Reliability Panel
AEMC

Stakeholder Workshop

Review of the Template for Generator Compliance Programs

Presentation to the stakeholder workshop.

RELIABILITY PANEL

Stakeholder Workshop
18 February 2015

Agenda

1. Welcome
2. Project overview
3. Discussion topic 1 – Clarity of the template
4. Discussion topic 2 – Balancing prescription and flexibility
5. Discussion topic 3 – Usefulness of the template in supporting compliance with the NER
6. Other relevant issues
7. Closing

Project overview

This section provides an overview of:

- Project milestones for this review.
- Key issues raised in stakeholder submissions to the Issues Paper.

Project overview

Panel obligation to conduct review of template

- Review every three years (cl 8.8.3(ba) of NER; AEMC Terms of Ref).

Issues Paper

- Published 13 Nov 2014.
- 4 submissions received.

Draft Report

- To be published 26 Mar 2015.
- Stakeholder forum to be held late Apr 2015.
- Submissions to close 7 May 2015.

Final Report

- To be published 18 Jun 2015.

Generators' obligation under the NER

- Required to implement changes within 6 months.

Key issues raised in submissions

Suggested improvements to clarity of the template

- Importance of integrating performance monitoring and reporting into a broader business governance, risk management and compliance framework.
- Balance between the cost of complying with testing requirements and the benefits derived from these tests**.**

Update template to reflect changes in technology, testing & monitoring methods

- Large scale solar.
- Continuous monitoring techniques.
- Monitoring and testing of dry storage (mothballed) generating plant.

Other suggested changes

- eg. Including ‘plant change’ as a trigger for some performance standard tests.

Discussion topics

There are three topics for discussion at today's workshop:

1. Clarity of the template.
2. Balancing prescription and flexibility.
3. Usefulness of the template in supporting compliance with the NER.

Topic 1: Clarity of the template

Role and purpose of the template

- The role and purpose of the template is to provide clarity to generators and the AER as to what constitutes good electricity industry practice with respect to compliance with performance standards.

Purpose of the compliance principles

- To guide the template's development.
- To assist in the template's application.

AER's general approach to assessing perf. standards compliance

- AER to outline its general approach – see next 4 slides.

AUSTRALIAN ENERGY REGULATOR

AER Wholesale Markets Branch

Template for Generator Compliance Programs Review

Stakeholder Workshop 18 February 2015

AER's role re: generator performance standards

- Monitoring reported non-compliance
  - AEMO notification to AER
    - Used more broadly: power system incidents, TNSP obligations
  - Formal role re dispute between participant and AEMO
- Audits of compliance program (4.15(b))
  - Ongoing part of work program since 2007

Compliance program audits

- Assess how participants meet the required criteria:
  - consistent with the template for generator compliance programs, including any amendments made by the Reliability Panel
  - procedures for monitoring performance in line with good electricity industry practice
  - provides reasonable assurance of ongoing compliance with performance standards
- Our foundation for assessing compliance:

  Governance

  Expertise

  Implementation

  Performance

Role and purpose of template

- Starting point for AER audits
  - exploring understanding of performance standard obligations
  - application of compliance principles in compliance program
- Instances of initial confusion by some participants
    - E.g. fault level current control
  - Most participants well versed in obligations
    - New participants
  - The template could play a clarification role
- Methodologies and frequency of testing
  - Useful point of reference for AER
  - Communicates any advancements to participants

Topic 1: Clarity of the template (cont.)

Questions for discussion

1. Do stakeholders agree on the role and purpose of the template?
2. Are the role and purpose of the template still being achieved?
3. Does the template provide sufficient guidance to generators to demonstrate performance standards compliance?
4. Do the compliance principles provide sufficient guidance to generators to develop and/or modify compliance programs?
5. Do the principles encourage efficient and effective compliance?
6. Are the principles still appropriate for these template reviews?
7. Are there any other principles that should be reflected in the template?

Topic 2: Balancing prescription and flexibility

Major changes in the NEM since the previous template review

- AEMO to outline some its observations regarding continuous monitoring equipment – see next 4 slides.

OBSERVATIONS REGARDING CONTINUOUS MONITORING EQUIPMENT

February 2015

PRESENTED BY CHRISTIAN SCHAEFER

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

BENEFITS OF MONITORING

Compliance testing

- Staged testing requires additional resources and may require out of merit bidding
- Non-intrusive monitoring is available 24/7

Performance

- Large disturbances (non-linear) are difficult and impractical to stage
- Small disturbances provide limited information about plant response to system events

Intermittent generation

- Energy availability may present challenges to schedule tests
- Aggregation of smaller intermittent generators into large generation facility

High Speed Monitoring

- Significant improvements in resolution, availability, performance, and cost of HSMs
- Permanent installations and portable solutions available

BENEFITS OF MONITORING

Uses of recorder data:

- Verification of compliance with GPS.
- Demonstration of compliance with Connection Agreements.
- Confirmation of frequency response for FCAS contracts.
- Validation of generating facility computer models used in power system studies.

ADVANCES IN HIGH SPEED MONITORING

What makes HSMs attractive for compliance verification?

- Fixed or portable options available.
- High capacity data storage.
- Extract data via download on site or stream via 4G network to control room.
- High resolution and sampling rates for transient data capture or operation as PQM.
- Connect to existing CTs and VTs without affecting burden
- Devices can serve as continuous and triggered recorders.
- With GPS enabled can provide PMU functionality.
- Large range of devices available to suit all needs and budgets: Ametek, Digsilent PFM, ELSPEC, eMS, Hioki, Powertech Labs, Yokogawa etc.

Topic 2: Balancing prescription and flexibility (cont.)

Prescription versus flexibility – Getting the balance right

- The template was designed to:
  - Be flexible enough to take account of different technologies, types of plant, age of plant, and size of plant.
  - Provide for a number of different testing and monitoring methods for each performance standard.

Topic 2: Balancing prescription and flexibility (cont.)

Questions for discussion

1. What key changes have occurred in the NEM that should be considered in a review of the template? For example:

   a) Changes in technology (eg wind, solar generation)?

   b) Changes in testing and/or monitoring methods?

   c) Changes in market conditions (eg dry storage of generation)?

2. Of the key changes identified, should they be reflected in the template as part of *this* review, or as part of a *future* review? For example:

   a) Materiality – Is the change of such significance that steps should be taken to reflect it in the template as part of this review? Or have we identified an emerging trend that should be monitored over time?

   b) Advice – Do we need to commission an expert/technical report on a specific matter before we could properly reflect it in the template?

Topic 3: Usefulness of the template in supporting compliance with the NER

Usefulness of the template

- The template should cover all performance standards and define suitable testing and monitoring regimes.

Questions for discussion

1. Have there been any changes to the NER that have impacted on the template's usefulness?

2. Have there been any changes to performance standards that have impacted on the template's usefulness?

3. Have there been any changes to the application of performance standards that should be reflected in the template?

Other relevant issues

Discussion of stakeholders' other relevant issues.

Other relevant issues

Other stakeholder issues

- Stakeholders are invited to raise any other relevant issues for discussion at the workshop.
- For example, this may relate to:
  - Stakeholders' positive / negative experiences with the template?
  - Other template improvements / clarifications to support efficient approaches to compliance, understanding, learning, information sharing?
  - Other factors to be considered in this review for the purpose of improving the template (eg. outcomes of market incidents)?
  - Integration of any AEMO / AER published guidance relating to the template (eg. AEMO's 2013 guidance for dry storage generators; AER's 2013 generator performance standards information booklet).

Closing

Further information and thank you.

Further information

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Reliability Panel

AEMC

Compliance Principles

- **Principle 1**: Where plant system performance may be variable with time, as for example with plant protection, control and alarm (PCA) systems, generators are accountable for managing the functionality and integrity of systems and settings in accordance with the performance standards compliance program.

- **Principle 2**: The corollary of Principle 1 is that where plant parameters are not subject to variability with time, the compliance regime should be restricted to confirmation that the plant continues to perform as intended with repeat testing when there are reasonable grounds to believe that the plant performance may have changed.

- **Principle 3**: The materiality of the issue must be considered when contemplating a compliance testing regime.

Compliance Principles (cont.)

- **Principle 4**: A generator's active use and implementation of a compliance program that is consistent with the approved template and the generator's compliance management framework will provide a reasonable assurance of compliance with the generator's registered performance standards.

- **Principle 5**: The template must therefore support the development of compliance programs which represent “good electricity industry practice”. The template should specify the objectives and outcomes to be achieved by the testing or monitoring, and an appropriate test interval. The generator should exercise diligence and good electrical industry practice to determine the detailed methods and procedures to be employed for its plant.

- **Principle 6**: The compliance testing regime must be efficient, and reflect an equitable balance between risk management and the risk created by the test regime itself.

Compliance Principles (cont.)

- **Principle 7**: Where appropriate, analysis of performance during an event or disturbance could be used to demonstrate compliance in lieu of a performance test.
- **Principle 8**: Where compliance to a performance standard cannot be directly tested, the compliance program should include a range of other compliance testing methods to provide reasonable assurance that the performance standard continues to be met.
- **Principle 9**: When developing a compliance program and operating under that program, a generator can only be reasonably held accountable for the compliance of its plant to its registered performance standards and to equipment settings approved or provided by AEMO and/or the transmission network service provider (TNSP).
- **Principle 10**: Compliance programs should be reviewed and updated periodically.