Introduction to the Operational Notification Process

How Generators comply with the Grid Code

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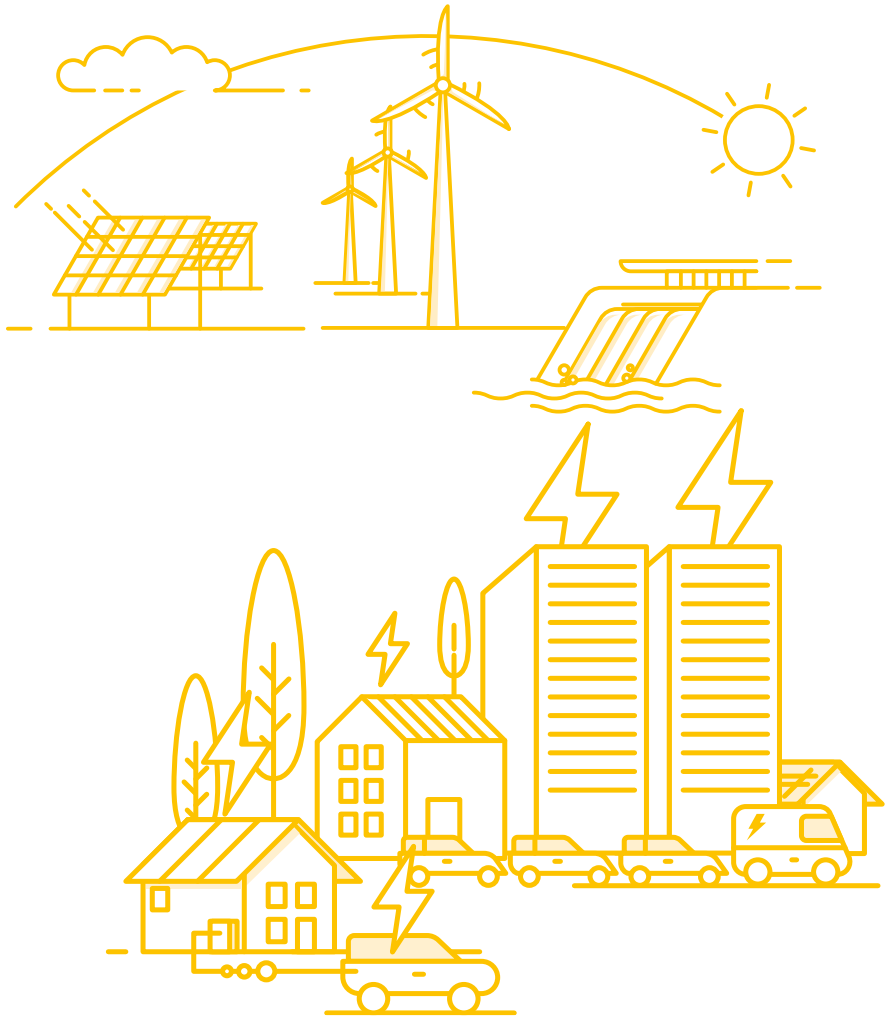


Approval to Connect/Energise

Construction Agreement Clause 5:

".....'the User shall submit to The Company a statement of readiness to complete the Commissioning Programme in respect of the Works and the statement submitted by the User shall in addition contain relevant Connected Planning Data and a report certifying to The Company that, to the best of the information, knowledge and belief of the User, all relevant Connection Conditions applicable to the User have been considered and complied with'

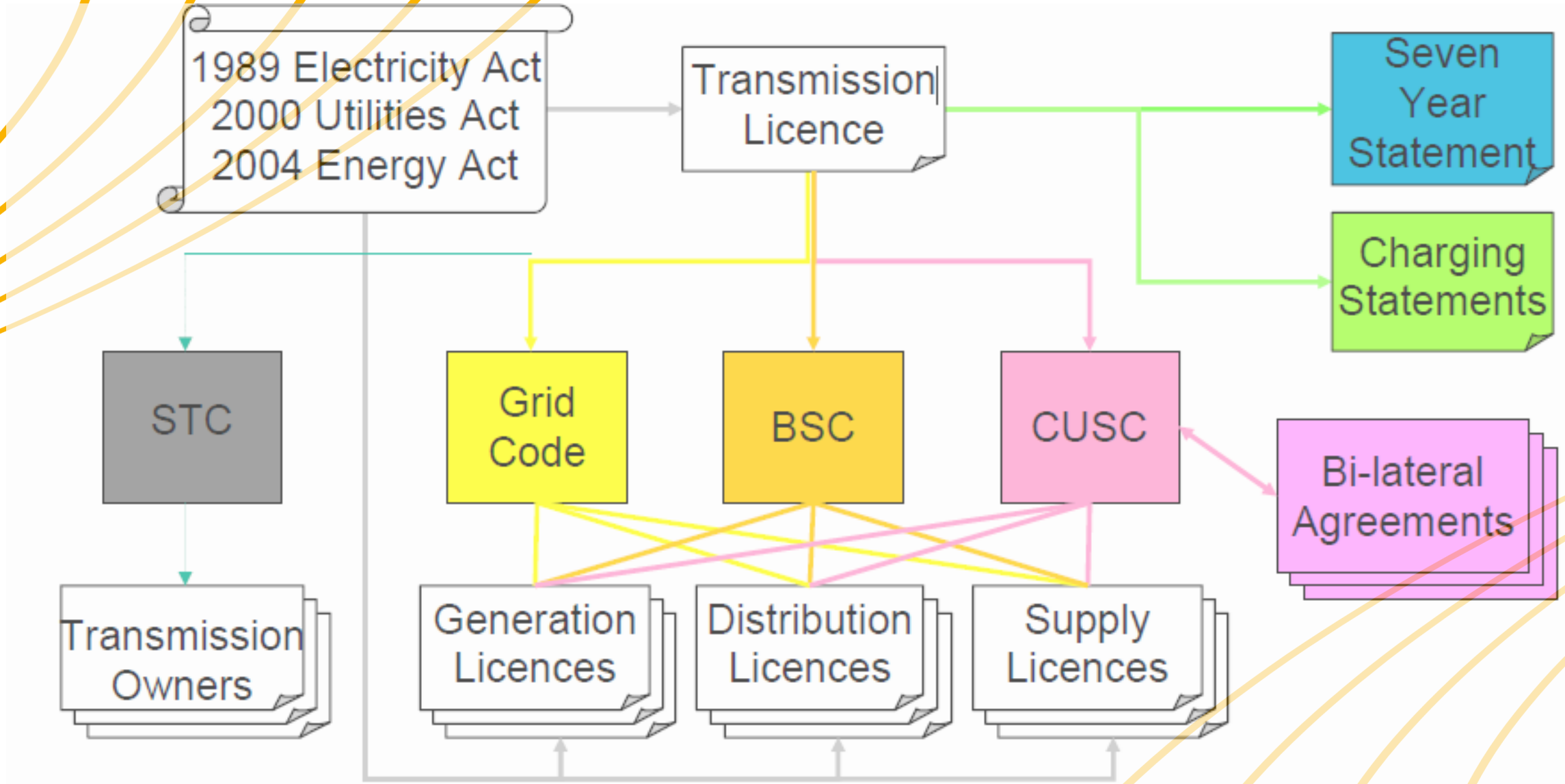
Becoming Operational

Construction Agreement Clause 7:

"The Company shall connect and Energise the User's Equipment at the Connection Site during the course of and in accordance with the Commissioning Programme and thereafter upon compliance by the User with the provisions of Clause 5 and provided ...' the Works...shall be completed The Company shall forthwith notify the User in writing that the Connection Site shall become Operational'

This is known as the "Operational Notification" — a formal letter to the User,s representative/Co Secretary'

The Legislative and Contractual Framework



Grid Code

- Industry Code governing technical framework

- Generic Technical Requirements
  - Connection Conditions
  - Site Specific Requirements

- Technical Appendices (F1 to F5) in Bilateral Agreement

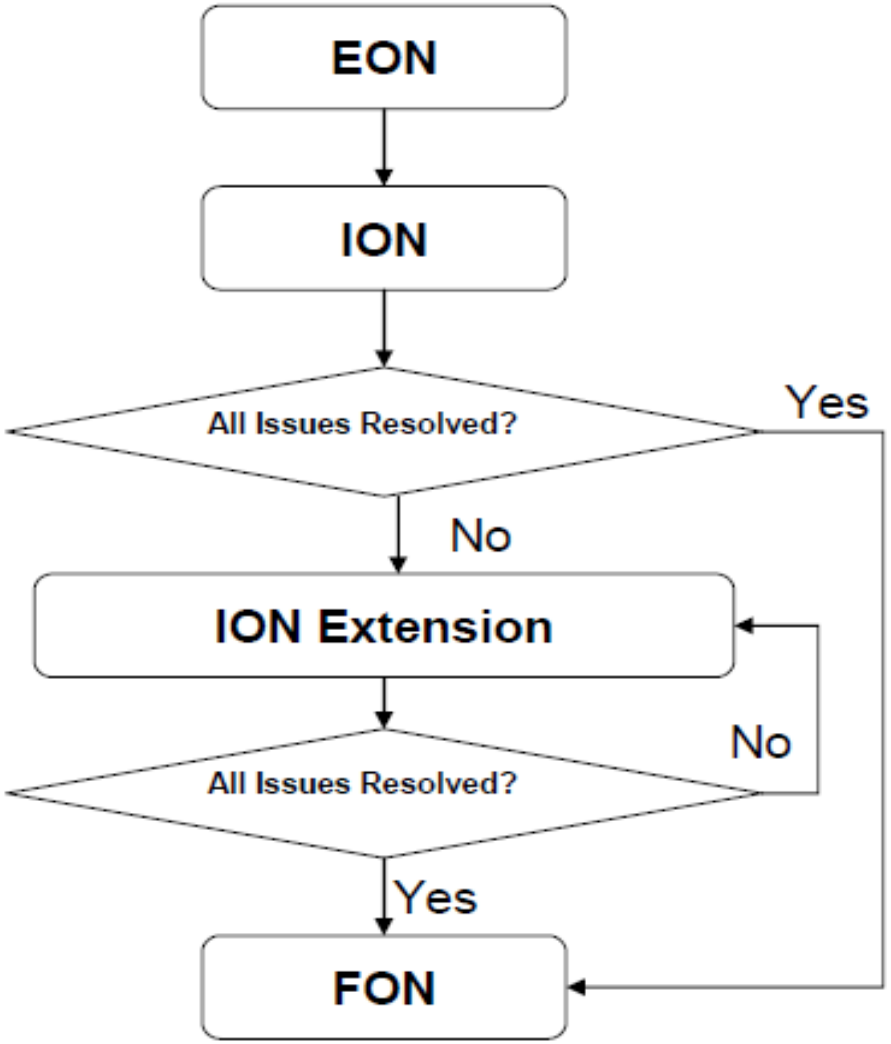
Process for New Connections

Types of Operational Notifications

- Energisation Operational Notification (EON)
- Interim Operational Notification (ION)
- Final Operational Notification (FON)

Operational Notifications - New

Operational Notification Process for New Connections"..... '



Operational Notification Process

- Timescales
  - Your nominated lead contacts
  - Operational Notifications team
- Compliance Engineer
- Compliance Toolkit

Compliance Toolkit

- Compliance Statement
- User Data File Structure (UDFS)
- Operational Notification Compliance checklist (ONCC)

Toolkit - Compliance Statement

Compliance Statement	Test Generator transmission connected in NGET transmission area			
	Completion Date on 31/10/2008	Connection Voltage = 400kV, Registered Capacity = 1000MW, Options: N3		
Key to Evidence Requested	Generation Type : Synchronous Plant			
'DS'	Indicates that NGET would expect to see the results of a Dynamic Simulation study.		'S'	Indicates that NGET would expect to see the results of a Simulation study (not necessarily, but not excluding, dynamic simulation).
'G'	Manufacturer's generic data or test results, as appropriate.		'P'	Generating Unit design data.
'D'	Copies of correspondence or other documents confirming that a requirement has been met (e.g. copy of letter from NGET confirming receipt of Safety Rules)		'T'	Indicates that NGET would expect to see results of, and/or witness, tests or monitoring which demonstrates compliance. Where possible, the test is referenced to the relevant section of this guidance document.
'O'	Indicates that NGET would expect to be provided with the currently applied operating settings.		'TV'	Indicates type validation test (if Generator pursues this compliance option)

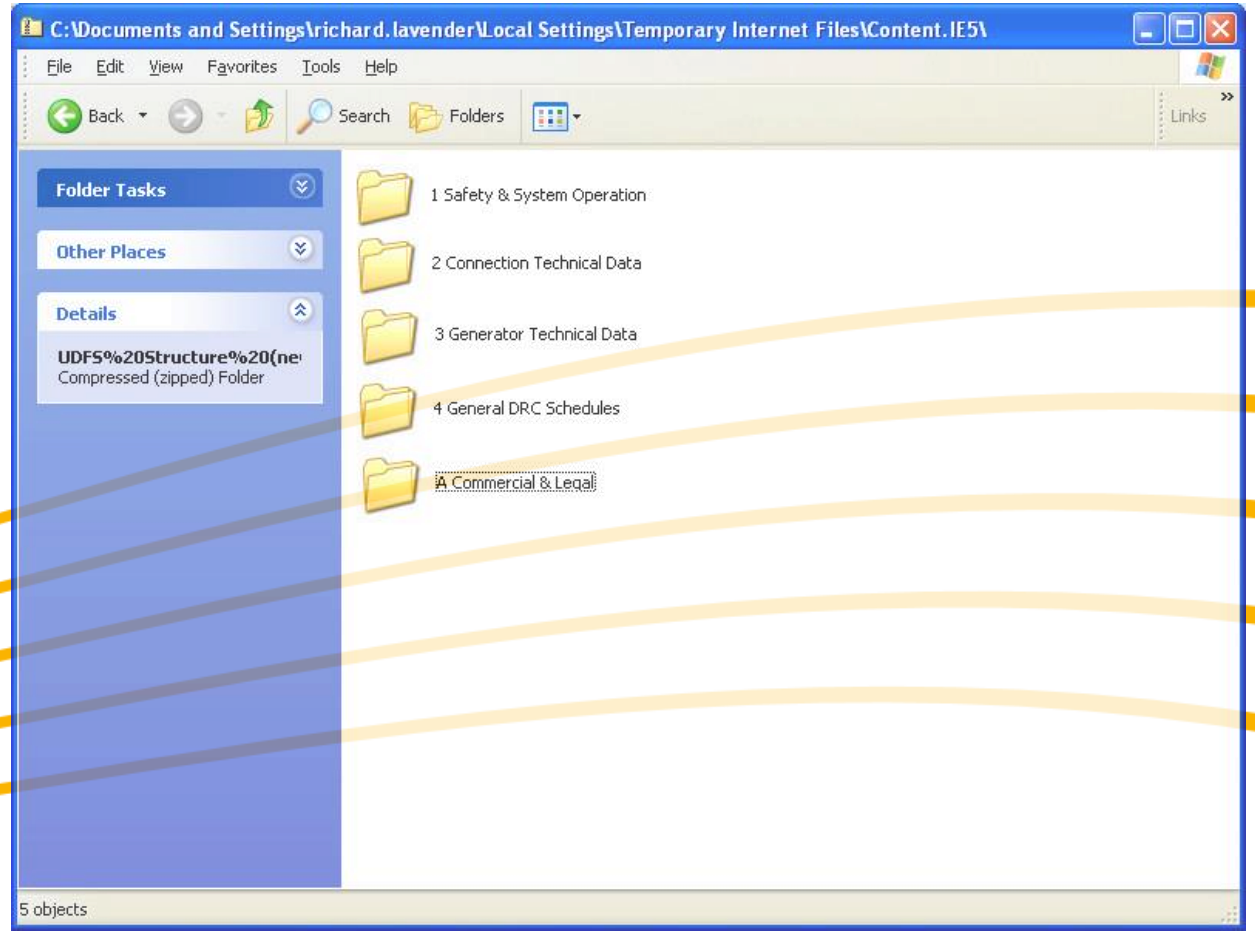
Key to Compliance: Y = Yes (Compliant), N = No (Non Compliant) or Q = Query

	REQUIREMENT				RESPONSE	
Connection Condition	**Compliance Requirement of User**	**Evidence Requested**	**Lead Role**	**UDL Ref**	**Compliance Y, N or Q**	**User's Statement**
CC.5.2	Please confirm that the following information has been submitted to NGC:					
	(a) Updated Planning Code Data, with any estimated values replaced by validated plant data;	P, G, D	SO	2.1 3.1-3.4		
	(b) Details of Protection arrangements and settings (see CC.6.2);	P	TO	2.1.2		
	(c) Copies of Safety Rules and Local Safety Instructions (see CC.7.2.6) applicable at the User Site;	D	TO	1.2, 1.10		
	(d) Information to enable NGET to prepare Site Responsibility Schedules	D	TO	1.5		
	(e) An Operation Diagram (see CC.7);	D	TO	1.6		
	(f) The proposed Name of the User Site;	D	SO/TO	1.13		
	(g) written confirmation that Safety Coordinators are authorised and competent pursuant to OC8;	D	TO	1.10		
	(h) RISSP prefixes, pursuant to requirements of OC8;	D	TO	1.11		
	(i) A list of telephone numbers for Joint System Incidents;	D	SO	1.12		
	(j) List of managers authorised to sign Site Responsibility Schedules;	D	TO	1.5		
	(k) Information to enable NGET to prepare Site Common Drawings (see CC.7);	D	TO	1.7		
	(l) A list of telephone numbers of Fax machines (see CC.6.5.9);	D	SO	1.13		
CC.6.1.3	Grid Frequency Variation					

Toolkit - Compliance Statement

- Electronic implementation of the Compliance Statement structure.

- UDFS structure populated by the User during the Compliance Process
- Statements, supporting info., reports DRC data, modelling
- Version control important



Toolkit - Compliance Checklist

NATIONAL GRID ELECTRICITY TRANSMISSION PLC

GB Reference : GBEXXXX

Operational Notification Compliance Checklist

Customer:	Test Limited	Energisation Date:	31/05/2010
Connection Site:	Test 400kV Substation	Synchronisation Date:	31/10/2010
Date of Bilateral Agreement:	08/02/2006	Transmission Company Commisioning Date & Effective From Date:	31/05/2010
Comm.Prog.Commencement Date:	31/05/2010	Completion Date:	31/10/2010

Connection Type:	GEP	DNO:	n/a	Capacity:	1000MW
Direct or Embedded?	Direct	Affected TO:	None	Connection Voltage:	400kV
TO/ Host TO:	National Grid	BM Unit:	Yes		

Item No.	Information/Data and Activity Requirements	Code or Agreement Ref.	User Data File Structure Ref.	Initiator	National Grid Responsible Management Unit (RMU)	Required Lead Time	Source of Required Lead Time	Normal Lead Time (default)	Calculated Date	Adopted Date	Guidance Notes and Links to Information
	Before Start of Commissioning:										
1	Arrange first Operational Notification Panel meeting			National Grid	Commercial - Electricity Customer Team	BCA Immediate	Internal	BCA Immediate	08/02/2006		ONP to be set up unless all parties (User, National Grid, TO, DNO as applicable) agree otherwise. Responsibility can be transferred to Commissioning Panel
2	Circulate contact details			National Grid	Commercial - Electricity Customer Team	After first ONP	Internal	After first ONP	01/12/2008		Contact details of all parties to be circulated promptly following ONP meeting.
3	Produce Compliance Statement Pro-forma and issue to User			National Grid	Commercial - Electricity Customer Team	After first ONP	Internal	After first ONP	01/12/2008		
4	Confirm User Site Name	CC5.2.1(f)		User	Commercial - Electricity Customer Team	Prior to Completion Date	CC.5.2.1	At first ONP	01/12/2008		
5	Genset Unit Outages/Output & Other User Equipment/Apparatus Outages: TOGA Registration and User's familiarity with process	A.4		User	NO - Energy Requirements	BCA Immediate	Internal	BCA Immediate	08/02/2006		A Guide to BMU Registration provides information of TOGA registration. TOGA allows on-line submission of availability forecasts.
6	Detailed Planning Data (Committed Project Planning Data): Generating Unit Technical Data (DRC Schedule 1) Frequency Droop & Response (DRC Schedule 4) Mothballed Unit Data & Alternative Fuel Info (DRC Schedule 15)	PC.5.4 / PC.4.4.2/ PC.A.5/ CC.5.2.1(a)	3.1, 3.3, 4.8	User	Generator Dynamic Performance	BCA Immediate	PC.4.4.2	BCA + 28days (for DPD I) Completion Date - 2Y (for DPD II)	08/03/2006		Network Modelling also closely involved in DRC Sch 1 - see guidance notes on submitting GC data. This is an ongoing process throughout the life of the agreement, and relates to the current planning of the system. Updates are required annually at "Week 24" - see PC.4.3.1

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Issues that have caused delays

- Metering
- Telephony
- Controllability
- Other Agreements
- Requirements of IET process

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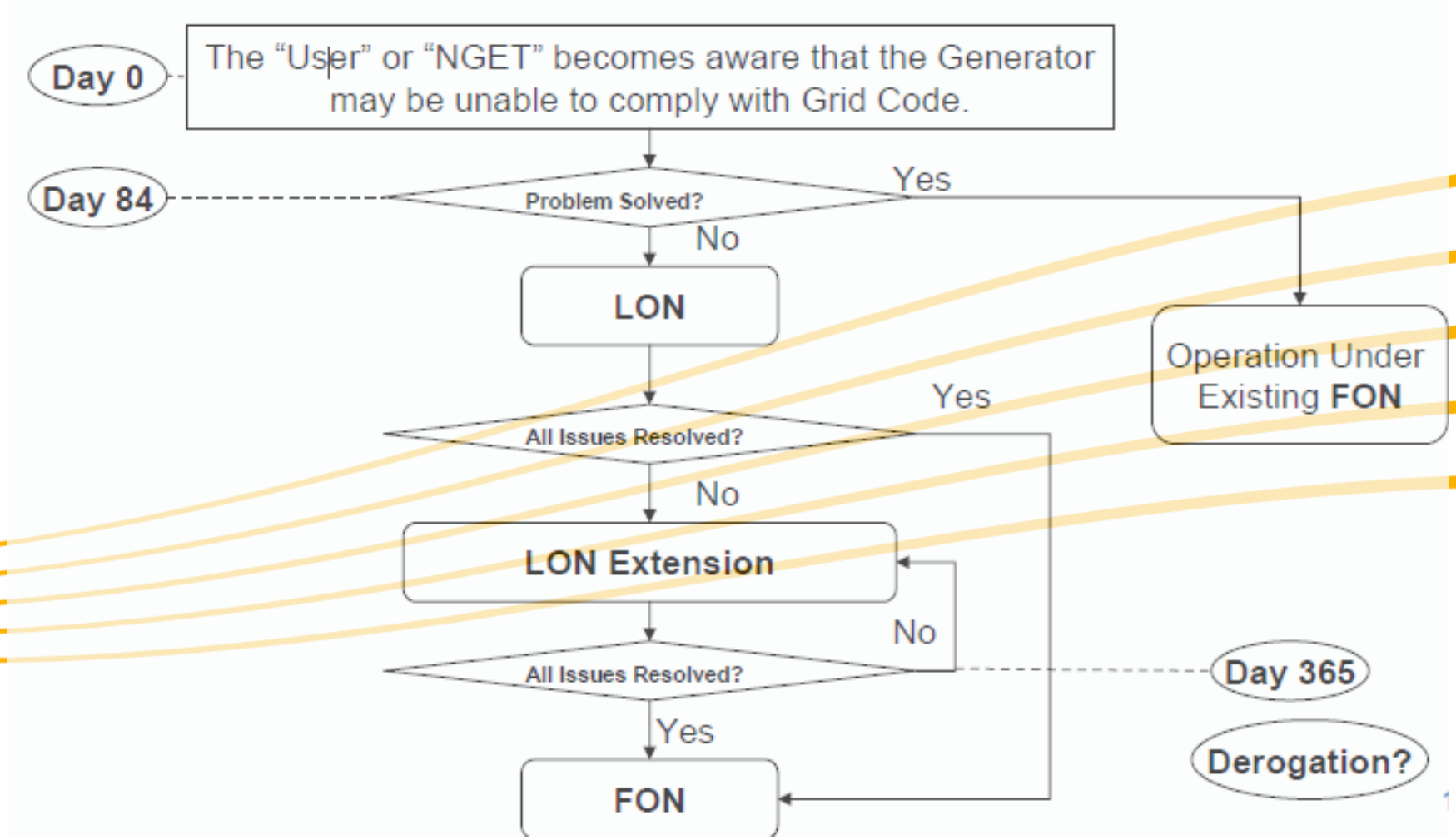
Process for Existing Connections

- Fourth category of Operational Notification issued in relation to existing connections:

- Limited Operational Notification (LON)

Toolkit - Compliance Statement

Operational Notification Process for Existing Connections



Continuing the conversation

Email us with your about the connection compliance process: box.ECC.Compliance@nationalgrideso.com and one of our team members will get in touch.

Access our ECC guidance documents at: https://www.nationalgrideso.com/industry-information/connections/compliance-process

For further information on ESO publications please visit: nationalgrideso.com

Write to us at:

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Warwick Technology Park Gallows Hill Warwick CV34 6DA