

Document Ref: STCP 4-3 Version 001 Real Time Data Provision

Produced from DG Process:

STC Procedure Document Authorisation

Company	Name of Representative	Signed off (date)
NGT		
SP		
SSE		

STC Procedure Change Control History

Issue 001 – 23/12/04

Outstanding issues to be resolved post company sign-off

1. Disputes procedure requires resolution
2. Decision on referencing of Grid Code
3. Appendix C4.3 requires examination

Outstanding issues to be resolved prior to company sign-off

Questions for DG1/UG:

Views requested on []

1 Introduction

1.1 Scope

1.1.1 The provision of operationally significant alarms, indications and analogue data is essential for the effective and secure operation of the Transmission System. This document details the real time data that shall be provided by the TO (including User real time data) via the Datalink.

1.1.2 This procedure applies to NGC and TOs, for the provision of specified alarms, analogues and indications, in real time via the Datalink.

1.1.3 For the purposes of this document, TOs are:

- SPT; and
- SHETL

1.1.4 The obligations on NGC and TOs on the receipt of alarms are specified in STCP 2.1 (Alarm Fault and Event Management), and are outside the scope of this document.

1.1.5 Management of the Datalink is detailed in STCP 4-2: (Real Time Datalink Management) and is outside the scope of this document.

1.1.6 STCP 4-1 (Real Time Data Change Management), sets out the change management process and is related to, but outside the scope of, this document.

1.2 Objectives

1.2.1 The process specifies the responsibilities of NGC and TOs for the provision of real time data, including:

- generic alarms (specified in Appendix C1);
- other specified alarms that are operationally significant;
- alarms from new types of equipment that are operationally significant;
- digital status indications (specified in Appendix C2);
- analogue data (specified in Appendix C3); and

real time data related to Users' Systems (specified in Appendix C4).

2 Key Definitions and Interpretation

2.1 *The following definitions apply for the purposes of this document:*

2.1.1 None

3 Procedure

3.1 Alarms

3.1.1 The TO shall provide to NGC, where available, operationally significant alarms associated with the Transmission System. These are outlined in the generic table in Appendix C1.

3.1.2 The TO shall provide any unique alarms associated with the Transmission System, that do not fall within the generic tables in Appendix C1, but which are agreed with NGC to be operationally significant.

3.1.3 The TO and NGC shall agree to the provision of operationally significant alarms from new types of Plant and/or Apparatus associated with the GB Transmission System.

3.1.4 The TO shall inform other relevant Parties where planned work may interrupt real time alarm data, or result in the generation of spurious alarms or indications. Where agreed with NGC, the TO shall, in accordance with local procedures, suppress or inhibit the transmission of alarms from Plant and/or Apparatus removed from operational service since this could lead to excessive alarm information being sent to NGC. Any such suppression or inhibition shall be removed prior to the equipment being returned to service, unless otherwise agreed with NGC.

3.1.5 NGC shall procure that the User provides alarms from User equipment:

- as required by NGC pursuant to the Grid Code;
- as reasonably required by NGC; and
- as reasonably required by the TO.

These alarms shall be documented in the Connection Site Specification between NGC and the TO. The TO shall then collect and forward these alarms to NGC.

3.1.6 NGC shall agree with Users, the provision of real time data from User's equipment and that it shall be collected by the TO on behalf of NGC. The data to be collected shall be (i) that required pursuant to the provisions of Grid Code, (ii) that reasonably required by NGC, and (iii) that reasonably required by the TO. All the data to be collected shall be documented in a schedule between NGC and the TO. The TO shall have access to the documented data.

3.1.7 Where the User's site is not a TO Connection Site, agreement shall be reached between NGC and the TO, as to the most appropriate and cost effective method of collecting the required User SCADA alarm data. At TO connection sites, the TO shall collect and forward required User SCADA alarm data to NGC.

3.2 Indications

3.2.1 The TO shall provide, where available, the telemetered digital status indications (including time tags where available), for equipment listed in Appendix C2. Where this cannot be reasonably achieved, NGC and the TO shall agree an appropriate solution.

3.2.2 Where status indications are not telemetered from site, or where the telemetered information is incorrect, the TO shall liaise with NGC and follow internal procedures for hand

dressing actions on their SCADA system. These actions shall be reflected to NGC, via the Datalink and shall appear as telemetered indications on the NGC SCADA system.

3.2.3 The TO shall inform NGC before agreeing to any work that may interrupt real time indication status data, or result in the generation of spurious indications. Where appropriate, the TO shall, in accordance with local procedures, suppress or inhibit the transmission of indications from out of service transmission equipment, where this could lead to inaccurate representation of system conditions or excessive transmission of status information to NGC. Any such actions shall be removed, except otherwise agreed, prior to the equipment being returned to service.

3.2.4 NGC shall procure that the User provides telemetered digital indications

- as required by NGC pursuant to the Grid Code (see appendix C4.2);
- as reasonably required by NGC; and
- as reasonably required by the TO.

These telemetered digital indications shall be documented in a Connection Site Specification between NGC and the TO. The TO shall then collect and forward these indications to NGC.

3.2.5 Where telemetered indications from User equipment are not provided or are incorrect, the TO shall liaise with NGC and follow internal procedures for hand-dressing actions on their SCADA system. These actions shall be reflected to NGC via the Datalink and shall appear as telemetered indications on the NGC SCADA.

3.2.6 Where the User's site is not a TO Connection Site, agreement shall be reached between NGC and the TO, as to the most appropriate and cost effective method of collecting the required User SCADA indication data. At TO connection sites, the TO shall collect and forward required User SCADA indication data to NGC.

3.3 Analogues

3.3.1 The TO shall provide where available, real time analogue data, as defined in Appendix C3, from each transmission site. Where this cannot reasonably be achieved, NGC and the TO shall agree an appropriate solution.

3.3.2 The TO shall inform NGC when analogue values are incorrect or manually overridden for any reason, the TO shall adopt procedures for hand dressing actions on their SCADA system. These actions shall be reflected to NGC via the Datalink and shall appear as telemetered indications on the NGC SCADA. Any such actions shall be removed once the analogue is returned to normal.

3.3.3 The TO will inform NGC before agreeing to any work that may interrupt real time analogue data or result in the generation of spurious analogue data. Where appropriate the TO will, in accordance with local procedures, suppress or inhibit the transmission of analogue data from out of service Plant and Apparatus, where this could lead to inaccurate representation of System conditions or excessive transmission of status information to NGC. Any such actions shall be removed, except otherwise agreed, prior to the Plant and Apparatus being returned to service.

3.3.4 NGC shall procure that the User provides analogue data from the User's system

- as required by NGC pursuant to the Grid Code (see appendix C4.1);
- as reasonably required by NGC; and
- as reasonably required by the TO.

This analogue data shall be documented in a Connection Site Specification between NGC and the TO. The TO shall then collect and forward this analogue data to NGC.

3.3.5 Where the User's site is not a TO Connection Site, agreement shall be reached between NGC and the TO, as to the most appropriate and cost effective method of collecting the required User SCADA analogue data. At TO connection sites, the TO shall collect and forward required User SCADA analogue data to NGC.

3.4 TO Data Acquisition

3.4.1 At NGC sites that connect with a TO's site, provision shall be made for the relevant TO to install, repair, maintain or replace appropriate data transmission equipment or related equipment, for the purpose of relaying agreed Plant status indications and analogue data associated with the connecting transmission circuits to the relevant TO.

3.4.2 At NGC sites that connect a TO's site, access to the relevant TO data transmission equipment or related equipment described in 3.4.1 shall be granted by NGC as appropriate between NGC and the relevant TO. Any proposal to install or relocate such equipment shall be discussed and agreed by the two parties.

3.4.3 User SCADA data shall not be transmitted between TOs without the approval of the User and NGC.

3.4.4 Each TO shall provide to the other TO real time data, as specified in Schedule 3 of the STC, with respect to specific inter TO circuits and other circuits or equipment, where the TO can reasonably demonstrate that such data is required to discharge its TO obligations. Where User data is required this shall be requested from NGC.

3.4.5 NGC shall procure for the purpose of 3.4.4 above any required data from a User or Users, and shall make such data available to the TO.

4 Dispute Resolution

4.1.1 Dispute resolution procedure inline with STC XXXXXX

5 Appendices

Appendix A: General Terms/Conditions

A1: Terminology/Abbreviations

NGC National Grid Company

TO Transmission Owner

A2: Definitions

Other STCPs

STCP2-1 :Class 3 Alarms

Datalink: As defined in STCP 4-2.

STC definitions used:

- User

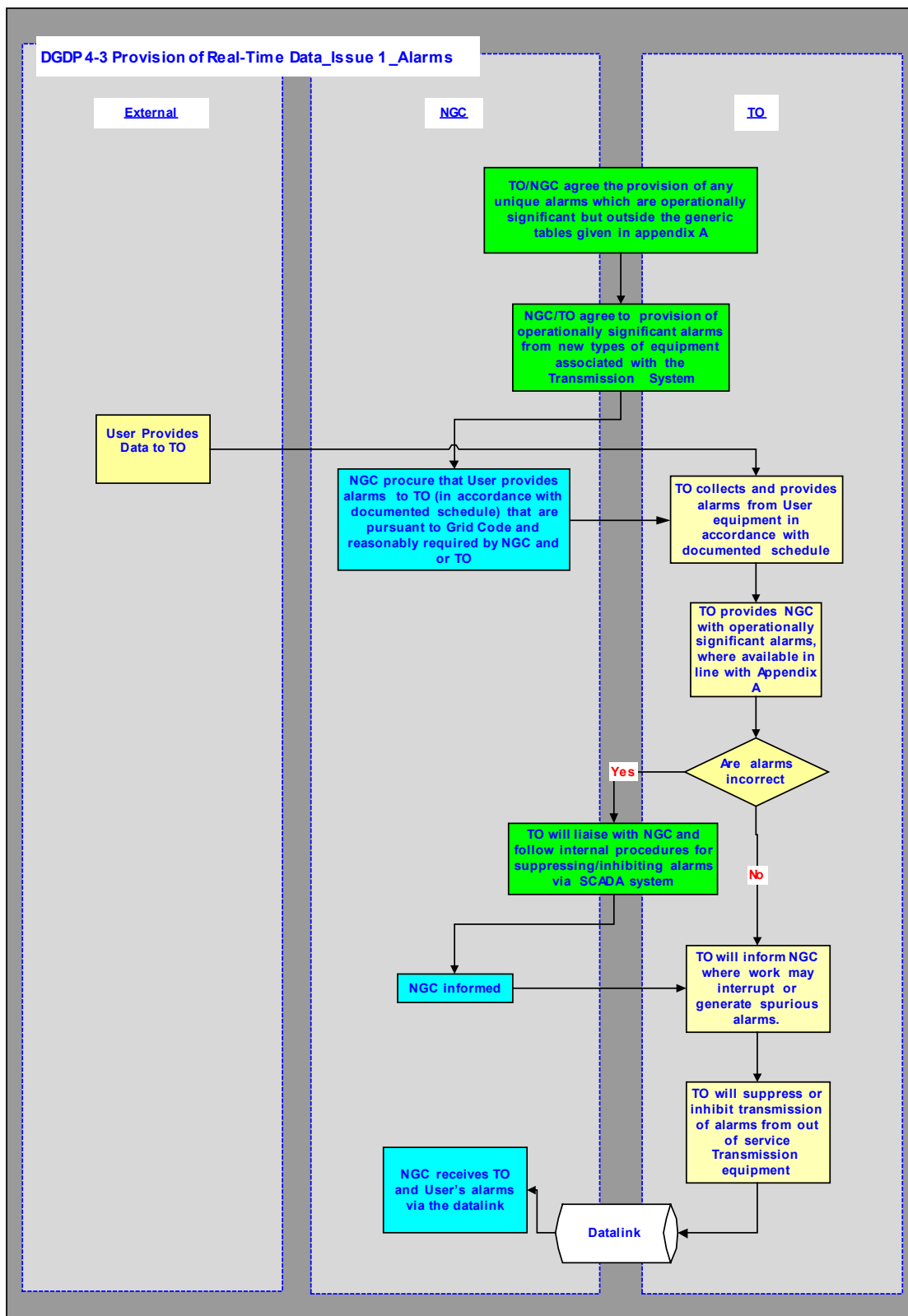
Transmission System

CUSC definitions used:

- Plant

Apparatus

Appendix B - Flow Diagram



Appendix C - Standard Forms/Certificates**C1 Generic Alarm Requirement**

Protection and Sequence Alarms	Condition Alarms
<i>Transformer Protection Operated Alarms</i>	<i>Transformer Protection / Cooling Faulty Alarms</i>
<i>Quad Booster Protection Operated Alarms</i>	<i>Quad Booster Protection/ Cooling Faulty Alarms</i>
<i>Reactive Compensation Protection Operated Alarms</i>	<i>Reactor Protection/ Cooling Faulty Alarms</i>
<i>Trip Relay Operated Alarms</i>	<i>Trip circuit Faulty Alarms</i>
<i>Circuit Main Protection Operated</i>	<i>Circuit Main Protection Faulty Alarms</i>
<i>Circuit Back up Protection Operated</i>	<i>Circuit breaker Operating / Insulating medium pressure Alarms</i>
<i>Inter trip Receive Alarms</i>	<i>Inter trip Faulty Alarms</i>
	<i>Protection Signalling Faulty Alarms</i>
<i>DAR Sequence / In Progress/ Operated/ Reset/ Incomplete / Locked out Alarms</i>	<i>DAR Scheme Faulty Alarms</i>
<i>Mesh Corner Protection Operated Alarms</i>	<i>Mesh Corner Protection Faulty Alarms</i>
<i>Busbar Protection Operated Alarms</i>	<i>Busbar Protection Faulty Alarms</i> <i>Busbar Gas pressure Alarms</i>
<i>Cable Protection Operated Alarms</i>	<i>Cable Pressure Alarms</i>
<i>Circuit Breaker Fail / Interlocked Over current Operated Alarms</i>	<i>Circuit Breaker Fail / Interlocked Over current Faulty Alarms</i>
	<i>Circuit Breaker / Switch Disconnecter Trip and Close lockout Alarms</i>

C2 Digital Status Indications Requirement

<i>Plant/ Apparatus /Equipment</i>	<i>Status Indication</i>
<i>Circuit Breaker</i>	<i>Open / Closed / DBI</i>
<i>Isolator</i>	<i>Open / Closed / DBI</i>
<i>Switch disconnecter / Isolator</i>	<i>Open / Closed / DBI</i>
<i>Protection Equipment</i>	<i>In / Out</i>
<i>DAR Equipment/ schemes</i>	<i>In / Out</i>
<i>Auto Switching Schemes</i>	<i>In/ Out and Selections</i>
<i>Demand/System/Ge nerator tripping schemes</i>	<i>In / Out and Selections</i>
<i>Fault thrower / ferro- resonance earth switch</i>	<i>Open / Closed (where available)</i>
<i>Blocking</i>	<i>In / Out</i>
<i>Ferro-resonance scheme</i>	<i>In/ Out</i>
<i>Zone 2 over ride</i>	<i>In / Out</i>
<i>Zone 1 extension</i>	<i>In / Out</i>
<i>Acceleration</i>	<i>In / Out</i>

C3 Analogue Data Requirement

Plant / Apparatus / Equipment	Analogue Data
<i>Feeder</i>	<i>MW / MVAR / Volts / Amps* from each end</i>
<i>Transformer</i>	<i>Low Voltage MW / MVAR / Amps* Volts: Winding temp / Tap position / MVAR from tertiary winding where compensation is fitted</i>
<i>Quad Booster</i>	<i>MW / MVAR / Volts / Amps* Winding temp / Tap position</i>
<i>Bus Section / Coupler CB</i>	<i>Amps</i>
<i>Shunt / Series Reactor</i>	<i>Mw / MVAR / Winding Temp</i>
<i>Reactive compensation</i>	<i>MVAR</i>
<i>General Site</i>	<i>Frequency / Transmission Voltage / User Interface Voltage</i>

** AMPS required if no other analogue readings are available*

C4 User's Data Requirements (Grid Code CC.6.5.6)**C4.1 Analogues / Metering**

Item	Analogue Data
Power Stations	–
Balancing Mechanism Unit	HV MW MVAr Frequency
Individual Alternator	HV MW MVAr
Interface with Transmission System	Voltage
Individual Unit Transformer	HV MW MVAr
Site TGO	HV MW MVAr
Other Users	
At Interface with Transmission System	MW MVAR Voltage

C4.2 Digital Status Indications

Item	Digital Status Indication
Power Stations	
All Generator circuits	LV and HV circuit breakers and disconnectors.
Unit Transformer	Circuit breaker
Each Generator Transformer	Tap Position Indicator
Other Users	
At Interface with Transmission System	Circuit Breakers and Disconnectors

