

**Planned Outage Co-ordination Process
(POCP)
Industry Review**

Final Report – August 2006

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1 Executive Summary

In December 2005 the System Operator initiated an industry review of the Planned Outage Co-ordination Process (POCP). This review was conducted through a series of workshops which began in March 2006.

The review was initiated in response to feedback received from the industry, which indicated it was timely to review a number of issues.

The key areas identified for review were:

- Sustainability of the database
- Timeliness of Assessment information
- Variability of outage plans
- Role of POCP in assessing pricing outcomes
- Confirmation of the POCP business rules
- Review proposed Technical Code C changes for notification of outages on operational communication systems.

In conducting the review a good level of industry engagement was achieved. An independent chair was appointed to lead a forum made up of representatives from:

- Mighty River Power
- Genesis
- Contact
- Meridian
- Vector
- Electricity Networks Association
- Major Electricity Users Group*
- Transpower Grid Owner
- Transpower System Operator.

*Note: The Major Electricity Users Group representative, although not present for the forum meetings, was included in the distribution of forum communications.

In working through the review items, the working group made the following conclusions.

1. The database has been enhanced numerous times since 2003 and remains sustainable for it's current level of use, for the medium term.(2-5 yrs). However there is limited scope for further enhancement.
2. Participants acknowledge the current timeliness of outage assessment is acceptable given the churn in outage plans approaching real-time. However participants would like more information on outage assessment risk factors, particularly where there may be a risk of significant impact, as early as possible. It was noted that this would place additional obligations on the SO, and would require additional resource and enhanced database functionality.
3. The forum affirmed that voluntary participation in the POCP process was appropriate, and should not be further mandated in the EGR's. It was also agreed that an annual governance meeting would be facilitated by the SO to ensure there is a process for managing the ongoing industry requirements of POCP. It was also noted that the System Operator is comfortable to continue funding maintenance of the POCP database at it's current level.
4. The working group resolved that it remains outside the scope of the POCP process to determine or assess pricing impacts of plant outages. However participants agreed that a number of risk factors could be published that would help identify outages with price risk. Much discussion was had around the level of measures often put in place for an outage, where these measures are often bi-lateral arrangements between asset owners. It was also acknowledged that situations where close co-ordination of arrangements across multiple

parties was required, that the System Operator should continue to play a central role in co-ordinating those arrangements.

5. The working group identified that the proposed EGR part C technical code C changes would go beyond the existing scope of the POCP process. It was also noted the proposed arrangements would place additional obligations on the System Operator and participants in notification and assessment of some communications outages. These issues were referred back to the Electricity Commission.

In addition to a number of minor database enhancements being recommended by the forum, the System Operator has a number of internal process improvement initiatives underway which are expected to provide further benefits to the industry POCP process.

These initiatives involve:

- A streamlined planning process through removing internal handovers
- Developing an improved process management tool
- Staff training to provide greater process repeatability

As well as the immediate benefits provided by these enhancements, the System Operator is also expecting to realise additional benefits in the medium to long term, through the implementation of a Market Systems Upgrade project which is currently in progress.

2 Summary

The Planned Outage Coordination Process (POCP) has functioned successfully since its inception in 2003. On the 19th December 2005 Transpower invited industry participants to review the (POCP). The first of a number of Review workshops was held on the 8 March 2006.

This report summarises the discussion and outcomes of the industry Review. Meeting minutes, presentations and related documentation are available from the System Operator web-site.

The more significant Review discussion is summarized in the following two sections; "Governance and Process Management", and "Process Review".

Governance and Process Management

1. A number of process clarifications, and administrative, minor database and documentation improvements were identified and implemented (or will be implemented) as a result of the Review. An improved liaison was also developed between the database support providers and users, with the support of the System Operator.
2. The System Operator, as developer and maintainer of the database and process, has agreed to conduct annual reviews of the POCP process with users. The System Operator has also restated its commitment to respond positively to user requests, and its intention to implement such requests whenever this can be done without significant additional cost, and without impact on the System Operators ability to meet it's obligations under the Rules. In other circumstances, there is still a will to agree and implement desired changes by arrangement. Review Group members, including the System Operator, recognize that it is in their mutual interest for the process and database to meet the reasonable needs of all users. Users are free at any time to adopt an alternate means of notifying outages to the System Operator.

Process Review

1. Detailed System Operator assessment of outages is largely conducted in the period 2-6 weeks prior to the planned dates of outages. Review Group members accepted that increasing Grid congestion and hence increasing interaction of outages, plus uncertain demand growth, natural variation of generation patterns and the occurrence of unplanned events all mean that earlier System Operator assessment is

of limited utility. This apparently unavoidable short term nature of most assessment is recognized as creating some pressure for all parties.

Nevertheless major outage clashes can be identified and corrected earlier than the 2-6 week period, often simply by market response to notified outages as these are published by the System Operator.

2. Many outages are facilitated by the Grid Owner completing analysis, and communicating with particular market participants to arrange demand management, special protection arrangement (e.g. demand intertrip), generation availability or grid reconfiguration to enable work to proceed with minimum risk. This preparatory work occurs prior to submitting outages to the System Operator.

Review Group members perceived these arrangements as useful indicators of potential price impact and being otherwise of relevance to Retailers' customers and other participants in any affected area. The Grid Owner and System Operator did not support this information being made available through the POCP process, due to concerns about the resource impact of doing so, and the potential impact on achievement of their primary responsibilities (to complete necessary maintenance and other work efficiently and to identify potential impacts on achievement of the PPOs). There was debate about the Grid Owner's dialogue with affected parties to make outage arrangements, and the possible role of network companies in disseminating these arrangements to Retailers and other potentially affected parties within their networks.

The impact of outages on price is also being discussed in other forums. No agreement was reached on this point, with the Chair suggesting that further discussion may be better conducted in a properly constituted industry forum on price risk management.

3. Review Group members discussed the proposed operational communications Rule changes and the impact of these on the POCP process. Members agreed that the approval of alternate communications arrangements did not sit well within the POCP process. The System Operator continues to liaise with the Electricity Commission on the Rule change proposal.

As a related issue the generator members of the Review Group sought "notification" of some Grid Owner communications outages, where these communications facilities are used as a path for the required generator operational communications to the System Operator. The Grid Owner has volunteered to make these notifications, with the POCP database being used for this purpose.

There was some discussion to ensure the proposed Grid Owner advice of relevant communications outages is solely to allow generators to make alternative arrangements (as required by the proposed Commission Rule change). The Grid Owners' advice, using the medium of the POCP database, should not be constructed as a POCP notification. Appropriate assessment by the System Operator is the consideration of the alternate arrangements to be put forward by generators (as drafted in the proposed Rule change), not a POCP assessment.

3 Introduction and Purpose

The original POCP was established in September 2003 by an industry forum. This forum designed and established the POCP and related database and business rules. The forum's work commenced under the Transpower Common Quality Obligations but anticipated the inclusion of "outage co-ordination" requirements in Technical Code D of Part C of the Electricity Governance Rules as introduced in March 2004.

The process and underpinning database have been in successful operation since establishment. There are currently 329 registered users, an average of 3,000 hits per month, and at any one time the POCP database is providing notifications of approximately 2,500 planned power system outages.

A review of the POCP was initiated as a result of feedback received by the System Operator from market participants, and also as the System Operator sought possible input to related System Operator process improvement and IT development planning.

On the 19th December 2005 Transpower invited industry participants to review the POCP process. The first of a number of Review workshops was held on the 8 March 2006.

This final report summarises the discussion and outcomes of this industry Review. Meeting minutes, presentations and related documentation are available from the System Operator web-site.

3.1 Review Process

All industry participants who had responded to the Transpower invitation were invited to meet in a number of POCP Review workshops. These were chaired by Mark Pearce, previously Transpower System Operator Grid Operations Manager, now working as an independent industry consultant.

The initial Review meeting provided members with back-ground information on the POCP and database, and on System Operator intentions for future IT development.

The Review Group then considered member perspectives on the 5 year future of the POCP and developed a list of issues that warranted Review Group consideration. These issues were then addressed in turn by the Review Group in workshop meetings.

A summary of the identified future perspectives is attached as Appendix One.

Section 3 of this report lists the identified issues and Section 4 provides a summary of the discussion and actions for each issue.

3.2 Issues Identified for Consideration

The following POCP issues were identified and prioritized in the following order by the Review Group.

1. The role of POCP in identifying, communicating and mitigating the impacts of outages, including pricing outcomes.
2. The timeliness of information provided by asset owners, and of the System Operator assessment of the information.
3. The certainty and variability of outage plans.
4. The sustainability of the existing database.
5. Need for additional information fields in the database.
6. Interpretation of the POCP business rules/specific issues relating to the business rules.
7. POCP and the Operational Communications Rules change, and related issues.
8. Routine governance and operational meetings – both for the actual POCP, and for outage planning coordination in general.
9. Focus on users and usability.
10. Stakeholder management e.g. EC, major users, interested parties.

The outcome of Review Group discussion on these issues is given in the following sections.

4 Review Group Consideration of Issues

4.1 The POCP Role in Identifying, Communicating and Mitigating the Impacts of Outages, including Pricing Outcomes

The Review Group agreed that it was not the role of the POCP process to forecast price impacts and noted that no single party was in a position to do so.

However there was a general desire for more information to allow participants to anticipate outage impacts. On this point there was considerable discussion.

The System Operator presented a “tool-box”¹ of approaches currently used to mitigate outage impacts.

It was advised that, with the exception of use of constraints which are already notified by the System Operator, the “tool-box” arrangements are planned and put into effect by the Grid Owner during the Grid Owner’s planning of transmission grid outages. In these ways the Grid Owner is active in planning to mitigate the impact of outages, in order for outages to proceed without threat to the Principle Performance Obligations (PPOs) of the Electricity Governance Rules. These arrangements may be made in conjunction with directly affected connected parties or other parties able to mitigate potential outage impacts.

The System Operator in turn reviewed the notified outages of the Grid Owner and any “tool-box” arrangements advised by the Grid Owner when considering the impact of outages on the PPOs. In addition the

¹ These “tool-box” approaches to mitigate outage impacts were advised as:

- a) Outage timing
- b) Constraints requirements
- c) Generation availability agreement
- d) Load management agreement
- e) Grid reconfiguration
- f) Special protection schemes

In general the Grid Owner makes use of items a, c, d, e and f. These approaches are used by the Grid Owner in order to propose outage arrangements to the System Operator that do not result in impacts to the System Operator’s ability to achieve and plan to achieve the Principle Performance Obligations.

System Operator implements any constraint arrangements for these outages, with these arrangements being notified to the market.

Review Group members saw value in these toolbox arrangements being notified to market participants. There was also a suggestion that there may be other mitigation measures which might be identified should wider market participants be made aware that mitigation measures were required for any outage. In particular load management arranged by retailers was identified.

Both the Grid Owner and System Operator were sympathetic with the idea of providing market advice when “toolbox” mitigation is required for an outage. However both were concerned at any diversion from, respectively, the System Operator’s focus of monitoring and making arrangements for achievement of the PPOs, and the Grid Owner’s focus on completing arrangements for necessary transmission work with minimum customer impact.

The primary benefit of “tool-box” notification was considered to be improved ability to identify possible price risk. The Chair suggested that this was outside of the scope of the POCP process and further consideration of this would be better placed in an appropriate forum on price risk management.

The System Operator suggested that proposed System Operator IT developments may allow more information to be provided to market participants, with less resource implications than would be the case at present. The System Operator agreed to liaise with Review Group members on these IT developments in relation to POCP.

4.2 Timeliness of Information provided by Asset Owners and of System Operator Assessment

The Review Group expressed **concern at the limited lead time provided by assessments of outages.**

The Review Group received a presentation from the SO and accepted that an increasing level of complexity is arising in managing outages, due to regulatory requirements, demand growth and increasing volume of outages. While clear outage conflicts may be identified at an early stage the majority of outages could not necessarily be identified as of any concern until the situation with regard to demand growth, generation availability and correlation with other outages became more certain.

The Review Group accepted that the increasing volumes of outages are more susceptible to 'natural' variables such as demand, hydrology/generation patterns and forced or varied outage plans. This means that assessment of outage implications and finalising detailed outage arrangements cannot be productively completed until conditions become more certain. In the System Operator's view this requires detailed assessments to be completed generally not earlier than 2 – 6 weeks from planned outage dates.

Nevertheless the Review Group recognised that continued Asset Owner notification of outage plans up to 12 months ahead of the planned outage timing allowed the "invisible hand" of market response to recognise and address potential conflicts in good time, where this was possible.

There was a suggestion to **identify potentially "difficult" outages earlier** than the 2-6 week time frame by advising if any of the "tool-box" arrangements had been required in previous years. It was recognised that changing circumstances meant this historical information may not be a reliable indicator in all cases. The prior discussion on "tool-box" arrangements and the Grid Owner and System Operators concern at providing this additional information is again relevant.

Regular "operational" meetings were considered, to include market participants, the System Operator and Grid Owner, and to allow early discussion of potential implications of notified outages. A meeting might be timed, for example, to follow the release of the Grid Owners "annual plan" notification of outages. Possible competition aspects of this were identified and it was not clear what additional information the System Operator or Grid Owner could realistically provide other than the historical tool-box information previously discussed. Regional forums, and the use of the System Operators System Security Forecast to identify and allow discussion for known constrained areas were noted as existing forums for this activity.

In summary, assessments being completed within 2-6 weeks of planned outage dates are considered an indication of the increasing congestion and interaction between outages due to demand growth. While of some concern, the Review Group did not identify any action that could be realistically taken without additional resources being committed to earlier assessments, with at least some proportion of these assessments likely to require re-work due to changing circumstances. Because of this expected re-work component it is not clear how productive such earlier assessment would be.

4.3 Certainty and Variability of Outage Plans

The System Operator presented statistical information on the degree of churn of outage notifications and the cumulative effect of this on any possible early assessment of outages.

Review Group members accepted that a degree of churn was inevitable and the reported level indicated was not unacceptable. The proactive dialogue taking place between the Grid Owner and other Asset Owners (particularly to arrange outages at connection points) was acknowledged as reducing the potential level of change in notified outages.

No action was considered necessary on this issue.

4.4 Sustainability of the Existing Database and;

4.5 Additional Information Fields in the Database

An Action List of administrative and other relatively minor database improvements identified during the Review workshops is included as Appendix Two. The Action List also notes the current status of each item.

The database is considered robust for the current levels and requirements of use, with no significant additional demands being identified by the Review Group workshops.

4.6 Interpretation of the POCP Business Rules/Specific Issues relating to the Business Rules

A number of updates were identified for the POCP business rules, primarily to recognise migration to the Electricity Governance Rules.

The revised Business Rules are available from the POCP and System Operator web sites.

4.7 POCP and the Operational Communications Rules Change Proposal

Review Group members were briefed on the proposed operational communications Rule change and the relationship of these Rules proposals to POCP.

Review Group members agreed that the approval of alternate communications arrangements did not fit well within the POCP Rules framework.

In addition, generator members sought notification of Grid Owner communications outages, where generators met their obligations for communications to the System Operator using Grid Owner communications facilities. The Grid Owner has offered to notify these outages and currently does so through a separate website. These notifications could be migrated to the POCP database. **Generators are invited to identify where they rely on the Grid Owner's communications systems to meet their obligations so that the Grid Owner can notify appropriate outages. The contact point for this in the first instance is the Outage Planning Team Leader –Brendan Olsen.**

The System Operator has continued to liaise with Electricity Commission staff on the proposed rule changes.

4.8 Routine Governance and Operational Meetings and;

4.9 Focus on Users and Use-ability

The governance of POCP was recognised as a voluntary arrangement arising from mutual interest in meeting the relevant Rules obligations. The System Operator has incentives to provide a mechanism that allows it to efficiently receive outage notifications from Asset Owners. The System Operator has therefore liaised with Asset Owners to establish the POCP database and the associated business rules and process.

The System Operator recognised the ongoing value of maintaining communication with Asset Owners and other users. Where the System Operator can accommodate users' requirements at no significant additional cost it is willing to do so.

The System Operator agreed to convene an annual meeting to review the POCP arrangements. Users may request a meeting or make any proposal for changes to POCP at any time.

4.10 Stakeholder Management

Review Group members recognised that the key purpose of the POCP is to provide a mechanism by which the System Operator and Asset Owners can meet their outage co-ordination obligations under the Rules.

In consideration of other potential users of the outage information, the Review Group discussed options for presenting simplified or summarised outage information. However no clear view was reached about the potential audiences for this information, or what their specific information requirements might be.

The risk of providing simplified information that might mislead new or and less informed users was also recognised.

There were no specific recommendations or actions points resulting from this discussion.

5 Appendix One: Review Group Perspectives on the Five Year Future of the POCP

The review group discussed how the POCP (both the overall process and the supporting database) might develop over the next five years. Items noted were:

In relation to the overall process:

- The impact that additional users would have on database performance;
- A focus on information about the impacts of outages – especially for “non-technical” users;
- The need for more engagement and input from major users/demand side;
- Holding annual (or more frequent) meetings to coordinate outage planning;
- Possibility of the System Operator proactively checking the status of key electricity kit;
- The need for more engagement and input from the gas industry and other fuel sources;
- More information on the actual impact of generator outages;
- Making outage information more relevant to specific areas/regions – either through the database or through regional forums;
- Having “alertable” links/changes, and more explanation about changes and the firmness or flexibility of outages.

In relation to the database:

- Improved filtering and search capability – this would require tighter naming protocols and standards;
- Continuing the current open access to the outage information;
- Sourcing additional development funding from either the System Operator or the Electricity Commission;
- Continuing the current industry input to the functionality of the database;
- Ensuring that future developments are responsive to users needs (as per status quo);
- Possibility of migrating the database to COMIT Free or similar industry environment;
- Consider possible websites that could host the database e.g. Transpower, EC, etc

6 Appendix Two: Database Actions

1.	5 April 2006	That Greg Spence would amend the POCP Users Guide to explain the point in the SO assessment process at which the Assessment Status of an outage would typically be added or changed.	Action completed
2.	3 May 2006	Greg Spence to arrange for the constraints information which is currently held on the System Operator website to be updated to the POCP database on a weekly basis;	In progress
3.	3 May 2006	Richard Clark will update documentation regarding the use of the SOAP search/download system to include details on the Last Modified search parameter and notify technical contacts.	In progress
4.	3 May 2006	Richard to identify any technical issues relating to including functionality to filter outages based on a regional split, and to refer the outcome to Greg Spence for a decision on whether to implement the enhancement.	Currently being discussed with Asset Owner technical contacts
5.	3 May 2006	Stephanie Wenman to update the POCP Users Guide to include information about all changes to the POCP database and Business Rules that have been agreed by the Review Team;	Action completed
6.	5 April 2006	<p>Richard Clark to investigate bug fixes/possible enhancements relating to:</p> <ul style="list-style-type: none"> o Linkages between outages; o Comments fields; o Confirmation messaging; o Displayed Assessment Status of historical outages. <p>Richard Clark to report back progress to the next meeting.</p>	<p>Report provided to 3 May meeting.</p> <ul style="list-style-type: none"> - Linkages between outages not technically possible - Comments field work is in progress - Confirmation messaging now implemented - Technical update to be sent to users re how to achieve correct display of Assessment Status for historical outages
7.	5 April 2006	Business Rule 5 to be updated to reflect that Technical Code D has	Action completed

		<p>been altered to remove the provision relating to confidential information. Business Rule 6 to be updated to state the current information requirements, status codes etc as per the current POCP database. Business Rule 7 to be updated to remove reference to the Common Quality Obligations.</p>	
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