

Division Procedure

NETWORK

Document No.	: CEOP2047
Issue No.	: 6
Approved By	: General Manager Network Services
Approval Date	: 28/09/2017
Review Date	: 28/09/2020

(Supersedes Operational Procedure System Operations Authority for Placing Major Plant Equipment into Service CEOP2047 Issue 5)

CEOP2047 SYSTEM OPERATIONS: AUTHORITY FOR PLACING PLANT/EQUIPMENT INTO SERVICE

1.0 PURPOSE

The intention of this procedure is to ensure that System Control receives written notification that all construction, protection, inspections, testing, and pre-commissioning checks on electrical plant/equipment are completed, prior to placing electrical plant/equipment into service.

This procedure applies to; all new major electrical plant/equipment, major electrical plant/equipment that has been out of service in excess of three months, major electrical plant/equipment that has been removed from in situ and new high voltage distribution electrical plant/equipment.

This does not apply to standby power transformers that are changed over on a rotational basis providing that the transformer has been out of service no longer than 18 months.

This procedure defines responsibilities and the method of transfer of information between the various parties involved in the process of placing electrical plant/equipment into service.

Two forms have been prepared for the transfer of information. For major electrical plant/equipment, *Branch Form (Network) – System Operations: Authority for Placing Major Electrical Plant/Equipment into Service – CEOF6047.10* is to be completed. For new high voltage distribution electrical plant/equipment, *Branch Form (Network) – System Operations: Authority for Placing High Voltage Distribution Electrical Plant/Equipment into Service – CEOF6047.20* is to be completed.

2.0 SCOPE

This procedure applies to the following major electrical plant/equipment (Branch Form (Network) – System Operations: Authority for Placing Major Electrical Plant/Equipment into Service – CEOF6047.10):

- power transformers within zone substations;
- high voltage circuit breakers;
- reclosers located within zone substations;
- voltage regulators located within zone substations;
- new Sub transmission network feeders, including cables;
- new Distribution network feeders;
- reactive power control plant;
- protection schemes applied to any of the above;
- SCADA control schemes applied to any of the above items of plant;
- HV Instrument transformers;
- HV busbar; and

- frequency injection plant.

This procedure applies to the following high voltage Distribution electrical plant/equipment (Branch Form (Network) – System Operations: Authority for Placing High Voltage Distribution Electrical Plant/Equipment into Service – CEOF6047.20):

- reclosers;
- ring Main Units (RMUs) with protective devices fitted;
- pad mount substations;
- distribution voltage regulators;
- sectionalises; and
- fuse savers.

3.0 REFERENCES

Internal

Company Procedure (Information Communication and Technology) – Security: Information Sensitivity Labelling & Handling – CEOP1096

Company Procedure (Network) – Electrical Safety Rules – CEOP8030

Branch Procedure (Network) – System Operations: Training, Authorisation and Reassessment – CEOP2065

Branch Form (Network) – System Operations: Authority for Placing Major Electrical Plant/Equipment into Service – CEOF6047.10

Branch Form (Network) – System Operations: Authority for Placing High Voltage Distribution Electrical Plant/Equipment into Service – CEOF6047.20

External

Electricity Supply (Network Management Plan) Regulations 2014

Code of Practise for Electricity Transmission and Distribution Asset Management

National Energy Retail Rules (NERR)

NSW Service and Installation Rules

4.0 DEFINITIONS

Document control

Employees who work with printed copies of documents must check the Business Management System regularly to monitor version control. Documents are considered “UNCONTROLLED IF PRINTED”, as indicated in the footer.

NAR

Network Access Request

Recordkeeping

Making and maintaining completed, accurate and reliable evidence of business transactions in the form of recorded information (Source: AS Records classification handbook – HB5031 – 2001).

Review date

The review date displayed in the header of the document is the future date for review of a document. The default period is three years from the date of approval. However, a review may be mandated at any time where a need is identified due to changes in legislation, organisational changes, restructures, occurrence of an incident or changes in technology or work practice.

SCADA

Supervisory Control and Data Acquisition.

Like for Like

Electrical equipment/plant is considered like for like if it is being replaced by equipment/plant of the same rating and the existing circuit wiring can be reconnected.

5.0 ACTIONS

Each section of Branch Form (Network) – System Operations: Authority for Placing Major Electrical Plant/Equipment into Service – CEOF6047.10 and Branch Form (Network) – System Operations: Authority for Placing High Voltage Distribution Electrical Plant/Equipment into Service – CEOF6047.20 is to be completed by the responsible officer.

It is the obligation of the responsible officer to ensure that each preceding section is completed before handing the form over to the next responsible officer.

Where a process is not required, the responsible officer shall give written cause on the form as to why.

5.1 To be completed by officer responsible for construction

5.1.1 Zone

The zone substation name that the electrical plant/equipment is located.

5.1.2 Feeder (Branch Form (Network) – System Operations: Authority for Placing High Voltage Distribution Electrical Plant/Equipment into Service – CEOF6047.20 only)

The feeder name that the electrical plant/equipment is located on.

5.1.3 Equipment name

The unique identification name/s of the electrical plant/equipment to be placed in service are to be listed.

5.1.4 WASP/Project number

Requires the WASP or Project number of the electrical plant/equipment. Type of number should be highlighted or circled.

5.1.5 Network Access Request number

The Network Access Request (NAR) number for the project. If a NAR is not issued for construction, the line is to remain blank and completed by the officer responsible for commissioning.

5.1.6 Description of Equipment

A full description of the electrical plant/equipment, under construction or being installed. The description shall include the type, brand and rating.

5.1.7 Construction completed

Only to be ticked once the works and worksite meet Essential Energy's Safety and Environmental Standards on completion.

5.1.8 Equipment serviceable

Only to be ticked once the Plant and Equipment defined above is constructed in accordance with Essential Energy's requirements and is ready for service.

5.1.9 Drawings (Branch Form (Network) – System Operations: Authority for Placing Major Electrical Plant/Equipment into Service – CEOF6047.10 only)

For privately owned equipment an operating diagram shall be provided to Essential Energy, illustrating key equipment, device numbers, and normal system configuration.

For Essential Energy owned electrical plant/equipment, construction drawings are to be submitted to relevant parties for updating.

5.1.10 Ready for Service

Only to be ticked once the Site, Works and electrical plant/equipment are ready for service as defined; are labelled in accordance with Essential Energy's requirements and are ready for service. A date and time is to be entered here.

5.1.11 Signature

The officer responsible for construction shall date, sign and print their name only if they have satisfied all requirements.

5.2 To be completed by officer responsible for Testing

5.2.1 Inspection and tested

Only to be ticked once all necessary inspections and tests applicable to the described electrical plant/equipment meet results suitable for the placement of the apparatus into service.

5.2.2 SCADA complete

Only to be ticked once SCADA is connected and checks have confirmed it is operational in accordance with Essential Energy requirements and is ready for service. If no SCADA is part of the electrical plant/equipment the N/A is to be completed.

5.2.3 Protection settings confirmed

Only to be ticked once the protection settings for the described apparatus are set in accordance with Essential Energy requirements and is ready for service. If no protection settings are confirmed or required, the N/A is to be completed and the reason listed.

5.2.4 PSA number or PSA number/s

If protection settings are required for the described apparatus, the officer responsible is to list the PSA number/s of the settings applied. If no protection settings are required, *NIL* is to be listed.

5.2.5 Fuse size (Branch Form (Network) – System Operations: Authority for Placing High Voltage Distribution Electrical Plant/Equipment into Service – CEOF6047.20 only)

If fuses are fitted for the described apparatus, the officer responsible is to list the size of the fitted fuses. If no fuses are fitted, *NIL* is to be listed.

5.2.6 *Float voltage (Branch Form (Network) – System Operations: Authority for Placing High Voltage Distribution Electrical Plant/Equipment into Service – CEOF6047.20only)*

Applicable if the electrical plant/equipment is a voltage regulator. The float voltage of the regulator is to be listed, if the electrical plant/equipment is not a voltage regulator, *NIL* is to be listed.

5.2.7 *Remarks*

The officer responsible for testing shall record in the allotted area any extra information they believe would assist or hinder the normal process of the electrical plant/equipment going into service.

5.2.8 *Signature*

The officer responsible for testing shall date, sign and print their name only if they have satisfied all requirements.

5.3 To be completed by Officer Responsible for Commissioning

5.3.1 *Operational staff trained*

Only to be ticked once appropriate employees have completed satisfactory training for the defined electrical plant/equipment and those employees meet Essential Energy requirements in accordance with Branch Procedure (Network) – System Operations: Training, Authorisation and Reassessment – CEOP2065.

The intent of this section is to ensure that local staff have been trained on the equipment before it is placed into service to allow ready response to any operation requirements for the network.

Project managers are to liaise with relevant area managers and system operations to nominate appropriate staff that require training on new equipment before it is placed into service.

5.3.2 *Compliance with NSW Service and Installation Rules*

The officer responsible for commissioning shall indicate that the installation complies with the requirements of the NSW Service and Installation Rules, in particular the requirements of Section 7 – High Voltage Installations.

5.3.3 *Electrical safety rules Available*

The officer responsible for commissioning shall provide a copy of the sites electrical safety rules to Essential Energy.

5.3.4 *List staff trained*

The officer responsible for commissioning shall record in the allotted area names of all employees who meet the criteria of Clause 5.3.1 of this procedure.

5.3.5 *Major incomplete items*

The officer responsible for commissioning shall record in the allotted area all major incomplete items that could have an effect on the normal operation of the defined electrical plant/equipment going into service or other electrical plant/equipment due to it going into service.

5.3.6 *Major operational limitations*

The officer responsible for commissioning shall record in the allotted area all major operational limitations that could have an effect on the normal operation of the defined electrical plant/equipment going into service or other electrical plant/equipment due to it going into service.

5.3.7 *Secondary system changes (Branch Form (Network) – System Operations: Authority for Placing Major Electrical Plant/Equipment into Service – CEOF6047.10 only)*

The officer responsible for commissioning shall record any changes to the protection and control system that will or could affect the operation of the network. Example - any new protection installed or modified, any control schemes or SCADA routines.

5.3.8 *Signature*

The officer responsible for commissioning shall date, sign and print their name only if they have satisfied all requirements.

5.4 To be completed by System Control Engineering/Senior System Operator (Branch Form (Network) – System Operations: Authority for Placing Major Electrical Plant/Equipment into Service – CEOF6047.10 only)

5.4.1 *Like for like replacement*

If the electrical plant/equipment is a like for like, the 'yes' is to be completed and section 4 is to be completed by the senior system operator.

If the electrical plant/equipment is not a like for like, the 'no' is to be completed and system control engineering is to complete section 4.

5.4.2 *Protection/system configuration checks*

Network protection and system configuration checks are to be carried out to ensure network reliability prior to energisation. Any limitations or secondary system changes are assessed to ensure that system security is maintained. Any impact on system security or increase in load at risk is to be noted in PowerOn Fusion.

5.4.3 *Authority given to place equipment into service*

Only to be ticked once all clauses and sub clauses from 5.1 to 5.4 on the appropriate form, for the defined electrical plant/equipment, are completed and are satisfactory.

5.4.4 *Signature*

The system control engineer or senior system operator shall date, sign and print their name only if all requirements have been satisfied.

5.5 To be completed by System Operator

5.5.1 *Protection/system configuration checks (Branch Form (Network) – System Operations: Authority for Placing High Voltage Distribution Electrical Plant/Equipment into Service – CEOF6047.20 only)*

Network protection and system configuration checks are to be carried out to ensure network reliability prior to energisation. Any limitations or secondary system changes are assessed to ensure that system security is maintained. Any impact on system security or increase in load at risk is to be noted in PowerOn Fusion.

5.5.2 *Authority given to place equipment into service (Branch Form (Network) – System Operations: Authority for Placing High Voltage Distribution Electrical Plant/Equipment into Service – CEOF6047.20 only)*

Only to be ticked once all clauses and sub clauses from 5.1 to 5.5 on the appropriate form, for the defined electrical plant/equipment, are completed and are satisfactory.

5.5.3 *PowerOn Fusion updated*

Only to be ticked once PowerOn Fusion for the described apparatus has been updated and the details in PowerOn Fusion have been updated from the description of equipment.

5.5.4 *Placed into service on*

Only to be ticked once when the defined electrical plant/equipment goes into service. The date and time that the electrical plant/equipment goes into service is to be entered.

5.5.5 *Signature*

The system operator shall date, sign and print their name when completed.

5.6 Staged processing

When a form is handed to an officer responsible to commence the next step in the process and the previous step is not completed, that officer is responsible to determine why before proceeding.

It is the responsibility of the succeeding officer to confirm all the preceding processes are complete before handing over to the next responsible officer. Where a process is not required, the next responsible officer in the process must provide written cause on the form as to why before proceeding.

5.7 Filing of Form

The form shall be handed to the Officer responsible for the start of the next step in the process for safekeeping. This will confirm a continuous linking from construction to completion of the process.

In the event of the form being lost, the officer responsible at the time of loss will be responsible and accountable for the correct completion of a substitute form confirming the exact condition of the previous processes. This form shall be marked as “Substitute Form” by the author, in that Section of the form when it became lost.

The completed form shall be filed with documentation pertaining to the same equipment in the normal place for other System Operations records.

5.8 Additional Details

Where there is insufficient room in the section on the form for information then mark the relevant section with ‘PTO’ and complete the details on the reverse side identifying the section.

5.9 Prior Completion

Where there are insufficient communication facilities at the site of the electrical plant/equipment, the officer responsible can complete the section prior with the following, “*subject to verbal confirmation*”, written within the applicable section. The proceeding officer responsible is to sign beside the, *subject to verbal confirmation* statement that verbal confirmation has been received and update any prefilled data as requested from the preceding officer responsible.

5.10 Submission to System Operations

The Officer responsible for Commissioning, is to submit the form to System Operations via email, to allow the appropriate System Operations representative to approve the commissioning. The email is to be set via the following two email addresses:

Queanbeyan Control Room - outage.arrangements@essentialenergy.com.au

Port Macquarie Control Room - networkoperations.north@essentialenergy.com.au

The Officer responsible for Commissioning can call the System Operations desk phone if unsure of which email address is appropriate for the form to be submitted to.

6.0 RECORDKEEPING

The table below identifies the types of records relating to the process, their storage location and retention period.

Type of Record	Storage Location	Retention Period*
Switching Requests	Network Access Register - PowerOn	Retain minimum of 6 years after action completed, then destroy – GA28 12.4.1
Network Access Request (NAR)	Network Access Register - PowerOn	Retain minimum of 6 years after action completed, then destroy – GA28 12.4.1

* The following retention periods are subject to change eg if the records are required for legal matters or legislative changes. Before disposal, retention periods should be checked and authorised by the Records Management Team.

7.0 AUTHORITIES AND RESPONSIBILITIES

General Manage Network Services has the authority and responsibility for approving the content of this document.

System Operations Manager has the authority and responsibility for updating this document.

System Operators have the authority and responsibility to follow the procedure outlined in this document.

System Control Engineering have the authority and responsibility to follow the procedure outlines in this document.

8.0 REVISIONS

Issue No.	Section	Details of changes in this revision	Change Risk Impact?
2	2 and 3	Aligned with Essential Energy Electrical Safety Rules and delegate in lieu of supervisor	Low
	Attachment A	Include signature line for section 4	Low
3	1	Expanded Purpose	Low
	2	Included 'high Voltage', 'shall' and expanded Responsible Officer to commission, Responsible Officer to construction and Responsible Officer to Test to include High voltage Customers	Low
	3	Inserted Process, Drawing , Compliance with NSW Service Rules	Low
	All Sections	Updated to current Essential Energy template	Low
4	All Sections	Updated template in-line with Essential Energy branding	Low
5	All Sections	Added document scope to ensure only zone sub assets are considered for commissioning. Updated to reflect changed form CEOF6047. Redefined the scope.	Low
6	All Sections	Update to reflect changes in scope and purpose and the creation of two CEOF6047 forms and changes to form.	Low
	5	Added 5.9 to allow prior completion and 5.10 for submission to system operations details.	Low

9.0 DOCUMENT CONTROL

Content Coordinator : Manager System Control

Distribution Coordinator : GRC Process Coordinator