

Company Directive

STANDARD TECHNIQUE: SD1G/3

Communications Requirements for Parallel Generation Sites

Summary

This document sets out the options for telecommunications connections which are to be established for parallel generation connections to the NGED network

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Approved by



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Target Staff Group	Primary System Design, Engineering Design, Logistics
Impact of Change	Green
Planned Assurance checks	Six months after the issue of the document authors to check compliance with this document

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IMPLEMENTATION PLAN

Introduction

This Standard Technique details the options for telecommunications connections which are to be established for parallel generation connections to the NGED network.

Main Changes

Connections that include one or more Type B, Type C or Type D Power Generating Module now require a telecommunication link.

Impact of Changes

Telecommunication links need to be provided at connections where Type B, Type C or Type D Power Generating Modules are installed, even if the Agreed Export Capacity is less than 500kW.

Implementation Actions

Team Managers within Network Services and Telecoms responsible for staff and/or contractors involved in the design, installation, maintenance and replacement of generation connections shall ensure they made aware of, and follow, the requirements of this document.

Implementation Timetable

This document shall be implemented with immediate effect for new and substantially modified connections and for existing connections where one or more Type B, Type C or Type D Power Generating Module is installed under EREC G99.

REVISION HISTORY

Document Revision & Review Table		
Date	Comments	Author
December 2022	<ul style="list-style-type: none"> References to WPD Telecoms have been updated to National Grid telecoms. Appendix A : Table updated to reflect current National Grid telecoms practice. 	Andrew Baker
April 2019	<ul style="list-style-type: none"> References to SURF Telecom have been replaced with WPD Telecom. Clause 2.1:- Requirements for connections that include one, or more, Type B, Type C or Type D Power Generating Module have been added. Clauses 3.2 and 3.3 relating to the choice of telecommunication service have been amended. Appendix A: Table has been updated to reflect current WPD Telecom practice. Appendix C: A reference to EREC G99 has been added. 	Andy Hood / Andrew Baker
December 2016	<ul style="list-style-type: none"> Clause 2.1:- Installed Capacity changed to Export Capacity Appendix A:- Generation Capacity changed to Export Capacity 	Andy Hood
October 2016	<ul style="list-style-type: none"> The document title has been amended so that it applies to “parallel” generation sites only. Section 2.1 which defines where communication links are required has been amended. Options for unlicensed radio have been removed GE D400 and iBox RTUs have been added to Section 4.0 and Appendix A. 	Andy Hood
April 2016	<ul style="list-style-type: none"> New Document 	Ben Godfrey

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1.0 INTRODUCTION

- 1.1 The number of connections being made to 3rd Party Generation Sites is increasing and the way in which the equipment can be controlled and monitored is becoming more and more critical to NGED and other interested parties.
- 1.2 This document establishes a hierarchy for the connection of generation sites to the National Grid telecoms network based on their generation capacity.

2.0 CONDITIONS FOR REQUIRING TELECOMMUNICATIONS LINKS

- 2.1 A telecommunications link to the NGED network shall be installed where the connection is made at 132kV, EHV (66kV or 33kV) or HV (11kV or 6.6kV) and one, or more, of the following criteria are satisfied:

- The Agreed Export Capacity is 500kW, or more
- The Agreed Export Capacity is less than 500kW and either a:-
 - NGED soft intertrip scheme is installed (see ST:SD10B)
 - NGED active network management (ANM) scheme is installed (see ST:SD10C)
 - NGED timed scheme is installed (See ST:SD10A)
- The Customer has one or more, Type B, Type C or Type D Power Generating Modules installed that operate in Long Term Parallel mode, as defined in EREC G99.

- 2.2 The requirements for the telecommunications link are detailed in Appendix A.

3.0 CHOICE OF TELECOMMUNICATIONS SERVICE

- 3.1 Telecommunications services will be made by National Grid telecoms on behalf of NGED and classed as non-contestable with regard to the connection charge.
- 3.2 Consideration must be made to the amount of substation connectivity on each individual Poweron Fusion (POF) Front End Processor (FEP) line to which the new connection is being made.

- 3.3 All telecommunication services will be based on the most effective solution taking into account the local availability of communications infrastructure owned by or leased to NGED.

4.0 RTUs

- 4.1 National Grid telecoms currently utilise GE D20, D400 or iBox RTUs for these sites. The iBox RTU is much more compact than the D20 and D400 but cannot process as many inputs, outputs and analogues. Given this, the iBox is used at the majority of customer sites whereas D20s or D400s are commonly used at primary substations, BSPs etc.

APPENDIX A

TABLE OF TELECOMMUNICATION LINK REQUIREMENTS

Export Capacity	NGED TELECOMS RTU*	Communications Link
Over 8,000kW	RTU is specified by National Grid telecoms. See Section 4.0	UHF Licenced radio or Microwave radio or Fibre Optic based on National Grid telecoms survey of locally available owned or leased assets ; or based on a NGED design relating to protection class communication link requirements
1,000kW to 8,000kW		UHF Licenced Radio or Microwave or Fibre Optic based on National Grid telecoms survey of locally available owned or leased assets
500kW to 1,000kW		UHF Licensed Radio or locally available owned or leased assets
Under 500kW where applicable (see 2.1)		UHF Licensed Radio or locally available owned or leased assets

* Note, the **National Grid telecoms** RTU may be interfaced with other RTU type equipment or peripherals. For example, where Ringmaster switchgear is used the RTU will be connected to Schneider a T200 or T300 RTU and where a Connection Control Panel (CCP) is used to a CG Power RTU.

APPENDIX B

SUPERSEDED DOCUMENTATION

This document supersedes ST: SD1G/2 dated April 2019 which has now been withdrawn.

APPENDIX C

RECORD OF COMMENT DURING CONSULTATION

No comments received.

APPENDIX D

ASSOCIATED DOCUMENTATION

EREC G99	Requirements for the connection of generation equipment in parallel with public distribution networks on or after 27 th April 2019
POL: SD10	Managing processes for alternative connections
ST: SD10A	Process for offering a timed connection
ST: SD10B	Process for offering a soft intertrip connection
ST: SD10C	Process for offering an active network management (ANM) connection
ST: TP18A	Application of generator constraint panels
ST: NC1AB	Basis for managing connections that potentially impact on NGET's transmission system

APPENDIX E

KEY WORDS

Active Network management, ANM, Generation, Generator, Constraint, GCP, Telecoms, Radio, RTU, Soft Intertrip.