

SITE INSTALLATION

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PURPOSE

The purpose of this procedure is primarily to identify the roles and responsibilities across the National Grid Directorate, focusing on the procedural relationships between Electricity Transmission Asset Management (ETAM), Capital Delivery and the Contractor for the Works* for the delivery of site installation during Network Development Process (NDP) 4.4 – Project Execution Stage to ensure all National Grid's contractual and procedural requirement are fully enacted.

Note*: The Contractor for the Works shall be as defined in the Contract, where CDM 2015 Regulations and associated requirements under TP137 are applicable the Contractor for the Works, shall be named the Principal Contractor. For further information see UKBP/TP137 and UKBP/TP144.

The purpose of this procedure is to define arrangements to ensure that:

- a) National Grid discharges its legal obligations with regard to health, safety and environmental requirements.
- b) National Grid fully understands their responsibilities in ensuring that they do not engage in or undertake activities which are the responsibility of the Contractor for the Works.
- c) The site installation satisfies the Construction (Design & Management) Regulations 2015 (CDM 2015) and TP137 requirements.
- d) That monitoring of the Contractor for the Works' site installation activities are undertaken to ensure compliance with the requirements of the Works Information within the Contract.
- e) That National Grid is assured that Site Installation is undertaken in accordance with a robust quality plan delivering a reliable asset which accords with National Grid's Technical Specifications, Technical Guidance Notes, Transmission Procedures, Business Procedures, Guidance Handbooks, etc.

- f) Site installation is appropriately planned and integrated into National Grid's business processes and the work of other National Grid Management Units, such as ETAM Operations (ETAM Ops), Transmission Network Control Centre (TNCC) and Operational Planning
- g) For reasons of maximising Safety, Health, Environmental & Security (SHES) performance those undertaking defined project tasks possess a demonstrable minimum skill set and are authorised/assessed in accordance with the requirements of UKBP/TP141 and UKBP/TP144.
- h) Site installation is carried out with a demonstrable level of assurance and governance – resulting in an effective audit trail.

SCOPE

This procedure shall apply to all technical disciplines across all investments which comprise the National Grid Electricity capital programme.

It is recognised that for investments of medium and low complexity the full application of this Transmission Procedure (TP) may not provide the most cost efficient means of delivering that investment and hence TP governance options as per UKBP/TP500 Appendix A - Attachment A2 can be applied to this procedure.

TP governance options defined in UKBP/TP500 Appendix A - Attachment A2 include those that are already detailed in this Transmission Procedure and those that are additional and not detailed in this Transmission Procedure.

Amendments to this procedure shall be reflected in UKBP/TP500 Appendix A – Attachment A2 (if required) and may result in re-issue of UKBP/TP500 within the same period.

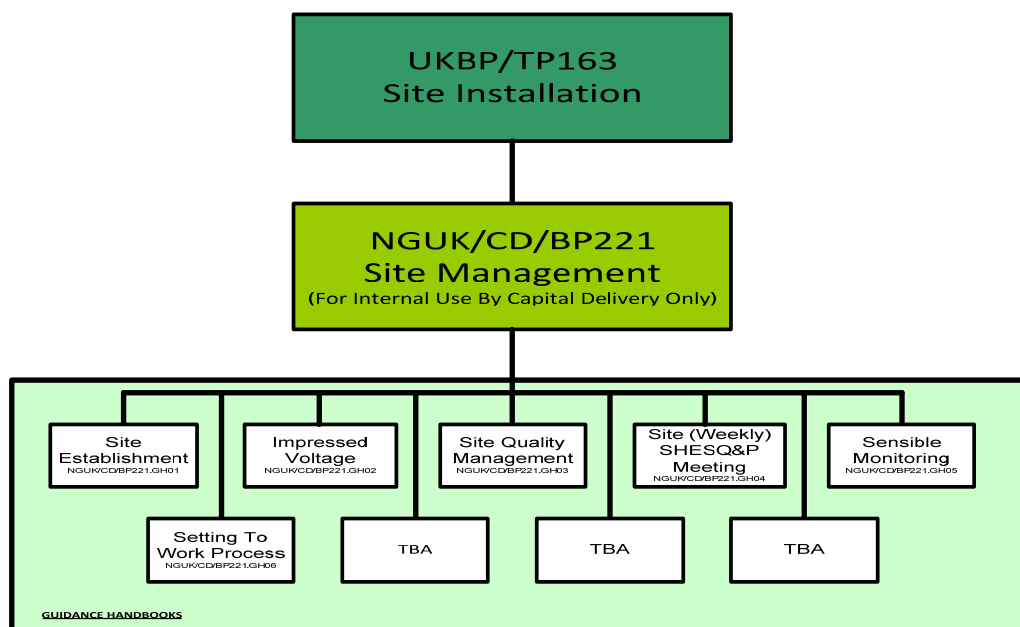


Fig 1: Diagram indicating relationship of TP163 to NGUK/CD/BP221 and associated Guidance Handbooks

PART 1 – PROCEDURAL

1 ETAM ROLES AND RESPONSIBILITIES

1.1 Investment Delivery

ETAM Investment Delivery, under the terms of the contract is the Client; and is accountable for monitoring the work against the continued need case and efficient delivery, and for undertaking asset acceptance and closure.

The ETAM Investment Delivery Engineer (IDE) has overall accountability for ensuring that the project, during site installation, is undertaken in accordance with:

- a) safety, health, environment and sustainability requirements and standards
- b) specifications and quality standards
- c) programme
- d) financial/target cost

1.2 Land and Business Support

Responsible for the management of all activities related to the acquisition and use of land rights for National Grid assets.

Land and Business Support are responsible for providing, where required, the following support resources:

- Land Officer;
- Consents Officer

1.2.1 Land Officer

The Land Officer is responsible for providing an expert land service to ensure that land rights are delivered in accordance with current best practice, process and guidance.

1.2.2 Consents Officer

The Consents Officer is responsible for providing an expert consents service covering all supporting environmental assessment, stakeholder engagement, public consultation, best practice and policy development activities, to ensure that consents are delivered in accordance with current best practice, process and guidance.

1.3 Operational Support

1.3.1 TNCC are responsible for operational and safety switching

1.3.2 Operation Planning are responsible for work planning.

1.4 Operations

Operations are responsible for providing:

- a) A safe working environment within the operational boundaries at handover to the Contractor/Principal Contractor, ensuring effective delivery of allocated projects for continuous improvement in productivity.
- b) Safety from the System

1.4.1 Occupier/Occupier's Representative

ETAM Operations, where work is being undertaken on a National Grid location* is, with regards to Construction (Design and Management) Regulations 2015 (CDM 2015) and UKBP/TP137, the Occupier.

The Occupier has duties and responsibilities under both the Health and Safety at Work etc. Act 1974, and the Occupiers Liability Act; and has responsibility for the overall management of the premises.

The Occupier is accountable for ensuring that all site installation work activities being performed on their premises are undertaken without risk to the general health and safety of all personnel attending site (i.e. Contractor's/Principal Contractor's staff, ETAM Operation's staff, visitors, 3rd parties, etc.)

The Occupier may nominate a representative who will be responsible for enacting the Occupier's duties.

The responsibility for monitoring the general safety will be discharged on Occupier's behalf by Capital Delivery - Construction Interface Engineer (CIE).

Note*: - Where work is undertaken on land NOT owned by National Grid (i.e. 3rd Party, DNO, Generator, etc.) then their Occupier's procedures and processes shall apply, unless stated otherwise.

1.4.2 Senior Authorised Person (SAP)

An ETAM Operations Engineer whose tasks are defined in the National Grid **Safety Rules** and who is responsible for undertaking the following duties:

- a) Providing **Safety From the System**, where required, in accordance with the National Grid **Safety Rules**
- b) Attending, where requested and agreed, the Site (Weekly) SHESQ&P Meeting.
- c) Undertaking sensible monitoring of **Safety From the System**

1.4.3 Commissioning Engineer (National Grid)

Normally an ETAM Operations Engineer, UKBP/TP141 authorised person responsible for ensuring that the project requirements for Stage 1 (witnessing) and Stage 2 commissioning are achieved in accordance with UKBP/TP106.

2 CAPITAL DELIVERY ROLES AND RESPONSIBILITIES

2.1 Capital Delivery – Head of Delivery

With reference to CDM2015 and UKBP/TP137 - The Client role will be undertaken by the Capital Delivery – Head of Delivery throughout NDP 4.3 – Development and Sanction and 4.4 – Project Execution Stages; (see ACOP section 28) on behalf of National Grid.

The Capital Delivery – Head of Delivery has the overall responsibility for ensuring that the site installation works are undertaken in full compliance of the (CDM 2015) and UKBP/TP137.

The Capital Delivery – Head of Delivery, who is identified as the *Project Manager* in the contract, has the overall responsibility for ensuring that the site installation works are undertaken in full compliance of the:

- a) Health, safety, environmental and sustainability issues are fully managed in accordance with legislation, standards and NG policy and SHE procedures.
- b) Projects are delivered to programme, financial/target cost and specifications and quality standards.

The Construction - Head of Delivery has the overall responsibility for ensuring:

- a) That appropriate resources are appointed and managed to develop the scheme throughout the Network Development Process (NDP)
- b) The implementation of National Grid Transmission Procedures and Capital Delivery Business Procedures.

2.2 Capital Delivery Senior Project Manager (CD SPM)

The Senior Project Manager is appointed at NDP4.3 – Develop and Sanction Stage. They have full accountability for the coordination, tender, delivery, commissioning and closure of the complex project across all technologies, supported where appropriate by teams from each delivery unit.

The CD SPM is responsible for:

- a) Supporting the Head of Delivery in discharging their responsibilities as defined in 2.1, in respect of their allocated capital projects;
- b) Ensuring Capital Delivery Project Engineers are identified and allocated to all capital projects at NDP 4.3 stage;
- c) Ensuring a balance the workload for all their assigned Capital Delivery Project Engineers;
- d) Acting as a single point of contact for technical issues and to provide guidance on National Grid policies and procedures for their respective team;

2.3 Capital Delivery Lead Project Manager

The Lead Project Manager is appointed as line manager for a team of engineering staff.

2.4 Capital Delivery (CD) Project Engineer

2.4.1 The CD Project Engineer is responsible, throughout the NDP4.4 – Project Execution Stage, for supporting the CD SPM in discharging their responsibilities as defined in 2.2, in respect of their allocated capital projects and ensuring that:

- a) Health, safety, environmental and sustainability issues are fully managed in accordance with legislation, standards and NG policy and procedures.
- b) Projects are delivered to programme, financial/target cost and specification
- c) Project delivery has been fully developed, implemented and managed throughout each phase of:
 - Detailed Design;
 - Procurement
 - Manufacturing Assurance
 - Site Installation;
 - Commissioning;
 - Scheme closure; and
 - Post-completion.
- d) They act as single point of contact, on behalf of the *Project Manager*, to execute the contract (within their delegation of authority (DoA)).
- e) Robust interfaces are established and maintained between the Contractor/Principal Contractor and all interfacing project team, third parties, etc. to ensure full cooperation, coordination and communication.
- f) Contractor/Principal Contractor's site activities are monitored to ensure compliance with Health & Safety, Environmental legislation, CDM Regulations and National Grid SHES and Quality standards.
- g) Contractor commissioning and performance testing process on site are fully managed.
- h) Provision of accurate 'as built' documentation to handover of the assets onto the system to the standards defined in the design.
- i) All stakeholders' requirements are fully managed (e.g. standard third party issues, land, consents, grantors, public relations and Community Stakeholders).

2.4.2 Where Bulk Purchase Equipment is being utilised as part of the project's design solution the CD Project Engineer is responsible for :

- a) Managing the associated Bulk Purchased Equipment Supply contract
- b) Providing the interface to the Investment Development and the Investment Delivery Teams
- c) Ensuring that robust interfaces are established and maintained between the Principal Contractor and the BPE Supplier and/or their nominated contractor(s) to ensure full cooperation, coordination and communication is achieved with particular regard to:
 - Detailed Design;
 - Drawing Management ;
 - Construction Phase Plan Information;
 - Delivery Programme
 - Risk Assessments and Method Statements
 - Supplier Quality Plans and Inspection and Test Plans
 - Temporary Works

- Site Installation Programme;
- Commissioning and Commissioning Programme

Further information is detailed in UKBP/TP211 - Bulk Purchased NGET Sourced Equipment Procedure

2.5 CDM Advisor

With reference to UKBP/TP137 – the role of the CDM Advisor is to provide the Client with a key project advisor in respect of construction health and safety risk management matters (see CDM 2015). Accountability for the CDM Advisor's role will reside with the Capital Delivery Technical Assurance, with day to day responsibility enacted by a nominated CDM Advisor. All nominated CDM Advisors must satisfy the requirements of UKBP/TP144.

2.6 Construction Interface Engineer (CIE)

Formally appointed by Capital Delivery, the Construction Interface Engineer is a site based representative of the Capital Delivery Project Engineer who is responsible for undertaking the duties as defined within the contract (*Enacting the Supervisor's DoA*), this document and NGUK/CD/BP221 – Site Management.

Those undertaking the role must satisfy the requirements of UKBP/TP144.

2.6.1 The CIE enacts the role of CD Project Engineer's Site Representative and is responsible for supporting the CD Project Engineer in discharging their site based responsibilities as defined in 2.4, in respect of their allocated capital projects and ensuring that the:

- Work is undertaken in accordance with the Works Information
- Health, safety, environmental and sustainability aspects of the construction based activities are managed in accordance with legislation and NG policy and procedures.
- Work quality aspects of the construction based activities are managed in accordance with NG specifications, procedures and Standards.
- Contractor (where enacting the Principal Contractor's role under the CDM 2015) is pro-active in discharging their duties.
- Site Delivery Programmes are deliverable and proactively monitored by the Contractor/Principal Contractor to ensure all activities are undertaken in accordance with the programme.
- Undertaking Sensible Monitoring, to ensure that the Contractor/Principal Contractor is undertaking the site delivery in full compliance with Legislation, National Grid Policy & Procedures; Construction Phase Plan and in accordance with the Contractor/Principal Contractor's SHE Management procedures.

2.7 Safety, Health and Environmental (SHE) Advisor

The SHE Advisor is accountable for the delivery of Capital Delivery's SHE strategy and engagement to ensure continuous improvement and the development of appropriate SHE culture.

The SHE Advisor is responsible for:

- Ensuring that the Contractor operates to the highest standards of Safety, Health and Environmental;
- The provision of specialist, operational advice and support to the Capital Delivery Project Engineer;

- c) Determining the requirement, agreement and implementation of Project Specific SHE Audit Plan for each project (in conjunction with the CD Project Engineer and Construction Interface Engineer (CIE);
- d) Undertaking SHE Audits and Inspections and, where necessary, agreeing all identified all non-conformances and observations, including the required actions, action owner and timescales for closure with the Auditee(s);
- e) Expediting progress on actions and non-conformances and confirming closure of the actions.

3 CONTRACTOR/PRINCIPAL CONTRACTOR ROLES AND RESPONSIBILITIES

3.1 Contractor/Principal Contractor

Where a project has multiple contractors involved, the Contractor shall enact the duties and responsibilities of the Principal Contractor in accordance to the requirements of CDM 2015 and UKBP/TP137.

- 3.1.1 The Contractor/Principal Contractor shall be responsible for ensuring that the project works are undertaken in compliance with the requirements of the Contract, with specific regards to:

- a) All relevant health, safety, environmental and sustainability legislation together with the requirements of National Grid's Policy, SHES Management Procedures, etc.
- b) CDM 2015 and UKBP/TP137 (i.e. where the project is notifiable the Contractor shall undertake the duties of the Principal Contractor defined in CDM 2015 and UKBP/TP137)

- 3.1.2 All quality standards (i.e. EN, IEC, BSI, ENA, etc.) together with the requirements of National Grid's Technical Specifications, Guidance Notes and Transmission Procedures, etc. The Principal Contractor is responsible establishing a robust interface with any third party (Distribution Network Organisation (DNO), Generator, etc.) and/or National Grid's nominated contractors (i.e. Bulk Purchase Equipment Supplier, ETAM Operations, etc.) undertaking work activities within the Principal Contractor's CDM Zone(s) to ensure fully managed cooperation, coordination and communication processes are achieved, in accordance with the requirements of the CDM Regulations and UKBP/TP137.

- 3.1.3 The Contractor/Principal Contractor shall be responsible for appointing:

- a) Site Manager
- b) Temporary Works Coordinator
- c) Sub-Contractors (where required)
- d) Commissioning Engineer(s)

Note: - Where required these roles shall satisfy the requirements of TP141 or TP144.

3.2 Principal Designer (Design and Build)

A UKBP/TP141 Principal Designer (Design and Build) shall be appointed in accordance with UKBP/TP137 and undertake the duties and responsibilities identified within Construction (Design and Management) Regulations 2015 (CDM 2015) and UKBP/TP137 relevant to the period of appointment.

3.3 Contractor's Site Manager (CSM)/Principal Contractor Site Manager (PCSM)

Where a project has multiple contractors involved, the Contractor's Site Manager shall enact the duties and responsibilities of a Principal Contractor Site Manager in accordance to the requirements of CDM 2015 and UKBP/TP137.

For further information see UKBP/TP137 and UKBP/TP144.

The CSM/PCSM is the senior representative site resident with accountability for site delivery. Those undertaking the role shall satisfy the requirements of UKBP/TP144 in enacting their role.

3.3.1 The CSM/PCSM shall be responsible for ensuring that for all site based work activities are undertaken in compliance with:

- a) All relevant health, safety, environmental and sustainability legislation together with the requirements of National Grid's Policy, SHES Management Procedures, etc.
- b) CDM 2015 and UKBP/TP137
- c) All quality standards (i.e. EN, IEC, BSI, ENA, etc.) together with the requirements of National Grid's Technical Specifications, Guidance Notes and Procedures, etc.

3.3.2 The CSM/PCSM shall be responsible for ensuring that:

- a) All work activities, including their Sub-Contractor's and any interfacing Third Party Contractor's (i.e. Generator, DNO, etc.) and National Grid's nominated contractors (i.e. Bulk Purchase Equipment Supplier, ETAM Operations, etc.) undertaking work activities within the Principal Contractor's CDM zones, are fully planned, managed and coordinated to ensure that all activities and resources are properly controlled.
- b) The requirements of National Grid's **Safety Rules**, Golden Rules and Safety Line Policy are fully complied with.
- c) The requirement of any 3rd party (Generators, DNO, etc.) Safety Rules, Safety Requirements, etc. are fully complied with.
- d) All site personnel (direct or sub-contract) are fully trained and competent in undertaking work activities at site.
- e) All site based activities
 - undertaken by the Contractor
 - undertake by the Principal Contractor, Sub-Contractor, 3rd Parties and Employer's nominated contractors (i.e. Bulk Purchase Equipment Supplier, ETAM Operations, etc.) undertaking work activities within the Principal Contractor's CDM Zone(s), have Risk Assessment and Method Statements (accepted by the PCSM) prior to activities commencing.
- f) Sensible monitoring of their site, site activities, staff and sub-contractors is undertaken throughout the site installation, delivery and commissioning phases. This shall be demonstrated in line with the Sensible Monitoring Guidance as outlined in section 4.7 of this document.
- g) Security of all personnel attending site (i.e. Direct and Sub-contract staff, ETAM Operation staff, visitors, 3rd parties, National Grid's nominated contractors, etc.) and of all plant and equipment arriving, stored and installed at site during installation and commissioning phases.

- h) Provision of photographs to the Construction Interface Engineer of all identification / name plates for all equipment installed at site

3.4 Temporary Works Coordinator (TWC)

- 3.4.1 Where appointed by the Contractor, the TWC shall be responsible for compliance of the requirements defined in UKBP/TP184 for all temporary works identified within the project.
- 3.4.2 Where appointed by the Principal Contractor, the TWC shall be responsible for compliance of the requirements defined in UKBP/TP184 for all temporary works identified within the project, including those identified by National Grid's nominated contractors (i.e. Bulk Purchase Equipment Supplier, ETAM Operations, etc.) undertaking work activities within the Principal Contractor's CDM Zone(s).

3.5 Sub-Contractors

- 3.5.1 Organisations employed by the Contractor/Principal Contractor to undertake site installation work are responsible for ensuring that all site based work activities are undertaken in compliance with:
 - a) All relevant health, safety, environmental and sustainability legislation together with the requirements of National Grid's Policy, SHES Management Procedures, etc.
 - b) CDM Regulations and UKBP/TP137
 - c) All quality standards (i.e. EN, IEC, BSI, ENA, etc.) together with the requirements of National Grid's Technical Specifications, Guidance Notes and Procedures, etc.

3.6 Commissioning Engineer (Supplier)

UKBP/TP141 authorised person(s) responsible for ensuring that the project requirements for Commissioning are achieved in accordance with UKBP/TP106.

4 CONTRACTOR'S/PRINCIPAL CONTRACTOR'S SITE RESPONSIBILITIES

The Contractor/Principal Contractor shall be responsible for undertaking site activities as identified in the Contract. These activities include, but are not limited to, the following:

4.1 Pre-Site Start SHE Meeting

The Pre-Site Start SHE Meeting shall be convened and chaired by the Contractor/Principal Contractor's Site Manager a minimum of 6 weeks prior to work/task activities commencing at site.

The Site Weekly SHESQ&P Meeting model agenda shall be used to form the basis of the meeting.

The Contractor/Principal Contractor's Site Manager shall convene subsequent Pre-Site Start SHE Meetings with all subcontractors, third parties and National Grid's nominated contractors undertaking works within the Contractor/Principal Contractors CDM Zone(s) a minimum of 6 weeks prior to their work/task activities commencing at site.

The Contractor/Principal Contractor's Site Manager shall ensure that meeting minutes are provided in a timely manner and that all actions arising from the meeting are closed within agreed timescales.

The Principle Contractor's approach to sensible monitoring and its reporting to National Grid will be decided and documented in this meeting. Guidance for the development and implementation of this system can be found in section 4.7 of this document.