The Effectiveness of Automated Procedures for Identifying Dispatch Intervals Subject to Review

October 2018

2017 Review

Important notice

PURPOSE

This report is provided in accordance with National Electricity Rules (NER) clause 3.9.2B(l). It is based on information available to AEMO at 11 September 2018.

Unless otherwise indicated, terms in this report have the same meanings as those defined in the NER.

All references to time in this report are based on Australian Eastern Standard Time (AEST).

DISCLAIMER

AEMO has made every effort to ensure the quality of the information in this document but cannot guarantee its accuracy or completeness. Any views expressed in this report are those of AEMO unless otherwise stated, and may be based on information given to AEMO by other persons.

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Executive summary

The National Electricity Rules (NER) provide for AEMO to apply automated procedures to identify dispatch intervals (DIs) where manifestly incorrect inputs (MII) may have resulted in material differences in pricing outcomes[1]. Those DIs are subject to review. AEMO must determine whether a DI subject to review in fact contained a MII to the dispatch algorithm. The NER also require AEMO to review and report on the effectiveness of the automated procedures.

This report analyses the effectiveness of AEMO's automated procedures for identifying DIs subject to review during 2017. It has been published to meet the requirements of rule 3.9.2B(l) of the NER.

There was no evidence in 2017 that the automated procedures were ineffective in detecting instances where an MII may have resulted in material differences in pricing outcomes. The automated procedures identified 98 DIs that were subject to review and one DI was found to contain MII. Further investigations indicated that the prices for another DI that was flagged for review were incorrectly accepted. Reports on these two incidents are available from AEMO's website[2,3].

AEMO does not believe tightening or relaxing the thresholds used in the existing automated procedures would result in material improvements to this process.

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[1] Process available from: https://www.aemo.com.au/-/media/Files/Electricity/NEM/Security_and_Reliability/Dispatch/Policy_and_Process/2017/Automated-Procedures-For-Identifying-Dispatch-Intervals-Subject-to-Review.docx

1. Analysis of dispatch intervals subjected to review during 2017

The table below lists the DIs that were automatically identified as subject to review for the year 2017, as well as the associated material differences in prices and interconnector flows. For each of the DI that was identified, AEMO followed the review process as outlined in the document "Automated procedures for identifying dispatch intervals subject to review"[1] to determine whether to accept or reject the prices (Price status (A=accepted, R=rejected)) in real time. Annually, AEMO then reviews all the DIs and lists the reasons (Explanation and Reason) for each of the DIs identified while assessing the effectiveness of the automated procedures.

Incident number	Date and time	Region	Price status (A=accepted, R=rejected)	Price change (%, Absolute)	Previous ROP ($/MWh)	Current ROP ($/MWh)	Interconnector	Previous flow (MW)	Current flow (MW)	Absolute change in flow (MW)	Region flow threshold (MW)	Explanation	Reason
1	02/01/2017 23:10	SA1	A	85.31	-74.71	10.61	V-SA	203	38	-165	150	Generator trip and interconnector limit changes due to constraint action	Generator trip/constraint equation action
2	11/01/2017 19:15	VIC1	A	5.94	35.87	249.06	T-V-MNSP1	-92	-306	-215	190	Rebidding of capacity into higher price bands	Rebidding
3	11/01/2017 22:45	QLD1	A	13979.65	13996.45	16.80	NSW1-QLD1	192	-252	-443	240	Rebidding of capacity into lower price bands	Rebidding
4	12/01/2017 16:10	QLD1	A	113.75	118.89	13642.00	N-Q-MNSP1	0	-80	-80	80	Outage causing changes in interconnector from constraint action	Outage/constraint action
5	12/01/2017 17:35	QLD1	A	8.65	1405.69	145.67	N-Q-MNSP1	-96	-16	81	80	Outage causing changes in interconnector from constraint action	Outage/constraint action

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6	12/01/2017 17:45	QLD1	A	13.65	95.95	1405.69	N-Q-MNSP1	-93	-12	81	80	Outage causing changes in interconnector from constraint action and rebidding	Outage/constraint action/rebidding
7	12/01/2017 17:50	QLD1	A	8.71	1405.69	13654.53	N-Q-MNSP1	-12	-93	-81	80	Outage causing changes in interconnector from constraint action	Outage/constraint action
8	12/01/2017 18:25	QLD1	A	183.05	13654.53	74.19	NSW1-QLD1	212	-79	-291	240	Outage causing changes in interconnector from constraint action and rebidding	Outage/constraint action/rebidding
9	12/01/2017 18:40	QLD1	A	157.74	85.99	13650.01	N-Q-MNSP1	-86	-4	82	80	Increase in QLD demand and constraint action	Demand changes/constraint action
10	12/01/2017 18:45	QLD1	A	158.80	13650.01	85.42	N-Q-MNSP1	-4	-85	-80	80	Outage causing changes in interconnector from constraint action and rebidding	Outage/constraint action/rebidding
11	13/01/2017 06:45	QLD1	A	375.81	13654.53	36.24	N-Q-MNSP1	64	-18	-81	80	Rebidding of capacity into lower price bands	Rebidding
	13/01/2017 06:45	QLD1	A	375.81	13654.53	36.24	NSW1-QLD1	169	-337	-506	240		
12	13/01/2017 22:40	QLD1	A	12499.42	12518.69	19.27	N-Q-MNSP1	51	-32	-84	80	Rebidding of capacity into lower price bands	Rebidding
	13/01/2017 22:40	QLD1	A	12499.42	12518.69	19.27	NSW1-QLD1	168	-266	-434	240		
13	13/01/2017 22:55	QLD1	A	31.52	32.77	-1000.00	N-Q-MNSP1	-81	-1	80	80	Reduction in QLD demand and constraint action	Demand changes/constraint action
14	14/01/2017 06:45	QLD1	A	13786.20	13800.00	13.80	N-Q-MNSP1	69	-13	-81	80	Reduction in QLD demand and rebidding of capacity into lower price bands	Demand changes/rebidding
	14/01/2017 06:45	QLD1	A	13786.20	13800.00	13.80	NSW1-QLD1	129	-391	-520	240		

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15	14/01/2017 10:10	QLD1	A	15.34	1405.69	86.01	N-Q-MNSP1	46	-35	-81	80	Rebidding of capacity into lower price bands and constraint action	Demand changes/constraint action
16	14/01/2017 10:50	QLD1	A	4.53	254.13	1405.69	N-Q-MNSP1	44	-38	-82	80	Outage causing changes in interconnector from constraint action	Constraint action
17	14/01/2017 13:25	QLD1	A	48.82	273.99	13650.00	N-Q-MNSP1	-83	-3	80	80	Increase in QLD demand and outage causing changes in interconnector from constraint action	Demand changes/constraint action
18	14/01/2017 13:30	QLD1	A	197.41	13650.00	68.80	N-Q-MNSP1	-3	-84	-81	80	Decrease in QLD demand and outage causing changes in interconnector from constraint action	Demand changes/constraint action
19	14/01/2017 15:00	QLD1	A	125.89	12518.69	98.66	NSW1-QLD1	206	-36	-242	240	Rebidding of capacity into lower price bands and constraint action	Rebidding/constraint action
20	14/01/2017 19:45	QLD1	A	43.03	310.03	13650.00	N-Q-MNSP1	-90	-9	81	80	Outage causing changes in interconnector from constraint action	Constraint action
21	20/01/2017 05:10	SA1	A	4.81	26.17	-99.62	V-SA	101	259	158	150	Change of line flow caused changes in interconnector from constraint action	Constraint action
22	20/01/2017 05:15	SA1	A	108.75	-99.62	9.13	V-SA	259	70	-188	150	Change of line flow caused changes in interconnector from constraint action	Constraint action
23	20/01/2017 15:00	QLD1	A	138.49	98.93	13800.00	N-Q-MNSP1	-39	42	81	80	Increase in QLD demand and reduction of NSW demand caused changes in interconnector from constraint action	Constraint action

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24	20/01/2017 15:05	QLD1	A	144.80	13800.00	94.65	N-Q-MNSP1	42	-40	-82	80	Increase in NSW demand and reduction of NSW demand caused changes in interconnector from constraint action	Constraint action
25	20/01/2017 23:25	QLD1	A	1387.39	1405.69	18.30	NSW1-QLD1	285	-94	-378	240	Reduction of QLD and NSW demand and rebidding of capacity into lower price bands	Demand changes/rebidding
26	21/01/2017 00:20	QLD1	A	28.35	47.89	1405.69	N-Q-MNSP1	-20	60	80	80	Generator trip and interconnector limit changes due to constraint action	Constraint action
27	21/01/2017 00:25	QLD1	A	1385.75	1405.69	19.94	N-Q-MNSP1	60	-25	-85	80	Rebidding of capacity into lower price bands and constraint action following previous DI where generator tripped	Constraint action/rebidding
28	23/01/2017 05:20	VIC1	A	4.32	44.15	-146.43	V-SA	576	282	-293	150	Changes in interconnector flows due to an unplanned network outage	Network outage
	23/01/2017 05:20	SA1	A	187.86	74.13	14000.00	V-SA	576	282	-293	150		
29	24/01/2017 13:50	TAS1	A	86.13	85.20	-0.93	T-V-MNSP1	-384	-188	196	190	Rebidding	Rebidding
30	24/01/2017 16:40	QLD1	A	217.47	13800.00	63.17	NSW1-QLD1	137	-136	-272	240	Rebidding and reduction in QLD & NSW demand	Rebidding/ demand changes
31	26/01/2017 16:55	QLD1	A	336.18	12499.02	37.07	NSW1-QLD1	253	-124	-377	240	Rebidding and reduction in QLD demand	Rebidding/ demand changes
32	26/01/2017 22:10	QLD1	A	85.21	2150.20	24.94	NSW1-QLD1	262	-12	-274	240	Rebidding and reduction in QLD demand	Rebidding/ demand changes
33	27/01/2017 10:40	QLD1	A	192.77	14000.00	72.25	NSW1-QLD1	190	-133	-323	240	Rebidding and reduction in QLD demand	Rebidding/ demand changes

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34	27/01/2017 10:45	QLD1	A	62.75	72.25	9.50	NSW1-QLD1	-133	-504	-371	240	Rebidding	Rebidding
35	29/01/2017 11:15	QLD1	A	56.00	3500.69	61.41	N-Q-MNSP1	33	-49	-82	80	Rebidding and reduction in QLD demand	Rebidding/ demand changes
	29/01/2017 11:15	QLD1	A	56.00	3500.69	61.41	NSW1-QLD1	172	-186	-358	240		
36	29/01/2017 15:40	QLD1	A	6.08	198.50	1405.69	N-Q-MNSP1	19	-62	-81	80	Changes in interconnector flows due to constraint	Constraint equation action
37	29/01/2017 16:10	QLD1	A	139.74	13998.99	99.47	N-Q-MNSP1	17	-67	-83	80	Rebidding and reduction in QLD demand	Rebidding/ demand changes
	29/01/2017 16:10	QLD1	A	139.74	13998.99	99.47	NSW1-QLD1	144	-154	-298	240		
38	30/01/2017 16:50	VIC1	A	42.73	120.50	5269.90	T-V-MNSP1	166	-30	-195	190	Rebidding	Rebidding
	30/01/2017 16:50	NSW1	A	44.27	288.00	13036.93	N-Q-MNSP1	-102	-18	83	80		
	30/01/2017 16:50	QLD1	A	42.72	307.42	13440.69	N-Q-MNSP1	-102	-18	83	80		
	30/01/2017 16:50	VIC1	A	42.73	120.50	5269.90	V-SA	600	448	-152	150		
	30/01/2017 16:50	SA1	A	5.93	80.01	554.83	V-SA	600	448	-152	150		
39	30/01/2017 16:55	QLD1	A	224.02	13440.69	59.73	N-Q-MNSP1	-18	-102	-83	80	Rebidding	Rebidding
	30/01/2017 16:55	NSW1	A	232.01	13036.93	55.95	N-Q-MNSP1	-18	-102	-83	80		
	30/01/2017 16:55	VIC1	A	262.85	5269.90	-20.13	V-SA	448	600	152	150		
	30/01/2017 16:55	SA1	A	566.33	554.83	-11.50	V-SA	448	600	152	150		
40	30/01/2017 18:45	NSW1	A	4.07	299.60	59.15	N-Q-MNSP1	-17	-102	-85	80	Changes in interconnector flows due to constraint	Constraint equation action
41	31/01/2017 13:05	QLD1	A	3.12	420.99	102.27	N-Q-MNSP1	21	-68	-89	80	Changes in interconnector flows due to constraint	Constraint equation action

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42	31/01/2017 15:45	QLD1	A	286.86	13399.95	46.55	NSW1-QLD1	205	-271	-477	240	Rebidding and reduction in QLD demand	Rebidding/ demand changes
43	31/01/2017 16:35	QLD1	A	179.80	13399.95	74.11	NSW1-QLD1	190	-57	-247	240	Rebidding and reduction in QLD demand	Rebidding/ demand changes
44	31/01/2017 19:35	QLD1	A	13.33	-1000.00	81.09	NSW1-QLD1	-404	-94	310	240	Rebidding	Rebidding
45	01/02/2017 00:40	QLD1	A	13388.25	13399.95	11.70	NSW1-QLD1	244	-151	-395	240	Rebidding and reduction in QLD demand	Rebidding/demand changes
46	01/02/2017 12:05	QLD1	A	158.64	13399.95	83.94	NSW1-QLD1	258	9	-249	240	Rebidding and reduction in QLD demand	Rebidding/demand changes
47	01/02/2017 16:35	QLD1	A	176.53	13450.03	75.76	NSW1-QLD1	211	-74	-285	240	Rebidding and reduction in QLD demand	Rebidding/demand changes
48	01/02/2017 19:25	QLD1	A	1000.00	0.00	-1000.00	N-Q-MNSP1	-17	-98	-81	80	Changes in interconnector flows due to constraint and rebidding	Constraint equation action/rebidding
49	02/02/2017 15:35	QLD1	A	121.96	13399.91	108.98	NSW1-QLD1	217	-31	-248	240	Rebidding and reduction in QLD demand	Rebidding/demand changes
50	05/02/2017 16:05	QLD1	A	99.87	12499.02	123.91	N-Q-MNSP1	16	-67	-83	80	Rebidding and reduction in QLD demand	Rebidding/demand changes
51	06/02/2017 13:05	VIC1	A	118.74	117.93	-0.80	VIC1-NSW1	958	360	-599	500	Changes in interconnector flows due to constraint	Constraint equation action
52	07/02/2017 07:05	QLD1	A	222.37	13399.95	59.99	NSW1-QLD1	170	-74	-245	240	Rebidding and reduction in QLD demand	Rebidding/demand changes
53	08/02/2017 21:55	TAS1	A	84.40	83.69	-0.71	T-V-MNSP1	-94	115	209	190	Rebidding	Rebidding
54	09/02/2017 16:30	VIC1	A	5.31	231.81	-1000.01	T-V-MNSP1	541	341	-200	190	LOR2 condition in SA, generator under Direction, changes in	Constraint equation action
	09/02/2017 16:30	VIC1	A	5.31	231.81	-1000.01	VIC1-NSW1	917	-138	-1055	500		

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	09/02/2017 16:30	NSW1	A	55.06	290.79	16300.25	VIC1-NSW1	917	-138	-1055	500	interconnector flows due to constraint	
55	09/02/2017 16:35	VIC1	A	12.67	-1000.01	85.73	T-V-MNSP1	341	144	-197	190	LOR2 condition in SA, generator under Direction, changes in interconnector flows due to constraint	Constraint equation action
56	09/02/2017 17:35	VIC1	A	4.92	25.14	148.81	V-SA	600	443	-157	150	LOR2 condition in SA, generator under Direction, rebidding	Rebidding
57	09/02/2017 18:25	VIC1	A	1000.00	0.00	-1000.00	VIC1-NSW1	197	-562	-758	500	LOR2 condition in SA, generator under Direction, changes in interconnector flows due to constraint	Constraint equation action
	09/02/2017 18:25	NSW1	A	4.07	1148.37	226.34	VIC1-NSW1	197	-562	-758	500		
58	10/02/2017 13:55	VIC1	A	113.71	16.15	129.86	T-V-MNSP1	149	344	195	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/ Constraint equation action
59	10/02/2017 15:55	QLD1	A	42.37	4292.24	98.97	NSW1-QLD1	-1035	-748	287	240	Rebidding	Rebidding
	10/02/2017 15:55	VIC1	A	4651.50	4662.00	10.50	T-V-MNSP1	594	373	-221	190		
60	10/02/2017 16:30	QLD1	A	44.76	305.94	14000.00	NSW1-QLD1	-941	-1193	-251	240	Unplanned outage	Unplanned outage
61	11/02/2017 13:35	QLD1	A	6.19	299.00	2150.20	N-Q-MNSP1	3	-78	-81	80	Rebidding and increase in QLD demand	Rebidding/demand changes
62	11/02/2017 15:05	VIC1	A	7.70	138.11	-926.01	VIC1-NSW1	858	154	-704	500	Rebidding	Rebidding
	11/02/2017 15:05	NSW1	A	4.34	299.80	-999.99	VIC1-NSW1	858	154	-704	500		
63	11/02/2017 15:15	VIC1	A	100.16	0.00	100.16	VIC1-NSW1	205	814	609	500	Rebidding	Rebidding
	11/02/2017 15:15	NSW1	A	181.87	0.00	181.87	VIC1-NSW1	205	814	609	500		
64	12/02/2017 02:20	VIC1	A	1009.20	-1000.00	9.20	V-SA	534	345	-189	150	Rebidding	Rebidding

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65	13/02/2017 09:00	QLD1	A	7.85	395.69	3500.69	N-Q-MNSP1	38	-45	-83	80	Interconnector flows constrained to manage negative residues	Constraint equation action
66	19/02/2017 01:40	SA1	A	3.38	79.99	349.98	V-SA	539	338	-201	150	Changes in interconnector flows due to constraint	Constraint equation action
67	27/02/2017 05:00	VIC1	A	7.19	35.43	-219.31	V-SA	550	277	-273	150	Changes in interconnector flows due to constraint	Constraint equation action
	27/02/2017 05:00	SA1	A	252.41	55.25	14000.00	V-SA	550	277	-273	150		
68	09/03/2017 10:15	VIC1	R	21.77	83.70	83.70	T-V-MNSP1	-329	-125	204	190	Malfunction of SCADA process during a planned EMS data failover. Scheduling error report published[2].	MII
	09/03/2017 10:15	VIC1	R	21.77	83.70	83.70	VIC1-NSW1	144	-379	-522	500		
69	09/03/2017 10:20	VIC1	A	26.15	-1738.79	69.13	T-V-MNSP1	-125	-361	-236	190	Malfunction of SCADA process during a planned EMS data failover	Malfunction of SCADA process
70	12/03/2017 21:50	VIC1	A	13.71	36.30	-461.49	V-SA	36	354	318	150	Changes in interconnector flows due to constraint	Constraint equation action
71	02/06/2017 06:35	TAS1	A	94.11	93.30	-0.81	T-V-MNSP1	-191	8	199	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/ Constraint equation action
72	01/07/2017 05:25	TAS1	A	87.42	86.76	-0.66	T-V-MNSP1	-168	44	212	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/ Constraint equation action
73	02/07/2017 17:35	TAS1	A	141.57	140.88	-0.69	T-V-MNSP1	-248	-50	198	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/ Constraint equation action

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[2] See https://www.aemo.com.au/-/media/Files/Electricity/NEM/Market_Notices_and_Events/Market_Event_Reports/2017/Scheduling-Error-Report---MII-Event---09-March-2017.pdf.

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74	07/07/2017 08:10	TAS1	A	100.47	99.74	-0.73	T-V-MNSP1	-163	72	234	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/ Constraint equation action
75	07/07/2017 19:55	TAS1	A	92.26	91.53	-0.73	T-V-MNSP1	-140	75	215	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/ Constraint equation action
76	31/07/2017 13:30	SA1	A	12.65	85.84	-1000.00	V-SA	-438	-83	355	150	Changes in interconnector flows due to constraints during an unplanned outage	Outage/Constraint equation action
77	02/08/2017 05:35	TAS1	A	88.23	87.48	-0.75	T-V-MNSP1	-137	71	208	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/Constraint equation action
78	05/08/2017 14:40	QLD1	A	743.35	44.99	-33398.31	N-Q-MNSP1	-72	9	82	80	Changes in interconnector flows due to constraints during an unplanned outage	Outage/Constraint equation action
	05/08/2017 14:40	QLD1	A	743.35	44.99	-33398.31	NSW1-QLD1	-1020	-551	470	240		
79	05/08/2017 14:45	QLD1	A	33398.31	-33398.31	0.00	N-Q-MNSP1	9	-72	-81	80	Changes in interconnector flows due to constraints during an unplanned outage	Outage/Constraint equation action
80	13/08/2017 10:40	QLD1	A	934.09	15.94	-918.15	N-Q-MNSP1	-73	24	97	80	Changes in interconnector flows due to constraints	Constraint equation action
81	13/08/2017 10:45	QLD1	A	22.35	-918.15	43.01	N-Q-MNSP1	24	-73	-97	80	Changes in interconnector flows due to constraints and increase in QLD demand	Constraint equation action/ demand changes
82	16/08/2017 11:20	SA1	A	15.76	-1000.00	67.73	V-SA	-500	-286	214	150	Reduction in wind and increase in SA demand	Wind and demand changes

Incident number	Date and time	Region	Price status (A=accepted, R=rejected)	Price change (%, Absolute)	Previous ROP ($/MWh)	Current ROP ($/MWh)	Interconnector	Previous flow (MW)	Current flow (MW)	Absolute change in flow (MW)	Region flow threshold (MW)	Explanation	Reason
83	05/09/2017 02:25	TAS1	A	82.83	82.00	-0.83	T-V-MNSP1	-355	-152	203	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/Constraint equation action
84	11/09/2017 00:35	TAS1	A	4.89	59.31	349.09	T-V-MNSP1	198	-11	-209	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/Constraint equation action
85	11/10/2017 07:05	VIC1	A	3.51	90.42	20.07	V-S-MNSP1	-39	-148	-109	100	SA generator under Direction, changes in interconnector flows due to constraint action when intervention constraints were revoked	Intervention/Constraint equation action
86	23/10/2017 05:45	TAS1	A	96.63	-0.74	95.89	T-V-MNSP1	-98	104	202	190	Changes in interconnector flows due to constraints and increase in TAS demand	Constraint equation action/ demand changes
87	24/10/2017 18:25	SA1	A	20.73	50.69	-1000.00	V-SA	-475	-72	403	150	Changes in interconnector flows due to constraints during an unplanned outage	Outage/Constraint equation action
88	27/10/2017 05:35	TAS1	A	81.60	80.93	-0.67	T-V-MNSP1	-325	-112	213	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/ Constraint equation action
89	28/10/2017 20:50	TAS1	A	113.77	113.00	-0.77	T-V-MNSP1	-181	19	200	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/Constraint equation action
90	03/11/2017 04:45	QLD1	A	918.10	-918.15	-0.05	N-Q-MNSP1	-181	-100	80	80	Changes in interconnector flows due to constraints during a planned outage	Outage/Constraint equation action
91	12/11/2017 05:35	VIC1	A	40.98	57.56	-2300.98	V-SA	-234	258	492	150	Incorrect constraint set invoked for	MII

Incident number	Date and time	Region	Price status (A=accepted, R=rejected)	Price change (%, Absolute)	Previous ROP ($/MWh)	Current ROP ($/MWh)	Interconnector	Previous flow (MW)	Current flow (MW)	Absolute change in flow (MW)	Region flow threshold (MW)	Explanation	Reason
	12/11/2017 05:35	SA1	A	19.33	54.56	-1000.00	V-SA	-234	258	492	150	concurrent network outages resulted in incorrect acceptance. Scheduling error report for MII published[3].	
92	23/11/2017 23:45	TAS1	A	91.60	103.20	11.59	T-V-MNSP1	-301	-104	196	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/Constraint equation action
93	27/11/2017 06:05	TAS1	A	335.75	336.60	0.85	T-V-MNSP1	-194	-3	191	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/ Constraint equation action
94	30/11/2017 03:35	QLD1	A	72.82	59.95	-12.87	NSW1-QLD1	-844	-596	248	240	Changes in interconnector flows due to constraints during a planned outage	Outage/Constraint equation action
95	30/11/2017 03:40	QLD1	A	987.13	-12.87	-1000.00	NSW1-QLD1	-596	-348	248	240	Changes in interconnector flows due to constraints during a planned outage	Outage/Constraint equation action
96	30/11/2017 12:15	QLD1	A	4.42	24.73	133.97	NSW1-QLD1	-281	-659	-379	240	Changes in interconnector flows due to constraints during a planned outage	Outage/Constraint equation action
97	09/12/2017 21:20	TAS1	A	80.37	79.67	-0.70	T-V-MNSP1	-125	94	219	190	Rebidding and changes in interconnector flows due to constraint	Rebidding/Constraint equation action
98	11/12/2017 19:05	TAS1	A	33.69	12114.52	349.27	T-V-MNSP1	97	-155	-252	190	Changes in interconnector flows due to constraints	Constraint equation action

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[3] See https://www.aemo.com.au/-/media/Files/Electricity/NEM/Market_Notices_and_Events/Market_Event_Reports/2017/Scheduling-Error-Report---12-November-2017.pdf.

Glossary

Term	Definition
DI	Dispatch Interval
MII	Manifestly Incorrect Input
NER	National Electricity Rules
Price change	The price threshold is breached if either: $\text{Min}(|ROP_i|, |ROP_{i-1}|) > X$ and Price Change = $|ROP_i - ROP_{i-1}| / \text{Min}(|ROP_i|, |ROP_{i-1}|) > Y$ Or, $\text{Min}(|ROP_i|, |ROP_{i-1}|) \leq X$ and Price Change = $|ROP_i - ROP_{i-1}| > X * Y$ Where X and Y are regional specific parameters.
ROP	Regional Original Price