

MANAGEMENT OF OHL WORK IN ETO OPERATIONS

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PURPOSE AND SCOPE

The purpose of this document is to explain the requirements for planning and managing work undertaken by Electricity Transmission Operator (ETO) Operations Over Head Lines (OHL). This procedure identifies the requirements that must be achieved: before work starts, when setting OHL employees to work, during delivery of work and the review process following completion of work activities.

Application of this procedure within ETO Operations OHL provides a national approach to the planning, preparation and delivery of work ensuring a Safe System of Work (SSOW) for ETO Operations OHL.

This document does not manage major OHL project works such as full OHL refurbishments. These works are undertaken in accordance with AMBP308 ETO "Operations undertaking CDM Principal Contractor Responsibilities".

This procedure shall be followed in conjunction with other National Grid procedures including National Grid's Electricity Safety Rules, National Safety Instructions (NSIs), Transmission Procedures (TPs) and Asset Management Business Procedures (AMBPs) applicable to the planning, preparation and safe delivery of ETO Operations OHL work.

PART 1 – PROCEDURAL

1 PLANNING FOR WORK ON OR NEAR HIGH VOLTAGE OVERHEAD LINES

1.1 General OHL Planning principles

1.1.1 The planning of work for ETO Operations OHL is achieved by Portfolio Planning based on two time periods:

a) Tactical Timeframes:

Planning ahead up to ten years out of the proposed work, to prioritise work and resourcing needs. The roles involved in Tactical Timeframes are:

- Tactical Time Frame Portfolio Planners
- OHL Team Leaders (TL)
- OHL Minor Scheme Support Engineers
- OHL National Contract Support Engineer

b) Operational Timeframe (Delivery Period)

Planning Delivery of work to take place during the delivery year; the roles involved in Operational Timeframes are:

- Operational Time Frame Portfolio Planners
- OHL Team Leaders
- OHL Team Engineers (TE's)
- OHL Project Leads (PL's)
- OHL Senior Authorised Persons (SAP's)

1.1.2 Portfolio Planning ensure that work flows through from Tactical Timeframes to Operational Timeframes.

1.1.3 Portfolio Planning allocate sufficient time within the plan for the preparation stage of Project Work / Maintenance Work to allow PL's and SAP's to develop a SSOW.

1.1.4 Portfolio Planning shall when work involves co-ordination between employees from several Zones / Teams / OHL / Oil Management Unit (OMU) / Contractors, plan sufficient time for the PL's to develop combined work preparation (Pre-Construction) and Work Delivery Construction Phase Plans (AMBP 3 1002)

1.1.5 Portfolio Planning allocate sufficient time within the plan to provide supervision of employees and sensible monitoring of Contractors.

1.1.6 The OHL TL works in conjunction with Portfolio Planning to ensure appropriately experienced and trained PL's, SAP's and Person in Charge (PIC) for work are identified.

Note: AMBP310 allows the role of PL and the SAP to be carried out by one individual or separate individuals.

1.2 Work preparation requirements (tactical timeframes)

OHL Portfolio Planning in conjunction with the OHL TL:

Review proposed work and decide how work is to be managed i.e. under double circuit outage, single circuit outage or with both circuits live taking into account issues such as: safety, system security and cost. The review involves the following criteria:

- Work Content including Timescales, Resource and Material requirements
- To identify the type of Work e.g. Maintenance, Scheme
- To include and prioritise outstanding defects
- Any specialised Equipment requirements, Cranes, MEWPS
- Special Skills, Training and Authorisation requirements
- Availability of SAP, PL and PIC
- Emergency Return to Service (ERTS) of the Circuit(s)
- Requirements to achieve Safety from the System (SFTS)
- Drain Earthing Requirements
- Sensible Monitoring and Supervision Requirements
- Where work is to be undertaken on Substation Terminal Equipment
- Quality Assurance checks resource requirements

Note: Portfolio Planning complete deliverability checks before handing the plan over ETO Operations OHL.

1.3 General OHL Work Preparation Principles

All work undertaken by ETO Operations OHL's, requires preparation to creating a SSOW. AMBP310 "Work Management" details the three categories of work and individuals responsibilities in the safe management of work.

When work is undertaken by ETO Operations OHL's which only involves local teams, no formal co-ordination is required, and completion of combined RAMS to AMBP 311 "Risk Assessment" provides sufficient documentation to achieve a SSOW.

Examples of this type of work on OHL:

- Routine works
- OHL yard work activities
- Minor Defects e.g. Barbwire, Danger of Death Plate, Property and Number Plates

The requirement to develop work in accordance with CDM is identified in AMBP310 and AMBP308. OHL will undertake to follow these principles in all works via implementation this procedure.

Work is divided into two separate stages the Pre-Construction Phase (preparation/ planning) and the Construction Phase (delivery). These stages are applied to all work undertaken by OHL; the specific content shall be proportionate to the Scope of Work.

Appendix A and B guide the PL through the preparation / planning and work delivery stages.

1.4 Cross functional working

OHL Cross Functional Meetings work in both time frames and support the continued prioritisation and resourcing nationally within the OHL Department.

ETO Operations Cross Functional Team Meetings are attended by OHL TL's and TE's when works align with other ETO Operations Departments such as Substations, these meetings

ensure all parties understand the scope of work and correctly co-ordination and prioritise the work.

1.5 Management of Work orders

Work orders are scheduled to the nominated PL and PIC. The PL receives the following work orders:

- Work Preparation
- Wayleaves
- Other Materials Good and Services (OMGS)
- Earthing Requirements
- Equipment in and out
- Delivery Work Flow, used to track the progress of each Scheme.

The PIC receives work orders for each work related tasks associated with the team.

The PL has overall responsibility for ensuring the correct management of the all work orders, the PIC has the responsibility to manage the work activity work orders allocated to them and completion of work scripts / result sheets, referring to the PL for guidance as required.

1.6 Pre-Construction phase principles

Work is allocated to the PL's in accordance with AMBP310 ideally allowing 90 day's preparation time. When less than 90 days is available, agreement shall be reached between PL / TL / Portfolio Planning and TE as to what duration is required.

Portfolio Planning will ensure all work orders have been raised to enable preparation / planning to take place and be reflected in Delivery Work Flow. The Scope of Works shall be finalised before being handed over to the OHL PL.

When applicable, F10 Notifications will be submitted by the OHL Scheme Support Engineer (SSE) who is dealing with Network Output Measures (NOM's), Plant Status and Scheme Works. For all other F10 Notification it's the responsibility of the OHL TL to submit. A copy of the F10 Form shall be held within the Construction Folder for reference.

The role of the PL is to establish General Safety.

The role of the SAP is to establish SFTS.

One individual can undertake both of these roles. Where these roles are carried out separately it is required that the PL and SAP for the Scheme / Work liaise at the very start of the Pre-Construction Phase and continue to liaise throughout the preparation works and both should be present at any Co –ordination Meeting.

1.7 Co – Ordination meetings Principles

Co–ordination Meetings will be carried out in accordance with the principles of TP153. The complexity of the work will determine the amount of co-ordination needed. Within ETO Operations co-ordination for work must be arranged by all PL's involved in the works.

When a project involves OHL and Substation activities, co–ordination will take place involving both OHL and Substations undertaking Principle Contractor responsibilities for their activities, delineation of the working site and timings will be agreed in the meeting.

The PL should also ensure a single point of contact is identified for all parties undertaking work.

When National Contracts or Capital Delivery are involved with work on the OHL Route / Circuit, then the Co-ordination Meeting will be managed by the TP153 process in accordance with AMBP310.

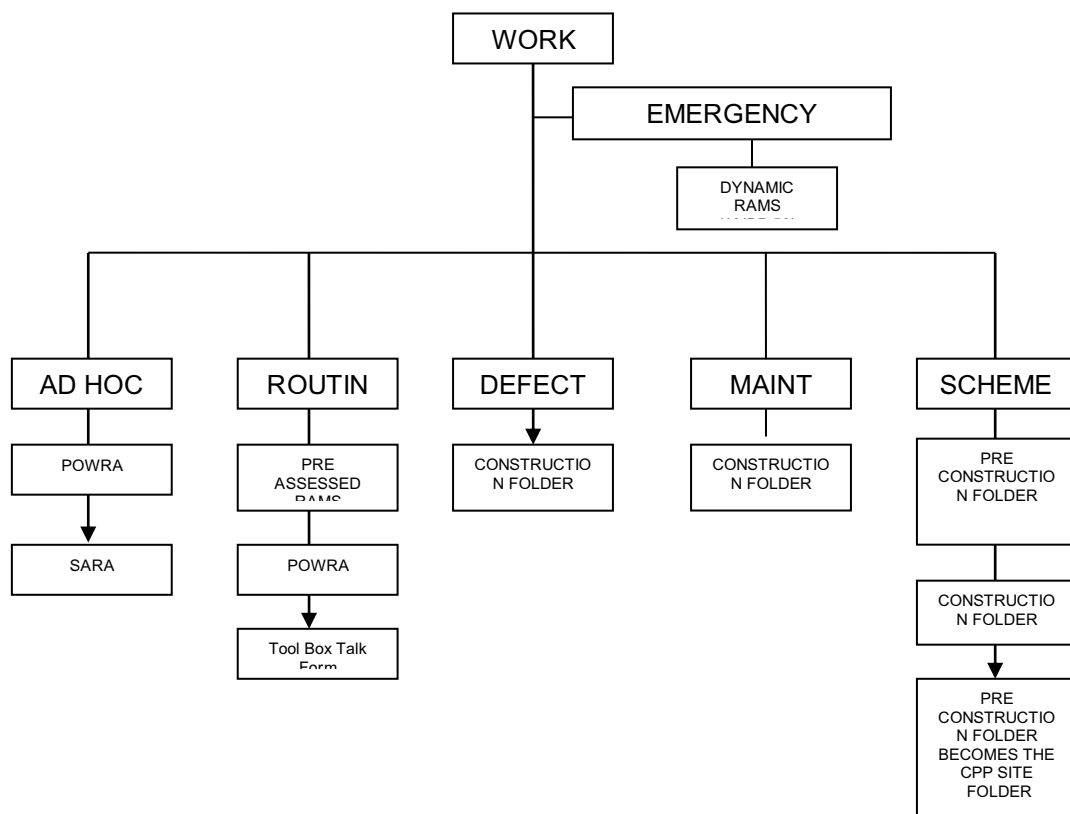
1.8 National Contract OHL Work

It is the responsibility of the OHL Tower and Substation Plant Engineer to ensure that all proposed work has been identified to OHL Portfolio Planning and resource requirements requested via a System Requirements Document (SRD), ensuring the OHL SAP has the time to carry out SFTS RAMS and preparation work.

Where ETO Operations OHL Works are taking place for example Scheme Works on the same route at the same time, then for the period of the joint works taking place NG OHL will become the Principle Contractor for that CDM site. When co-ordination is no longer required due to only one activity taking place, the remaining party will assume the role of Principle Contractor and this is to be documented through the Co-ordination process. (AMBP 130.04).

Note : Where OHL National Contract Works and OHL Scheme Works are planned during the same work period, The Scheme Support Engineer and the OHL Tower and Substation Plant Engineer will ensure Portfolio Planning understand the resource requirement to manage both pieces of work or prioritise the works in order so that the works can be delivered safely. This could mean a decision of to defer either piece of work.

2 OHL WORK REQUIREMENTS



SARA Situational Awareness Risk Assessment
POWRA Point of Work Risk Assessment
CPP Construction Phase Plan

2.1 Emergency works

OHL Emergency situations are managed under AMBP50.

2.2 Ad-hoc Work (“Can You Just Work”)

Ad-hoc work does not form part of planned work. This type of work needs to be discussed with a supervisor before undertaking any hazardous tasks. It is essential that a Point of Work Risk Assessment (POWRA) is undertaken by an experienced trained person with knowledge of the task to be carried out and also record a Situational Risk Assessment (SARA) booklet.

Before work starts its essential is ensure that POWRA is sufficient to manage the works safely. If work cannot be managed safely using POWRA then RAMS following AMBP311 must be developed.

The risk assessment and the safe method of work are to be explained to the team carrying out the work, ideally by the person who developed the SSOW.

2.3 OHL Routine Works

Routine works are managed via pre-assessed RAMS followed by trained personnel who can carry out a site specific Risk Assessment to maintain personnel safety. These RAMS shall be reviewed on a yearly basis, or when the something has changed. Routine OHL works are defined by RAMS contained at each OHL Report Centre with the following contents:

Contents of the OHL Routines Folder

- OHL Foot Patrols
- OHL Vulnerable' s / Defect Monitoring and Site Visits
- OHL Category 3 Work
- Manual Handling
- Loading and Unloading Vehicles
- Fork Lift / Tele Truck Operation
- Jointing
- Lifting Equipment booking out / Inspection in and control
- Earth Equipment booking out / Inspecting in and control
- OHL Generic Lift plans
- OHL Standby
- OHL Minor Defect Works:-
- Anti-Climbing Device (ACD) Repairs
- Tower Property and Number Plate Changing
- Tower Danger of Death Plate Changing

Note: These RAMS are National OHL Documents managed by the OHL Zonal Support Engineer (ZSE). They are to be made site specific for all OHL Report Centres. It is the responsibility of the OHL TL's to ensure they are in place.

All the Site specific routines shall be listed in the Routines Folder for the OHL Report Centre and be readily available.

It is important that the OHL Teams are aware of the Risk Assessments and where they are located. The TE shall ensure that the Risk Assessments are reviewed and the Team taken through them on an annual basis confirmed by the team by signing onto a RAMS Signing on Form.

Individuals planned to carry out the routine works shall read and familiarise themselves with the Risk Assessments before the commencement of the routine work.

It is the responsibility of all employees to complete a site specific POWRA and ensure findings are recorded on the Toolbox Talk Form, noting any site specific hazards identified and controls applied.

2.4 OHL Defect work

Preparation for OHL Defect rectification Work is in accordance with AMBP 311. A SSOW developed and documented using combined RAMS by the PL and issued to the PIC.

The SAP Completes SFTS RAMS, the PL will work in close co-ordination with the SAP.

The SSOW developed to carry out this work safely will be developed in accordance with the OHL Construction Folder and shall be issued to the PIC.

Note: Temporary Works shall be managed in accordance with AMBP 309

2.5 OHL Maintenance Works

This work is defined as work that does not follow the TP500 process e.g. Outage, Non Outage, Condition Assessment, and Steelwork Assessments.

The work is typically developed and presented to Portfolio Planning by the Delivery Support Department with the Scope being defined by the Field Support Engineer (FSE).

In accordance with AMBP310 this work comes under CDM and requires the work to be developed in accordance with the OHL Construction Folder Appendix A.

Note: Temporary Works shall be managed in accordance with AMBP309

2.6 Scheme Works

The OHL FSE produces the Scope of Work for the following types of work: NOMS, Minor Schemes and Plant Status work. The Scheme Support Engineer (SSE) identifies the full Scope of the Scheme and estimates the resource time needed to complete the works advising OHL Portfolio Planning. See Scheme workflow process 2.8.1, 2.8.2.

Scheme Survey Works shall to be completed by the PL this survey is to be carried out with the Lands Officer and will aid the PL to put together the initial Programme of Works and determine the final Scope of the Scheme. Final sign off of the Programme of Works is by the TL and SSE at the Monthly Scheme Meetings, see workflow process 2.8.2.

The SSE considers the application of CDM and completes the F10 if the Scheme is notifiable supplying a copy to the nominated PL.

The SSE will ensure that an Environmental Report is produced for the Scheme and is available to the OHL, PL and Land and Development Officer.

The Scheme Support Engineer must ensure that the requirements of NSI4 are achieved by the Scheme Sanction Team and or Project Development Team before a Scheme involving OHL work or any work on the line side of the line isolator is sanctioned.

The OHL PL shall produce:

- OHL Preconstruction Folder, Appendix A
- OHL Construction Folder Appendix A

At the Construction Phase and following the Pre-site Inaugural Meeting the Pre-Construction Folder becomes the Construction Phase Plan Site Folder Appendix A and B.

2.7 Site Visits / Visitors

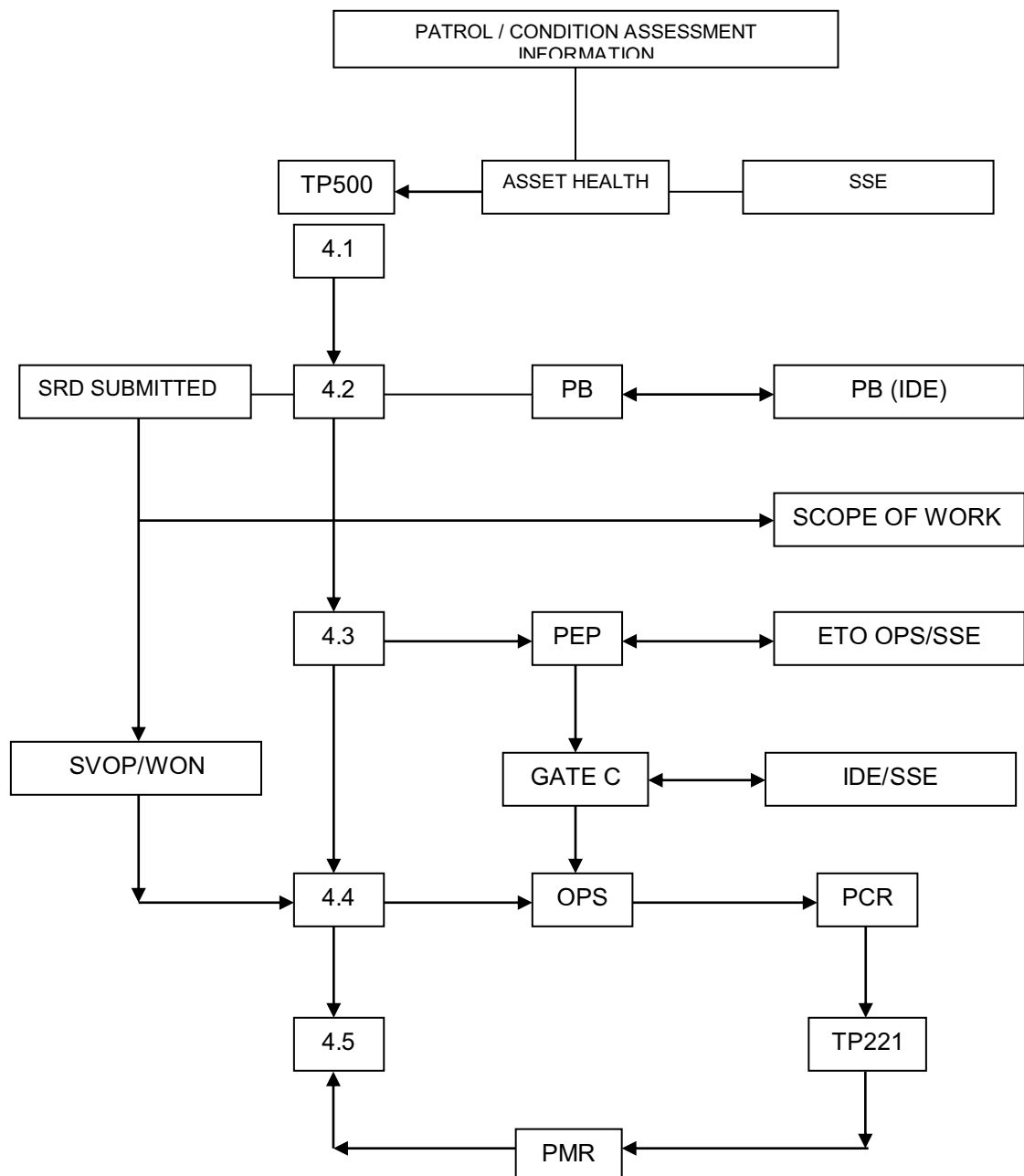
The safe management of visitors at work sites must be controlled to ensure the safety of all persons.

The primary means of doing this is via the Induction process.

When OHL Schemes are being carried out an Induction at the Site Office shall take place by the PL and recorded, ensuring all visitors understand the works, site rules and requirements before visiting work locations (Appendix C).

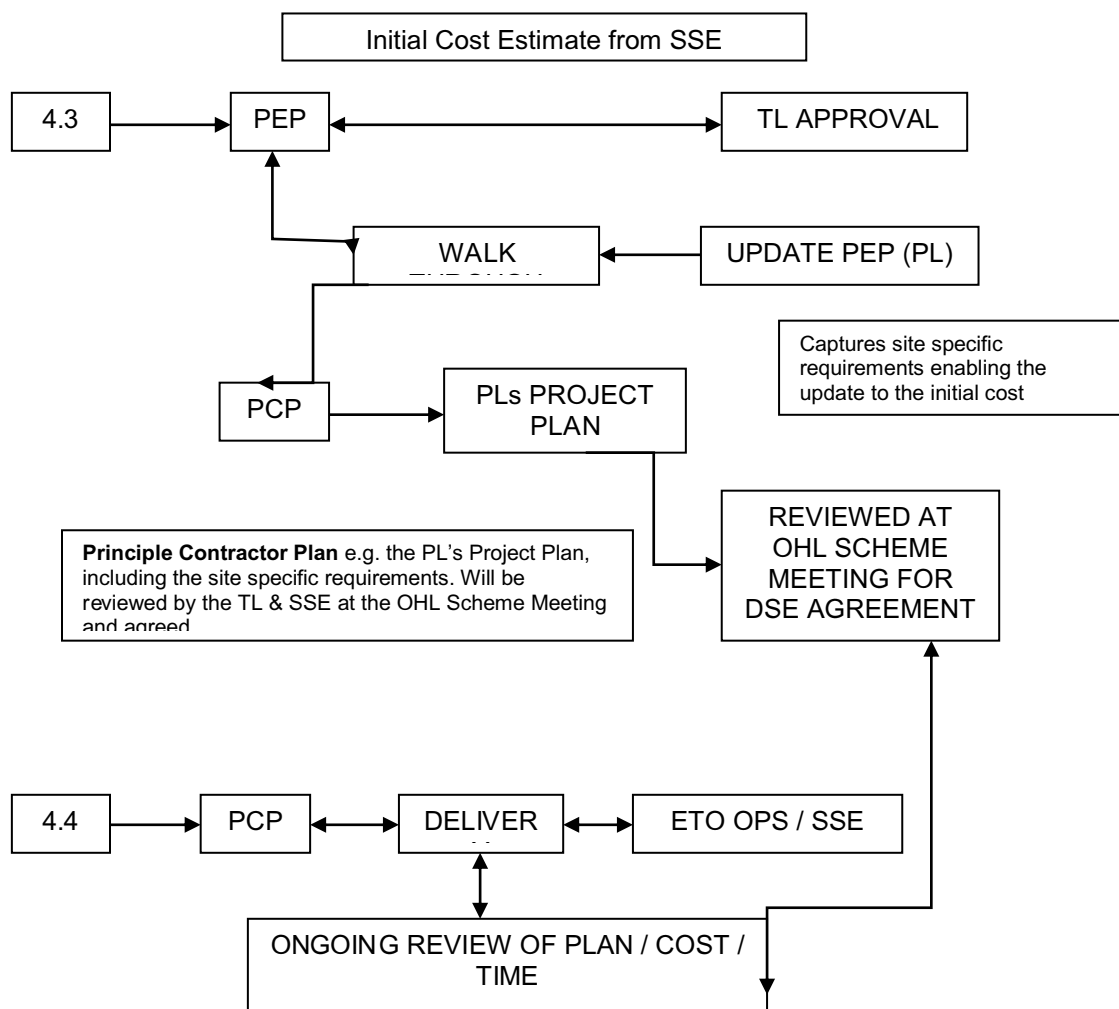
At Site work locations (Towers). All visitors need to be inducted by the PIC utilising the Site Visitors Form (AMBP130.05).

2.8 Scheme Work Process (TP500)



IDE	Investment Delivery Engineer
PMR	Project Management Report
SRD	System Requirements Document
PB	Project Brief
SSE	Scheme Support Engineer
PCR	Project Closing Report
PEP	Project Execution Plan (Initial Cost Estimate)
SVOP	Single View of Plan
WON	Work Order Number

2.9 Breakdown of 4.3 and 4.4



PEP	Project Execution Plan (Initial Cost Estimate)
DSE	Delivery Support Engineer
PCB	Principle Contractors Plan
SSE	Scheme Support Engineer