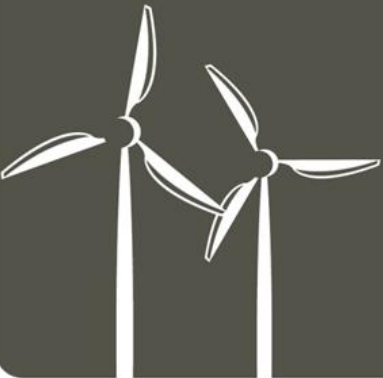


CMP 245 & 246

Presentation to CUSC Panel

25 June 2015

Introduction of a new “Category 5 Intertripping Scheme” to include System to System intertrips in relation to One-off Charges.



REASON FOR INTERTRIP

Generation in North of Scotland e.g. here and other locations

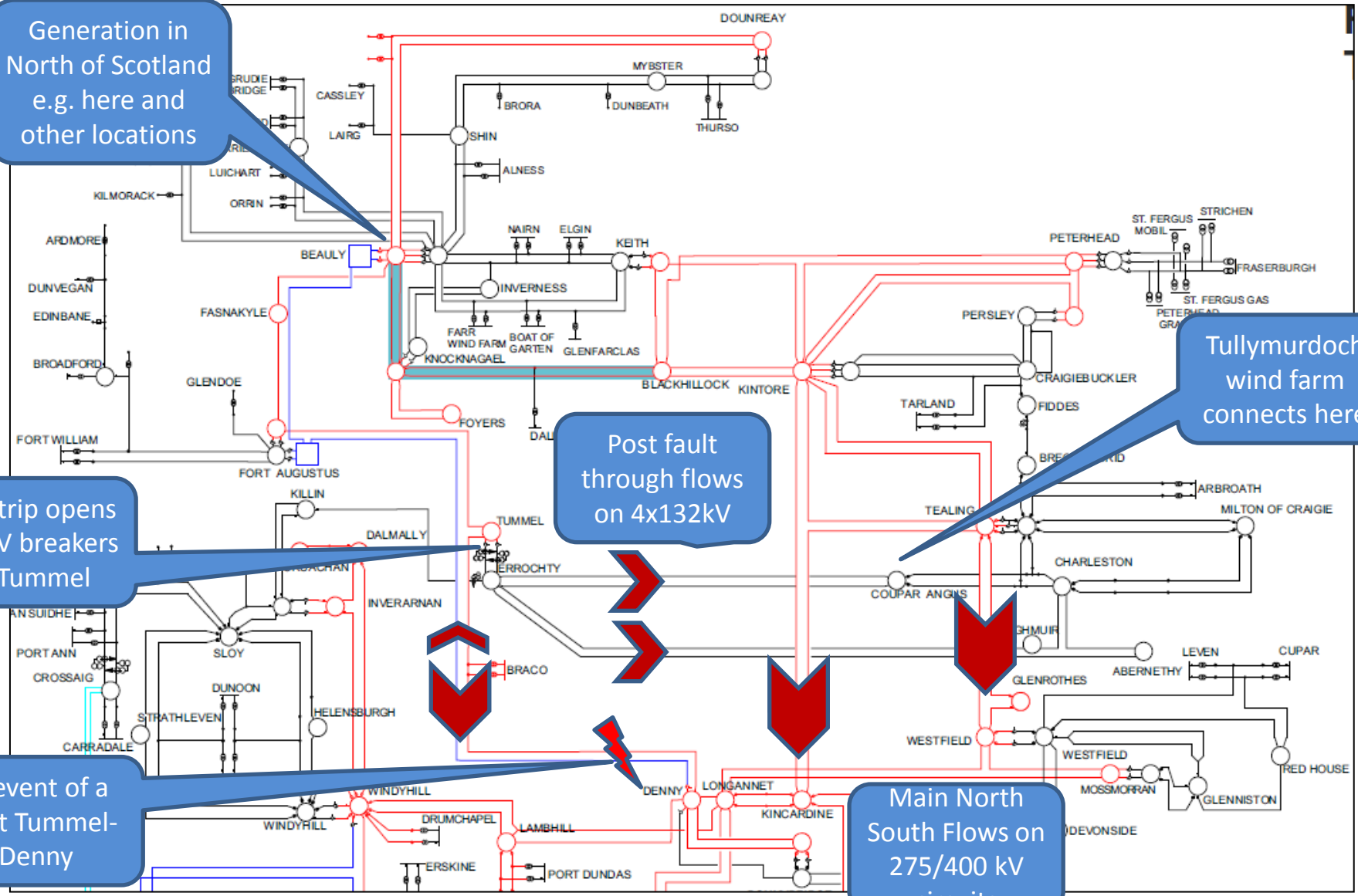
Tullymurdoch wind farm connects here

Intertrip opens 132kV breakers at Tummel

Post fault through flows on 4x132kV

In event of a fault Tummel-Denny

Main North South Flows on 275/400 kV circuits



1. Intertrips are defined in Grid Code.

Category 1 Intertripping Scheme

A **System to Generator Operational Intertripping Scheme** arising from a Variation to Connection Design following a request from the relevant **User** which is consistent with the criteria specified in the **Security and Quality of Supply Standard**.

Category 2 Intertripping Scheme

A System to Generator Operational Intertripping Scheme which is:-

- (i) required to alleviate an overload on a circuit which connects the **Group** containing the **User's** Connection Site to the **National Electricity Transmission System**; and
- (ii) installed in accordance with the requirements of the planning criteria of the **Security and Quality of Supply Standard** in order that measures can be taken to permit maintenance access for each transmission circuit and for such measures to be economically justified,

and the operation of which results in a reduction in **Active Power** on the overloaded circuits which connect the **User's Connection Site** to the rest of the **National Electricity Transmission System** which is equal to the reduction in **Active Power** from the **Connection Site** (once any system losses or third party system effects are discounted).

Category 3 Intertripping Scheme

A **System to Generator Operational Intertripping Scheme** which, where agreed by **NET** and the **User**, is installed to alleviate an overload on, and as an alternative to, the reinforcement of a third party system, such as the **Distribution System** of a **Public Distribution System Operator**.

Category 4 Intertripping Scheme

A **System to Generator Operational Intertripping Scheme** installed to enable the disconnection of the **Connection Site** from the **National Electricity Transmission System** in a controlled and efficient manner in order to facilitate the timely restoration of the **National Electricity Transmission System**.

1. CUSC defines which intertrips can be charged as One-Off charges.

One-off Works

14.4.2 To provide or modify a connection, the transmission licensee may be required to carry out works on the transmission system that, although directly attributable to the connection, may not give rise to additional connection assets. These works are defined as “one-offs”. Liability for one-off charges is established with reference to the principles laid out below:

- Where a cost cannot be capitalised into either a connection or infrastructure asset, typically a revenue cost
- Where a non-standard incremental cost is incurred as a result of a User's request, irrespective of whether the cost can be capitalised
- Termination Charges associated with the write-off of connection assets at the connection site.

Consistent with these principles and in accordance with Connection Charging Methodology modification GB ECM-01, which was implemented on 1 December 2005, a one-off charge will be levied for a **Category 1 Intertripping Scheme** or a **Category 3 Intertripping Scheme**. A one-off charge will not be levied for a **Category 2 Intertripping Scheme** or a **Category 4 Intertripping Scheme**.

1. System to System intertrip is not covered in CUSC or Grid Code.
2. Introduce definition to Grid Code as next category (Category 5).
3. Add Category 5 to CUSC view on One Off charging.

Operational Intertripping

The automatic tripping of circuit-breakers to prevent abnormal system conditions occurring, such as over voltage, overload, **System** instability, etc. after the tripping of other circuit breakers following power **System** fault(s) which includes **System to Generating Unit, System to CCGT Module, System to Power Park Module, System to DC Converter, System to Demand and System to System Intertrip Scheme.**]

“Category 5 Intertripping Scheme

A **System to System** intertrip scheme which is required to alleviate an overload on one or more circuits on the **National Electricity Transmission System** and the operation of which results in a reduction in **Active Power** on the overloaded circuit(s) which connect one part of the **National Electricity Transmission System** to another part of the **National Electricity Transmission System.**”

The proposed text change to Section 14.4.2 of CUSC is:

“Consistent with these principles and in accordance with Connection Charging Methodology modification GB ECM-01, which was implemented on 1 December 2005, a one-off charge will be levied for a **Category 1 Intertripping Scheme** or a **Category 3 Intertripping Scheme**. A one-off charge will **not** be levied for a **Category 2 Intertripping Scheme**, a **Category 4 Intertripping Scheme** or a **Category 5 Intertripping Scheme.**”

And in the CUSC definitions add:

“**Category 5 Intertripping Scheme**” as defined in the Grid Code.

1. In the proposer's view the principles in GB-ECM -01 are clear and would mean that a Category 5 system to system intertrip would not be subject to One Off Charges.

nationalgrid

CONCLUSIONS REPORT

Modification Proposal to the Connection Charging Methodology

GB ECM-01

Intertrips installed under Category 2 will be to protect local circuits from overloads resulting from outages on local circuits. As there is a wider system security benefit with the installation of the scheme under this Category, and because the circuits involved are infrastructure rather than connection, National Grid is proposing to recover costs for the intertrip installation via the Transmission Network Use of System (TNUoS) revenue recovery mechanism.

1. In the proposer's view the principles in GB-ECM -01 are clear and would mean that a Category 5 system to system intertrip would not be subject to One Off Charges.

Do you believe the CUSC Modification Proposal will have a material impact on Greenhouse Gas Emissions? Yes / No

Yes - without this modification there is a risk that a System to System Intertrip (Category 5 Intertripping Scheme) which will reduce system constraints and is enduring but is charged as One-off Works to a specific User will not be implemented because the User will not be able to afford the One-off Charges. Consequently, this may result in a termination of the agreement with National Grid which will result in the intertrip not being implemented. As a result increasing constraints on renewable generation will increase carbon dioxide emissions accordingly.

Please tick the relevant boxes and provide justification:

(a) the efficient discharge by The Company of the obligations imposed upon it by the Act and the Transmission Licence

National Grid's licence requires it to operate an efficient and reliable National Electricity Transmission System within certain technical parameters (under the Grid Code, for example) to ensure a continual and safe operation. This modification, if approved, would lead to greater transparency regarding transmission operational intertrips and formalises the definition of a new kind of intertrip which has overall system benefits.

System cost benefits of this kind of intertrip

(b) facilitating effective competition in the generation and supply of electricity, and (so far as consistent therewith) facilitating such competition in the sale, distribution and purchase of electricity.

This modification ensures that Users are dealt with in an equitable manner in respect of One-Off Charges and intertrips. The treatment of existing Category 1-4 Intertrips in relation to One-Off charges has set a precedent. At present the rules on One-Off Charges for intertrips do not include the new intertrip (as described above) and this new intertrip should be defined in the Grid Code and CUSC and should be assessed using the same principles as existing intertrips (for example in GB ECM-01) in order to ensure that it is also applied in an equitable and consistent manner thereby not distorting competition.

Equitable treatment of Users

Justification for Urgency Recommendation

The One-off Charge proposed by NGET to the User is putting the development of the project at risk due to its high costs. The One-off Charge would, therefore, have a significant commercial impact on the User.

power **element** power **element** power **element** power



CMP245 & CMP246 Progression

- The Panel is asked to agree:
 - Whether CMP245 & CMP246 should be progressed through Self-governance
 - How to progress CMP245 & CMP246
 - Workgroup
 - Code Administrator Consultation
 - Whether to request urgency for CMP245 & CMP246

CMP245 & CMP246 Indicative timetable (standard Workgroup)

6th July 2015	Deadline for comments on Terms of Reference / nominations for Workgroup membership
W/C 20th July 2015	Workgroup meeting 1
W/C 3rd August 2015	Workgroup meeting 2
10th August 2015	Workgroup consultation issued for 1 week Workgroup comment
17th August 2015	Deadline for comment
20th August 2015	Workgroup Consultation published
11th September 2015	Deadline for responses
W/C 14th Sept 2015	Workgroup meeting 3
28th September 2015	Workgroup meeting 4
12th October 2015	Circulate draft Workgroup Report
19th October 2015	Deadline for comment
22nd October 2015	Submit final Workgroup Report to Panel
30th October 2015	Present Workgroup Report at CUSC Modifications Panel

CMP245 & CMP246 Indicative timetable (standard Workgroup)

4th November 2015	Code Administrator Consultation issued (15 Working days)
25th November 2015	Deadline for responses
30th November 2015	Draft CUSC Modification Report issued for Industry comment
7th December 2015	Deadline for comment
10th December 2015	Draft CUSC Modification Report issued to CUSC Panel
18th December 2015	CUSC Panel recommendation vote
21st December 2015	Draft FMR circulated for comment
6th January 2016	Deadline for responses
8th January 2016	Final CUSC Modification Report sent to Authority

CMP245 & CMP246 Indicative timetable (Urgent)

2nd July 2015	Deadline for comments on Terms of Reference / nominations for Workgroup membership
7th July 2015	Workgroup meeting 1
13th July 2015	Workgroup meeting 2
15th July 2015	Workgroup consultation issued for Workgroup comment
20th July 2015	Deadline for comment
22nd July 2015	Workgroup Consultation published
29th July 2015	Deadline for responses
3rd August 2015	Workgroup meeting 3
6th August 2015	Workgroup meeting 4
10th August 2015	Circulate draft Workgroup Report
12th August 2015	Deadline for comment
14th August 2015	Submit final Workgroup Report to Panel
18th August 2015	Present Workgroup Report at CUSC Modifications Panel (Special meeting)

CMP245 & CMP246 Indicative timetable (Urgent)

19th August 2015	Code Administrator Consultation issued
26th August 2015	Deadline for responses
28th August 2015	Draft CUSC Modification Report issued for Industry comment
2nd September 2015	Deadline for comment
3rd September 2015	Draft CUSC Modification Report issued to CUSC Panel
7th September 2015	CUSC Panel recommendation vote (Special Panel meeting)
8th September 2015	Draft FMR circulated for comment
10th September 2015	Deadline for responses
11th September 2015	Final CUSC Modification Report sent to Authority

CMP245 & CMP246 Indicative timetable (CA Consultation)

1st July 2015	Code Administrator Consultation issued
22nd July 2015	Deadline for responses
27th July 2015	Draft CUSC Modification Report issued for Industry comment
3rd August 2015	Deadline for comment
20th August 2015	Draft CUSC Modification Report issued to CUSC Panel
28th August 2015	CUSC Panel recommendation vote (Special Panel meeting)
1st September 2015	Draft FMR circulated for comment
8th September 2015	Deadline for responses
10th September 2015	Final CUSC Modification Report sent to Authority