

*Submission on the AEMC Reliability
Panel “Template for Generator
Compliance Programs” issues paper of
22 January 2009*

Project reference code: “REL0032”

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Version No: 1.0

Issue date: 06 March 2009

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1 Executive summary

While NEMMCO acknowledges that each Generator will have its own maintenance and asset management plans in place to ensure that its plant is run in the most effective and efficient manner, it also recognises that those plans are not necessarily set up with power system security, reliability and quality of supply as its main focus.

Rule 4.3.1 asserts NEMMCO’s responsibility with regard to power system security.

For NEMMCO to be positive that power system security can be maintained at all times, it needs to have confidence that generators are capable of achieving the technical requirements as outlined in its registered performance standards.

A proper compliance program as is required to be instituted and maintained under Rule 4.15(b) is the first step to achieving that confidence. For this reason it is very important that the template, as suggested by the AEMC Reliability Panel “Template for Generator Compliance Programs” issues paper, is comprehensive yet simple. The template should be set up in such a way that it will give certainty to all parties involved that the resulting compliance program will satisfy all legal and technical requirements.

2 Discussion

2.1 NEMMCO's Requirements

The intention of the compliance program template should be for internal and external parties to use to assess the generators ability to consistently meet regulatory requirements. For this to be the case, the following requirements need to be met:

- A compliance program, based on the template, must answer the following questions for each area in the performance standard:
 - What action is to be performed? (what tests/monitoring need to be done to prove satisfactory operation?)
 - Why is this necessary? (what requirement from performance standard is being proved?)
 - How will it be proved? (what constitutes a satisfactory outcome of the tests and how will unsatisfactory outcome be handled?)
 - How often should the test/monitoring be done? (this could also vary between different ages and technologies)
 - When will this be done? (what is the starting date of the cycle)
 - Who needs to perform which test? (there should be no uncertainty with regard to which are the suitable tests/monitoring to be done for each type and age of technology)
- The compliance program template must be simple to use and monitor.
- The compliance program template must summarise "good electricity industry practice" and be based on "good electricity industry practice".
- The Rules do not require anyone to sign off on the compliance program any more, but simply that the program is consistent with the template for generator compliance programs under Rule 4.15(b)(1). The compliance program template thus needs to be comprehensive and provide best practice examples for various sets of technologies.
- The compliance program needs to be sustainable and give NEMMCO the assurance that all the relevant processes and systems are in place to ensure that performance standards will consistently be met.
- It is essential that the compliance monitoring program requirements are clearly described to enable quick confirmation that the generator has carried out the procedures as required. This would facilitate the investigation into any generator non-performance following an incident. A well defined procedure would provide information to the AER to decide on any compliance issues. This would also provide confidence to NEMMCO that risk to the system is contained.
- Existing agreed compliance programs must be easily modified to adapt to the template, where necessary.
- The template must allow room for and provide mechanisms that allow the programs to be improved by taking into account experience in monitoring and testing techniques and other innovation.
- The template must be structured in such a way as to ensure that compliance programs are established in a consistent manner.
- The compliance program template must allow for the difference in technology, age and size of the different power plants.
- The template should ensure that responsibility and accountability are clearly defined in the generator compliance program.

2.2 NEMMCO’s Proposal

There seems to be two conflicting schools of thought when considering the scope, content and format of the template for generator compliance programs that will meet all the requirements as stated above. On the one hand one has to recognise that this is a mature society where organisations should be trusted to know their own business and to operate within the framework of the Rules. This, together with the fact that there is such a variety of technology, size and age of plant on the network, leads to a suggestion that the template should be written in an open and less prescriptive fashion. Such a format is easily adaptable and implementable as generators would mostly only need to continue doing what they are already doing and would simply need to report on that.

On the other hand, one has to recognise that current practice is not necessarily set up with power system security as its main focus. Furthermore, one could state that if it was as simple as that, there really is no need for a template and the Rules should give adequate guidance as to what is required. This school of thought would suggest that the template takes the form of a set, prescriptive standard, stipulating to generators exactly which tests should be performed, how often and when.

This is a complex matter and should be treated as such. The only conclusion that one can come to is therefore that a multi faceted approach or combination of approaches must be the answer. Such an approach is shown in the figure below.

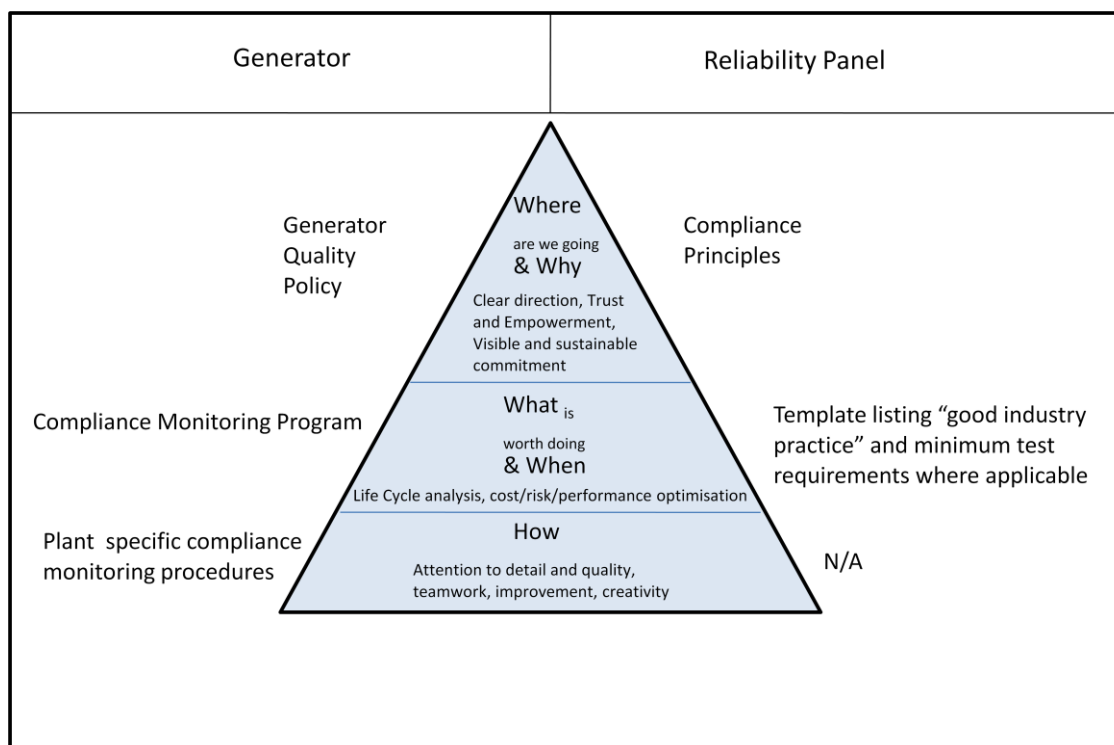


Figure 1: Generator Compliance Program Hierarchy

The figure indicates a tiered approach. Documentation to be put in place by the Reliability Panel is indicated on the right hand side of the triangle, while the documentation the generators will need to have in place in response to this is indicated to the left.

The compliance principles that the panel now asks the generators to follow will be based on internationally recognised quality management system principles such as can be found in the ISO9000, 9001 and 9004 set of standards. This set of compliance principles will need to be followed in the establishment, implementation and maintenance of the Generator Compliance Program. The concept of the suitability of testing and monitoring regimes for each performance standard as per Rule 4.15(ca) is therefore taken to a higher level. Generators will have to show that their processes are well managed and that there are sufficient supporting systems in place with regards to resourcing for, execution and review of all the processes supporting the achievement of performance standard targets.

At the next level the Reliability Panel will be responsible for putting a more detailed template in place. This template will indicate which tests and monitoring techniques constitute good electricity industry practice for each performance standard area for different technologies.

At the top tier on the generator side there is a quality management policy that will have to show:

- the processes needed for the establishment, implementation and maintenance of the Generator Compliance Program
- the sequence and interaction of these processes,
- the determination of criteria and methods needed to ensure that both the operation and control of these processes are effective,
- the availability of resources and information necessary to support the operation and monitoring of these processes,
- that these processes are monitored, measured and analysed, and
- actions necessary to achieve planned results and continual improvement of these processes are implemented.

The resulting Generator Performance Standard Compliance Plan will then consist of a document detailing the systems and processes in place to ensure the generators ability to consistently meet regulatory requirements. The compliance program should stipulate how the processes are managed in terms of issues such as records and document control, handling of non-conformances and management review. The design and implementation of a generator’s specific compliance program will be influenced by varying needs, particular technologies, the products provided, the processes employed and be manageable irrespective of the size and structure of the organisation. The plan should also include an assessment plan that stipulates the specified monitoring and test procedures including required frequency of testing.

At the bottom of the tier on the generator side there should be a set of compliance monitoring procedures for each test the compliance program prescribes. These will include step by step instructions including the following:

- input and output requirements (for example specifications, resources and records to be kept),
- activities within the processes,
- verification and validation of processes and products,
- analysis of the process including dependability,
- identification, assessment and mitigation of risk,
- corrective and preventive actions,
- opportunities and actions for process improvement, and
- control of changes to processes and products.

In this approach the AER would then only need to monitor the process and audit the quality management system as opposed to checking each and every plan and record. It would also ensure that there are appropriate and effective processes and procedures for monitoring compliance with performance standards and that breaches are rectified in a timely fashion. Risks to both the generator and power system would

be identified and mitigated. Compliance programs should be easily implementable, robust and sustainable. A total quality management approach, as described above, will provide a robust yet flexible framework for generators to work in and give confidence that, even during periods in between tests, agreed technical performance can be maintained.

3 Response to Specific Questions

- Are there benefits in adopting a set of compliance principles and what are these benefits in terms of meeting the Rules requirements for the template for generator compliance programs, and if so are the examples of compliance principles in Appendix A appropriate?

NEMMCO does not see the advantage of having compliance principles as per the example in Appendix A of the issues document, as the Rules are clear enough in this regard. There are quite a few instances in the NGF document where NEMMCO does not agree, or only partially agrees, with the proposed principle.

NEMMCO's suggested approach, as outlined in Section 2.2 of this document, will provide generators with sufficient means to incorporate issues such as materiality, risk and controllability as they will have to show that they have taken these matters into consideration in the drawing up of their compliance program.

- Are there benefits in adopting compliance program categories and, if so, what are these benefits in terms of meeting the requirements in the Rules for the template for generator compliance programs?

It would be beneficial to adopt compliance program categories if generators find this helps clarify what is expected of them under each category or group. From NEMMCO's point of view consistency in the approach is important rather than the form of the template.

- Is it necessary to draft guidelines for template for generator compliance programs, if so, are the example guidelines in Appendix B appropriate?

It is not necessary to draft guidelines for the template as these can be incorporated into the template itself and expanded to include accepted good practice tests and monitoring and minimum requirements.

- What should be covered in the scope of the template for generator compliance programs, how should it be structured and what should it contain?

The template should take the form as suggested in the NEMMCO example template, but also include a list of tests distinguishing between what is good practice for the various types of technology and age of plant.

- How prescriptive should the template for generator compliance programs be for each performance standard e.g. should test methodologies be included?
 - How should the variation in individual performance standards and versions of the Rules be handled?
 - Whether the examples for developing the template for generator compliance programs in appendices A, B, C and D are appropriate to be incorporated into the Panel's template or what modifications should be considered?

A list of tests should be prescribed for the different technologies and age of plant, but the template does not need to go down to methodology level. Each generator will have to have a full set of procedures including methodology and step by step instructions in place as part of their quality management system. They will also have to keep sufficient records to show that they have complied with their own procedures and show how they handle non conformances. They will have to show that they trend performance and review their plan accordingly.

- How can it be ensured that the template for generator compliance programs meets “good electricity practice” that would provide certainty for Generators as to what is required of their compliance programs? Stakeholders are invited to submit examples of existing compliance programs they consider would be appropriate in determining a best practice solution in formulating a template for generator compliance programs.

A workgroup of industry experts should agree on tests and monitoring with regards to each performance standard area to be included in the template as an example and on those tests and monitoring that could reasonably be set as a minimum requirement. NEMMCO has submitted an example template for consideration.

- Having regard to the current processes for implementing the template for generator compliance programs already set in the Rules, what other implementation and transition issues may need to be addressed and how would these be put into effect?

The proposal in Section 2.2 of this document should make for an easy transition as current processes can be incorporated in such a system. The process of implementing the quality management system and a timeframe for compliance would have to be agreed on.

The treatment of compliance programs currently with NEMMCO or the TNSP’s for comment and agreement must be clarified.

- Are there any other matters that should be considered important?

NEMMCO would like to emphasise the importance of the change in the Rules that now no longer requires generator compliance programs to be agreed on by the TNSP or NEMMCO. It is important that whatever template is put in place will result in generator compliance programs that are easily monitored to ensure confidence that power system security is not put at risk.

4 Conclusion

The AEMC Reliability Panel issues paper stresses in its opening paragraphs that compliance with technical standards is crucial to ensuring power system security in the NEM. As it is ineffective and impractical to expect the AER to monitor each and every compliance program on a continuing basis a methodology needs to be implemented that creates confidence in the programs to ensure a high level of compliance with performance standards. This can be achieved by scrutinizing the systems and processes generators have in place that are responsible for the creation, implementation and monitoring of the compliance program. A total quality management approach, as described in Section 2.2 above, will provide a robust yet flexible framework for generators to work in and give confidence that, even during periods in between tests, agreed technical performance can be maintained.

5 Glossary and abbreviations

Following is a glossary of terms and a description of the abbreviations, including acronyms, used in this document.

Abbreviation or Term	Definition
TNSP	<i>Transmission Network Service Provider</i>

6 References

- International Standard, ISO9000, Quality management systems – Fundamentals and vocabulary, second edition 2000-12-15.
- International Standard, ISO9001, Quality management systems – Requirements, third edition 2000-12-15.
- International Standard, ISO9004, Quality management systems – Guidelines for performance improvements, second edition 2000-12-15.