

# POCP update

## Planned Outage Coordination Protocol

SO Workshop - November 2008  
Hasmita Chhima

# Agenda

- Background on the NZ Generation Balance tool (NZGB).
- Demonstrate New Zealand Generation Balance tool functionality.
- Planned Outage Coordination Protocol (POCP) review.
- Summary.

# POCP background

Central source of information about planned outages of generation and transmission.

POCP allows the following:

- Generators, Grid Owner and the System Operator to inform each other of planned outages.
- System Operator to study the impact of generation outages on system security and concurrent grid outages.
- System Operator to post assessments of particular outages as required.

Entering of information into POCP is voluntary.

The POCP Website is: <http://pocp.redspider.co.nz>

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# Development of a generation balance tool

- Generation is becoming increasingly strained.
- System Operator identified the need for a tool to provide a 'heads up' of when there could be insufficient generation available to meet NI demand and reserve requirements.
- An EXCEL based tool was developed.
- A web based tool was required, which led to the development of the NZEB (New Zealand Energy Balance) tool.

# Objectives of the NZGB tool

- Communicate to industry participants of any potential North Island energy shortfalls over the next 200 days.
- Provide industry participants with a means of assessing the potential impact of their planned outages on the North Island generation balance.
- To enable industry participants to select optimum outage periods which least impact on the North Island generation balance.

# Generation balance tool –Data inputs

The Generation Balance calculation:

NI available generation – (Load estimate + Reserves + Restocking Reserves)

= Generation balance after restocking reserves

The Generation Balance tool uses the following raw data:

- The North Island and South Island daily peak AM and PM metered generation (MW). By using these values system losses are included in the estimated load calculation.
- The equivalent HVDC transfer (MW).
- The generation and transmission outages posted in POCP.

# Load estimate

- The North Island and South Island values are corrected to take account of HVDC transfer between the islands. i.e. NI+HVDC transfer, SI – HVDC transfer.
- The highest AM and PM values for the previous month 1 year ago are calculated for weekday AM and PM, Saturday and Sunday.
- A load growth of 2.0% is added.

Because we are interested in the worst case:

- Assume the worst case load in each island.
- Use the peak value and apply this to the entire month.

# Generation balance website

The Generation Balance tool is available at the following website:

- <http://nzeb.redspider.co.nz/>
- Login: \*\*\*\*
- Password: \*\*\*\*
- Will send login details upon request.

# Energy balance spreadsheet

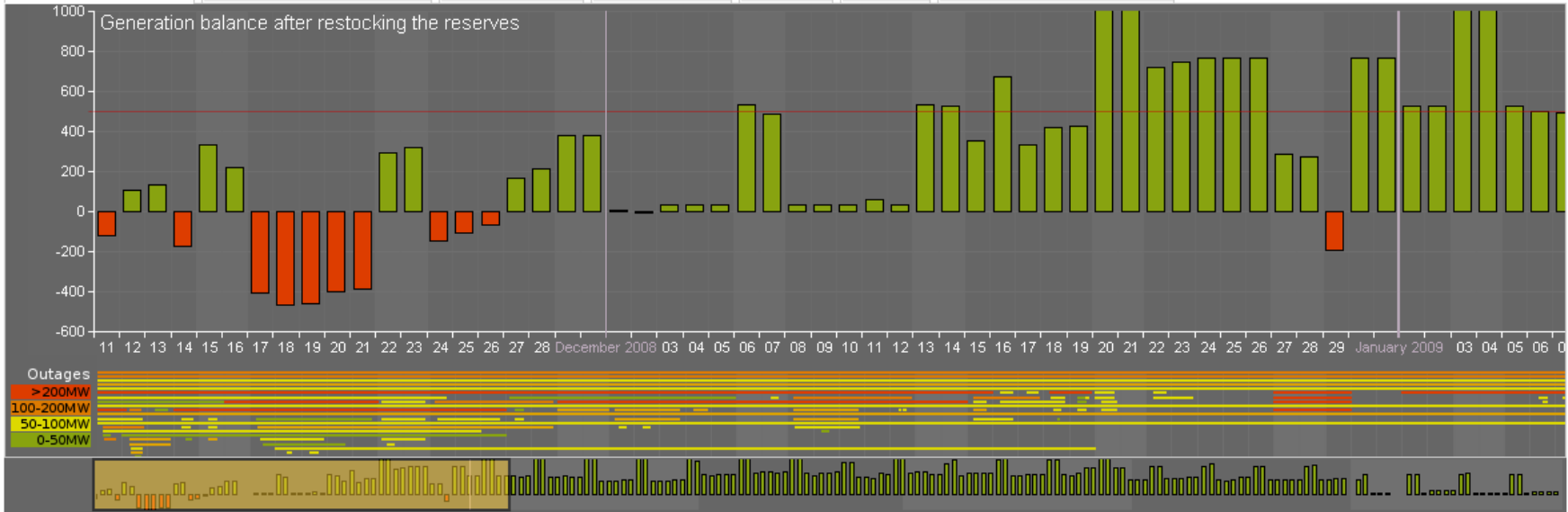
Date and peak		SI Load Estimate	Available SI Generation	South Island Reserves	Available SI Generation for NI	HVDC Capacity	Estimated Energy Transfer South F = IF (D>E+50, E, D-50)	NI Load Estimate	Available NI Generation
		MW A	MW B	MW C	MW D = B-(A+C)	MW E	MW F	MW G	MW H
Saturday, 20 September 2008	AM	1919	3305	195	1191	649	1141	3522	4723
Saturday, 20 September 2008	PM	1966	3305	195	1144	649	1094	3871	4723
Sunday, 21 September 2008	AM	1806	3305	195	1304	649	1254	3361	4723
Sunday, 21 September 2008	PM	2026	3305	195	1084	649	1034	4075	4723
Monday, 22 September 2008	AM	2318	3009	195	496	649	446	4413	4588
Monday, 22 September 2008	PM	2295	3009	195	519	649	469	4514	4646
Tuesday, 23 September 2008	AM	2318	2861	195	348	649	298	4413	4570
Tuesday, 23 September 2008	PM	2295	2861	195	371	649	321	4514	4570
Wednesday, 24 September 2008	AM	2318	2861	195	348	649	298	4413	4588
Wednesday, 24 September 2008	PM	2295	2853	195	363	649	313	4514	4588
Thursday, 25 September 2008	AM	2318	2969	195	456	649	406	4413	4562
Thursday, 25 September 2008	PM	2295	2960	195	470	649	420	4514	4562
Friday, 26 September 2008	AM	2318	3149	195	636	649	586	4413	4588
Friday, 26 September 2008	PM	2295	3149	195	659	649	609	4514	4588
Saturday, 27 September 2008	AM	1919	3239	195	1125	649	1075	3522	4623
Saturday, 27 September 2008	PM	1965	3239	195	1079	649	1029	3870	4623
Sunday, 28 September 2008	AM	1806	3239	195	1238	649	1188	3361	4590
Sunday, 28 September 2008	PM	2025	3239	195	1019	649	969	4074	4590
Monday, 29 September 2008	AM	2318	3231	195	718	649	668	4413	4577
Monday, 29 September 2008	PM	2295	3231	195	741	649	691	4514	4577
Tuesday, 30 September 2008	AM	2318	3231	195	718	649	668	4413	4523
Tuesday, 30 September 2008	PM	2295	3231	195	741	649	691	4514	4523
Wednesday, 1 October 2008	AM	2208	3231	195	828	649	778	4096	4505
Wednesday, 1 October 2008	PM	2039	3231	195	997	649	947	3910	4478
Thursday, 2 October 2008	AM	2208	3214	195	811	649	761	4096	4533
Thursday, 2 October 2008	PM	2039	3214	195	980	649	930	3910	4533

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## Dashboard

[Generation balance](#)
[Generation balance N-1](#)
[NI Generation](#)
[SI Generation](#)
[NI Load](#)
[SI Load](#)
[Available HVDC Transfer](#)



### Administrator comments

No current comments from Administrator

### Alerts

**39572 : OTC**  
957 - OTC 25/10 - 15/12  
 Otahuhu CC (OTC) outage imposes significant reduction in generation  
 Loss: 365.0MW

### Circuit constraints

**47946 : ABY\_TIM\_1**  
2647909 27/11 - 27/11  
 Circuit outage reduces TKB maximum output to 0MW

**47945 : ABY\_TKA\_1**

### Watchlist

**49218 : TKB3**  
47454 - TKB3 12/11 - 12/11  
 continuous outage.  
 12/11 09:00 - 12/11 18:00  
 Status: Confirmed  
 Loss: 80.0MW

# Status of Generation Balance tool

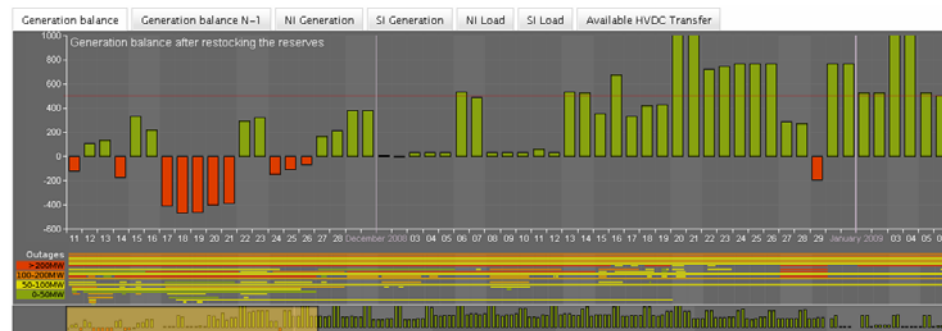
- Beta testing phase
- We wish to work with a group of volunteers on the next stage
  - Improved functionality
  - Additional information
- Access to tool
  - Email [Hasmita.Chhima@Transpower.co.nz](mailto:Hasmita.Chhima@Transpower.co.nz) for login details
  - Try it out and send us your feedback

# POCP review

- Regular review of POCP
  - Look for process improvements.
  - Generation balance.
- Some areas for consideration.
  - Outage planning for conflicting generation and HVDC outages.
  - Transmission outage protocol.
  - Encouraging POCP users
    - to avoid entering overlapping outages of the same generator.
    - to use consistent MW lost values for their generators
- Looking for nominations to a small group to agree a scope for the POCP review. Please email [System.Operator@transpower.co.nz](mailto:System.Operator@transpower.co.nz)

# Summary

- Further development and feedback
- NZGB
  - Automates existing process
  - Contact [Hasmita.Chhima@transpower.co.nz](mailto:Hasmita.Chhima@transpower.co.nz)
- POCP review
  - Contact [System.Operator@transpower.co.nz](mailto:System.Operator@transpower.co.nz)



# Questions?

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