



WORKING GROUP REPORT

CUSC Amendment Proposal CAP144

Emergency Instruction to emergency deenergise

Prepared by the **CAP 144** Working Group
for submission to the Amendments Panel

Amendment Ref	CAP144
Issue	Draft Final Version 1.2
Date of Issue	11 April 2007
Prepared by	MRT

I DOCUMENT CONTROL

a National Grid Document Control

Version	Date	Author	Change Reference

b Distribution

Name	Organisation
The Gas and Electricity Markets Authority	Ofgem
CUSC Parties	Various
Panel Members	Various
National Grid Industry Information Website	

II CONTENTS TABLE

1 SUMMARY AND RECOMMENDATIONS

Executive Summary

- 1.1 CAP 144 Emergency Instruction to Emergency De-Energise: CAP 144 seeks to extend the compensation provisions for removal of access that were developed under CAP048 so that they would apply to particular limited classes of those situations in which NGET issues an Emergency Instruction leading to desynchronisation of generating plant.
- 1.2 CAP144 was first proposed by NGET to the CUSC Panel on 26th January 2007 and was sent for assessment and report to the CUSC Panel meeting on 27th April 2007.
- 1.3 As well as the original, two Working Group Alternative Amendments have been developed and supported by Working Group Members.
- 1.4 Acknowledgment: It is with pleasure that I acknowledge the good humoured enthusiasm that Working Group members brought to the assessment of this proposal.

Working Group Recommendation

- 1.5 The Working Group believes its Terms of Reference have been completed and CAP 144 has been fully considered.

Voting Results	Pro	Anti
Original better than Baseline	6	0
WGAA1 better than Baseline	6	0
WGAA1 better than Original	5	1
WGAA2 better than Baseline	3	3
WGAA2 better than Original	1	4
WGAA2 better than WGAA1	1	5

As a result of the final voting by Working Group Members:

- The Original and WGAA1 are both judged to be better than the current baseline;
- Voting is tied on whether or not WGAA2 is better than the current baseline;
- Both the Original and WGAA1 are judged better than WGAA2; and by a majority, working group members recommended that WGAA1 best achieves the Applicable Objectives. Therefore the working group recommends to the CUSC Panel that:
 - A consultation report containing CAP 144 Original, WGAA1 SBP-option and WGAA2 Intertrip option should proceed to wider Industry Consultation as soon as possible.
 - The Working Group Report is accepted by the CUSC Panel and the Working Group is disbanded.
 - CUSC Parties consider a further CUSC amendment to aid clarity in the definitions of interruption period and interruption payment.

2 PURPOSE AND INTRODUCTION

- 2.1 This Report summarises the deliberations of the Working Group and describes the Original CAP144 Amendment Proposal as well as the Working Group Alternative(s).
- 2.2 CAP144 was proposed by National Grid and submitted to the Amendments Panel for their consideration on 26th January. The Amendments Panel determined that the proposal should be considered by a Working Group and that the Group should report back to the panel meeting within 3 months.
- 2.3 The Working Group met on 14th February and the members accepted the Terms of Reference for CAP144. A copy of the Terms of Reference is provided in Annex 3. The Working Group considered the issues raised by the Amendment Proposal and considered whether the Proposal and the Working Group Alternative better facilitated the Applicable CUSC Objectives. The Working Group met (3) times.
- 2.4 The CUSC provides for recompense for generators whose access to the grid is withdrawn. This proposal seeks to extend the provisions developed under CAP048 so that they apply in a limited number of the events following which National Grid issues an Emergency Instruction leading to de-synchronisation of a generating unit(s).
- 2.5 This Working Group Report has been prepared in accordance with the Terms of the CUSC. An electronic copy can be found on the National Grid Website, www.nationalgrid.com/uk/Electricity/Codes/, along with the Amendment Proposal Form.

3 PROPOSED AMENDMENT

- 3.1 This amendment seeks to extend the provisions introduced by CAP048 (Firm Access and Temporary Physical Disconnection) to include the specific circumstances when a Generator is exporting but is required to deenergise / disconnect from the Transmission System in an emergency via an Emergency Instruction (EI) issued by National Grid in Balancing Mechanism timescales in accordance with the Grid Code.
- 3.2 The aim of this proposal is to treat such an EI as an emergency disconnection event in line with the provisions for unplanned interruptions, rather than the current arrangements whereby this type of EI would be treated as a Bid-Offer Acceptance (BOA). This proposal would cover events of sufficiently short notice timescales to be considered unplanned (i.e. in BM timescales) but, because they are instructed, are not covered by the current unplanned interruption arrangements which apply only to a disconnection following an automatic trip. This modification proposal would thereby close the “gap” within the existing provisions between a planned interruption (disconnection in planning timescales) and an unplanned interruption (by automatic trip caused by the loss of transmission equipment).
- 3.3 An EI to emergency deenergise would only be issued in BM timescales where there is a “local” fault / incident which may adversely affect the integrity of the GB Transmission System or a synchronously connected external system or poses a threat of injury or material damage that requires an “Affected User” (specifically a BM Unit) to be de-energised / disconnected from the system. Please note this EI would not be used for wider system issues.

- 3.4 Following identification of such a de-energisation as liable for 'CAP144' compensation, the affected BMU(s) would receive the compensation for 'CAP048' unplanned loss of access. Following loss of access, this would be Market Index Price (MIP) * {a measure of the access volume lost} for the first 24 hours and TNUoS-based compensation thereafter. The measure of volume of TEC affected under this option is calculated as the amount of available remaining CEC_{unit} that does not include the Interrupted BMU/CEC_{unit}, is deducted from the TEC_{station}. Where the available remaining CEC_{unit} is equal to or greater than the TEC_{station} then no compensation would be payable. Where the available remaining CEC_{unit} is less than the TEC_{station} then the amount compensated for would be the difference. This can be expressed as TEC_{station} - Available remaining CEC_{unit} = Volume for Compensation.

4.0 SUMMARY OF WORKING GROUP DISCUSSIONS

- 4.1 The working group looked at the impact of the proposal on the affected generator as well as the other market participants and NGET. Using a simplified set of data relating to the Damhead Creek incident, members explored the effect of the proposed CAP144 as well as candidate alternative amendments. WG members also considered incidents in which the market would be short (The DH incident took place in a long market). WG members proposed two alternative compensation 'prices'. Although the detailed technical requirements would require Grid Code changes as a consequential amendment, members developed the principles of the changes required in the Grid Code so that the process would work operationally. Members also considered the impact on cash-out prices of the removal of the volume and prices of the excluded bids from de-synchronised plant, although it would be outside the remit of the Working Group to propose any consequential changes. Finally, the WG considered the CAP144 original and WGAAAs against the Applicable Objectives.
- 4.2 Damhead Creek Scenarios: Annex 6 contains 3 illustrations of cash-flow, based on a simplified version of the Damhead Creek event. The first illustration: case (1) approximates to what happened. Members noted that since the event, P172 had been implemented which would in any case impact the cash-flows. Cases (4) and (5) replay the events of case (1); including the effects of P172 and as if CAP 144 had been implemented. CAP 144 does not propose any changes to the way cash-out volumes are dealt with and so, case(4) illustrates what would have happened if CAP144 (original or WGAAAs) were to be implemented. In case (5) an additional and consequential change to the volume of the EI action is assumed: it is included in the cash-out price calculation as 'system BSAD'.
- 4.3 Initiation
- 4.3.1 Events: WG members discussed the criteria for applying the CAP144 approach. NGET was clear that the criteria for applying this approach were very tightly drawn and were additive. For an event to qualify for CAP 144 treatment the following criteria must all be satisfied: a) There is reasonable cause to suspect that a piece of transmission equipment is distressed or in an unsafe condition; b) Circumstances mean that the equipment is likely to cause damage or injury, and where it should be immediately disconnected from the transmission system; c) If it were not disconnected in a controlled manner then an automatic trip would be highly likely, and; d) Were the piece of transmission equipment to be automatically disconnected, it would have been the sole cause of disconnecting the BMU(s) in question. Members

noted that criteria (b) and (c) implied an urgency of action that would mean the EI would be issued after gate closure. WG members were satisfied that when these criteria were added they would be sufficiently tightly drawn.

- 4.3.2 Process: WG members noted that in the Grid Code there are a variety of initiating events that lead to the issuing of an Emergency Instruction. These are set out in Balancing Code 2 (BC2). Given the nature of an EI, members thought it prudent that the process of issuing an EI was kept as simple and straightforward as currently. Therefore, issuing an EI would be essentially the same under the CAP 144 circumstances, as under the other initiating events set out in BC2. Because of the urgency of the situation and the local nature of the issue for CAP 144 members anticipated that at the point of issue of the EI, the affected generator may not know if the EI was arising from a CAP144 event, or another event under BC2. This would be established by subsequent investigation and review by NG. Members noted that no consequential change to the NGET operational audit arrangements was anticipated.
- 4.4 Termination of the EI: The issuing of the EI would signify the start of an Interruption Period as defined under the CUSC. The generator would reduce output to zero for the duration of the Interruption Period for the affected BMU(s). The interruption period would end on the notification by NGET to the affected users that the relevant interruption had ended. This would mean that the generator could not re-despatch the affected BMU(s) until they received notice from NGET that they may generate again.
- 4.5 Number of EIs per day: The current post-CAP048 CUSC text lacks clarity regarding interruptions that last for less than 24 hours and the duration of the interruption payment. It appears to anticipate no more than one event per day and that the unplanned interruption payment is made for *'For the first 24 hours of the **Relevant Interruption**, a sum equal to the price in £/MWh for the relevant **Settlement Period(s)** (as provided for in Section T 1.5.3 of the **Balancing and Settlement Code**)'* multiplied by the appropriate volume. However, the 'interruption period' itself is defined in the CUSC as *'the period in days ... and ending on the notification by **The Company the Affected User** that the **Relevant Interruption** has ended;'*. Members agreed that a further CUSC amendment should be considered in order to aid clarity in the definitions of interruption period and interruption payment. For the moment, members interpreted the CUSC as meaning the Interruption Period could be less than 24 hours, in which case the number of relevant Settlement Periods would be less than 48. In addition, it was not clear that the current CAP048 CUSC text covered the situation in which a fault occurs, the Interruption Period is started and finished inside 24 hours, and then a further fault develops and a new Interruption needs to be started. For this scenario members interpreted the text as meaning that the interrupted party receives a sum equal to the price in £/MWh for the relevant Settlement Periods (≤ 48) for the first interruption, then reverts to normal market operation after the interruption period is ended, and then starts again at the interrupted price for the relevant Settlement Periods (≤ 48) if NGET is forced to issue a further EI.
- 4.6 Compensation:
- 4.6.1 Process: Members noted that the nature and likely rareness of the CAP 144 events are such that NGET may not know at the time of initiating the EI that it is definitely under CAP 144 arrangements, as distinct from the arrangements covering other EIs. Consequently, NGET would need to confirm after the initiating EI whether or not this event qualifies under CAP144. The affected

generator should expect compensation under the CAP 144 event to apply for the whole of the Interruption Period. This process will lead to uncertainty about cash-out during and immediately after the Interruption Period, but members could not see any other alternative. It should be noted that this problem already exists for other EIs and manifest errors today.)

- 4.6.2 Compensation Amounts – Current Arrangements: The current and proposed compensation amounts are illustrated in Annex 7. Under the current arrangements the generator receives a deemed BOA of volume equal to the volume of the current Settlement Period (SP), plus the next two SPs (i.e. up to ‘the wall’) minus the volume of energy delivered over these three SPs.
- 4.6.3 Compensation Amounts - CAP 144 Original: Under the original CAP 144, the compensation to generators would parallel that received under CAP048. It would fall into two time periods: the first 24-hours and thereafter. For the first 24-hours after the EI the generator would receive the Market Index Price multiplied by the minimum of the sum of the CEC of the interrupted BMUs and the TEC of the Connection Site. Thereafter, the generator would receive the TNUoS for the TEC of the Connection Site minus the CEC of any unaffected BMU(s).
- 4.6.4 Candidate Working Group Alternative (1) –SBP front-end: A WG member proposed a refinement of the CAP 144 original approach. He pointed out that in such circumstances the generator is most likely to be short when the market is short, and that therefore the affected generator is most likely to be exposed to SBP. This will almost certainly be higher than MIP. Therefore, he proposed that for a limited period after the EI, the compensation should be based on SBP, not MIP. This refinement would only apply for the period during which the generator could not trade out their position, i.e. up to an including Settlement Period +2 after the EI. Beyond that the affected generator could start to trade out their position, so the compensation should revert to MIP, as per CAP 144 original. He also pointed out that if the market was long the SBP would default to MIP anyway, so this refinement would not produce any unintended effects. Under WGAA1 the volume of energy covered would be exactly the same as under CAP 144 original. The WG member also noted that his proposed approach would not be the same as that applying currently under CAP048. In the event that the WGAA1 approach was approved by Ofgem, he anticipated that a further CUSC amendment would be proposed to bring CAP048 compensation in line with WGAA1
- 4.6.5 Candidate Working Group Alternative (2) – Inter-trip compensation: WGAA2 takes an alternative approach to compensation. In this the generator is treated in an analogous manner to having an inter-trip (category II) that operates. Therefore the compensation is a one-off amount reflecting the impact of the trip operation with no explicit link to the current cash-out prices. This alternative only seeks to use the inter-trip compensation aspect of CAP 076, not the payments made to generators to cover the administrative costs. The rationale for this approach is that the initiating event most closely parallels inter-trip operation, albeit manual intervention and the one-off payment removes uncertainty about the volume and duration of the cash impact on the balancing arrangements. It should be noted that the CAP076 intertrip approach leads to the inter-tripped volume being treated through BSAD and ABSVD up to ‘the wall’ and the proposer of the WGAA2 saw this as a necessary consequential change if WGAA2 were to be accepted.

- 4.7 Timing of Compensation: Members noted that the Damhead Creek incident was not resolved for some time after the event. This led to uncertainty for all market participants. Members had noted that it was likely that the generator would not know at the time of receiving the EI, what the financial consequences would be and that the type of EI issued would need to be confirmed by NGET after the event. Members suggested that both NGET and Ofgem (if they were to become involved) should act to resolve the status of the EI and therefore its impact on the market, as soon as reasonably practicable after event. Members believed this was probably consistent with their licence and statutory duties, but may need explicit statement.
- 4.8 NGET financial liabilities: At the time of proposing CAP 144, NGET is liable for payments arising under CAP048 arrangements; there is no pass-through of these costs via BSUoS or TNUoS. During the course of assessment Ofgem have told the WG of their intention to review this. The relevant consultation was issued on 22nd March 2007 with responses sought by 20th April.
http://www.ofgem.gov.uk/temp/ofgem/cache/cmsattach/19101_4807.pdf?wtfom=/ofgem/work/index.jsp§ion=/liveconsultation
- 4.9 Impact on Cash-out: Members considered the impact of the Issuing of the EI on cash-out. This is not part of the CUSC Amendment, nor part of the CUSC governance generally. Any consequential amendments would need to be taken either through the BSC, or via the BSAD. In these circumstances, the results of members' discussion are recorded here, as an aid to the wider industry in understanding the range of views on this issue during consultation. All WG Members were content that the price of the energy not delivered as a result of the EI should be excluded from the cash-out mechanism. There was disagreement about what to do with the volume of energy. The minority of WG members believed that as CAP144 was primarily associated with access, the EI was not a balancing action and hence the volume of energy associated with the effects of the EI should not be included in balancing actions.
- 4.9.1 Inclusion of Volume: The majority of WG members believed that the volume of energy affected by the EI, up to 'the wall', should be accounted for in the cash-out price. They suggested that the volume of the energy not delivered as a result of the EI should form part of the system BSAD. In this way it would balance and 'tag out' the volume of additional actions procured in order to reverse the effect of the EI and maintain system balance. This inclusion should only last up to 'the wall'. Members noted that the Damhead Creek incident had happened at a time when the market was long and hence replacement energy was available and the impact on BSAD was of low materiality. Cases (4) & (5) in Annex 6 showed a small effect of inclusion or non-inclusion of the affected volume in system BSAD. However, by their nature such events could happen at any time, when the market was generally long or short. If the event had happened at a time of general market shortness, the impact of the EI would potentially be much greater and the inclusion of the volume would reduce the impact on cash-out prices. The WG member who proposed WGAA2 noted that the inter-trip approach from CAP076 included the relevant volume in BSAD and ABSVD
- 4.9.2 Non-Inclusion of the Volume: the argument from the minority of the Working Group is simple: CAP144 events will be events that are rare reductions in access; they will not be and should not be considered as balancing actions of

any type. Therefore the affected volume should not be included in cash-out price calculation. [Any more?].

5 WORKING GROUP ALTERNATIVE AMENDMENT

5.1 Following the assessment discussion summarized above, members agreed that both candidate WGAAAs would go forward for further consideration.

6 ASSESSMENT AGAINST APPLICABLE CUSC OBJECTIVES

6.1 The Assessment against Applicable CUSC Objectives is summarized below:

6.2 Efficient Discharge of Licence Obligations

6.2.1 CAP 144 original: Ensures all types of total access interruptions are treated in a consistent manner under the appropriate compensation mechanism for the removal of access. Currently the type of access interruptions to be dealt with under CAP 144 is part of the competitive market. They should not be and their removal brings them into the scope of system operator access management activities. Hence CAP 144 improves the scope of actions over which the SO exercises its licence obligations and so the outcome is better than the current baseline. Everything else being equal, CAP 144 was likely to result in costs that more appropriately reflect the value of access and which are likely to reduce BSUoS volatility and improve cost reflectivity of access.

6.2.2 WGAA1- SBP option: With regard to this Applicable Objective members believed that WGAA1 provided a similar effect to the original proposal.

6.2.3 WGAA2- Inter-trip Compensation: WG Members concluded that WGAA2 was likely to have a similar effect regarding valuation of access. However, the alternative more appropriately reflects that the nature of NGET's actions in that is directly analogous to an operation intertrip, albeit operated under direct instruction rather than through automatic equipment. Therefore the intertrip arrangements are more appropriate than CAP48 [More please]

6.3 Facilitation of Competition:

6.3.1 CAP 144 original: CAP 144 will facilitate competition by providing a compensation payment for all interruptions that is linked to the removal of access and not treated as a 'pay as bid' commercial Balancing Service. There is no competition present in the proposed circumstances, and the instruction is not issued for balancing purposes.

6.3.2 WGAA1- SBP Front End: By ensuring that that the affected generator is compensated at a rate immediately post the event that more nearly reflects the price of any replacement energy they would have to purchase via imbalance, members believed that this WGAA would have an outcome that was less inappropriately discriminatory for the affected generator. Therefore, it would enhance competition by ensuring equality of treatment for all.

6.3.3 WGAA2- Inter-trip Compensation: Supporters of this alternative believed that the inter-trip payment arising from CAP076 would more accurately reflect typical out-of-balance costs for the duration of the EI. Hence the affected generator would be less disadvantaged than under the other two options and competition on a fair basis would be supported. Also, under this approach,

the volume of recompense would be independent of cash-out price. It would be easy for other participants to gauge the likely effect of such an event.

- 6.4 A majority of working group members (5:1) believed WGAA1 best satisfied the Applicable Objectives.

Voting Results	Pro	Anti
Original better than Baseline	6	0
WGAA1 better than Baseline	6	0
WGAA1 better than Original	5	1
WGAA2 better than Baseline	3	3
WGAA2 better than Original	1	4
WGAA2 better than WGAA1	1	5

7.0 PROPOSED IMPLEMENTATION

- 7.1 The Working Group proposes CAP144, Original, WGGGA1, or WGAA2 should be implemented as soon as practicable after an Authority decision subject to the timescales for implementation of any consequential changes to the Grid Code and any other documents.

8.0 IMPACT ON THE CUSC

- 8.1 The text required to give effect to the Original Proposal is contained as Part A of Annex 2 of this document.
- 8.2 The text to give effect to the Working Group Alternative Amendment (1) is attached as Part B of Annex 2 of this document.
- 8.3 The text to give effect to the Working Group Alternative Amendment (2) is attached as Part C of Annex 2 of this document.

9 IMPACT ON INDUSTRY DOCUMENTS

Impact on Core Industry Documents

- 9.1 CAP144 will require amendment to BC2 of the Grid Code.

Impact on other Industry Documents

- 9.2 Subject to Ofgem's view of the impact of CAP144 on the operation of the cash-out mechanism, changes may be required to BSAD.

ANNEX 1 – GLOSSARY AND ACRONYMS

NOT USED

ANNEX 2 – PROPOSED LEGAL TEXT TO MODIFY THE CUSC

Baseline Document

CUSC v1.21 - 20 July 2006
Grid Code Issue 3 Rev17

CUSC Modifications

Section 11 of CUSC

New definition:

<p><u>“Emergency Deenergisation Instruction”</u></p>	<p>an instruction issued by The Company to a User to either:</p> <ul style="list-style-type: none"> (a) Deenergise that User’s Equipment, or (b) request the owner of the Distribution System to which the User’s Equipment or equipment for which that User is responsible (as defined in Section K of the Balancing and Settlement Code) is connected to Deenergise that User’s Equipment or equipment for which that User is responsible (as defined in Section K of the Balancing and Settlement Code or ; (c) declare its Maximum Export Limit in respect of the BM Unit(s) associated with such User’s Equipment to zero and to maintain it at that level during the Interruption Period, <p>where in The Company’s reasonable opinion:</p> <ul style="list-style-type: none"> (i) the condition or manner of operation of any Transmission Plant and/or Apparatus is such that it may cause damage or injury to any person or to the GB Transmission System; and (ii) if the User’s Equipment connected to such Transmission Plant and/or Apparatus was not Deenergised and/or the Maximum Export Limit of such User’s Equipment connected to such Transmission Plant and/or Apparatus was not reduced to zero then it is likely that the Transmission Plant and/or Apparatus would automatically trip; and (iii) if such Transmission Plant and/or Apparatus had tripped automatically, then <ul style="list-style-type: none"> (I) the BM Unit comprised in such User’s Equipment (other than an Interconnector Owner); or (II) an Interconnector of an Affected User who is an Interconnector Owner, would, solely as a result of Deenergisation of Plant and Apparatus forming part of the GB Transmission System, have been Deenergised.
--	--

Definitions to be amended:
“Allowed Interruption”

shall mean an **Interruption** as a result of any of the following:

- a) an **Event** other than an **Event** on the **GB**

Transmission System;

- b) an event of **Force Majeure** pursuant to Paragraph 6.19 of the **CUSC**;
- c) a **Total Shutdown** or **Partial Shutdown**;
- d) action taken under the **Fuel Security Code**;
- e) **Disconnection** or **Deenergisation** by or at the request of **The Company** under Section 5 of the **CUSC**, except in the case of an **Emergency Deenergisation Instruction**;
- f) the result of a direction of the Authority or **Secretary of State**;
- g) tripping of the **User's Circuit Breaker(s)** following receipt of a signal from a **System to Generator Operational Intertripping Scheme** which has been armed in accordance with Paragraph 4.2A.2.1 (b).

or if provided for in a **Bilateral Agreement** with the affected **User**;

"Interruption"

Where either:-

- (i) solely as a result of **Deenergisation** of **Plant and Apparatus** forming part of the **GB Transmission System**; or
 - (ii) in accordance with an **Emergency Deenergisation Instruction**;
- a) a **BM Unit** comprised in the **User's Equipment** of an **Affected User** (other than an **Interconnector Owner**) is **Deenergised**; or
 - b) an **Interconnector** of an **Affected User** who is an **Interconnector Owner** is **Deenergised**; or

the **Maximum Export Limit** in respect of the **BM Unit(s)** associated with such **User's Equipment** is zero.

Section 5 of CUSC

A new Clause 5.10.4 as follows shall be inserted;

5.10.4 The Company shall as soon as reasonably practicable after the end of the **Interruption Period** notify the **Affected User** where the **Relevant Interruption** was in accordance with an **Emergency Deenergisation Instruction**.

Grid Code Changes

New definition in Glossary & Definitions

“Emergency Deenergisation Instruction” as defined in the CUSC

BC2 Changes

BC2.9.1.2 Examples of circumstances that may require the issue of **Emergency Instructions** include:-

- (a) **Events** on the **GB Transmission System** or the **System** of another **User**; or
- (b) the need to maintain adequate **System** and **Localised NRAPM** in accordance with BC2.9.4 below; or
- (c) the need to maintain adequate frequency sensitive **Gensets** in accordance with BC2.9.5 below; or
- (d) the need to implement **Demand Control** in accordance with OC6; or
- (e) (i) the need to invoke the **Black Start** process or the **Re-Synchronisation of De-Synchronised Island** process in accordance with OC9; or
(ii) the need to request provision of a **Maximum Generation Service**; or
(iii) the need to issue an **Emergency Deenergisation Instruction**.

.....
BC2.9.2.5 In the case of BC2.9.1.2 (e) (iii) where **NGET** issues an **Emergency Deenergisation Instruction** payment will be dealt with in accordance with the **CUSC**.
.....

BC2.9.3 Examples of **Emergency Instructions**

BC2.9.3.1 In the case of a **BM Unit** or a **Generating Unit**, **Emergency Instructions** may include an instruction for the **BM Unit** or the **Generating Unit** to operate in a way that is not consistent with the **Dynamic Parameters**, **QPNs** and/or **Export and Import Limits**.

BC2.9.3.2 In the case of a **Generator**, **Emergency Instructions** may include:

- (a) an instruction to trip one or more **Gensets** (excluding **Operational Intertripping**); or
- (b) an instruction to trip **Mills** or to **Part Load** a **Generating Unit** (as defined in the Glossary and Definitions and not limited by BC2.2); or
- (c) an instruction to **Part Load** a **CCGT Module** or **Power Park Module**; or

- (d) an instruction for the operation of **CCGT Units** within a **CCGT Module** (on the basis of the information contained within the **CCGT Module Matrix**) when emergency circumstances prevail (as determined by **NGET** in **NGET's** reasonable opinion); or
- (e) an instruction to generate outside normal parameters, as allowed for in 4.2 of the **CUSC**; or
- (f) an instruction for the operation of **Generating Units** within a **Cascade Hydro Scheme** (on the basis of the additional information supplied in relation to individual **Generating Units**) when emergency circumstances prevail (as determined by **NGET** in **NGET's** reasonable opinion); or
- (g) an instruction for the operation of a **Power Park Module** (on the basis of the information contained within the **Power Park Module Availability Matrix**) when emergency circumstances prevail (as determined by **NGET** in **NGET's** reasonable opinion);
or
- (h) **An Emergency Deenergisation Instruction.**

.....
.....
BC2.9.3.3

Instructions to **Network Operators** relating to the **Operational Day** may include:

- (a) a requirement for **Demand** reduction and disconnection or restoration pursuant to **OC6**;
- (b) an instruction to effect a load transfer between **Grid Supply Points**;
- (c) an instruction to switch in a **System to Demand Intertrip Scheme**;
- (d) an instruction to split a network;
- (e) an instruction to disconnect an item of **Plant** or **Apparatus** from the **System**; or
- (f) **an Emergency Deenergisation Instruction.**

ANNEX 3 – WORKING GROUP TERMS OF REFERENCE AND MEMBERSHIP

RESPONSIBILITIES

1. The Working Group is responsible for assisting the CUSC Amendments Panel in the evaluation of CUSC Amendment Proposal CAP144 tabled by National Grid at the Amendments Panel meeting on 26th January 2007.
2. The proposal must be evaluated to consider whether it better facilitates achievement of the applicable CUSC objectives. These can be summarised as follows:
 - (a) the efficient discharge by the Licensee of the obligations imposed on it by the Act and the Transmission Licence; and
 - (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.
3. It should be noted that additional provisions apply where it is proposed to modify the CUSC amendment provisions, and generally reference should be made to the Transmission Licence for the full definition of the term.

SCOPE OF WORK

4. The Working Group must consider the issues raised by the Amendment Proposal and consider if the proposal identified better facilitates achievement of the Applicable CUSC Objectives.
5. In addition to the overriding requirement of paragraph 4, the Working Group shall consider and report on the following specific issues:
 - Is there a defect in the CUSC in that it does not adequately address the situation where an EI is issued by National Grid in Balancing Mechanism timescales as described in CAP144?
 - Should access compensation be available to a generator via the CUSC for the type of EI described in CAP144 rather than as present treated as a commercial balancing service?
 - How should the timing of any required changes to CUSC be coordinated with any required changes to the Grid Code?
6. The Working Group is responsible for the formulation and evaluation of any Working Group Alternative Amendments (WGAAs) arising from Group discussions which would, as compared with the Amendment Proposal, better facilitate achieving the applicable CUSC objectives in relation to the issue or defect identified.
7. The Working Group should become conversant with the definition of Working Group Alternative Amendments which appears in Section 11 (Interpretation and Definitions) of the CUSC. The definition entitles the Group and/or an

individual Member of the Working Group to put forward a Working Group Alternative Amendment if the Member(s) genuinely believes the Alternative would better facilitate the achievement of the Applicable CUSC Objectives. The extent of the support for the Amendment Proposal or any Working Group Alternative Amendment arising from the Working Group's discussions should be clearly described in the final Working Group Report to the CUSC Amendments Panel.

8. The Working Group is to submit their final report to the CUSC Panel Secretary on 19th April 2007 for circulation to Panel Members. The conclusions will be presented to the CUSC Panel meeting on 27th April 2007.

MEMBERSHIP

9. It is recommended that the Working Group has the following members:

Chair	Malcolm Taylor
National Grid	Emma Carr (Alternate – Malcolm Arthur)
Industry Representatives	Garth Graham (Scottish & Southern) Ben Sheehy (E.ON) David Lewis (EDF Energy) Dave Wilkerson (Centrica) Bill Reed (RWE Npower) John Morris (British Energy – Alternate Louise Allport)
Authority Representative	Ijaz Rasool
Technical Secretary	Richard Dunn (or Malcolm Arthur)

[NB: Working Group must comprise at least 5 Members (who may be Panel Members) and will be selected by the Panel with regard to WG List held by the Secretary]

10. The membership can be amended from time to time by the CUSC Amendments Panel or the Working Group Chairperson.

RELATIONSHIP WITH AMENDMENTS PANEL

11. The Working Group shall seek the views of the Amendments Panel before taking on any significant amount of work. In this event the Working Group Chairman should contact the CUSC Panel Secretary.
12. Where the Working Group requires instruction, clarification or guidance from the Amendments Panel, particularly in relation to their Scope of Work, the Working Group Chairman should contact the CUSC Panel Secretary.

MEETINGS

13. The Working Group shall, unless determined otherwise by the Amendments Panel, develop and adopt its own internal working procedures and provide a copy to the Panel Secretary for each of its Amendment Proposals.

REPORTING

14. The Working Group Chairman shall prepare a final report to the April 2007 Amendments Panel responding to the matter set out in the Terms of Reference.
15. A draft Working Group Report must be circulated to Working Group members with not less than five business days given for comments.
16. Any unresolved comments within the Working Group must be reflected in the final Working Group Report.
17. The Chairman (or another member nominated by him) will present the Working Group report to the Amendments Panel as required.

ANNEX 4 – INTERNAL WORKING GROUP PROCEDURE

1. Very summary meeting notes of agreements reached or issues raised for further assessment, together with actions from each meeting will be produced by the Technical Secretary (provided by National Grid) and circulated to the Chairman and Working Group members for review.
2. The notes and actions will be published on the National Grid CUSC Website after they have been agreed at the next meeting or sooner on agreement by Working Group members.
2. The Chairman of the Working Group will provide an update of progress and issues to the Amendments Panel each month as appropriate.
4. Working Group meetings will be arranged for a date acceptable to the majority of members and will be held as often as required as agreed by the Working Group in order to respond to the requirements of the Terms of Reference set by the Amendments Panel.
5. If within half an hour after the time for which the Working Group meeting has been convened the Chairman of the group is not in attendance, the meeting will take place with those present.
6. A meeting of the Working Group shall not be invalidated by any member(s) of the group not being present at the meeting.

ANNEX 5 – AMENDMENT PROPOSAL FORM

<h3 style="margin: 0;">CUSC Amendment Proposal Form</h3>	CAP:144
Title of Amendment Proposal:	
Emergency Instruction to emergency deenergise	
Description of the Proposed Amendment (<i>mandatory by proposer</i>):	
<p>It is proposed to extend the provisions introduced by CAP048 (Firm Access and Temporary Physical Disconnection) to include the specific circumstances when a Generator is exporting but is required to deenergise / disconnect from the Transmission System in an emergency via an Emergency Instruction (EI) issued by National Grid in Balancing Mechanism timescales in accordance with the Grid Code.</p> <p>The aim of this proposal is to treat such an EI as an emergency disconnection event in line with the provisions for unplanned interruptions, rather than the current arrangements whereby this type of EI would be treated as a Bid-Offer Acceptance. This proposal would cover events of sufficiently short notice timescales to be considered unplanned (i.e. in BM timescales) but, because they are instructed, are not covered by the current unplanned interruption arrangements which apply only to a disconnection following an automatic trip. This modification proposal would thereby close the “gap” within the existing provisions between a planned interruption (disconnection in planning timescales) and an unplanned interruption (by automatic trip caused by the loss of transmission equipment).</p>	
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; background-color: yellow; padding: 5px; text-align: center; width: 25%;"> Planned Interruption Interruption Payment (CUSC based) </div> <div style="border: 1px solid black; background-color: cyan; padding: 5px; text-align: center; width: 25%;"> Emergency Interruption through an Emergency Instruction BSC Balancing mechanism payment </div> <div style="border: 1px solid black; background-color: yellow; padding: 5px; text-align: center; width: 25%;"> Unplanned Interruption Automatic trip Interruption Payment (CUSC based) </div> </div>	
<p>To be clear, it is our intention that an EI to emergency deenergise would only be issued in BM timescales where there is a “local” fault / incident which may adversely affect the integrity of the GB Transmission System or a synchronously connected external system or poses a threat of injury or material damage that requires an “Affected User” (specifically a BM Unit) to be de-energised / disconnected from the system. Please note this EI would not be used for wider system issues.</p>	

We would expect these arrangements to be used under rare circumstances (only one event has occurred since NETA go-live, at Damhead Creek), where:

- a) There is reasonable cause to suspect that a piece of transmission equipment is distressed or in an unsafe condition;
- b) Circumstances mean that the equipment is likely to cause damage or injury, and where it should be immediately disconnected from the transmission system;
- c) If it were not disconnected in a controlled manner then an automatic trip would be highly likely, and;
- d) Were the piece of transmission equipment to be automatically disconnected, it would have been the sole cause of disconnecting the BMU in question and would be compensated by an Interruption Payment.

We believe that this will allow National Grid to disconnect a Generator in a controlled manner when an emergency situation arises and would remove any potential perverse incentive on National Grid to allow a generator to trip in these circumstances.

In addition to the proposed CUSC amendment a Grid Code change is also required to ensure an EI used in these specific circumstances would not be treated as a Bid-Offer Acceptance. Emergency Instructions for all other reasons will be unchanged.

Finally the proposal would apply to those Users currently entitled to an Interruption Payment i.e. Generating Units that form part of a BMU and it is not our intention to change the compensation arrangements introduced by CAP048 (Market Index Price for the 1st 24 hours for unplanned and afterwards a rebate of TNUoS based on actual or an average TNUoS fee across the country for each period of disconnection).

Description of Issue or Defect that Proposed Amendment seeks to Address (*mandatory by proposer*):

CAP048 introduced firm financial rights for Generators to use the Transmission System by requiring National Grid to pay compensation in the event of a disconnection and was an incremental step and a consequential development of CAP043 – (Transmission Access – Definition), which introduced the concept of TEC and CEC for Transmission Access. CAP048 recognises the contractual rights of Users and ensures compensation mirrors the cost of providing access, a rebate of TNUoS for Planned Interruption events and Market Index Price (MIP) for the first 24 hours followed by TNUoS for Unplanned Interruption Events.

If a Generator's access is required to be removed in unplanned emergency circumstances through an operational instruction, the only mechanism available is an EI which is currently treated as if it was instructed by Bid-Offer Acceptance (BOA), with Generators having the freedom to set prices up to £99,999/MWh. We believe the treatment of such an event as a Commercial Balancing Service is inappropriate and has the potential to expose the Industry to high and inappropriate costs via BSUoS charges.

We believe this proposal is in line with Ofgem's comments in P173 Decision Letter - "it may be appropriate for alternative compensation arrangements to be put in place for Emergency Instructions under which, as is now the case for operational Intertrips [CAP076], Emergency Instructions are not remunerated in the same manner as BOAs in the Balancing Mechanism".

Under this approach, an EI issued to disconnect a Generator in an emergency as a result of the need to disconnect faulting transmission system equipment would be treated under access compensation

rather than treated as a commercial Balancing Service.

In summary, we believe there is a defect with the current disconnection compensation arrangements and have identified a “gap” within the existing CUSC provisions between planned interruption and an unplanned interruption when the circuit breaker is opened automatically by the operation of protection equipment.

CUSC currently excludes emergency deenergisation / disconnections from the Interruption compensation arrangements; even though in certain circumstances the outcome is the same as an Unplanned Interruption i.e. as if the circuit breaker is opened automatically. This was the case at Damhead Creek; see Annex 1 for background information.

In conclusion we believe the current treatment for emergency deenergisation / disconnection as a commercial Balancing Service is inappropriate and a CUSC based access solution extending the provisions introduced by CAP048 would resolve this identified defect and provide compensation that is linked to the cost of removing access and removes the risk of high cost ‘wind fall’ sleeper bids.

Impact on the CUSC *(this should be given where possible):*

Amend CUSC definition **Allowed Interruption** to cover EI to deenergise. Also amend CUSC definitions of **Affected User** and **Interruption** and create a new CUSC definition for Emergency Instruction to deenergise.

Impact on Core Industry Documentation *(this should be given where possible):*

Consequential Grid Code change.

Impact on Computer Systems and Processes used by CUSC Parties *(this should be given where possible):*

N/A

Details of any Related Modifications to Other Industry Codes *(where known):*

Grid Code

Amend the Grid Code to include this instruction and remove the treatment as a BOA for EI compensation for emergency de-energisation / disconnection – BC2.9.

Justification for Proposed Amendment with Reference to Applicable CUSC Objectives** *(mandatory by proposer):*

National Grid believes that this proposal will better facilitate CUSC Applicable Objective (a) *(The efficient discharge by the licensee of the obligations imposed upon it under the Act and by the Transmission Licence)* **by ensuring all types of total access interruptions are treated in a consistent manner under the appropriate compensation mechanism for the removal of access and removes the risk of wind fall Bid-Offer Acceptances.**

National Grid believes that this proposal will also better facilitate CUSC Applicable Objective (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) by providing a compensation payment for all interruptions that is linked to the removal of access and not treated as a 'pay as bid' commercial Balancing Service because there is no competition present in the proposed circumstances, and the instruction is not issued for balancing purposes.

Details of Proposer: Organisation's Name:	National Grid
Capacity in which the Amendment is being proposed: (i.e. CUSC Party, BSC Party or "energywatch")	CUSC Party
Details of Proposer's Representative: Name: Organisation: Telephone Number: Email Address:	Emma Carr National Grid 01926 655843 Emma.j.carr@uk.ngrid.com
Details of Representative's Alternate: Name: Organisation: Telephone Number: Email Address:	Mark Duffield National Grid 01926 654971 Mark.duffield@uk.ngrid.com
Attachments (Yes): If Yes, Title and No. of pages of each Attachment:	
Annex 1 – Background information	

Notes:

1. Those wishing to propose an Amendment to the CUSC should do so by filling in this "Amendment Proposal Form" that is based on the provisions contained in Section 8.15 of the CUSC. The form seeks to ascertain details about the Amendment Proposal so that the Amendments Panel can determine more clearly whether the proposal should be considered by a Working Group or go straight to wider National Grid Consultation.
2. The Panel Secretary will check that the form has been completed, in accordance with the requirements of the CUSC, prior to submitting it to the Panel. If the Panel Secretary accepts the Amendment Proposal form as complete, then he will write back to the Proposer informing him of the reference number for the Amendment Proposal and the date on which the Proposal will be considered by the Panel. If, in the opinion of the Panel Secretary, the form fails to provide the information required in the CUSC, then he may reject the Proposal. The Panel Secretary will inform the Proposer of the rejection and report the matter to the Panel at their next meeting. The Panel can reverse the Panel Secretary's decision and if this happens the Panel Secretary will inform the Proposer.

The completed form should be returned to:

Beverley Viney
Panel Secretary
Commercial Frameworks
National Grid
National Grid House
Warwick Technology Park

Gallows Hill
Warwick
CV34 6DA

Or via e-mail to: Beverley.Viney@uk.ngrid.com

(Participants submitting this form by email will need to send a statement to the effect that the proposer acknowledges that on acceptance of the proposal for consideration by the Amendments Panel, a proposer which is not a CUSC Party shall grant a licence in accordance with Paragraph 8.15.7 of the CUSC. A Proposer that is a CUSC Party shall be deemed to have granted this Licence).

3. Applicable CUSC Objectives** - These are defined within the National Grid Company Transmission Licence under Section C7F, paragraph 15. Reference should be made to this section when considering a proposed amendment.

ANNEX 1 – Background information

This risk was highlighted by the Damhead Creek Emergency Instruction incident that occurred in May 2004 which resulted in total costs of £3.5mn. This is because the Emergency Instruction is calculated as though it was instructed by Bid-Offer Acceptance (BOA) and in this case it was set at £9,999/MWh and there was no other alternative mechanism available. However, the total exposure could easily have been ten times higher if the BOA price entered had happened to be set at £99,999/MWh.

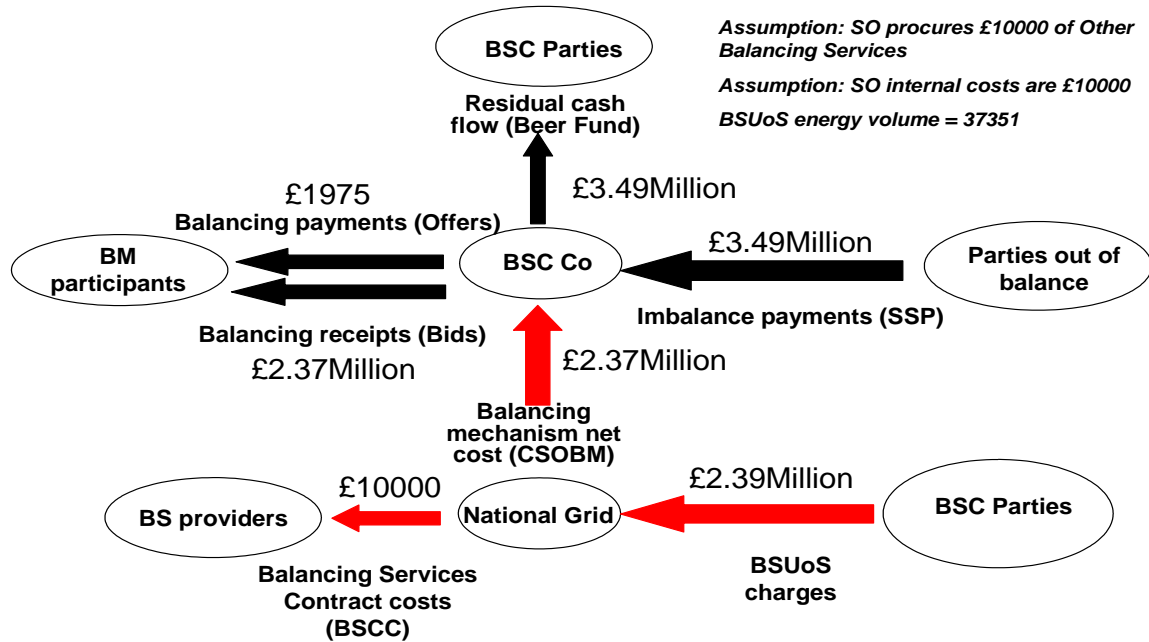
Following the Damhead Creek event National Grid raised a modification to the BSC, P173 'Revised Settlement Arrangements for Emergency Instructions' in August 2004. This proposal sought to determine the Avoidable Costs for an Emergency Instruction and use these costs in conjunction with the volume change caused by the Emergency Instruction to determine an Emergency Instruction Bid-Offer Price.

Separately, National Grid raised CAP076 on the 'Treatment of System to Generator Intertripping Schemes'. This Amendment Proposal is important as it removed the issue of a BOA following the operation of an operational intertrip scheme. This mechanism was replaced by an administered capability fee to cover the installation and right to arm the scheme and an utilisation fee when the scheme is triggered.

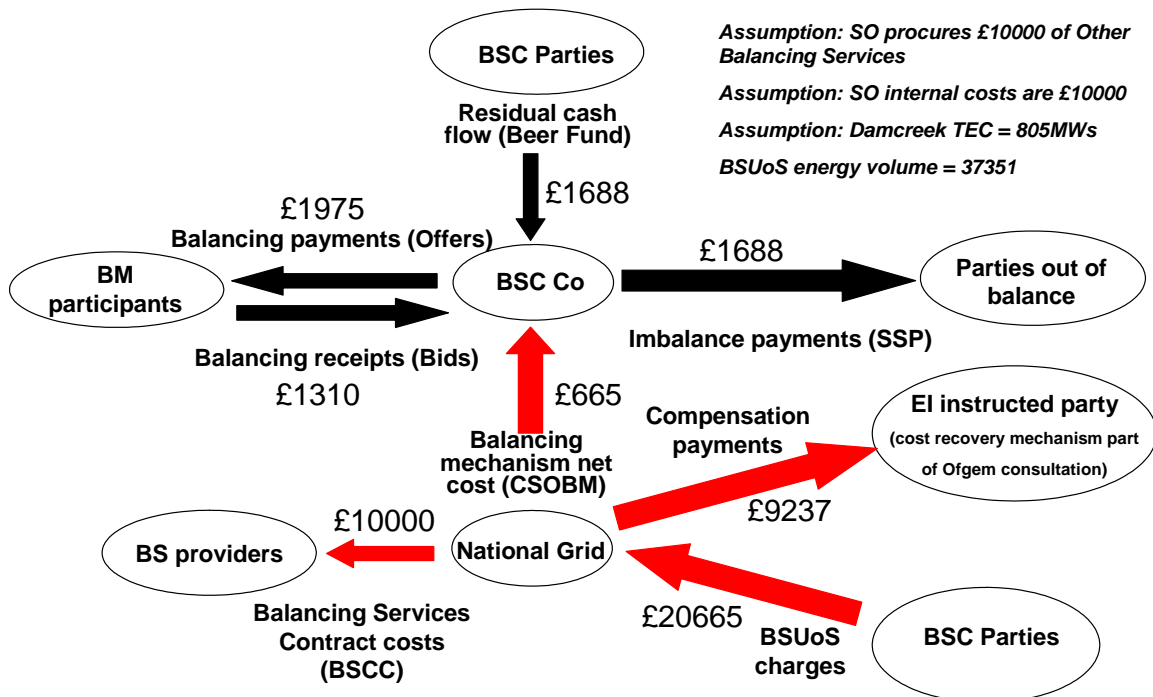
Ofgem rejected P173 and approved CAP076 in June 2005. In reaching its decision on P173 Ofgem considered that "it may be appropriate for alternative compensation arrangements to be put in place for Emergency Instructions under which, as is now the case for operational Intertrips [CAP076], Emergency Instructions are not remunerated in the same manner as BOAs in the Balancing Mechanism". This view has more recently been supported by the BSC Standing Issue 18 Group that examined the submission of 'Sleeper' Bids and Offers, their impacts and whether there are any defects to be addressed. In its report to the in November 2005 BSC Panel the Group has suggested that "such acceptance [for emergency de-energisation] made for System reasons could potentially be removed from the BSC (i.e. no longer settled through Bid and Offer) to the CUSC (i.e. settled through compensation arrangements). The Group concluded that Parties would then have the incentive to submit Bid and Offer prices more reflective of the costs of acting on the acceptance for the periods affected by the acceptance and not the compensatory elements looking forward".

ANNEX - 6 SCENARIOS APPROXIMATING THE DAMHEAD CREEK INCIDENT; ILLUSTRATING THE EVENT AS WAS AND HOW IT MIGHT HAVE BEEN WITH CAP 144 IMPLEMENTED.

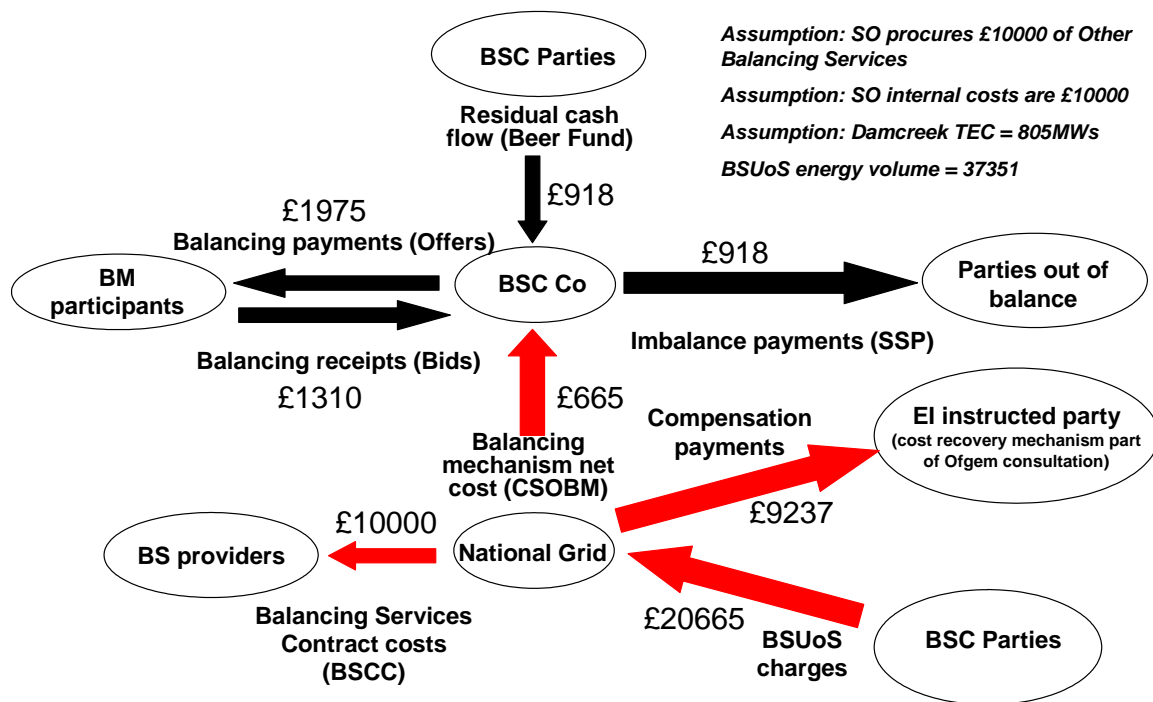
Cash flow – Case 1 – as happened



Cash flow – Case 4 – CAP144

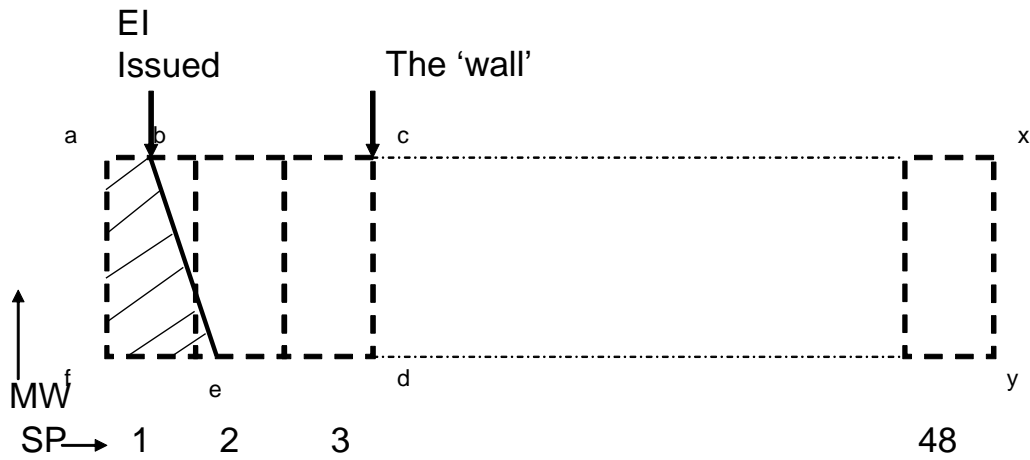


Cash flow – Case 5 – CAP144 including the volume of EI action in the cash out price



Annex 7 Compensation Arrangements for first 24 hours after EI issued

Compensation Arrangements for first 24 hours after EI issued



	<u>Status Quo</u>	<u>CAP144</u>	<u>WGAA1</u> <u>SBP Front end</u>	<u>WGAA2</u> <u>Inter-trip</u>
<u>Price</u>	Deemed BOA at Offer Price	MIP	SBP / MIP	Category II Intertrip payment
<u>Volume</u>	abcdef – abef	$TEC_{\text{Connection Site}} - \sum CEC_{\text{unaffected BMUs}}$		
<u>Period</u>	$t \leq 3SP$	$t \leq 48 SP$	SBP $t \leq 3SP$ MIP $3SP \leq t \leq 48SP$	