

A comparison of the
compensation
mechanisms for different
types of disconnections

1. Purpose

Following BSSG (Balancing Services Steering Group) discussions (30th November 2011) on an industry consultation regarding compensation arrangements for loss of transmission access, the BSSG requested a summary of existing compensation arrangements.

This note describes the compensation mechanisms for seven different types of loss of system access:

- Emergency Instructions¹;
- Emergency Deenergisations;
- Interruption as a result of an unplanned outage (e.g. a trip);
- Interruption as a result of a planned outage;
- System to generator operational Intertrips;
- Commercial Intertrips; and
- Partial or Total Shutdowns (Black Start).

2. Overview of current compensation mechanisms

An overview of the compensation applicable for each type of disconnection is given below; further information including a brief description of each compensation mechanism is contained in Appendices 1-7 which also show extracts from relevant codes.

2.1 Emergency Instruction¹

This is an instruction issued by NGET in emergency circumstances under Grid Code BC2.9.2. Emergency Instructions are treated as Bid-Offer acceptances except in specific circumstances (i.e. when Black Start is invoked). Compensation under the Bid-Offer mechanism is only payable for the periods for which gate closure has occurred i.e. up to the 'wall'. Where a BM Unit does not take part in the Balancing Mechanism or Bid-Offer data is not submitted then the emergency instruction will be compensated at a zero price.

2.2 Emergency Deenergisation

This is an instruction issued by NGET in circumstances specified in the CUSC. These circumstances are detailed in Appendix 2. Compensation for an Emergency De-energisation is captured under the CUSC. The compensation depends on the duration of loss of access, as shown below:

- a) Period (P1) for which gate closure has occurred: $SBP * Impacted\ MW$ (for relevant settlement period)
- b) Period following P1 and up to 24 hours: $MIP * Impacted\ MW$ (for relevant settlement period)
- c) For each day or part day the Emergency Deenergisation continues, after the initial 24 hours, is compensated by a refund of the higher of actual or average TNUoS charges.

¹ These instructions may also be used for purposes other than disconnection.

2.3 Interruption as a result of an unplanned outage (e.g. a trip)

This is an interruption with little or no notice caused by an issue/fault on the transmission system. If an interruption meets eligibility criteria (as detailed in the CUSC) compensation is payable under the arrangements set out in the CUSC. Similar to an emergency deenergisation, the compensation depends on the duration of loss of access:

- a) Initial 24 hours: MIP* Impacted MW (for relevant settlement period)
- b) For each day or part day the interruption continues, after the initial 24 hours, is compensated by a refund of the higher of actual or average TNUoS charges.

2.4 Interruption as a result of a planned outage

A planned outage is one notified by 16:00, day ahead. If loss of access is due to a planned National Grid outage then the compensation is payable as shown below:

The higher of the actual TNUoS rate of an affected user or the average system TNUoS tariff is calculated. This £/MW/day rate is then multiplied by the MW arrived at by deducting from the Transmission Entry Capacity for the site, the sum of the Connection Entry Capacity of the unaffected BM Units

2.5 System to Generator Operational Intertrips

An intertrip will disconnect generation in certain situations e.g. overload of circuits. Intertrips fall into 4 categories: 1, 2, 3 and 4 with the table below showing the type of compensation each category is entitled to.

	Capability Payment	Trip Payment	Restricted Export Payment
Category 1	x	x	x
Category 2	✓	✓	✓
Category 3	x	x	✓
Category 4	✓	✓	✓

Category 2 and 4 intertrips are entitled to a capability payment of £1.72/settlement period and a trip payment of £400,000/trip. These values were specified in April 2005 prices and subject to indexation. The values for 2011/12 equate to a capability payment of ~£37,000/year and a trip payment of ~£488,000/trip.

Category 2, 3 and 4 intertrips are also entitled to a restricted export level payment. This payment is paid if, following an intertrip, there are restrictions on the export of power from a site 24 hours after a trip occurred. The restricted export level payment is calculated as follows:

The higher of the actual TNUoS rate of an affected user or the average system TNUoS tariff is calculated. This £/MW/day rate is then multiplied by the MW arrived at after deducting from the Transmission Entry Capacity for the site, the restricted MW export level.

Category 1 is not entitled to any compensation, this category arises from a connection variation following a request from the relevant User i.e. is user choice.

2.6 Commercial Intertrips

Commercial Intertrip schemes terms are entered into on a negotiated basis.

2.7 Partial or Total System Shutdown (Black Start)

A Partial or Total System Shutdown is where generation has totally or partially ceased and it is not possible for the partial or total shutdown area to begin to function again without NGET's directions relating to Black Start. The Grid Code definition of Total and Partial Shutdown is shown in Appendix 7.

If Black Start is implemented, normal BSC market operations are suspended.

The Black Start period runs from P1 to P3 where:

P1 represents the time and date the Total or Partial Shutdown commenced, P2 represents the date and time the Total System could return to normal operation and P3 represents the date and time the BSC Panel determine the settlement period from which normal market operations shall commence.

For the period P1 to P3, there is a single imbalance price for generators and suppliers

In addition to the single imbalance price compensation, lead parties of BM Units which have been issued Black Start instructions by National Grid may submit a compensation claim to Elexon. The Black Start compensation for a BM Unit is determined as **(A-B)**, where:

A is the amount of Avoidable Costs which the BSC Panel determines that the lead party has incurred as a result of:

varying its Exports/Imports by amount **B**; and

undertaking any other changes in the operation of the BM Unit as a result of the black start instruction; and

B is;

the volume between points P1 and P3, for which the BM Unit received a black start instruction, which the BSC Panel determines is the total net change in the BM Units Exports/Imports resulting purely from the lead parties compliance with the black start instructions under the Grid Code;

multiplied by the single imbalance price applicable for the period.

Figure 1 shows a visual comparison of the seven types of loss of access listed in Section 2. The incident leading to the loss of access is assumed to occur immediately after the start of settlement period 1. Gate closure at this point is up to and including settlement period 3, i.e. no trading can be done for this period. The diagram shows what compensation is paid for the first 24 hours (assuming the disconnections last that long) and what is paid after the 24 hour period, white signifies that no compensation is paid for that period.

Figure 1: Summary of current compensation arrangements



- Bid-Offer Acceptance
- Impacted MW compensated at SBP
- Impacted MW compensated at MIP
- For each day or part day disconnection continues, refund of higher or actual daily TNUoS charges for the impacted MW
- Trip payment + annual capability payment
- Commercially negotiated

*compensation is post event and covers the Black Start period as determined by the BSC Panel. There is a single imbalance price for the Black Start Period. In addition, generators who receive a Black Start instruction can submit a compensation claim to Elexon. The claim must be submitted in accordance with BSCG3.3 and BSCP201.

**Entitled to ABSVD, aside from category 1

a - Oct 10 to Sept 11 (inclusive) saw 32 Emergency Instruction, not all would have been eligible for payment

b - There have been no EDI that have been paid as of February 2012, 1 claim under investigation

c - 6 claims paid, 3 rejected. 1 planned outage claim pending payment. A number of other claims under investigation.

Appendices 1-7 contain additional information on the disconnections described earlier. The appendices contain extracts from the BSC, CUSC and the Grid Code, code extracts are shown in *italics*.

Appendix 1 - Emergency Instructions

An emergency instruction is defined in the Grid Code's glossary and definitions as:

An instruction issued by NGET in emergency circumstances, pursuant to BC2.9, to the Control Point of a User. In the case of such instructions applicable to a BM Unit, it may require an action or response which is outside the Dynamic Parameters, QPN or Other Relevant Data, and may include an instruction to trip a Genset.

Emergency Instructions are treated as a Bid-Offer Acceptances (Grid Code BC2.9.2.3) except in particular situations (e.g. black start invoked).

The BSC sets out how an Emergency Instruction will be compensated, Section Q, paragraph 5.3.2(b) states that for an emergency instruction:

the 'to' time is the end of the last Settlement Period for which Gate Closure fell before the Bid-Offer Acceptance Time, and the 'to' MW level is the same as the 'from' MW level.

i.e. compensation will be until the end of the BM window. Where Bid-Offer data is not submitted by a BM Unit or a BM Unit does not take part in the BM Mechanism the emergency instruction will be compensated at a zero price.

Appendix 2 - Emergency Deenergisation

An emergency de-energisation instruction is defined in the Grid Code's glossary and definitions as:
an Emergency Instruction issued by NGET to De-Synchronise a Generating Unit, Power Park Module or DC Converter in circumstances specified in the CUSC.

The CUSC, Section 11, contains additional information regarding the specific circumstances of an emergency de-energisation instruction. The relevant CUSC extract from Section 11 is shown below:

CUSC definition of an Emergency Deenergisation:

an instruction issued by The Company to a User to either:

(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,

where in The Company's reasonable opinion:

(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 National Electricity 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

*(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 National Electricity Transmission System, have been Deenergised.

Emergency Deenergisation instructions are compensated under the CUSC, with the relevant extract (Interruption Payment) shown below. The definition of Interruption Payment shown below includes payments for planned interruptions and unplanned interruptions as well as emergency deenergisation. The text relevant to emergency deenergisation compensation is highlighted in **blue**.

The payment for each day or part thereof of the Interruption Period calculated as follows:

1. In the case of a Relevant Interruption arising as a result of a Planned Outage the higher of:

A. the £ per MW calculated by reference to the total TNUoS income derived from generators divided by the total system Transmission Entry Capacity, in each case using figures for the Financial Year prior to that in which the Relevant Interruption occurs, this is then divided by 365 to give a daily £ per MW rate; or

B. the actual £ per MW of an Affected User by reference to the tariff in the Use of System Charging Statement for the Financial Year in which the Relevant Interruption occurs divided by 365 to give a daily £ per MW rate.

A or B are then multiplied by:

a) in the case of an Affected User other than an Interconnected Owner the MW arrived at after deducting from the Transmission Entry Capacity for the Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection Site;

and

b) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site.

2. In the case of a Relevant Interruption arising as a result of an Emergency

Deenergisation Instruction:

(a) sum equal to the price in £/MWh for the relevant Settlement Period(s) (as provided for in Section T 4.4.5 of the Balancing and Settlement Code) for each Settlement Period (or part thereof) from the time when the Emergency Deenergisation Instruction was issued by The Company until the first Settlement Period for which Gate Closure had not (at the time the Emergency Deenergisation Instruction was issued by The Company) occurred

multiplied by:

(i) in the case of an Affected User other than an Interconnected Owner the MW arrived at after deducting from the Transmission Entry Capacity for the Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection Site;

and

(ii) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site,

(b) For each subsequent Settlement Period of the Relevant Interruption which occurs within 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:

(i) in the case of an Affected User other than an Interconnector Owner the MW arrived at after deducting from the Transmission Entry Capacity for the Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection site;

and

(ii) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site; and

(c) and after the first 24 hours a sum calculated as 1 above

3. In the case of all other Relevant Interruptions:

For each Settlement Period of the Relevant Interruption which occurs within 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:

a) in the case of an Affected User other than an Interconnector Owner the MW arrived at after deducting from the Transmission Entry Capacity for the Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection Site; and

b) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site

and after the first 24 hours a sum calculated as 1 above.

Provided always that an Affected User shall not receive payment for more than one Relevant Interruption in any given day

Appendix 3- Interruption as a result of an unplanned outage (e.g. trips)

An interruption is defined in the CUSC, Section 11 as:

where either:-

(i) solely as a result of Deenergisation of Plant and Apparatus forming part of the National Electricity 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

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

Payments for eligible interruptions are defined in the CUSC. The definition of Interruption Payment shown below includes payments for planned interruptions and emergency deenergisation as well as unplanned interruptions. The text relevant to unplanned interruption compensation is highlighted in blue.

The payment for each day or part thereof of the Interruption Period calculated as follows:

1. In the case of a Relevant Interruption arising as a result of a Planned Outage the higher of:

A. the £ per MW calculated by reference to the total TNUoS income derived from generators divided by the total system Transmission Entry Capacity, in each case using figures for the Financial Year prior to that in which the Relevant Interruption occurs, this is then divided by 365 to give a daily £ per MW rate; or

B. the actual £ per MW of an Affected User by reference to the tariff in the Use of System Charging Statement for the Financial Year in which the Relevant Interruption occurs divided by 365 to give a daily £per MW rate.

A or B are then multiplied by:

a) in the case of an Affected User other than an Interconnected Owner the MW arrived at after deducting from the Transmission Entry Capacity for the Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection Site;

and

b) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site.

2. In the case of a Relevant Interruption arising as a result of an Emergency Deenergisation Instruction:

(a) sum equal to the price in £/MWh for the relevant Settlement Period(s) (as provided for in Section T 4.4.5 of the Balancing and Settlement Code) for each Settlement Period (or part thereof)

from the time when the Emergency Deenergisation Instruction was issued by The Company until the first Settlement Period for which Gate Closure had not (at the time the Emergency Deenergisation Instruction was issued by The Company) occurred

multiplied by:

(i) in the case of an Affected User other than an Interconnected Owner the MW arrived at after deducting from the Transmission Entry Capacity for the Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection Site;

and

(ii) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site,

(b) For each subsequent Settlement Period of the Relevant Interruption which occurs within 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:

(i) in the case of an Affected User other than an Interconnector Owner the MW arrived at after deducting from the Transmission Entry Capacity

for the Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection site;

and

(ii) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site; and

(c) and after the first 24 hours a sum calculated as 1 above

3. In the case of all other Relevant Interruptions:

For each Settlement Period of the Relevant Interruption which occurs within 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:

a) in the case of an Affected User other than an Interconnector Owner the MW arrived at after deducting from the Transmission Entry Capacity for the

Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection Site; and

b) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site

and after the first 24 hours a sum calculated as 1 above.

Provided always that an Affected User shall not receive payment for more than one Relevant Interruption in any given day

Appendix 4- Interruption as a result of a planned outage

A planned outage is defined under the Grid Code as:

An outage of a Large Power Station or of part of the National Electricity Transmission System, or of part of a User System, co-ordinated by NGET under OC2.

Under OC2 National Grid can notify of a planned outage by 16:00 the day before.

Planned interruptions are compensated under the CUSC, with the relevant extract (Interruption Payment) shown below. The definition of Interruption Payment shown below includes payments for unplanned interruptions and emergency deenergisation as well as planned interruptions. The text relevant to planned interruption compensation is highlighted in blue.

The payment for each day or part thereof of the Interruption Period calculated as follows:

1. In the case of a Relevant Interruption arising as a result of a Planned Outage the higher of:

A. the £ per MW calculated by reference to the total TNUoS income derived from generators divided by the total system Transmission Entry Capacity, in each case using figures for the Financial Year prior to that in which the Relevant Interruption occurs, this is then divided by 365 to give a daily £ per MW rate; or

B. the actual £ per MW of an Affected User by reference to the tariff in the Use of System Charging Statement for the Financial Year in which the Relevant Interruption occurs divided by 365 to give a daily £per MW rate.

A or B are then multiplied by:

a) in the case of an Affected User other than an Interconnected Owner the MW arrived at after deducting from the Transmission Entry Capacity for the Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection Site;

and

b) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site.

2. In the case of a Relevant Interruption arising as a result of an Emergency Deenergisation Instruction:

(a) sum equal to the price in £/MWh for the relevant Settlement Period(s) (as provided for in Section T 4.4.5 of the Balancing and Settlement Code) for each Settlement Period (or part thereof) from the time when the Emergency Deenergisation Instruction was issued by The Company until the first Settlement Period for which Gate Closure had not (at the time the Emergency Deenergisation Instruction was issued by The Company) occurred

multiplied by:

(i) in the case of an Affected User other than an Interconnected Owner the MW arrived at after deducting from the Transmission Entry Capacity for the Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection Site;

and

(ii) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site,

(b) For each subsequent Settlement Period of the Relevant Interruption which occurs within 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:

(i) in the case of an Affected User other than an Interconnector Owner the MW arrived at after deducting from the Transmission Entry Capacity

for the Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection site;

and

(ii) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site; and

(c) and after the first 24 hours a sum calculated as 1 above

3. In the case of all other Relevant Interruptions:

For each Settlement Period of the Relevant Interruption which occurs within 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:

a) in the case of an Affected User other than an Interconnector Owner the MW arrived at after deducting from the Transmission Entry Capacity for the Connection Site the sum of the Connection Entry Capacity of the unaffected BM Units at the Connection Site; and

b) in the case of an Affected User who is an Interconnector Owner the MW specified in the Transmission Entry Capacity for the Connection Site

and after the first 24 hours a sum calculated as 1 above.

Provided always that an Affected User shall not receive payment for more than one Relevant Interruption in any given day

Appendix 5- System to Generator Intertrips

System to Generator Operational Intertripping is defined in the Grid Code as:

A Balancing Service involving the initiation by a System to Generator Operational Intertripping Scheme of automatic tripping of the User's circuit breaker(s) resulting in the tripping of BM Unit(s) or (where relevant) Generating Unit(s) comprised in a BM Unit 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).

There are 4 types of operational intertrip schemes (referred to as Category 1, 2, 3, 4 Intertripping Schemes). These are defined in the 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.

No payment provisions are applicable for this type of intertrip

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 GB 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 GB 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).

This type of intertrip would be eligible to receive a capability payment (and intertrip payment) and a Restricted Export Level Payment (in the event that National Grid is unable to restore transmission capacity within 24 hours following the trip).

Category 3 Intertripping Scheme

A System to Generator Operational Intertripping Scheme which, where agreed by NGET 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.

This type of intertrip would be eligible to receive a Restricted Export Level Payment (in the event that National Grid is unable to restore transmission capacity within 24 hours following the trip).

Category 4 Intertripping Scheme

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

This type of intertrip would be eligible to receive a capability payment (and of intertrip payment) and a Restricted Export Level Payment (in the event that National Grid is unable to restore transmission capacity within 24 hours following the trip). Additional information regarding a tripping scheme is set out in the CUSC, Section 4. Section 4.2A sets out, amongst other areas, payments to a user:

Payments to the User

The Company shall make the following payments to the User in respect of System to Generator Intertripping Schemes:

(a) a Capability Payment shall be paid in respect of each Category 2 Intertripping Scheme and each Category 4 Intertripping Scheme as follows:-

(i) The Company shall pay to the User an amount (“the Capability Payment”) in consideration of the installation of the System to Generator Operational Intertripping Scheme and the User’s obligations under Paragraphs 4.2A.2.1(a) and (b), being an amount per month determined by reference to the number of Settlement Periods during the month in question (and in respect of which the requirement for System to Generator Operational Intertripping is stated in Appendix F3 of the relevant Bilateral Agreement) and the payment rate (£/Settlement Period) specified in Schedule 4 to this Section 4; and

(ii) for the avoidance of doubt, where a System to Generator operational Intertripping Scheme comprises both a Category 2 Intertripping Scheme and a Category 4 Intertripping Scheme, only one Capability Payment shall be payable by The Company to the User in respect thereof;

(b) subject always to Paragraph 4.2A.5, a Restricted Export Level Payment shall be paid in respect of each Category 2 Intertripping Scheme, each Category 3 Intertripping Scheme and each Category 4 Intertripping Scheme as follows:-

(i) the payment shall only be made where, following the tripping of the User’s Circuit Breaker(s) upon receipt of a signal from the System to Generator operational Intertripping Scheme, restrictions on the export of Active Power from the Connection Site apply in accordance with the terms of Paragraph 4.2A.2.1(c) above at any time after the period of 24 hours has elapsed following such tripping; and

(ii) in such a case, The Company shall pay to the User upon request the Restricted Export Level Payment, by reference to the period from expiry of such 24 hour period until the time when The Company notifies the User in accordance with Paragraph 4.2A.2.2(c)(ii) that the Restricted MW Export Level no longer applies (“the Restricted Export Level Period”); and

(c) subject always to Paragraph 4.2A.5, in respect of each Category 2 Intertripping Scheme and Category 4 Intertripping Scheme, where the User’s Circuit Breaker(s) are tripped upon receipt of a signal from the System to Generator Operational Intertripping Scheme, The Company shall pay to the User an amount (“the Intertrip Payment”) being an amount (£/Intertrip Contracted Unit/trip) specified in Schedule 4 to this Section 4.

Schedule 4 of Section 4 sets out the payment rates for operational intertrips:

SYSTEM TO GENERATOR OPERATIONAL INTERTRIPPING - PAYMENT RATES

	Category 1	Category 2	Category 3	Category 4
Capability Payment (£/Settlement Period)	N/A	£ 1.72	N/A	£ 1.72
Intertrip Payment (£/Intertrip Contracted Unit/Trip)	N/A	£ 400,000	N/A	£ 400,000

All rates in this Schedule 4 are specified at April 2005 base and shall be subject to indexation in accordance with Paragraph 4.5 with effect from 1st April 2006.

Appendix 6- Commercial Intertrips

National Grid will seek to, where it proves economic and efficient to do so, enter into Commercial Intertrip schemes to manage system issues. For the period Apr-10 to Mar-11 (inclusive) just over £20 million was spent on commercial intertrip schemes.

Appendix 7- Partial or Total Shutdowns (Black Start)

A total shutdown is defined in the Grid Code as:

Total Shutdown - *The situation existing when all generation has ceased and there is no electricity supply from **External Interconnections** and, therefore, the **Total System** has shutdown with the result that it is not possible for the **Total System** to begin to function again without **NGET's** directions relating to a **Black Start**.*

A partial shutdown is defined as:

Partial Shutdown - The same as a **Total Shutdown** except that all generation has ceased in a separate part of the **Total System** and there is no electricity supply from **External Interconnections** or other parts of the **Total System** to that part of the **Total System** and, therefore, that part of the **Total System** is shutdown, with the result that it is not possible for that part of the **Total System** to begin to function again without **NGET's** directions relating to a **Black Start**.

BSC Section G3 sets out the post event arrangements for compensation under Black Start. The paragraph applies if the Transmission Company informs Users pursuant to OC9.4 of the Grid Code that either a Total Shutdown or a Partial Shutdown exists and that the Transmission Company intends to implement a Black Start.

For the period of a Black Start a single imbalance price applies and the normal operation of the market is suspended including:

- Operation of the Balancing Mechanism
- Contract Notifications
- Calculation of parties' energy indebtedness

The single imbalance price will apply to user imbalances, in addition BSC3.3 states:

3.3 Lead Party compensation

3.3.1 Subject to the provisions of the Code, each Party which:

(a) is the Lead Party of any BM Unit (whether or not comprising Plant or Apparatus which is comprised in a Black Start Station as defined in the Grid Code), and

(b) is given any instruction (a "black start instruction") by the Transmission Company pursuant to OC9.4.7.4, BC2.7 or BC2.9 of the Grid Code relating to

any Settlement Period(s) during a Black Start Period may, within the period of 20 Business Days after the end of the Black Start Period, submit to BSCCo a claim for payment of compensation to be determined in accordance with this paragraph 3.3.

Lead parties' can claim for certain costs if they are issued instructions as set out in Section 3.3.2.

3.3.2 For the purposes of this paragraph 3.3, in relation to a Settlement Period in the Black Start Period and a BM Unit:

(a) the "black start compensation amount" shall be an amount determined as:

(A - B) where

A is the amount of the Avoidable Costs of the Lead Party in relation to the operation of the BM Unit as determined by the Panel under paragraphs 3.3.4(a) and 3.3.4(c);

B is an amount determined as:

$$(BSCQ_{ij}^n * P_{ij}^n)$$

where P_{ij}^n is the System Sell Price (equal, in accordance with Section T1.7.1, to the System Buy Price) for that Settlement Period; and $BSCQ_{ij}^n$ is the quantity (in MWh) determined by the Panel under paragraph 3.3.4(b) and shall be called the "black start compensation volume"; (b) for the purposes of paragraph (a), $BSCQ_{ij}^n$ shall be negative where it represents an increase in net Imports or a reduction in net Exports, zero (0) where