Demand Response: Preliminary Model Values for 2018 IRM Studies

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Agenda

- Background
- Preliminary SCR model values for 2018 IRM studies
- Next steps
- Appendix
  - Description of ICS adjustment factors
  - August 12, 2016 SCR event response

Background

Overview of the SCR zonal performance factor calculation methodology as accepted at the 5/4/2016 ICS meeting

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Background

- **NYISO calculates SCR zonal performance factors for IRM studies based on historical SCR performance. The data set includes**
  - all event hours, by zone, for each mandatory event from the most recent five years in which there was a mandatory event (but not older than summer 2012)
  - all performance test hours accumulated during the above timeframe even when there were no mandatory events
    - 2018 IRM study data set includes all event hours from mandatory events and performance tests from summer 2012 through summer 2016
- **ICS applies additional adjustment factors (see Appendix for details)**
  - Translation Factor
  - Fatigue Factor

Effective Performance Factor = Zonal Performance Factor * Translation Factor * Fatigue Factor
SCR Model Value MW = SCR ICAP MW * Effective Performance Factor

Preliminary SCR Model Values

*Based Gold Book estimates for SCR ICAP MW before actual July 2017 enrollment information is available

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Inputs for 2018 IRM Studies

- **Additional inputs since 2017 IRM studies**
  - August 12, 2016 mandatory event hours – 5 hours
  - Winter 2015-2016 and Summer 2016 SCR performance test hours – total of 2 hours
- **The data set consists of**
  - All event hours, by zone, from mandatory events from summer 2012 through summer 2016
    - Range from 20 event hours for Zone D to 74 event hours for Zone J
  - All performance test hours from summer 2012 through summer 2016
    - 9 performance test hours

FOR 2018 IRM - Preliminary SCR Model Values

Program	Super Zone	Superzone Performance Factor	ICS Adjustment Factors		Effective Performance Factor	SCR ICAP MW based on Gold Book Estimate (July 2016 MW)	Preliminary Model Value MW
			ACL to CBL Factor	Fatigue Factor			
SCR	A-F	85.4%	90%	100%	76.8%	683.4	525.2
SCR	G-I	71.0%	90%	100%	63.9%	86.2	55.0
SCR	J	70.1%	90%	100%	63.1%	372.0	234.8
SCR	K	67.1%	90%	100%	60.4%	50.3	30.3
Total						**1191.8**	**845.4**
							70.9%

Comparison of 2018 with 2017 SCR Values

FOR 2018 IRM - Preliminary SCR Model Values					FOR 2017 IRM - Final SCR Model Values			Comparision of 2018 with 2017 IRM		
Program	Super Zone	Effective Performance Factor	SCR ICAP MW based on Gold Book Estimate (July 2016 MW)	Preliminary Model Value MW	Effective Performance Factor	July 2016 MW	Final Model Value MW	Effective Performance Factor	ICAP MW	Final Model Value MW
SCR	A-F	76.8%	683.4	525.2	75.7%	683.4	517.5	**1.1%**	**0.0**	**7.7**
SCR	G-I	63.9%	86.2	55.0	65.4%	86.2	56.4	**-1.5%**	**0.0**	**-1.3**
SCR	J	63.1%	372.0	234.8	62.9%	372.0	233.9	**0.2%**	**0.0**	**0.9**
SCR	K	60.4%	50.3	30.3	63.4%	50.3	31.8	**-3.0%**	**0.0**	**-1.5**
Total			**1191.8**	**845.4**		1191.8	839.6		**0.0**	**5.8**
				70.9%			70.5%			**0.5%**

No significant change in Effective Performance Factor since 2017 IRM studies

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Next Steps

- August 2, 2017 ICS meeting: Replace Gold Book SCR ICAP MW estimates with actual July 2017 enrollments once they become available on July 10, 2017

Appendix

SCR Adjustment Factors used in IRM Studies

- **Translation Factor (ACL to CBL)**
  - The Translation Factor is used to adjust performance based on ICAP measures to a CBL equivalent
  - Current value of Translation Factor is 0.90
- **Fatigue Factor**
  - The Fatigue Factor is applied to address concerns that fatigue may occur if SCRs are deployed frequently
  - Current value of Fatigue Factor is 1.00

August 12, 2016 SCR Event ACL Response

Table A-2: SCR MW Response Based on ACL – August 12, 2016

Zone	HB 13	HB 14	HB 15	HB 16	HB 17	ICAP Equivalent of Average Hourly Response MW	Obligated ICAP MW	% Response of Obligated ICAP MW
A	290.3	303.7	314.4	318.9	320.0	309.4	301.0	102.8%
B	67.0	72.1	77.2	80.8	82.7	76.0	75.9	100.0%
C	117.3	125.6	130.0	137.2	136.4	129.3	116.7	110.8%
D	72.0	69.8	67.9	28.8	21.3	52.0	64.6	80.4%
E	33.7	39.9	43.3	45.3	47.8	42.0	37.5	111.9%
F	94.7	98.1	98.9	100.1	101.4	98.6	92.1	107.1%
G	44.2	53.0	54.2	56.6	56.9	53.0	55.1	96.1%
H	5.8	6.4	6.5	7.1	6.5	6.5	7.6	84.7%
I	30.4	34.0	35.1	36.4	33.6	33.9	27.1	125.1%
J	275.8	359.0	376.0	401.0	442.2	370.8	373.6	99.3%
K	40.3	44.6	47.3	50.0	42.6	45.0	49.5	90.8%
Total	1071.4	1206.2	1250.8	1262.1	1291.4	1216.4	1200.8	101.3%

NYISO Filing of 2016 Annual Report on Demand Response Programs:
http://www.nyiso.com/public/webdocs/markets_operations/market_data/demand_response/Demand_Response/Reports_to_FERC/2017/NYISO%202016%20Annual%20Report%20on%20Demand%20Response%20Programs_Final.pdf

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August 12, 2016 SCR Event CBL Response

Table A-3: SCR MW Response Based on CBL – August 12, 2016

Zone	HB 13	HB 14	HB 15	HB 16	HB 17	ICAP Equivalent of Average Hourly Response MW	Obligated ICAP MW of SCRs Reporting CBL Data	% Response of Obligated ICAP MW
A	264.7	280.3	278.9	278.7	268.3	274.2	299.5	91.5%
B	55.2	62.2	64.6	58.9	54.0	59.0	69.1	85.4%
C	120.0	126.9	124.9	120.8	107.5	120.0	115.0	104.4%
D	59.3	57.0	54.7	15.2	8.3	38.9	64.1	60.7%
E	33.0	40.1	39.2	38.7	36.3	37.5	37.3	100.5%
F	91.6	96.6	93.0	90.0	85.4	91.3	91.5	99.8%
G	39.7	50.3	49.1	47.5	41.2	45.6	53.8	84.6%
H	5.3	6.1	5.9	6.3	4.7	5.7	7.6	74.3%
I	14.4	18.1	18.7	18.3	12.7	16.4	26.9	61.1%
J	180.7	263.3	273.6	273.4	246.2	247.4	362.1	68.3%
K	32.8	36.7	37.6	36.2	23.8	33.4	47.4	70.5%
Total	896.8	1037.6	1040.3	984.0	888.4	969.4	1174.4	82.5%

NYISO Filing of 2016 Annual Report on Demand Response Programs:
http://www.nyiso.com/public/webdocs/markets_operations/market_data/demand_response/Demand_Response/Reports_to_FERC/2017/NYISO%202016%20Annual%20Report%20on%20Demand%20Response%20Programs_Final.pdf

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