Minutes from SFT Customer Workshop – 11 Dec 2009

Transpower Wellington office 9-12noon

Present:

Industry: Tristan Maunsell; Ashley Wall; James Denham; Michael Binney; Evan Boyt; James Collinson-Smith; Boyd Brinsdon; Tuong Nguyen; Greg Salmon; Trevor Lapham; David Godfrey; Ashley Milkop; Teng Ang; Andrew Anderson

Transpower: Lynette Bell; Ray Hardy; Barry Norris; Chris Callaghan; Kieran Devine; Dan Twigg; Natalie Bartos; Barry Orme; John Campbell

Apologies: Fiona Abbott; Jon Spiller; Charles Teichert; Zane Doran

1. Introduction

Kieran Devine welcomed participants

2. SFT Demonstration – Chris Callaghan and Lynette Bell

Chris presented his slides (ref SO web site) and Lynette supported by SFT demonstration

The following questions and actions arose

	Item	**Action / response**	**who**
1	With regard to the number of iterations between SPD and SFT, how does the convergence check account for multiple solutions in SPD? When there are multiple solutions, how will you know when the solutions have converged?	TP to provide detail on how SFT deals with multiple solutions, infeasible solutions and high spring washer situations. *Proposed to provide the detail on a FAQ sheet at the same time as publication of the flowcharts handed out at the workshop*.	**Fiona A**
2	What is the process when SFT fails? There was a discussion about AC and DC solves.	TP to clarify process and advise when a DC solution will be run *Proposed to provide the detail on a FAQ sheet at the same time as publication of the flowcharts handed out at the workshop*.	**Fiona A**
3	Has TP done any benchmarking to compare the differences between AC and DC solves? AC solves may be overkill, especially when there are known inaccuracies with the inputs anyway	Ongoing testing of SFT in 2010 will investigate. AC solve is required for SFT check in any case – no further tracking required	**closed**

	Item	Action / response	who
4	It may be useful to have a lower threshold for near binding constraints (i.e. lower than 85%), especially for schedules further out from real time such as the WDS. Early WDS generation schedules can vary materially from real time, so this proposal may be useful	During MSP development TP did consider this proposal. However, doing so may result in un-meaningful constraints being applied to the schedule. The lowering of the threshold from 95% to 85% was intended to allow and represent this variation. The constraint threshold is able to be changed to a lower limit with only a minor Policy Statement change. The industry may request such change if the level is too high or too low for its purposes. *Proposed to include this detail on a FAQ sheet*	**Closed**
5	With respect to the SFT naming convention is there going to be information available on the contingency definitions?	TP to publish conventions *Proposed to provide the detail on a FAQ sheet at the same time as publication of the flowcharts handed out at the workshop*. Additional discussion may be initiated with Lynette Bell if more information is required.	**Fiona A**
6	Does SFT consider generator contingencies? Generator contingencies can alter the powerflow just as much as transmission contingencies.	TP response: SFT does not calculate constraints for generator contingencies. If necessary, we would apply a manual constraint to manage the effects of a generator outage. Normally, we schedule reserves to handle generator contingencies. In future, we could also run a manual SDPQ to capture any powerflow changes following a generator contingency (this would also create new constraints to manage the situation).	**Closed**
7	There seems to be variation in the development of constraint RHS. Is the RHS always going to be linked to the rating of a branch?	**TP to publish description on the way constraints are produced.** *Proposed to provide the detail on a FAQ sheet at the same time as publication of the flowcharts handed out at the workshop*.	**Fiona A**

	Item	Action / response	who
8	Will you still have outage constraints? There is a concern that we won't be able to tell the difference between an outage constraint and a permanent constraint. Further, for outage constraints, there will be no way to know what outages have been taken into account when SFT builds the constraints.	Almost all constraints required to maintain thermal loading are expected to be calculated by SFT. There will be no indication whether these are permanents or outage. The constraints are calculated based on the network provided at the time the schedule is run. Stability constraints will still be manual. Refer to item 24 for ongoing action.	**Closed**
9	Is one iteration loop between SPD and SFT enough, especially in the case of energy shortfall scenarios or when the grid is stressed? Would there not be benefits to run more than one iteration?	TP is testing in 2010, but initial indications suggest one iteration is sufficient. A specific schedule (say 11:30 SDPQ) uses the constraints applied to the 11:00 SDPQ as tuning constraints for the first SPD solution (for each trading period). These are then replaced when SFT reruns for the next SPD iteration.	**Closed**
10	How does SFT handle high spring washer situations? Would it not be better to relax high spring washers in real time rather than wait for final pricing?	TP comment – the methodology for resolving high spring washers is a matter for the rules. Transpower is willing to engage with the industry on any such changes but this is outside the scope of this project.	**Closed**

3. Parallel Operations Planning – Ray Hardy

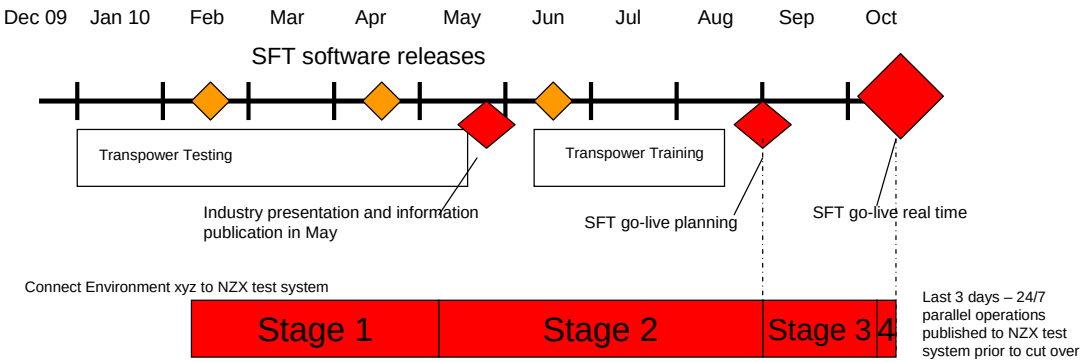
Ray presented his slides (ref SO web site) and there was discussion regarding the possible parallel operation of SFT prior to go live (October being current plan).

The high level plan shown below was acknowledged, though this plan is subject to change and to development arising from the matters raised below (see table below).

Key points noted were:

- plan proposes two major parallel operation activities
- first involves connecting a test system to the NZX test system from early next year. The plan for synchronising data between the test and production systems will be determined when operational testing has commenced.
- second involves selecting and running some pre determined scenarios in the existing and the SFT test environment and providing industry with the results.

Plan



Stage	1) Industry learning	2) Targeted scenarios at agreed times	3) Pre go live
Transpower "watering"	Automatic	Operator enter scenarios - communicates	8/5 parallel ops
Offers	Production	Production with overrides / scenarios	Production
Load Forecast	Production load forecast / bids	Production load forecast / bids	Production load forecast / bids
Outages and manual constraints	In synch 2 hours per day? Or automate???	In synch 2 hours per day? Or automate??? Make predetermined changes	In synch 8/5
Constraints	SFT in go live status (SDPQ, SDS, WDS)		
Grid	Production		

The following tabulated questions and actions arose

	Item	Action / response	
11	With regard to running 2 systems in parallel, why can't you just copy all inputs (automatically) between the 2 systems?	TP response: Most inputs in the planning timeframe will be the same. The inputs that are likely to change are those within 2 hours out. Largely, these require manual or coordinator input in the live system, of which the test system is an exact replica. Therefore, there will be some manual intervention required for the test system update as well.	**Closed**
12	Comparison between parallel systems. Reporting is required.	TP to consider reporting between the parallel systems and discuss approach with industry. *TP will put together a level proposal in the New Year as to how this will be achieved and seek comment from the members of this forum.*	**Fiona A**
13	Generally parallel ops during MSP was useful more from a testing / IT perspective (i.e. end to end testing) rather than checking that the outputs were aligned between the 2 systems.	TP's hope is the industry will make use of the information it is going to provide. We would like a commitment from the industry that if we develop systems to provide useful information that it will be used. We will be seeking feedback throughout this process to ensure we have done what we are practically able to do for this to occur.	**Closed**
14	Scenarios – what will be selected? Can special high profile scenarios be tested? Can we select events after the fact?	TP to consider scenario testing approach and circulate. We should be able to run scenarios with and without SFT and report the differences (perhaps in csv format). *TP will put together a level proposal in the New Year as to how this will be achieved and seek comment from the members of this forum.*	**Fiona A**
		Participants to notify Fiona Abbott of events / scenarios to test, noting that they should be events that occurred **after** 21 July 2009 (being the implementation date for the new Market System)	**Industry**
15	Using a portal or industry play pen for testing SFT was not a preferred option for this testing. A preferable		**Closed**

	Item	Action / response	
	approach is to have offline scenario testing in a workshop environment with agreed scenarios		
16	Using a training simulator as a training device was not a preferred option		**Closed**
17	Would like to see a history of SFT constraints before go-live. While SFT will be turned on 6 weeks before go-live, 6 weeks is not long enough, especially as you may need to wait a year for a particular outage (and therefore an associated constraint) to occur.	TP response: We do not have a year's worth of SFT constraint data. We have yet to work through the internal transition and welcome discussions closer to the time if information is produced that is somehow not published or insufficient lead time exists to view the planning stages of SFT implementation.	**Closed**
18	Question for participants; in relation to the amount of time the 2 systems are in synch (in particular phase 1), how long do you need? Is 2 hours enough	Response: The key thing to know is <u>when</u> the 2 hours is going to be. Ideally, the 2 hours would cover periods of system stress such as the morning and evening peaks. 2 hours is practical, as it gives traders a specific period to focus on the 2 systems. Any longer may be impractical. Generally, participants are comfortable with the proposed straw man option for testing. *Will be provided as part of initial proposal.*	**Fiona A**
19	Is it possible to regularly copy or refresh the databases between the 2 systems? This may help eliminate any problems with inputs being out of synch - Database refreshes are likely to be no more frequently than once a week	No further action – once a week will not help	**Closed**
20	Is there any feedback from how testing went during MSP? Are there any lessons we can learn from for SFT testing?	General discussion – the test/paralleling activities should be a lot easier this time – no further action	**Closed**
21	Do we need to formally schedule a phase for end-to-end testing? Not required due to fact that SFT will use existing offers and bids and that part of process is already fully operational.	– no further action	**Closed**
22	The testing should focus on the outputs and making sure they can be delivered to participants to test. The inputs into the system aren't changing (unlike MSP)	Action – NZX and TP to agree timeframe for providing test system and participant systems can be set up to read the constraint information. *Will be provided as part of initial proposal. Will be based on the assumption that the WDS, SDS, PDS, and the SDPQ (half-hourly and ad-hoc) will be the schedules from which the comparison will be made given SFT will not be run in RTD and data comparison*	**Fiona A**

	Item	Action / response	
		will not be possible.	
23	What do participants think about the constraint names in their current form? The following bullet points summarise the responses: - Where possible, simpler is better. The names in their current form take up a lot of real estate on the screen. - It is more important to have consistent constraint names across all systems (and users) to avoid confusion - As long as participants understand the naming convention, the names in the current form should be ok - The long constraint names may be required for uniqueness and may also be essential to TP (when doing studies etc).	Action: TP to investigate whether it is possible to simplify the constraint names. Transpower needs all components of the constraint names for operational reasons. We are not sure what the cost and effect would be to truncate the name (e.g. loss of uniqueness and project delays). As such, we would prefer to focus on educating the industry about the naming convention in the first instance. If the name continues to be an issue after we have published the constraint meanings then we will review the issue again as part of a separate project.	**Closed**
24	Do we need to consider linkages between outages and constraints?	Action: TP to consider and investigate how best to provide linkages between outages and constraints TP Response: SFT builds constraints based on the entire network topology that will potentially include a number of outages. It does not and cannot be changed to be single outage specific. Therefore, the solution to this issue needs to be considered separately from the SFT implementation acknowledging it is an important issue to resolve. Participants are requested to call Lynette Bell in the first instance to discuss further (Ph 04 819 7612 or 021 244 7307)	**Industry/ LynetteB**

4 Close

5 Post meeting questions

	Item	Action / response	
25	I would be keen if we normalized the constraints on the RHS. i.e. that the RHS related to either the rating or the 15min offload capability of the line. This would give the constraints more meaning.	The SFT constraints are an automation of the existing process. The RHS represents the line capacity with 15 minute offload times.	**Closed**

	Item	Action / response	
26	It would be useful if the SFT solve was fixed about 2.5hrs out. This would allow trading to optimize their offers without the risk of constraint changes within the 2hr gate closure period.	Transpower will always have to put system security before this type of market consideration. Transpower is happy to discuss this further if the industry believes there are unnecessary constraint changes within two hours. The industry can raise this during the parallel running period.	**Closed**
27	Everyone would be very happy if you used this as opportunity to reduce the gate closure. How about getting it down to 1hr as a starting point.	Transpower is happy to discuss and work through the issues relating to gate closure. We sent a letter to the Electricity Commission to this effect several months ago. Whilst gate closure is an important industry issue, it needs to be dealt with outside the SFT project.	**Closed**