Briefing Note to Gas Forum Shippers on Ofgem Consultation "Review of Entry Capacity Operational Buy-back Incentive and Default Incremental Entry Capacity Lead Time

Background to the SO Entry capacity operational buy-back

The Ofgem Consultation says that there are 2 incentives that aim to reduce the costs incurred by NGG as a result of constraints:

- Entry capacity incremental buy-back – on new capacity signalled after 31 March 2007 – **Note 1**
- **Entry capacity operational buy- back incentive** which covers buying back of all other entry capacity

Note 1 – this implies capacity signalled in an auction held after 31 March 2007 but the drafting in the Licence seems to indicate it applies to capacity which is to be delivered after 31 March 2007:

"funded incremental obligated entry capacity first released for sale by the licensee after 31 March 2007 (as included within the term EnCIBBCt (as defined in paragraph 5(a) of this condition) until such time as that entry capacity has been delivered to relevant shippers"

See Appendix 1 (extract from NGG's Licence)

This would include capacity for Milford Haven, Isle of Grain Phases 2& 3, Canatxx Fleetwood, Easington and Cheshire Storage which was signalled in the 2006 auction but not delivered until after 31 March 2007. For the purposes of this response it is assume that the capacity associated with these projects is not covered by the Operational Buy-back incentive.

This consultation covers the Entry capacity operational buy-back incentive

Briefing – key points

- Ofgem set the incentive at £18M based on the information in the 2005 10 Year Statement, consistent with the TPCR review for 2007-12

- Ofgem increased this by £3M in 2008 to reflect higher baselines but did so assuming the same data was available as had been to establish the £18 M target.

- NGG are suggesting that the target should remain at the £21M level

- The key issue therefore is 'what changes have occurred since the NGG forecast in 2005 which Ofgem used to establish the £18 M target for 2007-8 and 2008-9. Ofgem are saying that there have been changes and hence the downwards adjustment proposed to £13M. Shippers need to provide evidential support to Ofgem in order to support the reduction of £8M per annum.

Changes since the 2005 10 Year Statement

1. Reduction in Forecast Gas demand:

	2007/08	2008/09	2009/10	2010/11	2011/12
2008 10 YS forecast	5,723	5,810	5,850	5,916	5,979
2005 10 YS forecast	6,099	6,272	6,439	6,547	6,688
% reduction in peak demand from 2005 - 2008	6.17%	7.36%	9.15%	9.63%	10.59%

This is an important factor – with reduced gas flows the risk of constraints is significantly reduced, analogous to lower number of traffic jams when there is less traffic.

The NG 2008 10YS forecasts are also prior to the recession, it is likely that demands will be even lower despite lower gas prices.

2. Compression Use

When the SO Incentive was established, NGG was still forecasting high use of gas compressors to move gas mainly from St Fergus. At this time, NGG were also forecasting the installation of a large number of electrically driven compressors as a result of emissions legislation.

In the intervening years there has been a dramatic reduction in the use of compressors on the NTS and this is expected to continue. The table below shows the compressor fuel used by the compressors below:

- Aberdeen
- Avonbridge East
- Avonbridge West
- Bathgate
- Bishop Auckland
- Carnforth
- Kirriemuir
- Moffat
- Nether Kellet
- St. Fergus
- Warrington
- Wooler

Year	Total St Fergus Flow Related Compressors	Total St Fergus Related Compressor Fuel - MCM
1997	7	208.08
1998	9	226.3
1999	9	348.53
2000	9	402.99
01-02	9	469.07
02-03	10	533.44
03-04	10	449.98
04-05	12	485.48
05-06	12	400.02
06-07	12	301.35
07-08	12	228.32

In relation to new electrically driven compressors, NGG's latest 10YS indicates only machines at St Fergus and Kirriemuir are being built or planned. This compares to the position in the 2006 10YS which included a further 7 new electric compressors as shown below:

level of emissions. The first phase of activity is planned at St Fergus and Kirriemuir followed by corrective action at seven more sites over the 5-year period from 2007. It is anticipated that the requirements of the legislation and the EU Emissions Trading Scheme (EU ETS) will become tighter. Investment of £280m is forecast to be required to complete the upgrading of the compressor fleet.

This reduction in compression plant use is highly significant as many examples of buy-back in 2002- 2005 were believed to be related to constraints arising as a result of compression plant (failures or maintenance). Generally, gas pipelines are much more reliable and therefore less likely to lead to constraints.

3. Impact of new investment

NGG has completed a large investment programme to increase capacities at:

- Bacton - £30M
- Easington/Aldbrough - £250M
- Isle of Grain - £??M (Isle of Grain to Gravesend)
- Milford Haven - £560M

The capex figures are taken from the 2005 10YS (extracts in Appendix 2) NGG no longer publishes any project capex figures. It is not known what the actual capex for these projects has been.

The Milford Haven and Isle of Grain projects are subject to the new incremental capacity incentive and so costs associated with them should not falll to the operational buy-back incentive. However, it is believed that the Easington and Bacton investments were related to the existing baselines and, as such, an operational buy-back incentive was reasonable and necessary to handle any issues associated with their commissioning.

As it happened, the problems in July 2006 in relation to work to connect new gas pipelines in the Easington area indicated the type of problem that can arise. In that case >95% of the net £28 Million constraint management costs were incurred at St Fergus as at that time there were still reasonably high St Fergus flows (prior to Orman Lange).

Now that the cross-Pennine link is fully operational, the construction and operational risks have been reduced. It is not believed that there are any residual 'baseline investment' projects that have not been completed and commissioned. This means that a major source of risk (as witnessed in July 2006) no loner exists.

4. Decline of UKCS

What has happened since 2005 is that there has been a greater decline in UKCS gas flows than was predicted. In effect the Entry Capacity Operational Buy-back incentive covers the entry points into the NTS associated with the UKCS with the exception of Bacton.

For new sources of gas, the incentive to NGG is set in the Entry capacity incremental buy-back incentive. This covers the following:

- **Milford Haven**
- **Isle of Grain Phase 2**
- Isle of Grain Phase 3
- **Easington expansion**
- Cheshire Storage
- Canatxx Fleetwood

The 3 entry points highlighted in bold are all now on stream with capacity fully available. Together these represent a significant tranche of capacity which has reduced the capacity required from the existing entry points, in particular:

- St Fergus
- Teesside
- Barrow
- Theddlethorpe

Bacton has not had any incremental capacity signalled but its capacity remains high as a result of investment in earlier years when flows into Bacton were higher. The decline in UKCS gas landing at Bacton has been replaced with imports from Interconnector and BBL.
What this means is that if there are constraints they are more likely to occur as a result of gas flowing into the NTS from new flows with the incentive to NGG as a result of the entry capacity incremental buy-back incentive. Correspondingly, constraints are less likely as a result of flows from the UKCS facing entry points.

The following table shows this, key points are:

- NGG's forecast for UKCS are 18% lower for 2009/10, 13% for 2010/11 and 7% for 2011/12
- The flows from the UKCS are forecast to be 51% lower in the 2009-2012 period compared to the average in 2000 0 2005.

FIGURE 4.6C Potential UK Peak Supply Capacity
10YS
mcm/d

	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12
UKCS Forecast	358.4	350.8	348.8	315.1	309	291	282	272	244	221	188	157
Import Projects					61	97	228	300	323	370	370	370
Existing & Potential Storage					131	137	140	155	199	318	369	450
Other Imports					0	0	0	0	0	3	27	58
1:20 Peak Day Demand	420.4	433.2	451.6	437.5	543	550	561	563	579	594	604	617

FIGURE 4.7G – Base Case Peak Supply Forecast
Source – National Grid 2008 10 YS

	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12
UKCS / Forecast 90%	358.4	350.8	348.8	315.1	302.7	279.6	222.1	222.4	193.8	181.3	165.3	145.6
Continent	13.6	19.9	13.3	28.6	28.1	47.2	61.8	61.8	88	88	88	88
Norwegian	8.7	16.1	21.4	29.2	37.3	51.5	97.8	108.2	116	116	120.3	124.5
LNG	0	0	0	0	7	17.2	17	15.6	41.5	56	65.5	65.5
Storage	59.4	62.6	78.5	83.4	76.3	68.8	68.3	72.4	132.5	152.4	176.2	203.3
Peak Day Demand	420.4	433.2	451.6	437.5	414.7	413.6	438.8	428.9	528.2	531.8	537.9	543.6
UKCS - reduction from 2005 forecast	0	0	0	0	7	12	60	50	50	40	23	11
UKCS % reduction from 2005	0%	0%	0%	0%	2%	4%	21%	18%	21%	18%	12%	7%
UKCS average in 2000-2005 (green cells)			335									
UKCS average in 2009-2012 (blue cells)											164	
%Reduction in UKCS from 2000-2005 to 2009-2012											51.0%	

It can be argued that there is no longer any requirement for an Entry Capacity Operational Buy-back incentive at all as it has been overtaken in importance by the Entry Capacity incremental buy-back incentive together with the capacity benefits from a major NTS expansion programme completed in the years 2002-2005 which increased capacity at St Fergus and Bacton.

Appendix 1 – extract from GT Licence Special Condition C8D(5)

3. Entry capacity operational buy-back incentive revenue

a) For the purposes of paragraph 1 of this condition, the maximum entry capacity operational buy-back incentive revenue in formula year t ($EnCBBOIR_t$) shall be derived in accordance with the following formula:

$$EnCBBOIR_t = EnCOBBC_t + EnCOBBIR_t + EnCNOIR_t$$

where:

$EnCOBBC_t$ means the subset of the costs ($EnCBBC_t$ as defined in paragraph 3(c) of this condition) incurred by the licensee in respect of formula year t in respect of entry capacity constraint management:

(i) including (but not limited to) costs incurred by the licensee in respect of any payments made by the licensee to curtail the rights of relevant shippers to use firm entry capacity in formula year t (or any part thereof) which would otherwise be conferred on relevant shippers through the ownership of entry capacity rights; and

(ii) excluding (subject to the provision of paragraph 3(n) of this condition) costs incurred by the licensee in this manner where the relevant shippers' ownership of entry capacity rights relates to:

(aa) funded incremental obligated entry capacity first released for sale by the licensee after 31 March 2007 (as included within the term $EnCIBBC_t$ (as defined in paragraph 5(a) of this condition) until such time as that entry capacity has been delivered to relevant shippers; and

(bb) funded incremental obligated entry capacity in respect of the Milford Haven NTS Entry Point released for sale during the allocation held between September 2004 and

December 2004 (inclusive), for use at the Milford Haven NTS Entry Point from 1 October 2007 (as included within the term $EnCBBMHBBC_t$ as defined in paragraph 4(a) of this condition), until such time as that capacity has been delivered to relevant shippers;

Appendix 2 - 2005 10 YS

5.3.2 Projects under construction

The projects listed in Sections 5.3.2 to 5.3.4 are also highlighted on the map of the NTS (Figure 5.4A).

Projects approved during March – July 2004			
Project	**Build**	**Scope**	**Cost**
Ganstead to Asselby	2006	52km x 1200mm	£45m
Easington terminal modifications	2006	Rationalisation and other works	£10m
Garton to Sproatley	2006	7.9km x 900mm	£6.8m

The projects listed above were approved for completion by October 2006, based on the output from the 2004 demand and supply forecasts. These investment decisions have been reviewed in light of the revised supply and demand forecasts issued in May 2005 and continue to be valid.

5.3.3 Projects approved for construction in 2007

Projects approved during 2005			
Project	**Build**	**Scope**	**Cost**
Milford Haven to Aberdulais	2007	128km x 1200mm	£161m
Wormington new compression & modifications	2007	Additional compressive power and reverse flow modifications	£28.8m
Pannal to Nether Kellet	2007	93km x 1200mm	£107.8m

5.3.4 Projects under consideration for construction in 2008 and 2009

Projects required for baseline entry capacity from Easington/Aldbrough			
Project	**Build**	**Scope**	**Cost**
Asselby to Pannal	2008	62km x 1200mm	£52.6m
Easington to Ganstead	2008	32km x 1200mm	£31m

Projects required for additional entry capacity from Milford Haven			
Project	**Build**	**Scope**	**Cost**
Felindre to Tirely	2008	186km x 1200mm	£264m
Wormington to Honeybourne	2008	11km x 900mm	£12.2m
Felindre compressor station	2008	30MW new compressor station	£63.5m
Churchover replacement and modifications	2008	New compression units & pipework modifications	£29.2m

Projects required for baseline entry capacity from Bacton			
Project	**Build**	**Scope**	**Cost**
Kings Lynn to Wisbech pipeline	2008	33km x 1200 mm	£28.8m

Projects facilitating exit capacity			
Project	**Build**	**Scope**	**Cost**
Lockerley Compressor Modifications	2008	High Flow Mods	£2.4m
Barton Stacey to Lockerley	2008	28km x 900m	£22.6m
Wormington to Sapperton	2008	42km x 900mm	£47.2m
Ottery St Mary to Aylesbeare to Kenn + Ilchester to Barrington	2007/8	41km x 600mm	£47.5m
Kenn to Fishacre adoption + Fishacre to Lyneham	2007/8	32km x 900mm adoption + 34km x 600mm	£37m