

System Control Plant Outage Procedure



Track changes version showing
consultation changes

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1 Purpose of Procedure

This procedure specifies the processes:

- (a) Generators and Network Operator will use to plan, gain approval, and conduct planned plant outages,
- (b) Power System Controller will use to coordinate and sanction planned plant outage requests;
- (c) Generators, Network Operator, and Power System Controller will use to manage forced outages;
- (d) Generators, Network Operator, and Power System Controller will use to assess and manage emergency performance issue outages required for safety of people or plant, or to manage plant performance issues impacting system security or system reliability;
- (e) Generators, Network Operator, and Power System Controller will use to return equipment to service following an outage.

2 Scope

This document is produced to provide clarity to all System Participants, and is intended to be read in conjunction with the System Control Technical Code (SCTC) and Secure System Guidelines (SSG). Terms defined in these documents are not defined herein. Some references are provided to these documents for convenience only.

The Power System Controller is responsible for coordinating and sanctioning all plant outage requests (SCTC 2.2 c). The procedure applies to generation, transmission, or distribution plant connected to the Darwin Katherine, ~~and~~ Alice Springs, and Tennant Creek regulated power systems for which the Power System Controller determines that coordinated outage scheduling is required to manage the risk to system security or system reliability.

This includes generators, black start facilities, equipment providing voltage control or ancillary services including batteries and capacitors, any part of 132kV and 66kV transmission systems, 22kV and 11kV distribution system equipment connecting power stations or zone substations, power station or zone substation buses, nodes, and transformers. It also applies to switchgear, protection systems, auxiliaries, communication network, and control system for any such equipment.

Where potentially commercial-in-confidence information is necessary to ensure the application of this procedure is significantly clear, the relevant information will be added to the applicable Operating Protocol or Service Level Agreement in place between System Control and individual System Participants.

For further understanding or resolution of issues relating to this document, refer all matters to the Power System Controller (and any dispute shall be governed according to Clause 1.5 SCTC).

3 General Approach

As a guide, reasons System Control will not approve any outage includes but not limited to activities if:

- (a) there is reason to believe that there is a safety risk to personnel, members of the public, or equipment,

~~(b) that it assesses will result in an unacceptable risk to system security or system reliability, —result in equipment ratings being exceeded,~~

~~(a)~~(c) _____

~~(b)~~(d) _____ result in a breach of the Reactive Power Reserve requirements (SSG Section 13),

~~(c)~~(e) _____ result in a breach of the Standby Reserve requirements (SSG Section 13),

~~(f) result in a breach of frequency control requirements (SSG Section 7 and 8),~~

~~(d) result in equipment ratings being exceeded,~~

~~(e)~~(g) _____ result in customer load shedding,

~~(h) that it assesses will result in an unacceptable risk to system security risk or system reliability,~~

~~(g)~~(h) _____ insufficient information is supplied for the System Controller to conduct an assessment,

~~(h)~~(i) _____ submission timeframes are not met, and therefore there is not sufficient notice for the Power System Controller to complete the assessment.

The Power System Controllers approval assessment will include consideration of a credible contingency event (SSG Section 3) occurring during the period that the outage occurs, and the required actions to return the power system to a secure operating state within thirty minutes following the credible contingency.

Where System Control requests additional information to assess outage applications, a System Participant must provide the information as soon as practical, and within the timeframe specified. Where the required information is not received, the Power System Controller may reject the application and the System Participant required to resubmit.

Approval assessment of Long Term and Medium Term outage plan submissions by the Power System Controller does not grant approval for specific outage dates and times. Outage dates are not approved by the Power System Controller until the Outage and Testing Request (OTR) is approved and risk notice issued in accordance with the Short Term Planning process. Where a System Participant requires outage dates to be approved with additional notice in order to complete detailed planning such as contractor bookings and travel arrangements, it is the responsibility of the System Participant to submit their Medium Term and Short Term planning submissions earlier than the minimum dates, taking into account the Power System Controller response times outlined within this procedure time frames.

In accordance with the Northern Territory Electricity Ring Fencing Code, the Power System Controller is to conduct its business without discriminating against another Electricity Entity. Long, Medium, and Short term outage planning requested by System Participants will be assessed and approved in the order in which it is received. In the event that two System Participants submit requests for competing outage windows, the request received at the earliest date and time will be accepted. The only variation to this prioritisation is where a risk to safety, power system security, or power system reliability is identified. Where a System Participant is requesting an outage that will restrict the generation output of another party, the Power System Controller will undertake coordination between both parties to align network and generation outages in order to maximise the overall availability of generation.

For the removal of doubt, any reference in this document to Outage and Testing Request (OTR) applies to:

- (a) ~~Generation~~ Outage and Testing Request (~~G~~OTR) electronic form required to be completed by Generator Participants; and
- (b) Request For Access (RFA) electronic form required to be completed by Network Operator or Network Users.

4 System Risk

4.1 Elevated Risk Outages

Scheduling of outages or testing activities that pose elevated risk to power system security or power system reliability will require additional planning. Outages for which any of the following apply are referred to in this document as having elevated risk, and additional requirements are applicable:

- (a) equipment classified as protected ~~event~~equipment (SSG Section 3);
- (b) likely to take longer than 3 days;
- (c) plant affects output of more than one generator unit e.g. power station bus or combined cycle steam turbines;
- (d) disrupts 132kV or 66kV transmission feeders;
- (e) disrupts 22kV or 11kV distribution feeders connecting substations or power stations;
- (f) requires customer load shift of more than one distribution feeder;
- (g) will require a generic system constraint or network constraint;
- (h) activity has previously resulted in a power system event;
- (i) planned to be undertaken during the wet season if connected to the Darwin-Katherine power system;
- (j) planned to be undertaken during summer or winter if connected to the Alice Springs or Tennant Creek power systems; or
- (k) if advised by System Control.

If a System Participant is not sure if an outage or works will change the risk profile for power system security or power system reliability, they will contact System Control Operations Planning Team via the communication paths specified in their relevant Operational Protocol or Service Level Agreement.

4.2 System Risk Assessment

When considering the conditions in which an outage can proceed, the Power System Controller conducts a detailed risk assessment that considers likelihood and consequence of the possible N-1 contingency events occurring, and for extended outages, N-2 contingency events. In some cases, non-credible contingency events may be considered if the Power System Controller reclassifies them as credible contingency events due to the plant being taken out of service.

The likelihood of a contingent event occurring is based on an assessment of the historical frequency of contingency occurring, disabling of protection systems or auto reclose functionality, weather forecast, monitoring mechanisms and ability to stop works if weather conditions change, the duration of the outage and percentage of time customers are exposed to risk, concurrent work increasing the

likelihood of a contingency event occurring, the level of mitigation in place for concurrent work, and the potential exposure under frequency load shedding.

An assessment for consequence is undertaken with due consideration to the impact to customers, the number of customers at risk, the classification of customers affected, confidence in load forecast accuracy, number of customers that can be restored in a short duration, length of time to restore all customers, the type of outage (continuous, cyclic, rotational), work recall time to return the plant to service.

Typically the Power System Controller will work with System Participants to establish mitigation measures for the outage that will aim to bring the Residual Risk Score to 'System Normal'. If this Residual Risk cannot be mitigated the Power System Controller may reschedule, or cancel the outage.

The Power System Controller may permit outages with undesirable residual risk scoring in the cases where it assesses that the risk to power system security or power system reliability to be higher if the works associated with the outage do not proceed.

5 Long Term Outage Planning

5.1 System Participant Annual Plant Maintenance Forecast Submission

System Participants are required to submit an Annual Plant Maintenance Forecast to the Power System Controller (SCTC 6.10). The Maintenance Outage Plan shall include (a) the maintenance programme for the System Participants plant for the following financial year, and (b) an indicative maintenance programme for each of the 3 subsequent financial years.

Annual Plant Maintenance Forecasts shall include a brief overview of the work to be completed, the extent of the plant to be taken out of service, an estimate of the time to complete each outage, and preferred window for the outage to be scheduled.

Where multiple System Participants are requesting the same windows in the Annual Plant Maintenance Forecasts, the Power System Controller will undertake coordination between parties to reach agreement. Where an agreement between two parties cannot be met, the Power System Controller will make a decision and advise both parties. While it is understood that not all activities can be scheduled ahead of time, this process should capture all known planned maintenance and capital work of elevated risk. The Power System Controller will use these plans to hold the selected dates for the requesting party. In order to ensure outage windows are optimised for all System Participants, plans should be resubmitted when dates are changed. System Participants are encouraged to resubmit Annual Plant Maintenance Forecasts quarterly. Where required, or on request, System Control will undertake quarterly outage coordination meetings with System Participants in which the outlook for the rolling 12 months outages is discussed.

5.2 Annual Plant Maintenance Forecast Response

Following the receipt of an Annual Plant Maintenance Forecast, the Power System Controller shall review and provide a response in line with SCTC 6.10.3. The Power System Controller will indicate in the response the outages which classify as elevated risk outages and will therefore require preliminary assessments to be submitted.

When the Power System Controller conducts the long term planning assessments the response will indicate the most likely window the outage will proceed, and indicate if generation or network constraints will be required. The Power System Controllers response will also provide an indication of the outages for which it will require detailed contingency plans and test plans. The assessments at this stage will be based on the best available information, however there are a number of uncertain study variables, notably generation and system configuration and availability, as well system demand that are required to be reassessed during the medium and short term planning.

6 Medium Term Outage Planning

6.1 Preliminary Assessment Submission

Outages of elevated risk to system security or system reliability will require more detailed assessment, modelling, contingency planning, and potential constraint application. In order to provide System Participants with ample time to prepare, preliminary assessments will be submitted in writing to System Control Operations Planning with a minimum 30 days' notice. Preliminary assessment requests will include all the details relevant to a formal OTR, a risk description for the outage and likelihood of outage extension, steps to be taken to mitigate the risk pre and post contingency, and a detailed test plan for any online and/or compliance testing activities.

On receipt of an approved preliminary assessment, the System Participant shall submit a formal OTR.

6.1.1 General information

Specific detail on how the work is to be conducted is generally not of use to the Power System Controller. Information submitted by System Participants shall be concise and targeted to the needs of assessment. Information of any equipment rating changes or other variables that will require changes to the Power System Controllers power system models, HV isolation points of the equipment to be taken out of service, proposed control system changes, protection settings changes, SCADA and communication network changes, AVR or governor changes must be detailed in the preliminary assessment submission shall be provided to the Power System Controller.

6.1.2 Recall time and contingency plan

An outage contingency plan shall indicate the high-level steps the System Participant will follow should the Power System Controller require the early return to service or partial return to service of plant. For a Generator, contingency plans shall consider conditional return to service of generator units with restricted output or control. For the Network Operator, contingency plans shall consider equipment bypass, partial restoration, temporary generator installation, alternate supply arrangements, alternate protection settings, and short term equipment ratings.

6.1.3 Test plan

The System Participant shall provide a high level test plan for all non-routine testing such as load rejection testing or compliance testing. Additionally, for generator reliability run, the proposed generation outputs shall be detailed such that the Power System Controller can outline the system loading and constraint requirements for each testing increment.

6.2 Preliminary Assessment Response

The Power System Controller will consider the 30 days' notice period to commence when all required information is received. If the submission lacks the required detail, or the documentation is too extensive, the Power System Controller will reject the application and request resubmission.

The Power System Controller will endeavour to provide a response within 14 days, indicating the requirements for an OTR to be approved, the agreed dates, acceptance of the proposed contingency measures, test plans, and other required supporting documentation.

The preliminary outage assessment will use a number of uncertain study variables for generation and network configuration, plant availability, and demand forecasting. The Power System Controller will utilise best estimate based on historic data and known information of these and other variables when undertaking the assessment, however it is noted that these and other variables can greatly impact the system security assessment.

7 Short Term Outage Planning

7.1 Outage and Testing Request Form Lodgement

7.1.1 Out of service – plant disconnected from the system

System Participants shall submit final Outage / Testing Request (OTR) to the Power System Controller with the minimum notice period specified in SCTC 6.5.2(e). Outages received with less than the minimum notice will only be considered if the Power System Controller deems that the outage is unavoidable according to the emergency performance issue outage or forced outage criteria in Section 8 of this document.

When completing the outage and testing request form, System Participants shall complete the form in full, including high level explanation of the works to be undertaken, plant / equipment affected, duration of outage, recall time of outage if applicable, and contact details of the requestor. When a System Participant submits an OTR, it shall be accompanied by the outage risk assessment, contingency plan, and test plan where identified during the long term or medium term planning stages.

Planned online testing that is to occur while the plant under test is connected to the power system requires an OTR to be submitted with details of the online testing activities and the risks associated with the work.

7.1.2 In service work - generator online testing

Generators shall use the testing section of an OTR for any online synchronisation or testing to be conducted either during a planned outage, or on completion of a planned outage prior to return to service. Generators shall include the specific details of the desired testing outputs to be tested, including ramping actions. A generator shall submit a final test plan to accompany any non-standard and/or uncommon tests such as load rejection tests and mapping.

7.1.3 Generator opportunistic maintenance

Generator plant outages of less than 24 hours, with a recall to service time of less than 15 minutes may be approved at short notice on the day ~~via following verbal agreement with approval from~~

System Control Hudson Creek Control Room, and electronic approval assessment of a short notice OTR. In these circumstances an approval will consist of the OTR approval email and won't be accompanied by a formal Risk Notice.

Opportunistic maintenance will be considered the lowest priority outage, after all long term, medium term, and short term planned outage, as well as unplanned outages. Typically opportunistic maintenance process would apply to plant inspection or testing activities of a non-intrusive nature only in order for the 15 minute recall time to be met.

Opportunistic maintenance ~~verbal~~ approval will only be granted on the condition that the plant can be called into service should the Power System Controller deem necessary as the result of an unplanned outage elsewhere in the power system or change in system security or system reliability risk. Approval of opportunistic maintenance on the day does not affect pre-dispatch merit order, the unit will be called into service according to the pre-dispatch merit order. For self-committed generating units, opportunistic maintenance requests should be requested for disconnection during the trading day when the unit is not offered.

7.1.4 Request for network access

Power and Water high voltage network isolations are coordinated by the Power System Controller and field switching carried out by the Network Operator. System Participants shall include Power and Water Network Performance in any OTR correspondence where PWC assistance for isolation is required, in accordance with the applicable Operations Protocol or Service Level Agreement.

7.2 Outage Assessment and Notification

7.2.1 Outage assessment

Short term outage assessment includes the use of more reliable generation and network configuration, plant availability forecast, and demand forecasts.

The System Control outage and testing assessment process relies upon the information provided by System Participants of changes to their plant. A detailed risk assessment and risk notification can only occur if accurate information is provided by the System Participant in a timely manner.

If an outage is not approved, the OTR will be returned with the reason for not being approved.

If an outage is approved, the OTR will be returned with Power System Controller sign off and a copy of the Risk Notification / Generator Constraints document which details the outcome of the assessment including:

- details specific to the outage,
- impact on market pre-dispatch,
- effects on the power system N-1 contingency events,
- actions to be taken prior to commencement of the outage,
- pre-contingent generation constraints,
- system conditions required to be met in order for the outage proceed,

- risk description and summary of contingency plans in place,
- details of the customer numbers at risk,
- assumptions made in the system study,
- System risk assessment.

7.3 Outage Commencement Authorisation

The conditions for a planned outage proceeding on the day are documented on the Risk Notification. System Participants shall contact System Control Room prior to the commencement of any planned outage, and receive verbal authority to proceed. If the conditions noted on the Risk Notification are not met, or an unforeseen event has resulted in a change of the risk profile for system security or reliability, the outage will not proceed at the time of the event.

8 Planned Outage Changes

8.1 Cancellations

Where a System Participant no longer intends to proceed with a planned outage, it must inform the Power System Controller via email, with the email subject "Cancellation – (OTR Number)".

If a System Participant becomes aware of any changes to the information previously provided to the Power System Controller related to an long, medium, or short term assessment then they must submit a revised plan in full as soon as practical.

The Power System Controller may cancel an outage that has been previously formally approved. In this case the Power System Controller shall notify the nominated contact of the affected party of the cancellation decision. The circumstances in which Power System Controller will cancel previously approved planned outages or testing include:

- (a) Changes in load forecast
- (b) Changes in weather forecast during the planned outage period resulting in an increase in demand or increased likelihood of a contingency event occurring
- (c) Unplanned outage of another item of plant placing revised constraints
- (d) Unplanned outage of another item of plant placing the system into a lack of standby reserve
- (e) Unplanned outage of another item of plant resulting in inadequate reactive power reserve
- (f) Conditions in the Risk Notice not satisfied

8.2 Extension of Planned Outage OTR

A System Participant must resubmit an OTR as soon as possible when it foresees a planned outage extending beyond the previously approved date and time. The OTR shall be submitted with the original OTR number, and the reason for extension.

OTR extensions must be submitted prior to 12:00 on the outage end date of the previously approved OTR. Failure to do so will result in the submission being considered a forced outage for market dispatch and reporting purposes. If a planned outage OTR is extended for the purposes of completing works not in the original scope, approval may not be given by the Power System Controller if doing

so would compromise reserve requirements or impact the scheduling of other previously approved planned outages. If the out of scope works is to rectify an issue identified during the outage that requires rectification prior to return to service due to risk to safety of plant or personnel, system security, the outage extension will be approved as a forced outage.

At least one working day is required for System Control to formally produce a revised Risk Notification. If one working day notice is not provided, there may be delays in approval assessment of testing activities.

8.3 Revision of Planned Outage OTR

A System Participant shall submit a revised OTR for a planned outage when any details contained in the approved OTR are altered. This includes changes or expansion of the work to be undertaken or revisions to online testing requirements.

If the changes to online testing requirements differ from the test plan substantially, the Power System Controller may require the full OTR approval assessment notice period to complete the assessment.

If the Power System Controller assesses the revision to not change system security or constraints application, the revised OTR may be approved without issuing a revised risk notice.

9 Unplanned Outages & Testing

Unplanned outages, be they forced or emergency performance issue outages, are excluded from the 10 day notice period for OTR submission.

9.1 Performance Issue Outage

A performance issue outage is considered to be an unplanned outage that is requested by the System Participant or the Power System Controller due to a potential impact to system security (SCTC 6.5.1). Where the risk to safety or system security is identified as immediate, System Participants shall notify the System Control Hudson Creek Control Room via phone immediately. The Power System Controller will direct instructions to adjust dispatch and/or remove from service. The System Participant shall submit an OTR as soon as practical after the risk is managed.

Performance issue outages may often result in a generation unit curtailment or constraint being applied, not necessarily taken offline. The treatment will be determined by the Power System Controller based on system security risks and system conditions.

A performance issue outage OTR is required for generator plant that is not performing at its registered minimum stable load or base capacity, not following the dispatch target issued by System Control, or which is identified as non-compliant for forecasting accuracy (refer Generator Forecasting Compliance Procedure).

9.2 Forced Outage

A forced outage is classified as an unplanned outage as a result of an unplanned disconnection from the system (trip or emergency controlled shutdown), or plant fails to start and/or synchronise to the power system when called into service.

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9.2.1 Forced outage of generation plant

For generation plant, in the first instance, the Generator must notify the System Control Hudson Creek Control Room via phone immediately of the known or likely cause, and that the plant is to be considered unavailable. Following verbal communication, the Generator must submit an OTR formally communicating the details using the worst case duration of the outage while the fault / cause of outage is under investigation.

When subject to an unplanned outage, isolation, inspection, and repair work on generation plant involved in a forced outage can commence following verbal agreement with the Power System Controller, it is not necessary to wait for [email](#) approval of an OTR.

9.3 Extension of unplanned outage

A System Participant shall submit a revised OTR to the Power System Controller when the any details contained in the approved OTR are altered. This includes changes or expansion of the work to be undertaken or revisions to online testing requirements.

A System Participant must resubmit an OTR as soon as possible when it foresees an unplanned outage extending beyond the previously approved date and time. The OTR shall be submitted with the original OTR number, and the reason for extension. Where possible, OTR extensions should be submitted prior to 12:00 on the outage end date of the previously approved OTR in order to be included in the Market pre-dispatch.

9.4 Testing following Performance Issue or Forced Outage

It is the responsibility of the System Participant to conduct testing of its plant prior to return to service following Performance Issue or Forced Outages. In many cases this will involve synchronisation to the power system and online testing. The System Participant shall resubmit a revised OTR, referencing the assigned OTR number, with the details of the online tests to be performed at each desired testing output, including ramping actions.

9.5 Power System Controller unplanned outage treatment

When subject to an unplanned outage, isolation, inspection, and repair work on plant involved in a forced outage can commence following verbal agreement with the Power System Controller, it is not necessary to wait for approval of an OTR. However, at no time should testing or synchronising occur without the OTR approval and verbal authorisation from System Control Hudson Creek Control Room is received.

The Power System Controller will approve the OTR for forced outages as soon as practical [via emailing the approved OTR](#). [Out of hours, a forced outage response will not be accompanied by a Risk Notification](#). Formal Risk Notifications will be issued for forced outages [by the following ~~during~~ business day hours](#) if the outage is likely to exceed 24 hours [or involves changes to system conditions or constraints](#). [In all instances, immediate changes to dispatch instructions and system conditions will be communicated via the control room.](#)

~~As with planned online testing, unplanned online testing will require system load and conditions to be met, and therefore wait times should be expected.~~ When a System Participant requires testing of plant prior to return to service, the Power System Controller will accommodate OTR's for testing, with prioritisation given to planned testing and switching activities, unless power system security or reliability risks require prioritisation of returning the equipment under unplanned outage priority. Timeframes for Power System Controller assessment of testing requirements will depend on the outage cause, remedial actions taken while out of service, and requirements of the testing activities. In most circumstances, low risk changes or testing will be approved following a forced outage by following business day, but higher risk testing following forced outages that have required significant rectification work will require a longer assessment period. For example, if the works require setting changes, or will affect the performance of the generating unit and therefore require compliance or R2 validation testing, then significant engineering assessment or planning would be required. As with planned online testing, unplanned online testing will require system load and conditions to be met, and therefore wait times should be expected.

10 Return to Service

10.1 Return to Service Submission

All planned or unplanned outages require a return to service (RTS) application form to be submitted to the Power System Controller when works are complete and the plant is ready to be returned to service.

The System Participant must include the OTR number provided when the outage was approved, the likelihood of the machine tripping, the cause identified and/or details of work undertaken, results of testing undertaken, and any operational restrictions to be applied.

Once a RTS form is submitted, System Participants shall phone System Control Hudson Creek Control Room to confirm System Control's requirements have been met and receive advice on when the generating unit is likely to be called into service.

10.2 Return to Service Approval Assessment

The Power System Controller will not approve the RTS if the details are incomplete, or if it is not satisfied that the risks of tripping have been rectified. The RTS form must be submitted and approved prior to the machine being synchronised to the power system, considered available for service, or being considered for standby reserve.

11 OTR and RTS Distribution

OTR and RTS forms related to generation capacity are distributed to all participants registered in the relevant power system on approval by the System Controller. The information submitted by the generator as part of the OTR or RTS form lodgement is included as part of this circulation. If a generator considers information accompanying their submission to be confidential, then they should provide this information in the email text rather than the form itself.

12 Communication Methods

- All generation outage and testing requests are to be submitted via Power System Controller's nominated Generation Outage Testing Request tool.
- All network outage and testing requests are to be submitted via Power and Water's Request for Access tool.
- All return to service requests for generation are to be submitted via the Power System Controller's nominated Return to Service tool.
- Annual Plant Maintenance Forecasts and Preliminary Assessment Requests are to be submitted to the Operations Planning generic email address:

SCOperationsPlanning.PWC@powerwater.com.au

With the purpose of the email clearly indicated in the email subject as "Submission of Annual Plant Maintenance Forecast" or "Request for Preliminary Assessment"

- Network access requests shall be submitted to the PWC Network Performance generic email address:

NetworkPerformance.PWC@powerwater.com.au

- For communication for other purposes, the primary methods of communication between a System Participant and System Control (Operations Planning and Real Time Operations divisions) is to be in accordance with the applicable Operational Protocol in place between the two parties.

13 Review

This document is to be reviewed in accordance with changes to the System Control Technical Code and/or the Network Technical Code.

System Participants can submit proposals for amendment to this procedure in writing to the Power System Controller.

14 Document History

Date of Issue	Version	Prepared By	Description of Changes
<u>22 October</u>	<u>V1.0</u>	<u>Duncan Griffin</u>	<u>Approved following consultation</u>
09 July April 2020	Draft <u>0.1</u>	Amelia Farmilo	<u>Initial draft Ffor Cconsultation</u>

15 Appendix A – OTR and RTS instructions

A1 Overview

This appendix provides instructions to Generator Participants for completing and submitting Outage/Testing Requests (OTR) and Return to Service (RTS) applications to the Power System Controller for assessment.

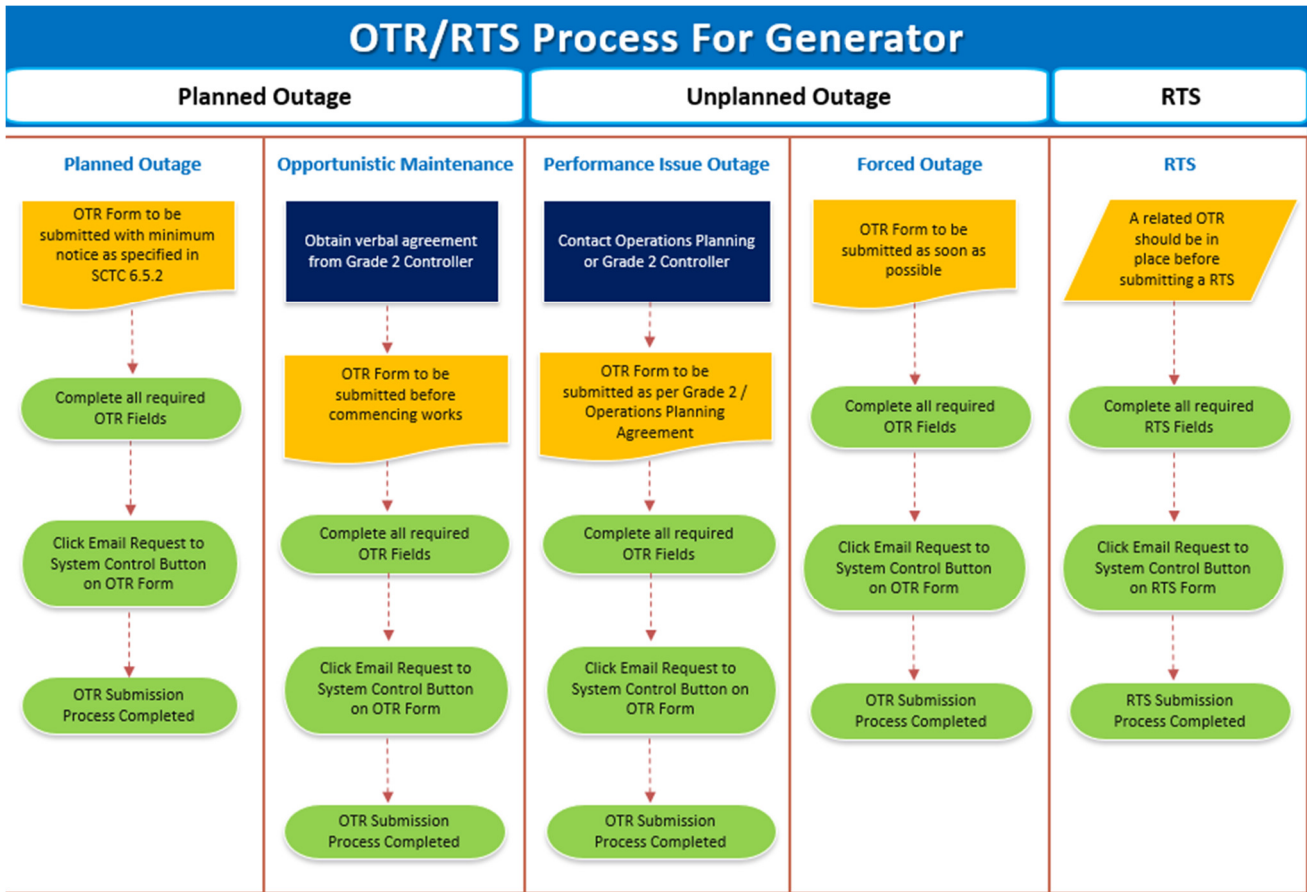
Generator Participants can request OTR and RTS tools and further information from the Operations Planning generic email address¹.

A1.1 Role descriptions

<u>Term</u>	<u>Definition</u>
<u>Generator representative</u>	<u>A representative authorised to act on the behalf of a Generator Participant to engage with the Power System Controller and submit required plant outage paperwork.</u>
<u>Grade 2 Controller</u>	<u>Power System Controller representative, on duty generation dispatch controller, stationed at the 24 hour Hudson Creek Control Room.</u>
<u>Operations Planning</u>	<u>Power System Controller representative, operations planning representative, responsible for engineering operations, outage management, and system risk assessment activities during business hours.</u>
<u>System Control</u>	<u>Representative of the Power System Controller.</u>

¹ SCOperationsPlanning.PWC@powerwater.com.au


A1.2 Submission process overview



OTR and RTS Process Chart

A2 OTR instructions

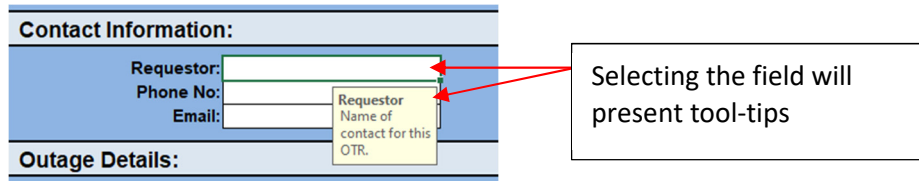
This section outlines the OTR V3.0 form processing procedures for Generator Participants.

 Outage/Testing Request Clear Form	
OTR Form - Version 3.0	
Contact Information:	
Requestor: <input type="text"/>	Company: <input type="text"/>
Phone No: <input type="text"/>	Power Station: <input type="text"/>
Email: <input type="text"/>	Station Manager: <input type="text"/>
Outage Details:	
Primary Plant: <input type="text"/>	Category of OTR: <input type="text"/>
Additional Plant: <input type="text"/>	Existing OTR No: <input type="text"/>
	Recall Time: <input type="text"/>
Outage Schedule: <i>(Planned Outages should be scheduled to meet a minimum notice of 10 Business Days)</i>	
Outage Start Date: <input type="text"/>	Outage End Date: <input type="text"/>
Outage Start Time: <input type="text"/>	Outage End Time: <input type="text"/>
	Outage Duration: <input type="text" value="0 Days, 0 Hours"/>
Outage Reason:	
<input style="width: 100%; height: 40px;" type="text"/>	
Works Planned to be Undertaken:	
<input style="width: 100%; height: 100px;" type="text"/>	
Online Testing / In Service Work Details:	
Online Testing Required: <input type="text"/>	In Service Work: <input type="text"/>
Online Test / In Service Work Description:	
<input style="width: 100%; height: 80px;" type="text"/>	
<small>To be completed if maximum test or In service load required is greater than specified below: For load greater than 5.0 MW in Darwin-Katherine Power System or greater than 1.5 MW in Alice Springs Power System</small>	
Max. Online Load: <input type="text"/>	Likelihood of Machine Trip: <input type="text"/>
Online Testing Schedule	
Online Test / Works Start Date: <input type="text"/>	Online Test / Works End Date: <input type="text"/>
Online Test / Works Start Time: <input type="text"/>	Online Test / Works End Time: <input type="text"/>
	Online Test / Works Duration: <input type="text" value="0 Days, 0 Hours"/>
Date Submitted: <input type="text"/>	Email Request to System Control
System Control Use Only:	
OTR Number: <input type="text"/>	System Control Reliability Run: <input type="text" value="96 Hours (Default)"/>
Date Processed: <input type="text"/>	Outage Approval: <input type="text"/>
Processed By: <input type="text"/>	Send Reply Email (For Grade 2 Controller Use Only)
<small>Please refer to the associated Risk Notice for the full security assessment and outage criteria. System Control will assume a default of 96 hours of reliability run duration if no detailed information is provided. A OTR form must be submitted and approved prior to any synchronised testing required. OTR Form Template version 3.0 last updated: 01/09/2020</small>	

OTR Form V3

A2.1 OTR form population

The form has been set-up with information prompts that appear when selecting the field.



Tool-tip example for the Requestor field.

For more guidance on populating particular fields, refer to the information below.

A2.1.1 Contact information

This information is required to allow System Control representatives to determine where the request has originated from, as well as providing the Requestor's contact details should any details need to be clarified during the assessment process.

<u>Field</u>	<u>Description</u>
<u>Requestor</u>	<u>Record the full name (first and last name) of the Generator representative submitting the form.</u>
<u>Phone Number</u>	<u>Record the contact phone number for the Requestor, preferably a mobile number, if available. If a landline is given it shall be a 10 digit number including the area code. A contact number is provided to ensure that the Requestor is contactable by System Control at any time during the processing of a submitted OTR form.</u>
<u>E-mail</u>	<u>Email address of the Requestor. This is required to facilitate online communication between the Requestor and System Control whilst the OTR form is being processed.</u>
<u>Company</u>	<u>This field is to record the organisation the submitter is representing. The field is restricted to a list of companies registered to participate as Generators. If the company details are missing or incorrect, please contact Operations Planning to have the details updated.</u>
<u>Power Station</u>	<u>This field provides the name of the power station where the requested outage is to occur. The field will suggest applicable options based on the company selected although you can input your own text if required.</u> <u>It is acceptable for the Requestor to use the acronym for the relevant power station.</u>
<u>Station Manager</u>	<u>This field is to record the name of the relevant Station Manager. This will help system control when seeking detailed information of the outage.</u>

A2.1.2 Outage details

The outage details section is intended to provide all information required by System Control representatives to process the OTR. Information in this section is vital to ensuring that System Control can undertake a security/reliability assessment for the requested outage.

<u>Field</u>	<u>Description</u>
<u>Category of OTR</u>	<u>Record the category of the OTR. The OTR form can be submitted with one of the following categories:</u> <ul style="list-style-type: none"> • <u>Planned Works:</u> <ul style="list-style-type: none"> ○ <u>Outage ranging from hours to a number of days.</u> ○ <u>Greater than or equal to notice required by System Control.</u>

<u>Field</u>	<u>Description</u>
	<ul style="list-style-type: none"> • <u>Opportunistic Maintenance Outage:</u> <ul style="list-style-type: none"> ○ <u>Duration of less than 8 hours.</u> ○ <u>Recall time of less than 15 minutes.</u> ○ <u>Facilitated through direct communication with Grade 2 Controller.</u> • <u>Performance Issue Outage:</u> <ul style="list-style-type: none"> ○ <u>Duration of plant outage may be unknown.</u> ○ <u>Facilitated through direct communication with Grade 2 Controller or Operations Planning.</u> • <u>Forced Outage:</u> <ul style="list-style-type: none"> ○ <u>An unavoidable and unforeseen disconnection of the generator supply from the power system; or</u> ○ <u>Failure to connect the generator supply to the power system.</u> • <u>OTR Extension:</u> <ul style="list-style-type: none"> ○ <u>An OTR form has been submitted previously for this outage and is being extended by a new OTR.</u> <p>The OTR form should be submitted for each <u>category of plant outage listed above.</u></p>
<u>Primary Plant</u>	<u>This field is to record the plant that is most responsible for the planned outage. Choose from the drop down list to select the primary plant, if the primary plant requiring an outage is not listed in the above tables then it can be entered manually.</u>
<u>Additional Plant</u>	<u>This field is optional and should be used to record any other plant that requires work during the outage or is affected by the outage. If the 'Primary Plant' and 'Additional Plant' text field are not sufficient to detail all plant affected then all additional plant should be detailed in the 'Works Planned to be Undertaken' text field.</u>
<u>Recall Time</u>	<u>This field is to record the maximum time that the affected plant can be returned to service upon request. This may be required at any point during the outage. Plant recall may be necessary in the event of an unrelated real-time outage that reduces the generation capacity of the Power System. In this situation the Power System Controller may request works to stop and for the plant to be brought back into service. If the plant cannot be brought back online until the end of the works specified in the OTR then the Requestor shall enter "No Recall" in this field.</u>
<u>Existing OTR Number</u>	<u>This field is only required if the OTR has been rescheduled or extended in outage duration. The Requestor shall complete this field with the number of the OTR that is being updated.</u>
<u>Outage Schedule</u>	<u>The Requestor is to specify the time period required where generation capacity will be affected by the outage. The 'Outage Schedule' shall include any offline testing required.</u>
<u>Outage Start Date and Time</u>	<u>This field is to record the date and time of when generation capacity will become unavailable for service.</u>
<u>Outage End Date and Time</u>	<u>This field is to record the date and time of when the outage works and offline testing are planned to be completed.</u>
<u>Outage Duration</u>	<u>This field is automatically calculated from the difference between the outage start date/time and end date/time.</u>
<u>Outage Reason</u>	<p>The requestor is to detail the purpose of the works being undertaken. Examples being:</p> <ul style="list-style-type: none"> • <u>Planned/scheduled maintenance</u> • <u>Notice of repairs required during plant inspections</u> • <u>Tuning of PLC to improve performance of machine</u> • <u>Inspection/works to troubleshoot alarms</u>
<u>Works Planned to be Undertaken</u>	<p>The requestor is to detail the works that is planned being undertaken during the outage in this field. This description is to include, but is not limited to, the following:</p> <ul style="list-style-type: none"> • <u>Description of works being undertaken. Examples being:</u> <ul style="list-style-type: none"> ○ <u>Oil Change</u> ○ <u>Modification to protection settings</u>

<u>Field</u>	<u>Description</u>
	<ul style="list-style-type: none"> ○ <u>Modification to forecasting algorithm</u> ● <u>The description should also describe the potential impact of the works to operation of the plant. Examples being:</u> <ul style="list-style-type: none"> ○ <u>Increased risk of tripping</u> ○ <u>Restricted operation or capacity of plant</u> <p><u>If the work is purely in service work or online testing, Generator Participants shall use the Testing / In Service Works section of the OTR form.</u></p> <p><u>Requestor shall include the specific details of the desired testing outputs to be tested, including ramping actions. Requestor shall submit a final test plan to accompany any non-standard and/or uncommon tests such as load rejection tests and mapping. If the job is complex in nature, it is suggested to contact Operations Planning before submitting to discuss the requirements prior to submitting.</u></p>

A2.1.3 Online testing / in service work details

This section is for the Requestor to detail any online testing that is required before the generation affected by the outage can return to service or to detail works that are to be completed while machine(s) or assets are required to be online.

<u>Field</u>	<u>Description</u>
<u>Online Testing Required</u>	<u>The Requestor is to indicate if online testing is required, before the plant will be available for service in this field. System Control may also mandate additional testing to confirm reliable operation of the plant after works have been completed.</u>
<u>In Service Work</u>	<p><u>This field is to indicate if work will be undertaken whilst the plant is online and in service. Online and in service work may be required for, but is not limited to, the following:</u></p> <ul style="list-style-type: none"> ● <u>Control setting modifications</u> ● <u>UPS</u> ● <u>Station Auxiliaries</u> ● <u>SCADA and communications</u> ● <u>Protection assets</u> ● <u>Works on assets relating to supply of fuel or gas to generation units</u> ● <u>Tuning of control systems, configurations or other elements of the plant</u>
<u>Online Test / In Service Work Description</u>	<p><u>Description of online testing or in service works that will be performed. This description is to include, but is not limited to, the following:</u></p> <ul style="list-style-type: none"> ● <u>For testing:</u> <ul style="list-style-type: none"> ○ <u>Why is the testing being undertaken?</u> ○ <u>What is being tested?</u> ○ <u>How is the testing to be undertaken?</u> ○ <u>If testing will undergo various modes of operation or testing loads, a high level schedule should also be included.</u> ○ <u>The assessment of risk to the plant tripping whilst undergoing testing.</u> ● <u>For in service works:</u> <ul style="list-style-type: none"> ○ <u>Why is the machine required to be online for works?</u> ○ <u>What the works involve?</u> ○ <u>If multiple modes of operation is required, a high level schedule should also be included.</u> ○ <u>The assessment of risk to the plant tripping whilst undergoing works.</u> ○ <u>Any precautions taken to mitigate against risk of tripping whilst performing the in service works.</u>
<u>Maximum Online Load</u>	<u>This field is to record the maximum load that will be supported by the generating system undergoing online testing or in service works. This is required by System Control to</u>

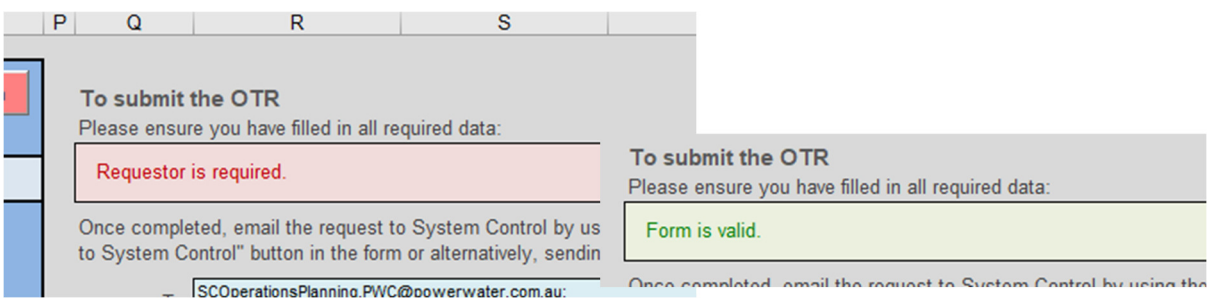
<u>Field</u>	<u>Description</u>
	<u>ensure that the loss of the generating system undergoing testing or works will not put the power system security at risk.</u>
<u>Likelihood of Machine Trip</u>	<p><u>The Requestor is to determine the likelihood of the generation system tripping whilst undergoing online testing or works. The Requestor is to indicate the level of risk as one of the following categories. Examples have been provided to aid the Requestor in determining the relevant category.</u></p> <ul style="list-style-type: none"> <u>Almost Certain – Code compliance testing</u> <u>Likely – Major works: Replacement of prime mover</u> <u>Possible – Intrusive maintenance/repairs, combustor mapping.</u> <u>Unlikely – Control system works</u> <u>Rare – Minor works such as air filter replacement/oil change</u> <u>None – External visual inspection</u>
<u>Online Test / Works Start Date and Time</u>	<u>This field is to record the date and time requested for generating system to be connected to the power system for online testing.</u>
<u>Online Test / Works End Date and Time</u>	<u>This field is to record the planned date and time of when online testing is planned to be completed and RTS will be received by System Control.</u>

A2.2 OTR submission

A2.2.1 Form validation

An indicator has been provided on the right side of the form to check that the minimum relevant data is provided before submitting the form. The Requestor should check the indicator for any missing or invalid data before submitting the request.

It is also important to ensure correct and relevant information is provided to allow processing of the request to occur within timeframes. Missing or conflicting information will result in the request being sent back for amendment.

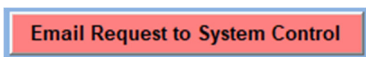


Check the validation indicator to ensure minimum details have been filled in.

A2.2.2 Date submitted

The current date and time will be automatically entered into this field when the ‘Email Request System Control’ button is pressed. Alternatively, input the current date and time as one value.

A2.2.3 Email request to System Control



After reviewing this procedure and completing the OTR form, the Requestor is to submit the completed OTR form to the System Control Operations Planning inbox by clicking this button (*Excel*

macros required to be enabled). An email will be generated. Review the information and press 'Send' once ready to submit.

Alternatively, the right hand section of form will suggest the recipients to notify in submission of the OTR request. Note that this data is only valid once the form has been filled in correctly.

Once completed, email the request to System Control by using the "Email request to System Control" button in the form or alternatively, sending an email to:

To:	SCOperationsPlanning.PWC@powerwater.com.au; Grade2Controllers@powerwater.com.au
Cc:	
Subject:	OTR at CIPS for Unit: C1 from 01/10/2020 08:00 to 02/10/2020 15:00 - SUBMITTED

And attach the completed form to the email.

OTR and RTS Distribution:
OTR and RTS forms related to generation capacity are distributed to all participants

The instructions for submitting the OTR form is displayed on the right hand side of the form

A2.3 System Control OTR processing

This section will be completed by System Control. A description of each field is provided below for informational purposes.

<u>Field</u>	<u>Description</u>
<u>OTR Number</u>	<u>This field is where System Control will assign a unique number to this OTR for identification and tracking. This number will include a version identifier if the OTR has been revised.</u>
<u>Date Processed</u>	<u>This field is where System Control will note the date that the OTR was approved or rejected.</u>
<u>Processed By</u>	<u>This field is to record the System Control representative/s that has processed the OTR.</u>
<u>Outage Approval</u>	<u>This field is where System Control will mark the OTR as 'Approved' or 'Not Approved, depending on the outcome of the Risk Notice. If the outage occurred as a result of a forced outage, the field shall be marked as a 'Forced Approval (Forced Outage)' to indicate that it was not possible to complete a Risk Notice prior to the outage.</u>
<u>System Control Reliability Run</u>	<p><u>This field is where the System Control Engineer shall mandate the required reliability run to be undertaken after testing. A reliability run is a period of time that the generation system must be online before it can be made available for dispatch. This is to ensure works were completed successfully during the outage and the generating system can be relied upon for power system security. The period of time mandated for the reliability run will be dependent on the level of intrusion undertaken during the outage. If System Control considers the duration online testing requested to be sufficient, the mandated reliability run will be reduced.</u></p> <p><u>The following are standard reliability run time periods:</u></p> <ul style="list-style-type: none"> • <u>None Required: Non-intrusive inspections</u> • <u>1-4 Hour: Small works</u> • <u>8-24 Hours: Large works</u> • <u>48 Hours: Annual maintenance</u> • <u>96+ Hours: Code compliance</u>

<u>Field</u>	<u>Description</u>
	<ul style="list-style-type: none"><u>96 Hours*</u>: The default System Control reliability run duration that will be applied if insufficient information is given regarding the works being undertaken.

RTS instructions

This section outlines the RTS v3.0 form processing procedures for Generator Participants to submit.

PowerWater System Control		Return to Service RTS Form Version 3.0		Clear Form
Contact Information:				
Submitter:	<input type="text"/>	Company:	<input type="text"/>	
Phone No:	<input type="text"/>	Power Station:	<input type="text"/>	
Email:	<input type="text"/>	Station Manager:	<input type="text"/>	
Outage Details:				
Primary Plant:	<input type="text"/>	Related OTR Number:	<input type="text"/>	
Additional Plant:	<input type="text"/>	Date Returned to Service:	<input type="text"/>	
		Time Returned to Service:	<input type="text"/>	
Likelihood of Machine Tripping: (Compared to in service machines)	<input type="text"/>			
Root Cause of Outage:	<input type="text"/>			
Works Undertaken:	<input type="text"/>			
Test Results:	<input type="text"/>			
Supporting Information:	<input type="text"/>			
Operational Restrictions: <i>(To be completed if restrictions exist on the machine after it is returned to service.)</i>				
Restriction Details:	<input type="text"/>			
Restricted Capacity: <i>(To be completed if MW Output is restricted after the return to service.)</i>				
Plant Base Capacity:	<input type="text"/>	Plant Minimum Continuous Load:	<input type="text"/>	
Sprint/WAC Available:	<input type="text"/>	Plant Peak Capacity:	<input type="text"/>	
Date Submitted:	<input type="text"/>	Email Request to System Control		
System Control Use:				
Assessment:	<input type="text"/>			
Date Processed:	<input type="text"/>	Return to Service Approved:	<input type="text"/>	
Processed By:	<input type="text"/>	RTS Number:	RTS-	<input type="text"/>
Send Reply Email (For Grade 2 Controller Use Only)				
<small>The Return to Service Form must be submitted after the plant is ready for normal use; all offline testing must be completed. Return to Service Forms are required to be submitted prior to plant being synchronised, and submitted to allow sufficient time for SC Operations Planning Staff to undertake adequate assessment to determine (if any) system security requirements. All Return to Service forms must refer to an associated Outage/Testing Request (OTR). RTS template version 3.0 last updated: 01/09/2020</small>				

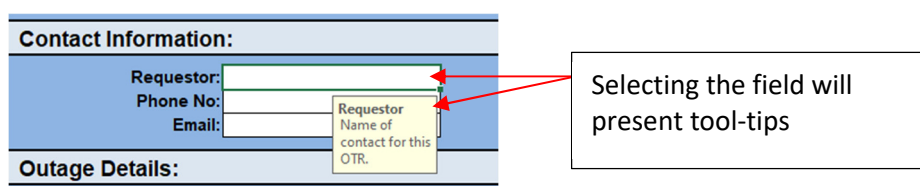
RTS Form V3

An RTS form shall be completed and submitted to System Control once an asset is ready to be returned to service. An RTS may be submitted with restrictions indicating full operation is not available yet but available for dispatch within the constraints advised to System Control. Multiple RTS will need to be submitted if the asset is returned to service in stages (e.g. without SPRINT and then with SPRINT available) or if multiple assets are undergoing testing and each asset must be returned to service before the next asset can be tested.

Please keep in mind that the RTS request details should match up with the OTR request. Significant variations from the submitted OTR will involve further clarification from requestor as to the details of the work.

A2.4 RTS form population

The form has been set-up with information tool-tips that appear when selecting the field.



Tool-tip example for the Requestor field.

For more guidance on populating particular fields, refer to the information below.

A2.4.1 Contact information

This information is required to allow System Control to determine which entity the RTS has originated from, as well as providing the Submitter's contact details.

<u>Field</u>	<u>Description</u>
<u>Submitter</u>	<u>This field is to record the full name (first and last name) of the Generator representative.</u>
<u>Phone Number</u>	<u>This field is to record the contact phone number for the Submitter, preferably a mobile number, if available. If a landline is given it shall be a 10 digit number including the area code. A contact number is provided to ensure that the Submitter is contactable by System Control at any time during the processing of a submitted RTS form.</u>
<u>E-mail</u>	<u>This field is to record the email address of the Submitter. An email is provided to facilitate online communication between the Submitter and System Control whilst the RTS form is being processed.</u>
<u>Company</u>	<u>This field is to record the organisation the Submitter is representing. The field is restricted to a list of companies registered to participate as licenced Generators. If the company details are missing or incorrect, please contact Operations Planning to have the details updated.</u>
<u>Power Station</u>	<u>This field provides the name of the power station where the requested outage is to occur. It is acceptable for the Submitter to use the acronym for the relevant power station.</u>
<u>Station Manager</u>	<u>This field is to record the name of the relevant Station Manager. This will help system control with alternative information on the outage.</u>

A2.4.2 Outage details

The outage details section is intended to provide detail relating to the cause of the outage as well as the works and testing that were carried out during the outage. Information in this section is vital in communicating any risks that returning the machine to service may impose onto the security and reliability of the machines operating within the power system.

<u>Field</u>	<u>Description</u>
<u>Primary Plant</u>	<u>This field is to record the plant that is most responsible for the planned outage. It should match the details in the OTR form that was submitted.</u>
<u>Additional Plant</u>	<u>This field is optional and should be used to record any other plant that requires work during the outage or is affected by the outage. If the 'Primary Plant' and 'Additional Plant' text field are not sufficient to detail all plant affected then additional plant should be detailed in the 'Supporting Information' text field. It should match the details in the OTR form that was submitted.</u>
<u>Related OTR Number</u>	<u>This field is to record the number corresponding to the OTR which was raised to request the outage.</u>
<u>Date and Time Returned to Service</u>	<u>This field is to record the date and time of when the generation capacity is to be available for service.</u>
<u>Likelihood of Machine Tripping</u>	<p><u>The Submitter is to indicate if the works undertaken have elevated the likelihood of tripping any of the online plant in comparison to other machines in service. The Submitter is to indicate the most suitable likelihood from one of the following categories:</u></p> <ul style="list-style-type: none"> • <u>No Failure (Routine Maintenance and Inspection Only)</u> • <u>No Increase (Root Cause Rectified)</u> • <u>Rare (Root Cause Almost Certainly Rectified)</u> • <u>Unlikely (Root Cause Likely Rectified)</u> • <u>Possible (Root Cause Possibly Rectified)</u> • <u>Likely (Root Cause Unlikely Rectified)</u> • <u>Almost Certain (Root Cause Almost Certainly Not Rectified)</u>
<u>Root Cause of Outage</u>	<u>The Submitter is to identify the root cause of the incident and detail what rectification works have been performed. If the root problem has not been rectified, justification shall be provided detailing why it could not be rectified. Details on the further rectification works required, including a schedule, shall be provided in this section. This shall provide justification for the 'Likelihood of Machine Tripping' entered in the previous field.</u>
<u>Works Undertaken</u>	<u>The Submitter is to detail the works that were undertaken during the outage.</u>
<u>Test Results</u>	<u>The Submitter is to detail all of the online and offline tests that have been completed during the outage. The results of the testing undertaken should be listed and details of failures should be provided.</u>
<u>Supporting Information</u>	<p><u>The Submitter is to provide any additional information that may be relevant in the returning to service. This should include the control settings which will be used when the plant is returned to service. Examples are:</u></p> <ul style="list-style-type: none"> • <u>Droop</u> • <u>Base Loaded</u> • <u>Frequency Control</u> • <u>Reactive Control</u> • <u>Power Factor Control</u> • <u>Load acceptance</u>

A2.4.3 Operational restrictions

The Submitter is only required to complete this section if the operational restrictions will exist on the plant after it has been returned to service.

<u>Field</u>	<u>Description</u>
<u>Restriction Details</u>	<p>The Submitter is to detail any restrictions that exist on the machine after it has been returned to service. If the restriction(s) have been introduced as part of the works undertaken during the outage, then the Submitter shall detail how they have been introduced. Restrictions may be, but are not limited to, the following:</p> <ul style="list-style-type: none"> • <u>Operating temperature</u> • <u>MW capacity</u> • <u>Minimum stable load</u> • <u>Altered contingencies</u>

A2.4.4 Restricted capacity

The Submitter is only required to complete this section if the operational restrictions exist on the generation plant, after it is returned to service, which will reduce the MW capacity of the machine. If capacity has been restricted, the MW values provided in this section will supersede those provided to System Control through formal registered market trading and operational performance data.

<u>Field</u>	<u>Description</u>
<u>Plant Base Capacity</u>	<u>This field is to record the base capacity of the generation system returning to service.</u>
<u>Plant Minimum Continuous Load</u>	<u>This field is to record the minimum continuous load that can be supplied by the generation system returning to service.</u>
<u>Plant Peak Capacity</u>	<u>This field is to record the peak capacity of the generation system returning to service.</u>

A2.5 RTS submission

A2.5.1 Form validation

An indicator has been provided on the right side of the form to check that the minimum relevant data is provided before submitting the form. The user should check the indicator for any missing or invalid data before submitting the request.

It is also important to ensure correct and relevant information is provided to allow processing of the request to occur within timeframes. Missing or conflicting information will result in the request being sent back for amendment.

The screenshot shows two overlapping panels of the form. The top panel, titled 'To submit the RTS', contains the instruction 'Please ensure you have filled in all required data:' and a red error message: 'Requestor is required.' Below this, it says 'Once completed, email the request to System Control by u request to System Control" button in the form or alternativel email to: [redacted]@scoperationsplanning@nswpower.com.au'. The bottom panel, also titled 'To submit the RTS', contains the instruction 'Please ensure you have filled in all required data:' and a green success message: 'Form is valid.' Below this, it says 'Once completed, email the request to System Control by'.

Check the validation indicator to ensure minimum details have been filled in.

A2.5.2 Date submitted

The current date and time will be automatically entered into this field when the 'Email Request System Control' button is pressed. Alternatively, input the current date and time as one value.

A2.5.3 Email request to System Control

Email Request to System Control

After reviewing this procedure and completing the RTS form, the Requestor is to submit the completed RTS form to the System Control by clicking this button (*Excel macros required to be enabled*). An email will be generated. Review the information and press 'Send' once ready to submit.

Alternatively, the right hand section of form will suggest the recipients to notify in submission of the OTR request. Note that this data is only valid once the form has been filled in correctly.

It is advisable to follow up submission of RTS with a phone call to System Control Grade 2 Controller (08 8944 2613) to ensure receipt of the RTS.

Once completed, email the request to System Control by using the "Email request to System Control" button in the form or alternatively, sending an email to:

To: SCOperationsPlanning.PWC@powerwater.com.au;
Grade2Controllers@powerwater.com.au

Cc:

Subject: RTS at CIPS for Unit: C1 on 10/10/2020 11:00 - OTR - SUBMITTED

And attach the completed form to the email.
Once submitted, please follow up with a call to System Control - Grade 2 Controller (08 8944 2613) to ensure receipt of RTS.

The instructions for submitting the RTS form is displayed on the right hand side of the form

A2.6 System Control RTS processing

This section will be completed by System Control. A description of each field is provided below for informational purposes.

<u>Field</u>	<u>Description</u>
<u>Assessment</u>	<u>If the RTS is not approved, System Control will provide justification for the rejection in this field</u>
<u>Date Processed</u>	<u>This field is where System Control will record the date that the RTS was approved or rejected.</u>
<u>Processed By</u>	<u>This field is to record the System Control representative/s that has processed the RTS.</u>
<u>Return to Service Approved</u>	<u>This field is where System Control will mark the RTS as 'approved' or 'not approved'. Approval is dependent on the level of detail provided in the RTS form so that System Control is fully informed as to the status of the generating system returning to service.</u>