PM077 Update on Outage Change Management

This report seeks to address the concerns of generators with non standard connections

This document contains the findings of the group which formed on 21 January 2014.

Published on: **22 October 2014**

The group reports:
On improvements made in the Outage Management Process

High Impact:
None

Medium Impact:
None

Low Impact:
System Operator, Scottish Transmission Owners, Generators with non standard connections

Contents

Any Questions?

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About this document

This document contains the discussions, changes implemented and the recommendations of the group formed to review the Outage Change Management process.

Document Control

Version	Date	Author	Change Reference
0.1	1 August 2014	National Grid	Draft report for further SO & TO comment prior to circulation to Stakeholders
0.2	1 September 2014	National Grid	Draft report for circulation to Stakeholders
1.0	22 October 2014	National Grid	Report to STC Modification Panel

1 Executive Summary

1.1 Large Power Stations with non standard connection agreements are likely to have clauses in their connection agreements limiting their output due to outages on local transmission circuits. This is because when these local transmission circuits are switched out for maintenance or project work, there is no (or limited) alternative means of getting the power to the wider Transmission System.

1.2 For generators connecting since the implementation of BETTA - these arrangements have reduced the connection costs paid by these generators and have also led to earlier connection dates being possible which are not contingent upon complex system reinforcements.

1.3 Notwithstanding this, local transmission circuit outages limit these generators ability to generate and changes to these outages introduces further risk and inefficiencies, e.g. generator maintenance work may not be able to be scheduled, production may be impacted.

1.4 The group's scope was limited to how the outage change management process could be improved. The group discussed the issues and surveyed the non standard connection generators in Scotland to ensure that we addressed the areas of most concern. A number of initiatives had already been put in place by the SO and the TOs prior to the formation of the group. The group put in place a number of further improvements to address the feedback from the generators.

1.5 The group sought feedback on the draft report from those generators who responded to the survey, and has made further changes to the report to address their feedback. The group believes it has addressed the generator key items of concern.

This report includes:

1.6 A description of how the outage planning process works, from 8 years ahead to implementation of outages in real time.

1.7 Detail on how to interpret the TOPAM Customer Report has been included.

1.8 A description of the Network Access Policy has been included, which has been designed to minimise constraint costs and use every means to meet outage dates. The Transmission Owners are required by their licences to operate consistently with their Network Access Policy.

1.9 Descriptions of recent proactive and consequential working practice process improvements that have been made by the System Operator and the Scottish Transmission Owners, which include:

a. The measures which the TOs have taken to improve their outage planning process to align with their Network Access Policies

b. The aligning of SO/TO working practices so that the “work involved” for the outage is visible in the TOPAM Customer Reports across all timescales which are accessed by the generators

c. In addition to OC2 requirements, in Scotland, the SO is trialling a proactive email to generators summarising the effect of an outage on the generator for all outages within current year

d. An audit of generator contact information held by the SO has been carried out

e. Identified and put in place work practice to highlight to new generators that they will need to register in TOGA at the earliest opportunity so that they might receive information about future outages at the earliest opportunity

1.10 NGET will offer to co-ordinate tri-party (SO, TO, Generator) conference calls, where appropriate, to discuss outage change requests

1.11 Generators will be offered the opportunity to attend a training course to be able to efficiently access the information they require from the information available in the reports.

1.12 STCP 11-1 and 11-2 were reviewed and no need for change was identified. The benefits to generators with non standard connections could be realised by improvements in working practices within the current frameworks.

1.13 A round table meeting, to which Ofgem and generators with non standard connections have been invited, has been scheduled for 18 November 2014 in Glasgow to close out the work completed and capture any outstanding issues.

1.14 As part of Business as Usual, both the SO and the TOs will continue to strive to improve the outage management process and to encourage generators to raise any new concerns on an ongoing basis, so that they may be addressed promptly.

2 Introduction

2.1 Large[1] Power Stations with non standard connection agreements are likely to have clauses in their connection agreements limiting their output due to outages on local transmission circuits. For generators connecting since the implementation of BETTA - these arrangements reduce the connection costs paid by these generators and have also led to earlier connection dates being possible which are not contingent upon complex system reinforcements.

2.2 Within Scotland, since the implementation of BETTA, the majority of these non standard connections have been for wind generation. All outages on local transmission circuits will have financial implications for these generators; due to the weather, any outages between September and April have a major effect on the generators' income and cause financial implications for the generators' business model.

2.3 The Transmission Owners in Scotland (SHE Transmission and SPT) are aware of the impact network outages have on generators connected to the Scottish grid system. The Scottish TO's are committed to working with all transmission stakeholders to ensure the impact of any required network outage is minimised.

2.4 The transmission network within Scotland is undergoing a transformation to facilitate numerous new generator connections and a substantial asset replacement programme. This is comparable to the initial construction programme of the Scottish transmission network. This construction programme will result in the Transmission Owners requiring long and in some cases customer affecting outages, but the Transmission Owners are working hard with the System Operator to minimise the effects these outages have on all generator and connected stakeholders. By following the Network Access Policy's long and short term planning processes and the various planning and operational STCP's, while at the same time tracking and reporting on outage performance. The Scottish TO's and the SO can demonstrate an effective operating and communication regime that is transparent to all stakeholders.

2.5 The System Operator and Transmission Owners are committed to assist their customers whilst still continuing to ensure a safe, efficient and well maintained network.

2.6 A number of working practice suggestions have been discussed and are being implemented to help improve communication and reduce the impact of transmission outages on generators with non standard connections.

[1] Using the Grid Code definition of Large Power Stations as >100MW in England and Wales, >30MW in SPT's area and >10MW in SHE Transmission's area.

3 Purpose & Scope

3.1 At the December 2013 STC Modification Panel meeting, National Grid Electricity Transmission (NGET) presented a discussion paper proposing that a Pre-Modification Evaluation Group was established to examine the Outage Change Management Process within the STC.

3.2 The STC Modification Panel agreed that this issue required further investigation and approved the formation of the group.

3.3 At the first meeting the Terms of Reference were agreed.

Terms of Reference

3.4 A complete copy of the agreed Terms of Reference is provided in Annex 1 of this report. However, in summary, it was agreed that the scope should be to consider and report on the following:

a. With regard to generators with non standard connections, whether:

i. There can be less change in the transmission outage plan that affects these generators

ii. There can be improved notification of any changes to these generators

iii. Outages affecting these generators can be planned further in advance in the interest of efficiency and costs to these generators

iv. [Whether] It is efficient to wait till an outage is analysed and assessed as viable by the System Operator before communicating the outage to these generators

b. Whether the general outage management process can be improved

c. Review the outage management process sections of the code to determine whether they are reasonable and whether there are any changes which would allow greater engagement with generators that have non standard connections

3.5 The scope shall not include:

a. Availability incentives, as the STC Modification Panel governance does not extend to incentive arrangements. (National Grid supports the use of availability incentives for transmission owners so as to assist transmission owners in determining the most efficient and economic timing and duration of planned outages and to provide an appropriate incentive in the event of an unplanned outage)

4 Outage Planning Information Sources and Process Description

4.1 Various documents and sources of information that relate to network investment and outage planning are available to Users[2]. A summary of this information and the outage planning processes has been included in this report as a background for the rest of the discussions and proposals.

4.2 Outage requests are sent by Users, NGET assesses these requests and communicates with affected Users; this enables outage requests to be coordinated into an outage plan. The process followed is higher level in the three to eight year ahead (as per RIIO T1) timescale but then becomes more detailed during the year 2 and year ahead timescales.

4.3 NGET, as the System Operator (SO), is responsible for determining the final placement of all transmission system outages.

4.4 NGET is committed to improving processes and communication and welcomes feedback on an ongoing basis. For any questions or feedback on any of the current year outage planning process or specific outages, please phone the relevant planning engineer to discuss the issue or contact either:

- box.currentyearplan@nationalgrid.com, or either:
- tranreq@nationalgrid.com for generators in England and Wales, or
- TR.Scotland@nationalgrid.com for generators in Scotland

For year ahead and beyond, please contact either:

- box.yearaheadplan@nationalgrid.com (which is also used by the E&W year ahead team), or
- box.tns.ns.snpt@nationalgrid.com for generators in Scotland

Bilateral Agreements

4.5 Large Powers Stations being party to the Balancing Mechanism may hold a Bilateral Connection Agreement (BCA) or Bilateral Embedded Generation Agreement (BEGA) or Bilateral Embedded Licence Exemptible Large Power Station Agreement (BELLA), and have Site Responsibility Schedules (SRS) and operational diagrams. These all provide context for the outage information communicated in all timescales.

4.6 Some generators have fed back that they haven't had some of these diagrams. These cases have been referred to NGET's Electricity Customer Team. These diagrams should be included in generator connection offers. If there are any other generators in this position, we encourage them to contact NGET's Electricity Customer Team to get these diagrams for them.

4.7 These diagrams may change if the local transmission system is modified in any way. A separate workgroup has been formed by the STC Modification Panel to review STCP 19-4 "Commissioning and Decommissioning" following generator feedback about commissioning panel meetings.

[2] Using the Grid Code definition which is persons using the National Electricity Transmission System

High Level Documents

Electricity Ten Year Statement (ETYS)[3]

4.8 ETYS describes the GB National Electricity Transmission System (NETS), the Transmission Owners (TOs) potential investment plans in the wider network and details of how the uncertainty of future energy scenarios in both planning and operating the system are managed. It also seeks feedback from customers and stakeholders on how the document can be improved.

The TEC Register[4]

4.9 The TEC register is regularly updated with information received by NGET and lists generators with entry capacity and their planned connection point. This information gives generators a degree of visibility of local reinforcement works which may affect their connection (although many connection applications do not proceed).

Two Year Ahead and Three to Eight Year Ahead Planning Process and Information Available

4.10 In line with the Scottish TO NAP, outage planning in the three to eight year ahead timescale is high level, with works becoming progressively firmer and detailed at the two year ahead stage.

4.11 In the case of the system in Scotland, transmission outage requests for major construction outages should be submitted by Transmission Owners (TOs) and also included in summary Project Listing Documents (PLDs) in accordance with STCP16-1. These requests are used by NGET to perform an Operational Assessment using ELSI[5]. This Operational Assessment would consider the constraint costs during the construction and enduring network states against a plausible maintenance outage background. The use of PLDs needs to be reviewed to establish if it is working efficiently.

4.12 The outturn of such analysis would subsequently be discussed by the Operational Assessment sub group of the Joint Planning Committee, which meets quarterly, and is used to inform any discussions on changes that would be required to the plan to manage system constraints effectively.

4.13 At present major capital projects and, if committed[6] by the TO, other outages, including customer connection and base CAPEX[7], are entered into TOGA and would be available in Grid Code OC2 reports when accepted into the plan. In addition maintenance activity harmonised with the aforementioned categories of work would be available via OC2. The purpose of this is to give the TOs confidence that the draft outage plan has been accepted by NGET. This information is indicative as there is considerable volatility in plans at two-years ahead and beyond.

4.14 The TOs will inform NGET of significant outages not captured in the aforementioned categories and where Users are affected this information is conveyed in writing via OC2 reports.

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[3] http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/Electricity-ten-year-statement/

[4] http://www2.nationalgrid.com/UK/Services/Electricity-connections/Industry-products/TEC-Register/

[5] For a description of ELSI see ETYS Section 2.1.1 http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/Electricity-ten-year-statement/Current-statement/

[6] a committed project (outage) is where the outage has either been approved by OFGEM and / or approved through internal governance and entered the execution phase

[7] exemplified by specific asset replacements e.g.: CB replacement and OHL re-stringing/re-insulating

4.15 In England and Wales, the Network Development Process[8] necessitates re-evaluation of construction plans annually and thus longer term outage plans are necessarily dynamic and subject to change. Once again TOGA entries are not made at two years ahead due the lack of value in this process.

4.16 In the 2 – 5 year ahead timescales outages are planned and managed manually in England and Wales. Notification to affected Users is also manual.

4.17 In Scotland the 2 – 8 year ahead outages are to be entered in TOGA and thus managed similarly to the year-ahead plan. However new generators yet to be connected to the network would not receive communications unless sufficient confirmation of intent to commission on the planned dates has been given. (Prior to this year outages in the 2 – 8 year ahead period were managed manually outside of TOGA.)

The Modification Notice process

4.18 The Modification Notice process is covered under STCP16.1 and CUSC 6.9.3:

- STCP16.1: For connections in Scotland, the Scottish TOs will highlight that a specific project will have an impact on a specific User in the Project Listing Document (PLD). NGET will use this information to submit a Modification Notification to the User(s) affected by the project in accordance with CUSC 6.9.3.

- CUSC 6.9.3: Where there is a change on the NETS, NGET will submit a Modification Notification to the Users. Users may then submit a Modification Application to NGET to assess the impact and scope of works required from the User. This will be processed within the usual three months period in accordance with CUSC 6.9.2.2, CUSC 6.9.2.3, CUSC 6.9.2.4 and STCP 18.1.

4.19 The effect of Modification Notices on existing generators would be communicated in the OC2 reports as new TOGA Basic Data entries would be created accordingly by NGET.

4.20 PLD's are defined in the STC and they provide information on both load-related and non-load related reinforcements. Load related PLDs should accompany the Transmission Owner Construction Agreement (TOCA). The STC assumes that all long term outage planning would be based on PLDs (refer to STCP 16.1 for information about Operational Assessment). As mentioned in 4.11, the use of PLDs needs to be reviewed to establish if it is working efficiently.

The Transmission Owner Reinforcement Instruction (TORI)

4.21 TORIs are provided by the TOs to NGET as a part of a TO Construction Offer to a specific User. They provide some high level and mainly commercial information about the project but the scope of the information provided is limited to the information required by NGET to issue a Construction Agreement to a specific User. They are confidential documents and are not an appropriate means of conveying information to other Users.

[8] see ETYS, Section 1.2 http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/Electricity-ten-year-statement/Current-statement/

Year Ahead Planning Process

4.22 Transmission and generator outages are submitted by TOs and Generators. These outages are co-ordinated by the System Operator (SO) in an outage plan. Transmission circuit outage requests are analysed by the SO to ensure that the system will be secure without that transmission circuit in service. Once this has been established NGET will liaise with the affected customers (including affected generators). If there are no issues the outage will be accepted into the outage plan. If the customer has concerns, NGET will take these back to the TO to further discuss the outage request, arranging meetings where all representatives can discuss the issues as appropriate. Once a transmission circuit outage request has been accepted it will be included in the outage plan and will be visible to the affected generators through the TOGA reports, complying with the requirements of OC2 of the Grid Code.

4.23 OC2 of the Grid Code sets out key dates when information should be passed between parties during the year ahead, summarised below (weeks are calendar weeks):

- End of week 28: NGET provide Network Operators and Non-Embedded Customers with details of proposed outages that may impact them.
- End of Week 32: Network Operators will notify NGET of their outage plans that may affect the Total System or affect import/export capacity
- End of Week 34: NGET provide Generators, Interconnectors and Network Operators details of NETS outages that may affect them and the information provided by Network Operators in week 32.
- End of week 36: Generators, Interconnectors and Network Operators raise concerns with NGET where necessary.
- End of week 49: NGET provide Generators, Interconnectors and Network Operators details of NETS outages that may affect them and the information provided by Network Operators in week 32, including start/end times and an indication of when specific operational instructions (e.g.: inter-tripping) may be necessary.

4.24 The information reported by NGET should be sufficient to allow the customer to identify outages which may affect its operation.

4.25 In January each year, this “Year Ahead” plan is formally handed over to “Current Year” i.e. Network Access Planning team within NGET for implementation from financial week 1 at the beginning of April.

Current Year Outage Planning Process

4.26 Within current year there will always be change to Generator and TO outage plans due to faults, new information coming to light, work overrunning and work running ahead of schedule. The Network Access Planning team within NGET liaises with SPT and SHE Transmission about aspects of the outage plan on a daily basis. NGET liaises with affected customers if:

- The User is required out of service at any time, e.g.: for switching time or for the entirety of an outage
- The outage causes any increased risk to the User (e.g.: group demands at risk)

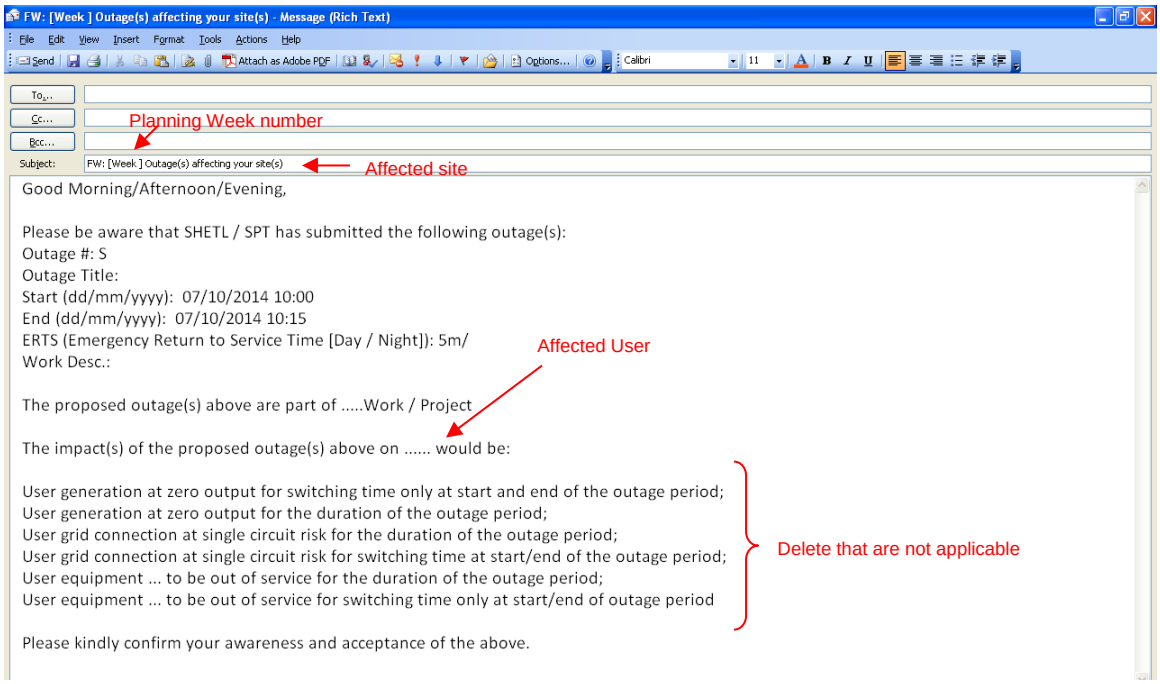
4.27 Outage change requests will be sent to Users via email in the following instances:

- New outage request received
- Change of planned/requested outage's start and/or end date
- Change to scope of the outage (Emergency Return To Service, work content, continuous/ daily etc) that affects the user as defined above

4.28 NGET will co-ordinate questions and discussion between parties and aims to obtain approval from Users prior to accepting new outage requests and outage change requests into the plan. If necessary, consideration is taken to re-plan the work for another period. The impact on the SO, the TO and the User and the safety and urgency of the work are all considered if need be. NGET as the SO is responsible for determining the final placement of all transmission system outages.

Timelines

4.29 In Scotland, following the receipt of an outage request the SO agrees the suitability of the placed outage according to network conditions, all affected Users will be notified in writing in a timely manner. From receipt of the outage request the SO will endeavour to notify all affected customers in writing within 5-10 working days. The notification is sent using the standard e-mail template shown below.



OC2 Reports

4.30 NGET manages outage information in TOGA, which is NGET's principal tool for managing and communicating outage information within year and at year ahead. The working group agreed that the structure of the reports generated from TOGA was good.

4.31 Below is a screen shot of a report that shows the outages affecting that customer. The data in the report contains:

- The reference number for that outage
- The outage description of the circuit of equipment required
- Start time, known as Authorised Person Arrival (APA) time and date
- Finish time, known as Return To Service (RTS) time and date
- OC2 remarks are included such as whether Bilateral Connection Agreement (BCA) / Bilateral Embedded Generator Agreement (BEGA) conditions apply, which highlight that the generator's output may be limited by the outage. The detail of any such limitation can be evaluated from the generator's connection agreement
- ERTS is the Emergency Return To Service time that the TO will return the circuit if necessary following a system incident that requires the circuit to be returned to secure the network. The top number is the daytime ERTS, the other number is the overnight ERTS
- The C/D indicates whether the outage is a daily outage (D) that will be returned each evening and then retaken the next day or a continuous outage (C), which continues once started and will return only at the end date and time
- The final field is where the TO adds additional information to explain to the SO and customers what the work is for, thus in the first example in the screen shot below this outage is for the reconductoring of the overhead line

nationalgrid TOPAM CUSTOMER REPORT

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Outage No	Circuit / Description	Start / Finish	Week No	Plan Times	OC2 Remarks	ERTS Day/ Night	C/ D	Work Involved
SP111036	Windyhill - Dunoon - Whistlefield - Sloy E1, Dunoon 132/33kV Grid T1, Whistlefield 132/33kV Grid T1	**26/02/2014** 09/05/2014	09 19	APA ISOS 0847 PFW RTS 1530		5D 5D	C	Reconductor OHL between WIYH & WHTL T. SPEN to break jumpers on 23/03 to return SLOY-WHTL-DUNO leg.
SH56980	Inveraray - Sloy (ISN)	24/03/2014 25/04/2014	13 17	APA 0800 ISOS 0800 PFW RTS 1500		6H 12H	C	Transfer circuit from SLOY air insulated swithgear to new GIS site
SP140170	Windyhill - Dunoon - Whistlefield - Sloy E1, Dunoon 132/33kV Grid T1, Whistlefield 132/33kV Grid T1	14/04/2014 08/05/2014	16 19	APA ISOS 0730 PFW RTS 1530		6H 9H	C	SH59553. SHETL works on DUNO T1 / GL1 oct. Cct OOS under SP111036.
SH56907	Sloy - Sloy P/S Generator Transformer 2; Generator 2	21/04/2014 02/05/2014	17 18	APA ISOS 0800 PFW RTS 1700	BCA / BEGA conditions apply	oncom oncom	C	Energisation and Commissioning of SG2
SH59755	Sloy - Sloy P/S Generator Transformer 2; Generator 2	21/04/2014 02/05/2014	17 18	APA ISOS 0800 PFW RTS 1600	BCA / BEGA conditions apply	4h 4h	C	Sloy GT2 transformer painting
SH61537	Sloy - Sloy P/S Generator Transformer 3; Generator 3	22/04/2014 25/04/2014	17 17	APA ISOS 0800 PFW RTS 1500	BCA / BEGA conditions apply	4H 4H	C	Proximity outage required to allow conservator painting on GT2 SH59755

Control Room Process

4.32 This process is detailed in STC01-1. A high level summary of this process is given here.

4.33 Overnight, prior to the day when a circuit is going to be switched, NGET's Control Room will phone the generator to confirm they are aware that

switching will take place during the coming day and go over the detail of what is expected and required. Prior to switching taking place, the TO and NGET's Control Rooms liaise again and responsibility for co-ordinating and communicating the switching moves to the TO, who then liaises with the affected generator(s). Once switching has been completed the TO liaises with all parties and communication responsibility is handed back to NGET's Control Room. This same process applies when planned outages are implemented and when transmission circuits are returned to service.

4.34 If a circuit's return is delayed beyond the current operational day, this will be communicated to the generator by the TO. NGET's Control Room would also hand this information on to NGET's planning team, who would communicate the revised return to service date and time as they would with any other outage.

5 Discussions

5.1 The group met twice on 21 January 2014 and on 24 April 2014[9].

Approach

5.2 The discussions focused on understanding the effect of transmission circuit outages on generators with non standard connections, the volume of change to the outage plan, outage planning working processes, a review of STCP 11-1 and 11-2, stakeholder engagement and balancing the needs of generators and the Transmission Owners.

Effect on Generators with Non Standard Connections

5.3 Generators with non standard connections have raised concerns about the late notice of transmission system outages and late changes in transmission system outage durations and times. This issue particularly affects generators with non standard connection agreements, where the planned outage of local transmission equipment limits or constrains the generator's ability to generate. Late changes mean that generators are not able to efficiently co-ordinate prospective maintenance work. If work is not efficiently co-ordinated, the generator's output may be limited more than would otherwise be the case.

Regulatory Arrangements, Demand for Network Access and Understanding the Volume of Change to the Outage Plan

5.4 There is an incentive on TO's to invest efficiently. In practice, this means that investment decisions are made closer to the time when the assets are needed.

5.5 There is more potential for change now as the lead time to connect generation has reduced considerably under the Connect and Manage arrangements. The volume of change currently being seen on the network was last seen when the network was being built.

5.6 The group recognised that the volume of work being carried out on the transmission system meant that there are no longer any fire breaks in the plan.

5.7 SPT presented their change data for 2013, this analysis showed that approximately 82% of the year ahead outage plan changed within the current year. SHE Transmission stated they can provide similar information going forward.

5.8 SPT data presented showed the following:

1 - 45% of outage changes were due to technical and operational issues associated with project delivery
2 - 17% of outage changes were for a "positive" reason e.g. outage returned early
3 - 8% of outage changes were due to unforeseen operational issues e.g. storms, 3rd party interference etc.
4 - 6% of outage changes were as a result of requests from the System Operator

[9] http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/STC/Modifications/PM077/

5 - 6% of outages changes were due to network faults on the SPT transmission network

5.9 SPT tracked this information for their own use which has not been done by SHE Transmission so SHE Transmission were unable to provide similar data.

5.10 The ability of the Transmission Owner to meet its within year network outage plan is affected by a number of operational and non-operational issues. The Transmission Owners have developed a Network Access Policy to assist in reducing the number of outage changes that are within their control, but it's important to stress that outage changes due to a number of factors out of the control of the TO's are inevitable. For example land access might be denied at very short notice, poor weather conditions may result in an outage being cancelled. These changes have to be managed and communicated effectively to all relevant stakeholders.

5.11 NGET analysis showed that 60 - 80% of the plan changed within the last 4 weeks before delivery, though these figures also captured some outage requests that had been submitted to delay the work to later in the year which would remove the outage once reviewed by the SO.

Recent and Current Improvements in TO Working Practice

5.12 Weather and faults can have a major impact on the outage plan. Notwithstanding this, SPT and SHE Transmission outlined recent and planned improvements to their outage planning process.

SPT Improvements

5.13 SPT have put in place a number of KPI's and key Early Warning Indicators (EWI) to monitor outages and reduce the number of outage changes within year. An escalation mechanism has been developed to ensure there is active engagement between operational management, project teams and contractors to get outages back on time.

5.14 SPT have a key focus to improve their long term outage planning this year.

SHE Transmission Improvements

5.15 SHE Transmission is keen to reduce change in the current year. SHE Transmission stated there should be an improvement in 2014/15 over last year (2013/14). This is difficult to quantify, however the data committed to in paragraph 5.7 should reflect a reduction in changes. SHE Transmission has recently put in place improvements in their long term outage planning. SHE-Transmission, as part of its RIIO-T1 commitments and Network Access Policy, has produced outage plans showing all the projects for the RIIO-T1 period. This includes the Strategic Wider Works, Connections and Radials projects. The outage plans contain a week 6 format report, with detailed outage schedules and visual representation diagrams.

Recent Improvements in SO Working Practice

5.16 In addition to the OC2 reports sent using TOGA, NGET's Scotland Delivery Team (responsible for managing the plan from 3 weeks ahead to Day Ahead) have been proactively informing affected generators of all outages 3 weeks ahead of real time, to ensure that the effects of the outage are understood by all parties before real time. This process has caused customers to question the outages in more detail but has been welcomed due to improved clarification and understanding.

5.17 NGET have reviewed the Grid Code OC2 reports to ensure they are working correctly with the correct contact details. Some discrepancies in generator contact information have been found which have been corrected. Internal Work Instructions have been reviewed to ensure this information is audited, updated and maintained correctly going forwards. Following these updates some generators have requested their details are removed and that we stop sending the OC2 notifications e-mails. While NGET is happy to meet our customers requests this may lead to customers not being aware of outages that affect them until the 3 weeks ahead confirmation of outage e-mails are sent.

5.18 From the start of 2014, the NGET Current Year Scotland team have also been proactively e-mailing customers about prospective transmission outage changes and the effect of the outage on their business. This has been welcomed.

5.19 Where appropriate, NGET Current Year Scotland team plan to start setting up tri-party conference calls with all affected parties (SO, TO & Generator) when the SO receives a change request within the current year and the above initial e-mail communication process has returned concerns or issues from the end customer.

5.20 NGET identified that the Year Ahead reports sent to generators did not include the "Work Involved" field but that this field is sent within current year. This has now been rectified so that the "Work Involved" field is included in reports in all timescales.

5.21 NGET have identified that new generators without codes in TOGA will not be notified of outages. New generators are encouraged to register in TOGA as soon as possible to ensure these outage notification reports are received. NGET's Electricity Customer Team will also endeavour to highlight this to relevant generators in the pipeline and encourage them to register in TOGA as soon as possible so they can receive these reports.

Visibility of Outage Requests

5.22 Generators cannot see outage requests or outages that had been planned but have had to be postponed. These are placed in "the pot" until new dates for the outages are found. The two TOs use different systems for these non placed outages: SHE Transmission will set the outage state to TBA, while SPT will move their outages to the 24th/25th December. This is because SPT uses a different system called OPD (Outage Planning Directory) for their outage planning and not TOGA.

5.23 SHE Transmission highlighted that the OC2 process could mean the TOs additional but unconfirmed requests at year ahead would not be visible to the generators for up to half a year. For example, if a request was submitted in week 28 and agreed in week 48 there would be a half year gap with no visibility to the generator. NGET's year-ahead team already contact generators to consult generators directly when unusual outage configurations are under consideration, but not generally in the case of single circuit outages where the generator has two or more circuit connections.

5.24 An automated system making TO outage requests available to generators was discussed but the benefit to generators would have to be significant as implementing such a system would require a substantial IS project. It was also felt that making this information available manually would need significant workforce resource to implement.

5.25 For year ahead and beyond, whilst NGET is willing to provide planned outage details, NGET's Year Ahead team is concerned that at year-ahead

timescales and beyond the provision of outage additions and changes pending detailed consideration/analysis may cause undue concern to Users and that the time and effort expended by all parties in dealing with these concerns relating to work that may not proceed would not be economic or efficient. The volatility of outage plans beyond year-ahead and the lower level of resourcing available to cope with bulk short-notice changes can cause temporary peaks in volume and when coupled with the increased uncertainty and likelihood of change in longer term timescales, may render the sharing of pending outage changes/request of questionable value.

5.26 NGET proposed that generators with non standard connections in Scotland be notified of all current year change requests before the SO has assessed the suitability via e-mail on a trial basis, and for this to be reviewed in a year's time. At this review this could potentially be expanded to include Year Ahead timescales or reduced following Generator feedback and review of SO resource commitment and overall benefit. NGET has implemented this proposal.

Visibility of Work Involved field in TOGA reports

5.27 The TO request for submission in TOGA could include additional data in the "Work Involved" field to include the words (Construction or Maintenance) at the start and then a short description of the work, e.g.: Construction - New generator connection, or Construction – Beauly to Denny project and then continue to include the transmission equipment affected.

5.28 If this started to be entered into the "Work Involved" field, it would take time to filter through the system, but all new outage bookings could include this information.

5.29 SPT have stated they can enter this information in the "Work Involved" field.

5.30 SHE Transmission have been submitting this data in the "Work Type" field in TOGA. This field is not included in the OC2 reports that are sent to generators. SHE Transmission were reluctant to duplicate effort to include this information in the "Work Involved" field too. NGET were reluctant to amend the report to include this field. NGET and SHE Transmission agreed after the second meeting that SHE Transmission need only enter this information in the "Work Involved" field so that generators could have visibility of this information.

Network Access Policy

5.31 The new Transmission Owners' Network Access Policy (NAP) process[10] was discussed. SPT said that utilising the NAP and core principles should reduce the level of change. It was agreed that Users should be made aware of the NAP, however the NAP change documents contain confidential data and can only be shared between TO's and SO's as part of the policy.

5.32 The NAP process is key to improving understanding of outage change requests within current year and impact on efficient network operation and the management of network changes.

Background

5.33 RIIO-T1 Strategy Decision determined the background for production of Business Plans and considered two separate approaches

[10] https://www.ofgem.gov.uk/publications-and-updates/consultation-transmission-owners-proposed-network-access-policies

- Scottish TOs directly incentivised for constraints in their respective areas
- NGET to face sharper SO incentives that facilitates the ability to compensate TOs for facing higher private costs through changing plans to reduce whole industry costs

5.34 Given the information limitations facing Scottish TOs about constraints OFGEM decided on the second approach

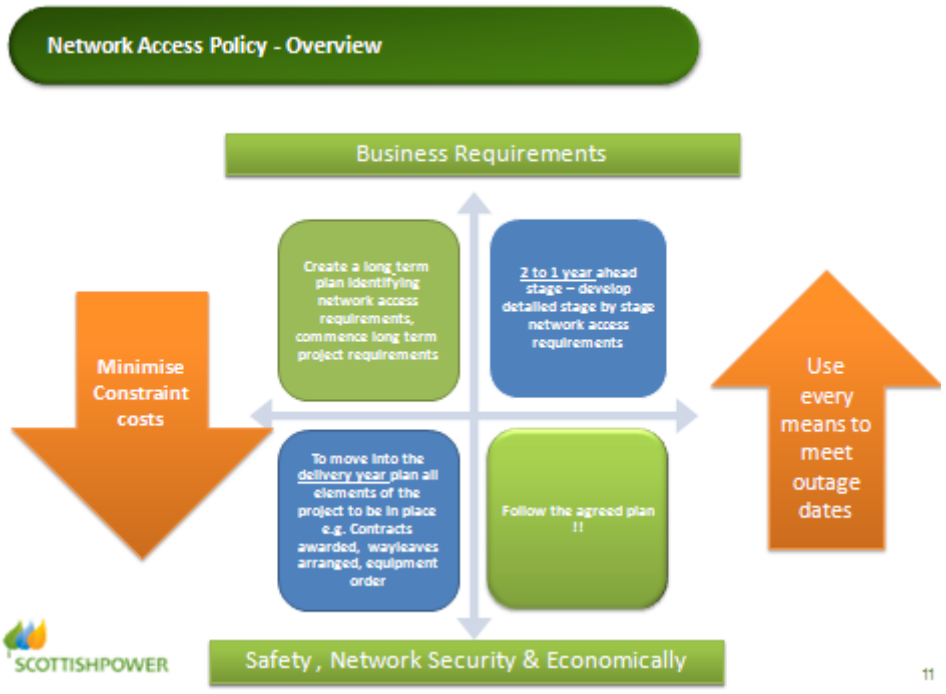
5.35 NAP development was initially submitted in July 2011 with initial Scottish TO RIIO-T1 business plans

5.36 Through joint meetings following and bringing experts from each company the concept of the NAP has developed.

5.37 SPT and SHE Transmission decided to develop shared documents[11] which take account of key respective priorities and are the product of significant contributions from them and from NGET. There is a real commitment to:

- Recognising opportunities for making the relationship work better
- Joint and coordinated planning
- Earlier sharing of information
- Making effective use of communication forums

5.38 Each transmission licence requires the TO to operate consistently with its NAP.



[11] Individual Network Access Policies were submitted to OFGEM, however they contain the same information

Stakeholder Engagement

5.39 The group agreed that it was important to get the generators' views and to inform them of developments in working practices. The group agreed to survey affected generators in order to get their views on what works and what does not within the outage change process.

5.40 The survey was sent to 60 generators in Scotland with non standard connection agreements. These 60 generators are owned by 13 companies. The survey was issued to the contact points that are used in the current year planning phase. The survey is included in Annex 2, the summarised responses are included in Annex 3 and the individual responses are included in Annex 4.

5.41 The survey responses were positive to the delivery and control time scales. The e-mail confirmation of outages that affected generators was appreciated as it clearly described what the detailed effects on the generator would be for the outage, e.g.: just switching time, duration etc. A recent notification e-mail was selected at random to discuss in detail at the working group. The work group all agreed this was a good descriptive e-mail. The group discussed whether this method should be expanded to all current year change requests.

5.42 In response to the survey, generators requested the following improvements:

i. Visibility of TO change requests which may affect their operations when such change requests are received by NGET

ii. Visibility of outage detail to give in depth understanding of the works and associated risks and return to service

iii. Clarity over the duration of equipment outages so that the impact can be established (switching time / duration of outage)

iv. Opportunity to proactively notify their preferred periods to take outages. This may be driven by low wind forecasts or their own scheduled maintenance

v. Improvements to the detail and clarity of information provided, possibly by letting generators have diagrams so they can interpret which equipment is where and whether it affects the output of the generator

Further Improvement Discussions

5.43 Recent improvements made by SHE Transmission, SPT and NGET are described in 5.12 – 5.30 above.

5.44 There is a large amount of information available to the generators, but it may not be clear to generators how to access this information. It was agreed that NGET should offer training sessions to generators so that they can access the information they need from existing reports efficiently.

5.45 There are certain parts of the network that are at risk of higher levels of outages due to new connections and reinforcement work. New and existing generators with non standard connections can access this information through the TEC Register and the ETYS. These documents are described in Section 3.

5.46 SHE Transmission said that ideally a generator would only have one outage in a year instead of two or three in a year, with all the transmission work being co-ordinated in this one outage. This would be an aspiration as each

project would be have to be reviewed in isolation to establish what impact it would have on connected parties. SPT agree in principle to "one outage per year".

5.47 SHE Transmission were open to generators suggesting timings that were good for them in the outage co-ordination process. The TO stated they understood there are times of the year when wind farms will have low output and other times it would be high. To minimise the impact outages should be planned for the low output periods. However this is not always possible to do.

Review of STCP 11-1 and 11-2

5.48 The group reviewed STCP11-1 and 11-2 for improvements and none were identified. The benefits to generators with non standard connections can be realised by improvements in working practices within the current frameworks.

Outstanding Issues

5.49 The use of PLDs needs to be reviewed to establish if it is working efficiently.

5.50 The round table meeting, to which Ofgem and generators with non standard connections have been invited, scheduled for 18 November 2014 in Glasgow to close out the work completed and capture any outstanding issues.

5.51 Review of the Within Year communication of pending outages trial after it has been in place for a year.

Conclusions / Recommendations

5.52 The following actions have been taken and information has been made available in this report to address non standard connection generators' concerns. These are summarised here against the objectives listed in paragraph 8 of the TOR:

5.53 With regard to generators with non standard connections, whether:

a.i. There can be less change in the transmission outage plan that affects these generators

The Scottish TO's have already put in place a number of improvements (5.12 – 5.15) to their working practices. The NAP, which the Scottish TO's are required to work to, should also drive better outage planning this year and in the coming years.

a.ii. There can be improved notification of any changes to these generators

A number of inconsistencies in the notification process have been identified and addressed, namely the inclusion of the "Work Involved" field (5.20) in the Year Ahead TOGA reports and the audit of recipients of reports (5.17).

a.iii. Outages affecting these generators can be planned further in advance in the interest of efficiency and costs to these generators

There is an incentive on TO's to invest efficiently. In practice, this means that final investment decisions may be made closer

to the time when the assets are needed and consequently, outages planned beyond the year ahead stage are subject to greater uncertainty.

a.iv. It is efficient to wait till an outage is analysed and assessed as viable by the System Operator before communicating the outage to these generators

NGET will make available TO outage requests within year to generators with non standard connections on a trial basis via an e-mail for a year. Depending on subsequent feedback from generators and analysis of resource commitment, this service may subsequently be reduced or extended.

b. Whether the general outage management process can be improved

In addition to the actions delivered above and below:

- **additional communication of information as described in 5.16, 5.18 and 5.19**
- **new generators are encouraged to register in TOGA as soon as possible to ensure they receive outage notification reports that may affect them (5.21)**

c. Review the outage management process sections of the code to determine whether they are reasonable and whether there are any changes which would allow greater engagement with generators that have non standard connections

STCP 11-1 and 11-2 have been reviewed and no improvements have been identified. The benefits to generators with non standard connections can be realised by improvements in working practices within the current frameworks.

5.54 In addition to the TOR, generators requested the following improvements through the survey that the work group undertook:

ii. Visibility of TO change requests which may affect their operations when such change requests are received by NGET

This is addressed by (a) iv. above.

iii. Visibility of outage detail to give in depth understanding of the works and associated risks and return to service

SPT and SHE Transmission have agreed to start submitting this information, which will be reported in the "Work Involved" field in the OC2 reports. It will take time before it works through as this information will not be entered retrospectively.

iv. Clarity over the duration of equipment outages so that the impact can be established (switching time / duration of outage)

This is addressed by:

- **the proposed offer to hold training courses to efficiently extract the information that the different generation companies require from that that is available**
- **the email process described in 5.16**

v. Opportunity to proactively notify their preferred periods to take outages. This may be driven by low wind forecasts or their own scheduled maintenance

All were open on this.

vi. Improve detail and clarity of information provided, possibly by letting generators have diagrams so they can interpret which equipment is where and whether it affects the output of the generator

This is addressed by including information in this report about where information is available (bilateral agreements, SRS, operational diagrams) for generators to gain this clarity and by the actions listed in iii. above. Should generators not have this information they're encouraged to contact their point of contact in NGET's Electricity Customer Team (ref 4.6) so that they can get the diagrams.

6 Impact & Assessment

Impact on the STC

6.1 No STC amendments have been identified.

Impact on National Electricity Transmission System (NETS)

6.2 No impact on the NETS has been identified. The report focuses on facilitation of better planning of work.

Impact on STC Users

6.3 Continued focus on STC Users working efficiently together.

Impact on Greenhouse Gas emissions

6.4 If transmission outages limiting wind (or other renewable) generation are planned to coincide with periods of low wind (or other renewable fuel source), greenhouse gas emissions will be reduced. However, this working group has been focused on improving outage change management and the process improvements will have comparatively little effect on greenhouse gas emissions.

Assessment against STC Objectives

6.5 The group considers that the work described in the report would better facilitate the STC objective(s):

(i) efficient discharge of the obligations imposed upon transmission licensees by transmission licences and the Act;

(ii) development, maintenance and operation of an efficient, economical coordinated system of electricity transmission;

(iii) protection of the security and quality of supply and safe operation of the national electricity transmission system insofar as it relates to interactions between transmission licensees; and

(iv) promotion of good industry practice and efficiency in the implementation and administration of the arrangements described in the STC; and

(v) facilitation of access to the national electricity transmission system for generation not yet connected to the national electricity transmission system or distribution system.

Impact on core industry documents

6.6 No impact on any core industry documents.

Impact on other industry documents

6.7 No impact on any other industry documents.

Implementation

6.8 Changes in working practices have been implemented during the course of discussions.

7 Annex 1 - Terms of Reference

Governance

1. The Outage Change Management Pre-Modification Evaluation Group was established by System Operator -Transmission Owner Code (STC) Modification Panel at the December 2013 STC Modification Panel meeting.

2. The group shall formally report to the STC Modification Panel.

Membership

3. The group shall comprise a suitable and appropriate cross-section of experience and expertise from across the industry, which shall include:

Name	Role	Representing
Ivan Kileff	Chair	
Ronald Taylor	Technical Secretary	
Mark O'Connor	National Grid Representative	National Grid
Stephen Nyemba	National Grid Representative	National Grid
Milorad Dobrijevic	Industry Representative	SP Transmission
Kenny Keys	Industry Representative	SP Transmission
Neil Sandison	Industry Representative	SSE Transmission
Alan Inman	Industry Representative	SSE Transmission
Graham Wood	Industry Representative	SSE Transmission

4. The following have expressed an interest in being included in correspondence:

Name	Role	Representing
Alan Kelly		SP Transmission
Campbell McDonald		SSE (Generation)
Barbara Vest		Energy UK
Ewan Currie		Falck Renewables
Nigel McManus		Eneco
Alastair Frew		SP (Generation)

Meeting Administration

5. The frequency of meetings shall be defined as necessary by the chair to meet the scope and objectives of the work being undertaken at that time.

6. National Grid will provide technical secretary resource to the group and handle administrative arrangements such as venue, agenda and minutes.

7. The group will have a dedicated section on the National Grid website to enable information such as minutes, papers and presentations to be available to a wider audience.

Scope

8. The group shall consider and report on the following:

    a. With regard to generators with non standard connections, whether:

        i. There can be less change in the transmission outage plan that affects these generators

ii. There can be improved notification of any changes to these generators

iii. Outages affecting these generators can be planned further in advance in the interest of efficiency and costs to these generators

iv. [Whether] It is efficient to wait till an outage is analysed and assessed as viable by the System Operator before communicating the outage to these generators

b. Whether the general outage management process can be improved

c. Review the outage management process sections of the code to determine whether they are reasonable and whether there are any changes which would allow greater engagement with generators that have non standard connections

9. The scope shall not include:

a. Availability incentives, as the STC Modification Panel governance does not extend to incentive arrangements. (National Grid supports the use of availability incentives for transmission owners so as to assist transmission owners in determining the most efficient and economic timing and duration of planned outages and to provide an appropriate incentive in the event of an unplanned outage)

Deliverables

10. The group will provide updates and a report to the STC Modification Panel which will:

a. Detail the findings of the Group;

b. Draft, prioritise and recommend changes to the System Operator - Transmission Owner Code and associated documents in order to implement the findings of the Group; and

c. Highlight any consequential changes which are or may be required.

Timescales

11. It is anticipated that this group will report back to the STC Modification Panel in Q3 2014.

12. If for any reason the group is in existence for more than one year, there is a responsibility for the group to produce a yearly update report, including but not limited to; current progress, reasons for any delays, next steps and likely conclusion dates.

8 Annex 2 – Outage Change Management Survey

Introduction

1. Large generators with non standard connection agreements are likely to have clauses in their connection agreements limiting their output due to outages on local transmission circuits. These arrangements reduce the connection costs paid by these generators.

2. Transmission and generator outages are submitted by Transmission Owners (TO) and Generators. These outages are co-ordinated by the System Operator (SO) in an outage plan. Transmission circuit outage requests are analysed by the SO to ensure that the system will be secure without that transmission circuit in service. Once this has been established the SO will liaise with the affected customers (including affected generators). If there are no issues the outage will be accepted into the outage plan. If the customer has concerns the SO will take these back to the TO to further discuss the outage request, arranging meetings where all representatives can discuss the issues as appropriate. Once a transmission circuit outage request has been accepted it will be included in the outage plan and will be visible to the affected generators through the TOGA reports, complying with the requirements of OC2 of the Grid Code.

3. There will always be change to Generator and TO outage plans due to faults, new information coming to light, work overrunning and work running ahead of schedule.

4. Concern has been raised by a representative of generators with non standard connection agreements about the robustness of the transmission circuit outage change management process, especially due to the impact that change has on their ability to schedule maintenance work efficiently. This issue was discussed at the Grid Code Review Panel[12] and was referred to the System Operator - Transmission Owner Code (STC) Modification Panel[13]. A group has been set up to look at this issue under the governance of the STC Modification Panel[14].

5. At the first meeting of this group one of the key issues discussed was the visibility that generators have of TO outage change requests before they are accepted into the outage plan. The SO is not currently required to give generators visibility of these requests in the Grid Code. It was agreed to survey generators with non standard connection agreements to establish how much value having this visibility would give them and to canvas views in general on the outage change management process. Replying to this survey will ensure that the group focuses its resources on areas of most concern. Please let us know your views, by email, to ivan.kileff@nationalgrid.com and mark.oconnor@nationalgrid.com by 24 March 2014 on the following questions.

[12] Reference paragraphs 3361 – 3366 of the September 2013 GCRP minutes and paragraphs 3381 – 3393 of the November 2013 GCRP minutes which can be found at: http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Grid-code/Panel-information/Panel-meeting-dates-and-documents-2013/

[13] Reference paragraphs 3082 – 3084 of the December 2013 STC minutes and STC Panel Paper titled “Agenda Item 4. Outage Change Management” which can be found at: http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/STC/Panel-information/Panel-meeting-dates-and-documents-2013/

[14] Working Group material will be made available at the website: http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/System-Operator-Transmission-Owner-Code/

6. As this survey is being carried out for a group under the governance of the STC Modification Panel with respect to TO outage change management - Distributed Network Operator restrictions have not been included in the scope of the survey.

Outage Change Management Survey

7. In general, on a scale of 1 – 10, where 1 is very dissatisfied and 10 is very satisfied, how satisfied with the current outage planning process?

    a) What, in your view, needs to be improved?

    b) What, in your view, works well?

    c) What, if any, code changes would you like to see with regard to the outage planning process?

8. On a scale of 1 – 10, where 1 is not at all valuable and 10 is very valuable, how valuable would having visibility of TO outage requests that have not yet been accepted into the plan give you?

    a) If we were to communicate these TO outage requests earlier to you what would be the effect on you if these outage requests were to keep changing?

    b) What timescales for these TO outage requests are you interested in: year ahead, current year down to 4 week ahead, and / or short term changes in day ahead to 3 week ahead timescales?

9. What are your thoughts on the longer term (year ahead) outage communication? We currently send you OC2 outage reports; what other information if any would be helpful?

10. Currently the System Operator sends all customers an e-mail about planned outages that affect them at 4 weeks ahead. We also discuss output limitation impacts and the larger picture of why the outage is taking place. On a scale of 1 – 10, where 1 is not at all helpful and 10 is very helpful, how helpful is this e-mail communication?

9 Annex 3 – Summarised Survey Responses

Survey Responses

9.1 Six responses from:

- Scottish Power Renewables
- SSE
- RWE
- Vattenfall
- Falck Renewables
- Statkraft

The responses have been summarised in the following slides

Summarised Survey Responses

7. In general, on a scale of 1 – 10, where 1 is very dissatisfied and 10 is very satisfied, how satisfied with the current outage planning process?

a) What, in your view, needs to be improved?

Five scores returned ranging from 4 to 7, average 5

- Have a clearer / simpler indication of the effect which particular outages will have on our generating sites, e.g.: none, during switching time or fully off
- The amount of notice
- Further details to better understand the reasons why the work is required
- The current planning process does not seem to result in much coordination of maintenance work on the network. E.g.: circuits affecting one of our sites are programmed for a one day outage in August, an 18 day outage in September and a 16 day outage in October. It is difficult for us to engage with the SO and TO to get a measure of whether such requests are reasonable
- Outages are often changed but the Generator gets little early warning of the change
- Revision control on OC2 reports could be provided to ensure that all the parties do have the latest version
- Communication of actual start and finish times of outages

b) What, in your view, works well?

- The general communication between National Grid and the user works well
- The final communication between Control centres

- For the limited information which is available on the TOGA portal, it is a good tool for having visibility of outages which are in the plan

- The e-mail notification service providing OC2 data works appropriately. However, it could be confusing leading to generators requesting further details which are often rejected

- Should be modified so that parties are given notice of TO change requests which may affect their operations when such change requests are received by NGET

- Welcome improved level of details for outages to give in depth understanding of the works and associated risks and return to service

- Prompt access to any changes and ideally be able to input my preferred criteria as appropriate. No one has ever asked when any wind farm would best accommodate an outage either due to low wind or other scheduled maintenance. The ability to inform the SO of our desired outage periods would be a starting point

c) What, if any, code changes would you like to see with regard to the outage planning process?

- No suggestions received

8. On a scale of 1 – 10, where 1 is not at all valuable and 10 is very valuable, how valuable would having visibility of TO outage requests that have not yet been accepted into the plan give you?

a) If we were to communicate these TO outage requests earlier to you what would be the effect on you if these outage requests were to keep changing?

Five scores returned ranging from 8 to 10, average 9.4

- Visibility would be very valuable as it allows planning our own maintenance for the same disruption period. Understanding the impact of the outage on the wind farm at this future point is important though.

- Prefer having as much notice as possible with indicative dates and we would easily update our systems as the work planning firms up

- Little effect if the outage requests were to keep changing unless this was in the very short term (low no. of weeks). If the impact of the outage were modified this would be more frustrating.

- Preferable if planned outages do not keep changing, however, the more notice we have of changes the better. Having sight of changes would allow us to develop an understanding of how much confidence we can place on plans being delivered

- I accept that notification too early would cause unnecessary work if the goals kept changing

b) What timescales for these TO outage requests are you interested in: year ahead, current year down to 4 week ahead, and / or short term changes in day ahead to 3 week ahead timescales?

- Broad interest in all timescales, with evenly spread variations in emphasis

- One response highlight the different purposes in different timescales, i.e.: for budgeting, information in the longer time horizons is required (24 months ahead), for planning maintenance being better updated on the schedule and changes to the schedule with as much notice as possible out to 12 months ahead would be beneficial

9. What are your thoughts on the longer term (year ahead) outage communication? We currently send you OC2 outage reports; what other information if any would be helpful?

    - Simplify OC2 data for the generator and include more detailed information explaining the reasons for the outage request to better understand why it is required

    - Insight into how outages elsewhere would affect us by bringing network closer to capacity or restricting any operations on our part of the network

    - Confirmation of whether the site will remain energised

10. Currently the System Operator sends all customers an e-mail about planned outages that affect them at 4 weeks ahead. We also discuss output limitation impacts and the larger picture of why the outage is taking place. On a scale of 1 – 10, where 1 is not at all helpful and 10 is very helpful, how helpful is this e-mail communication?

    4 scores returned ranging from 3 to 10, average 8

    - General feedback was that the e-mail communication is very helpful

    - At this stage the outage has been assessed properly and the impact on the wind farm is fully understood. Many times there are entries in TOGA that I don't get an email about because they don't impact the output of the wind farm but I have difficulty assessing that from the information in TOGA. If this function can be done earlier in the process or maybe categorised (definitely off, maybe off, some impact expected, not off just notification...) it would be a vast improvement

    - Often had to query the actual impact on the site (curtailment, off supply, off supply for switching). At no time is a transmission system diagram issued with the email information and therefore the plant affected (often listed in an abbreviated form) means little to the Generator

    - One respondent noted that they usually request further information to better understand why the outage is required, but that these have always been rejected

    - Suggest standard terminology is used

Initial Suggestions for Improvement

- Improve detail and clarity of information provided:

    - Possibly running a course to help generators interpret TOGA information

    - Interpret which equipment is where and whether it affects the output of the generator

    - Interpret duration of equipment outages so that the impact can be established (switching time / duration of outage)

    - Clarity over why the work is required

- Give option to generators to have visibility of TO outage requests
- Improve detail and clarity of information provided:
    - Possibly by letting generators have diagrams so they can interpret which equipment is where and whether it affects the output of the generator
    - Clarity over the duration of equipment outages so that the impact can be established (switching time / duration of outage)
    - Clarity over why the work is required
- Give option to generators to have visibility of TO outage requests

10 Annex 4 – Individual Generation Survey Responses

Scottish Power Renewables Response

National Grid Electricity Transmission plc
National Grid House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

24 March 2014

By email: mark.oconnor@nationalgrid.com and ivan.kileff@nationalgrid.com

Dear Ivan and Mark,

Survey - Scotland generators with non-standard connection agreement

Thank you for the opportunity to respond to the above survey of 11 March 2014. I am pleased to submit this response on behalf of ScottishPower Renewables (SPR).

Please find below our detailed response to the Outage Change Management Survey:

1. **In general, on a scale of 1 – 10, where 1 is very dissatisfied and 10 is very satisfied, how satisfied with the current outage planning process?**
   ScottishPower Renewable's (SPR's) considers that a score of 7 out of 10 will better describe our general satisfaction with the current outage planning process.

   a. **What, in your view, needs to be improved?**
   SPR considers that the provision of the proposed start date and time, end date and time and the information on single line risk or full/partial outage should be simplified. We would appreciate if a revision control on OC2 reports could be provided to ensure that all the parties do have the latest version. SPR would also welcome further details to better understand the reasons why the work is required and we consider that it should be requested if the generators are performing any works that could be aligned to minimise outages.

   b. **What, in your view, works well?**
   The e-mail notification service providing OC2 data works appropriately. However, SPR considers that it could be confusing leading to generators

requesting further details which is often rejected.

c. **What, if any, code changes would you like to see with regard to the outage planning process?**

SPR would welcome improved level of details for outages. Generators must justify all outages to senior management and require more in depth understanding of the works and associated risks and return to service.

2. **On a scale of 1 – 10, where 1 is not at all valuable and 10 is very valuable, how valuable would having visibility of TO outage requests that have not yet been accepted into the plan give you?**

ScottishPower Renewable's (SPR's) considers that a score of 8 out of 10 will better describe how valuable would be having visibility of TO outage requests that have not yet been accepted into the plan.

a. **If we were to communicate these TO outage requests earlier to you what would be the effect on you if these outage requests were to keep changing?**

We consider that there will be no real impact. SPR would prefer having as much notice as possible with indicative dates, and we would easily update our systems as the work planning firms up.

b. **What timescales for these TO outage requests are you interested in: year ahead, current year down to 4 week ahead, and / or short term changes in day ahead to 3 week ahead timescales?**

SPR would welcome year ahead timescales and everything in between.

3. **What are your thoughts on the longer term (year ahead) outage communication? We currently send you OC2 outage reports; what other information if any would be helpful?**

As detailed on Question 1, SPR considers that OC2 data should be simplified for the generator and should include more detailed information explaining the reasons for the outage request to better understand why it is required and its benefits.

4. **Currently the System Operator sends all customers an e-mail about planned outages that affect them at 4 weeks ahead. We also discuss output limitation impacts and the larger picture of why the outage is taking place. On a scale of 1 – 10, where 1 is not at all helpful and 10 is very helpful, how helpful is this e-mail communication?**

SPR considers that the e-mail communication is very helpful but we disagree with the level of information that is provided. Consequently, SPR does usually request further information to better understand why the outage is required, but unfortunately these have always been rejected.

SCOTTISHPOWER
RENEWABLES

We would welcome the opportunity to discuss our response more fully with you and if you would like to do so, or if you require any further information from us, please contact me on 01416143082 or at ane.landaluze@scottishpower.com

Yours sincerely,

Ane Landaluze Solaun
Grid Policy Analyst
ScottishPower Renewables

SSE Response

Outage Change Management Survey

7. In general, on a scale of 1 – 10, where 1 is very dissatisfied and 10 is very satisfied, how satisfied with the current outage planning process?

    a. What, in your view, needs to be improved?

Timescales of outages needs to be communicated more effectively as we as a generator will shutdown plant in preparation for an outage only for the line not to come out until some time later; conversely if outages overrun their stated time and we have not been told in enough time; we can have plant PN'd to come on only to find that the line is not available.

Notification of commissioning plans that affect user's plant need to be communicated in a more timely manner.

    b. What, in your view, works well?

The general communication between National Grid and the user works well.

    c. What, if any, code changes would you like to see with regard to the outage planning process?

8. On a scale of 1 – 10, where 1 is not at all valuable and 10 is very valuable, how valuable would having visibility of TO outage requests that have not yet been accepted into the plan give you?

    a. If we were to communicate these TO outage requests earlier to you what would be the effect on you if these outage requests were to keep changing?

There would be no effect on me if the outage requests were to keep changing. I see this as a benefit as I would have better visibility of what is planned.

    b. What timescales for these TO outage requests are you interested in: year ahead, current year down to 4 week ahead, and / or short term changes in day ahead to 3 week ahead timescales?

I would be interested in the short term changes in the day ahead to 3 week timescales; however it would be useful to see the data from all the categories mentioned above as it would give me a clearer picture of all outages and would help me with my planning processes.

9. What are your thoughts on the longer term (year ahead) outage communication? We currently send you OC2 outage reports; what other information if any would be helpful?

I am happy with the year ahead outage communication from the point of seeing the work involved; however it would be helpful to also see the OC2 remarks as I do not appear to see these at the moment.

10. Currently the System Operator sends all customers an e-mail about planned outages that affect them at 4 weeks ahead. We also discuss output limitation impacts and the larger picture of why the outage is taking place. On a scale of 1 – 10, where 1 is not at all helpful and 10 is very helpful, how helpful is this e-mail communication?

This e-mail is helpful as it gives me an opportunity to respond with any issues.
If generation plant has to be restricted in output or off as per a BCA; I would like to see the defined circuits and outage condition in these e-mails as it would make these notifications a lot clearer.

RWE Response

From: hamish.ellen@rwe.com

Sent: 07 April 2014 13:02

To: O'Connor, Mark

Cc: Kileff, Ivan

Subject: RE: Survey - Scotland generators with non-standard connection agreement

Follow Up Flag: Follow up

Flag Status: Completed

Not sure who Matthew is? but apologies for not replying sooner, here is my survey response and comment:

7. 5 average
7.a – I do not get visibility of any outages until they are approved and in TOGA when I see it on the report. At this point it is very difficult from the information provided to understand the impact to the wind farm. It varies from none through short term switching outages to full off. More clarity would be helpful and more notice
7.b – generation of the reports is consistent but I would prefer to opt out of the daily ones.
7.c - ?
8. 9 –very valuable Future outage requests even if the date is not 100% fixed allow us to plan our own maintenance for the same disruption period. Understanding the impact on the wind farm at this future point is important though.
8.a – if the date were to be modified, as long as it was not in the very short term (low no. of weeks), then the impact would be minimal. It lets us know that this work is intended so disruption will be coming. If the impact of the outage is modified this is more frustrating.
8.b all of these timescales so we can forecast outputs, plan maintenance etc. the shorter term (less than 4 weeks) is more reactionary for us and if we can combine our maintenance then it is more co-incidence / luck than good planning but we would still like to know.
9. Good, if there is any insight into how outages elsewhere would affect us by bringing network closer to capacity or restricting any operations on our part of the network?
10. 10 extremely helpful, although in my experience this is always closer to 2 weeks not 4. This is when someone has assessed properly the impact on the wind farm and is where I can fully understand if the output will be 0 for the duration or if it is just switching. Many times there are entries in TOGA that I don't get an email about because they don't impact the output of the wind farm but I have difficulty assessing that from the information in TOGA. If this function can be done earlier in the process or maybe categorised (definitely off, maybe off, some impact expected, not off just notification...) it would be a vast improvement.

Thank you for the oportunity to comment

Hamish Ellen

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Transmission System Outage Change Management

SURVEY OF LARGE SCOTLAND GENERATORS WHICH HAVE OUTPUT LIMITATION CLAUSES IN THEIR CONNECTION AGREEMENTS (Clause 10's)

Dear Ivan

Thanks for this opportunity to comment on the process for transmission outage planning in Scotland. Please find below answers to each of the questions in your survey request dated 11th March 2014

7. In general, on a scale of 1 – 10, where 1 is very dissatisfied and 10 is very satisfied, how satisfied with the current outage planning process?
4
7a. What, in your view, needs to be improved?
Information on outage planning is required for various different purposes including budgeting and maintenance planning. For budgeting, information for longer time horizons is required (24 months ahead) For planning maintenance being better updated on the schedule and changes to the schedule with as much notice as possible out to 12 months ahead would be beneficial. It would also be beneficial to have a clearer indication of the affect which particular outages will have on our generating sites. The current planning process does not seem to result in us much coordination of maintenance work on the network. For example, in 2014 the circuits affecting one of our sites is programmed for a one day outage in August, an 18 day outage in September and a 16 day outage in October. It is difficult for us to engage with the System Operator and Transmission Owner to get a measure of whether such requests are reasonable. Having referred back to the requirements of OC2, it is my interpretation that it includes requirements for NGET to inform generators of outage planning information for Years 1 to 5 (see e.g.OC2.4.1.3.2b and e; OC2.4.1.3.3e and h). These exchanges do not appear to be occurring effectively at present.

7b. What, in your view, works well?
For the limited information which is available on the TOGA portal, it is a good tool for having visibility of outages which are in the plan.
7c. What, if any, code changes would you like to see with regard to the outage planning process?
OC2.4.1.3.4b should be modified so that parties are given notice of change requests which may affect their operations when such change requests are received by NGET.
8. On a scale of 1 – 10, where 1 is not at all valuable and 10 is very valuable, how valuable would having visibility of TO outage requests that have not yet been accepted into the plan give you?
10
8a. If we were to communicate these TO outage requests earlier to you what would be the effect on you if these outage requests were to keep changing?
For planning simultaneous operations, it is preferable if planned outages do not keep changing, however, the more notice we have of changes the better. Having site of changes would allow us to develop an understanding of how much confidence we can place on plans being delivered.
8b. What timescales for these TO outage requests are you interested in: year ahead, current year down to 4 week ahead, and / or short term changes in day ahead to 3 week ahead timescales?
For maintenance planning, current year down to day ahead is of principle interest.
9. What are your thoughts on the longer term (year ahead) outage communication? We currently send you OC2 outage reports; what other information if any would be helpful?
With reference to the answer to 7a, the existing requirements of OC2 appears to set out requirements for planning information to be communicated to Generators. I would welcome the opportunity to clarify with NGET on how this communication is implemented currently before commenting further on other information which would be helpful.
10. Currently the System Operator sends all customers an e-mail about planned outages that affect them at 4 weeks ahead. We also discuss output limitation impacts and the larger picture of why the outage is taking place. On a scale of 1 – 10, where 1 is not at all helpful and 10 is very helpful, how helpful is this e-mail communication?
3 – Current communications tend to lack clarity on the effect of any particular outage.

Yours sincerely

Ross Cant

Onshore Generation Manager

Falck Renewables Response

From:	Euan Fraser [Euan.Fraser@falckgroup.eu]
Sent:	07 April 2014 15:32
To:	O'Connor, Mark
Cc:	Kileff, Ivan; Ewan Currie
Subject:	RE: Survey - Scotland generators with non-standard connection agreement
Follow Up Flag:	Follow up
Flag Status:	Completed
Attachments:	RE: 2014/15 and future years transmission outage plans affecting Falck renewables. ; Kilbraur & BT1 outage; RE: Outages at ww26 affecting Kilbraur Wind Farm; RE: Outages ww28 and on affecting Kilbraur

Mark,

My apologises for not responding earlier.

My response to your survey questions are as follows:

7. General score would be 4.
   a) Firstly, my experience of the TOGA notifications is that they are often changed but the Generator gets little early warning of the change. A good example of this is attached. It shows the scheduled outages relating to Ben Aketil wind farm. The week 49 notification was issued 6/12/2013 and my initial response was made 30/12/2013 and focused on two particular outages. On 31/12/2013 NGET replied that this had already been discussed but that my concerns would again be raised with SSE Trans. However, during a recent transmission fault which affected Ben Aketil during March 14, I had cause to liaise with SSE Distribution staff. During the conversation which focused upon wind farm support for abnormal distribution feeding arrangements it was apparent that SSE Distribution believe the two outages are to be combined. I am in the process of discussing our annual maintenance schedule with our OEM contractor and this uncertainty may result in lost production and productivity.

   b) No response.

   c) I have limited knowledge of the code detail and am primarily focused on the day to day impact of the outages and our response/management. I therefore cannot articulate the changes that I would wish to see in terms of the code. However, I would like to have prompt access to any changes and ideally be able to input my preferred criteria as appropriate i.e. no one has ever asked when any wind farm would best accommodate an outage either due to low wind or other scheduled maintenance. The ability to inform the SO of our desired outage periods would be a starting point.

8. Answer would be 10 if I were able to have some input.

   a) I accept that notification too early would cause unnecessary work if the goals kept changing.
   b) I am interested in receiving notification for a range of periods. The year ahead currently seems to have limited benefit as it undoubtedly changes. A period of four weeks is slightly too tight to arrange wind farm maintenance accordingly. I would therefore favour a 10 week ahead view issued on a rolling monthly basis. I have experienced changes in the shorter term (see email attached) and this is completely understandable where extreme weather plays the SO a difficult situation. However, I have on occasion been sceptical that the information supplied via the SO is not valid or appropriate.

9. I think I have covered this in the above response.

10. I appreciate the emails and rate them as 9. However, I am sometimes confused by the terminology utilised by the various staff involved (see email reference WW28) and would suggest a standard format is utilised. On numerous occasions I have had to query the actual impact upon the site bearing in mind some sites are embedded i.e. curtailment, off supply, Off supply for transmission switching. Specifically the notification will refer to the plant affected by the outage and sometimes it is unclear what impact this has upon the Generator. I also note that the email often requests the acceptance of the Generator giving the impression that the Generator has an input and can influence the process. At no time is a transmission system diagram issued with the email information and therefore the plant affected (often listed in an abbreviated form) means little to the Generator.

Regards,

Euan Fraser
Asset Manager

please don't print this email unless you really need to

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Statkraft Response

Outage Change Management Survey

7. In general, on a scale of 1 – 10, where 1 is very dissatisfied and 10 is very satisfied, how satisfied with the current outage planning process? 5

    a. What, in your view, needs to be improved? Basically the amount of notice

    b. What, in your view, works well? The final communication between Control centres

    c. What, if any, code changes would you like to see with regard to the outage planning process? The process is OK it is a case of advanced notice

8. On a scale of 1 – 10, where 1 is not at all valuable and 10 is very valuable, how valuable would having visibility of TO outage requests that have not yet been accepted into the plan give you? 10

    a. If we were to communicate these TO outage requests earlier to you what would be the effect on you if these outage requests were to keep changing? We can arrange our maintenance to coincide with these outages

    b. What timescales for these TO outage requests are you interested in: year ahead, current year down to 4 week ahead, and / or short term changes in day ahead to 3 week ahead timescales? Year ahead is most valuable

9. What are your thoughts on the longer term (year ahead) outage communication? We currently send you OC2 outage reports; what other information if any would be helpful? Confirmation of wheter the site will remain energised

10. Currently the System Operator sends all customers an e-mail about planned outages that affect them at 4 weeks ahead. We also discuss output limitation impacts and the larger picture of why the outage is taking place. On a scale of 1 – 10, where 1 is not at all helpful and 10 is very helpful, how helpful is this e-mail communication? 10