

Introduction to afternoon session

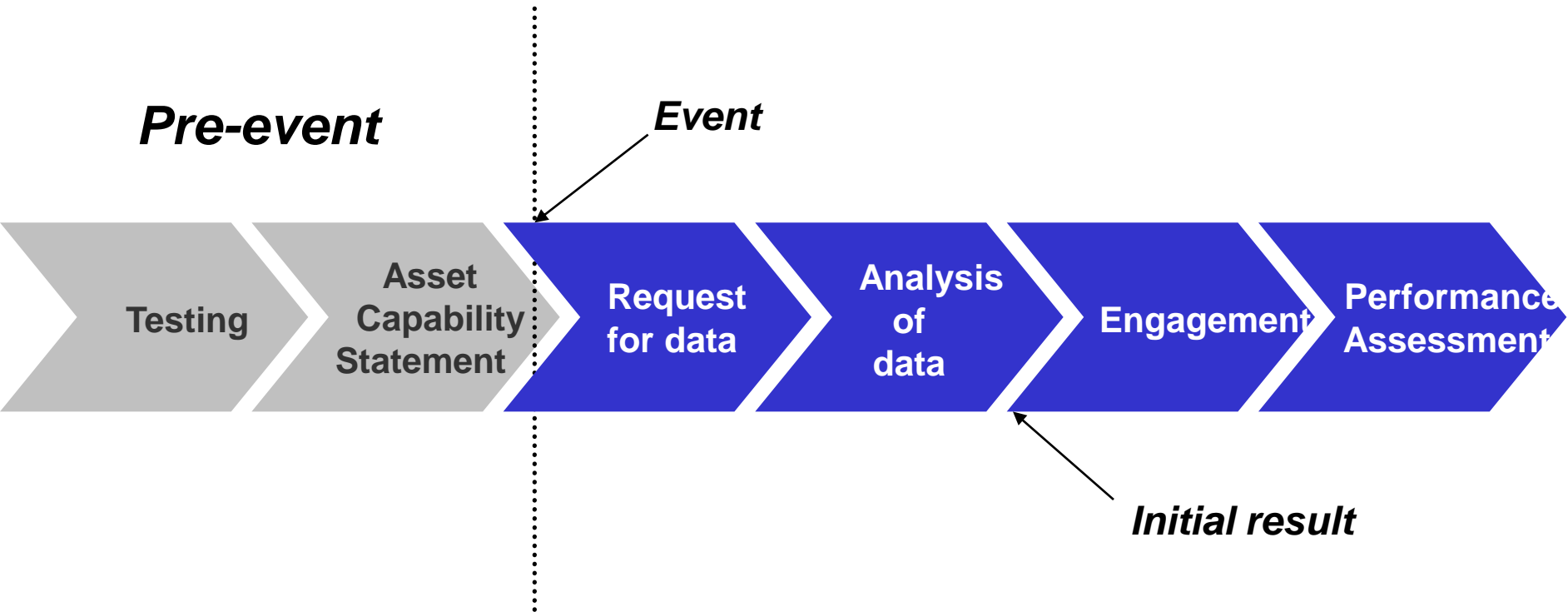
John Campbell

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Compliance timeline



Under Frequency Event Analysis

Vanessa Boocock

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Event Process

- Confirmation of event
- Request data
- Analyse

Two types of Reserve

Fast

Instantaneous Reserve

Sustained

Instantaneous Reserve

Partially Loaded
Spinning Reserve

Tail Water Depressed
Spinning Reserve

Interruptible Load

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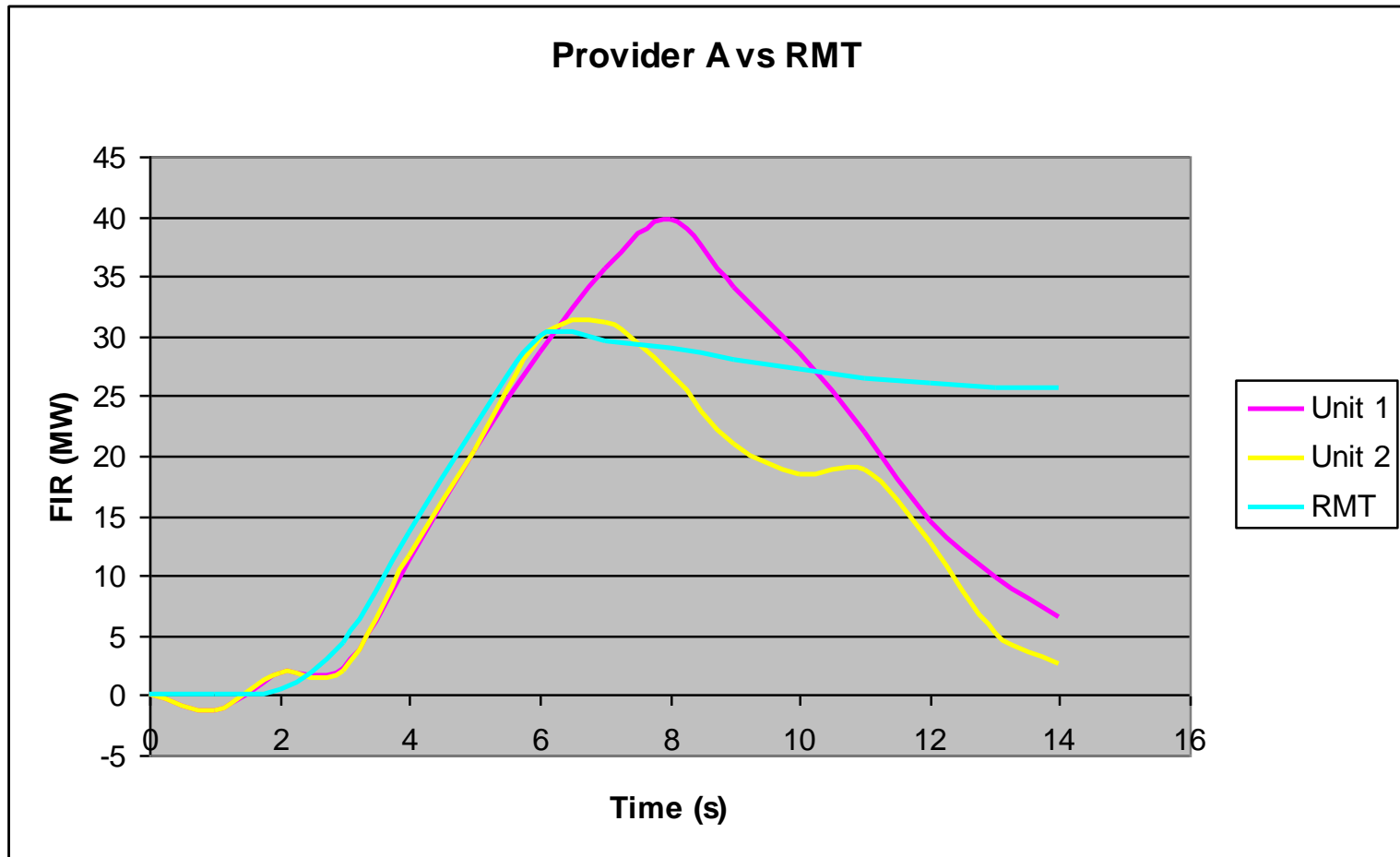
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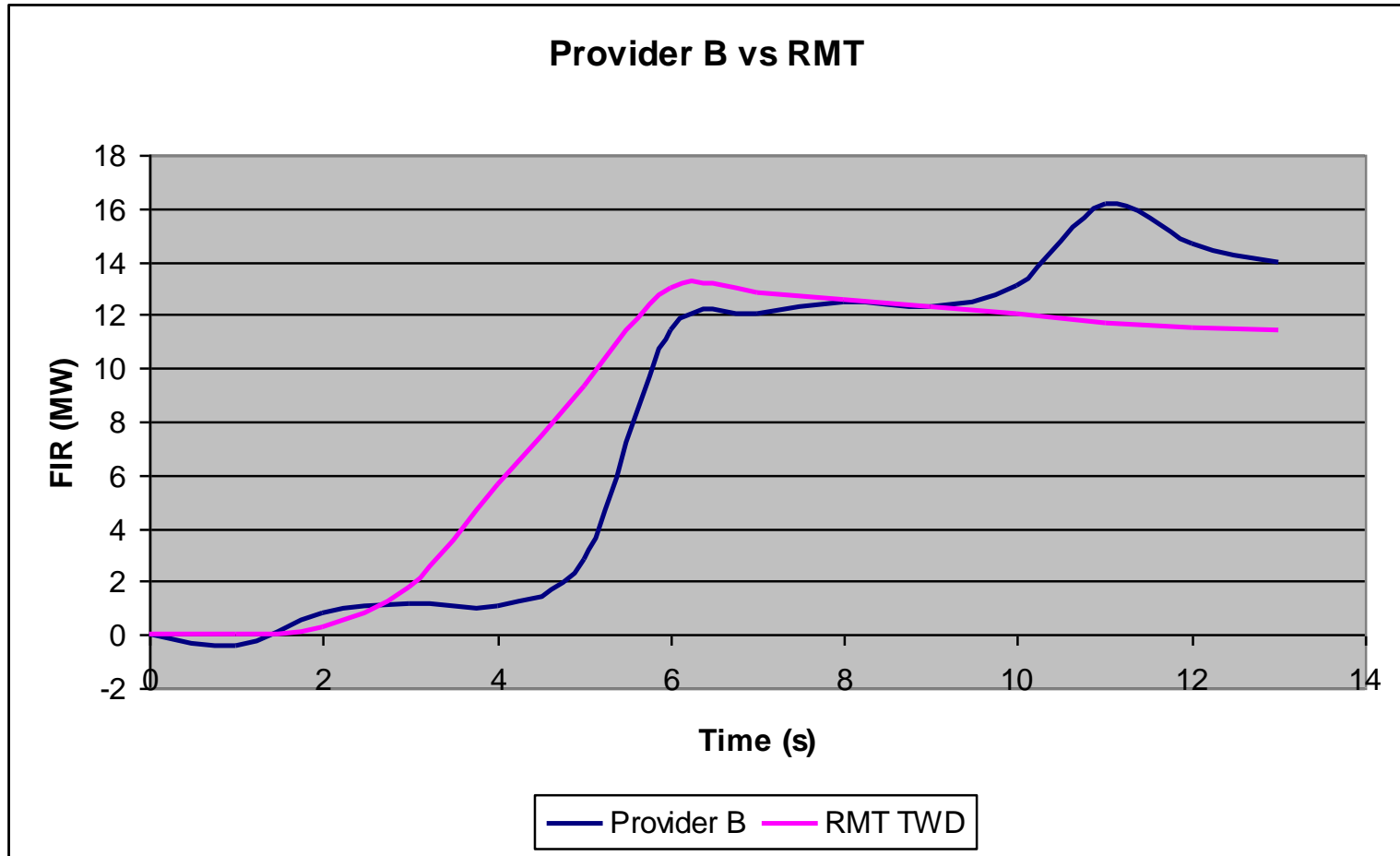
Spinning Reserve Assessment Methodology

- Procurement plan
- Pre-event output at several different times
- Modelled Response
- Actual Response

Actual vs. RMT



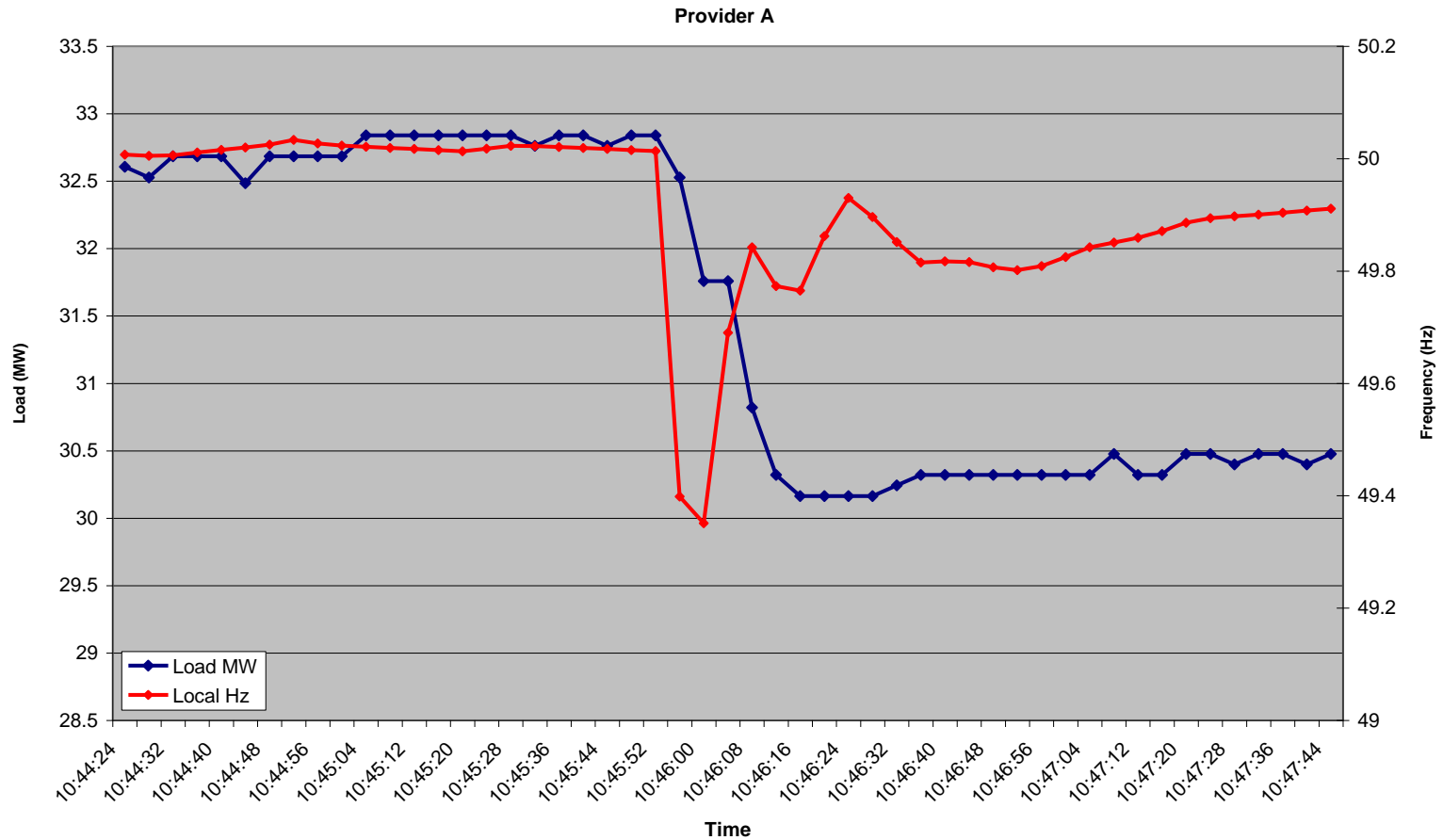
Actual vs. RMT



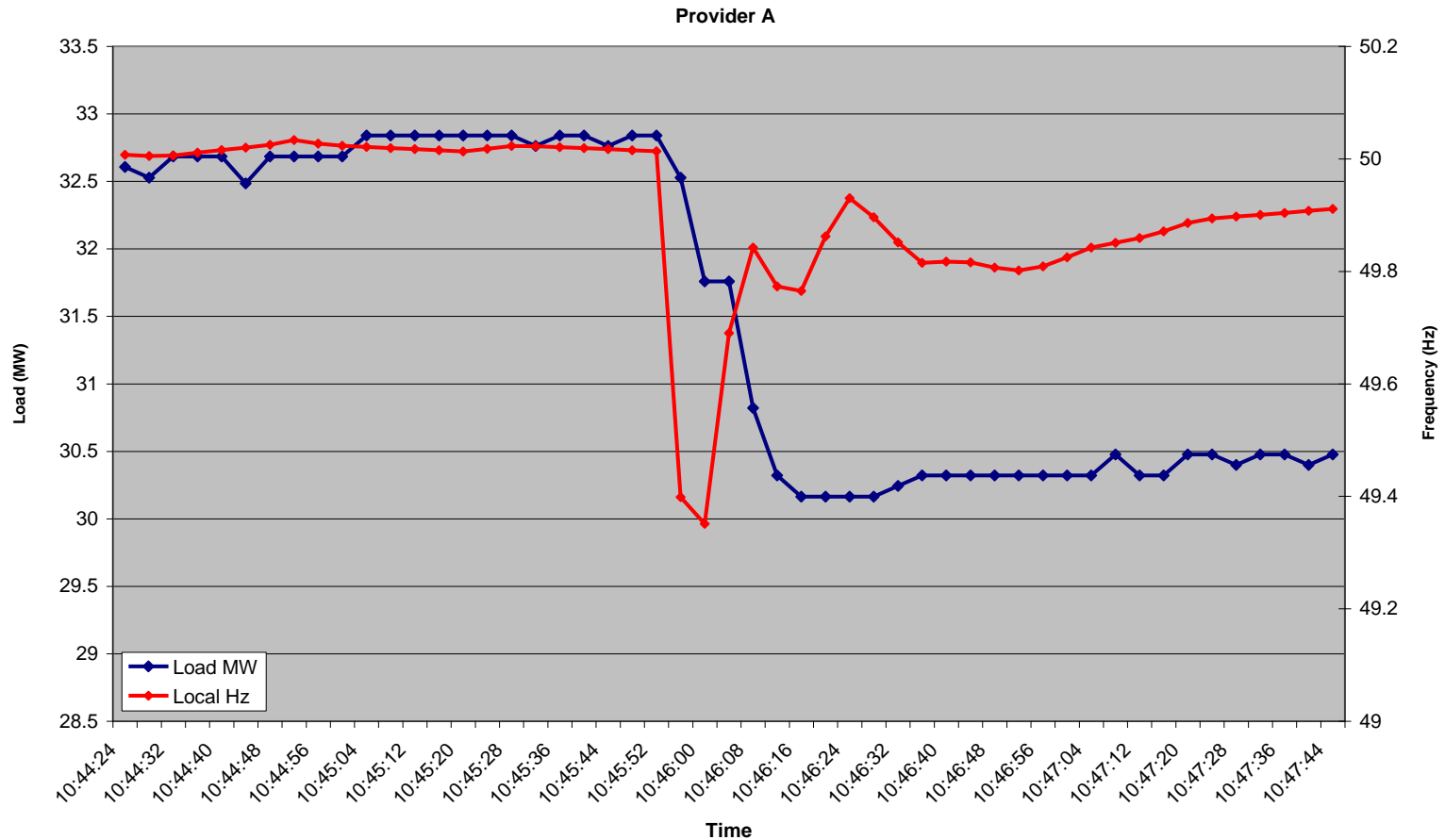
Interruptible Load Assessment Methodology

- Procurement plan
- Pre-event load at a steady state
- Fast Instantaneous Reserve
- Sustained Instantaneous Reserve

Fast Reserve



Sustained Reserve



Results

- Provide an initial analysis of performance
- Starting point for discussion

Measurement and Monitoring

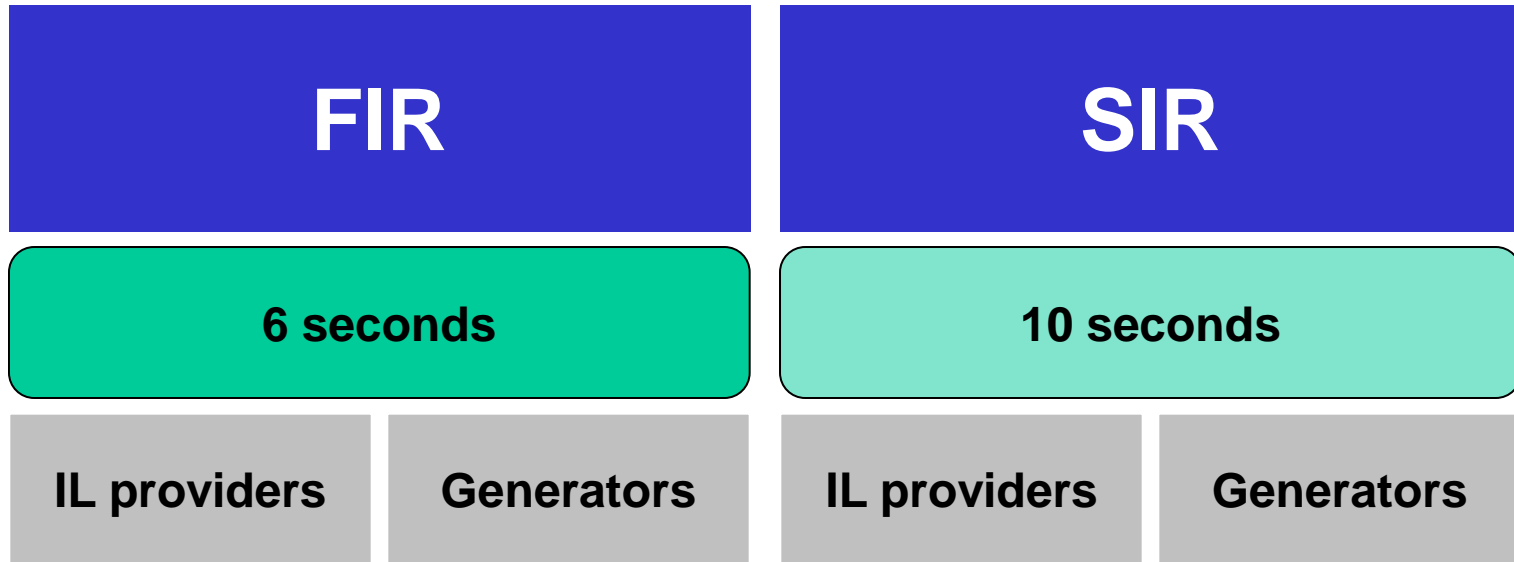
John Campbell

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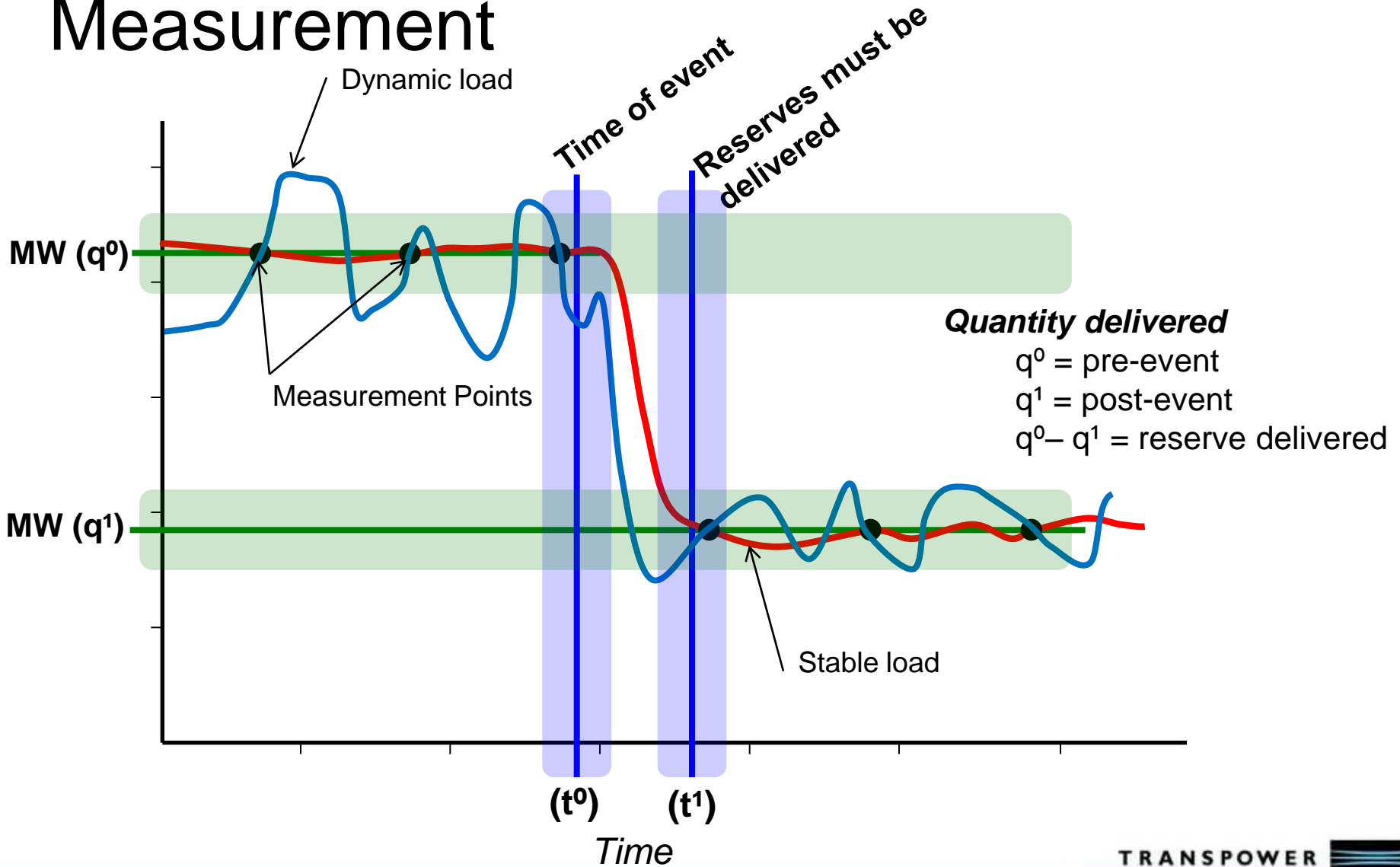
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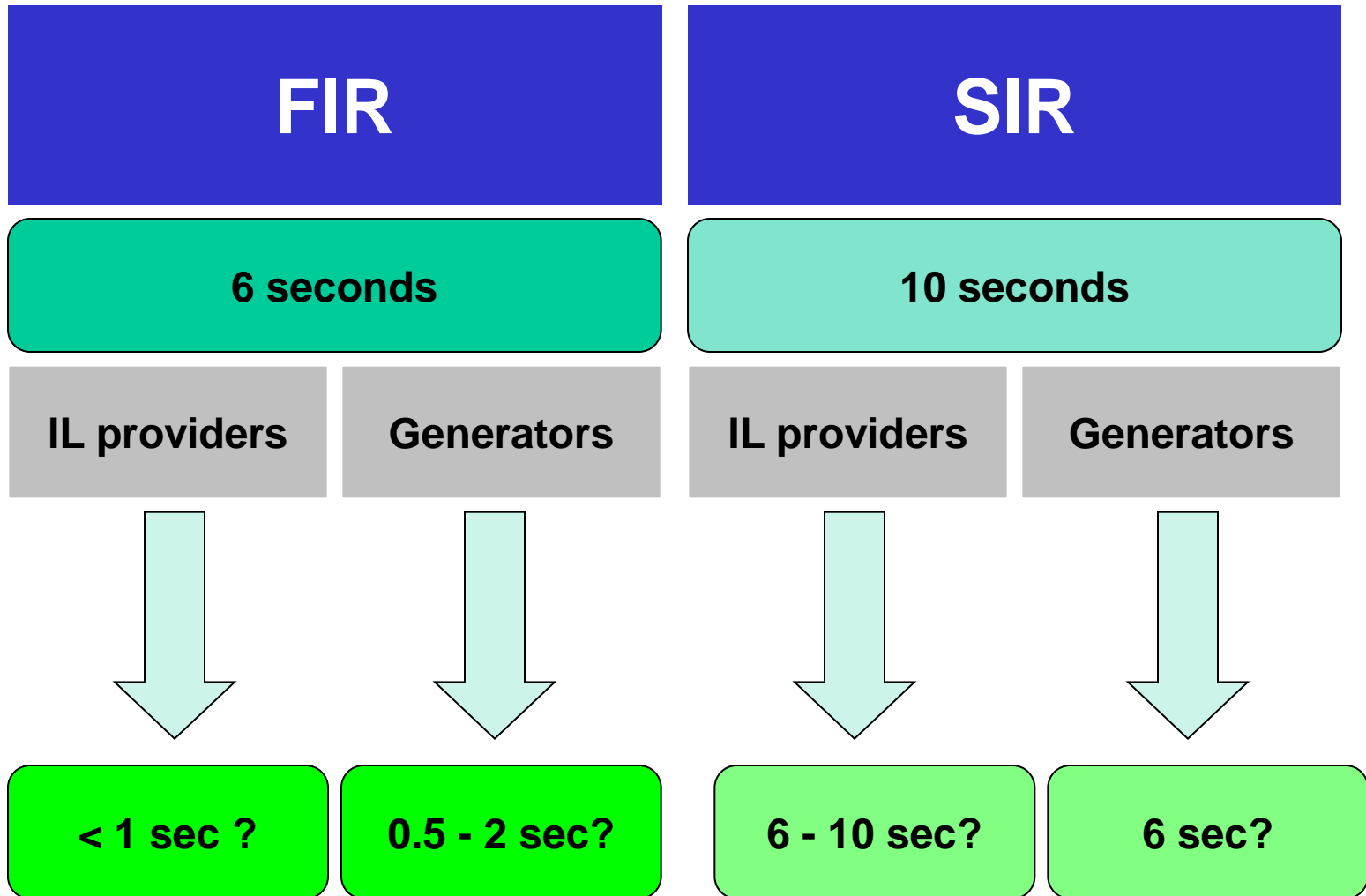
Measurement resolution



Measurement



Measurement resolution



Asset Owner Engagement and Performance Assessment

Nicki Lau Young

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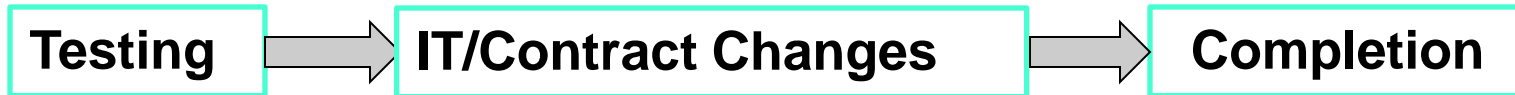
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What Have We Learnt?

- Asset Owner Engagement
- Technical Compliance vs Rules Compliance
- Performance Assessment

Asset Owner Engagement



Technical Compliance vs Rules Compliance

- Priority is system security
- Open discussions – technical and compliance
- Approach to compliance issues – avoiding duplication

Performance Standards

FIR - Unit vs Block

	Set Up	Offer	Dispatch	Delivery
Rules		<ul style="list-style-type: none"> Generating unit Reasonable estimate of quantity available at GIP 	<ul style="list-style-type: none"> Generating unit and block/station dispatch group 	<ul style="list-style-type: none"> Requirement to comply with dispatch instructions Allows provision on block/station dispatch basis (if consulted upon with SO)
Contract	<ul style="list-style-type: none"> Block/Station required to be specified in contract 	<ul style="list-style-type: none"> No reference 	<ul style="list-style-type: none"> No reference 	<ul style="list-style-type: none"> Delivered quantities required to be measured at: <ul style="list-style-type: none"> ➤ Unit/Block/Station or Load Source ➤ Thermal and hydro (where providing both TWD/PLSR) required to be measured at generating unit

Process for performance standard changes

- Issues:
 - alignment of block vs unit and TWD/PLSR issues;
 - data monitoring and measurement
- Target is Procurement Plan 2010 however changes can be proposed at any time
- Consultation during February/March
- Reflected in ancillary service contract commencing 1 December

New Developments - AUFLS

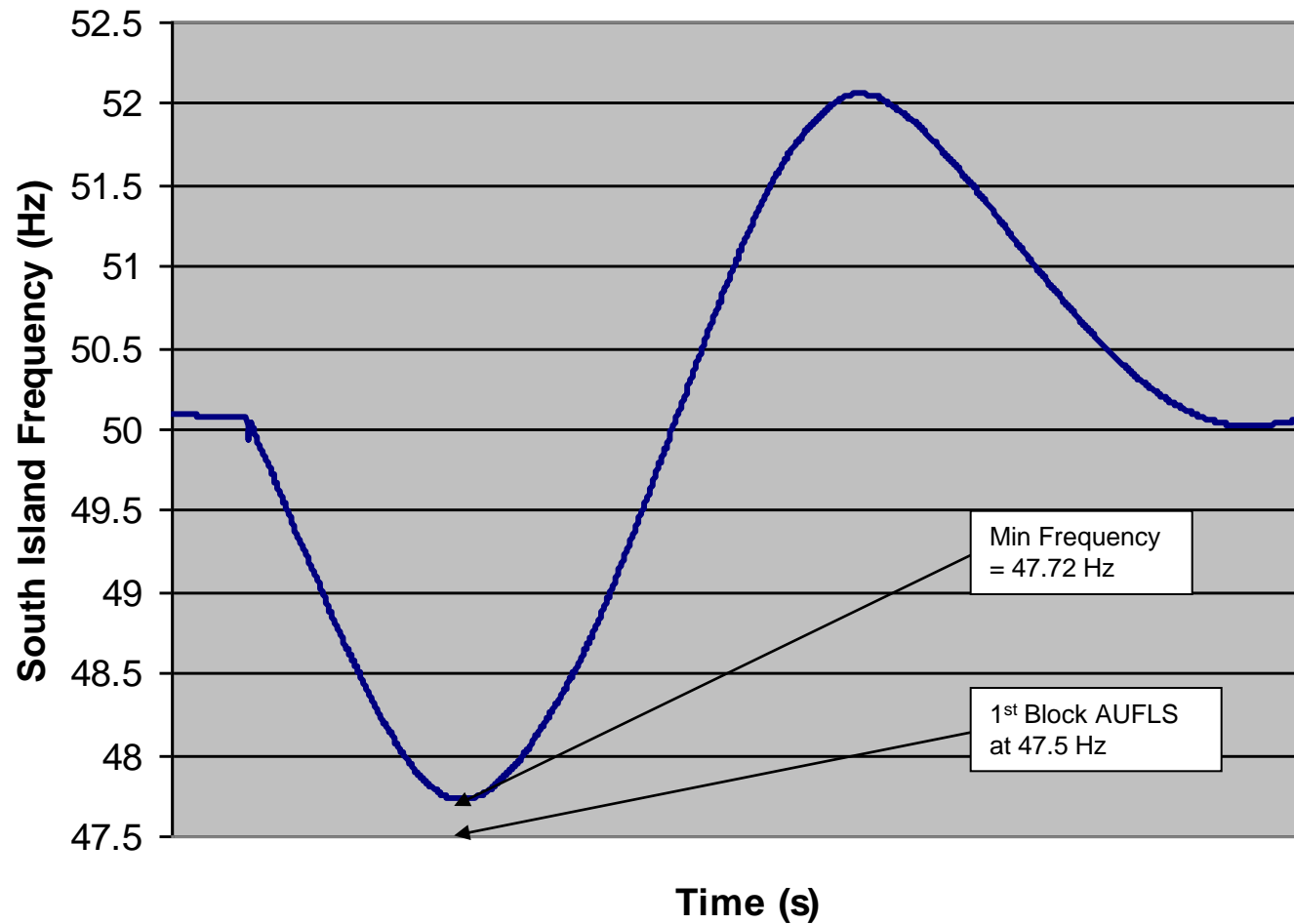
Natalie Bartos

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So close!



Brazil

UK

Nordel

South Africa

Australia

PJM

Ireland

UTCE

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Technical Review

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Economic & Policy Review

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Implementation Plan

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Asset Capability Statement (ACS) and Dispensation database

Vong Nyuk-Min

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Information

Asset Capability Statement (ACS)

and

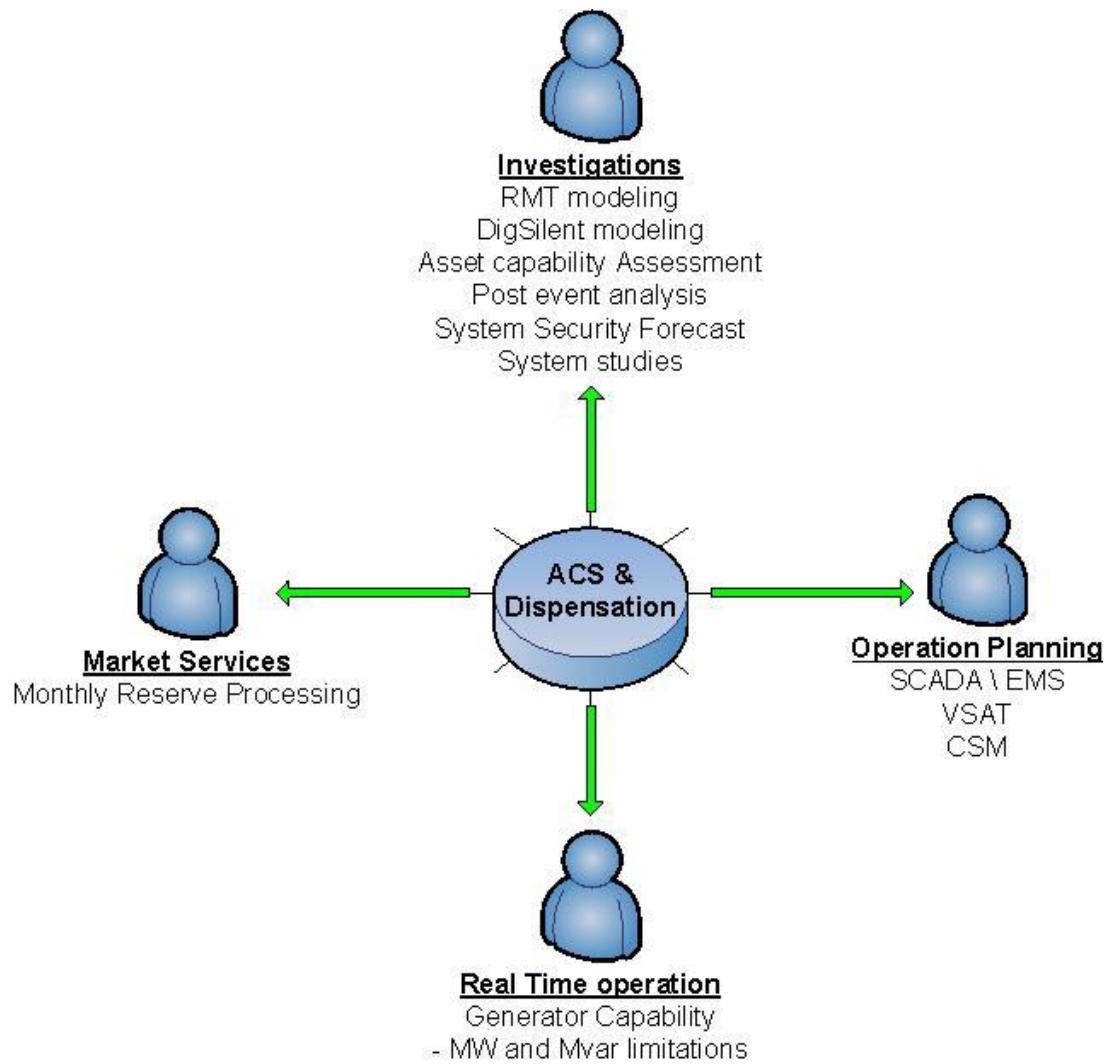
Dispensation Database

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ACS and Dispensation Database Users



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Old Excel format ACS database

- Tracking of changes in ACS data can be difficult
- Managing storage and linking of supporting documentation
- Tracking communications between SO and AO
- No “one stop shop” for data referencing
- No link to dispensations for a given station or unit

New format ACS – on-lined since January 2009

Dashboard - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://acs.redspider.co.nz/dashboard

nyuk-minvong.vong@transpower.co.nz

ACS

Dashboard Account Dispensations Useful links Help Logout

Search

Asset owner * Any

Station(s)

Fuel source * Any

Status Any

Type * Any

Region * Any

ACS Stage Any

Search

Separate multiple stations with a comma

Watchlist

Recent changes to your watched stations are shown here. To watch a station, click the grey star next to the name.

Recently published

★ AAA - test	22/10/09 15:57
Currently on final with last acceptance on 2009-07-07 09:08:22.	View
★ HLY - Huntly	20/10/09 08:13
Currently on final	View
★ MGR - Mangorei	9/10/09 14:28
Currently on final	View
★ MTK - Motukawa	7/10/09 14:15
Currently on final	View
★ PTA - Patea	7/10/09 10:43
Currently on final	View

Recent responses

★ NGA - Ngawha	TopEnergy 27/10/09 11:52
Hi protection settings are on the grid interface side of transpower can you plea..	View
★ NGA - Ngawha	TopEnergy 27/10/09 11:48
Hi can you please provide the data for disconnector KOE1176, cheers Les..	View
★ NGA - Ngawha	TopEnergy 27/10/09 11:44
Hi can you please provide the data for the transpower breaker KOE1172, cheers Le..	View
★ NGA - Ngawha	TopEnergy 27/10/09 09:29
Hi We have a manufactures (Brush) figure of H = 0.96 KWsec/KVA for the inertia c..	View
AAA - test	18/09/09 11:29
testing view attachment rights in excel export..	View

Done Internet

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New Web Based Dispensation Database – will be released by first quarter 2010

http://dispensations.redspider.co.nz/dispensations - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address http://dispensations.redspider.co.nz/dispensations Go Links

DISPENSATIONS

Hello Test PIC user | [Settings](#) | [Logout](#)
Last Login: Never

DASHBOARD DISPENSATIONS USERS HELP

DISPENSATIONS

MENU

- Applications
- Dispensations

DISPENSATIONS

ID	Asset Owner	Station	Machine(s)	Rule	Status
2000	Meridian Energy	Te Apiti	All Units	Part C, Section III, Rule 2.1 - Contribution by injections to overall frequency management	Granted
2001	Meridian Energy	Te Apiti	All Units	Part C, Section III, Rule 3.2.1 - Exporting net reactive power at full load	Granted
2002	Meridian Energy	Te Apiti	All Units	Part C, Schedule C3, Technical Code A, Rule 5.1.3 - Generating unit has a speed governor	Granted
2003	Meridian Energy	Te Apiti	All Units	Part C, Schedule C3, Technical Code A, Rule 5.1.3.2 - Has adjustable droop	Granted
2004	Meridian Energy	Te Apiti	All Units	Part C, Schedule C3, Technical Code C, Rule 4.1 - Minimum required indications and measurements	Granted
2005	Genesis Power Ltd	Huntly	Unit 6	Part C, Section III, Rule 2.3.1 - Generators (contributions to frequency support in the case of under-frequency events)	Granted
2006	Meridian Energy	Tekapo A	All Units	Part C, Schedule C3, Technical Code C, Rule 4.1 - Minimum required indications and measurements	Granted
2007	Meridian Energy	Tekapo B	All Units	Part C, Schedule C3, Technical Code C, Rule 4.1 - Minimum required indications and measurements	Granted

Done Internet

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New Web Based Dispensation Database – will be released by first quarter 2010





DISPENSATIONS

Hello **Contact Energy** | [Settings](#) | [Logout](#)
Last Login: Never

[DASHBOARD](#) | [DISPENSATIONS](#) | [USERS](#) | [OWNER](#) | [HELP](#)

DASHBOARD

MENU

-  [Begin Application](#)
-  [Tasks](#)
-  [My Applications](#)
-  [My Dispensations](#)

ENTER APPLICATION

Station *

Machine *

Duration

Desired duration of any dispensation or equivalence arrangement being applied for. Leave blank for lifetime of asset

Egr Obligation *

Relevant Asset Owner performance obligation or technical code obligation in respect of which a dispensation or equivalence arrangement approval is sought.

Description *

Description or nature of non-compliance

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New Web Based Dispensation Database – will be released by first quarter 2010

DOCUMENT

DOCUMENT

- Application
- History
- Amend
- Withdraw

APPLICATION

ID

Created 10/12/2004 00:00
Last changed 10/12/2004 00:00
Status Withdrawn

Duration Lifetime of asset

Station

Machine all units

Obligation Part C, Section III, Rule 2.3.1 - Generators (contributions to frequency support in the case of under-frequency events)

Description Insufficient frequency support capability on.

Equivalence arrangements n/a

Initiated by

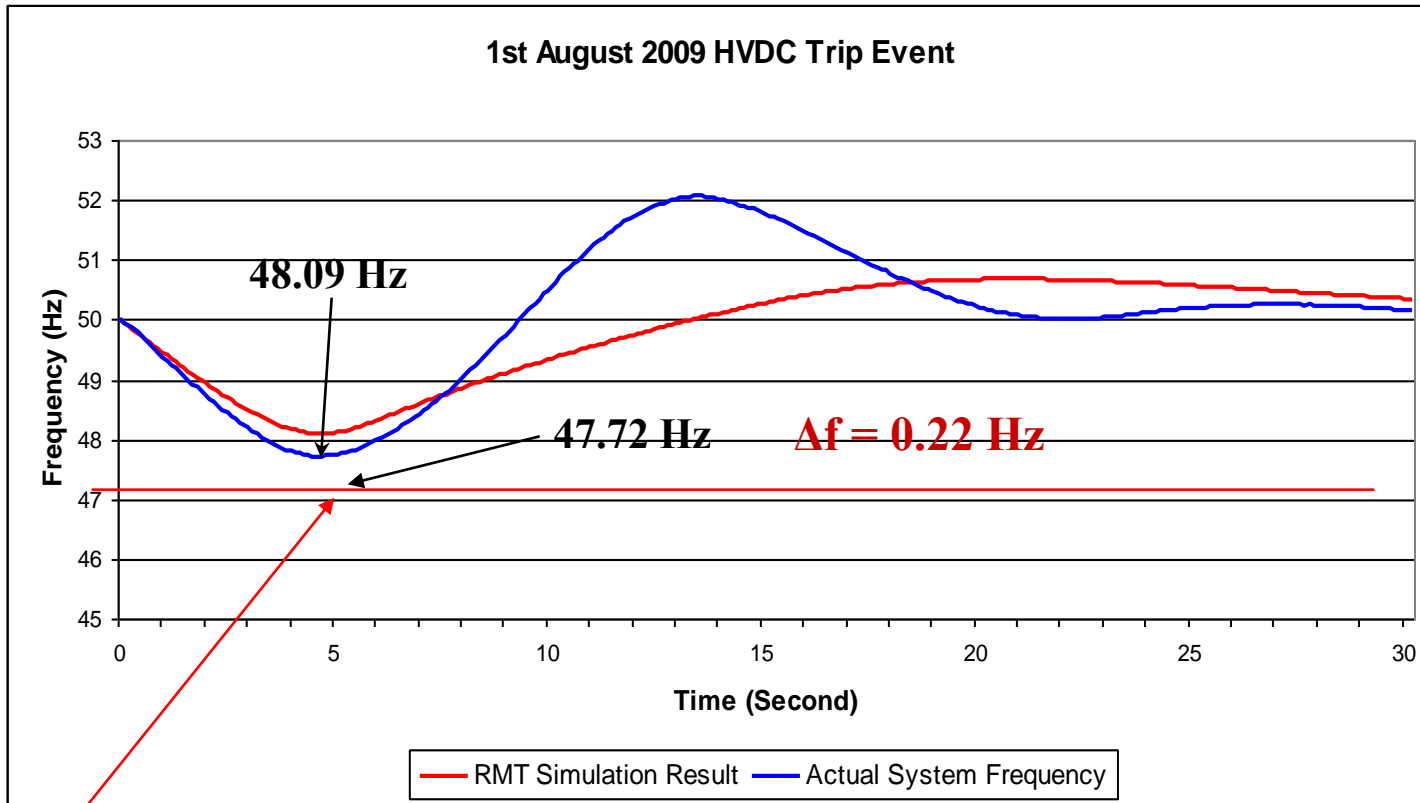
CONDITIONS

1. The System Operator makes its assessment on the basis of information or circumstances existing at the time. Therefore, this dispensation (including conditions attached to this dispensation) will be able to be revoked or varied by the System Operator (provided that the System Operator first applies the consultation process set out in Rule 8.3.2 of Section III of Part C) under the following circumstances: (i) where any of the conditions in Rule 8.3.1, Section III Part C of the EGRs apply; or (ii) where changes occur in the content of the Electricity Governance Regulations 2003 or its empowering Act; or (iii) where there is a change (or changes) to any other material factor influencing the System Operator's decision whether or not to grant a dispensation provided that such a change would affect the System Operator's ability to meet its principal performance obligations.
2. If either the system configuration and/or system conditions change, such that additional ancillary services procurement is required, then (provided that the System Operator first applies the consultation process set out in Rule 8.3.2 of Section III of Part C); (1) if the System Operator is able to readily quantify net costs on other persons of the dispensation, then the Asset Owner shall either provide sufficient information to facilitate any cost allocation applicable due to the dispensation and meet these costs in accordance with Rule 7.3.1 of Section III of Part C, or (2) if the System Operator is unable to readily quantify the net costs on other persons then the dispensation may be revoked or varied.

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We need accurate and up-to-date information



AUFLS

Block 1 @ 47.5 Hz, 0.4 s

Block 2 @ 47.5 Hz, 15s or 45.5 Hz , 0.4s

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Single database

- Generator ACS – June 2009
- Dispensation database – 1st Quarter 2010
- Line Company ACS – by end of 2010

Our computer model is as good as the ACS information