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30 September 2010

Mr Chris Pattas
General Manager
Network Regulation South Branch
Australian Energy Regulator
Level 42 The Tower
360 Elizabeth Street
Melbourne VIC 3000

By email chris.pattas@aer.gov.au

Dear Chris,

PROPOSAL FOR EARLY IMPLEMENTATION OF THE MARKET IMPACTS OF TRANSMISSION CONGESTION (MITC) MEASURE

On 11 March 2010 the Australian Energy Market Commission made the National Electricity Amendment (Early Implementation of Market Impact Parameters) Rule 2010 No. 1. The Rule took effect from 12 March 2010. The new Rule provides that a Transmission Network Service Provider (TNSP) may apply to the Australian Energy Regulator (AER) to have the MITC component of the Service Target Performance Incentive Scheme apply to it during the current regulatory control period.

Pursuant to clause 11.32.3 of the Rules ElectraNet makes the following proposal for the early implementation of the MITC component of the STPIS to apply to ElectraNet:

Nominated Commencement Date:	27 January 2011
Proposed Performance Target:	2100 Dispatch Intervals
Proposed performance Cap:	0 Dispatch Intervals

The proposed commencement date is at least 80 business days after the submission of this proposal, as required by clause 11.32.3(e) of the Rules.

As provided for under clause 11.32.3(d)(2) of the Rules, ElectraNet proposes Saturday, 1 January 2011 as an appropriate earlier commencement date being 64 business days from the date of application and the first day of the calendar year.

The systems and processes used to collate the data that supports this proposal, together with those used for monitoring and reporting on the existing STPIS, will enable this earlier commencement date.

A summary of the data relating to network outage constraints prepared in accordance with the requirements of the scheme is set out in the attachment to this letter, while the detailed data is contained on the enclosed disc.

Please contact Simon Appleby on 08 8404 7324 in the first instance to discuss any details pertaining to this proposal.

Yours sincerely,

Rainer Korte
Executive Manager Network Strategy & Regulatory Affairs

Attachment 1

Summary (Outage DI)							
Year		Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
2005		17769	2027	15742	1480.8	168.9	1311.8
2006		6902	3014	3888	575.2	251.2	324.0
2007		9926	2849	7077	827.2	237.4	589.8
2008		19648	1986	17662	1637.3	165.5	1471.8
2009		4850	622	4228	404.2	51.8	352.3
AVE		11819	2100	9719	984.9	175.0	810.0

CONSTRAINTID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
#NPS1_E	SNPA1.ENERGY * 1 <= 180 (Wt = 20)	35	0	35	2.9	0.0	2.9
#NPS1_E	SNPA1.ENERGY * 1 <= 200 (Wt = 20)	26	0	26	2.2	0.0	2.2
#NPS1_E	SNPA1.ENERGY * 1 = 180 (Wt = 20)	44	0	44	3.7	0.0	3.7
#NPS1_E	SNPA1.ENERGY * 1 >= 180 (Wt = 20)	10	0	10	0.8	0.0	0.8
#NPS1_RR	SNPA1.RAISEREG * 1 = 0 (Wt = 20)	348	0	348	29.0	0.0	29.0
#NPS2_E	SNPA2.ENERGY * 1 <= 180 (Wt = 20)	35	0	35	2.9	0.0	2.9
#NPS2_E	SNPA2.ENERGY * 1 = 180 (Wt = 20)	33	0	33	2.8	0.0	2.8
#NPS2_E	SNPA2.ENERGY * 1 = 255 (Wt = 360)	4	0	4	0.3	0.0	0.3
#NPS2_E	SNPA2.ENERGY * 1 >= 180 (Wt = 20)	4	0	4	0.3	0.0	0.3
#NPS2_RR	SNPA2.RAISEREG * 1 = 0 (Wt = 20)	346	0	346	28.8	0.0	28.8
#OSB-AG_E	SNBN1.ENERGY * 1 >= 159 (Wt = 20)	6	0	6	0.5	0.0	0.5
#POR01_E	SPLN1.ENERGY * 1 >= 10 (Wt = 20)	112	0	112	9.3	0.0	9.3
#POR01_E	SPLN1.ENERGY * 1 >= 12 (Wt = 20)	7	0	7	0.6	0.0	0.6
#POR01_E	SPLN1.ENERGY * 1 >= 15 (Wt = 20)	57	0	57	4.8	0.0	4.8
#POR01_E	SPLN1.ENERGY * 1 >= 5 (Wt = 20)	111	0	111	9.3	0.0	9.3
#POR01_E	SPLN1.ENERGY * 1 >= 6 (Wt = 20)	135	0	135	11.3	0.0	11.3
#POR01_E	SPLN1.ENERGY * 1 >= 7 (Wt = 20)	35	0	35	2.9	0.0	2.9
#POR01_E	SPLN1.ENERGY * 1 >= 8 (Wt = 20)	118	0	118	9.8	0.0	9.8
#SNUG1_E	SSGA1.ENERGY * 1 = 10 (Wt = 20)	17	0	17	1.4	0.0	1.4
#SNUG1_E	SSGA1.ENERGY * 1 = 10 (Wt = 360)	153	0	153	12.8	0.0	12.8
#SNUG1_E	SSGA1.ENERGY * 1 = 5 (Wt = 360)	782	0	782	65.2	0.0	65.2
#SNUG1_E	SSGA1.ENERGY * 1 >= 10 (Wt = 20)	10	0	10	0.8	0.0	0.8
#SNUG1_E	SSGA1.ENERGY * 1 >= 10 (Wt = 360)	34	0	34	2.8	0.0	2.8
#SNUG1_E	SSGA1.ENERGY * 1 >= 15 (Wt = 360)	78	0	78	6.5	0.0	6.5
#SNUG1_E	SSGA1.ENERGY * 1 >= 5 (Wt = 20)	34	0	34	2.8	0.0	2.8
#SNUG1_E	SSGA1.ENERGY * 1 >= 5 (Wt = 360)	175	0	175	14.6	0.0	14.6
#V-S-MNSP1_E	V-S-MNSP1 * 1 = 36 (Wt = 20)	2	0	2	0.2	0.0	0.2
#V-S-MNSP1_E	V-S-MNSP1 * 1 >= 50 (Wt = 20)	1	1	0	0.1	0.1	0.0
@NPS<=515	Eff = 18/03/2005 ; RHS = 515 ; Op = "<=" ; Wt = 360	2	0	2	0.2	0.0	0.2
@NPS1>=180	Maintain NPS Unit 1 >minimum load in association with use of S-NPS_SINGLE_CONT	79	0	79	6.6	0.0	6.6
@NPS2>=180	Maintain NPS Unit 2 >minimum load in association with use of S-NPS_SINGLE_CONT	28	0	28	2.3	0.0	2.3
@NPS470	Eff = 16/03/2005 ; RHS = 470 ; Op = "<=" ; Wt = 360	9	0	9	0.8	0.0	0.8
@NPS500	Eff = 16/03/2005 ; RHS = 500 ; Op = "<=" ; Wt = 360	34	0	34	2.8	0.0	2.8
@POR01_10	Eff = 12/01/2005 ; RHS = 10 ; Op = ">=" ; Wt = 20	153	0	153	12.8	0.0	12.8
@S_PPT165	Eff = 17/07/2005 ; RHS = 165 ; Op = "<=" ; Wt = 20	25	25	0	2.1	2.1	0.0
@S-NPS_PLAY<530	Eff = 11/06/2005 ; RHS = 530 ; Op = "<=" ; Wt = 20	2	2	0	0.2	0.2	0.0
@TIPB>250	Eff = 21/10/2005 ; RHS = 250 ; Op = ">=" ; Wt = 20	4	4	0	0.3	0.3	0.0
@TIPBPARA	Eff = 21/10/2005 ; RHS = 300 ; Op = ">=" ; Wt = 20	5	5	0	0.4	0.4	0.0

CONSTRAINTID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
@VSML_015_EQUAL	Eff = 04/07/2005 ; RHS = 15 ; Op = "=" ; Wt = 20	11	0	11	0.9	0.0	0.9
F_I+LREG_0140	NEM Lower Regulation Requirement greater than 140 MW	1	1	0	0.1	0.1	0.0
F_I+TL_L5_0600	Lower 5 min Service Requirement for a NEM Network Event, TL = 600	383	0	383	31.9	0.0	31.9
F_S+V_HYML_L5	Outage = one Heywood to Moorabool (HYTS-MLTS) 500kV line or one Moorabool to Sydneham (MLTS-SYTS) 500kV line, SA Lower 5 min Requirement	22	0	22	1.8	0.0	1.8
F_SA_ISLE_L5_0100	Lower 5 min Service Requirement for Islanded SA Load Event, ML = 100	4	4	0	0.3	0.3	0.0
F_SA_ISLE_L6_0100	Lower 6 sec Service Requirement for Islanded SA Load Event, ML = 100	4	4	0	0.3	0.3	0.0
F_SA_ISLE_L60_0100	Lower 60 sec Service Requirement for Islanded SA Load Event, ML = 100	4	4	0	0.3	0.3	0.0
F_SA_ISLE+LREG_0070	Islanded SA Lower Regulation Requirement greater than 70 MW	4	4	0	0.3	0.3	0.0
F_SA_ISLE+MG_R5	Raise 5 min Service Requirement for Islanded SA Generation Event	4	4	0	0.3	0.3	0.0
F_SA_ISLE+MG_R6	Raise 6 sec Service Requirement for Islanded SA Generation Event	4	4	0	0.3	0.3	0.0
F_SA_ISLE+MG_R60	Raise 60 sec Service Requirement for Islanded SA Generation Event	4	4	0	0.3	0.3	0.0
F_SA_ISLE+RREG_0070	Islanded SA Raise Regulation Requirement greater than 70 MW	4	4	0	0.3	0.3	0.0
F_STH_ISLE+LREG_0150	Islanded Southern Lower Regulation Requirement greater than 150 MW	1	0	1	0.1	0.0	0.1
F_STH_MI+MG_R6	Raise 6 sec Service Requirement for Islanded Southern plus Millmerran Generation Event, Separation between Bulli Creek and Tarong	2	0	2	0.2	0.0	0.2
F_V+S_HYML_L5	Outage = one Heywood to Moorabool (HYTS-MLTS) 500kV line or one Moorabool to Sydneham (MLTS-SYTS) 500kV line, Eastern Lower 5 min Requirement	1073	0	1073	89.4	0.0	89.4
F_V+S_HYML_L60	Outage = one Heywood to Moorabool (HYTS-MLTS) 500kV line or one Moorabool to Sydneham (MLTS-SYTS) 500kV line, Eastern Lower 60 sec Requirement	6	0	6	0.5	0.0	0.5
H>>H-64_B	Out= LowerTumutSS-UpperTumutSS(64), avoid MurraySS->LowerTumutSS(66) OL on MSS-UTSS(65) trip; Fb,CoOp	224	0	224	18.7	0.0	18.7

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H>>H-64_B	Outage= Lower Tumut to Upper Tumut (64) 330kV line, avoid overloading Murray to Lower Tumut (66) on loss of Murray to Upper Tumut (65), FbRDF, Option 4	168	0	168	14.0	0.0	14.0
H>>H-64_C	Outage= Lower Tumut to Upper Tumut (64) 330kV line, avoid overloading Upper Tumut to Murray (65) on loss of Murray to Lower Tumut (66), FbRDF, Option 4	15	0	15	1.3	0.0	1.3
H>>H-LTMS_AX	Out= LT-MS(66)+LT-UT(64), avoid MS->UT(65) OL on Jindera-Wodonga(060) trip; FbRDF; Op4	8	0	8	0.7	0.0	0.7
N>LTWG_1	Out= LT-Wagga(051), avoid Yass control scheme operation after 62+996 are tripped; FbRDF	12	0	12	1.0	0.0	1.0
S:NPS_SINGL_CONT	Transient Stabilty constraint for the loss of Northen PS. Northern PS max generation as a function of V-SA. NPS < 2units, 2000WO applied	1117	0	1117	93.1	0.0	93.1
S:NPS_SINGL_CONT_HY	Transient Stabilty constraint for the loss of Northen PS. Northern PS max generation as a function of V-SA. NPS < 2units, 2000WO applied	570	0	570	47.5	0.0	47.5
S^NPS_SINGL_CONT	SA Northern PS min gen dispatch >= 360 MW, NPS<2units,-2000appl	5	0	5	0.4	0.0	0.4
S_DVNP_NP2	Out=Davenport Northern U2 275kV line	2049	0	2049	170.8	0.0	170.8
S_MTSE_PWSE	Minimum generation at Snuggery bus for network support; Avoid OL Mannum P2 to Mannum for trip Tailem Bend TX. Fb	5	5	0	0.4	0.4	0.0
S_NPS_450	Discretionary upper limit for Northern generation of 450 MW	10	10	0	0.8	0.8	0.0
S_NPS_470	Discretionary upper limit for Northern generation of 470 MW	7	0	7	0.6	0.0	0.6
S_NPS_490	Discretionary upper limit for Northern generation of 490 MW	165	20	145	13.8	1.7	12.1
S_NPS_510	Discretionary upper limit for Northern generation of 510 MW	82	0	82	6.8	0.0	6.8
S_PLN_ISL1	Out = Whyalla to Yadnarie line, Port Lincoln PS islanded	67	67	0	5.6	5.6	0.0
S_PLN_ISL2	SA,Outage of 132kV fdr(Yadnarie-PortLincoln) .SPLN1 islanded.	98	98	0	8.2	8.2	0.0
S_POR01_10	Port Lincoln >= 10 MW for Network Support Agreement	138	0	138	11.5	0.0	11.5
S_POR01_15	Port Lincoln >= 15 MW for Network Support Agreement	5	0	5	0.4	0.0	0.4

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S_POR01_20	Port Lincoln >= 20 MW for Network Support Agreement	8	0	8	0.7	0.0	0.7
S_POR01_25	Port Lincoln >= 25 MW for Network Support Agreement	6	0	6	0.5	0.0	0.5
S_PPT160	SA Pel.PtGen<=160,out=TIPS-Lefev.Ln(Lefevre supplied from PelPt)	272	272	0	22.7	22.7	0.0
S_PPT200	SA Pel.PtGen<=200,out=PGW-CB6579 or Pel.Pt-LefevLn or OtherPlant	550	550	0	45.8	45.8	0.0
S_SNUG1_05	Snuggery >= 5 MW for Network Support Agreement	17	0	17	1.4	0.0	1.4
S_SNUG1_10	Snuggery >= 10 MW for Network Support Agreement	34	0	34	2.8	0.0	2.8
S_SNUG1_15	Snuggery >= 15 MW for Network Support Agreement	50	0	50	4.2	0.0	4.2
S_SNUG1_20	Snuggery >= 20 MW for Network Support Agreement	31	0	31	2.6	0.0	2.6
S_SNUG1_30	Snuggery >= 30 MW for Network Support Agreement	32	0	32	2.7	0.0	2.7
S>DVPA_BRPA	Out = Davenport to Para, Limit NPS, Playf, Hallet, Mintaro and Pt Linc generation to avoid Brinkworth-Para line OL on Davenport - Robertstown line trip	4	4	0	0.3	0.3	0.0
S>V_PA_VC	Out= one Para SVC, SA-Vic Thermal (O/L) transfer limit for loss of the remaining Para SVC	15	15	0	1.3	1.3	0.0
S>V_PATB	Out=Para-Tbend275,SA-VicLmt,AvoidO/L 132kv AC-MAP3on trip PA-TB	10	10	0	0.8	0.8	0.0
SA_HYSE2	SA / Eastern separation between Heywood and South East (HYTS - SESS), SA to Victoria on VicSA upper limit of 0 MW	1	1	0	0.1	0.1	0.0
SVML_000	SA to Vic on ML upper transfer limit of 0 MW	9	0	9	0.8	0.0	0.8
V:HHWROB_C	Outage = Hazelwood to Rowville No.4 500kV line, limit Snowy to Vic to avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, second linear segment of equations 27.1 & 28.1 from TLM-D, 3/5 Parallel	1	0	1	0.1	0.0	0.1
V:HHWROB_C	Outage = Hazelwood to Rowville No.4 500kV line, limit Vic to Snowy to avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, second linear segment of equations 27.1 & 28.1 from TLM-D, 3/5 Parallel	28	0	28	2.3	0.0	2.3
V:HHWROC_C	Outage = Hazelwood to Rowville No.4 500kV line, limit Snowy to Vic to avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, third linear segment of equations 27.1 & 28.1 from TLM-D, 3/5 Parallel	2	0	2	0.2	0.0	0.2

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V:HHWROC_C	Outage = Hazelwood to Rowville No.4 500kV line, limit Vic to Snowy to avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, third linear segment of equations 27.1 & 28.1 from TLM-D, 3/5 Parallel	54	0	54	4.5	0.0	4.5
V:HHWSMB_C	Outage = Hazelwood to South Morang 500kV line, limit Vic to Snowy to avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, second linear segment of equations 27.1 & 27.1q from VE-D & Q , 3/5 Parallel	9	0	9	0.8	0.0	0.8
V:HHWSMC_C	Outage = Hazelwood to South Morang 500kV line, limit Vic to Snowy to avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, third linear segment of equations 27.1 & 27.1q from VE-D & Q , 3/5 Parallel	11	0	11	0.9	0.0	0.9
V:S_NPS_SIN_CON_TIMG	Vic-SA Stability limit for Magill - Tips outage with NPS declared single credible contingency.	6	6	0	0.5	0.5	0.0
V:S_NPS_SIN_COT_1_HY	V-SA transf Lmt<=130MW NPS<2units2000WO applied	75	0	75	6.3	0.0	6.3
V:S_NPS_SIN_COT_1_HY	V-SA transf Lmt<=150MW, NPS<2units,2000WO applied,	12	0	12	1.0	0.0	1.0
V:S_NPS_SIN_COT_2_HY	Vic-SA Stab Lmt,SingleCredible Contingency=Loss of 2 Northern PS units	79	0	79	6.6	0.0	6.6
V:S_NPS_SINGL_CONT_2	Vic-SA Stab Lmt,SingleCredible Contingency=Loss of 2 Northern PS units	776	0	776	64.7	0.0	64.7
V:S_NPS_SINGL_CONT_2	Vic-SA Stability limit for single credible contingency = Loss of two Northern Power Station units, NPS<2units 2000 washout applied	458	0	458	38.2	0.0	38.2
V:S_NPS_SINGL_CONT_2	Vic-SA Stability limit for single credible contingency = Loss of two Northern Power Station units.	1407	0	1407	117.3	0.0	117.3
V:S_NPS1=180	Maintain NPS Unit 1 = 180 MW with HYTS-SESS line out	555	182	373	46.3	15.2	31.1
V:S_NPS2=180	Maintain NPS Unit 2 = 180 MW with HYTS-SESS line out	558	182	376	46.5	15.2	31.3
V^SML_X5TR	Out=X5 trip scheme,limit Murraylink flow avoid bad V on 63 trip	417	0	417	34.8	0.0	34.8
V>>SML_DVPA_BRPA	Out = Davenport to Para Limit NPS Playf Hallet Mintaro and Pt Linc generation to avoid Brinkworth-Para line OL on Davenport - Robertstown line trip. FbCoOp	57	57	0	4.8	4.8	0.0

CONSTRAINTID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
V>S_LEPP	Out=275kVLeFevre-PelicanPointVic-SA Lmt Avoid 132kVO/LSG-BN ; MT-BN ; KH-TB on trip 275kV TB-SE and MA-MAP2; on trip NPS	10	10	0	0.8	0.8	0.0
V>S_LETI	Out=275kVLeFevre-TIPSVic-SA Lmt Avoid 132kVO/LSG-BN ; MT-BN ; KH-TB on trip 275kV TB-SE and MA-MAP2; MO-TB on trip NPS	1	1	0	0.1	0.1	0.0
V>S_PATB	Out=275kV Para-TailemBend,Vic-SA Lmt,avoid 132kVO/L,MA-MAP2 ; MO-TB ; 275 / 132kV TB Tx on trip remaining 275kV PA-TB	38	0	38	3.2	0.0	3.2
V>S_PATB	Out=275kV Para-TailemBendVic-SA Lmtavoid 132kVO/LMA-MAP2 ; MO-TB ; 275 / 132kV TB Tx on trip remaining 275kV PA-TB	42	4	38	3.5	0.3	3.2
V>S_SETB	Out= one South East to Tailem Bend 275kV line, avoid O/L Blanche to Snuggery, Blanche to Mt Gambier or Keith to Tailem Bend (No.1 or 2) lines on trip for loss of the remaining South East to Tailem Bend line	255	91	164	21.3	7.6	13.7
V>S_SETB	Out=275 SthEast-TailemBend , Vic-SA Lmt,avoid 132kVO/L,SG-BN ; MT-BN ; KH-TB on trip 275kV TB-SE	176	0	176	14.7	0.0	14.7
V>SMLBAHO1	Out = Ballarat to Horsham or Bendigo to Kerang line, limit Murraylink from Vic to SA to avoid O/L Balranald to Darlington Point (X5/1) line	10	0	10	0.8	0.0	0.8
V>SMLGTKT	Out = one Geelong to Keilor (No.1,2 or 3) 220kV line or Moorabool (A1) 500/220kV transformer, avoid O/L the other Geelong to Keilor (No.1,2 or 3) 220kV line	36	0	36	3.0	0.0	3.0
VH>V1KTTX	Outage = Keilor 500/220kV transformer, limit Vic to Snowy and Vic to SA on Murraylink to avoid overloading the South Morang 500/330kV (F2) transformer, radial mode at Hazelwood	2	0	2	0.2	0.0	0.2
VS_000	Victoria to SA on VicSA upper transfer limit of 0 MW	5	0	5	0.4	0.0	0.4
VS_150	Victoria to SA on VicSA upper transfer limit of 150 MW	402	148	254	33.5	12.3	21.2
VS_180	Victoria to SA on VicSA upper transfer limit of 180 MW	25	25	0	2.1	2.1	0.0
VS_250	Victoria to SA on VicSA upper transfer limit of 250 MW	163	5	158	13.6	0.4	13.2
VS_350	Victoria to SA on VicSA upper transfer limit of 350 MW	24	24	0	2.0	2.0	0.0
VSML_000	Vic to SA on ML upper transfer limit of 0 MW	1569	170	1399	130.8	14.2	116.6
VSML_160	Vic to SA on ML upper transfer limit of 160 MW	1	0	1	0.1	0.0	0.1

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VSML_210	Vic to SA on Murraylink upper transfer limit of 210 MW	97	0	97	8.1	0.0	8.1
		17769	2027	15742	1480.8	168.9	1311.8

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
#PPCCGT_E	SPPT.ENERGY * 1 <= 120 (Wt = 20)	94	94	0	7.8	7.8	0.0
#SNUG1_E	SSGA1.ENERGY * 1 >= 10 (Wt = 20)	5	0	5	0.4	0.0	0.4
#SNUG1_E	SSGA1.ENERGY * 1 >= 25 (Wt = 20)	38	0	38	3.2	0.0	3.2
#V-S-MNSP1_E	V-S-MNSP1 * 1 <= 150 (Wt = 20)	16	0	16	1.3	0.0	1.3
#V-S-MNSP1_E	V-S-MNSP1 * 1 = 119 (Wt = 20)	2	0	2	0.2	0.0	0.2
#V-S-MNSP1_E	V-S-MNSP1 * 1 = 30 (Wt = 20)	4	0	4	0.3	0.0	0.3
#V-S-MNSP1_E	V-S-MNSP1 * 1 >= 20 (Wt = 20)	1	0	1	0.1	0.0	0.1
#V-S-MNSP1_I	V-S-MNSP1 * -1 >= 40 (Wt = 20)	1	1	0	0.1	0.1	0.0
#V-S-MNSP1_I	V-S-MNSP1 * -1 >= 50 (Wt = 20)	59	0	59	4.9	0.0	4.9
F_I+RREG_0200	NEM Raise Regulation Requirement greater than 200 MW	25	0	25	2.1	0.0	2.1
F_I+RREG_0250	NEM Raise Regulation Requirement greater than 250 MW	47	0	47	3.9	0.0	3.9
F_MAIN++RREG_0250	Mainland Raise Regulation Requirement greater than 250 MW, Basslink able transfer FCAS	3	0	3	0.3	0.0	0.3
F_MAIN+RREG_0130	Mainland Raise Regulation Requirement greater than 130 MW, Basslink unable to transfer FCAS	2	1	1	0.2	0.1	0.1
F_MAIN+RREG_0200	Mainland Raise Regulation Requirement greater than 200 MW, Basslink unable to transfer FCAS	11	0	11	0.9	0.0	0.9
F_QNHV++HYML_L5	Out = one Heywood to Moorabool (HYTS-MLTS) line or one Moorabool to Sydneham (MLTS-SYTS) line Qld, NSW, Snowy and Vic Lower 5 min Requirement, Basslink able to transfer FCAS	10	0	10	0.8	0.0	0.8

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
F_QNHV+HYML_L5	Out = one Heywood to Moorabool (HYTS-MLTS) line or one Moorabool to Sydneham (MLTS-SYTS) line Qld, NSW, Snowy and Vic Lower 5 min Requirement, Basslink unable to transfer FCAS	70	0	70	5.8	0.0	5.8
F_S_TB3_TX_L5	Torrens B 3 Transformer O/S; unit L5=0	24	24	0	2.0	2.0	0.0
F_S_TB3_TX_L6	Torrens B 3 Transformer O/S; unit L6=0	24	24	0	2.0	2.0	0.0
F_S_TB3_TX_L60	Torrens B 3 Transformer O/S; unit L60=0	24	24	0	2.0	2.0	0.0
F_S_TB3_TX_LREG	Torrens B 3 Transformer O/S; unit LR=0	24	24	0	2.0	2.0	0.0
F_S_TB3_TX_R5	Torrens B 3 Transformer O/S; unit R5=0	24	24	0	2.0	2.0	0.0
F_S_TB3_TX_R6	Torrens B 3 Transformer O/S; unit R6=0	24	24	0	2.0	2.0	0.0
F_S_TB3_TX_R60	Torrens B 3 Transformer O/S; unit R60=0	24	24	0	2.0	2.0	0.0
F_S_TB3_TX_RREG	Torrens B 3 Transformer O/S; unit RR=0	24	24	0	2.0	2.0	0.0
F_S++HYML_L5	Out = one Heywood to Moorabool (HYTS-MLTS) 500kV line or one Moorabool to Sydneham (MLTS-SYTS) 500kV line, SA Lower 5 min Requirement	18	0	18	1.5	0.0	1.5
F_S++HYSE_L5	Out = one Heywood to South East (HYTS-SESS) or one Heywood (HYTS) 500/275kV (M1 or M2) transformer, SA Lower 5 min Requirement	72	0	72	6.0	0.0	6.0
H>>H-64_3X	Out= LT-UT(64), avoid UT->MS(65) OL on MS-LT(66) trip; FbRDF;Op4; Orient=DD	2	0	2	0.2	0.0	0.2
H>>H-64_4X	Out= LT-UT(64), avoid LT->MS(66) OL on MS-UT(65) trip; FbRDF;Op4; Orient=DD	2	0	2	0.2	0.0	0.2
H>>H-64_B	Out= LowerTumutSS-UpperTumutSS(64), avoid MurraySS->LowerTumutSS(66) OL on MSS-UTSS(65) trip; Fb,CoOp	259	0	259	21.6	0.0	21.6

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H>>H-64_CX	Out= LT-UT(64), avoid UT->MS(65) OL on MS-LT(66) trip; FbRDF;Op4; Orient=DD	19	0	19	1.6	0.0	1.6
H>>H-64_DX	Out= LT-UT(64), avoid LT->MS(66) OL on MS-UT(65) trip; FbRDF;Op4; Orient=DD	200	0	200	16.7	0.0	16.7
H>>H-LTMS_AX	Out= LT-MS(66)+LT-UT(64), avoid MS->UT(65) OL on Jindera-Wodonga(060) trip; FbRDF; Op4	2	0	2	0.2	0.0	0.2
H>>N-LTMS_1	Out= LT-MS(66), avoid Wodonga->Jindera(060) OL on MS-UT(65) trip; FbRDF; Op4	12	0	12	1.0	0.0	1.0
N::H_LTUT	Out= Lower Tumut - Upper Tumut (64), NSW to Snowy Transient Limit	1	0	1	0.1	0.0	0.1
N:H_DDSM	Out= Dederang-SouthMorang, avoid instability on SydWest-Yass(39) or the other DD-SM line fault & trip	1	0	1	0.1	0.0	0.1
N>>N-JNWG_M1	Out= Jindera-Wagga(62)+ANM-Wagga(996), avoid Yass Tx OL on LTSS-Wagga(051) trip; CoOp,Fb	5	0	5	0.4	0.0	0.4
N>N-994_A	Out= Wagga-Yanco(994), avoid Wagga->Yanco(99F) OL on Wagga-DarlingtonPt(63) trip; Fb	118	0	118	9.8	0.0	9.8
N>N-994_B	Out= Wagga-Yanco(994), avoid Wagga->Yanco(99F) OL on Wagga-DarlingtonPt(63) trip; TG advice	27	0	27	2.3	0.0	2.3
NSA_S_POR01_05	Port Lincoln >= 5 MW for Network Support Agreement	24	0	24	2.0	0.0	2.0
NSA_S_POR01_10	Port Lincoln >= 10 MW for Network Support Agreement	19	0	19	1.6	0.0	1.6

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NSA_S_POR01_15	Port Lincoln >= 15 MW for Network Support Agreement	5	0	5	0.4	0.0	0.4
NSA_S_POR01_20	Port Lincoln >= 20 MW for Network Support Agreement	19	0	19	1.6	0.0	1.6
NSA_S_SNUG1_05	Snuggery >= 5 MW for Network Support Agreement	631	13	618	52.6	1.1	51.5
NSA_S_SNUG1_10	Snuggery >= 10 MW for Network Support Agreement	44	0	44	3.7	0.0	3.7
NSA_S_SNUG1_15	Snuggery >= 15 MW for Network Support Agreement	49	3	46	4.1	0.3	3.8
NSA_S_SNUG1_20	Snuggery >= 20 MW for Network Support Agreement	39	0	39	3.3	0.0	3.3
NSA_S_SNUG1_30	Snuggery >= 30 MW for Network Support Agreement	14	0	14	1.2	0.0	1.2
S_CNHL_HAL	Outage of Canowie Hallett 275kV line	196	187	9	16.3	15.6	0.8
S_DVNP_NP1	Out=Davenport Northern U1 275kV line	102	102	0	8.5	8.5	0.0
S_PLN_ISL2	Out = Yadnarie to Port Lincoln line, Port Lincoln PS islanded	145	145	0	12.1	12.1	0.0
S_POR01_05	Port Lincoln >= 5 MW for Network Support Agreement	46	0	46	3.8	0.0	3.8
S_POR01_10	Port Lincoln >= 10 MW for Network Support Agreement	120	0	120	10.0	0.0	10.0
S_POR01_15	Port Lincoln >= 15 MW for Network Support Agreement	25	0	25	2.1	0.0	2.1
S_POR01_20	Port Lincoln >= 20 MW for Network Support Agreement	42	0	42	3.5	0.0	3.5
S_POR01_30	Port Lincoln >= 30 MW for Network Support Agreement	59	0	59	4.9	0.0	4.9

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S_PPT180	SA Pel.PtGen<=180,out=TIPS-Lefev.Ln (Thermal - O/L limit Lefevre 275/66 kV TF)	9	9	0	0.8	0.8	0.0
S_PPT210	SA Pelican Point gen <= 210MW	7	7	0	0.6	0.6	0.0
S_PWLG_LG1	Outage of Penola West to Ladbroke Grove 132kV circuit	179	85	94	14.9	7.1	7.8
S_PWLG_LG2	Outage of Penola West to Ladbroke Grove 132kV circuit	210	85	125	17.5	7.1	10.4
S_TB3_TX	Torrens B 3 Transformer O/S; unit=0	24	24	0	2.0	2.0	0.0
S_TITN	Out= Torrens Island to Torrens North 1 & 2 66kV lines	81	23	58	6.8	1.9	4.8
S>>V_BGDV_DVRB_DVBR	Out = Davenport to Bungama line; Limit Murraylink and SA generation to avoid OL Davenport to Brinkworth 275 kV line for trip Davenport - Robertstown line .	14	14	0	1.2	1.2	0.0
S>>V_PATB_PATB_CGTX	Prior Outage = One Para - Tailem Bend 275 kV line; Limits to avoid O/L Cherry Gardens 275/132 kV transformer on trip the other Para - Tailem Bend line.	12	0	12	1.0	0.0	1.0
S>>V_RBTX_RBTX_PARS	Out=One Robertstown Transfrmer, SA-V Murraylink and SA genrator limit to prevent overloading Para_Roseworthy 132kV Line for loss of the other Robertstown transformer.	48	48	0	4.0	4.0	0.0
S>KHTB12_PWSE_SGBL	Out = Keith - Tailem Bend lines 1 and 2; limit Ladbroke Grove and Snuggery generation to avoid Snuggery - Blanche 132 kV line OL on trip Penola West - South East 132 kV line.	32	32	0	2.7	2.7	0.0

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
S>S_SG_CB6029	Out=Snuggery CB6029 prevent overload of #4 132/33 kV transformer for trip of Snuggery-Blanche line	616	616	0	51.3	51.3	0.0
S>S_SG_CB6029	Out=Snuggery CB6029, prevent overload of #4 132/33 kV transformer for trip of Snuggery-Blanche line	36	36	0	3.0	3.0	0.0
S>S_SG_CB6103	Out=Snuggery CB6103, prevent overload of #2 132/33 kV transformer for trip of Snuggery-Blanche line	111	111	0	9.3	9.3	0.0
S>S_SNTX1A	Out=Snuggery #1 132/33 kV transformer, prevent overload of #4 132/33 kV transformer for trip of Snuggery-Blanche line	165	165	0	13.8	13.8	0.0
S>S_SNTX2	Out=Snuggery TX2: prevent overload of 132/33 kV transformer #f2 or 4 on trip of Transformer #3 or 1	7	7	0	0.6	0.6	0.0
S>S_SNTX3A	Out=Snuggery #3 132/33 kV transformer, prevent overload of #4 132/33 kV transformer for trip of Snuggery-Blanche line	309	309	0	25.8	25.8	0.0
S>SG_CB6105	Out=Snuggery CB6105: prevent overload of 132/33 kV transformer #f2 or 4 on trip of Transformer #3 or 1	7	7	0	0.6	0.6	0.0
S>SG_CB6106	Out=Snuggery CB6106, prevent overload of #4 132/33 kV transformer for trip of Snuggery-Blanche line	57	57	0	4.8	4.8	0.0
S>SN_CB6028	Out=Snuggery CB6028, prevent overload of #4 132/33 kV transformer for trip of Snuggery T1 or T3 transformer.	53	53	0	4.4	4.4	0.0

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S>V_PATB	Out=Para-Tbend275,SA-VicLmt,AvoidO/L 132kv AC-MAP3on trip PA-TB	3	2	1	0.3	0.2	0.1
S>V_SE_VC	Out=SE SVCSA-VicLmt AvoidO/L 132kv AC-MAP3on trip PA-TB	42	42	0	3.5	3.5	0.0
S>V_SETB	Out= one South East to Tailem Bend 275kV line, avoid O/L Keith to Tailem Bend (No.1 or 2) lines or Tailem Bend 275/132kV transformer on trip of South East to Tailem Bend line	2	2	0	0.2	0.2	0.0
S>VML_PARS-RSTP_1	Out=Para_Roseworthy 132kV Line or Roseworthy_Templers 132kV Line, Murraylink SA-Vic transfer Limit to prevent overloading of the Robertstown#2 275/132kV transformer following a contingency on the Robertstown#1 275/132kV transformer	1	1	0	0.1	0.1	0.0
S>VML_RBTX_RB_WTMW4	Out=One Robertstown Transfrmer, SA-V Murraylink limit to prevent overloading Waterloo_MWP4 132kV Line for loss of the other Robertstown transformer.	53	53	0	4.4	4.4	0.0
S>X_SG_TX1+2	Out=Snuggery Transformer 1 and 2, prevent overload of #3 132/33 kV transformer for trip of Snuggery-Blanche line	5	5	0	0.4	0.4	0.0
SV_000	SA to Victoria on VicSA upper transfer limit of 0 MW	3	0	3	0.3	0.0	0.3
SV_250	SA to Victoria on VicSA upper transfer limit of 250 MW	5	0	5	0.4	0.0	0.4

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SVML_000	SA to Vic on ML upper transfer limit of 0 MW	69	0	69	5.8	0.0	5.8
SVML_100	SA to Vic on ML upper transfer limit of 100 MW	2	0	2	0.2	0.0	0.2
V::H_HORCQE_R	Outage = Horsham to Redcliffs 220kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	13	0	13	1.1	0.0	1.1
V::H_HWSMVB_R	Outage=Hazelwood to South Morang 500 kV line, limit Vic interconnectors and generators, avoid transient instability for fault and trip of a Hazelwood to South Morang 500 kV line, second linear segment, Radial	5	0	5	0.4	0.0	0.4
V::S_CGMB_KHTB12MAMO	Out=Cher.Gd-Mt.Bar+Keith-Tailem Bend 1&2+Mannum-Mobilong; SA-VicStabilityLmt on trip NPS	92	92	0	7.7	7.7	0.0
V::S_SE_VC	Prior outage = one South East SVC; Vic-SA Stability Limit for loss of one NPS unit following 2PhG fault on the Davenport - NPS line.	72	72	0	6.0	6.0	0.0
V::V_DDSM	Outage = Dederang to South Morang 330kV line, limit Vic to Snowy to avoid transient instability for fault and trip of a Dederang to South Morang 330kV line, equation 3.1q from TLM-Q	16	0	16	1.3	0.0	1.3

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V:S_SETB	Out= one South East to Tailem Bend 275kV line, Vic-SA transient stability limit for loss of the remaining South East to Tailem Bend line	2	0	2	0.2	0.0	0.2
V^SML_NSWRB_2	Outage = NSW Murraylink runback scheme, limit Vic to SA on Murraylink to avoid voltage collapse for loss of Darlington Pt to Buronga (X5) 220kV line	20	0	20	1.7	0.0	1.7
V^SML_VFRB_3	Outage = Murraylink VFRB scheme, limit Vic to SA on Murraylink to avoid voltage collapse for loss of Bendigo to Kerang 220kV line	36	0	36	3.0	0.0	3.0
V^SML_X5TR	Out=X5 trip scheme,limit Murraylink flow avoid bad V on 63 trip	101	0	101	8.4	0.0	8.4
V>>S_BLSN_SETB_PWKN	Prior Outage = Blanche-Snuggery line; Limit Interconnectors and generation to avoid O/L Penola West to Kincraig line for trip one South East - Tailem Bend line. Fb CoOp.	9	9	0	0.8	0.8	0.0
V>>S_BNSG	Out=Blanche-Snuggery 132kV line; Vic-SA Avoid O/L Kinc-Keith on trip SE-TB	55	55	0	4.6	4.6	0.0
V>>S_CNDV_DVBG_DVBR	Out = Davenport - Canowi line; Limit Murraylink and SA generation to avoid OL Davenport to Brinkworth 275 kV line on trip Davenport to Bungama line.	1	1	0	0.1	0.1	0.0
V>>S_PATB_TBPA_TBMO	Prior Outage = One Para - Tailem Bend 275 kV line; Limit to avoid O/L Tailem Bend - Mobilong 132kV line on trip the other Para - Tailem Bend line.	95	0	95	7.9	0.0	7.9

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V>>S_SETB_N-2_KHTB1	Prior outage= Nil; avoid O/L Keith to Tailem Bend #1 132kV line on trip of both South East to Tailem Bend 275 kV lines.	22	0	22	1.8	0.0	1.8
V>>S_SETB_N-2_MTBL	Prior outage= Nil; avoid O/L Mt Gambier to Blanche line on trip of both South East to Tailem Bend 275 kV lines.	60	0	60	5.0	0.0	5.0
V>>S_SETB_N-2_SGKH	Prior outage= Nil; avoid O/L Snuggery to Keith line on trip of both South East to Tailem Bend 275 kV lines.	4	0	4	0.3	0.0	0.3
V>>S_SETB_SETB_PWKN	Out= one South East to Tailem Bend 275kV line, avoid O/L Penola West to Kincraig line on trip of the remaining South East to Tailem Bend line.	1	1	0	0.1	0.1	0.0
V>>S_SETB_SETB_SGKH	Out= one South East to Tailem Bend 275kV line, avoid O/L Snuggery to Keith line on trip of the remaining South East to Tailem Bend line.	29	29	0	2.4	2.4	0.0
V>>V_DDTX_A	Outage = Dederang No.2 or No.3 330/220kV transformer, limit Vic interconnectors and Southern Hydro generation to avoid pre-contingent overload of the Dederang No.1 transformer	21	0	21	1.8	0.0	1.8
V>>V_EPMB	Out = Eildon to Mt Beauty 220kV line, Mt Beauty 220kV Bustie CB closed, limit Southern Hydro generation to avoid O/L of a Dederang to Mt Beauty 220kV line for loss of a Dederang to Mt Beauty 220kV line	18	0	18	1.5	0.0	1.5

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V>>V_HWTS_TX3_PAR3-5	Out = Hazelwood #3 or #4 500/220kV transformer, 3-5 Parallel, Jeeralang split with JLGS B connected to Hazelwood #3 or #4 220kV bus, avoid O/L Hazelwood #4 or #3 500/220kV transformer for loss of Rowville to Yallourn #5 220kV line	3	0	3	0.3	0.0	0.3
V>>V_MLTX_1	Out = Moorabool 500/220kV transformer, limit Vic generation and interconnectors to avoid O/L the Geelong to Keilor No.1 220kV line for trip of a parallel line	11	0	11	0.9	0.0	0.9
V>>V_X_DD-GN-SH_DDSM	Outage = Dederang to Glenrowan and Glenrowan to Shepparton 220kV lines and Dederang to South Morang 330kV line, limit Vic generators and interconnectors to avoid O/L Glenrowan 220 kV bus-tie for trip of Dederang to Shepparton 220kV line	6	0	6	0.5	0.0	0.5
V>>V_X_DDTX2_3_DBUSS	Outage = Dederang No.2 or No.3 330/220kV transformer and DBUSS transformer control scheme, limit Vic generation and interconnectors to avoid overloading the Dederang No.1 transformer for loss of the other Dederang transformer	72	0	72	6.0	0.0	6.0
V>>V_X_DDTX2_3_DBUSS	Outage = Dederang No.2 or No.3 330/220kV transformer and DBUSS transformer control scheme, limit Vic interconnectors and Southern Hydro generation to avoid overloading the Dederang No.1 transformer for loss of the other Dederang transformer	98	0	98	8.2	0.0	8.2

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V>S_KHSG	Out=Keith-SnuggeryVic-SA Lmt Avoid 132kVO/L KH-KN ; on trip275kV TB-SE	45	45	0	3.8	3.8	0.0
V>S_MBMO	Out=Mt.Bark-MlongVic-SAThermLmt AvoidO/L Mann-MAP2 on trip NPS	25	25	0	2.1	2.1	0.0
V>S_PATB	Out=275kV Para-TailemBendVic-SA Lmtavoid 132kVO/LMA-MAP2 ; MO-TB ; 275 / 132kV TB Tx on trip remaining 275kV PA-TB	13	0	13	1.1	0.0	1.1
V>S_SETB	Out= one South East to Tailem Bend 275kV line, avoid O/L Blanche to Snuggery, Blanche to Mt Gambier or Keith to Tailem Bend (No.1 or 2) lines on trip for loss of the remaining South East to Tailem Bend line	36	26	10	3.0	2.2	0.8
V>SML_BESH_3	Outage = Bendigo to Shepparton 220kV line, limit Murraylink from Vic to SA to avoid overloading Ballarat to Moorabool No.1 220kV line on loss of Ballarat to Moorabool No.2 220kV line, swamped if Murraylink VFRB enabled and Murraylink > 25MW	32	0	32	2.7	0.0	2.7
V>SML_RBK7	Outage = Vic Murraylink fast runback scheme, limit Vic to SA on Murraylink to avoid overload on the Ballarat North to Ararat 66kV line for loss of the Ballarat to Horsham 220kV line	1	0	1	0.1	0.0	0.1

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V>SML_VFRB_3	Outage = Murraylink VFRB scheme, limit Vic to SA on Murraylink to avoid overload on Geelong to Keilor No.1,2 or 3 220kV line for loss of the Moorabool 500/220kV transformer	12	0	12	1.0	0.0	1.0
V>SML_VFRB_7	Outage = Murraylink VFRB scheme, limit Vic to SA on Murraylink to avoid overload on the Ballarat North to Ararat 66kV line for loss of the Ballarat to Horsham 220kV line	58	0	58	4.8	0.0	4.8
V>SMLBAHO1	Out = Ballarat to Horsham or Bendigo to Kerang line, limit Murraylink from Vic to SA to avoid O/L Balranald to Darlington Point (X5/1) line	45	0	45	3.8	0.0	3.8
V>SMLBESH1	Outage = Bendigo to Shepparton or Ballarat to Bendigo 220kV line, limit Murraylink from Vic to SA to avoid overloading Ballarat to Horsham 220kV line on loss of Ballarat to Bendigo or Bendigo to Shepparton 220kV line	19	0	19	1.6	0.0	1.6
V>SMLBESH3	Outage = Bendigo to Shepparton 220kV line, limit Murraylink from Vic to SA to avoid overloading Ballarat to Moorabool No.1 220kV line on loss of Ballarat to Moorabool No.2 220kV line	6	0	6	0.5	0.0	0.5
V>SMLGTKT	Out = one Geelong to Keilor (No.1,2 or 3) 220kV line or Moorabool (A1) 500/220kV transformer, avoid O/L the other Geelong to Keilor (No.1,2 or 3) 220kV line	32	0	32	2.7	0.0	2.7

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V>SMLHORC1	Out = Horsham to Red Cliffs 220kV line, limit Murraylink from Vic to SA to avoid overloading Balranald to Darlington Pt (X5/1) 220kV line for trip of Bendigo to Kerang line	86	0	86	7.2	0.0	7.2
V>SMLHORC2	Out = Horsham to Redcliffs 220kV line, limit Murraylink from Vic to SA to avoid overloading Bendigo to Kerang 220kV line for trip of Balranald to Darlington Point (X5/1) 220kV line	16	0	16	1.3	0.0	1.3
V>SMLHORC3	Out = Horsham to Redcliffs 220kV line, limit Murraylink from Vic to SA to avoid overloading Kerang to Redcliffs 220kV line for trip of Balranald to Darlington Point (X5/1) 220kV line	6	0	6	0.5	0.0	0.5
V>SMLKGRC1	Outage = one Kerang to Red Cliffs 220kV line, limit Murraylink from Vic to SA to avoid overloading Balranald to Darlington Pt (X5/1) 220kV line for trip of Ballarat to Horsham line	52	0	52	4.3	0.0	4.3
V>SMLKGRC2	Out = Kerang to Redcliffs 220kV line, limit Murraylink from Vic to SA to avoid overloading Ballarat to Horsham 220kV line for loss of Balranald to Darlington Point (X5/1) 220kV line	6	0	6	0.5	0.0	0.5

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
VH:MSUT1	Outage = Murray to Upper Tumut 330kV line, limit Vic to Snowy to avoid transient instability for fault and trip of a Murray to Lower Tumut 330kV line, equation 9.1 from TLM-D	1	0	1	0.1	0.0	0.1
VH>V1KTTX	Outage = Keilor 500/220kV transformer, limit Vic to Snowy and Vic to SA on Murraylink to avoid overloading the South Morang 500/330kV (F2) transformer, radial mode at Hazelwood	2	0	2	0.2	0.0	0.2
VS_120	Victoria to SA on VicSA upper transfer limit of 120 MW	30	0	30	2.5	0.0	2.5
VS_150	Victoria to SA on VicSA upper transfer limit of 150 MW	14	14	0	1.2	1.2	0.0
VS_170	Victoria to SA on VicSA upper transfer limit of 170 MW	53	53	0	4.4	4.4	0.0
VS_180	Victoria to SA on VicSA upper transfer limit of 180 MW	20	20	0	1.7	1.7	0.0
VS_250	Victoria to SA on VicSA upper transfer limit of 250 MW	124	20	104	10.3	1.7	8.7
VSML_000	Vic to SA on ML upper transfer limit of 0 MW	173	1	172	14.4	0.1	14.3
VSML_020	Vic to SA on ML upper transfer limit of 20 MW	3	0	3	0.3	0.0	0.3
VSML_040	Vic to SA on ML upper transfer limit of 40 MW	13	0	13	1.1	0.0	1.1
VSML_080	Vic to SA on ML upper transfer limit of 80 MW	8	0	8	0.7	0.0	0.7

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
VSML_160	Vic to SA on ML upper transfer limit of 160 MW	15	0	15	1.3	0.0	1.3
VSML_180	Vic to SA on ML upper transfer limit of 180 MW	14	0	14	1.2	0.0	1.2
VSML_200	Vic to SA on ML upper transfer limit of 200 MW	20	20	0	1.7	1.7	0.0
VSS_000	Vic to SA on Vic-SA + ML upper transfer limit of 0 MW	1	0	1	0.1	0.0	0.1
		6902	3014	3888	575.2	251.2	324.0

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
#L5_20071204111916	(SA1).LOWER5MIN = 75 (Wt = 3)	5	5	0	0.4	0.4	0.0
#LKBONNY2_E	SMAY2.ENERGY * 1 <= 5 (Wt = 20)	18	0	18	1.5	0.0	1.5
#LR_20070116162110	(SA1 + VIC1).LOWERREG >= 100 (Wt = 2)	25	0	25	2.1	0.0	2.1
#RR_20070116161854	(SA1 + VIC1).RAISEREG >= 100 (Wt = 2)	25	0	25	2.1	0.0	2.1
#SNUG1_E	SSGA1.ENERGY * 1 = 20 (Wt = 360)	14	0	14	1.2	0.0	1.2
#SNUG1_E	SSGA1.ENERGY * 1 >= 10 (Wt = 20)	59	0	59	4.9	0.0	4.9
#SNUG1_E	SSGA1.ENERGY * 1 >= 15 (Wt = 20)	9	0	9	0.8	0.0	0.8
#V-SA_I	V-SA * -1 >= 250 (Wt = 20)	14	0	14	1.2	0.0	1.2
#V-S-MNSP1_I	V-S-MNSP1 * -1 = 36 (Wt = 20)	1	0	1	0.1	0.0	0.1
#V-S-MNSP1_I	V-S-MNSP1 * -1 = 53 (Wt = 20)	2	0	2	0.2	0.0	0.2
#V-S-MNSP1_I	V-S-MNSP1 * -1 = 8 (Wt = 20)	6	0	6	0.5	0.0	0.5
F_I+RREG_0200	NEM Raise Regulation Requirement greater than 200 MW	28	0	28	2.3	0.0	2.3
F_I+RREG_0250	NEM Raise Regulation Requirement greater than 250 MW	3	0	3	0.3	0.0	0.3
F_I+RREG_0300	NEM Raise Regulation Requirement greater than 300 MW	5	0	5	0.4	0.0	0.4
F_I+RREG_0350	NEM Raise Regulation Requirement greater than 350 MW	21	0	21	1.8	0.0	1.8
F_I+RREG_0400	NEM Raise Regulation Requirement greater than 400 MW	10	2	8	0.8	0.2	0.7
F_I+RREG_0450	NEM Raise Regulation Requirement greater than 450 MW	4	0	4	0.3	0.0	0.3
F_MAIN++RREG_0300	Mainland Raise Regulation Requirement greater than 300 MW, Basslink able transfer FCAS	4	0	4	0.3	0.0	0.3
F_MAIN++RREG_0400	Mainland Raise Regulation Requirement greater than 400 MW, Basslink able transfer FCAS	2	0	2	0.2	0.0	0.2
F_MAIN++TG_R5_1000	Raise 5 min Service Requirement for a NEM Network Event, TG = 1000, Basslink able to transfer FCAS	3	0	3	0.3	0.0	0.3

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
F_NHVS++ARDM_R60	Out = one Armidale to Bulli Creek (8C, 8E, 8L or 8M) line, NSW, Snowy, Vic and SA Raise 60 sec Requirement, Basslink able to transfer FCAS	5	0	5	0.4	0.0	0.4
F_NHVS+ARDM_R60	Out = one Armidale to Bulli Creek (8C, 8E, 8L or 8M) line, NSW, Snowy, Vic and SA Raise 60 sec Requirement, Basslink unable to transfer FCAS	2	0	2	0.2	0.0	0.2
F_S++HYML_L5	Out = one Heywood to Moorabool (HYTS-MLTS) 500kV line or one Moorabool to Sydneham (MLTS-SYTS) 500kV line, SA Lower 5 min Requirement	132	0	132	11.0	0.0	11.0
F_S++HYSE_L5	Out = one Heywood to South East (HYTS-SESS) or one Heywood (HYTS) 500/275kV (M1 or M2) transformer, SA Lower 5 min Requirement	620	21	599	51.7	1.8	49.9
F_S+MG_R5	Raise 5 min Service Requirement for SA Generation Event	8	0	8	0.7	0.0	0.7
F_S+MG_R6	Raise 6 sec Service Requirement for SA Generation Event	8	0	8	0.7	0.0	0.7
F_S+MG_R60	Raise 60 sec Service Requirement for SA Generation Event	8	0	8	0.7	0.0	0.7
F_S+ML_L5_0100	Lower 5 min Service Requirement for SA Load Event, ML = 100	8	0	8	0.7	0.0	0.7
F_VS++HWPS_TG_R5	Vic and SA Raise 5 min requirement for trip of HWTS-HWPS #1 line, TG = output of HWPS 3,4,5; Basslink able to transfer FCAS	34	0	34	2.8	0.0	2.8
F_VS++HWPS_TG_R60	Vic and SA Raise 60 sec requirement for trip of HWTS-HWPS #1 line, TG = output of HWPS 3,4,5; Basslink able to transfer FCAS	13	0	13	1.1	0.0	1.1
F_VS++LREG_0120	Vic and SA Lower Regulation Requirement greater than 120 MW, Basslink unable to transfer FCAS	1	0	1	0.1	0.0	0.1

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
F_VS++ML_L5_0300	Lower 5 min requirement for a Vic and SA Load Event, Basslink able to transfer FCAS	28	0	28	2.3	0.0	2.3
F_VS++ML_L6_0300	Lower 6 sec requirement for a Vic and SA Load Event, Basslink able to transfer FCAS	6	0	6	0.5	0.0	0.5
F_VS++ML_L60_0300	Lower 60 sec requirement for a Vic and SA Load Event, Basslink able to transfer FCAS	4	0	4	0.3	0.0	0.3
F_VST+HWPS_TG_R5	Vic, SA and Tas Raise 5 min requirement for trip of HWTS-HWPS #1 line, TG = output of HWPS 3,4,5	14	0	14	1.2	0.0	1.2
F_VST+HWPS_TG_R6	Vic, SA and Tas Raise 6 sec requirement for trip of HWTS-HWPS #1 line, TG = output of HWPS 3,4,5	5	0	5	0.4	0.0	0.4
F_VST+HWPS_TG_R60	Vic, SA and Tas Raise 60 sec requirement for trip of HWTS-HWPS #1 line, TG = output of HWPS 3,4,5	12	0	12	1.0	0.0	1.0
F_VST+LREG_0120	Vic, SA and Tas Lower Regulation Requirement greater than 120 MW	11	0	11	0.9	0.0	0.9
F_VST+MG_R5	Raise 5 min requirement for a Vic, SA and Tas Generation Event	1	0	1	0.1	0.0	0.1
F_VST+MG_R6	Raise 6 sec requirement for a Vic, SA and Tas Generation Event	31	0	31	2.6	0.0	2.6
F_VST+MG_R60	Raise 60 sec requirement for a Vic, SA and Tas Generation Event	1	0	1	0.1	0.0	0.1
F_VST+ML_L6_0300	Lower 6 sec requirement for a Vic, SA and Tas Load Event	10	0	10	0.8	0.0	0.8
F_VST+RREG_0130	Vic, SA and Tas Raise Regulation Requirement greater than 130 MW	5	0	5	0.4	0.0	0.4
H>>H-64_B	Out= LowerTumutSS-UpperTumutSS(64), avoid MurraySS->LowerTumutSS(66) OL on MSS-UTSS(65) trip; Fb,CoOp	3	0	3	0.3	0.0	0.3
H>>H-DDWO_A	Out= Dederang-Wodonga, avoid Murray->UpperTumut(65) O/L (15/30_min rating) on LowerTumut-Murray(66) trip; Fb,CoOp	68	0	68	5.7	0.0	5.7

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H>>H-DDWO_C	Out= Dederang-Wodonga, avoid UpperTumut->Murray(65) O/L (15/30_min rating) on LowerTumut-Murray(66) trip; Fb,CoOp	1	0	1	0.1	0.0	0.1
H>>H-LTMS_4	Out= LowerTumut-Murray(66), avoid Murray->UpperTumut(65) O/L on Dederang-Wodonga(DDWO) trip; Fb,CoOp	131	0	131	10.9	0.0	10.9
H>>H-LTMS_A	Out= LT-MS(66), avoid MS->UT(65) OL on Jindera-Wodonga(060) trip; FbRDF; Op4	4	0	4	0.3	0.0	0.3
H>>V_SMTXH1	Outage = South Morang 330/220kV (H1) transformer, limit Vic generators and interconnectors (Vic import) to avoid overload of South Morang H2 transformer for trip of the South Morang 500/330kV (F2) transformer	1	0	1	0.1	0.0	0.1
H>V_DDWO2	Outage = Dederang to Wodonga 330kV line, limit on Snowy to Vic to avoid overloading a Dederang to Murray 330kV line for loss of one of the two lines using 15 minute rating	11	0	11	0.9	0.0	0.9
N::H_KC_VC1	Out= one Kemps Creek SVC, NSW to Snowy Transient Limit	483	0	483	40.3	0.0	40.3
N::H_SWYS	Out= Sydney West - Yass (39), NSW to Snowy Transient Limit	6	0	6	0.5	0.0	0.5
N:H_HORC	Out= Horsham - Red Cliffs	43	0	43	3.6	0.0	3.6
N^N-X5_TRIP_A	Out= X5_trip scheme, DarlPt_Caps on auto, avoid Area voltage collapse on DarlPt-Wagga(63) trip; Limit_A	15	0	15	1.3	0.0	1.3
N>>N-URWGYC_1	Out= Uranquinty-Wagga(9R2)+Wagga-Yanco(994), avoid Wagga->Uranquinty(9R1) O/L on Wagga-DarlingtonPt(63) trip; Feedback	111	0	111	9.3	0.0	9.3
N>N-994_A	Out= Wagga-Yanco(994), avoid Wagga->Yanco(99F) OL on Wagga-DarlingtonPt(63) trip; Fb	59	0	59	4.9	0.0	4.9

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N>N-994_B	Out= Wagga-Yanco(994), avoid Wagga->Yanco(99F) OL on Wagga-DarlingtonPt(63) trip; TG advice	8	0	8	0.7	0.0	0.7
NSA_S_SNUG1_05	Snuggery >= 5 MW for Network Support Agreement	20	0	20	1.7	0.0	1.7
NSA_S_SNUG1_10	Snuggery >= 10 MW for Network Support Agreement	21	0	21	1.8	0.0	1.8
NSA_S_SNUG1_15	Snuggery >= 15 MW for Network Support Agreement	4	0	4	0.3	0.0	0.3
NSA_S_SNUG1_20	Snuggery >= 20 MW for Network Support Agreement	64	0	64	5.3	0.0	5.3
NSA_S_SNUG1_30	Snuggery >= 30 MW for Network Support Agreement	14	0	14	1.2	0.0	1.2
S^^V_SETB_SETB	Prior outage = One South East -Tailem Bend 275 kV line; Limit SA to Vic and generation to prevent voltage collapse for trip the other South East - Tailem Bend line.	7	1	6	0.6	0.1	0.5
S_CNHL_HAL	Outage of Canowie Hallett 275kV line	348	0	348	29.0	0.0	29.0
S_DC_CBG3	Outage of Dry Creek 66kV CB G3, DRYCGT3<=0	50	50	0	4.2	4.2	0.0
S_DVNP_NP1	Out=Davenport Northern U1 275kV line	238	0	238	19.8	0.0	19.8
S_DVNP_NP2	Out=Davenport Northern U2 275kV line	390	390	0	32.5	32.5	0.0
S_TA4_TX	Torrens A 4 Transformer O/S; unit=0	17	17	0	1.4	1.4	0.0
S_TITN	Out= Torrens Island to Torrens North 1 & 2 66kV lines	637	0	637	53.1	0.0	53.1
S>>V_CGTB_TUTB_ACMP3	Prior Outage = Cherry Gardens - Tailem Bend 275 kV line; Avoid O/L Angas Creek to Mannum P3 line on trip Tailem Bend - Tungkillo line.	4	4	0	0.3	0.3	0.0

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S>>V_PATB_N-2_CGTX	Prior Outage = One Para - Tailem Bend 275 kV line; Limits to avoid O/L Cherry Gardens 275/132 kV transformer on trip the other Para - Tailem Bend line.	15	0	15	1.3	0.0	1.3
S>>V_PATB_PATB_CGTX	Prior Outage = One Para - Tailem Bend 275 kV line; Limits to avoid O/L Cherry Gardens 275/132 kV transformer on trip the other Para - Tailem Bend line.	148	148	0	12.3	12.3	0.0
S>>V_PATB_PATB_MOTB	Out=One Para-Tailem Bend 275 line; Avoid O/L Mobilong - Tailem bend 132kv on trip the remaining Para -Tailem Bend 275 kV line	1206	1206	0	100.5	100.5	0.0
S>>V_RBTX_RBTX_WTMW4	Out=One Robertstown 275/132 kV transformer; Limit SA-V on ML to avoid OL Waterloo - MWP4 line for loss of the remaining Robtstown Transformer.	129	129	0	10.8	10.8	0.0
S>>V_SETB_SETB_TBKH1	Out= one South East to Tailem Bend 275kV line, avoid O/L Keith to Tailem Bend #1 on trip of the remaining South East to Tailem Bend line.	17	17	0	1.4	1.4	0.0
S>>V_SETB_SETB_TBTX4	Out= one South East to Tailem Bend 275kV line, avoid O/L Tailem Bend 275/132kV transformer #4 on trip of the remaining South East to Tailem Bend line	1	1	0	0.1	0.1	0.0
S>>V_TBTX_PAAC_CGTX	Out=Tailem Bend 275/132 kV transformer; Prevent OL Cherry Gardens 275/132 kV transformer for Para - Angas Creek line trip.	5	5	0	0.4	0.4	0.0
S>KHSG_SGBN	Out = Keith-Snuggery line; Snuggery generation limit to avoid Snuggery - Blanche line OL (continuous rating).	4	4	0	0.3	0.3	0.0

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S>KHTB12_PWSE_SGBL	Out = Keith - Tailem Bend lines 1 and 2; limit Ladbroke Grove and Snuggery generation to avoid Snuggery - Blanche 132 kV line OL on trip Penola West - South East 132 kV line.	2	2	0	0.2	0.2	0.0
S>PF_TX	Playford Bus Tie Transf T_NT or T_ST out of service.Playford PS <=152 MW (160*0.95)	10	10	0	0.8	0.8	0.0
S>PFWH	One Playford - Whyalla 132KV line out of service.Limit Playford PS to avoid OL the remaining Playford - Whyalla line for trip of Playford - Davenport 275 kV Line.	146	146	0	12.2	12.2	0.0
S>SESGT_BLSN_KHSN	Out = South East - Snuggery T 132kV line; Snuggery generation limit to avoid Snuggery - Keith line OL (15 minutes rating) on Blanche - Snuggery line trip	173	173	0	14.4	14.4	0.0
S>SG_CB6105	Out=Snuggery CB6105: prevent overload of 132/33 kV transformer #f2 or 4 on trip of Transformer #3 or 1	38	38	0	3.2	3.2	0.0
S>SN_CB6028	Out=Snuggery CB6028, prevent overload of #4 132/33 kV transformer for trip of Snuggery T1 or T3 transformer.	82	82	0	6.8	6.8	0.0
S>VML_NWCB6022_NWTX2	Out= North West Bend_CB6022; limit SA to Victoria on Murraylink to avoid North West Bend TF2 O/L on trip North West Bend - Robertstown # 1.	1	1	0	0.1	0.1	0.0
S>VML_NWCB6023_TX2	Out= North West Bend_CB6023; limit SA to Victoria on Murraylink to avoid North West Bend transformer#2 O/L on trip NWB - Robertstown line.	4	4	0	0.3	0.3	0.0

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S>VML_NWCB6024+25	Out= North West Bend_CBs 6024 and 6025; limit SA to Victoria on Murraylink to avoid North West Bend transformer#3 O/L on trip NWB - MONASH #1 line.	26	26	0	2.2	2.2	0.0
S>VML_NWCB6025_NWTX2	Out= North West Bend_CB6025; limit SA to Vic on Murraylink to avoid North West Bend transformer #2 O/L on trip North West Bend - Monash line #2.	41	41	0	3.4	3.4	0.0
S>VML_NWCB6033_TX2	Out= North West Bend_CB6033; limit SA to Victoria on Murraylink to avoid North West Bend transformer#2 O/L on trip NWB - MONASH #2 line.	17	17	0	1.4	1.4	0.0
S>VML_NWCB6225_TX1	Out= North West Bend_CB6225; limit SA to Victoria on Murraylink to avoid North West Bend transformer#1 O/L on trip NWB - MWP #1.	11	11	0	0.9	0.9	0.0
S>VML_NWCB6225X_TX2	Out = North West Bend 132 kV circuit breakers CB6021 and CB6225 and 66 kV circuit breaker CB5605; limit SA to Victoria on Murraylink to avoid North West Bend transformer#2 O/L on trip NWB - MWP #1 line.	41	41	0	3.4	3.4	0.0
S>VML_RBTX_RB_WTMW4	Out=One Robertstown Transfrmer, SA-V Murraylink limit to prevent overloading Waterloo_MWP4 132kV Line for loss of the other Robertstown transformer.	41	41	0	3.4	3.4	0.0
SA_HYSE1	SA / Eastern separation between Heywood and South East (HYTS - SESS), Victoria to SA on VicSA upper limit of 0 MW	8	0	8	0.7	0.0	0.7
SV_060	SA to Victoria on VicSA upper transfer limit of 60 MW	1	1	0	0.1	0.1	0.0
SV_260	SA to Victoria on VicSA upper transfer limit of 260 MW	11	0	11	0.9	0.0	0.9
SVML_000	SA to Vic on ML upper transfer limit of 0 MW	1395	17	1378	116.3	1.4	114.8

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SVML_060	SA to Vic on ML upper transfer limit of 60 MW	5	0	5	0.4	0.0	0.4
SVS_000	SA to Vic on Vic-SA + ML upper transfer limit of 0 MW	22	0	22	1.8	0.0	1.8
SVS_160	SA to Vic on Vic-SA + ML upper transfer limit of 160 MW	6	0	6	0.5	0.0	0.5
SVS_180	SA to Vic on Vic-SA + ML upper transfer limit of 180 MW	6	0	6	0.5	0.0	0.5
SVS_300	SA to Vic on Vic-SA + ML upper transfer limit of 300 MW	2	0	2	0.2	0.0	0.2
SVS_350	SA to Vic on Vic-SA + ML upper transfer limit of 350 MW	1	0	1	0.1	0.0	0.1
V::H_BABEQE_R	Outage = Ballarat to Bendigo 220kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	13	0	13	1.1	0.0	1.1
V::H_BABEVB_R	Outage = Ballarat to Bendigo 220kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	2	0	2	0.2	0.0	0.2
V::H_BABEVE_R	Outage = Ballarat to Bendigo 220kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	31	0	31	2.6	0.0	2.6
V::H_BABEVF_R	Outage = Ballarat to Bendigo 220kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	4	0	4	0.3	0.0	0.3
V::H_BAHOVD_R	Outage = Ballarat to Horsham 220kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	2	0	2	0.2	0.0	0.2

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V::H_BYPASS_HW_SY_QE	Outage = All three SMTS 500kV CB's for HWTS and SYTS line (No.1 or No.2) with temporary bypass for a direct HWTS to SYTS line, limit Vic gens and interconnectors to avoid transient instability for fault and trip of a HWTS-SYTS or HWTS-SMTS 500kV line	4	0	4	0.3	0.0	0.3
V::H_BYPASS_HW_SY_VE	Outage = All three SMTS 500kV CB's for HWTS and SYTS line (No.1 or No.2) with temporary bypass for a direct HWTS to SYTS line, limit Vic gens and interconnectors to avoid transient instability for fault and trip of a HWTS-SYTS or HWTS-SMTS 500kV line	2	0	2	0.2	0.0	0.2
V::H_EPTTQE_R	Outage = Eildon to Thomastown 220kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	1	0	1	0.1	0.0	0.1
V::H_HWSMQA_R	Outage = Hazelwood to South Morang 500 kV line, Basslink import from Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	6	0	6	0.5	0.0	0.5
V::H_HWSMQB_R	Outage = Hazelwood to South Morang 500 kV line, Basslink import from Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	1	0	1	0.1	0.0	0.1

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
V::H_HWSMQC_R	Outage = Hazelwood to South Morang 500 kV line, Basslink import from Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	1	0	1	0.1	0.0	0.1
V::H_HWSMQD_R	Outage = Hazelwood to South Morang 500 kV line, Basslink export to Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	21	0	21	1.8	0.0	1.8
V::H_HWSMVA_R	Outage = Hazelwood to South Morang 500 kV line, Basslink import from Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	98	0	98	8.2	0.0	8.2
V::H_HWSMVA_R	Outage=Hazelwood to South Morang 500 kV line, limit Vic interconnectors and generators, avoid transient instability for fault and trip of a Hazelwood to South Morang 500 kV line, first linear segment, Radial	86	0	86	7.2	0.0	7.2
V::H_HWSMVB_R	Outage = Hazelwood to South Morang 500 kV line, Basslink import from Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	41	0	41	3.4	0.0	3.4

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
V::H_HWSMVB_R	Outage=Hazelwood to South Morang 500 kV line, limit Vic interconnectors and generators, avoid transient instability for fault and trip of a Hazelwood to South Morang 500 kV line, second linear segment, Radial	58	0	58	4.8	0.0	4.8
V::H_HWSMVC_R	Outage = Hazelwood to South Morang 500 kV line, Basslink import from Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	1	0	1	0.1	0.0	0.1
V::H_HWSMVD_R	Outage = Hazelwood to South Morang 500 kV line, Basslink export to Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	5	0	5	0.4	0.0	0.4
V::H_HWSMVE_R	Outage = Hazelwood to South Morang 500 kV line, Basslink export to Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	4	0	4	0.3	0.0	0.3
V::H_MSUTVE_R	Outage = Upper Tumut to Murray 330kV line, limit Vic generators and interconnectors avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	2	0	2	0.2	0.0	0.2

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
V::H_SMF2QC_R	Out = South Morang F2 500/330 kV transformer, limit Vic interconnectors, NSW to Qld on QNI and Vic generation to avoid transient instability for fault and trip of a Hazelwood to South Morang 500 kV line, third linear segment, Radial	3	0	3	0.3	0.0	0.3
V::H_X_EPMBQE_R	Outage = Both Eildon to Mt Beauty 220kV lines, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	1	0	1	0.1	0.0	0.1
V::S_PWSE_NPS	Out= Penola West - South East 132kV line, Vic-SA Voltage stability limit for loss of one NPS unit or one South East - Tailem Bend 275kV line	47	47	0	3.9	3.9	0.0
V::S_SE_VC	Prior outage = one South East SVC; Vic-SA Stability Limit for loss of one NPS unit following 2PhG fault on the Davenport - NPS line.	58	58	0	4.8	4.8	0.0
V::S_TUNK_TC4	Out = Robertstown - Tangkillo - Cherry Gardens lines; Tungkillo consruction stage TC4; Vic-SA Stability Limit. Critical Contingency: Trip one NPS generator.	2	2	0	0.2	0.2	0.0
V::V_DDSM	Outage = Dederang to South Morang 330kV line, limit Vic to Snowy to avoid transient instability for fault and trip of a Dederang to South Morang 330kV line, equation 3.1q from TLM-Q	9	0	9	0.8	0.0	0.8
V:H_DDSM2	Outage = Dederang to South Morang 330kV line, limit Snowy to Vic to avoid transient instability for fault and trip of a Dederang to South Morang 330kV line, equation 3.2q from TLM-Q	13	0	13	1.1	0.0	1.1

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
V:HHWRO3_R	Outage = Hazelwood to Rowville No.3 500kV line, limit Vic to Snowy to avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, equation 31.1q from TLM VE-Q, Radial	71	0	71	5.9	0.0	5.9
V^SML_NSWRB_2	Outage = NSW Murraylink runback scheme, limit Vic to SA on Murraylink to avoid voltage collapse for loss of Darlington Pt to Buronga (X5) 220kV line	71	0	71	5.9	0.0	5.9
V>>H_SMTXH1	Outage = South Morang 330/220kV (H1) transformer, limit Vic generators and interconnectors (Vic export) to avoid overload of South Morang H2 transformer for trip of the South Morang 500/330kV (F2) transformer	46	0	46	3.8	0.0	3.8
V>>H_SMTXH2	Outage = South Morang 330/220kV (H2) transformer, limit Vic generators and interconnectors (Vic export) to avoid overload of South Morang H1 transformer for trip of the South Morang 500/330kV (F2) transformer	121	0	121	10.1	0.0	10.1
V>>S_BGDV_CNRB_DVBR	Out = Bungama - Davenport line; Limit Murraylink and SA generation to avoid OL Davenport to Brinkworth 275 kV line for trip Canowi - Robertstown line.	1	1	0	0.1	0.1	0.0
V>>S_BGDV_DVRB_DVBR	Out = Davenport to Bungama line; Limit Murraylink and SA generation to avoid OL Davenport to Brinkworth 275 kV line for trip Davenport - Robertstown line .	19	19	0	1.6	1.6	0.0
V>>S_BGPA_DVBG_DVBR	Out = Bungama - Para line; Limit Murraylink and SA generation to avoid OL Davenport to Brinkworth 275 kV line for trip Davenport - Bungama line.	2	2	0	0.2	0.2	0.0

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
V>>S_BLSN_SETB_PWKN	Prior Outage = Blanche-Snuggery line; Limit Interconnectors and generation to avoid O/L Penola West to Kincraig line for trip one South East - Tailem Bend line. Fb CoOp.	12	12	0	1.0	1.0	0.0
V>>S_BNMT_SETB_PWKN	Prior Outage = Mt Gambier - Blanche line; Limit Interconnectors and generation to avoid O/L Penola West to Kincraig line for trip one South East - Tailem Bend line.	2	2	0	0.2	0.2	0.0
V>>S_PATB_TBPA_TBMO	Prior Outage = One Para - Tailem Bend 275 kV line; Limit to avoid O/L Tailem Bend - Mobilong 132kV line on trip the other Para - Tailem Bend line.	2	2	0	0.2	0.2	0.0
V>>S_PWSE_SETB_MGBL	Out = Penola West - South East 132 kV line. Prevent Mt Gambier - Blanche 132 kV line OL for South East - Tailem Bend line trip.	23	23	0	1.9	1.9	0.0
V>>S_SETB_N-2_PWKN	Prior outage= Nil; avoid O/L Penola West to Kincraig line on trip of both South East to Tailem Bend 275 kV lines.	30	30	0	2.5	2.5	0.0
V>>S_TBTU_TBCG_TBMO	Prior Outage = Tailem Bend - Tungkillo 275 kV line; Limit to avoid O/L Tailem Bend - Mobilong 132kV line on trip Tailem Bend - Cherry Gardens line.	2	0	2	0.2	0.0	0.2
V>>SML_BAML	Out = Ballarat to Moorabool (No.1 or No.2) line, limit Murraylink from Vic to SA to avoid overloading Moorabool to Terang line on loss of Ballarat to Moorabool (No.2 or No.1) line	94	0	94	7.8	0.0	7.8
V>>SML_DDGN	Outage = Dederang to Glenrowan No.1 or No.3 220kV line, limit Vic generators and interconnectors to avoid overloading Dederang to Shepparton 220kV line on loss of Dederang to Glenrowan No.3 or No.1 220kV line	2	0	2	0.2	0.0	0.2

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V>>V_EPTT_3B_R	Outage = Eildon to Thomastown 220kV line, limit Vic interconnectors and generation to avoid post-contingent O/L the South Morang 500/330kV (F2) transformer for trip of Rowville 500/220kV transformer, Yallourn unit 1 in 220kV mode, radial	1	0	1	0.1	0.0	0.1
V>>V_GTKT_1	Out = Geelong to Keilor No.2 or No.3 220kV line, limit Vic generation and interconnectors to avoid O/L the Geelong to Keilor No.1 220kV line for trip of the Moorabool 500/220kV transformer, swamped if Murraylink VFRB enabled and Murraylink > 25MW	25	0	25	2.1	0.0	2.1
V>>V_GTKT_3	Out = Geelong to Keilor No.1 or No.2 220kV line, limit Vic generation and interconnectors to avoid O/L the Geelong to Keilor No.3 220kV line for trip of the Moorabool 500/220kV transformer, swamped if Murraylink VFRB enabled and Murraylink > 25MW	3	0	3	0.3	0.0	0.3
V>>V_LTMS_1	Out= Lower Tumut - Murray (66), avoid O/L Dederang to Wodonga on trip of Murray to Upper Tumut (65), Feedback	453	0	453	37.8	0.0	37.8
V>>V_MLTX_1	Out = Moorabool 500/220kV transformer, limit Vic generation and interconnectors to avoid O/L the Geelong to Keilor No.1 220kV line for trip of a parallel line	5	0	5	0.4	0.0	0.4
V>>V_ROTS_TX_3A_R	Outage = Rowville 500/220kV transformer, limit Vic interconnectors and Vic generation to avoid O/L South Morang 500/330kV (F2) transformer for trip of Cranbourne 500/220kV transformer, Yallourn unit 1 in 500kV mode, radial mode	1	0	1	0.1	0.0	0.1

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
V>>V_ROTS_TX_3B_R	Outage = Rowville 500/220kV transformer, limit Vic interconnectors and Vic generation to avoid O/L South Morang 500/330kV (F2) transformer for trip of Cranbourne 500/220kV transformer, Yallourn unit 1 in 220kV mode, radial mode	216	0	216	18.0	0.0	18.0
V>>V_SMTS_TX_H1_3B_R	Outage = Sth Morang H1 330/220kV transformer, limit Vic interconnectors and Vic generation to avoid O/L Sth Morang 500/330kV (F2) transformer for trip of Rowville 500/220kV transformer, Yallourn unit 1 in 220kV mode, radial mode	4	0	4	0.3	0.0	0.3
V>>V_X_DDTX1_DBUSS_A	Outage = Dederang No.1 330/220kV transformer and DBUSS transformer control scheme, limit Vic generation and interconnectors to avoid overloading the Dederang No.2 transformer for loss of the Dederang No.3 transformer	17	0	17	1.4	0.0	1.4
V>>V_X_DDTX2_3_DBUSS	Outage = Dederang No.2 or No.3 330/220kV transformer and DBUSS transformer control scheme, limit Vic generation and interconnectors to avoid overloading the Dederang No.1 transformer for loss of the other Dederang transformer	70	0	70	5.8	0.0	5.8
V>>V-MSUT_1	Out= Murray-UpperTumut(65), avoid Dederang->Wodonga(DDWO) O/L on LowerTumut-Murray(66) trip; Fb,CoOp	25	0	25	2.1	0.0	2.1
V>SML_BESH_3	Outage = Bendigo to Shepparton 220kV line, limit Murraylink from Vic to SA to avoid overloading Ballarat to Moorabool No.1 220kV line on loss of Ballarat to Moorabool No.2 220kV line, swamped if Murraylink VFRB enabled and Murraylink > 25MW	3	0	3	0.3	0.0	0.3

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
V>SMLBAHO1	Out = Ballarat to Horsham or Bendigo to Kerang line, Murraylink limit to avoid O/L Buronga to Balranald to Darlington Point (X5) line or Buronga to Recliffs (OX1) line or voltage collapse on X5, for trip of Bendigo to Kerang or Ballarat to Horsham line	59	0	59	4.9	0.0	4.9
V>SMLHORC1	Out = Horsham to Red Cliffs 220kV line, limit Murraylink from Vic to SA to avoid overloading Balranald to Darlington Pt (X5/1) 220kV line for trip of Bendigo to Kerang line	23	0	23	1.9	0.0	1.9
V>SMLKGRC1	Outage = one Kerang to Red Cliffs 220kV line, limit Murraylink from Vic to SA to avoid overloading Balranald to Darlington Pt (X5/1) 220kV line for trip of Ballarat to Horsham line	87	0	87	7.3	0.0	7.3
VH:DDMS	Outage = Dederang to Murray 330kV line, limit Vic to Snowy to avoid transient instability for fault and trip of Dederang to Murray 330kV line, equation 2.1 from TLM-D	1	0	1	0.1	0.0	0.1
VH:MSUT1	Outage = Murray to Upper Tumut OR Murray to Lower Tumut 330kV line, limit Vic to Snowy to avoid transient instability for fault and trip of a Murray to Lower Tumut or Murray to Upper Tumut 330kV line, equation 9.1 from TLM-D	10	0	10	0.8	0.0	0.8
VS_060	Victoria to SA on VicSA upper transfer limit of 60 MW	8	0	8	0.7	0.0	0.7
VS_080	Victoria to SA on VicSA upper transfer limit of 80 MW	7	0	7	0.6	0.0	0.6
VS_100	Victoria to SA on VicSA upper transfer limit of 100 MW	11	0	11	0.9	0.0	0.9
VS_110	Victoria to SA on VicSA upper transfer limit of 110 MW	4	0	4	0.3	0.0	0.3

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VS_120	Victoria to SA on VicSA upper transfer limit of 120 MW	9	0	9	0.8	0.0	0.8
VS_130	Victoria to SA on VicSA upper transfer limit of 130 MW	8	0	8	0.7	0.0	0.7
VS_140	Victoria to SA on VicSA upper transfer limit of 140 MW	16	0	16	1.3	0.0	1.3
VS_150	Victoria to SA on VicSA upper transfer limit of 150 MW	2	0	2	0.2	0.0	0.2
VS_160	Victoria to SA on VicSA upper transfer limit of 160 MW	3	0	3	0.3	0.0	0.3
VS_170	Victoria to SA on VicSA upper transfer limit of 170 MW	1	0	1	0.1	0.0	0.1
VS_190	Victoria to SA on VicSA upper transfer limit of 190 MW	1	0	1	0.1	0.0	0.1
VS_200	Victoria to SA on VicSA upper transfer limit of 200 MW	1	0	1	0.1	0.0	0.1
VS_220	Victoria to SA on VicSA upper transfer limit of 220 MW	1	0	1	0.1	0.0	0.1
VS_250	Victoria to SA on VicSA upper transfer limit of 250 MW	1	0	1	0.1	0.0	0.1
VS_280	Victoria to SA on VicSA upper transfer limit of 280 MW	1	0	1	0.1	0.0	0.1
VS_300	Victoria to SA on VicSA upper transfer limit of 300 MW	1	0	1	0.1	0.0	0.1
VS_320	Victoria to SA on VicSA upper transfer limit of 320 MW	1	0	1	0.1	0.0	0.1
VS_340	Victoria to SA on VicSA upper transfer limit of 340 MW	1	0	1	0.1	0.0	0.1
VS_420	Victoria to SA on VicSA upper transfer limit of 420 MW	1	0	1	0.1	0.0	0.1

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VSML_000	Vic to SA on ML upper transfer limit of 0 MW	233	0	233	19.4	0.0	19.4
		9926	2849	7077	827.2	237.4	589.8

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
#SA1_E_20080726	Multiple SA1 LHS <= 0 (Wt = 20)	29	29	0	2.4	2.4	0.0
#V-SA_I_E	V-SA. * -1 <= 20 (Wt = 20)	2	2	0	0.2	0.2	0.0
#V-S-MNSP1_I	V-S-MNSP1 * -1 <= 95 (Wt = 360)	8	0	8	0.7	0.0	0.7
#V-S-MNSP1_I_E	V-S-MNSP1.ENERGY * -1 <= 50 (Wt = 20)	2	2	0	0.2	0.2	0.0
@SANTHGEN<475	Eff = 12/01/2008 ; RHS = 475 ; Op = "<=" ; Wt = 20	3	0	3	0.3	0.0	0.3
@SANTHGEN<500	Eff = 12/01/2008 ; RHS = 500 ; Op = "<=" ; Wt = 20	4	0	4	0.3	0.0	0.3
@SANTHGEN<525	Eff = 12/01/2008 ; RHS = 525 ; Op = "<=" ; Wt = 20	2	0	2	0.2	0.0	0.2
@SANTHGEN<550	SANorthern generation <550MW	2	0	2	0.2	0.0	0.2
@SANTHGEN<575	Eff = 12/01/2008 ; RHS = 575 ; Op = "<=" ; Wt = 20	6	0	6	0.5	0.0	0.5
@SANTHGEN<600	Eff = 12/01/2008 ; RHS = 600 ; Op = "<=" ; Wt = 20	4	0	4	0.3	0.0	0.3
CA_BPS_373D7DA1_01	Constraint Automation, O/L CANROB_1 @CANOWI for CTG LSHF on trip of DAVENP-R_TOWN 275KV 2 LINE. Generated by STNET[MANFR] Host MANEEMP4(BP)	41	41	0	3.4	3.4	0.0
CA_BPS_373D7DA1_02	Constraint Automation, O/L DVPROB_2 @DAVENP for CTG LSIF on trip of R_TOWN - CANOWI 275KV 1 LINE. Generated by STNET[MANFR] Host MANEEMP4(BP)	12	12	0	1.0	1.0	0.0
CA_BPS_38259BE6_01	Constraint Automation, O/L MOBTAB_1 @MOBILO for CTG MSHR on trip of T_BEND-CH_GDN & TUNKIL 275KV LINES. Generated by STNET[MANFL] Host MANEEMP4(BP)	17	0	17	1.4	0.0	1.4
F_I+NIL_DYN_RREG	NEM Raise Regulation Requirement, Feedback in Dispatch, increase by 60 MW for each 1s of time error below -1.5s	1	0	1	0.1	0.0	0.1
F_I+TG_R5_2000	Raise 5 min Service Requirement for a NEM Network Event, TG = 2000	10	0	10	0.8	0.0	0.8
F_I+TG_R6_2000	Raise 60 sec Service Requirement for a NEM Network Event, TG = 2000	17	0	17	1.4	0.0	1.4
F_I+TG_R60_2000	Raise 6 sec Service Requirement for a NEM Network Event, TG = 2000	6	0	6	0.5	0.0	0.5
F_MAIN++LREG_0250	Mainland Lower Regulation Requirement greater than 250 MW, Basslink able transfer FCAS	4	0	4	0.3	0.0	0.3
F_MAIN++NIL_DYN_RREG	Mainland Raise Regulation Requirement, Feedback in Dispatch, increase by 60 MW for each 1s of time error below -1.5s, Basslink able transfer FCAS	1	0	1	0.1	0.0	0.1
F_MAIN++TG_R5_2000	Raise 5 min Service Requirement for a Mainland Network Event, TG = 2000, Basslink able to transfer FCAS	12	0	12	1.0	0.0	1.0
F_MAIN++TG_R6_2000	Raise 6 sec Service Requirement for a Mainland Network Event, TG = 2000, Basslink able to transfer FCAS	8	0	8	0.7	0.0	0.7
F_MAIN++TG_R60_2000	Raise 60 sec Service Requirement for a Mainland Network Event, TG = 2000, Basslink able to transfer FCAS	14	0	14	1.2	0.0	1.2
F_MAIN+NIL_DYN_RREG	Mainland Raise Regulation Requirement, Feedback in Dispatch, increase by 60 MW for each 1s of time error below -1.5s, Basslink unable transfer FCAS	11	0	11	0.9	0.0	0.9

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F_MAIN+TG_R5_2000	Raise 5 min Service Requirement for a Mainland Network Event, TG = 2000, Basslink unable to transfer FCAS	15	0	15	1.3	0.0	1.3
F_MAIN+TG_R6_2000	Raise 6 sec Service Requirement for a Mainland Network Event, TG = 2000, Basslink unable to transfer FCAS	15	0	15	1.3	0.0	1.3
F_MAIN+TG_R60_2000	Raise 60 sec Service Requirement for a Mainland Network Event, TG = 2000, Basslink unable to transfer FCAS	15	0	15	1.3	0.0	1.3
F_NHVS++MUTW_R5	Out = Muswellbrook to Tamworth (88) line, NSW, Snowy, Vic and SA Raise 5 min Requirement, Basslink able to transfer FCAS	1	0	1	0.1	0.0	0.1
F_S++HYML_L5	Out = one Heywood to Moorabool (HYTS-MLTS) 500kV line or one Moorabool to Sydneham (MLTS-SYTS) 500kV line, SA Lower 5 min Requirement	11	0	11	0.9	0.0	0.9
F_S++HYSE_L5	Out = one Heywood to South East (HYTS-SESS) or one Heywood (HYTS) 500/275kV (M1 or M2) transformer, SA Lower 5 min Requirement	456	0	456	38.0	0.0	38.0
F_S++HYSE_L6	Out = one Heywood to South East (HYTS-SESS) or one Heywood (HYTS) 500/275kV (M1 or M2) transformer, SA Lower 6 sec Requirement	4	0	4	0.3	0.0	0.3
F_S++HYSE_L60	Out = one Heywood to South East (HYTS-SESS) or one Heywood (HYTS) 500/275kV (M1 or M2) transformer, SA Lower 60 sec Requirement	121	0	121	10.1	0.0	10.1
F_STHN+MG_R6	Raise 6 sec Service Requirement for a Southern Generation Event	1	0	1	0.1	0.0	0.1
H>>H-JNWO_C	Out= Jindera to Wodonga (060), avoid O/L Murray to Upper Tumut (65) on trip of Lower Tumut to Murray (66), Feedback	3	0	3	0.3	0.0	0.3
H>>V_DBUSS_2	Outage = Dederang DBUSS-Transformer control scheme (System Normal and Prior Outage), limit Vic generation and interconnectors to avoid overloading Dederang No.1 330/220kV transformer for loss of Dederang No.2 or No.3 330/220kV transformers	54	0	54	4.5	0.0	4.5
H>>V-X_DDTX+DDSM	Out= Dederang H2 transformer and one DDTS - SMTS line, avoid O/L DDTS H1 transformer on trip of the remaining DDTS to SMTS line, Feedback	55	0	55	4.6	0.0	4.6
H>V_DDWO_1A	Outage = Dederang to Wodonga 330kV line, limit Vic interconnectors to avoid overload Dederang to Murray No.1 330kV line for loss of the parallel No.2 line, 15 min line ratings	27	0	27	2.3	0.0	2.3
H>V_DDWO_1B	Outage = Dederang to Wodonga 330kV line, limit Vic interconnectors to avoid overload Dederang to Murray No.2 330kV line for loss of the parallel No.1 line, 15 min line ratings	79	0	79	6.6	0.0	6.6
H>V_JNWO_1A	Outage = Jindera to Wodonga 330kV line, limit Vic interconnectors to avoid overload Dederang to Murray No.1 330kV line for loss of the parallel No.2 line, 15 min line ratings	76	0	76	6.3	0.0	6.3
H>V_JNWO_1B	Outage = Jindera to Wodonga 330kV line, limit Vic interconnectors to avoid overload Dederang to Murray No.2 330kV line for loss of the parallel No.1 line, 15 min line ratings	135	0	135	11.3	0.0	11.3

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N::H_KC_VC1	Out= one Kemps Creek SVC, NSW to Snowy Transient Limit	390	0	390	32.5	0.0	32.5
N::H_KC_VC2	Out= both Kemps Creek SVC, NSW to Snowy Transient Limit	8	0	8	0.7	0.0	0.7
N::V_BWMP_BWWW	Out= both Bayswater to MtPiper/Wallerawang (73 + 74), NSW to Snowy Transient Limit	8	0	8	0.7	0.0	0.7
N::V_KC_VC1	Out= one Kemps Creek SVC, NSW to Snowy Transient Limit	231	0	231	19.3	0.0	19.3
N::V_KC_VC2	Out= both Kemps Creek SVCs, NSW to Snowy Transient Limit	51	0	51	4.3	0.0	4.3
N>>N-URWGYC-1_2	Out= Uranquinty-Wagga(9R1)+Wagga-Yanco(994), avoid Uranquinty->Yanco(99F) O/L on Wagga-DarlingtonPt(63) trip; auto-disabled if X5_TS I/S	1	0	1	0.1	0.0	0.1
N>>N-URWGYC-1_X5OS_1	Out= Uranquinty-Wagga(9R1)+Wagga-Yanco(994)+X5_TS O/S, avoid Wagga->Uranquinty(9R2) O/L on Wagga-DarlingtonPt(63) trip; auto-disabled if X5_TS I/S	69	0	69	5.8	0.0	5.8
N>>V_JNWO_1A	Outage = Jindera to Wodonga 330kV line, limit Vic interconnectors and generators to avoid overload Dederang to Murray No.1 330kV line for loss of the parallel No.2 line, 15 min line ratings	1	0	1	0.1	0.0	0.1
N>>V_JNWO_1B	Outage = Jindera to Wodonga 330kV line, limit Vic interconnectors and generators to avoid overload Dederang to Murray No.2 330kV line for loss of the parallel No.1 line, 15 min line ratings	1	0	1	0.1	0.0	0.1
N>>V-JNWO_A	Out= Jindera-Wodonga(060), avoid UpperTumut to Murray (65) O/L on LowerTumut-Murray(66) trip; Feedback	4	0	4	0.3	0.0	0.3
S_DVNP_NP1	Out=Davenport Northern U1 275kV line	1555	0	1555	129.6	0.0	129.6
S_DVNP_NP2	Out=Davenport Northern U2 275kV line	5874	0	5874	489.5	0.0	489.5
S_NPS_430	Discretionary upper limit for Northern generation of 430 MW	6	6	0	0.5	0.5	0.0
S_NPS_450	Discretionary upper limit for Northern generation of 450 MW	2	2	0	0.2	0.2	0.0
S_NPS_470	Discretionary upper limit for Northern generation of 470 MW	1	1	0	0.1	0.1	0.0
S_NPS_490	Discretionary upper limit for Northern generation of 490 MW	2	2	0	0.2	0.2	0.0
S_NPS_510	Discretionary upper limit for Northern generation of 510 MW	3	3	0	0.3	0.3	0.0
S_PPT200	SA Pel.PtGen<=200,out=PGW-CB6579 or Pel.Pt-LefevLn or OtherPlant	17	17	0	1.4	1.4	0.0
S_PPT210	SA Pelican Point gen <= 210MW	64	64	0	5.3	5.3	0.0
S_PPT220	SA Pelican Point gen <= 220MW	34	34	0	2.8	2.8	0.0
S_PPT240	SA Pelican Point gen <= 240MW	1	1	0	0.1	0.1	0.0
S_PPT260	SA Pelican Point gen <= 260MW	10	10	0	0.8	0.8	0.0
S_PWLG_LG1	Outage of Penola West to Ladbroke Grove 132kV circuit	105	105	0	8.8	8.8	0.0
S_PWLG_LG2	Outage of Penola West to Ladbroke Grove 132kV circuit	21	21	0	1.8	1.8	0.0
S_TA3_TX	Torrens A 3 Transformer O/S; unit=0	269	269	0	22.4	22.4	0.0
S_TA4_TX	Torrens A 4 Transformer O/S; unit=0	2	2	0	0.2	0.2	0.0
S_TITN	Out= Torrens Island to Torrens North 1 & 2 66kV lines	6583	0	6583	548.6	0.0	548.6

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S>>V_ACPA_TBTX_CGTX	Out = Angas Ck - Para 132kV line, limit SA to Vic and SA generation to avoid Cherry Gardens Transformer OL on trip Tailem Bend 275/132 kV transformer.	1	1	0	0.1	0.1	0.0
S>>V_CGTB_TUTB_MOTB	Prior Outage= Cherry Gardens -Tailem Bend 275 line; Avoid O/L Mobilong - Tailem bend 132kv on trip Tailem Bend - Tungkillo 275 kV line	183	183	0	15.3	15.3	0.0
S>>V_CNRB_DVRB_HUWT	Out = Canowi - Robetstown 275kV line, Humock - waterloo line on trip of DAVENP-R_TOWN 275KV 2 line.	14	14	0	1.2	1.2	0.0
S>>V_CNRB_DVRB_WTMW4	Out = Canowi - Robertstown line; Limit SA-V on ML and SA generation to avoid overloading Waterloo - MWP4 line for Davenport - Robertstown line trip.	12	12	0	1.0	1.0	0.0
S>>V_SETB_N-2_TBKH2	Prior outage= Nil; avoid O/L Keith to Tailem Bend #2 on trip of both South East to Tailem Bend 275 kV lines.	31	31	0	2.6	2.6	0.0
S>>V_SETB_SETB_TBKH1	Out= one South East to Tailem Bend 275kV line, avoid O/L Keith to Tailem Bend #1 on trip of the remaining South East to Tailem Bend line.	22	22	0	1.8	1.8	0.0
S>>V_SETB_SETB_TBKH2	Out= one South East to Tailem Bend 275kV line, avoid O/L Keith to Tailem Bend #2 on trip of the remaining South East to Tailem Bend line.	1	1	0	0.1	0.1	0.0
S>>V_SETB_SETB_TBTX4	Out= one South East to Tailem Bend 275kV line, avoid O/L Tailem Bend 275/132kV transformer #4 on trip of the remaining South East to Tailem Bend line	20	20	0	1.7	1.7	0.0
S>>V_TBTU_CGTB_MOTB	Prior Outage= Tailem Bend - Tungkillo 275 line; Avoid O/L Mobilong - Tailem bend 132kv on trip Cherry Gardens -Tailem Bend 275 kV line	39	39	0	3.3	3.3	0.0
S>>V_TBTU_TBCG_CGTX	Prior Outage = Nil; Avoid O/L Cherry Gardens 275/132 kV transformer on trip Tailem Bend - Tungkillo 275 kV line and Tailem Bend - Cherry Gardens line.	24	24	0	2.0	2.0	0.0
S>>V_XCG_TUTB_PATX	Out= Cherry Gardens - Tailem Bend and Cherry Gardens - Tungkillo 275kV lines and Cherry Gardens - Mt barker 132 kV line, avoid O/L PARA 275/132kV transformer on trip of TUNKIL to T_BEND, Feedback	191	191	0	15.9	15.9	0.0
S>CNRB_BGPA_HUWT	Out = Canowi - Robetstown 275kV line, O/L Humock - Waterloo line on trip of PARA-BUNGAM 275KV line	11	11	0	0.9	0.9	0.0
S>MYTX_MYTX	Out = Mayura one 132/33 kV transformer, avoid O/L the remaining Mayura 132/33 kV transformer.	140	140	0	11.7	11.7	0.0
S>PGPP_LFTI_NOTI	Out = Parafield Gardens West - Pelican Pt line; Limit generation to avoid OL New Osborne to Torrens Island 66 kV lines for trip Lefevre - Torrens Island 275 kV line.	135	135	0	11.3	11.3	0.0
S>SE132BUS_SETX_SGKH	Out= one South East 132 kV bus (W or E bus), avoid O/L Snuggery to Keith 132 kV line on trip of South East 275/132 transformer connected to the in service 132 kV bus	62	62	0	5.2	5.2	0.0
S>SE132CB_SETX_SGKH	Out= South East 132 kV CB6160 or CB6162, avoid O/L Snuggery to Keith 132 kV line on trip of the South East 275/132 transformer providing 275kV link to the LB2 WF	104	104	0	8.7	8.7	0.0
S>SETX_PWKN_SETX	Out = South East one transformer; Prevent remaining South East transformer OL for Penola West - Kincraig line trip.	18	18	0	1.5	1.5	0.0

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S>V_NWRB2_RBNW1	Out = North West Bend to Robertstown No2 line, limit SA-V on ML, to avoid OL Robertstown to NWB1 line	173	173	0	14.4	14.4	0.0
S>VML_NWCB6025_NWTX2	Out= North West Bend_CB6025; limit SA to Vic on Murraylink to avoid North West Bend transformer #2 O/L on trip North West Bend - Monash line #2.	17	17	0	1.4	1.4	0.0
S>X_DVRBCN_DVBG_DVBR	Out = Davenport - Robertstown and Davenport - Canowi 275 kV lines. Limit SA generation to avoid Davenport - Brinkworth line OL on trip Davenport - Bungama 275 kV line.	4	4	0	0.3	0.3	0.0
S-SNWWF_0	Discretionary upper limit for Snowtown WF generation of 0 MW	3	0	3	0.3	0.0	0.3
SV_160	SA to Victoria on VicSA upper transfer limit of 160 MW	2	2	0	0.2	0.2	0.0
SV_260	SA to Victoria on VicSA upper transfer limit of 260 MW	20	13	7	1.7	1.1	0.6
SVML_000	SA to Vic on ML upper transfer limit of 0 MW	165	0	165	13.8	0.0	13.8
SVML_020	SA to Vic on ML upper transfer limit of 20 MW	1	1	0	0.1	0.1	0.0
V::H_BYPASS_HW_SY_QE	Outage = All three SMTS 500kV CB's for HWTS and SYTS line (No.1 or No.2) with temporary bypass for a direct HWTS to SYTS line, limit Vic gens and interconnectors to avoid transient instability for fault and trip of a HWTS-SYTS or HWTS-SMTS 500kV line	1	0	1	0.1	0.0	0.1
V::H_DDMSVA_R	Outage = Dederang to Murray 330kV line, limit Vic generators and interconnectors to avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	1	0	1	0.1	0.0	0.1
V::H_DDMSVD_R	Outage = Dederang to Murray 330kV line, limit Vic generators and interconnectors to avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	1	0	1	0.1	0.0	0.1
V::H_DDMSVE_R	Outage = Dederang to Murray 330kV line, limit Vic generators and interconnectors to avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	38	0	38	3.2	0.0	3.2
V::H_HYMLQE_R	Outage = Heywood to Moorabool 500kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	4	0	4	0.3	0.0	0.3
V::H_LTMSQE_R	Outage = Lower Tumut to Murray 330kV line, limit Vic generators and interconnectors avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	1	0	1	0.1	0.0	0.1
V::H_X_SM_HW-SY_QB_R	Out = South Morang 500kV bus, one Hazelwood - South Morang 500kV line and one South Morang - Sydneham 500kV line, Basslink import from Tas, transient stability limit, Radial mode	2	0	2	0.2	0.0	0.2
V::H_X_SM_HW-SY_QE_R	Out = South Morang 500kV bus, one Hazelwood - South Morang 500kV line and one South Morang - Sydneham 500kV line, Basslink export to Tas, transient stability limit, Radial mode	6	0	6	0.5	0.0	0.5

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V::H_X_SM_HW-SY_VD_R	Out = South Morang 500kV bus, one Hazelwood - South Morang 500kV line and one South Morang - Sydneham 500kV line, Basslink export to Tas, transient stability limit, Radial mode	3	0	3	0.3	0.0	0.3
V::H_X_SM_HW-SY_VE_R	Out = South Morang 500kV bus, one Hazelwood - South Morang 500kV line and one South Morang - Sydneham 500kV line, Basslink export to Tas, transient stability limit, Radial mode	20	0	20	1.7	0.0	1.7
V::N_BYPASS_HW_SY_QA	Outage = All three SMTS 500kV CB's for HWTS and SYTS line (No.1 or No.2) with temporary bypass for a direct HWTS to SYTS line, limit Vic gens and interconnectors to avoid transient instability for fault and trip of a HWTS-SYTS or HWTS-SMTS 500kV line	12	0	12	1.0	0.0	1.0
V::N_BYPASS_HW_SY_QB	Outage = All three SMTS 500kV CB's for HWTS and SYTS line (No.1 or No.2) with temporary bypass for a direct HWTS to SYTS line, limit Vic gens and interconnectors to avoid transient instability for fault and trip of a HWTS-SYTS or HWTS-SMTS 500kV line	7	0	7	0.6	0.0	0.6
V::N_BYPASS_HW_SY_QD	Outage = All three SMTS 500kV CB's for HWTS and SYTS line (No.1 or No.2) with temporary bypass for a direct HWTS to SYTS line, limit Vic gens and interconnectors to avoid transient instability for fault and trip of a HWTS-SYTS or HWTS-SMTS 500kV line	4	0	4	0.3	0.0	0.3
V::N_BYPASS_HW_SY_QE	Outage = All three SMTS 500kV CB's for HWTS and SYTS line (No.1 or No.2) with temporary bypass for a direct HWTS to SYTS line, limit Vic gens and interconnectors to avoid transient instability for fault and trip of a HWTS-SYTS or HWTS-SMTS 500kV line	71	0	71	5.9	0.0	5.9
V::N_DDMSQE_R	Outage = Dederang to Murray 330kV line, limit Vic generators and interconnectors to avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	15	0	15	1.3	0.0	1.3
V::N_HWSMQD_R	Outage = Hazelwood to South Morang 500 kV line, Basslink export to Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	2	0	2	0.2	0.0	0.2
V::N_HWSMQE_R	Outage = Hazelwood to South Morang 500 kV line, Basslink export to Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	12	0	12	1.0	0.0	1.0
V::N_HWSMVD_R	Outage = Hazelwood to South Morang 500 kV line, Basslink export to Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	14	0	14	1.2	0.0	1.2
V::N_HWSMVE_R	Outage = Hazelwood to South Morang 500 kV line, Basslink export to Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	24	0	24	2.0	0.0	2.0

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V::N_JNWOQE_R	Outage = Jindera to Wodonga 330kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	1	0	1	0.1	0.0	0.1
V::N_ROSMQD_R	Outage = Rowville to South Morang 500kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	5	0	5	0.4	0.0	0.4
V::N_ROSMQE_R	Outage = Rowville to South Morang 500kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	4	0	4	0.3	0.0	0.3
V::S_CGMB_NPS	Out=Cherry Gardens - Mt.Barker 132kV line; Vic to SA Stability Limit on trip NPS.	1	1	0	0.1	0.1	0.0
V::S_KNPW	Out= Kincraig - Penola West 132kV line; Vic to SA stability limit for loss of one NPS unit or one South East - Tailem Bend 275kV line	2	2	0	0.2	0.2	0.0
V::S_PA_VC	Out= one Para SVC, Vic-SA transient stability limit for loss of a Northern unit	4	4	0	0.3	0.3	0.0
V::V_DDSM	Outage = Dederang to South Morang 330kV line, limit Vic to Snowy to avoid transient instability for fault and trip of a Dederang to South Morang 330kV line, equation 3.1q from TLM-Q	2	0	2	0.2	0.0	0.2
V::V_EPTT	Outage = Eildon to Thomastown 220kV line, limit Vic to NSW and Vic to SA on Murraylink to avoid transient instability for fault and trip of a Dederang to South Morang 330kV line, equation 18.1 from TLM-D	7	0	7	0.6	0.0	0.6
V^^S_SETB_SETB	Out= one South East to Tailem Bend 275kV line, Vic-SA Voltage stability limit for loss of the remaining South East to Tailem Bend line	9	5	4	0.8	0.4	0.3
V^SML_NSWRB_2	Outage = NSW Murraylink runback scheme, limit Vic to SA on Murraylink to avoid voltage collapse for loss of Darlington Pt to Buronga (X5) 220kV line	123	0	123	10.3	0.0	10.3
V>>N_SMTXH1	Outage = South Morang 330/220kV (H1) transformer, limit Vic generators and interconnectors (Vic export) to avoid overload of South Morang H2 transformer for trip of the South Morang 500/330kV (F2) transformer	6	0	6	0.5	0.0	0.5
V>>N_SMTXH2	Outage = South Morang 330/220kV (H2) transformer, limit Vic generators and interconnectors (Vic export) to avoid overload of South Morang H1 transformer for trip of the South Morang 500/330kV (F2) transformer	19	0	19	1.6	0.0	1.6
V>>N-JNWO_C	Out= Jindera-Wodonga(060), avoid Murray to UpperTumut (65) O/L on Murray-LowerTumut(66) trip; Feedback	1	0	1	0.1	0.0	0.1
V>>S_6106_SGBL_SGTX4	Out= Snuggery CB6106, avoid O/L Snuggery T4 on trip of Snuggery - Blanche line.	14	14	0	1.2	1.2	0.0
V>>S_CGTB_TBTU_TBMO	Prior Outage = Cherry Gardens - Tailem Bend 275 kV line; Limit to avoid O/L Tailem Bend - Mobilong 132kV line on trip Tailem Bend - Tungkillo line.	87	87	0	7.3	7.3	0.0
V>>S_KNPW_SETB_SGKH	Out = Kincraig - Penola West 132 kV line; avoid Snuggery - Keith line OL on trip of South East - Tailem Bend 275 kV line	14	14	0	1.2	1.2	0.0

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V>>S_SETX_NPS_SETX	Out = One South East Transformer. Prevent remaining transformer OL for one Northern PS trip.	10	10	0	0.8	0.8	0.0
V>>S_TBTU_TBCG_TBMO	Prior Outage = Tailem Bend - Tungkillo 275 kV line; Limit to avoid O/L Tailem Bend - Mobilong 132kV line on trip Tailem Bend - Cherry Gardens line.	25	0	25	2.1	0.0	2.1
V>>S_TX1_SGBL_SGTX4	Out= Snuggery T1 transformer , avoid O/L Snuggery T4 on trip of Snuggery - Blanche line.	8	8	0	0.7	0.7	0.0
V>>V_DDTX_A	Outage = Dederang No.2 or No.3 330/220kV transformer, limit Vic generation and interconnectors to avoid pre-contingent overload of the Dederang No.1 transformer	489	0	489	40.8	0.0	40.8
V>>V_GTKT_1	Out = Geelong to Keilor No.2 or No.3 220kV line, limit Vic generation and interconnectors to avoid O/L the Geelong to Keilor No.1 220kV line for trip of the Moorabool 500/220kV transformer, swamped if Murraylink VFRB enabled and Murraylink > 25MW	69	0	69	5.8	0.0	5.8
V>>V_GTKT_3	Out = Geelong to Keilor No.1 or No.2 220kV line, limit Vic generation and interconnectors to avoid O/L the Geelong to Keilor No.3 220kV line for trip of the Moorabool 500/220kV transformer, swamped if Murraylink VFRB enabled and Murraylink > 25MW	23	0	23	1.9	0.0	1.9
V>>V_HWTS_TX3_3-5MOD	Out = Hazelwood #3 or #4 500/220kV transformer, 3-5 Parallel, Jeeralang split with JLGS A connected to Hazelwood #3 or #4 220kV bus, avoid O/L Hazelwood #4 or #3 500/220kV transformer for loss of Rowville to Yallourn #5 220kV line	6	0	6	0.5	0.0	0.5
V>>V_HWTS_TX3_PAR3-5	Out = Hazelwood #3 or #4 500/220kV transformer, 3-5 Parallel, Jeeralang split with JLGS B connected to Hazelwood #3 or #4 220kV bus, avoid O/L Hazelwood #4 or #3 500/220kV transformer for loss of Rowville to Yallourn #5 220kV line	61	0	61	5.1	0.0	5.1
V>>V_X_DDTX2_3_DBUSS	Outage = Dederang No.2 or No.3 330/220kV transformer and DBUSS transformer control scheme, limit Vic generation and interconnectors to avoid overloading the Dederang No.1 transformer for loss of the other Dederang transformer	363	0	363	30.3	0.0	30.3
V>SMLBAHO1	Out = Ballarat to Horsham or Bendigo to Kerang line, Murraylink limit to avoid O/L Buronga to Balranald to Darlington Point (X5) line or Buronga to Recliffs (OX1) line or voltage collapse on X5, for trip of Bendigo to Kerang or Ballarat to Horsham line	36	0	36	3.0	0.0	3.0
VH:DDMS	Outage = Dederang to Murray 330kV line, limit Vic to Snowy to avoid transient instability for fault and trip of Dederang to Murray 330kV line, equation 2.1 from TLM-D	4	0	4	0.3	0.0	0.3
VSML_000	Vic to SA on ML upper transfer limit of 0 MW	1	0	1	0.1	0.0	0.1
VSML_080	Vic to SA on ML upper transfer limit of 80 MW	23	0	23	1.9	0.0	1.9
VSML_100	Vic to SA on ML upper transfer limit of 100 MW	3	0	3	0.3	0.0	0.3
		19648	1986	17662	1637.3	165.5	1471.8

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#NPS1_E	SNPA1.ENERGY * 1 <= 250 (Wt = 360)	1375	0	1375	114.6	0.0	114.6
#NPS2_P_E	SNPA2.ENERGY * 1 <= 240 (Wt = 50)	84	0	84	7.0	0.0	7.0
#POR01_D_E	SPLN1.ENERGY * 1 = 10 (Wt = 360)	5	0	5	0.4	0.0	0.4
#POR01_E	SPLN1.ENERGY * 1 >= 7 (Wt = 20)	2	0	2	0.2	0.0	0.2
#VIC1_E_20090719	Multiple VIC1 LHS <= 130 (Wt = 19)	1	0	1	0.1	0.0	0.1
#V-SA_I_E	V-SA. * -1 >= 50 (Wt = 20)	59	0	59	4.9	0.0	4.9
#V-SA_I_E	V-SA.ENERGY * -1 <= 0 (Wt = 12)	10	0	10	0.8	0.0	0.8
#V-SA_I_E	V-SA.ENERGY * -1 >= 150 (Wt = 360)	66	0	66	5.5	0.0	5.5
#V-SA_I_E	V-SA.ENERGY * -1 >= 250 (Wt = 20)	11	0	11	0.9	0.0	0.9
#V-S-MNSP1_E_E	V-S-MNSP1. * 1 <= -35 (Wt = 20)	2	2	0	0.2	0.2	0.0
#V-S-MNSP1_I_E	V-S-MNSP1. * -1 >= 120 (Wt = 20)	203	0	203	16.9	0.0	16.9
#V-S-MNSP1_I_E	V-S-MNSP1. * -1 >= 130 (Wt = 20)	65	0	65	5.4	0.0	5.4
#V-S-MNSP1_I_E	V-S-MNSP1.ENERGY * -1 <= 0 (Wt = 19)	7	0	7	0.6	0.0	0.6
CA_BPS_394B4845_01	Constraint Automation, O/L CULWHY_1 @CULTAN for CTG LSHC on trip of PLBDVP_1 & PLBDVP_2 275KV LINE. Generated by STNET[CARFL] Host MANEEMP3(BP)	6	0	6	0.5	0.0	0.5
CA_BPS_394C8812_01	Constraint Automation, O/L CULWHY_1 @CULTAN for CTG LSHD on trip of DAVENP-BRINKW 275KV LINE. Generated by STNET[MANBR] Host MANEEMP3(BP)	4	0	4	0.3	0.0	0.3
CA_BPS_3A1B15EB_01	Constraint Automation, O/L S_EAST TRANSF T_2 for CTG TSHZ on trip of S_EAST 1 275/132KV TX. Generated by STNET[MANFR] Host MANEEMP3(BP)	21	0	21	1.8	0.0	1.8
CA_BPS_3A1F6913_01	Constraint Automation, O/L R_TOWN TRANSF T_1 for CTG MSHT on trip of R_TOWN - PARA & TUNKIL 275KV LINES. Generated by STNET[MANFR] Host MANEEMP4(BP)	5	0	5	0.4	0.0	0.4
CA_BPS_3A1F6EF4_01	Constraint Automation, O/L R_TOWN TRANSF T_1 for CTG MSHT on trip of R_TOWN - PARA & TUNKIL 275KV LINES. Generated by STNET[MANFR] Host MANEEMP4(BP)	3	0	3	0.3	0.0	0.3
CA_BPS_3A21E435_01	Constraint Automation, O/L R_TOWN TRANSF T_1 for CTG MSHT on trip of R_TOWN - PARA & TUNKIL 275KV LINES. Generated by STNET[MANFR] Host MANEEMP4(BP)	10	0	10	0.8	0.0	0.8
CA_SPS_38801279_01	Constraint Automation, O/L 66 @MURRAY for CTG LHPB on trip of MSS-UTSS 330KV LINE. Generated by STNET[CARFL] Host NOREEMP1(SP)	2	0	2	0.2	0.0	0.2
CA_SPS_3893391F_06	Constraint Automation, O/L ROTS_YPS8_220 @YPS for CTG LVCB on trip of ROTS-YPS7 220KV LINE. Generated by STNET[OFFLIN02] Host NOREEMP1(SP)	14	0	14	1.2	0.0	1.2
CA_SPS_3893391F_08	Constraint Automation, O/L ROTS_YPS7_220 @YPS for CTG LVCC on trip of ROTS-YPS8 220KV LINE. Generated by STNET[OFFLIN02] Host NOREEMP1(SP)	7	0	7	0.6	0.0	0.6
CA_SPS_3893391F_10	Constraint Automation, O/L ROTS_YPS8_220 @YPS for CTG LVCA on trip of ROTS-YPS6 220KV LINE. Generated by STNET[OFFLIN02] Host NOREEMP1(SP)	10	0	10	0.8	0.0	0.8
CA_SPS_3893391F_12	Constraint Automation, O/L ROTS_YPS7_220 @YPS for CTG LVCA on trip of ROTS-YPS6 220KV LINE. Generated by STNET[OFFLIN02] Host NOREEMP1(SP)	7	0	7	0.6	0.0	0.6
CA_SPS_3893391F_14	Constraint Automation, O/L ROTS_YPS6_220 @YPS for CTG LVCB on trip of ROTS-YPS7 220KV LINE. Generated by STNET[OFFLIN02] Host NOREEMP1(SP)	6	0	6	0.5	0.0	0.5
CA_SPS_3893391F_16	Constraint Automation, O/L ROTS_YPS6_220 @YPS for CTG LVCC on trip of ROTS-YPS8 220KV LINE. Generated by STNET[OFFLIN02] Host NOREEMP1(SP)	6	0	6	0.5	0.0	0.5

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CA_SPS_3893391F_18	Constraint Automation, O/L ROTS_YPS8_220 @YPS for CTG LVBZ on trip of ROTS-YPS5 220KV LINE. Generated by STNET[OFFLIN02] Host NOREEMP1(SP)	7	0	7	0.6	0.0	0.6
CA_SPS_3893391F_20	Constraint Automation, O/L ROTS_YPS7_220 @YPS for CTG LVBZ on trip of ROTS-YPS5 220KV LINE. Generated by STNET[OFFLIN02] Host NOREEMP1(SP)	4	0	4	0.3	0.0	0.3
CA_SPS_3893391F_22	Constraint Automation, O/L ROTS_YPS6_220 @YPS for CTG LVBZ on trip of ROTS-YPS5 220KV LINE. Generated by STNET[OFFLIN02] Host NOREEMP1(SP)	1	0	1	0.1	0.0	0.1
CA_SPS_38952569_02	Constraint Automation, O/L SMTS_SYTS2_500@SMTS for CTG LVVF on trip of SMTS-SYTS1 500KV LINE. Generated by STNET[OFFLIN10] Host NOREEMP1(SP)	11	0	11	0.9	0.0	0.9
CA_SPS_38A2048F_01	Constraint Automation, O/L HOTS_RCTS_220 @HOTS for CTG LVDH on trip of BATS-BETS 220KV LINE. Generated by STNET[OFFLIN10] Host NOREEMP1(SP)	111	0	111	9.3	0.0	9.3
CA_SPS_38B0D2AB_01	Constraint Automation, O/L 0X1 @BURONGA for CTG LVDL on trip of BETS-KGTS 220KV LINE. Generated by STNET[CARFL] Host NOREEMP2(SP)	78	0	78	6.5	0.0	6.5
CA_SPS_39F10AF4_02	Constraint Automation, O/L SMTS TRANSF F2TR_330 for CTG LVVK on trip of APD-HYTS-MLTS2 500KV LINE. Generated by STNET[NORFL] Host NOREEMP2(SP)	18	0	18	1.5	0.0	1.5
CA_SPS_3A177723_02	Constraint Automation, O/L BATS_MLTS1_220@MLTS for CTG LVAJ on trip of BATS-MLTS2 220KV LINE. Generated by STNET[NORFL] Host NOREEMP2(SP)	12	0	12	1.0	0.0	1.0
F_MAIN++NIL_DYN_LREG	Mainland Lower Regulation Requirement, Feedback in Dispatch, increase by 60 MW for each 1s of time error above 1.5s, Basslink able transfer FCAS	1	0	1	0.1	0.0	0.1
F_MAIN++RREG_0350	Mainland Raise Regulation Requirement greater than 350 MW, Basslink able transfer FCAS	2	0	2	0.2	0.0	0.2
F_MAIN+RREG_0400	Mainland Raise Regulation Requirement greater than 400 MW, Basslink unable to transfer FCAS	1	0	1	0.1	0.0	0.1
F_MAIN+RREG_0450	Mainland Raise Regulation Requirement greater than 450 MW, Basslink unable to transfer FCAS	2	0	2	0.2	0.0	0.2
F_S++HYML_L5	Out = one Heywood to Moorabool (HYTS-MLTS) 500kV line or one Moorabool to Sydneham (MLTS-SYTS) 500kV line, SA Lower 5 min Requirement	31	0	31	2.6	0.0	2.6
F_S++HYML_L6	Out = one Heywood to Moorabool (HYTS-MLTS) 500kV line or one Moorabool to Sydneham (MLTS-SYTS) 500kV line, SA Lower 6 sec Requirement	13	0	13	1.1	0.0	1.1
F_S++HYML_L60	Out = one Heywood to Moorabool (HYTS-MLTS) 500kV line or one Moorabool to Sydneham (MLTS-SYTS) 500kV line, SA Lower 60 sec Requirement	63	1	62	5.3	0.1	5.2
F_S++HYSE_L5	Out = one Heywood to South East (HYTS-SESS) or one Heywood (HYTS) 500/275kV (M1 or M2) transformer, SA Lower 5 min Requirement	3	0	3	0.3	0.0	0.3
F_S++HYSE_L60	Out = one Heywood to South East (HYTS-SESS) or one Heywood (HYTS) 500/275kV (M1 or M2) transformer, SA Lower 60 sec Requirement	102	0	102	8.5	0.0	8.5
F_VS++HWPS_TG_R5	Vic and SA Raise 5 min requirement for trip of HWTS-HWPS #1 line, TG = output of HWPS 3,4,5; Basslink able to transfer FCAS	3	0	3	0.3	0.0	0.3
F_VS++HWPS_TG_R60	Vic and SA Raise 60 sec requirement for trip of HWTS-HWPS #1 line, TG = output of HWPS 3,4,5; Basslink able to transfer FCAS	4	0	4	0.3	0.0	0.3
F_VS++MG_R5	Raise 5 min requirement for a Vic and SA Generation Event, Basslink able to transfer FCAS	4	0	4	0.3	0.0	0.3
F_VS++MG_R6	Raise 6 sec requirement for a Vic and SA Generation Event, Basslink able to transfer FCAS	5	0	5	0.4	0.0	0.4
F_VS++MG_R60	Raise 60 sec requirement for a Vic and SA Generation Event, Basslink able to transfer FCAS	1	0	1	0.1	0.0	0.1
F_VS++ML_L5_0300	Lower 5 min requirement for a Vic and SA Load Event, Basslink able to transfer FCAS	4	0	4	0.3	0.0	0.3
F_VS++ML_L6_0300	Lower 6 sec requirement for a Vic and SA Load Event, Basslink able to transfer FCAS	4	0	4	0.3	0.0	0.3

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F_VS+HWPS_TG_R5	Vic and SA Raise 5 min requirement for trip of HWTS-HWPS #1 line, TG = output of HWPS 3,4,5; Basslink unable to transfer FCAS	6	0	6	0.5	0.0	0.5
F_VS+HWPS_TG_R60	Vic and SA Raise 60 sec requirement for trip of HWTS-HWPS #1 line, TG = output of HWPS 3,4,5; Basslink unable to transfer FCAS	5	0	5	0.4	0.0	0.4
F_VS+MG_R5	Raise 5 min requirement for a Vic and SA Generation Event, Basslink unable to transfer FCAS	3	0	3	0.3	0.0	0.3
F_VS+MG_R6	Raise 6 sec requirement for a Vic and SA Generation Event, Basslink unable to transfer FCAS	8	0	8	0.7	0.0	0.7
F_VS+MG_R60	Raise 60 sec requirement for a Vic and SA Generation Event, Basslink unable to transfer FCAS	3	0	3	0.3	0.0	0.3
F_VS+ML_L5_0300	Lower 5 min requirement for a Vic and SA Load Event, Basslink unable to transfer FCAS	7	0	7	0.6	0.0	0.6
F_VS+ML_L6_0300	Lower 6 sec requirement for a Vic and SA Load Event, Basslink unable to transfer FCAS	8	0	8	0.7	0.0	0.7
F_VS+ML_L60_0300	Lower 60 sec requirement for a Vic and SA Load Event, Basslink unable to transfer FCAS	8	0	8	0.7	0.0	0.7
F_VST+HWPS_TG_R5	Vic, SA and Tas Raise 5 min requirement for trip of HWTS-HWPS #1 line, TG = output of HWPS 3,4,5	3	0	3	0.3	0.0	0.3
F_VST+MG_R5	Raise 5 min requirement for a Vic, SA and Tas Generation Event	1	0	1	0.1	0.0	0.1
F_VST+MG_R6	Raise 6 sec requirement for a Vic, SA and Tas Generation Event	7	0	7	0.6	0.0	0.6
F_VST+ML_L6_0300	Lower 6 sec requirement for a Vic, SA and Tas Load Event	1	0	1	0.1	0.0	0.1
N::V_AVMA	Out= Avon - Macarthur (17), NSW to Snowy Transient Limit	2	0	2	0.2	0.0	0.2
N::V_DTMN	Out= Dapto - Marulan (8), NSW to Snowy Transient Limit	1	0	1	0.1	0.0	0.1
N::V_KC_VC2	Out= both Kemps Creek SVCs, NSW to Snowy Transient Limit	133	0	133	11.1	0.0	11.1
N::V_MMSW	Out= Munmorah - Sydney West (26), NSW to Snowy Transient Limit	4	0	4	0.3	0.0	0.3
N::V_MSUT	Out= Murray - Upper Tumut (65) line, NSW to Snowy Transient Limit	41	0	41	3.4	0.0	3.4
N^^V_LTUT_2	Outage = Lower Tumut to Upper Tumut 330kV line, limit Vic interconnectors and Snowy generation to avoid voltage collapse for loss of a Dederang to Murray 330kV line	15	0	15	1.3	0.0	1.3
N>>N-DP_TIETX_A	Out= DarlingtonPt tie Tx(#3 or #4), avoid the remaining tie Tx O/L (330 to 220 kV) on Shepparton-Bendigo trip; Feedback	5	0	5	0.4	0.0	0.4
NSA_S_POR01_10	Port Lincoln >= 10 MW for Network Support Agreement	16	0	16	1.3	0.0	1.3
S::V_SECB6606_SETB2	Out = South East CB6606 or CB6607; SA to Vic Stability Limit. Critical Contingency: Trip one South Eat - Tailem Bend line.	1	1	0	0.1	0.1	0.0
S_PLN_ISL1	Out = Whyalla to Yadnarie line, Port Lincoln PS islanded	43	43	0	3.6	3.6	0.0
S_PPT210	SA Pelican Point gen <= 210MW	6	6	0	0.5	0.5	0.0
S_TA2_TX	Torrens A 2 Transformer O/S; unit=0	23	23	0	1.9	1.9	0.0
S_TI_CB_BW4+BC4	Out = Torrens Island CBs BW4 and BC4	38	38	0	3.2	3.2	0.0
S_TITN2	Out= Torrens Island to Torrens North #2 66kV line	82	0	82	6.8	0.0	6.8
S>>V_RBTX_RBTX_WTMW4	Out=One Robertstown 275/132 kV transformer; Limit SA-V on ML to avoid OL Waterloo - MWP4 line for loss of the remaining Robtstown Transformer.	9	9	0	0.8	0.8	0.0
S>BGCB6243_BGPT_HUWT	Out = Bungama 132 kV circuit breaker CB6243; to avoid overloading Hummocks - Waterloo line on trip of Bungama - Pt_Piri 132KV line.	220	220	0	18.3	18.3	0.0
S>BGCB6243_NIL_HUWT	Out = Bungama 132 kV circuit breaker CB6243; to maintain post contingency loading on Hummocks - Waterloo line below the continuous rating on after trip of Bungama - Pt_Piri 132KV line.	1	1	0	0.1	0.1	0.0
S>PFWH	One Playford - Whyalla 132KV line out of service.Limit Playford PS to avoid OL the remaining Playford - Whyalla line for trip of Playford - Davenport 275 kV Line.	23	23	0	1.9	1.9	0.0

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S>PGPP_LFTI_NOTI	Out = Parafield Gardens West - Pelican Pt line; Limit generation to avoid OL New Osborne to Torrens Island 66 kV lines for trip Lefevre - Torrens Island 275 kV line.	12	12	0	1.0	1.0	0.0
S>VML_NWCB6023_TX2	Out= North West Bend_CB6023; limit SA to Victoria on Murraylink to avoid North West Bend transformer#2 O/L on trip NWB - Robertstown line.	24	24	0	2.0	2.0	0.0
S>VML_NWCB6024+25	Out= North West Bend_CBs 6024 and 6025; limit SA to Victoria on Murraylink to avoid North West Bend transformer#3 O/L on trip NWB - MONASH #1 line.	6	6	0	0.5	0.5	0.0
S>VML_NWCB6033_TX2	Out= North West Bend_CB6033; limit SA to Victoria on Murraylink to avoid North West Bend transformer#2 O/L on trip NWB - MONASH #2 line.	22	22	0	1.8	1.8	0.0
S-SNWWF_0	Discretionary upper limit for Snowtown WF generation of 0 MW	5	0	5	0.4	0.0	0.4
SV_260	SA to Victoria on VicSA upper transfer limit of 260 MW	16	16	0	1.3	1.3	0.0
SVML_000	SA to Vic on ML upper transfer limit of 0 MW	19	2	17	1.6	0.2	1.4
SVML_140	SA to Vic on ML upper transfer limit of 140 MW	24	0	24	2.0	0.0	2.0
V::N_BABEQD_R	Outage = Ballarat to Bendigo 220kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	7	0	7	0.6	0.0	0.6
V::N_BABEVE_R	Outage = Ballarat to Bendigo 220kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	2	0	2	0.2	0.0	0.2
V::N_HWSMQD_R	Outage = Hazelwood to South Morang 500 kV line, Basslink export to Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	1	0	1	0.1	0.0	0.1
V::N_HWSMQE_R	Outage = Hazelwood to South Morang 500 kV line, Basslink export to Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	19	0	19	1.6	0.0	1.6
V::N_HWSMQF_R	Outage = Hazelwood to South Morang 500 kV line, Basslink export to Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	12	0	12	1.0	0.0	1.0
V::N_HWSMVA_R	Outage = Hazelwood to South Morang 500 kV line, Basslink import from Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	1	0	1	0.1	0.0	0.1
V::N_HWSMVE_R	Outage = Hazelwood to South Morang 500 kV line, Basslink export to Tas, limit Vic interconnectors and Vic generation to avoid transient instability for fault and trip of a Hazelwood to Sth Morang 500kV line, radial mode at Hazelwood	11	0	11	0.9	0.0	0.9
V::N_HYMLQD_R	Outage = Heywood to Moorabool 500kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	1	0	1	0.1	0.0	0.1
V::N_HYMLQE_R	Outage = Heywood to Moorabool 500kV line, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	8	0	8	0.7	0.0	0.7
V::N_MSUTQA_R	Outage = Upper Tumut to Murray 330kV line, limit Vic generators and interconnectors avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	1	0	1	0.1	0.0	0.1
V::N_MSUTQB_R	Outage = Upper Tumut to Murray 330kV line, limit Vic generators and interconnectors avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	5	0	5	0.4	0.0	0.4

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V::N_MSUTQC_R	Outage = Upper Tumut to Murray 330kV line, limit Vic generators and interconnectors avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	65	0	65	5.4	0.0	5.4
V::N_MSUTQD_R	Outage = Upper Tumut to Murray 330kV line, limit Vic generators and interconnectors avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	12	0	12	1.0	0.0	1.0
V::N_MSUTQE_R	Outage = Upper Tumut to Murray 330kV line, limit Vic generators and interconnectors avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	24	0	24	2.0	0.0	2.0
V::N_MSUTQF_R	Outage = Upper Tumut to Murray 330kV line, limit Vic generators and interconnectors avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	14	0	14	1.2	0.0	1.2
V::N_MSUTVA_R	Outage = Upper Tumut to Murray 330kV line, limit Vic generators and interconnectors avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	9	0	9	0.8	0.0	0.8
V::N_MSUTVD_R	Outage = Upper Tumut to Murray 330kV line, limit Vic generators and interconnectors avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	18	0	18	1.5	0.0	1.5
V::N_MSUTVE_R	Outage = Upper Tumut to Murray 330kV line, limit Vic generators and interconnectors avoid avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV line, Radial	2	0	2	0.2	0.0	0.2
V::N_SMCSQE_R	Outage = South Morang 330kV series capacitor, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV, Radial	7	0	7	0.6	0.0	0.6
V::N_SMCSQF_R	Outage = South Morang 330kV series capacitor, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV, Radial	14	0	14	1.2	0.0	1.2
V::N_SMCSVC_R	Outage = South Morang 330kV series capacitor, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV, Radial	4	0	4	0.3	0.0	0.3
V::N_SMCSVE_R	Outage = South Morang 330kV series capacitor, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV, Radial	30	0	30	2.5	0.0	2.5
V::N_SMCSVF_R	Outage = South Morang 330kV series capacitor, limit Vic generators and interconnectors to avoid transient instability for fault and trip of a Hazelwood to South Morang 500kV, Radial	6	0	6	0.5	0.0	0.5
V::N_SMF2VB_R	Outage=South Morang 500/330 kV F2 transformer, limit Vic interconnectors and generators, avoid transient instability for fault and trip of a Hazelwood to South Morang 500 kV line, second linear segment, Radial	3	0	3	0.3	0.0	0.3
V::S_PA_VC	Out= one Para SVC, Vic-SA transient stability limit for loss of a Northern unit	3	3	0	0.3	0.3	0.0
V::S_SE_VC	Out = one South East SVC; Vic-SA Stability Limit for loss of one NPS unit following 2PhG fault on the Davenport - NPS line.	15	15	0	1.3	1.3	0.0
V::V_DDSM	Outage = Dederang to South Morang 330kV line, limit VIC to NSW to avoid transient instability for fault and trip of a Dederang to South Morang 330kV line, equation 3.1q from TLM-Q	137	0	137	11.4	0.0	11.4
V^^S_KHTB_NPS_SE_OFF	Out = Keith - Tailem Bend one 132 kV line; Vic to SA Long Term Voltage Stability limit (South East Capacitor OOS) for loss of one NPS generator.	4	4	0	0.3	0.3	0.0
V^SML_NSWRB_2	Outage = NSW Murraylink runback scheme, limit Vic to SA on Murraylink to avoid voltage collapse for loss of Darlington Pt to Buronga (X5) 220kV line	7	0	7	0.6	0.0	0.6
V>>N_SMTXF2A	Outage = South Morang 500/330kV (F2) transformer, limit Vic generators and interconnectors (Vic export) to avoid overload of South Morang H2 transformer for trip of the H1 transformer	122	0	122	10.2	0.0	10.2

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V>>N_SMTXH2	Outage = South Morang H2 330/220kV transformer, limit Vic generators and interconnectors (Vic export) to avoid overload of South Morang H1 transformer for trip of the South Morang 500/330kV (F2) transformer	12	0	12	1.0	0.0	1.0
V>>N-LTMS_4	Out= LowerTumut-Murray(66), avoid Murray to UpperTumut (65) O/L(15m rating) on Dederang-Wodonga(DDWO) trip; Feedback	3	0	3	0.3	0.0	0.3
V>>N-LTUT_A	Out= LowerTumut-UpperTumut(64), avoid Murray to UpperTumut (65) O/L on Murray-LowerTumut(66) trip; Feedback	37	0	37	3.1	0.0	3.1
V>>N-LTUT_B	Out= LowerTumut-UpperTumut(64), avoid Murray to LowerTumut (66) O/L on Murray-UpperTumut(65) trip; Feedback	55	0	55	4.6	0.0	4.6
V>>N-LTUT_M_15M	Out= LowerTumut-UpperTumut(64), avoid Murray to UpperTumut (65) O/L on LowerTumut to Canberra(07) trip; Feedback	17	0	17	1.4	0.0	1.4
V>>N-MSUT_4	Out= Murray-UpperTumut(65), avoid Murray to LowerTumut (66) O/L on Dederang-Wodonga(DDWO) trip; Feedback	2	0	2	0.2	0.0	0.2
V>>S_SETX_NPS_SETX	Out = One South East Transformer. Prevent remaining transformer OL for one Northern PS trip.	110	110	0	9.2	9.2	0.0
V>>SML_MLTG_1	Out = Moorabool to Terang or Ballarat to Moorabool No.2 line, avoid O/L Ballarat to Moorabool No.1 line on loss of Ballarat to Moorabool No.2 or Moorabool to Terang line, swamped if Murraylink VFRB enabled and Murraylink > 25MW	2	0	2	0.2	0.0	0.2
V>>V_DDTX_A	Outage = Dederang No.2 or No.3 330/220kV transformer, limit Vic generation and interconnectors to avoid pre-contingent overload of the Dederang No.1 transformer	26	0	26	2.2	0.0	2.2
V>>V_HWTS_TX3_3-5MOD	Out = Hazelwood #3 or #4 500/220kV transformer, 3-5 Parallel, Jeeralang split with JLGS A connected to Hazelwood #3 or #4 220kV bus, avoid O/L Hazelwood #4 or #3 500/220kV transformer for loss of Rowville to Yallourn #5 220kV line	422	0	422	35.2	0.0	35.2
V>>V_MLSY2_1B	Out = Sydenham - Moorabool No. 2 500 kV line, avoild O/L the Keilor - South Morang 500 kV line for trip of South Morang - Sydenham No. 1 500 kV line. Yallourn unit 1 in 220kV mode, radial mode	2	0	2	0.2	0.0	0.2
V>>V_SMSY_KTSM_1B_R	Outage = One South Morang-Sydenham line; avoid O/L South Morang - Keilor line for loss of remaining South Morang - Sydenham, Yallourn unit 1 in 220kV mode, radial mode.	9	0	9	0.8	0.0	0.8
V>>V_SMSY_KTSM_5R	Outage = Either South Morang-Sydenham line; avoid O/L South Morang-Keilor line for loss of a Moorabool-Sydenham line, split of Sydenham 500 kV busses, offloading of remaining South Marang-Sydenham line. Yallourn unit 1 in 500 kV mode, radial mode.	1	0	1	0.1	0.0	0.1
V>>V_SMSY_KTSM_6R	Outage = Either South Morang-Sydenham line; avoid O/L South Morang-Keilor line for loss of a Moorabool-Sydenham line, split of Sydenham 220 kV busses, offloading of remaining South Marang-Sydenham line. Yallourn unit 1 in 500 kV mode, radial mode.	4	0	4	0.3	0.0	0.3
V>>V_SMTS_TX_H2_2B_R	Outage = Sth Morang H2 330/220kV transformer, South Morang 220 kV busses split, limit Vic interconnectors and Vic generation to avoid O/L Sth Morang 500/330kV (F2) transformer, Yallourn unit 1 in 220kV mode, radial mode at Hazelwood	11	0	11	0.9	0.0	0.9
V>>V_X_DDSM_TWO	Outage = Both Dederang to Sth Morang 330kV lines, limit Vic generators and interconnectors to avoid O/L the Ballarat to Bendigo 220 kV line for trip of Eildon to Thomastown 220kV line	5	0	5	0.4	0.0	0.4
V>SMLBAHO1	Out = Ballarat to Horsham or Bendigo to Kerang line, Murraylink limit to avoid O/L Buronga to Balranald to Darlington Point (X5) line or Buronga to Recliffs (OX1) line or voltage collapse on X5, for trip of Bendigo to Kerang or Ballarat to Horsham line	27	0	27	2.3	0.0	2.3

CONSTRAINT ID	CONSTRAINT DESCRIPTION	Marginal Value > $10 (DI)	Inclusion Count (DI)	Exclusion Count (DI)	Market Impact Parameters (Hrs)	Inclusion Count (Hrs)	Excluded Count (Hrs)
VS_000	Victoria to SA on VicSA upper transfer limit of 0 MW	8	0	8	0.7	0.0	0.7
VS_140	Victoria to SA on VicSA upper transfer limit of 140 MW	3	0	3	0.3	0.0	0.3
VS_170	Victoria to SA on VicSA upper transfer limit of 170 MW	4	0	4	0.3	0.0	0.3
VS_190	Victoria to SA on VicSA upper transfer limit of 190 MW	1	0	1	0.1	0.0	0.1
VS_220	Victoria to SA on VicSA upper transfer limit of 220 MW	3	0	3	0.3	0.0	0.3
VS_250	Victoria to SA on VicSA upper transfer limit of 250 MW	96	41	55	8.0	3.4	4.6
VSML_000	Vic to SA on ML upper transfer limit of 0 MW	44	0	44	3.7	0.0	3.7
VSML_015	Vic to SA on ML upper transfer limit of 15 MW	28	0	28	2.3	0.0	2.3
VSML_020	Vic to SA on ML upper transfer limit of 20 MW	27	0	27	2.3	0.0	2.3
		4850	622	4228	404.2	51.8	352.3