



Commission for Energy Regulation

An Coimisiún um Rialáil Fuinnimh

**Transmission Code of Operations,
Modification 4: Flexible Capacity Services at
Entry Points**

**Background Paper on a Proposed Decision by
the Commission for Energy Regulation**

**CER/03/019
30th January 2003**

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1. Introduction

On the 5th of September 2002, Modification 4 to the Transmission Code of Operations (“the Code”), concerning Flexible Capacity Services at Entry Points, was referred to the Commission for Energy Regulation (“the Commission”). The Transporter had declined to support this Modification pursuant to Section 21.5 of the Code. The CER, as the relevant regulatory authority referred to under paragraph 21.10 of the Code, was asked for a decision on the Modification.

The following document accompanies the CER’s proposed decision on Modification 4 (CER 03/018). It outlines the various options available to the Commission, and assesses these in light of stated criteria. This document then states the Commission’s decision and the justification for that decision.

Interim Decision

This is an interim decision and in no way prejudices any future decisions of the Commission concerning gas market arrangements in Ireland. In particular this document will not prejudice discussions in the Gas Market Advisory Group or decisions that may arise from those discussions, nor will it prejudice any decisions arising from the current review of tariffs for gas transmission and distribution.

2. Background

On the 10th of August 2001, Statoil proposed the fourth Modification to the Transmission Code of Operations (“Modification 4”). This Modification concerned the ‘Introduction of Flexible Capacity Services at Entry Points’ and comprised two distinct elements. The first (“Modification 4a”) referred to a facility to transfer prior contracted long-term capacity to an alternative Entry Point. The second (“Modification 4b”) concerned mechanisms for Shippers to gain access to entry capacity at alternative Entry Points both at short notice and for short duration (back-up service). This Modification was declined by the Transporter on the 9th of August 2002, pursuant to Section 21.5 of the Code, on the grounds of a lack of Shipper support for the Modification and because of a failure to reach reasonable, fair and non-discriminatory financial proposals for services envisaged under the Modification. Statoil pursuant to Section 21.10 of the Code of Operations subsequently referred the Modification to the Commission. This referral could not be accepted however, as Statoil were not a “Shipper” for the purposes of the Code. Synergen made a valid referral on the 5th of September 2002.

The operational aspects of the Modification have already been largely agreed at Modification Forum level, albeit subject to the publication of a final paper by the Modification 4b working group. This document will, therefore, only address the commercial issues raised by Modification 4.

In the course of the debate on Modification 4, a number of submissions were made suggesting that any resolution of the Modification 4 issue should be a generic one. That is, that the ultimate solution could apply equally to transfers between *any* two entry points, and that back-up could be available from *any* single entry point. In light of the interim nature of this decision however, and in light of the fact that, at the present time, any transfer between entry points will necessarily originate with the Moffat entry point (“Moffat”), and that any back-up to indigenous supply will necessarily come from Moffat, this decision provides for flexible capacity services *between Moffat and another Irish entry point*.

3. Decision Criteria

As will be outlined in the following sections, the Commission considered a number of options for dealing with the issues raised by Modification 4. In reaching its final decision, each of these options was assessed with regard to the following criteria.

Economic Justification

The Commission is of the view that payments made pursuant to Modification 4 should be economically justifiable. To that end, financial arrangements reached should, insofar as is feasible, be cost-reflective but also provide transparent and effective price signals.

Ease of implementation

In light of the interim nature of this decision, and of the need to make services under Modification 4 available as promptly as possible, the Commission considered ease of implementation a necessary feature of any arrangement under Modification 4.

Equity/non-discrimination

In line with the duties of the Commission under the Gas (Interim) (Regulation) Act, 2002 (“the Act”), the Commission sought an equitable resolution to the dispute surrounding Modification 4, and particularly not to discriminate unfairly between existing and/or prospective Shippers at existing and/or future entry points and/or gas sources.

Encouragement of efficient use and operation of the gas network,

The Commission is of the view that any decision reached under Modification 4 should form part of a framework that encourages, as far as possible, the efficient use of the system, that encourages investment in the gas industry and that secures that there is sufficient capacity in the gas system to enable reasonable expectations of demand to be met.

Securing the continuity, security and quality of supply of natural gas

The Commission’s decision in relation to Modification 4 aims to secure the continuity, security and quality of supply of natural gas; ensuring the

development and maintenance of a safe, secure and reliable system for the supply of gas.

4. Modification 4a: Alteration of Entry Point within the lifetime of the STA

This section discusses four options that were considered for the pricing of services offered under Modification 4a. Appendix 1 contains an illustration of the approximate costs of each of these options to a hypothetical Shipper.

OPTION 1: WEIGHTED REBATE

Under this option, the Shipper may transfer capacity between entry points both physically and financially, subject to the payment of a weighted rebate or differential with respect to the existing entry point.

This option recognises that charging for capacity is based on the Shipper's annual peak day demand. The peak capacity charge is the price paid to the Transporter and is a reflection of how much the Transporter has invested to meet that peak demand. Where the Shipper has already passed the point in time of expected peak usage at the original entry point, this will be reflected in the proportion of the annual firm capacity charge credited to the original entry point. This is achieved through the calculation of a weighted rebate.

Calculating the Weighted Rebate:

Step 1.

Each user's capacity is divided into three periods according to the "system" peak, off-peak and shoulder usage. As per the Transmission Code of Operations, the system peak runs from December '02 to March '03. Shoulder periods include the months of October, November, April and May, and the off-peak period runs from June to September. These periods reflect the economic value of the capacity that has been booked by Shippers and the costs to the Transporter of providing capacity at the different periods of the year.

Step 2.

Each load period is then weighted, and the amount of 'Capacity Days' for each is calculated. These weights are shown in Table 4.1.1.

Table 4.1.1: Annual Capacity Days

Period	Weight	Calendar Days	Capacity Days
Peak Period	4	121	484
Shoulder Period	2	122	244
Off-peak Period	1	122	122
	Total Annual Capacity Days:		850

These weightings reflect those outlined in the Code of Operations, in relation to the cap placed on overrun charges, and are intended to reflect the value and costs of providing capacity for peak, shoulder and off peak usage. Such a weighting system is no less cost reflective than any other weighting in an unconstrained system where marginal capacity costs are, by definition zero.

Step 3.

At such time as the Shipper elects to change entry point, the number of capacity days used by the Shipper to date is compared to the number of days already paid for under the standard daily equivalent method. Where the amount paid for exceeds the amount due under capacity days, the Shipper is awarded a rebate from the Transporter for the amount of the excess. The amount of this rebate is charged against the original entry point. Where the amount paid is less than that due under capacity days, the Shipper pays the amount of the differential to the Transporter, with the revenue from such differential being credited to the original entry point.

Example:

Shipper A has booked firm capacity for the gas year October '02 to September '03.

Shipper B's STA year runs from April '03 to March '04.

Where A switches entry points on the 1st of July 2003, he will calculate the amount of capacity days used as follows.

Period	Calendar Days	Multiplier	Capacity Days
Peak	121	4	484
Shoulder	122	2	244
Off-peak	30	1	30
	<u>273</u>	Total Capacity Days Used:	758

Having used 758 of a total 850 capacity days, Shipper A *should* have paid for 89% of his yearly firm capacity.

In fact, Shipper A will have only paid for 75% of his capacity days (273/365) on a daily equivalent basis.

Shipper A must pay a further 14% of the annual firm capacity charge to the Transporter.

Where B switches entry points on the 1st of July 2003, he will calculate the amount of capacity days used as follows:

Period	Calendar Days	Multiplier	Capacity Days
Peak	0	4	0
Shoulder	60	2	120
Off-peak	30	1	30
	<u>90</u>	Total Capacity	150
		Days:	

Having used 150 of a total 850 capacity days, Shipper B should have paid for 17.6% of his yearly firm capacity.

In fact, B will have paid for 24.6% (90/365) of his yearly firm capacity and so will require a rebate from the Transporter for the amount of the differential (7%).

Step 4.

On payment of the rebate/differential indicated by step 3, the Shipper may then transfer to the new entry point. The Shipper will be required to book for the daily equivalent of **peak annual capacity** at the new entry point. The payment for this capacity will be credited to the new entry point.

OPTION 2: PEAK BOOKINGS

Under this option, the Shipper may transfer physically between entry points, and will pay for the peak capacity needed for the remainder of the STA year at the new entry point. However, the Shipper will also be required to continue to pay a capacity charge at the original entry point, the amount of that charge being determined by the maximum daily capacity used by that Shipper to date.

In Figure 4.2.1, a Shipper transfers between entry points at time X. He has not yet reached the peak capacity booked at Moffat. This Shipper will now book and pay for peak capacity at the New Entry Point for the remainder of the STA year. He will continue to pay for C' at Moffat for the remainder of the STA year. The

amount A is the amount the Shipper has paid for capacity at Moffat in excess of what he has received. This will be returned to him by way of a credit against capacity payments going forward at Moffat.

Figure 4.2.1:

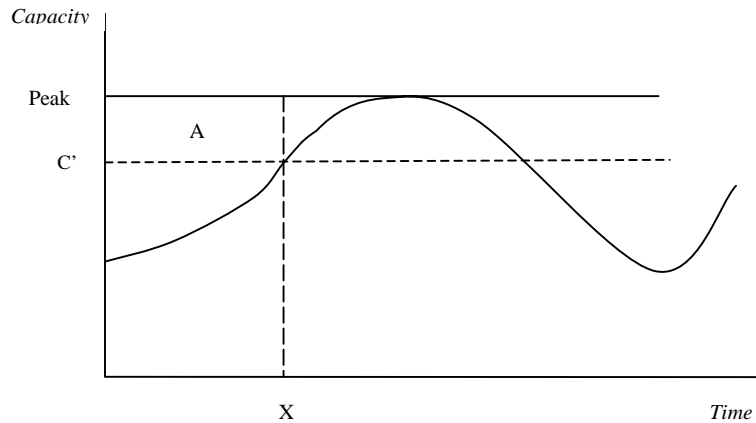


Figure 4.2.2, where the Shipper switches at time Y, shows the most extreme case in this option. Where the shift between entry points coincides with peak capacity usage, the Shipper must pay for peak capacity at both Moffat and the new entry point.

Figure 4.2.2:

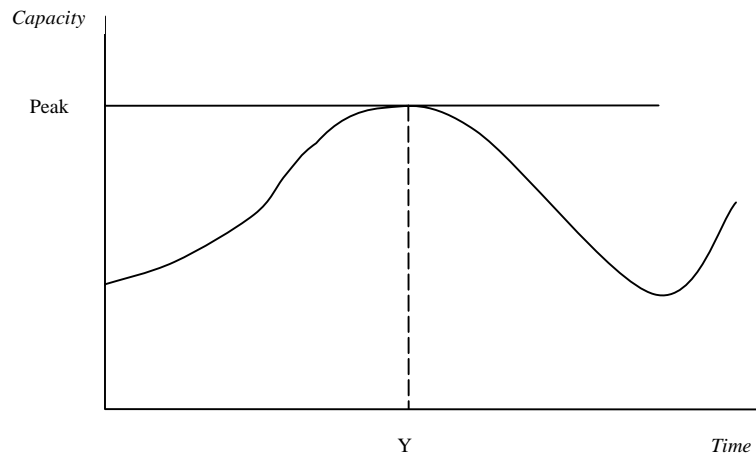
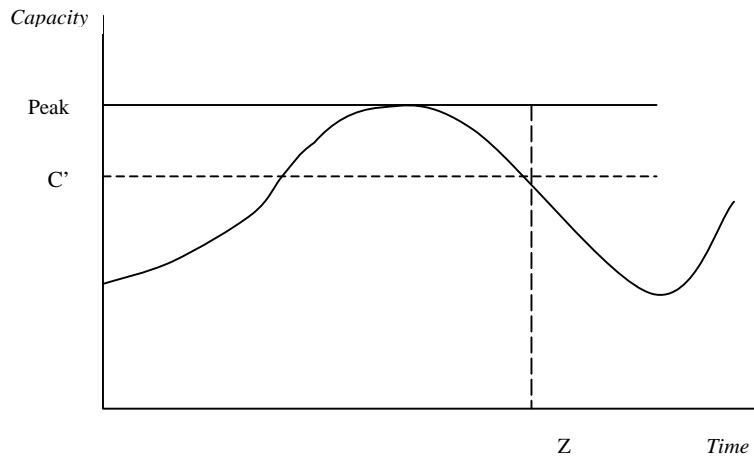


Figure 4.2.3 outlines the case where the Shipper has passed his peak capacity usage. In this case he must continue to pay for peak capacity at Moffat, but must only pay for C' capacity at the new entry point for the remainder of the STA year.

Figure 4.2.3:



Under this option there will be no charge under Modification 4b for the remainder of the STA year.

It is worth noting that Option 2 is the most penal of those proposed. At the extreme it is equivalent to double booking capacity. It is also arguable that this option would discriminate quite strongly against those Shippers with a “flatter” load profile.

OPTION 3: PAY ORIGINAL PEAK

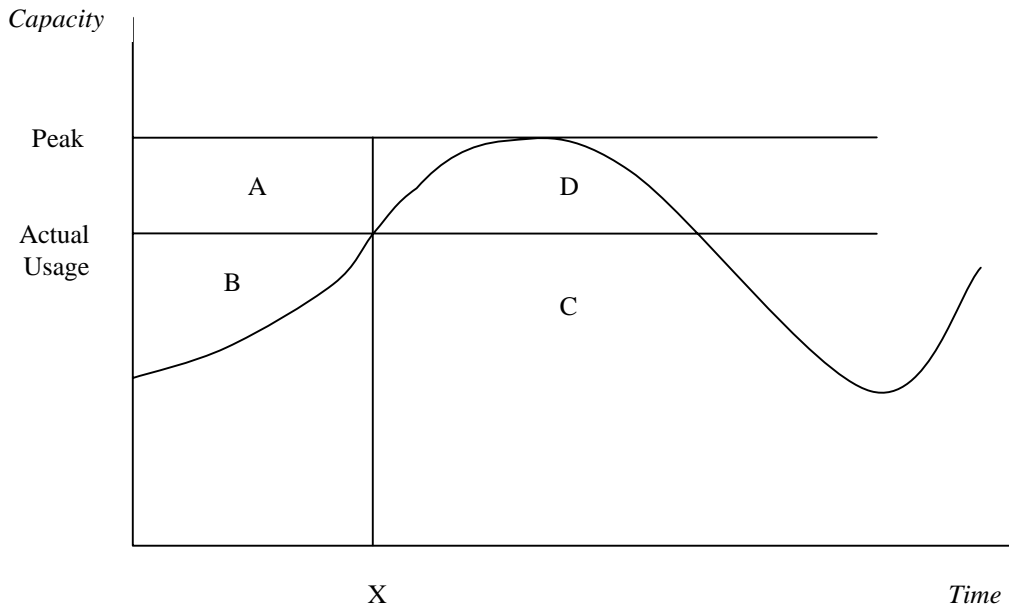
With this option the Shipper continues to pay the Moffat tariff. However the revenues from this tariff are used, in the first instance, to pay the tariff at the new entry point. Only after this will any balance or differential be credited to the Moffat entry point.

Option 3 allows both a physical and financial transfer between entry points. Although there is little or no economic justification per se for the continued payment to Moffat, this option has received broad support from both Shippers and Producers as a possible compromise measure.

This option may also be modified to incorporate a rebate. In this manner, the Shipper would be rebated the amount of the difference between the actual capacity they have *used* and the amount of capacity they have *paid for* at Moffat to date. This is illustrated in figure 4.3.1, wherein a Shipper switches between two entry points at time X. Up to that time, they will have paid for peak usage at Moffat and revenue from this (A+B) will have accrued to Moffat. After the switch they will continue to pay the Moffat tariff, but the revenue will first be credited to the New Entry Point, with only the differential going to Moffat. Where a rebate is paid, the Shipper receives a payment for the amount A in recognition of the fact that they have paid for peak capacity at Moffat but have not and will

not use peak capacity at Moffat. In making the switch less expensive for Shippers who change before they reach the peak, this encourages Shippers to switch between entry points sooner rather than later.

Figure 4.3.1



OPTION 4: SIMPLE SWITCH

This option allows a simple switch between entry points where the Shipper has notified the Transporter in advance of signing the STA that he will switch entry points within that STA year. The Shipper books capacity for his peak as usual at the original entry point and pays for that capacity up to the time of the switch. Following the switch the Shipper will pay for his annual peak capacity at the new entry point on a pro-rata basis.

Where the Transporter may plan or make investment decisions on the basis of current capacity bookings, they will already be aware of the Shipper's intention to switch entry points, and so this option avoids the danger that the Transporter may operate under incorrect assumptions. In order to ensure the reliability of the estimated transfer date, the Transporter may levy a transfer fee. This fee would be fully refundable where the transfer occurs on a date specified when the STA is signed and would be partially refundable where the transfer occurs outside this date but within a certain period of time.

5. Modification 4a: Discussion and Proposed Decision

Having outlined the four possible options for dealing with the commercial implications of Modification 4, the Commission then assessed each of the possible options in relation to the criteria specified in Section 3.

Economic Justification

In the case of both Modification 4a and 4b, the economic justification for each option was deemed to be of particular importance in the assessment of each option. It is proposed that there is a strong economic justification behind Option 1, the Weighted Rebate. This option attempts to match the economic value of the service received by the transferring Shipper to the costs to the Transporter of providing the service and, consequently, to the price charged for the service. To that end it takes account both of actual usage and of the seasonal nature of capacity demand and therefore pricing. This option also places a value on the flexibility awarded by Modification 4a. Where the transfer occurs after the peak, the Shipper will necessarily pay more than a simple daily equivalent at each entry point. The payment of the daily equivalent of peak capacity at the new entry point allows for the new entry point to be reimbursed for the service they provide as per standard industry practice, and as they will be reimbursed in the future.

Option 2, Peak Bookings, is perhaps less robust from an economic viewpoint. In its favour, this option reflects the current capacity regime whereby Shippers book and pay for peak capacity. It obliges Shippers to honour commitments made to existing entry points, while also ensuring that the new entry point is remunerated for the service it provides. It also places a value on the flexibility that allows a Shipper to transfer mid-STA. However, at the extreme, this option is equivalent to double-booking capacity, and ensures that Shippers are paying for a service at the original entry point for which they are receiving no economic value.

A continued payment to Moffat, from which the Shipper derives no benefit, is also a feature of Option 3, Pay Original Peak. The payment of a 'differential' to Moffat lacks any economic justification and is this option's principal weakness. Furthermore, the size of the payment to Moffat is arbitrary, as it depends entirely on the identity of the entry point to which the Shipper is switching.

Finally Option 4, the Simple Switch, is perhaps the least justifiable from an economic viewpoint. In the first instance, it does not directly link the service received to the charge for that service. Insofar as it would result in Shippers paying averages based on annual figures at each entry point, it raises the possibility that one entry point may be effectively subsidising the other. Equally this option places no value on the flexibility gained from Modification 4 by Transferring Shippers, nor does it take any account of the different values of capacity at different times.

Ease of Implementation

There is little difference in the ease with which any of the options under Modification 4a may be implemented. It is proposed that each of the options outlined in the previous section would be relatively easy to implement, and that, therefore, this criterion is not decisive.

Equity/Non-discrimination

Each of the options outlined for Modification 4 attempts to balance the rights of Shippers who remain at the existing entry point with those of Shippers who choose to transfer between entry points. In particular, options 1-3, in taking account of peak capacity, each ensure that Shippers pay for the infrastructure that they use, with reference to the added economic value of that infrastructure at peak periods in the year. Option 2 however, insofar as it is the most penal of each of the options, may, in some circumstances, be seen to provide a disincentive for Shippers to switch entry points. In particular, this option may discriminate against Shippers with a relatively flat load. Option 4 is perhaps the weakest in terms of equity insofar as it may, under particular conditions, result in transferring Shippers paying less than a fair reflection of the value they receive at the original entry point.

Encouragement of efficient use and operation of the gas network

It is proposed that where there is a strong economic justification for any of the options outlined in the previous section, then these options will also encourage efficiency in the use and operation of the gas network. Option 1, insofar as it matches the value of the service provided to the cost of that service, will provide a clearer price signal to both Shippers and the Transporter, and will therefore encourage more efficient use of the system.

Securing the continuity, security and quality of supply of natural gas

This is linked to the previous point insofar as the maintenance of a safe, secure and reliable system must necessarily be preceded by efficiency in the use and operation of the network.

Proposed Decision

On the basis of the preceding discussion, the Commission proposes that Option 1, Weighted Rebate is the most appropriate solution to Modification 4a. It is proposed that this, above the other options, fulfils each of the criteria set for the Modification 4 decision.

In transferring on the basis of Option 1, Weighted Rebate, it is proposed that Shippers may transfer between entry points either on a phased or on a one-off basis, as appropriate. Shippers shall be entitled to switch entry points within six months of flowing of first gas from the new entry point, with this transfer to be complete within twelve months of first gas flows. The Transferring Shipper

will be liable for a cost-reflective administration fee, which will be determined by the Transporter and approved by the Commission.

6. Modification 4b: Back-up Capacity Service at alternative Entry Points.

The options for Modification 4b are proposed in the following context:

1. The back-up service offered must not risk the service to existing firm shippers at the back-up point.
2. Without prejudice to (1), the back-up service offered will be a firm back-up service. To that extent, this service will remain subject to the provisions of the Code of Operations (including curtailment) on difficult days and in emergency situations. However, where back-up service is unavailable to a Shipper who has purchased this service and wishes to avail of it, then that Shipper may seek a refund.

In each of the following options, the commodity element is payable as per standard practice, the discussion only relates to the capacity charges. It is intended that any back-up service offered under Modification 4b be for operational outages only. This is not a commercial service. As such, justification of planned or unplanned outages is required ex-ante, or ex-post where that is not feasible.

In reviewing its decision, the Commission has considered that it would be necessary to ensure that the balancing gas regime is operated for its intended purpose and, hence, that balancing gas would not be available to a Shipper who has failed to balance due to an operational problem at the relevant originally nominated entry point.

OPTION 1: RESERVATION CHARGE PLUS VARIABLE CHARGE

The Shipper requesting back-up will pay a ***reservation charge*** at the beginning of the STA year. This is a fixed charge equivalent to ten days firm capacity at the back-up point. This charge reserves the right of the Shipper to seek back-up from the back-up point and is payable irrespective of whether or not such back-up is actually used.

This fixed charge is intended to recognise in some way the value added to indigenous gas sources by the availability of back-up from the Moffat entry point. The amount of the charge was, however, limited to the extent that:

- 1) The marginal costs of providing back-up from Moffat are relatively low as long as there is substantial excess capacity at Moffat.
- 2) Any revenue from the provision of a back-up service at Moffat will accrue to the Moffat entry point and will ultimately lower the per-unit entry tariff for Moffat shippers. In order to realise this benefit, however,

the cost of back-up must not be prohibitive. To that end backup should compete with alternatives such as

- Substitution
- Interruption of end users, or
- Capacity Transfer

Appendix 2 provides a numerical comparison of these alternatives as against the backup service, on a cents-per-therm basis.

A further seasonally adjusted **variable capacity charge** is payable by the shipper upon receipt of the back-up service. This charge will differ for planned and for unplanned outages.

1. Planned outage

An outage is deemed planned where the Transporter receives at least three months notice of such outage. Planned outages may last no longer than thirty days and must be justified, ex-ante, to the Transporter on operational grounds.

The planned outage will be charged for on the basis of a seasonally adjusted daily equivalent¹. Peak days (as defined in the Code) will be subject to a multiplier of 4, shoulder periods to a multiplier of 2 and off-peak to a multiplier of 1.

Planned Usage Charge = $\frac{1}{365} * S * X$

Where

$\frac{1}{365}$ is the daily equivalent of the annual firm capacity charge

S is the seasonal adjustment (4, 2, or 1)

And

X is duration of the planned outage in 'days'. Any stoppage(s), irrespective of their duration or frequency, that occur within a single gas day, are deemed to constitute a 'day' for the purposes of calculating an outage.

There are no penalties incurred in the use of back-up for planned outages. A seasonal adjustment is included to reflect the relative economic costs on system capacity at different points of the year, and to encourage, as far as possible, the carrying out of maintenance during off-peak times.

¹ Here a seasonal adjustment is necessary, as the cost of the back-up service will set a cap on alternative sources of backup.

Where a planned outage is brought forward as a result of an unplanned outage, and where this rescheduling does not impose incremental costs on the Transporter, then this may be deemed to be a planned outage for the purposes of establishing the multiplier. This will be assessed on a case-by-case basis where it can be shown that there was sufficient economic justification for the rescheduling of the planned outage.

2. Unplanned outage

The unplanned outage charge has followed the same economic principles as that for charges covering planned outages. However in this case the seasonal adjustment also incorporates an element of penalty, which increases with the duration of the unplanned outage.

$$\text{Unplanned Usage Charge} = \frac{1}{365} * S' * X$$

Where

$\frac{1}{365}$ is the daily equivalent of the annual fixed capacity charge

S' is a seasonal adjustment including a variable penalty element

	0-5 Days Outage	5+ Days Outage
Peak	6	8
Shoulder	3	4
Off-peak	1.5	2

These charges are limited to the extent that the charge should not exceed that applying should the shipper have incurred an unauthorised overrun.

And

X is duration of the planned outage in 'days'. Any stoppage(s), irrespective of their duration or frequency, that occur within a single gas day are deemed to constitute a 'day' for the purposes of calculating an outage.

A penalty is incurred where back-up is required on an unplanned basis. This reflects the increased pressure on the system where extra capacity is required at little notice. This will also encourage due care in maintaining equipment at indigenous sites by gas producers, so as to minimise interruptions.

The optional nature of the service allows the Shipper to make the optimal choice regarding back-up as outages occur. On the day they may compare the relative costs of substitution, capacity trading and other options and choose the most economic option for them.

Backup for planned and unplanned outages must be purchased together and may not be sold separately.

OPTION 2: DIVIDING THE COSTS OF “LATENT” CAPACITY IN IC2

With this option, an assessment is made of the cost of the latent capacity in the second Scotland-Ireland Interconnector (“IC2”). This cost is then distributed among all Shippers in the Irish system, via the onshore tariff. In these circumstances, there will be no charge for any back-up service at Moffat, other than to cover any administration costs incurred. The service would be provided on demand to anyone who could prove a bona fide operational need for the service.

This option would result in the raising of the onshore tariff for all Shippers, although the Moffat entry tariff would decrease. Insofar as everyone pays the same amount for access to the back-up service, there is no easy way of ensuring that those whose need for the service is greatest gain access to it first. The indiscriminate use of Moffat backup is however limited at the extreme where, in buying as a distressed buyer in the UK, the cost of gas at Moffat would be prohibitive. The levelling of penal charges for prolonged use further discourages the use of this source of backup. A penal charge is incurred after two weeks of a planned outage, and after 5 days of an unplanned outage.

This option recognises the importance of the interconnector for security of supply. This security applies equally to all Shippers, whether or not they use Moffat as their primary entry point. Equally, even Shippers who do not use Moffat and who do not wish to purchase backup will benefit from the avoidance of system emergencies and other blanket effects.

7. Modification 4b: Discussion and Proposed Decision

The options outlined under Section 5 were each assessed in relation to the Decision Criteria outlined under Section 3.

Economic Justification

It is proposed that *Option 1, Reservation Charge plus Variable Charge*, is based on a reasonable and sound economic rationale. The payment of a reservation charge recognises the value of back up as an insurance product that is intrinsically valuable to Shippers irrespective of whether or not they actually call on that back-up. Equally the variable charge recognises that the costs

imposed on the system by the provision of back-up vary according to the amount of notice the Transporter has of any interruption and according to the time of year at which that interruption occurs. The weighting of the capacity charges ensures that scheduled and unscheduled stoppages not only reflect seasonal capacity pressures, but also are proportionate to the cost of long-term capacity. Insofar as the charge for back-up will effectively place a cap on the market for capacity trading, it was also important that these multiples should not be unnecessarily low.

Option 2: Dividing the Costs of Latent Capacity in IC2, is considerably more difficult to justify on a strict economic basis, although this may be balanced by the more general social benefits it provides. The security of supply provided by this option does however provide some broad economic value for Shippers in mitigating the risks associated with loss of supply.

Ease of Implementation

It is proposed that, with respect to ease of implementation, Option 1 would again be preferable to Option 2. This option uses a simple, transparent and easily understandable formula for the calculation of the relevant back-up charge. Option 2, on the other hand, may require significantly more detailed analysis to obtain an accurate estimation of the amount of latent capacity in IC2. The voluntary nature of Option 1 also makes it significantly easier to implement, insofar as its use will be limited to those who feel that the service provided would be valuable to them. The mandatory implementation of Option 2 may cause considerably more difficulties in the short term and might conceivably necessitate the imposition of a public service obligation.

Equity/non-discrimination

Option 1 ensures, insofar as possible, that Shippers pay a reasonable price for the service that they receive. This service is based on the principle of cost reflectivity and price signals and is a service to which every Shipper may have equal access. To that extent, it certainly fulfils the Commission's requirement of non-discrimination.

Option 2 takes perhaps a broader view of the issue of equity and non-discrimination between licence-holders. This option recognises the importance of the interconnector for security of supply, a security which applies equally to all shippers, whether or not they use Moffat as their primary entry point. Equally, even shippers who do not use Moffat and who do not wish to purchase backup will benefit from the avoidance of system emergencies and blanket effects. This option avoids the possibility that Moffat Shippers will be placed under an unfair burden by the cost of the Interconnector.

Encouragement of Efficient use and operation of the gas network

It is proposed that, insofar as Option 1 follows the principle of cost-reflectivity, and provides clear price signals to the gas market, then it will encourage the efficient use and operation of the gas network.

A potential weakness of the Option 2 proposal lies in the fact that insofar as everyone pays the same amount for access to the back-up service, there is no easy way of ensuring that those whose need for the service is greatest gain access to it first. Equally this option, insofar as it is compulsory, may not appear to provide an incentive for the Shipper to seek the optimal/most cost effective form of backup service. Since *use* of the service does not impose any additional charge, there is no disincentive on Shippers to call on it.

Securing the continuity, security and quality of supply of natural gas

Insofar as Option 1 promotes the efficient use and operation of the gas network, then this will have the corollary, although indirect, effect of contributing to the continuity, security and quality of supply of natural gas.

Option 2, on the other hand, specifically addresses the issue of security of supply, insofar as it imposes a specific charge justifiable on that basis. In spreading the cost of IC2, this will reduce entry charges at Moffat, thereby reducing the risk that Shippers will leave the market, thereby further increasing per unit Moffat charges and initiating a 'death spiral'. On the other hand, insofar as this option may reduce the differential between Moffat and other entry tariffs, and thereby provide a disincentive to indigenous gas, this option may in some instances have negative repercussions on security of supply.

Proposed Decision

On consideration of both Modification 4b options, with reference to the stated criteria, the Commission therefore decides that option 1 provides the appropriate solution for issues raised by Modification 4b.

Appendix 1: Modification 4a

This appendix shows the cost of entry capacity for a hypothetical shipper switching entry points in different months under the four different options for Modification 4(a).

Assumptions:

1. The hypothetical shipper's STA year runs from October to September.
2. The hypothetical shipper books for a peak of 100 units of capacity and has the following profile:

<i>Month</i>	October	November	December	January	February	March	April	May	June	July	August	September
<i>Capacity Used</i>	80	90	96	100	96	90	85	80	70	60	60	70

3. If the shipper were to pay for entry capacity for the entire year at a single entry point, it would cost the following amounts:

- Moffat: €36,726
- Inch: €2,521
- Mayo: €20,000 (based upon a notional estimate of the Mayo entry tariff)

Option One: Weighted Rebate

- 1) Pay for Moffat based upon the weighted value of the capacity for the days for which Moffat has been used.
- 2) Pay for Inch/Mayo based upon the daily equivalent value of the capacity for the days for which Inch/Mayo will be used (1/365 of annual charge).

Total amount to pay (€) for entry capacity for a switch at end of month X to entry point Y:

	October	November	December	January	February	March	April	May	June	July	August	September
Inch (total tariff paid)	4985	7371	12514	17658	22304	27448	29833	32298	33387	34512	35637	36726
Revenue to Moffat	2679	5271	10629	15987	20826	26184	28776	31455	32751	34091	35430	36726
Revenue to Inch	2306	2099	1885	1671	1478	1264	1057	842	635	421	207	0
Mayo (total tariff paid)	20980	21929	25588	29247	32552	36211	37160	38140	37792	37433	37074	36726
Revenue to Moffat	2679	5271	10629	15987	20826	26184	28776	31455	32751	34091	35430	36726
Revenue to Mayo	18301	16658	14959	13260	11726	10027	8384	6685	5041	3342	1644	0

For example, say the shipper were to switch from Moffat to Mayo at the end of April (see boxed numbers in the table above). The shipper would pay €37,160 in total entry capacity charges. Of that, €28,776 would be credited as revenue to the Moffat entry point, and €8,384 would be credited as revenue to the Mayo entry point.

Option Two: Peak Bookings

- 1) Pay for the maximum amount of capacity actually used in the year to date at Moffat.
- 2) Pay for the peak capacity needed for the rest of the year at Inch/Mayo.

Total amount to pay (€) for entry capacity for a switch at end of month X to entry point Y:

	October	November	December	January	February	March	April	May	June	July	August	September
Inch (total tariff paid)	31902	35574	37778	39247	39146	38995	38869	38743	38491	38491	38491	38491
Revenue to Moffat	29381	33054	35257	36726	36726	36726	36726	36726	36726	36726	36726	36726
Revenue to Inch	2521	2521	2521	2521	2420	2268	2142	2016	1764	1764	1764	1764
Mayo (total tariff paid)	49381	53054	55257	56726	55926	54726	53726	52726	50726	50726	50726	50726
Revenue to Moffat	29381	33054	35257	36726	36726	36726	36726	36726	36726	36726	36726	36726
Revenue to Mayo	20000	20000	20000	20000	19200	18000	17000	16000	14000	14000	14000	14000

Option Three: Pay Original Peak

- 1) Pay the Moffat Tariff.
- 2) Full Capacity charge credited to at Inch/Mayo.
- 3) Balance credited to Moffat.

Total amount to pay (€) for entry capacity for a switch at end of month X to entry point Y:

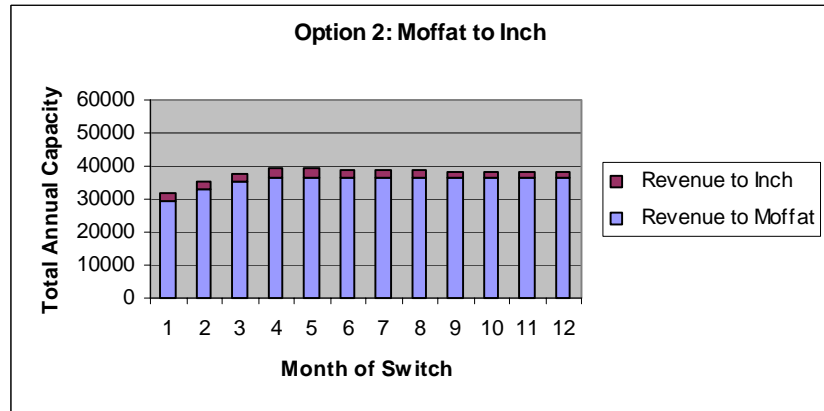
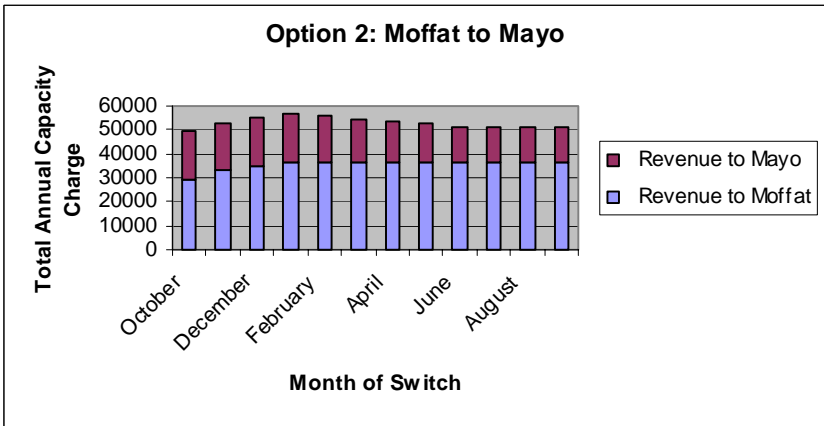
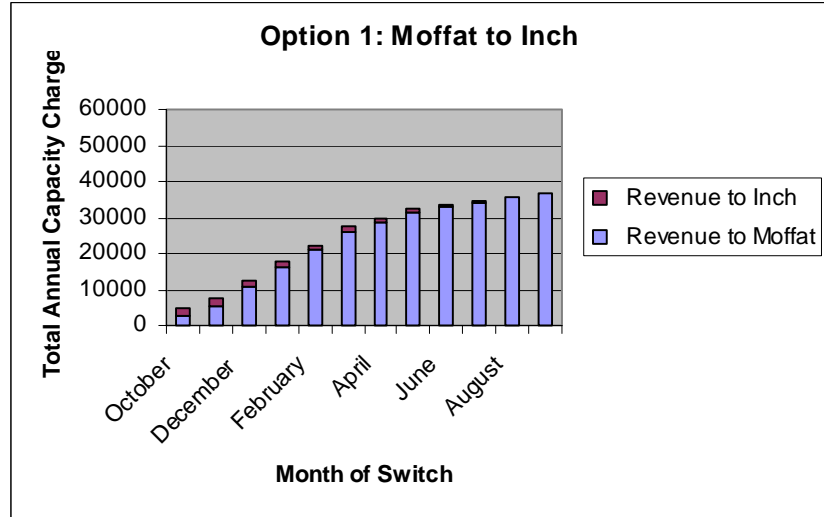
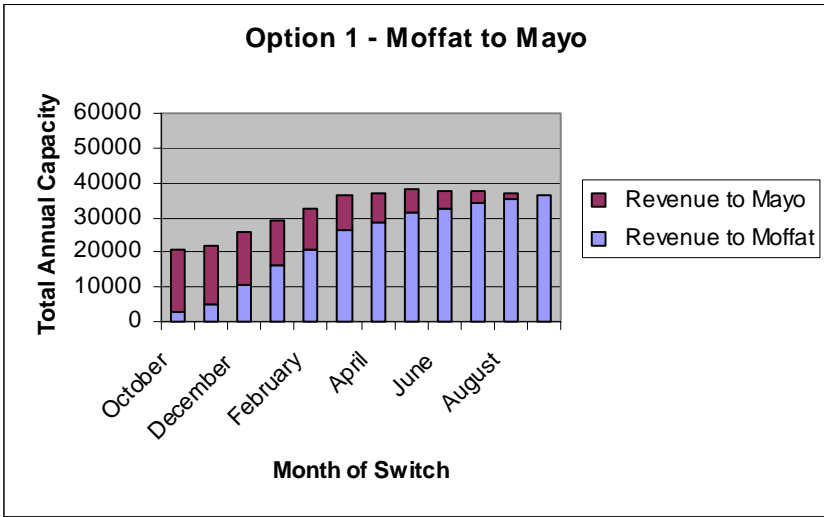
	October	November	December	January	February	March	April	May	June	July	August	September
Inch (total tariff paid)	36726	36726	36726	36726	36726	36726	36726	36726	36726	36726	36726	36726
Revenue to Moffat	34206	34206	34206	34206	34206	34206	34206	34206	34206	34206	34206	34206
Revenue to Inch	2521	2521	2521	2521	2521	2521	2521	2521	2521	2521	2521	2521
Mayo (total tariff paid)	36726	36726	36726	36726	36726	36726	36726	36726	36726	36726	36726	36726
Revenue to Moffat	16726	16726	16726	16726	16726	16726	16726	16726	16726	16726	16726	16726
Revenue to Mayo	20000	20000	20000	20000	20000	20000	20000	20000	20000	20000	20000	20000

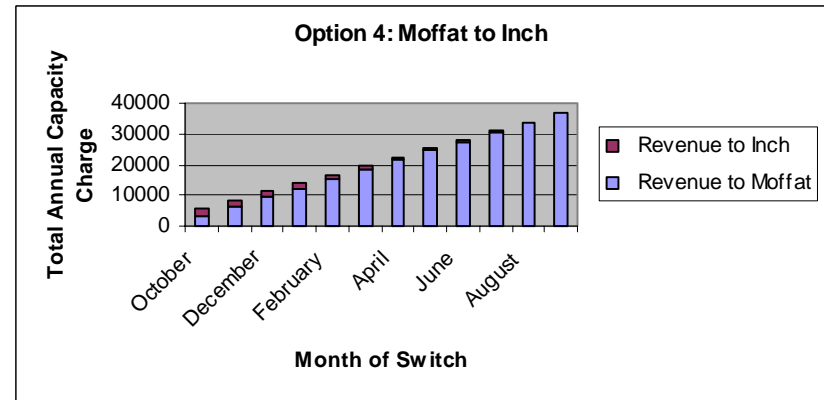
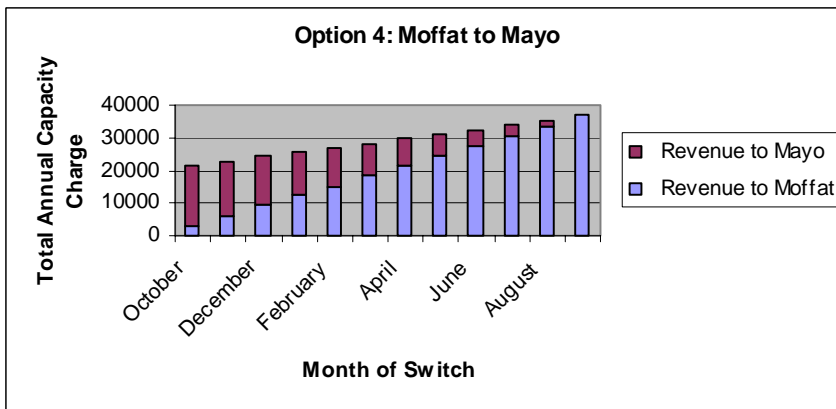
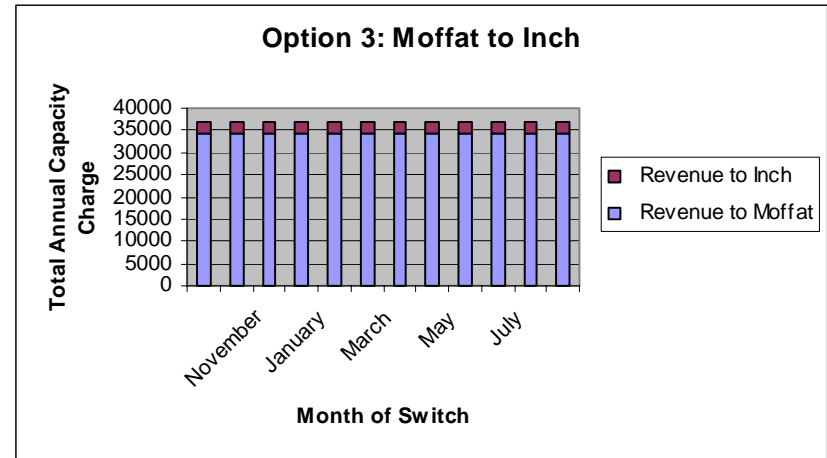
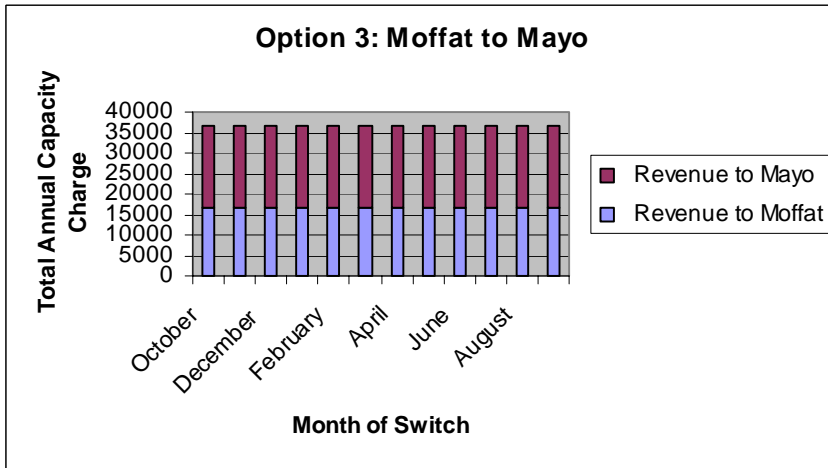
Option Four: Simple Switch

- 1) Pay amount of capacity used at Moffat (Daily Equivalent).
- 2) Pay amount of capacity used at Inch/Mayo (Daily Equivalent).

Total amount to pay (€) for entry capacity for a switch at end of month X to entry point Y:

	October	November	December	January	February	March	April	May	June	July	August	September
Inch (total tariff paid)	5426	8237	11142	14047	16671	19577	22388	25293	28105	31010	33915	36726
Revenue to Moffat	3119	6138	9257	12376	15194	18313	21332	24451	27469	30589	33708	36726
Revenue to Inch	2306	2099	1885	1671	1478	1264	1057	842	635	421	207	0
Mayo (total tariff paid)	21421	22795	24216	25637	26920	28340	29715	31136	32510	33931	35352	36726
Revenue to Moffat	3119	6138	9257	12376	15194	18313	21332	24451	27469	30589	33708	36726
Revenue to Mayo	18301	16658	14959	13260	11726	10027	8384	6685	5041	3342	1644	0





Appendix 2: Modification 4b

This appendix shows the costs to a hypothetical Shipper of obtaining back-up under Option 1: Reservation Charge plus Variable Charge. The implications of Option 2 are not calculable on a cent-per-therm basis.

In order to assess the viability of *Option 1: Reservation Charge plus Variable Charge*, it is useful to consider its competitiveness relative to alternatives. However, whether consumers use backup, or simply substitute other fuels for gas, depends both on price differentials and on the ease with which they can switch fuels. As such, it is difficult to compare the relative costs of back-up and substitution. Equally, interruption will cost different gas consumers different amounts. It is therefore difficult to compare the relative competitiveness of these options.

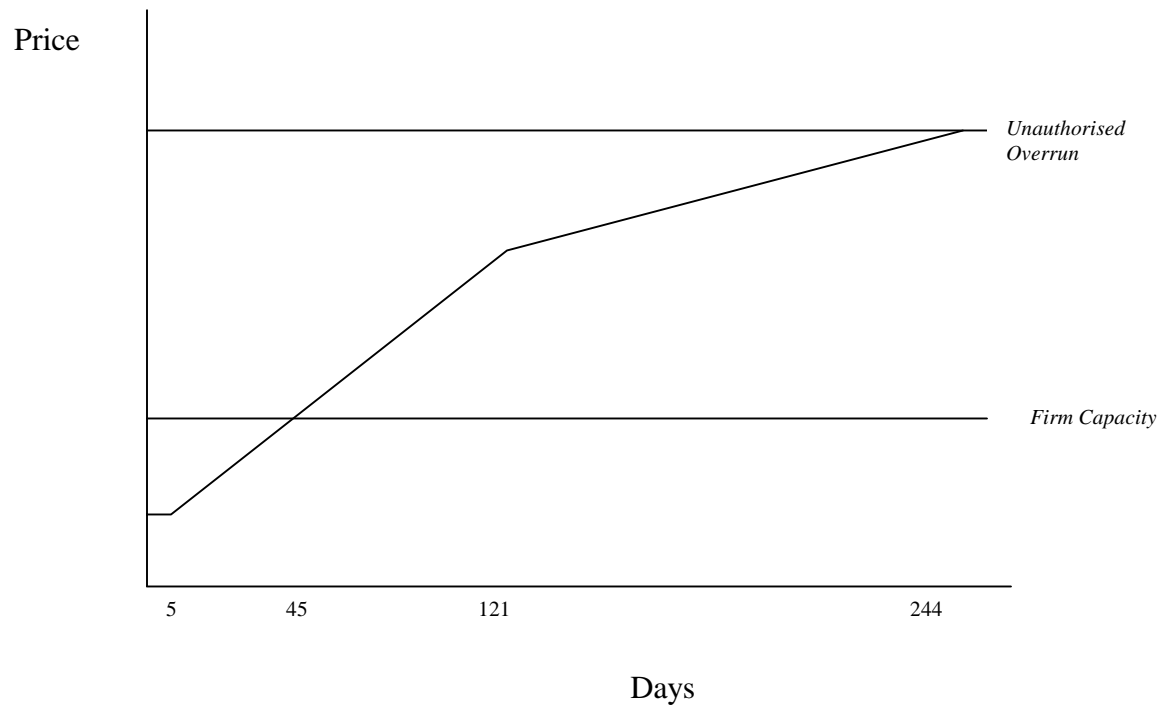
An assessment may however be made of the cost of backup relative to capacity transfer, where a number of assumptions are made. The comparison shown below looks at a reasonably extreme scenario where there is a ten-day unplanned outage during a period of peak demand.

Assumptions:

- Secondary Capacity is available at a price equal to the pro-rata daily equivalent of the annual charge.
- There are ten days of unplanned outages over the winter period.
- There are no planned outages.
- The user flows flat over the year

<i>Option</i>	<i>Cost for capacity for days used (cent/therm)</i>	<i>Cost for capacity over the year (cent/therm)</i>
Capacity Transfer	2.95	0.08
Back-up	23.59	0.65

Figure A2: Back-up Capacity versus Firm Capacity or Unauthorised OVERRUNS



Assuming that the outage begins on the first day of the winter period, it would take an outage of 244 days to equate the cost of back-up to that of an unauthorised overrun. However, 45 days outage in winter will, including the up-front reservation charge, cost the equivalent of a years capacity at Moffat.