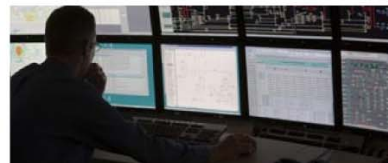


Constraint Publication

SO Workshop - November 2008

Ray Hardy

TRANSPOWER



SYSTEM OPERATOR

Agenda

- Background
- Design Overview
- Example screens in COMIT
- Next steps

Background

1. MSP solution requires changes to constraint publication
2. Industry forums – 2006
3. Constraint publication forum
 - Design - End of 2006
 - Recently met

2. Design Review (1 of 4)

- SPD Constraints provide security
- MSP (SFT) will automate some constraints
- The number of the constraints is unchanged
- Changes to publishing
- The current process
 - permanent and outage constraints being applied to SPD with no indication of whether they will bind until the PDS and SDPQ schedules are produced.
- Under MSP Constraints are published when they exceed threshold
 - SFT constraints are only known when schedule runs
 - Others are inputs to schedules (stability)

2. Design Review (2 of 4)

- RTD, PDS, SDS, SDPQ schedules and the new Week-ahead Dispatch Schedule (WDS).
- Information is to be published in COMIT.
- Constraints will be published as per the current format. (i.e.: $1.34 * \text{TKU_WKM1.1} + 0.32 * \text{TKU_WKM2.1} \leq 240$)
- Constraints will be recalculated and updated and will automatically account for any changes to offers.
- Extend the offer horizon to 7 days to fit with WDS schedule.

2. Design Review (3 of 4)

- Publication COMIT
 - Updated every schedule
 - Can view history of constraints
 - Concurrent outages
 - Search historical outages (and constraints)
 - 1 year history
 - WDS prices

2. Design Review (4 of 4)

Expanding publication of data

- The CPF discussed publication of other information (referred to other initiatives)

Solution Summary

- The combination of the proposed schedule and data publications will replace the current functionality for constraint publication. Instead of publishing a list of constraints being applied to the SPD model, the System Operator will forecast the likelihood of the constraints being applied through the medium of the various forward looking schedules.

3. Branch Group Constraints (1 of 4)

Branch Group Constraints

Branch Group Constraints
Run Types: SDPQ, Final, Provisional, 05/11/2008 Period 24

This page refreshes automatically every 60 seconds. Last refreshed at 06 November 2008 16:45:49

95 rows to download
[Pop up in new Window](#)

Search Criteria

Constraint Type

Dispatch

Final

Provisional

Group/Branch

Apply My Filter

[Change My Filter Settings](#)

Binding %

Show Formula

Rolling Window

Start Date **Start Period**

End Date **End Period**

Submit Query

[Clear Settings](#) [Save Settings](#)

Shows change from previous binding %

Trading Date	Period	Type	Run Time	Flag	Group Branch Name	Limit (MW)	Solution (MW)	% Binding	History	Outage schedule	Concurrent Outages
06/11/2008	24	SDPQ	06/11/2008 08:10:48	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	53.460	97.53	History	schedule	outages
06/11/2008	24	SDPQ	06/11/2008 08:10:48	G	KIN_TRK_1_S_P_1A KIN_TRK1.2*-1.04 + HAM_WKM.1*-0.07 <=	54.000	51.530	95.43	History	schedule	outages
06/11/2008	23	SDPQ	06/11/2008 08:10:48	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	53.460	97.20	History	schedule	outages
06/11/2008	23	SDPQ	06/11/2008 08:10:48	G	KIN_TRK_1_S_P_1A KIN_TRK1.2*-1.04 + HAM_WKM.1*-0.07 <=	54.000	51.400	95.33	History	schedule	outages
06/11/2008	24	SDPQ	06/11/2008 07:40:47	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.360	95.2	History	schedule	outages
06/11/2008	24	SDPQ	06/11/2008 07:10:45	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.690	95.8	History	schedule	outages
06/11/2008	24	SDPQ	06/11/2008 06:40:45	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.880	96.15	History	schedule	outages
06/11/2008	24	SDPQ	06/11/2008 06:10:43	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.750	95.91	History	schedule	outages
06/11/2008	24	S	06/11/2008 06:03:08	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.750	95.91	History	schedule	outages
06/11/2008	24	SDPQ	06/11/2008 05:40:41	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.310	95.11	History	schedule	outages
06/11/2008	24	SDPQ	06/11/2008 05:10:40	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	54.460	99.02	History	schedule	outages
06/11/2008	24	SDPQ	06/11/2008 04:10:37	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	54.250	98.64	History	schedule	outages
06/11/2008	24	S	06/11/2008 04:03:07	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	54.250	98.64	History	schedule	outages
06/11/2008	17	SDPQ	06/11/2008 08:10:48	G	KIN_TRK_1_S_P_1A KIN_TRK1.2*-1.04 + HAM_WKM.1*-0.07 <=	54.000	53.480	99.04	History	schedule	outages
06/11/2008	17	SDPQ	06/11/2008 08:10:48	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	54.300	98.73	History	schedule	outages
06/11/2008	17	SDPQ	06/11/2008 08:10:48	G	ARI_HAM_S_P_A HAM_WKM.1*-0.093 + ARI_HAM.1*1.042 <=	52.000	49.990	96.13	History	schedule	outages
06/11/2008	16	SDPQ	06/11/2008 07:40:47	G	COL_HOR_3&COL_OTI_2_GYM_KUM_SPLIT_S_0_1 COL_HOR2.1*1.06 + COL_OTI1.1*1 <=	33.000	33.000	100.00	History	schedule	outages
06/11/2008	16	SDPQ	06/11/2008 07:40:47	G	KIN_TRK_1_S_P_2A KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.360	95.20	History	schedule	outages
06/11/2008	16	SDPQ	06/11/2008 07:40:47	G	KIN_TRK_1_S_P_1A KIN_TRK1.2*-1.04 + HAM_WKM.1*-0.07 <=	54.000	51.720	95.78	History	schedule	outages
06/11/2008	16	SDPQ	06/11/2008 07:40:47	G	ARI_HAM_S_P_A HAM_WKM.1*-0.093 + ARI_HAM.1*1.042 <=	52.000	49.750	95.67	History	schedule	outages
06/11/2008	15	SDPQ	06/11/2008 04:10:37	G	COL_HOR_3&COL_OTI_2_GYM_KUM_SPLIT_S_0_1 COL_HOR2.1*1.06 + COL_OTI1.1*1 <=	33.000	33.000	100.00	History	schedule	outages

https://www.electricitywits.co.nz/comit/web_arcflow_pages.display_history?iTradingDate=06/...

HISTORY FOR KIN_TRK_1_S_P_2A, Trading Period 16 on 06/11/2008

Run Type	Run Time	Formula	Limit (MW)	Solution (MW)	% Binding
SDPQ	06/11/2008 07:40:47	KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.360	95.2
SDPQ	06/11/2008 07:10:45	KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.690	95.8
SDPQ	06/11/2008 06:40:45	KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.880	96.15
SDPQ	06/11/2008 06:10:43	KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.750	95.91
S	06/11/2008 06:03:08	KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.750	95.91
SDPQ	06/11/2008 05:40:41	KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	52.310	95.11
SDPQ	06/11/2008 05:10:40	KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	54.460	99.02
SDPQ	06/11/2008 04:10:37	KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	54.250	98.64
S	06/11/2008 04:03:07	KIN_TRK1.2*-1.05 + KIN_TRK2.2*-5 <=	55.000	54.250	98.64

History of constraint publication

3. Branch Group Constraints (2 of 4)

Branch Group Constraints

Search Criteria

Constraint Type
 Dispatch
 Final
 Provisional

Group/Branch

Apply My Filter
[Change My Filter Settings](#)

Binding %

Show Formula

Rolling Window

Start Date **Start Period**
End Date **End Period**

Submit Query

[Clear Settings](#) [Save Settings](#)

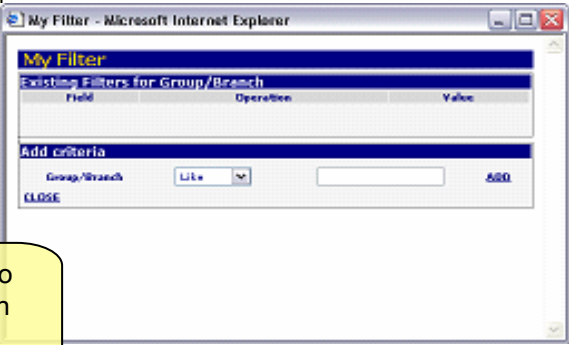
More constraint types to come (PDS, SDPQ, RTD, WDS)

Create customised wildcard filter

Can choose to see formula in results

Rolling Window shows current data

Can save search settings



This screen allows users to view all published constraint information, with a view to incorporating further constraints that will eventually be published by the System Operator, including WDS, SDS and PDS constraints. This screen will ultimately replace the Arc Flows page once more constraint types are published.

3. Outages and Overrides (3 of 4)

TEST

COMIT Time: 07 Nov 2008 09:26:47

Trader Prices Market Data Aggregates Applications News Links User Admin Help M-co Admin PM/SC Admin Clearing

comit 0800 4COMIT

Overrides have rating values

to Transpower is not available

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Outages and Overrides

Outages and Overrides
As of Run Time: 02 DEC 2007 00:01:00

14 rows to download

Search Criteria

Component ID

Type

Include Outages

Include Overrides

Run Date Run Time
(dd/mm/yyyy) (hh24:mi:ss)

Show Current Outages

Start Date Start Time
(dd/mm/yyyy) (hh24:mi:ss)

End Date End Time
(dd/mm/yyyy) (hh24:mi:ss)

Outage ID	Outage Block	Component ID	Start Time	End Time	Run Time	Status	Type	Rating		
100		HLY	04/12/2007 00:01:00	05/12/2007 00:01:00	02/12/2007 00:01:00		XF	5	History	Constraints
100		OTA	04/12/2007 00:01:00	05/12/2007 00:01:00	02/12/2007 00:01:00		LN	20	History	Constraints
181	ISL_C_26	ISL_CB_5012	21/03/2007 02:50:00	20/09/2007 02:50:00	10/08/2007 16:35:00	Remove	LN		History	Constraints
182	BPE_MTN_WGN_1	LN,BPE_WGN1	22/03/2007 02:50:00	20/09/2007 02:50:00	10/08/2007 16:35:00	Open	LN		History	Constraints
183	MTN_T1						LN		History	Constraints
184	CML_T5						XF		History	Constraints
185	ASB_T4						XF		History	Constraints
186	PEN_T9						LN		History	Constraints
187	ISL_C_27						LN		History	Constraints
188	MTN_T2						LN		History	Constraints
189	CML_T6						LN		History	Constraints
190	ISL_C_26						LN		History	Constraints
600							LN		History	Constraints
600							LN		History	Constraints

Branch Group Constraints

Run Types: SDPQ, Final, Provisional. 22/03/2007 Period 6 -> 18/09/2007 Period 41

This page refreshes automatically every 2 minutes. Last refreshed at 07 November 2008 12:00:27

Trading Date	Period	Type	Run Time	Flag	Group Branch Name	Limit (MW)	Solution (MW)	% Binding	History	Outage schedule	Concurrent Outages
07/04/2007	37	Final	19/06/2007 12:09:04	B	STK_T7.T7	50.000	-49.125	98.25	History	schedule	outages
07/04/2007	39	Final	19/06/2007 12:09:04	B	STK_T7.T7	50.000	-50.000	100.00	History	schedule	outages
07/04/2007	40	Final	19/06/2007 12:09:04	B	STK_T7.T7	50.000	-48.819	97.64	History	schedule	outages
07/04/2007	41	Final	19/06/2007 12:09:04	B	STK_T7.T7	50.000	-48.845	97.69	History	schedule	outages
08/08/2007	32	SDPQ	08/08/2007 15:40:12	G	DCSA_BenP1Aout	0.250	0.250	100.00	History	schedule	outages
08/08/2007	32	SDPQ	08/08/2007 15:40:12	G	DCSA_HayP1Aout	0.250	0.250	100.00	History	schedule	outages
08/08/2007	34	SDPQ	08/08/2007 16:40:14	G	DCSA_BenP1Aout	0.250	0.250	100.00	History	schedule	outages

History of outage/override schedule

Constraints in force at the same time as a specific outage/override

3. Outages and Overrides (4 of 4)

TEST

COMIT Time: 07 Nov 2008 08:54:21

Transpower Connectivity: Link to Transpower is not available

Trader Prices Market Data Aggregates Applications News Links User Admin Help M-co Admin PM/SC Admin Clearing

comit
0800 4COMIT

NEW Receive real time pricing alerts on the new look COMIT IDE

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Outages and Overrides

Can specify Lines, Transformers and Circuit Breakers

Search Criteria

Component ID

Type

Include Outages

Include Overrides

Run Date Run Time

Show Current Outages

Start Date Start Time

End Date End Time

Search

Either show current outages or enter date range

Please select criteria on the left

Questions?

TRANSPower 

SYSTEM OPERATOR

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