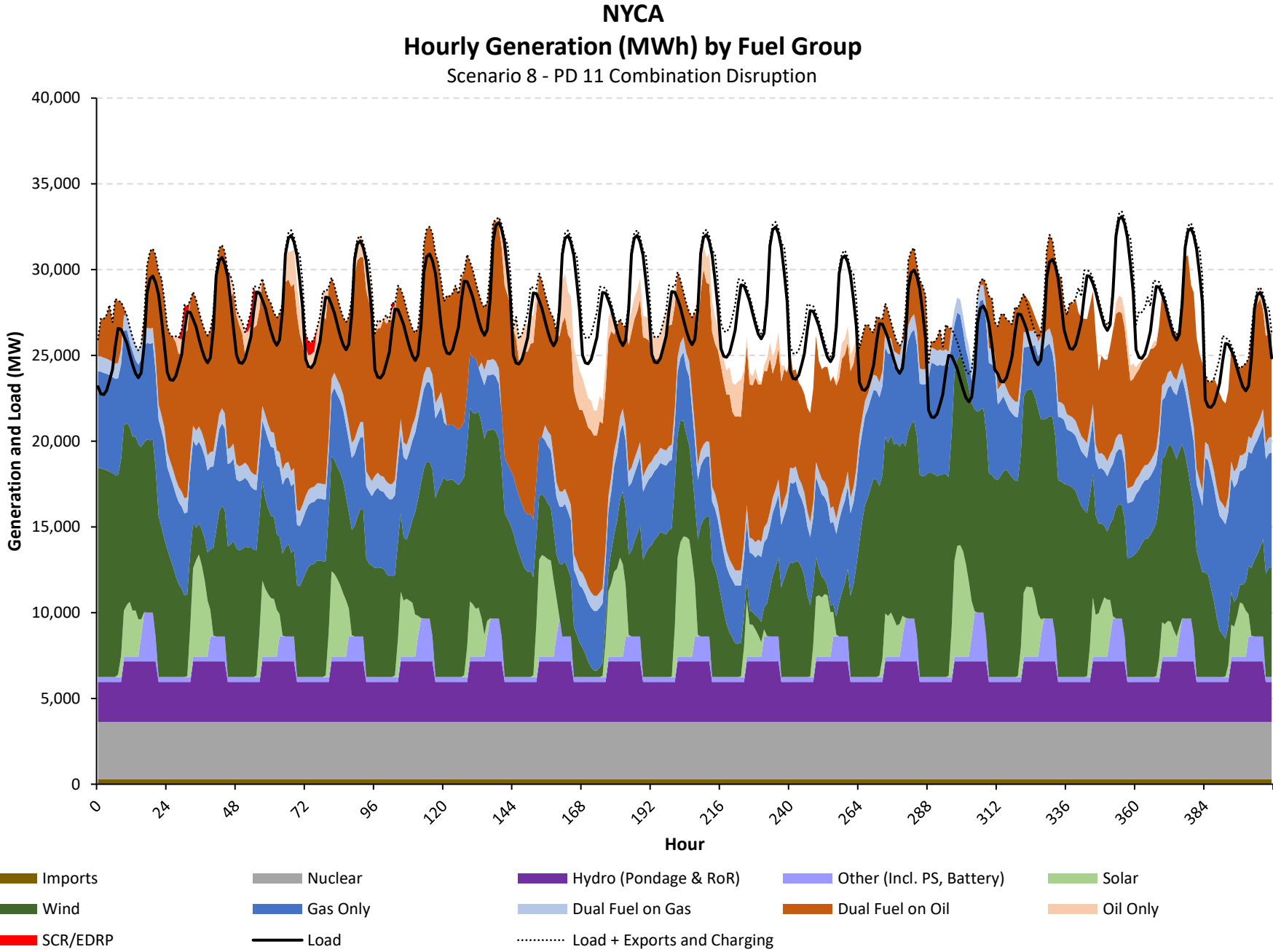
Loss of Load	
Total Hrs.	152
Total MWh	445,052
Avg. MW	1,090.8
First Hour with Losses	54

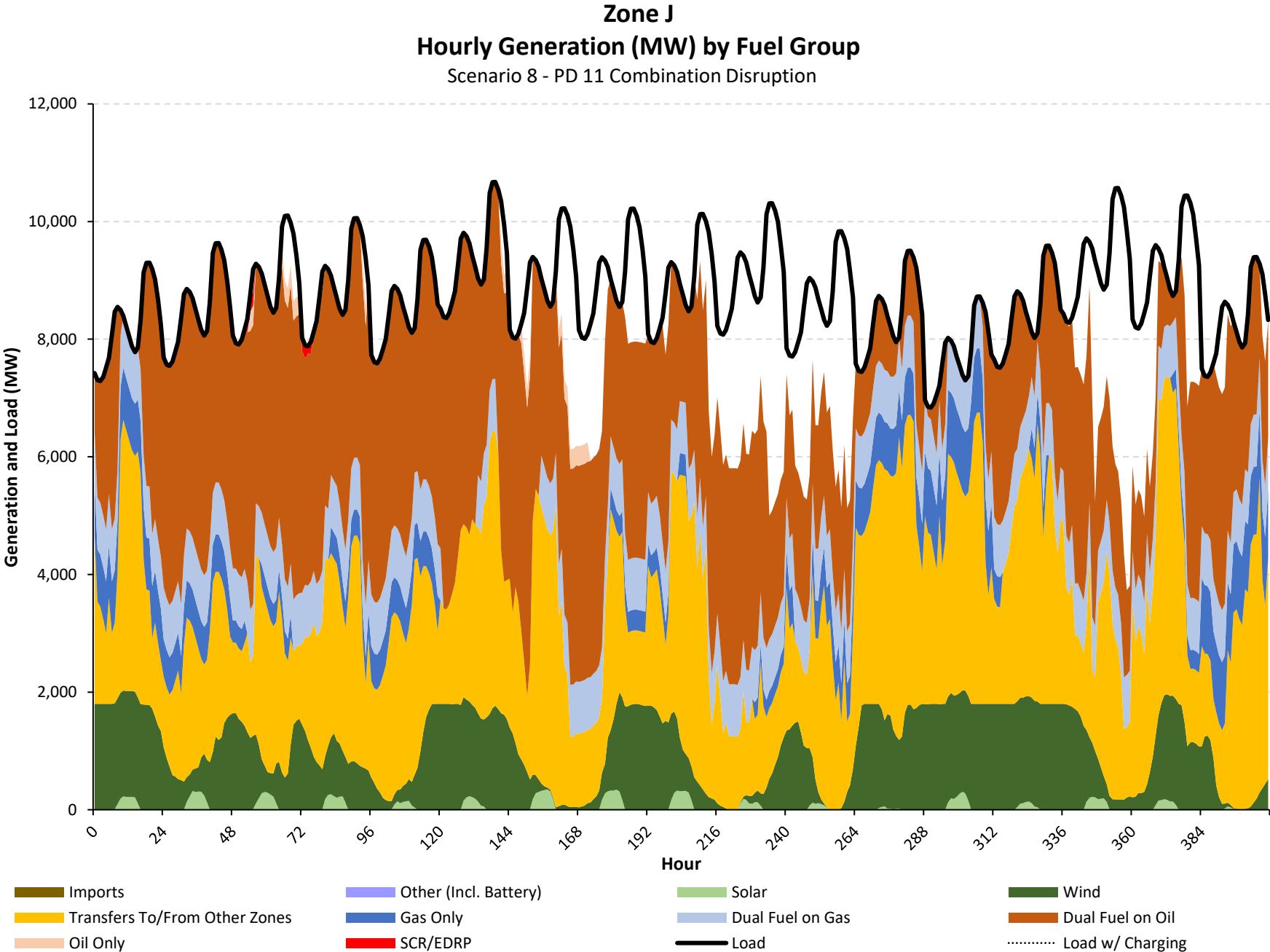
Full Period Results Summary

Case Name: Scenario 8 - PD 11 Combination Disruption

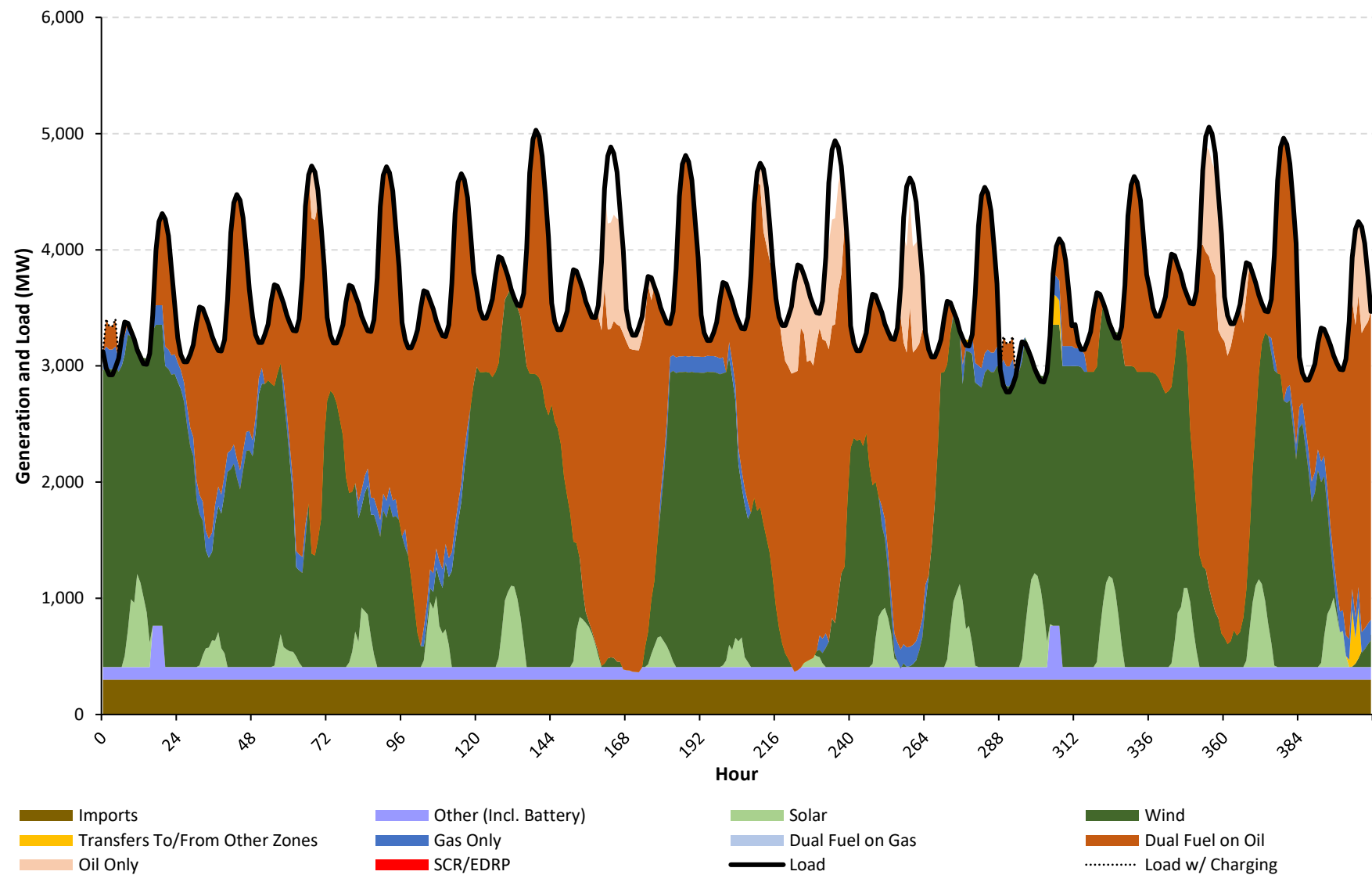
Case Summary	
Derate (EFORd) Increase:	High
Starting Storage:	High
Renewables:	Delayed
Refill Contingency:	Reduced
Loss of Gas Fired Gen.	Reduced
Nuclear Contingency:	Off
Plant Outage:	None
Import Scenario:	Net Zero



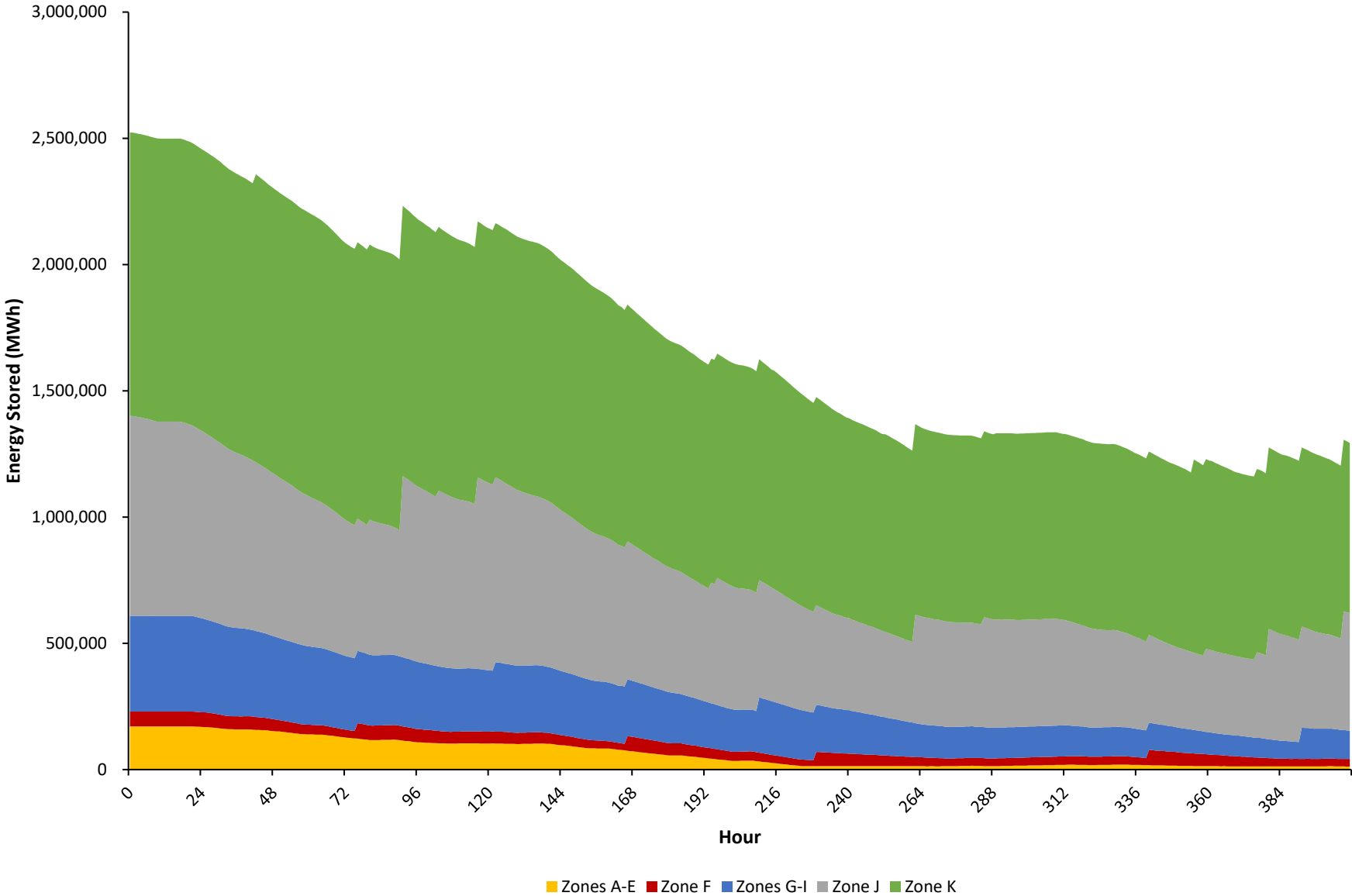


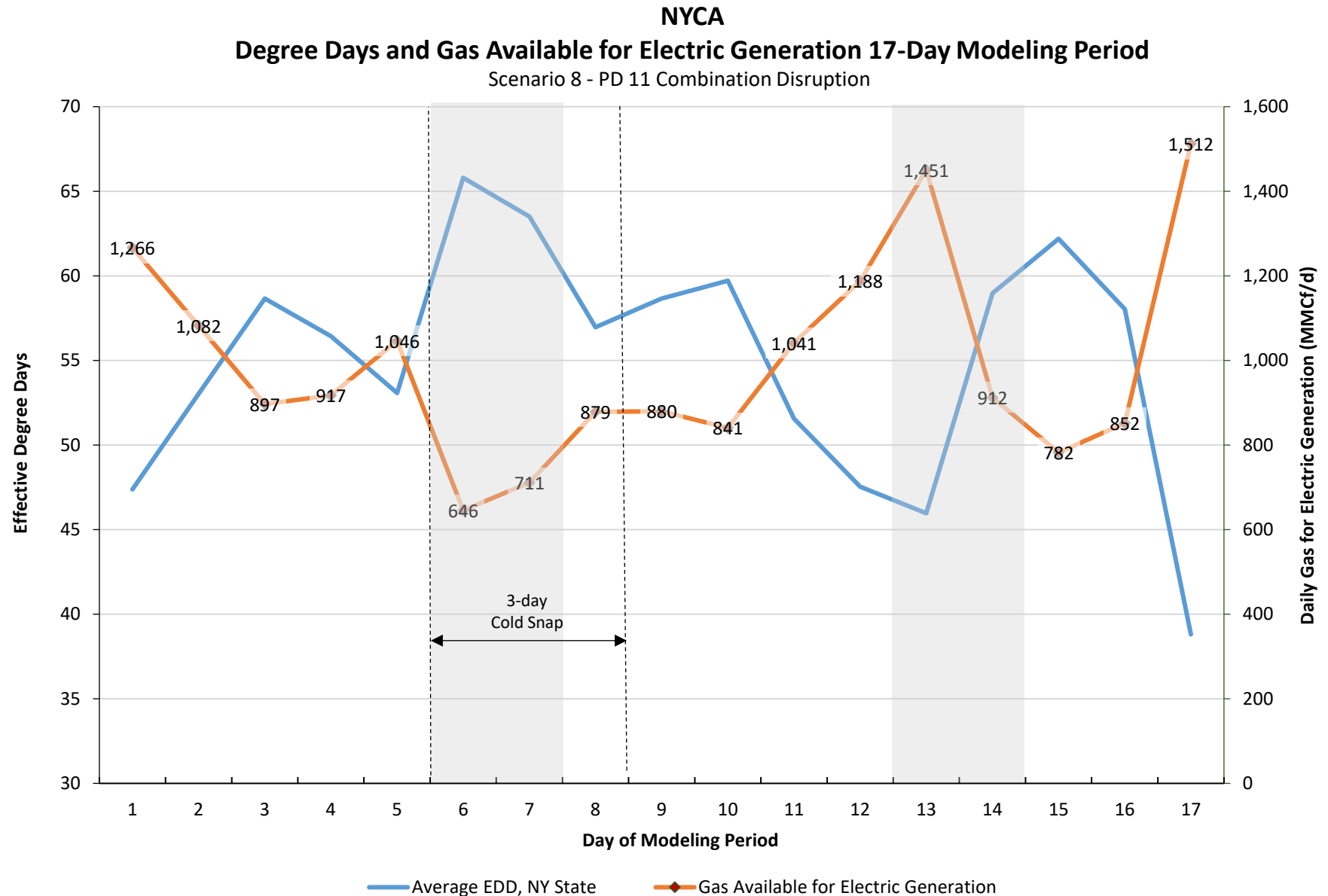


Zone K
Hourly Generation (MW) by Fuel Group
Scenario 8 - PD 11 Combination Disruption



NYCA
Quantity of Stored Fuel for Oil and Dual Fuel Units
Scenario 8 - PD 11 Combination Disruption





Notes:

[1] Weekends are shaded in gray.

[2] Effective degree day is defined as 65 degrees F - Temperature.

