

CUSTOMER BUILD SCHEMES

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PURPOSE AND SCOPE

The purpose of this procedure is to define the Customer Build process in terms of the task definition, formal documentation, interface requirements, timescales and responsibilities from Core National Grid and National Grid Electricity Alliances perspective.

This procedure applies to all schemes where the Customer elects to construct their connection assets, as defined in the Transmission Licence and amended under the Utilities Act 2000.

The process chart in Appendix A provides an overview. Such schemes range from asset replacement on existing sites, to the construction of a new site and associated (dedicated) supergrid connections. Appendix D illustrates a typical Customer Build Interface Point.

NB: This procedure sits outside of the Connection and Use of System Code (CUSC) but shall be applied to all contracts relating to Customer build.

PART 1 – PROCEDURAL

1 RESPONSIBILITIES

1.1 Investment Sponsor

The Investment Sponsor will progress the Project, supported by an Investment Team, as defined in UKBP_TP146, with responsibility for the following.

- a) Determining the full scope of works
- b) Identifying and agreeing the Customer Build Work packages
- c) Investment Sanction
- d) Project Closure

The Investment Sponsor will in conjunction with the Commercial Account Manager provide the interface with the Customer until the Customer signs the Customer Build Agreement and the Investment Sponsor gives Construction the Authorisation to proceed. Thereafter this responsibility shall be undertaken by a nominated **National Grid** Project Manager from within the Alliance.

1.2 National Grid Alliance

The project delivery roles and responsibilities defined in this procedure including the National Grid Project Manager role will be by the National Grid's Construction Electricity Alliances unless stated to the contrary. Only National Grid staff from within the Alliance will manage Self Build Projects unless written agreement to use Non National Grid staff is approved by the National Grid Core Construction Manager.

1.3 The Customer

The customer will undertake the lead role and ultimately be responsible for providing the project management and procurement of a Principal Contractor, who will design, install and commissioning all of the assets identified and agreed in the Customer Build Work Package.

The customer will appoint a Customer Project Manager who will provide the interface with the Investment Sponsor and then the National Grid Project Manager.

1.4 Asset Owner

- 1.4.1 National Grid is the asset owner whose assets are to be built by the Customer and who is ultimately responsible for identifying and agreeing the scope of works for those assets, and ensuring that the equipment installed complies with the relevant licence, commercial and technical requirements.

1.5 The Alliance Project Manager (National Grid)

The Alliance Project Manager (National Grid) will be responsible for project delivery supported by a Project Delivery Team. Responsibility will extend to the whole of the sanctioned scheme, i.e. Customer Build assets as determined by the Investment process.

1.6 The Alliance Development Manager

The Alliance Development Manager will be responsible for the project management of the Alliance project development activities and shall provide a suitable representative to be a member of the Investment Team.

1.7 The National Grid's Technical Assurance Manager

The National Grid's Technical Assurance Manager shall act on behalf of Core Construction and will be responsible for design assurance of National Grid's assets and final acceptance on to the system. In addition, the Alliance development and project Managers shall ensure that design verifications, where applicable, of the Customer Build is in line with design procedure UKBP/TP188A.

1.8 National Grid's Occupier Representative

The National Grid's Occupier Representative will provide information from the site Health, Safety & environmental File to the CDM Co-ordinator where work is carried at the Occupier's location. In addition, the representative will ensure that the necessary authorisations and permits are used for work at operational sites.

2 HEALTH, SAFETY AND ENVIRONMENTAL MANAGEMENT

The following CDM arrangements apply where it is decided at the Investment Team meeting that National Grid is the Client.

Site where National Grid is the occupier and/or asset operator:

Client	-	National Grid
CDM Co-ordinator	-	National Grid
Principal Contractor	-	The Customer's Contractors
Designers	-	National Grid, the Customers & the Customer's Contractors

As the Client (National Grid) will need to provide information from the site Health, Safety & Environmental File to the CDM Co-ordinator.

The defined roles (above) require competency checks and authorisation under CDM 2007 Regulations, this will be carried out by National Grid Construction Technical Assurance (see UKBP/TP137A, UKBP/TP141A, and UKBP/TP144A).

Where Customer is the Client:

Client	-	The Customer
CDM Co-ordinator	-	The Customer
Principal Contractor	-	The Customer's Contractors
Designers	-	National Grid , the Customers & the Customer's Contractors

At handover the Client should return to National Grid all information pertaining to the site Health, Safety & Environmental File.

The defined roles (above) require competency checks and authorisation under CDM 2007 Regulations, to be carried out by the Customer.

Where land is leased to the Customer as part of the Customer build agreement then Occupier responsibilities will transfer as part of a temporary lease arrangement along with the H&S file for the duration of the temporary lease.

Consideration will need to be given to which safety rules apply to the work. If National Grid Safety Rules are to be applied, the Customer's workforce will need to be authorised to work under these rules. If the Customer's safety rules are to be applied, existing assets will need to be transferred from National Grid Safety Rules to those of the customer, and later transferred back to National Grid's prior to energisation of the new equipment. Transfer of responsibility from one set of safety rules to another is formalised by change in Site Responsibility Schedules and the issue of an HVSCC.

Appendix E defines the arrangement for HV operational safety system control requirements.

3 CUSTOMER BUILD PROCESS

The Customer Build Process is shown in Appendix A and shows the key processes in which the Alliance roles and responsibilities applies.

4 CUSTOMER BUILD APPLICATION PROCESS

The Customer Build Application Process is shown in Appendix B and starts when the Customer sends in a Formal Connection Application to National Grid's Commercial Team.

The Investment Team will develop the IP2 documentation for the Pre Works Sanction to include both assets to be built by the Customer, including an estimate of costs, and any associated assets to be built by National Grid which comprises the Customer specific assets. For example, the Customer may build the supergrid bays of a GIS substation and incoming cable whereas National Grid may build the supergrid transformer and HV bays of the same circuit.

National Grid's Investment Sponsor will confirm the full extent of the works and agree the Customer Build work packages with any variances explained on grounds of safety, engineering complexity, consents and technical requirements. Responsibilities at equipment interface points will be clearly defined.

Pre Work Sanction (PWS) and authorisation to proceed at this stage includes:-

4.1 Pre Work Sanction

- a) Defines the full scope of Customer build work packages and key dates.
- b) Identifies the total estimated costs of the work including Customer build work packages which will be used for bench marking and contestability purposes.
- c) Sanctions the Alliance cost to take remaining scope of work to complete the DSIP2 documentation

4.2 PWS Authorisation

- a) The authorisation to release indicative Connection and Use of System agreements to the Customer which includes a draft Customer Build Agreement.
- b) After an indemnity or the connection and use of system agreements signed the authorisation for Alliance to proceed with development to complete the DSIP2 documentation.

National Grid's Investment Sponsor will provide the indicative cost estimates and separately identify them on the PWS sanction paper as the Customer build elements within a range. These costs will be used as a benchmark and form the basis of an agreed 'indicative price' specified in the Customer Build Agreement.

The customer can raise queries to be resolved by the Investment Team prior to accepting the Finalised Customer Build agreement.

After the Customer signs an indemnity or returns the signed Connection and User of System Agreements the Alliance shall develop the completed Design Specification IP2 documentation for inclusion in the Final Customer Build Agreement.

The Customer is required to sign the Finalise Customer Build Agreement to authorise work to proceed.

The Investment Sponsor shall submit the project for sanction following the completion of the DSIP2 documentation and the Alliance providing a completed costing schedule to Project Assure the Customer build through to IP4.

Authorisation for the Alliance to proceed from DSIP2 to Detailed Design and Delivery shall follow the publication of the sanctioned Investment paper and the Investment sponsor confirming acceptance of the Customer Build Agreement.

5 CUSTOMER FINANCE AND ALLIANCE COST MANAGEMENT PROCESS

Financial planning and monitoring by the National Grid Project Manager and Investment Team Sponsor following sanction will be the Customer Build components and Alliance costs management but with the Customer and Alliance elements separately identified. The Customer Finance & Alliance Cost Management process is shown in Appendix C.

5.1.1 Customer Finance Management

Following authorisation to proceed, the Alliance Project Manager National Grid shall raise a Purchase Order on the MYSAP system to cover the Customer Build Contract values.

The Alliance Project Manager National Grid shall agree with the customer financial profiles, requiring monthly VOWD from the Customer which may include milestone payments to the Customer as the works progress. It is the intention that the Customer shall adopt open book procedures throughout the process to enable The Alliance Project Manager National Grid shall monitor actual costs during delivery. Any changes the Customer Build 'indicative price' will be subject to variation by way of a clause in the Customer Build Agreement and will involve the Investment Sponsor.

On completion of the works or agreed milestone the Customers shall submit payment assessment requests for review by the Alliance Project Manager National Grid who shall verify and notify the Customer of the status of the requests.

When the payment request is accepted the Alliance Project Manager National Grid shall obtain approval within the authorisation framework and notify the customer who shall then raise an invoice to cover the payment authorisation.

Customer invoices shall be submitted and approved by NG project accountant and the Alliance Project Manager National Grid to authorise payment and the project accounts adjusted until final payment.

Following project review, if additional works are identified and agreed by the Alliance Project Manager National Grid then the Customer shall submit a Request For Variation (RFV) for variation by way of the clause in the Customer Build Agreement.

Where the additional cost of the RFV remains within the sanction range the Alliance Project Manager National Grid shall raise an additional line on the Purchase Order to cover the works when the RFV is approved by the authorisation framework. Where the RFV will exceed sanction then the Investment sponsor shall be notified and the RFV rejected.

5.1.2 Alliance Cost Management

Following authorisation to proceed from the Investment sponsor, Core Construction will issue a Project Managers Instruction (PMI) for the works to the Alliance authorising adjustment to Works order via change control in accordance with UKBPTP177A. This is authorisation for the Alliance to proceed with project assurance.

The project costs will be Cost Plus and not Target Cost and once built up will be within the Alliance workbook but not be subject to Pain/Gain. Core Team overheads will not be apportioned to Customer build projects and Customer Build Project Risk shall be calculated but only used within the Upper Range of the overall Customer Build costs.

The Alliance Project Manager National Grid with the Alliance Quantity Surveyor (QS) shall monitor, review and report the Alliance costs for the Customer build packages.

The Alliance Project Manager National Grid with the National Grid Project Accountant shall monitor, review and report on the Customer Build Agreement costs to the Investment Sponsor.

Acceptance of variations in Alliance cost by the Investment sponsor shall be via a PMI to the Alliance.

On Investment completion a financial review will be carried out by the scheme team with the objective of carrying out full financial audit.

6 DESIGN ASSURANCE

Following Investment team formation the Alliance shall review the Customer Build application high level design specification. The specification should include a single-line diagram, with clear identification of the work boundary. This shall be reviewed in relation to:

- a) Health, safety, security and environmental considerations
- b) Availability of National Grid Type Registered equipment to facilitate the design
- c) Method of installation, including staging
- d) Future maintainability
- e) Clear definition of boundary of design responsibilities both HV and LV
- f) Project risks
- g) Design risks
- h) Planning and consent
- i) Community relations
- j) Change management

The Alliance shall develop the IP2 documentation as defined by UKBP_TP146 for the Customer build work packages to the level required for Pre Works Sanction.

Following notification from the Investment Sponsor authorising the work the Alliance shall develop the Design Specification IP2 documentation to include the information shown in Appendix F for the Customer build work packages.

The Investment Sponsor shall sign off the Final Design Specification and issue to the Customer to form part of the Customer build agreement and for inclusion in their equipment procurement documentation as applicable.

7 DETAIL DESIGN AND DELIVERY MANAGEMENT

Following acceptance of the Customer build agreement and on return of equipment tenders the Customer shall provide a copy to National Grid. This document will be Design compliance check, to be carried out by National Grid Technical Assurance, and takes account of the criterion in 2.5.1 in addition to the following areas.

- a) Acceptability of stage by stage drawings
- b) Acceptability of design from an over voltage and transient performance standpoint
- c) Earthing calculations
- d) An assessment from National Grid (Asset Strategy) that Type Registration of new equipment can be resourced and achieved where this is required during the project timescales
- e) Availability of secondary wiring interface point documentation
- f) Availability of Alarm, Control, Indications, Analogue and metering interface schedule
- g) Availability of roles and responsibility schedule identifying who is responsibility for the key activities identified in appendix G

The Design Intent Document (DID) which is prepared after contract release shall be compliance checked by National Grid Technical Assurance, in line with relevant sections of UKBP/TP188A, after which the DID shall be used as a reference document to progress the design, particularly at interface meetings.

Following acceptance of the DID and sign off of the Design Compliance Audit Assurance Report by National Grid Technical Assurance the Compliance Audit (Appendix G) shall be completed by National Grid Project Manager to confirm equipment build design compliance.

Any changes to the DID by the Customer after the design compliance check must be notified to National Grid for review.

As part of the design compliance audit in the delivery phase of the works, checks of drawings and calculations shall be completed prior to installation of the relevant equipment commencing. These should be minimal if the DID process is robust and be based upon the content of the DID.

Responsibility for the calculation and application of protection settings to National Grid Policy and Procedures will reside with the Customer. Where the Customer's work is minimal, for example replacement of a SGT circuit whereby the Customer only builds the LV switchgear and associated relay panels, responsibility for settings maybe better placed with National Grid Technical Assurance although the customer will retain responsibility for the associated calculations. In either instance the Customer build agreement must clearly define responsibility for protection equipment settings. The relays to be set and the setting calculations shall be identified in the DID.

The National Grid Project Manager shall ensure that the Customer provide timely Relay settings information to enable National Grid Technical Assurance to authorise relay settings and update setting records as applicable in line with TP107.

The National Grid Project Manager shall ensure that the Customer engage in early co-ordination of SCS interface requirements, including dialogue with the SCS manufacturer. Interface issues shall be co-ordinated with National Grid Project manager who shall liaise with National Grid Network Operations to arrange the necessary Dataset Switch changes as required.