

National Grid LNG facilities price control - Final Proposals

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Overview:

This document sets out our Final Proposals for the Liquefied Natural Gas (LNG) Storage price control. The Final Proposals will extend the current arrangements for the provision of regulated services by National Grid LNG Storage (NG LNG) until 30 April 2013.

These Final Proposals set out material increases in the prices charged for regulated services beginning 1 May 2011. These prices are set out in Special Condition C3 of the National Grid Gas (NGG) gas transporter licence.

Alongside these Final Proposals, we are publishing the formal consultation under Section 23 of the Gas Act 1986 on the modifications required to NGG's licence to implement our proposals. The statutory consultation on the licence modification closes on 21 March 2011. Subject to the outcome of its consideration of any representations or objections, the Authority intends to make the modifications, to take effect from 1 May 2011.

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Context

National Grid (NG) owns three liquefied natural gas (LNG) facilities that provide a combination of commercial services to gas shippers and regulated services to both National Grid Gas (NGG) and Scotia Gas Networks (SGN).

All of these regulated services are provided at prices set out in Special Licence Condition C3 of the gas transporter's licence ("C3 prices"). These regulated prices were last set in 2008; since then, there have been a number of significant changes affecting the NG LNG business. NG LNG considers that the facilities are no longer commercially viable at the current price levels. Therefore, it has asked us to reconsider the level of the C3 prices.

This document is the last in the planned series covering the detail of this price control.

Associated Documents

- 'National Grid Liquefied Natural Gas (LNG) Storage price control - Open letter', 24 January 2011
<http://www.ofgem.gov.uk/Networks/Trans/GasTransPolicy/LNGPriceControl/Documents1/Open%20letter%20LNG%20FPs.pdf>
- 'National Grid Liquefied Natural Gas (LNG) facilities price control – Initial Proposals', (ref: 143/10) 22 November 2010
<http://www.ofgem.gov.uk/Networks/Trans/GasTransPolicy/LNGPriceControl/Documents1/LNGPC%202010%20Initial%20Proposals.pdf>
- 'National Grid Liquefied Natural Gas facilities price control – Open letter', 17 August 2010
<http://www.ofgem.gov.uk/Networks/Trans/GasTransPolicy/LNGPriceControl/Documents1/FINAL%20National%20Grid%20Liquefied%20Natural%20Gas%20facilities%20price%20control.pdf>

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Summary

Background

National Grid Liquefied Natural Gas Storage (NG LNG) own three LNG storage sites; these are at Avonmouth, Glenmavis and Partington. Historically, these sites have competed commercially in the storage of gas, and have also derived part of their revenues from the provision of price regulated services to National Grid Gas (NGG) and Scotia Gas Networks (SGN).

All three sites have supplied operating margins (OM) services¹ to NGG. In addition, Glenmavis supplies LNG by tanker to SGN to serve the needs of the Scottish Independent Undertakings² (SIUs); and Avonmouth, has in the past provided Constrained LNG³. All of these services are provided at prices regulated by Special Licence Condition C3 (these prices are referred to as the "C3 prices") of the gas transporter's licence.

We set the previous price control for NG LNG storage facilities in 2008. The 2007 transmission price control review (TPCR4) imposed an obligation for NGG to introduce contestability in the tendering process for the regulated (OM) services. At the time we agreed to review the OM price restrictions once NGG had discharged its obligations with respect to contestability for those services. NG LNG discharged these obligations in February 2010⁴ and formally requested last year that we review these regulated prices. A decision on regulated prices is required before NGG can make decisions on this year's OM tendering and procurement exercise, which is due to finish on 25th February 2011.

The process to date

Given the scale and proposed duration of the price control and the timing of decisions, we did not employ RIIO principles in developing our Final Proposals.

Our "initial thoughts" letter and subsequent Initial Proposals⁵ highlighted how the financial position of the facilities has been affected by contestability and a weakening commercial demand for their storage services. NG LNG initiated a review of the long-term viability of Avonmouth, Glenmavis and Partington⁶. NG LNG has indicated that it may close the Partington facility in the future. Furthermore, since the

¹ OM gas is used to maintain system pressures when the system has been put under stress until other system management actions become effective. There are several providers of these services to NGG, other than the NG LNG sites.

² These constitute four remote towns in Scotland which are not on the main gas grid. They are supplied with LNG which is delivered by road tanker.

³ Constrained LNG is a geographic service to support the National Transmission System (NTS) in the resolution of local constraints. NGG NTS provide discounts to shippers prepared to book such LNG storage capacity.

⁴ "Operating margins (OM) Contestability", Ofgem, 18 February 2010

⁵ "National Grid Liquefied Natural Gas (LNG) facilities price control – Initial Proposals", ref: 143/10, 22 November 2010

⁶ LNG Storage Strategic Review Announcements – 04/11/08, 18/12/09, 26/05/10

publication of our Initial Proposals there have been operational issues at the Glenmavis site⁷. Glenmavis will be able to fulfil its supply requirements to the end of this storage year; its capability in the next couple of years is subject to a number of uncertainties. **Accordingly, we will not be setting a C3 price for the Glenmavis facility in this control.**

NGG has confirmed that there are not security of supply implications as a result of the loss of these facilities. Neither the future closure of Partington nor the current loss of Glenmavis affects its compliance with its safety case.

Key features of Final Proposals

This document sets out our Final Proposals for the LNG Storage price control. The key features of our Final Proposals are:

- A continuation of the price control and the determination of minimum prices for the regulated services.
- The control should only deal with the short-term funding of the **Partington and Avonmouth** facilities until 2013. The long-term funding issues should be considered as part of the upcoming transmission and gas distribution price controls.
- The Authority remains firmly of the view, consistent with the decision that was taken when the LNG facilities were partially deregulated, that any future decommissioning costs associated with the LNG storage facilities will be borne and managed solely by NG shareholders.
- We have allowed extra operating costs at Avonmouth and Partington, and extra capex at Avonmouth for maintenance of the liquefier (to reduce security of supply concerns for the Scottish off-grid networks).
- We have also confirmed our stance that we would fully remunerate NG LNG for efficient costs incurred at all three sites during 2010/11.
- The net effect is proposed increases in C3 prices of +115% for Avonmouth and +270% for Partington

Next Steps

We have asked NGG to confirm by 21 March 2011 whether it accepts these proposals. To implement our proposals we need to modify Special Licence Condition C3 of the NGG licence. If NGG accepts the condition, we expect to make the licence amendment in late March 2011. The statutory consultation, which includes the proposed licence condition amendments, is being published alongside these proposals. The new licence condition would take effect from 1 May 2011. If NGG rejects the proposals Ofgem expects to make a reference to the Competition Commission.

We will be considering the impact of these proposals on Scotia Gas Networks and its off-grid consumers as part of a separate process.

⁷ NG LNG informed us in early December 2010 that the cold box had developed a leak. The site has stopped liquefaction and stock levels are being maintained by tankering gas from Avonmouth.

1. Introduction

Chapter Summary

This chapter sets out the background and structure of the document.

Background

1.1. NG LNG owns and operates three⁸ LNG storage facilities that provide a combination of commercial and regulated services. These are situated at Avonmouth, Glenmavis and Partington.

1.2. These LNG facilities are located at the extremities of the National Transmission System (NTS). They were designed to deliver gas during a few days of high demand in each year. This was to ensure that NGG could meet firm demand in line with its network planning requirements. They were considered to be a more economical solution than the construction of additional pipeline capacity in these locations.

1.3. The facilities operate by taking gas off the NTS and cooling it to about -165°C, where it becomes a liquid. It is then stored in tanks until it is required back on the NTS. At that point, the liquid gas is vaporised and injected back into the NTS. The process of cooling the gas into liquid, maintaining it at low temperatures and regasifying the liquid is a very energy intensive process, which makes the operation of the LNG storage facilities expensive. Furthermore, they are relatively slow to fill and have limited storage capacity. However, they can re-gasify large quantities of gas very quickly. These characteristics made LNG storage suited to providing rapid-response, but short-duration, support for the NTS. The types of services these facilities provide are described below.

Services Provided by LNG Storage Facilities

*Operating Margins (OM)*⁹

1.4. All three of the facilities have supplied Operating Margins (OM) services to NGG. OM gas is used to maintain system pressures when the system has been put under stress until other system management actions become effective. Typically, OM is used in the period immediately following a supply loss, demand forecast change or plant failure.

⁸ NG LNG previously operated two further LNG facilities that provided regulated services. One was Isle of Grain, which has since been converted into an LNG import terminal. The other, Dynevor Arms, was closed following a change in regulated services requirements due to the commissioning of the Milford Haven pipeline and South Hook and Dragon LNG terminals.

⁹ Further information on Operating Margins can be found at:

<http://www.nationalgrid.com/uk/Gas/OperationalInfo/GasOperatingMargins/>

1.5. The price at which NGG can procure OM services is limited by Special Licence Condition C3 ("the C3 prices") of the gas transporter's licence.

1.6. Since the previous control in 2008, NGG has introduced competition in the tender process for OM services¹⁰. This has allowed other market participants to compete with the NG LNG facilities for OM provision through supply increase/demand reduction contracts. This has allowed us to suspend the C3 prices for 2010/11 in relation to some¹¹ of the OM requirements.

Supply for the Scottish Independent Undertakings (SIUs)

1.7. SGN uses the tanker loading facility at the Glenmavis site to load road tankers which transport gas to four remote towns in Scotland known as the Scottish Independent Undertakings (SIUs). These are located at Wick, Thurso, Oban and Campbeltown. They total around 91km of pipes, which are owned by Scotia Gas Networks Ltd (SGN), and supply around 6,500 consumers with re-gasified LNG. Avonmouth and Partington have constructed tanker loading facilities which act as a back-up to Glenmavis in this provision.

1.8. The prices charged for this service are also restricted to those specified in Special Condition C3 of NGG NTS's licence.

1.9. It is worth noting that there are arrangements in place to subsidise the transportation charges of these consumers, so they are no higher than the average GB charges. The arrangements are implemented through conditions in the licences of the Gas Distribution Networks and linked with the Distribution Networks' price controls. These arrangements will lapse with the current controls; we understand that the Department for Energy and Climate Change will be consulting on the future options around these subsidy arrangements later in this year.

Resolution of Local Constraints

1.10. The Avonmouth LNG facility has, in the past, provided Constrained LNG. This allows NGG to meet its capacity obligations at remote parts of the network without having to build additional pipeline capacity. NGG requires shippers who book capacity at a constrained LNG site to maintain minimum levels of gas in store, which reflect the volumes necessary to meet peak demand. Also, NGG has the right to require those shippers to flow gas onto the system under certain conditions of high demand. In return, shippers who are prepared to book constrained LNG are provided with a discount, reflecting the saving in investment in the pipeline system. Revenues received in relation to this service are subject to NGG's Constrained LNG incentive scheme.

¹⁰ We introduced this obligation at the time of the last transmission price control, through Special Condition C25 of NGG's gas transporter licence

¹¹ Specifically, the 'Locational - North', 'Non-Locational' and 'Orderly Rundown' elements

Commercial Storage Services

1.11. In the past, NG LNG has provided commercial storage services to shippers at all three sites. As part of a strategic review of the facilities conducted in 2010, NG LNG has confirmed that it will no longer be offering commercial services at Glenmavis and Partington beyond the current gas storage year (ending 30 April 2011). At present, NG is still considering the situation at Avonmouth with regard to future commercial services¹².

Regulation of the LNG storage facilities

Unbundling from Transco's Regulatory Asset Base

1.12. Historically, the LNG storage facilities formed part of Transco's Regulatory Asset Base (RAB). These assets (which at that time also included the Isle of Grain and Dynevor Arms sites) were removed from the RAB and a separate price control was put in place with effect from 1 April 1997. The rationale for the removal of these assets from Transco's RAB was in part to promote competition in what we viewed as contestable services. Our decision to unbundle these assets was supported by the Monopolies and Mergers Commission in 1997¹³ and by a subsequent Fair Trading Act investigation in 1999.

1.13. The 1997 price control for LNG storage facilities set price caps for the provision of services by these facilities. In 2000, Ofgem granted derogation for NG LNG to charge in excess of the regulated price caps in providing services to shippers (but not in providing services to NGG). This occurred in parallel with the introduction of auctions of capacity at these facilities. The 2002 Transco price control review renewed the regulated price cap in respect of services supplied by the LNG storage facilities to NGG but again allowed NG LNG to charge in excess of this price cap for other services. This allowed NG LNG to operate a proportion of the facilities on a commercial basis during these periods.

Transmission Price Control Review 2007

1.14. In the Transmission Price Control Review (TPCR4) 2007-12, Ofgem sought views on amendments to the price regulation framework. We decided to amend the existing price caps such that, when considered in conjunction with auction revenues, they were likely to cover the forward looking capital and operating expenditure of the LNG storage facilities. These amended price caps were (and still are) linked to a reference market price for commercial storage services sold at the NG LNG storage facilities; if these market prices are higher, then the price caps default to these levels. Where the commercial prices are lower, then the C3 price caps prevail. This means that the C3 levels represent a price floor for the regulated services, rather

¹² National Grid, 'LNG Storage Strategic Review - Further Announcement', 26 May 2010. Available at: <http://www.nationalgrid.com/uk/Gas/Ingstorage/Media/>

¹³ 'BG Plc: A report under the Gas Act 1986 on the restrictions of prices for gas transportation and storage services' 29 May 1997, Monopolies and Mergers Commission

than a price cap. Therefore, NG LNG is exposed to downside risk on volume of regulated services, but has upside benefit in relation to both price and volume.

1.15. TPCR4 also considered whether it was appropriate to reincorporate the LNG storage facilities into the NGG RAB. Although one element of capital expenditure in relation to the Glenmavis facility was allowed for in calculating the 2007-12 NGG RAB, we concluded that it was not appropriate for consumers to underwrite the long-term cost of facilities which might not be needed. We also confirmed our view that the decommissioning costs of these facilities should not be paid for by consumers.

1.16. Additionally, TPCR4 introduced a new licence obligation¹⁴ on NGG to establish a transparent and robust process for the competitive provision of the operating margins services currently being supplied by the LNG storage facilities.

1.17. It was intended that, if the terms of this new licence condition are met, then NG LNG storage facilities should be able to tender on the same basis as other potential storage providers. This would imply the disapplication of the current regulated prices for the provision of OM services as specified in Special Condition C3 of NGG's gas transporter licence.

LNG Price Control Review 2008

1.18. The C3 regulated prices were reviewed most recently in 2008. At that review, there was no change in real terms to C3 prices. They were set to endure until the earlier of: 2012; or, the establishment of OM contestability.

Changes since the 2008 control

1.19. Since 2008, there have been a number of significant changes affecting the NG LNG business.

- As a result of a change in OM requirements by NGG, NG LNG chose to close its facility at Dynevor Arms. This site had previously supplied OM services in South Wales.
- In 2009, NG LNG offered tenders for long term commercial storage at its facilities, but it considered that the market demand for these services was very weak.
- Following the tender process for 2010/11 OM requirements, NGG has awarded some OM contracts to new providers, thereby reducing the provision of OM by NG LNG.
- Additionally, there has been a significant tailing-off of prices for the annual commercial storage product.

1.20. Therefore NG LNG set up a review of the long-term viability of Avonmouth, Glenmavis and Partington. Following this review, NG LNG has indicated it will no

¹⁴ Special Condition C25

longer offer commercial services from May 2011 at Partington and Glenmavis, and that it may close the Partington facility around 2013.

1.21. At the time of the 2008 review, we agreed that once NGG established contestability in the provision of OM services, it may be necessary to review the C3 prices to take account of the outcome of the process. We were approached by NG LNG in mid-2010 to conduct such a review. In light of the developments since 2008, we agreed to this request. We set out our initial thoughts on the control in our August 2010 open letter¹⁵ and developed these further in our Initial Proposals¹⁶.

Current status of the part-regulated LNG facilities

1.22. Since the open letter and the Initial Proposals, we have held several bilateral meetings with NG LNG and SGN. A brief site by site synopsis of key issues follows:

- The Partington site was commissioned in the mid 1970s and is approaching the end of its design life. It is situated near a densely populated suburb, and so poses a societal risk. The Health and Safety Executive (HSE) has confirmed that it would be desirable for the site to be closed down. Following confirmation from NGG that the site is not expected to be needed for regulated services post 2013, NG LNG has taken the decision to shut the site down from that point. In the meantime, it has ceased the liquefaction process on site, decommissioned two of its four tanks and stopped offering commercial storage services to reduce the potential risk.
- Avonmouth is the newest of the three sites, and its facilities are in comparatively good condition. NG LNG consider that it has a viable future supplying both commercial and regulated services, and have submitted plans for refurbishment to prolong the site to beyond 2020.
- Glenmavis is the oldest of the operational sites, and was expected to reach the end of its design life in 2015. The site supplies gas by road tanker to the SIUs, and is also a key part of NGG's safety case for Glasgow supply. As set out in our recent open letter,¹⁷ the liquefier has been shut down, pending engineering investigation. The unit may require substantive work to return to service. Glenmavis will be able to fulfil its supply requirements to the end of this storage

¹⁵ 'National Grid Liquefied Natural Gas facilities price control - Open letter' (Ref: 111/10), 17 August 2010. Available at:
<http://www.ofgem.gov.uk/Networks/Trans/GasTransPolicy/Documents1/FINAL%20National%20Grid%20Liquefied%20Natural%20Gas%20facilities%20price%20control.pdf>

¹⁶ 'National Grid Liquefied Natural Gas (LNG) facilities price control - Initial Proposals', (Ref: 143/10), November 2010
<http://www.ofgem.gov.uk/Networks/Trans/GasTransPolicy/LNGPriceControl/Documents1/LNGPC%202010%20Initial%20Proposals.pdf>

¹⁷ 'National Grid Liquefied Natural Gas (LNG) Storage price control - Open letter' 24 January 2011
<http://www.ofgem.gov.uk/Networks/Trans/GasTransPolicy/LNGPriceControl/Documents1/Open%20letter%20LNG%20FPs.pdf>

year; its capability in the next couple of years is subject to a number of uncertainties. In the absence of the Glenmavis facility, we expect NGG and SGN to have alternative plans in place to fulfil their respective service obligations to consumers.

2. Policy Issues

Chapter Summary

This chapter summarises responses to the policy issues raised by Ofgem's Initial Proposals document and sets out our Final Proposals on those issues.

Introduction

2.1. Ofgem received seven responses to the Initial Proposals document on the LNG price control. Responses were received from a Storage Operator, four shippers and two Gas Transporters (GTs). Five of these responses were marked as non-confidential and can be viewed on Ofgem's website¹⁸.

2.2. Chapter 3 sets out respondents' views to Ofgem's assessment of the cost and revenue information submitted by NG LNG. Chapter 4 sets out their views on our proposed price control calculations.

2.3. Ofgem also invited comments from respondents to the substantive policy issues of the control. These comments and our final views are set out in this chapter.

Form of the control

Ofgem's Initial Proposals

2.4. We considered in the Initial Proposals that a price cap remains the most appropriate form of control for these facilities. Historically, NG LNG has benefitted from strong commercial and regulatory revenues, such that these facilities have provided above average returns. Now that they are in decline, NG LNG has proposed moving to a revenue allowance. Such an approach is inconsistent with previous treatment, and transfers the volume risk from NG LNG to consumers without any compensatory benefits for consumers. For this reason we stated that we will continue with a price cap approach.

Respondents' views

2.5. Four respondents supported the continuation of the application of the price cap. One respondent stated that it believed that this will ensure that the appropriate party remains exposed to the costs that it is able to influence and control.

¹⁸ National Grid Liquefied Natural Gas (LNG) facilities price control – Responses to Initial Proposals

<http://www.ofgem.gov.uk/Pages/MoreInformation.aspx?docid=37&refer=Networks/Tans/GasTransPolicy/LNGPriceControl>

2.6. Two respondents did not support the continuation of the application of the price cap. One of the respondents stated that due to a predicted reduction in both regulated and commercial volumes booked at LNG facilities, NG LNG would be exposed to a volume risk beyond its control and be unable to recover all regulated costs.

2.7. Some respondents expressed concern on the potential impact a substantial increase in the C3 prices would have upon the market. One respondent indicated that it is important for small suppliers entering the gas market that the prices for gas storage are low, stable and competitive. Another respondent indicated that increases in C3 prices could have a significant impact on the OM booking revenues for NG LNG and overall funding of the activity.

2.8. One respondent holds the view that the C3 price cap operates more as a price floor. As a result NG LNG receives the higher of the C3 price and the commercial revenues it is able to secure for the capacity. This has meant that NG LNG has been protected, as the risks it has faced have been minimal. It claimed that the substantial increases to the C3 prices contained in Ofgem's Initial Proposals extend further protection to NG LNG.

Ofgem's Final Proposals

2.9. Our final decision of the form of the control remains unchanged from the Initial Proposals document. We agree that the C3 prices act to provide a minimum price for the provision of these services. We do not think it would be appropriate to move to a revenue cap on the grounds that the price cap approach is consistent with previous treatment and proportionate. It places the risks with those best placed to manage them. Our Final Proposals reflect the best current views on regulated and commercial volumes and prices, which should act to reduce the potential downside of any volume risks.

Duration of the control

Ofgem's Initial Proposals

2.10. In our Initial Proposals we acknowledged that there are significant issues surrounding the long-term funding of the LNG sites, which require detailed consideration. We stated that we believe that the most appropriate means to consider these issues is concurrent with RIIO-T1 and RIIO-GD1. Therefore our Initial Proposal was to set a control until 2013. Given the scale and proposed duration of the price control and the timing of decisions, we did not propose to employ RIIO¹⁹ principles in developing our Initial or Final Proposals.

¹⁹ The scope of the control is limited to funding for the sites up to 2013. RIIO is being rolled out as part of RIIO-T1/GD1 for the price control period from 1 April 2013.

2.11. We set our previous Proposals, and NG LNG accepted, on the basis that once contestability had been established we would consider a review of the C3 prices. This trigger point with respect to contestability has been reached. Therefore, we stated that we did not think it appropriate to defer the review of the C3 prices to 2013 as SGN has proposed in response to our Initial Thoughts paper. We stated that we do not have the scope to introduce further substantive delay as the 2011/12 OM tender process requires price certainty in order to attract the full range of potential participants.

2.12. In our Initial Proposals we proposed that the scope of this control would consider only the funding required for the facilities' continued provision of regulated services up to 2013. At that point in time we stated that the issues surrounding the funding of Avonmouth and Glenmavis post-2013 should be addressed at a later date.

Respondents' views

2.13. One respondent did not agree with the duration of the control. Other respondents did agree that the duration is appropriate and that the long-term funding and treatment of facilities should be included in RIIO-T1 and RIIO-GD1 controls.

2.14. One respondent stated that these assets should be treated separately to NGG's price control.

Ofgem's Final Proposals

2.15. We agree with the majority of respondents that this control should only look as far as 2013. Partington is likely to be decommissioned by then and the future requirements for Glenmavis should be clear. Funding beyond that timeframe is to be included in the considerations of the RIIO-T1 and RIIO-GD1 controls.

2.16. We continue to believe that it would be inappropriate for us to defer this control. The OM competitive tendering and procurement process is dependent on having a valid set of C3 prices against which to rank tender bids. Further, we have an obligation to ensure that NG is able to finance its activities in the provision of regulated services. We consider that given the changes that have occurred since the last control, we are duty-bound to enact this control now so as to prevent these facilities reaching a position of financial distress.

Regulated Asset Base and 2010/11 Costs

Ofgem's Initial Proposals

2.17. In our Initial Proposals we stated that:

- We would provide for a return on only a proportion of the RAB, with some variation by site. This variation reflects the differing historical share of regulatory services provided by each site. We have not changed the proportions of historical assets receiving a return to the current usage levels, as this would represent a shift of costs and risks onto consumers without any share of previous benefits accrued. We stated in our Initial Proposals that we did not believe this is appropriate.
- We would include 2010/11 costs and revenues when assessing the overall change in C3 prices for the 2011-13 period, as this is the time from which we deemed NGG had met its obligation with respect to the introduction of contestability for OM services.

Respondents' views

2.18. Two respondents did not support our Initial Proposals. One respondent stated as all future investment is to maintain the operation of regulatory services, then 100% should be used to determine the allowance for future investments at all the facilities. Another was concerned if the application of a return on only a proportion of the RAB would lead to NG LNG failing to invest on the grounds that such investment would not be remunerated.

2.19. Three respondents supported our Initial Proposals. One respondent indicated that it was appropriate to consider the future use of the asset and the regulatory treatment.

2.20. Respondents did not explicitly comment on our proposal to include 2010/11 revenues and costs in the overall control calculations.

Ofgem's Final Proposals

2.21. We remain of the view that it would be inappropriate to remunerate the historical RAB at the current/projected ratio of regulated:commercial use. Agreeing to such a shift as proposed by NG LNG would remove any incentive on it to maximise commercial revenues and would be using consumers as a backstop for downside risk. However, we do recognise that failing to remunerate future capex at future regulated:commercial utilisation rates could act to restrict investment in an inappropriate manner.

2.22. Therefore, capex allowed in the remainder of this control period will be remunerated in line with the prospective regulated:commercial utilisation rates; 100 per cent for Partington, and 42 per cent for Avonmouth. Further detail on this aspect is given in the following chapter.

2.23. Given the issues at Glenmavis, we have taken the decision to exclude the site from our Final Proposals. We will not be setting a C3 price for Glenmavis at this time. It is likely that the only future user of the site will be SGN (in supplying the

SIUs). The regulatory implications of any future arrangements at the site will be dealt with separately, outside of this price control.

2.24. Our Initial Proposals stated we were minded to remunerate efficient costs incurred from the time since NGG was deemed to have met its obligation to promote the contestability of OM services (ie 2010). We propose continuing this position for Final Proposals. In our Initial Proposals we have noted SGN's concern regarding its exposure to any changes in the C3 prices at Glenmavis. Our view at that point was that it would be up to SGN to make a case and to produce substantive evidence as to why this might be considered material before we could consider providing relief. We are still of this view. We continue to engage with SGN on this aspect, and note events at Glenmavis have altered the materiality of likely changes.

Depreciation and Decommissioning

Ofgem's Initial Proposals

2.25. In our Initial Proposals we stated we intend to allow depreciation over the assets' economic lives, but where assets are being retired early, the asset design life should take precedence in order to avoid perverse incentives which might undermine incentives to maximise asset lives. Therefore, our initial proposals were based on assumptions which would set the depreciation of the residual values of Glenmavis and Avonmouth assets over five and 15 years respectively. However, the Partington site is closing before the end of its design life. We stated our intention to allow depreciation on the Partington assets in line with their asset design life rather than their economic life, so that NG's shareholders will be expected to bear the costs of retiring the assets early.

2.26. We also stated that consumers should not bear decommissioning costs. We stated that this is consistent with the basis on which the facilities were originally separated from the Transmission RAB. NG's shareholders have enjoyed the benefits from commercial services and the transfer of the Isle of Grain site out of the regulatory ring fence, and so should be solely liable for any decommissioning and stranding costs.

Respondents' views

2.27. Two respondents did not support Ofgem's proposal and one of these suggested that assets should be allowed to retire early to reflect changing network needs. It stated that in such cases, recovery of the remaining depreciation and return should be allowed otherwise it would create a perverse incentive to retain network in service after the need for it has passed and this might not be in the best interests of gas customers.

2.28. Two respondents supported Ofgem's proposal to allow depreciation over the assets' economic lives, but where assets are being retired early, the asset design life should take precedence.

2.29. One of the respondents supported Ofgem's proposal that consumers should not fund the decommissioning of LNG sites as it would represent a 'cross-subsidy'.

Ofgem's Final Proposals

2.30. We continue to believe that where assets are being retired early, it is appropriate to depreciate assets in line with their design lives rather than their economic lives. NG's shareholders will be expected to bear the cost of retiring the Partington assets early. Our Final Proposals have allowed some funding for isolation costs²⁰ at Partington.

2.31. Consumers should not bear decommissioning costs, and we will disallow all costs associated with the closure of these assets. We consider that this is consistent with the basis on which the facilities were originally separated from the Transmission RAB, and NG's shareholders have enjoyed the benefits from the commercial services and the transfer of the Isle of Grain site.

Sustainability

Ofgem's Initial Proposals

2.32. In our Initial Proposals we were keen to ensure that the sites are decommissioned in a sustainable manner. We were minded to introduce an environmental incentive to facilitate this.

2.33. We indicated that we would work with NG LNG between Initial and Final Proposals to explore this further. We stated that possible aspects for incentivisation included:

- the restriction of greenhouse gas emissions during decommissioning to levels beyond the current regulatory and statutory requirements
- the improvement of visual amenity of the site post decommissioning
- the remediation of the site to standards beyond the current regulatory and statutory requirements

Respondents' views

2.34. There were differing views on the introduction of an environmental incentive into the C3 Final Proposals. One respondent indicated that NG has corporate commitments regarding sustainability and emission reduction and does not require additional funding to decommission sites sustainably when already committed to do so. Another respondent supported an environmental incentive that would encourage early site remediation.

²⁰ These are costs associated with making safe facilities on site while the remainder of the site is still operational. Partington has purged two of its four storage tanks and shut down the liquefier during 2010 to reduce the societal risk and prepare for its ultimate closure.

Ofgem's Final Proposals

2.35. Subsequent to our Initial Proposals, we held discussions with NG LNG to explore these options further.

- A visual amenity incentive could incentivise early site remediation and the surrender of NG LNG's Pollution Prevention and Control (PPC) licence. Currently, NG Property/ NG LNGs have no obligation or indeed incentive to incur anything more than minimum cost in this regard.
- Partington LNG site is located in an industrialised area and the site occupies a portion of the 'old gasworks'. The site still contains pipe work and other assets that are underground that predate the LNG site. In order to be able to surrender the site, every asset associated with both LNG operations and the old gas works must be removed.
- The cost of remediating this site in order to surrender its PPC licence would potentially outweigh the benefit to the consumer that an environmental incentive may provide as the resale value of the land is not high (there are other industrial units in the immediate vicinity).
- An isolation and decommissioning incentive could encourage NG LNG to further reduce venting during site isolation and decommissioning than NG LNG are legally obliged. We understand that the current method in operation for site isolation/ decommissioning is considered to be the most 'environmentally acceptable' and does not incur significant costs²¹. NG LNG claimed that there is no practical means of introducing process improvements in this area.

Consequently, we are not introducing any sustainable development incentive in the Final Proposals.

²¹ We understand this process is subject to Environmental Agency oversight

3. Ofgem's assessment of NG LNG's forecast costs

Chapter Summary

This details the cost and revenue information submitted by NG LNG and shows how this has been used to formulate the Authority's Final Proposals.

Introduction

3.1. Ofgem has relied on data provided by NG LNG to develop these Final Proposals. This data covered both historical and forecast revenues. In our Initial Proposals, we presented our initial view on the appropriate levels of operating costs and capital expenditure (opex and capex).

3.2. Following our Initial Proposals, we have carefully considered responses to the consultation, and held further discussions with NG LNG. Our Final Proposals reflect these discussions, as well as developments at the sites since our Initial Proposals.

3.3. We consider that our assessment of NG LNG's cost submissions is robust and we have developed a fair set of Final Proposals.

Operating costs (Opex)

Ofgem's Initial Proposals

3.4. In our Initial Proposals, we presented NG LNG's opex submission, together with our view of a reasonable level of opex. This included site specific operating costs for each location, together with central costs allocated across the sites.

3.5. Although we queried the inclusion of some costs, we proposed to allow the majority (c. 90 per cent) of NG LNG's controllable opex submission across the three sites. The majority of excluded items related to projects for which we received insufficient information.

3.6. Regarding central costs, we had serious concerns as to the inclusion of some elements. For example, NG LNG has been allocated central costs from the initiation of central engineering and IT systems across the NG group. Whereas this might be appropriate if the LNG facilities have a long expected life, it can hardly be considered efficient to allocate significant portions of such costs to units that are being run down with a view to closure (as in Partington's case). Therefore, we excluded about 24 per cent of NG LNG's central costs submissions to reflect these general views.

Respondents' views

3.7. Only one respondent (NG LNG) commented directly on our treatment of controllable opex. They noted that previous consultancy reports had indicated that the operation of the facilities was efficient, and argued that any reduction in the opex allowance was inappropriate.

3.8. Regarding central costs, two respondents commented specifically on this issue. One (Centrica) agreed that the apportionment of central costs to assets which are being run down to closure was a concern. The other (NG LNG) believed that a proposal to reduce the central cost allowance was unjustified. This was because the majority of these costs relate to LNG storage specific activities where it is more cost effective to undertake them across all three sites. They also argued that there is already a significant financial risk in allocating the costs equally across the three sites when two are approaching the end of their economic lives.

Ofgem's Final Proposals

3.9. Following developments since Initial Proposals, we have revised slightly our position concerning site specific opex. As SIU services will likely be provided from Avonmouth for the forthcoming winter, for security of supply reasons we have decided to make allowance for all opex in NG LNG's submission for the Avonmouth site. We have largely maintained our position on opex at Partington, with a small increase in project costs following further information from NG LNG.

3.10. However, we continue to have reservations about central costs. As a result, our Final Proposals maintain our position from Initial Proposals. The outcome of this analysis is a reduction in central costs of around 24 per cent as against NG LNG's submission.

Capital Expenditure (Capex)

Ofgem's Initial Proposals

3.11. NG LNG submitted capex plans of a very different nature for each of the facilities; this was to reflect their differing statuses and life expectancies.

- While Avonmouth is in good condition, the future plans suggested that significant investment would be required over the next few years if it is to continue to provide commercial and regulated services.
- Glenmavis had specific problems with the existing tanks which restrict its deliverability rates. It had stopped providing commercial services and had submitted a range of capex options relating to varying capabilities of regulated service provision up until 2015.

- Partington is being run down with a view to being decommissioned in 2013. Future spend is related primarily to the costs of isolating existing equipment from the operational units for safety reasons.

3.12. In our Initial Proposals, we made allowance for capex which was attributed to specific safety and legislative requirements. We also included two large site specific projects. The first of these was the relocation and upgrade of the control room and associated systems at Avonmouth. The second was related to repairs necessary at Glenmavis to restore at OM and SIU services, albeit at lower levels of capability. We considered that, as the service obligations lie with SGN and NGG, they should be more directly exposed to the costs of meeting these obligations if they required the reinstatement of full capability.

3.13. We did not include any allowance for isolation costs at Partington, as we considered that they were closely aligned with decommissioning costs and hence not appropriate for consumers to bear. However, we indicated our desire to engage with NG LNG with a view to incentivising additional costs incurred in decommissioning the facility in a way that furthers our sustainable development objective.

3.14. In Initial Proposals, we allowed depreciation and return on the historical proportion of the asset base in line with the historical ratio of regulated:commercial volume output, by site. This was consistent with our treatment of these costs during the previous control.

3.15. However, we recognised the need to give NG LNG the appropriate incentive to invest in efficient capex as necessary. Given the rapid change in the regulated:commercial ratio at Glenmavis and Partington, we considered that maintaining the historical ratio could compromise safe and efficient future investment at these sites in particular. Therefore, we proposed to allow depreciation and return on asset base increases in line with the projected ratio of regulated:commercial volume output over the three years of the control. Our Initial Proposals contained allowances for all deemed efficient capex at Glenmavis and Partington, and 27 per cent of efficient Avonmouth capex.

Respondents' Views

3.16. Two respondents (NG LNG and NGG) commented specifically on our efficiency assessment of capex. NG LNG maintained that all of the capex in their submission should be allowed within the control. NGG were concerned that if certain capex wasn't undertaken then neither regulated nor commercial services may be available.

3.17. Regarding the differing treatment of historical and future capex, three respondents (RWE, EDF Energy and Centrica) were in favour of our approach to consider the future use of the asset. However, Centrica had some concerns regarding the use of the projected regulated:commercial ratio, due to the potential for forecasting error. Two respondents (NG LNG and NGG) thought that our Initial Proposals regarding future capex were too harsh, as NG LNG would only recover 27 pence in the pound and so was not incentivised to invest appropriately. In addition,

NG LNG believed that the regulated:commercial ratio for historic should be calculated incorporating future projections of asset use.

3.18. One respondent (EDF Energy) supported our proposals on asset depreciation. One respondent stated that, if depreciation is to be accelerated, NG LNG should provide a report on the historical depreciation of these assets. Another (NGG) had concerns about the depreciation of Partington's RAB over its design (rather than economic) life, as it effectively disallowed the remaining depreciation and return where the assets are retired early.

3.19. Three respondents (RWE, EDF Energy and NG LNG) agreed that, if the obligations lie with NGG and SGN, then it is appropriate that they are more exposed to the capex costs at Glenmavis, to provide an incentive to find the least cost solution.

Ofgem's Final Proposals

3.20. Given the developments since Initial Proposals and evidence provided by NG LNG, we have increased our view of the amount of efficient capex by around £2m, to incorporate specific projects related to liquefaction and tanker loading. This is relevant to the security of supplies to the SIUs.

3.21. Following discussions with NG LNG, we have also decided to include provision for isolation costs at Partington (c. £1m). We accept NG LNG's arguments that these works are distinct from decommissioning, as they are necessary to close down sections of the live site so that the rest of the site can continue to operate.

3.22. We have also increased the proportion of forward capex at Avonmouth on which we propose to allow depreciation and return. This is because the assumed provision of the SIU service from the site increases the regulated:commercial ratio, and so we propose to allow 42 per cent of efficient capex to earn depreciation and return through the C3 price mechanism. We propose to allow all efficient prospective capex at Partington, in line with our Initial Proposals.

3.23. We propose to maintain the depreciation period at Partington in line with its design life. This is because we believe that shareholders should bear the cost of retiring these assets early, given that they have seen the benefits of the high commercial revenues in the past.

3.24. Regarding Glenmavis, we expect that SGN will be the only user of this site going forward. Discussions on the funding of these requirements are ongoing.

Revenue forecast

Ofgem's Initial Proposals

3.25. NG LNG provided site specific forecasts of revenue streams up to 2013. This was largely based on the level of OM requirement being relatively constant, Glenmavis supplying the SIUs and Avonmouth commercial services continuing at current levels. There are no commercial revenues from Glenmavis and Partington after 2010.

3.26. We considered the data in conjunction with NGG's estimates of future OM requirement, and believe that NG LNG's estimates are reasonable given the above assumptions.

3.27. In considering the commercial revenue streams, we noted that NG LNG withdrew volume from the market because of commercial issues, rather than there being a fall in market demand. We thought that this had resulted in Glenmavis and Partington losing commercial revenues which could have been used to offset costs. Accordingly, we added the net of associated costs and revenues based on commercial revenue forecasts from the 2007 submission, to reflect this revenue foregone.

Respondents' views

3.28. Two respondents (RWE and EDF Energy) agreed that NG should be exposed to revenue forgone if the decision to remove commercial services was taken for commercial reasons. Two respondents (NG LNG and NGG) argued that commercial services may cause wear and tear on the plant, and impact on the reliability of commercial services. NG LNG maintains that it withdrew commercial services to prolong the provision of the regulated services.

Ofgem's Final Proposals

3.29. We propose to continue to take account of commercial revenue forgone when calculating the C3 price for Partington. NG LNG has taken the decision to retire these assets early and we do not think that consumers should be made to bear these forgone revenues. The funding NG LNG receives through the control should be sufficient to maintain the reliability of the plant, irrespective of whether it is also being used for commercial services.

3.30. Taking account of the situation at Glenmavis, and following discussions with NG LNG, we have made two adjustments to the revenue forecasts. We have included forecast revenues from SGN for the provision of the SIU service from Avonmouth. We have assumed that the SIUs will be supplied from Avonmouth for both years of

the control, due to the current uncertainty surrounding the repair of Glenmavis. In calculating this, we have reduced the forecast commercial volume booking, as some of this capacity will be taken on by SGN under their pre-emption rights.

3.31. In addition, we have adjusted the forecast future commercial price following the submission of new information from NG LNG. Since the initial submission in September, NG LNG has presented evidence that the summer-winter price differential has fallen further, and so revised downwards its estimates of commercial income over the next few years.

4. Price Control Calculations

Chapter Summary

This chapter sets out the Authority's Final Proposals for the LNG Storage price control.

4.1. The previous Chapters have set out our views on the policy issues arising from our Initial Proposals. They have also set out the data submitted by NG LNG in response to our information request. This Chapter sets out our proposed format for the Final Proposals and explains the underlying calculations.

Responses to Initial Proposals

Ofgem' Initial Proposals

4.2. Our Initial Proposals were for substantial increases to the C3 prices at each of the three sites. We proposed increases of 205 per cent at Avonmouth, 85 per cent at Glenmavis and 250 per cent at Partington.

4.3. In our Initial Proposals, the cost of capital used was the pre-tax rate of 6.25 per cent, as used in the previous C3 price control and TPCR4. This is greater than the cost of capital used in DPCR5, but we considered this justified given that the LNG business faces more risky and volatile revenues than the typical network monopoly.

Respondents' views

4.4. One respondent (Centrica) thought that the 6.25 per cent rate was too large, as the 'price cap' mechanism acts to minimise downside risk, whilst allowing potential commercial upside. Another respondent (EDF Energy) thought that the cost of capital should be based on the most recent review (DPCR5).

Ofgem's Final Proposals

4.5. We are proposing to maintain a pre-tax cost of capital rate of 6.25 per cent, in line with Initial Proposals. It should be noted that the rate of return on the asset base has little material impact on the outcome for C3 prices. This is because the comparatively large depreciation charges and opex costs outweigh the effects of any small changes in the return on the RAB. As such, we judge that estimating a cost of capital rate specifically for this control is not justified. The choice of this rate should not be taken as a signal of Ofgem's intentions regarding the cost of capital for the TPCR4 roll-over, RIIO-T1 or RIIO-GD1.

4.6. We present our Final Proposals for Avonmouth and Partington below. As previously noted, due to the operational issues at Glenmavis, it is not possible to derive a C3 price for that site.

Calculation Principles and Underlying Assumptions

4.7. The basic principle of the price control calculation is that forecast revenue should equal forecast costs for the period under consideration. NGG has provided revenue and cost forecasts for each year until 2012/13. These forecasts were based around anticipated closure dates of 2013 for Partington and ongoing provision from Avonmouth.

4.8. The net present values (NPVs) of the forecast revenue and cost streams for the years in question (2010/11-2012/13) are compared and any mismatch recouped from (or returned to) customers. This is done by calculating the scaling of regulated service revenues (from 2011/12 and 2012/13²²) necessary to ensure the NPVs of forecast costs and total revenues are equal. This scaling is in turn applied to the existing C3 prices to adjust their level appropriately.

4.9. As discussed in the previous chapters, we are proposing to continue with a price cap for C3 prices.

4.10. The sites under consideration have differing characteristics that merit individual consideration. In contrast to the previous control, we have carried out this analysis on a site-by-site basis. For each site, we have analysed the site specific costs and revenues, together with a share of central costs, to give the appropriate C3 price change for each site. This to ensure that any changes to C3 prices are more reflective of the actual costs at each site.

4.11. We have proposed that the review will be set until the end of 2012/13, in order to coincide with the start of RIIO-T1 and RIIO-GD1. As such, we have performed the analysis over a three year period (2010/11 to 2012/13), with price changes to apply for 2011/12 and 2012/13 as we are already part way through 2010/11.

4.12. All prices used have been adjusted to 2010/11 real prices, using an inflation assumption of 3 per cent.

²² In Chapter Two we set out that the cost recovery period should include the current year. Since the sites are forecasting a loss for this year, a three year shortfall in revenue will need to be recovered within two years. We would expect the proposed increases to be reversed somewhat in the following control to reflect a more evenly matched cost recovery period.

Cost data and revenue forecasts

Opex

4.13. We have used NG LNG's data submission as the basis for our assessment of operating costs. The controllable opex has been assessed as discussed in the previous chapter, to arrive at the Final Proposal allowances for each site.

4.14. We have also included in our analysis an allowance for central costs. These costs have been shared equally between the three sites, to ensure the C3 price for each site captures the same proportion of central costs. As such, only two-thirds of the efficient central costs are included in this control, with the remaining third associated with Glenmavis and hence a matter for consideration outside of these proposals.

4.15. As they represent a cost over which NG LNG has limited control, we have included the business rates for both sites as a pass through item.

Capex

4.16. As detailed in the previous chapter, we have taken a view on the forecast capex as provided by NG LNG. We have provided an allowance for depreciation and return on this capex.

4.17. In addition to the forecast capex, consistent with the previous control, we have made provision for depreciation and return on a portion of the opening Regulatory Asset Base (RAB). In the previous control, we allowed for depreciation and return on one-third of the total RAB, as this was the historical proportion of total volume bookings used for regulated services across all sites. We have maintained this approach, but have calculated the split of the RAB on a site-by-site basis, using the historical volume bookings for each site from 2006/7-2009/10. This has resulted in providing an allowance for depreciation and return on 27 per cent of the historical Avonmouth RAB and 26 per cent of Partington. Following discussions with NG LNG, we have slightly revised the opening RAB values used for this control.

4.18. In the previous control's Final Proposals, the assets were depreciated on a straight line basis over 45 years. Given that the sites will be closing in the relatively near future, we have taken the view that NG LNG should be remunerated for their original and subsequent investments over the remaining design life of the original assets. This has resulted in a depreciation period of 15 years at Avonmouth, based on a closure date of 2025. Concerning Partington, we are proposing to depreciate the assets over a 6 year period, in line with the design life of the site²³. This is to be compared to the expected closure date of 2013, which has been brought forward by NG LNG in advance of the anticipated design life.

²³ Partington was commissioned in 1972 (a year after Glenmavis in 1971), and so we are assuming an end of design life one year later than that of Glenmavis.

Revenue forecasts

4.19. We have used NG LNG's forecast of revenue in our analysis for the three sites. Since Initial Proposals, we have received new information from NG LNG on the forecast commercial price. As current forecasts of commercial storage prices have fallen significantly (by c 25 per cent), we have revised our figures for forecast revenue at Avonmouth to take this price change into account.

4.20. In addition, the supply of the SIUs from Avonmouth will have an impact on forecast income in two ways. Incomes will be increased as the C3 price (even at current levels) is significantly greater than the regulated price. However, there will be a negative impact on incomes, as more capacity will be taken up by regulated services²⁴. This will reduce the amount of capacity available to be offered to shippers in the Annual Storage Invitation (ASI) process, and so likely to reduce commercial income for the sites

4.21. Because of the impacts of the above, the ratio of regulated:commercial services will change. The net impact is that total forecast income is slightly increased (in comparison to Initial Proposals), and regulated services make up a significantly greater proportion of that forecast income. As a result, the necessary increase in C3 prices is substantially less than Initial Proposals, even though cost allowances have been increased. This is because there is a greater volume of regulated services and so the unit price can increase by a smaller percentage and still cover the shortfall in revenues.

4.22. NG LNG has stopped offering commercial services at Glenmavis and Partington, and taken a commercial decision to forgo revenues. As such, we have included provision for commercial revenue forgone. This has been calculated by comparing forecasts from the current submission with the previous submission (from 2007). The forgone margin is the difference in forecast commercial revenues, net of any increase in forecast commodity costs²⁵. This forgone revenue has been added to the revenue forecast for the purposes of calculating the necessary change in C3 prices.

Price control Final Proposal

4.23. In summary, our Final Proposals have the following key features:

- A price cap on the provision of regulated services (as against a revenue allowance)

²⁴ The regulated services (OM and SIU) have pre-emption rights on capacity at LNG Storage sites, meaning they can reserve capacity before the rest of the market. The remaining capacity is then offered to commercial Shippers via the Annual Storage Invitation (ASI) process

²⁵ Commodity costs represent the main variable cost to the LNG sites, as commercial services require more liquefaction and regasification, and hence demand additional electricity and gas usage.

- A two-year duration for the control, to take it to 2013 (where it can be reconsidered in parallel with RIIO-T1 and RIIO-GD1)
- Location-specific adjustments to the price caps of the regulated services (as against an across-the-board average increase), in order to send appropriate signals for parties that might wish to participate in NGG's Operating Margins (OM) tender process
- Remuneration for efficient forward looking costs and depreciation and return on a proportion of the historical capital expenditure
- No provision for decommissioning costs, in line with our stance in the previous control

4.24. When these factors are taken into account, Ofgem is proposing that £53m of costs should be included when setting the C3 price caps for the three year period at Avonmouth and Partington. Our Initial Proposal was £50m, and NG LNG's proposed figure was £146m (or £111m if Dynevor is excluded from consideration). The breakdown is shown in the table below.

Table 4.1: Overview of cost components

£m (10/11 prices; NPV terms)	NG LNG submission	Ofgem Initial Proposals	Ofgem Final Proposals
Capex	16.7	2.6	5.4
Opex	26.9	23.7	25.4
Central Costs	10.1	7.7	7.7
Return on RAV	9.3	4.9	5.2
Depreciation	62.0	10.7	11.1

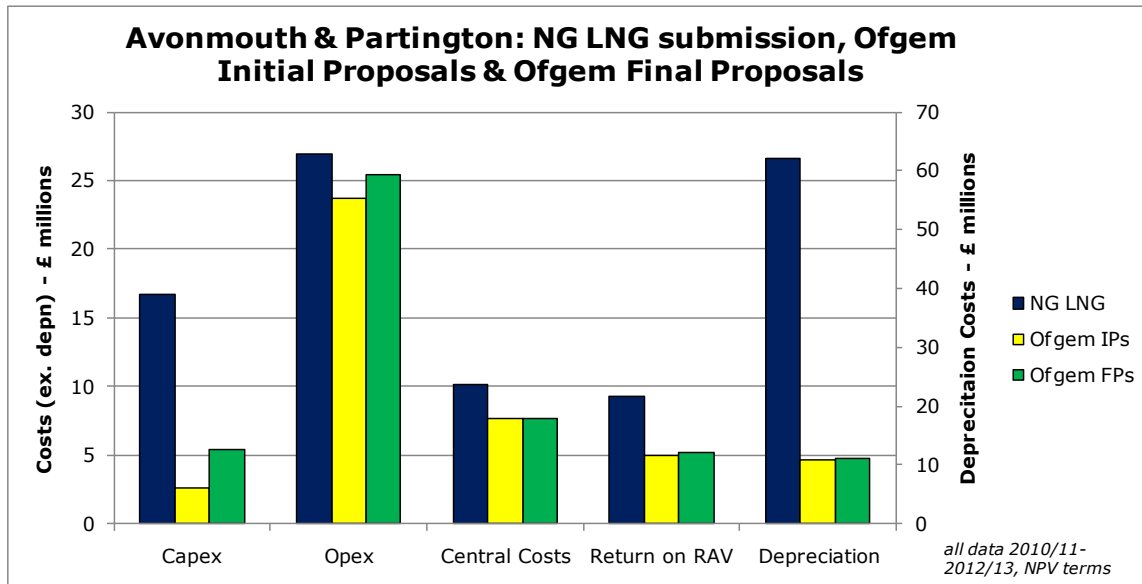
4.25. The calculations based on the above assumptions are laid out on the following pages. The net effect on the current C3 prices is a proposed 115 per cent increase at Avonmouth and 270 per cent increase at Partington. These are contrasted with our Initial Proposals and NG LNG's proposals in the table below.

Table 4.2: Comparison of percentage increases - NG LNG and Ofgem

C3 Price Increase (%)	NG LNG Submission	Ofgem Initial Proposals	Ofgem Final Proposals
Avonmouth	512%	205%	115%
Glenmavis	320%	85%	n/a
Partington	2001%	250%	270%

4.26. The differences between Ofgem's Initial Proposals and NG LNG's submissions are illustrated below.

Figure 4.1: Graphical comparison of Ofgem and NG LNG proposals



4.27. The following pages itemise the detail of each of Ofgem's Final Proposals, by site. A summary of the changes made between Ofgem's Initial and Final Proposals is included as Appendix 1.

Data source	Ofgem View		
Site	Avonmouth		
Opening RAB allowance	16.8		
Cost of capital	6.25%		
Asset Depreciation (years)	15		
Year of provision for SIUs	2011/12 & 2012/13		
Year ending 30 April £m 10/11 real	2011	2012	2013
Capex forecast	0.9	1.6	1.8
Cost breakdown			
Opex	4.8	8.6	7.6
Central costs	1.4	1.4	1.3
Rates	0.7	0.7	0.7
Depreciation	1.1	1.2	1.3
Return on RAB	1.0	1.1	1.1
Total	<u>9.1</u>	<u>12.9</u>	<u>11.9</u>
Net Present Value of total	8.8	11.8	10.2
Scenario NPV			30.9
Revenue Forecast			
NG LNG forecast	5.5	8.5	8.0
NPV of revenue	5.3	7.8	6.9
Scenario NPV			20.0
Revenue less Cost			
PV of Revenue less costs			(10.9)
NGG LNG income from regulated services			
NG LNG regulated services income	2.9	5.4	5.3
NPV of NG LNG regulated services income	2.9	4.9	4.5
Scenario NPV			9.4
Percentage change to C3 prices req'd			115%

Data source				Ofgem View
Site				Partington
Opening RAB allowance				16.1
Cost of capital				6.25%
Asset Depreciation (years)				6
Year ending 30 April £m 10/11 real	2011	2012	2013	
Capex forecast	1.4	0.3	0.1	
Cost breakdown				
Opex	4.0	1.5	1.5	
Central costs	1.4	1.4	1.3	
Rates	0.5	0.5	0.5	
Depreciation	2.7	2.9	3.0	
Return on RAB	1.0	0.8	0.7	
Total	<u>9.6</u>	<u>7.2</u>	<u>6.9</u>	
Net Present Value of total	9.3	6.5	5.9	
Scenario NPV				21.8
Revenue Forecast				
NG LNG forecast + forgone revenue	3.2	4.1	4.1	
NPV of revenue	3.1	3.7	3.5	
Scenario NPV				10.4
Revenue less Cost				
PV of Revenue less costs				(11.4)
NGG LNG income from regulated services				
NG LNG regulated services income	1.0	2.3	2.4	
NPV of NG LNG regulated services income	1.0	2.1	2.1	
Scenario NPV				4.2
Percentage change to C3 prices req'd				270%

5. Timeline for implementing Final Proposals

Chapter Summary

This chapter outlines the timeline for implementing the Final Proposals.

Timeline

5.1. The statutory notice to change Special Condition C3 of NGG's gas transporter licence (under s23 of the Gas Act 1986) is being published alongside these Final Proposals for the LNG storage price control. A version of the proposed licence text is included in this document as Appendix 2. Affected parties have 28 days in which to make representations on the proposed modifications to the Authority.

5.2. In view of the requirement for NGG to make decisions on the tender process for OM by 25 February 2011, so that NG LNG can be certain of the quantities of space it can offer for commercial storage on 1 March 2011, it would be helpful if NGG and any other affected parties could indicate whether in principle they agree to the proposed modifications sooner than 21 March 2011.

5.3. Subject to the outcome of the Authority's consideration of any representations on the proposals made through the statutory consultation process, we would expect to make the modifications to NGG's licence in late March 2011. The new C3 prices would then take effect from 1 May 2011.

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Appendices

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Appendix 1 – Changes between Initial and Final Proposals

1.1. The following details the key policy positions of these Final Proposals, highlighting any changes that have occurred since Initial Proposals.

Policy issue	Ofgem IPs	Ofgem FPs
Price v revenue cap	Price cap	Price cap
Return on portion of historical investments	Avonmouth 27% Glenmavis 53% Partington 26%	Avonmouth 27% Glenmavis n/a Partington 26%
Return on portion of future capex	Avonmouth 27% Glenmavis 100% Partington 100%	Avonmouth 42% Glenmavis n/a Partington 100%
Decommissioning costs	None allowed	None allowed
Isolation costs	None allowed	Partington costs allowed(c £1m pa)
Sustainability	Explore possible incentives	No incentives required
Cost assessment	90% opex submission, 75% central costs, "high priority" capex	100% opex submission for Avonmouth, 75% central costs, "high priority" capex + specific capex for Avonmouth liquefier
Duration of control	2011 - 2013	2011 - 2013
Locational pricing	Yes	Yes
Remuneration of 2010/11 costs	Through proposed increases	Through proposed increases
Commercial revenues	At original level	At reduced level
Supply assumptions	All 3 sites operational to 2013	Scottish off-grid consumers supplied from Avonmouth

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Appendix 2 - Text for licence consultation

Special Condition C3. Restriction of Prices for Liquefied Natural Gas (LNG) Storage Services

1. (a) The licensee shall ensure that the charges made by the licensee for:
 - (i) the provision of Operating Margins; and
 - (ii) the supply of LNG storage services to any DN Operator whose transportation system includes independent systems which are operated using LNG

for the relevant year commencing on 1 May 2011 and each subsequent relevant year are the charges set out in Tables 1 and 2 below.

(b) The Authority may direct in writing that the requirement set out in paragraph 1(a) shall be suspended for such period of time as the Authority may specify in respect of (i) the provision of Operating Margins and/or (ii) the supply of LNG storage services to any DN Operator whose transportation system includes independent systems which are operated using LNG. Such a direction may be made in respect of one or more LNG storage facility and/or in respect of one or more Operating Margins requirements. For the purposes of this condition only, "Operating Margins requirements" means the Operating Margins procured by the licensee for:

Supply loss and forecast demand change;

Compressor failure and pipeline failure, which is further subdivided into:

Locational – South;
 Locational – West;
 Locational – Wales;
 Locational – Scotland; and
 Locational – North
 Non-locational; and
 Orderly rundown

or such other requirements as may be necessary having regard to the licensee's obligations under the licensee's network code and its Safety Case.

TABLE 1

LNG storage facility	Reserved space (pence per kWh per annum)	Reserved deliverability (pence per peak day kWh per annum)	Storage injection (pence per kWh)	Storage withdrawal (pence per kWh)
Avonmouth	W	Y	0.512 * LNGSPITt	0.052 * LNGSPITt
Partington	X	Z	1.195 * LNGSPITt	0.078 * LNGSPITt

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Where:

- W equals a price in pence per kWh per annum which is the higher of 3.145 * LNGSPIT_t or 0.85 * WAHAPSS_t
- X equals a price in pence per kWh per annum which is the higher of 4.018 * LNGSPIT_t or 0.85 * WAHPPSS_t
- Y equals a price in pence per peak day kWh per annum which is the higher of 2.892 * LNGSPIT_t or 0.15 * WAHAPSS_t
- Z equals a price in pence per peak day kWh per annum which is the higher of 3.678 * LNGSPIT_t or 0.15 * WAHPPSS_t

WAHAPSS_t equals, in respect of the amounts payable by shippers to the licensee in respect of Storage Capacity as part of the supply of LNG storage services provided to shippers by the licensee at the licensee's LNG storage facility at Avonmouth, the average price (weighted by volume) payable by shippers in respect of that ten percent of all such Storage Capacity purchased for which the highest prices were payable by any shipper purchasing such Storage Capacity for the relevant year

WAHPPSS_t equals, in respect of the amounts payable by shippers to the licensee in respect of Storage Capacity as part of the supply of LNG storage services provided to shippers by the licensee at the licensee's LNG storage facility at Partington, the average price (weighted by volume) payable by shippers in respect of that ten percent of all such Storage Capacity purchased for which the highest prices were payable by any shipper purchasing such Storage Capacity for the relevant year

TABLE 2

TANKER CHARGES	
Tanker filling slots	£7390.63 * LNGSPIT _t per annum
Tanker filling charge	£537.50 * LNGSPIT _t per tanker filled or partially filled

LNGSPIT_t is the price indexation adjustment term, which shall be calculated using the following formula:

$$LNGSPIT_t = \left(1 + \frac{RPI_t}{100}\right) \times LNGSPIT_{t-1}$$

where LNGSPIT shall take the value 1 in respect of the relevant year commencing 1 May 2007 only and RPI_t shall be as follows:

RPI_t means the percentage change (whether of a positive or a negative value) in the arithmetic average of the retail prices index published or determined with respect to each of the six months from July to December (both inclusive) in relevant year t-1

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and the arithmetic average of the retail prices index numbers published or determined with respect to the same months in relevant year t-2

2. For each relevant year for which, and to the extent to which, the licensee charges for the supply of LNG storage services in accordance with paragraph 1 of this condition the licensee, so far as concerns LNG storage arrangements, shall be deemed to have complied for that relevant year with the provisions of Standard Special Conditions A4 (Charging – General) and A5 (Obligations as Regard Charging Methodology).

3. The licensee shall provide a report in writing to the Authority stating the volume and price of all Storage Capacity sold in respect of each relevant year. This report shall be provided to the Authority as soon as reasonably practicable and in all circumstances by no later than 31 August following the end of the relevant year to which it relates.

4. In this condition "Operating Margins" and "Storage Capacity" shall bear the meaning given to those terms in the licensee's network code as at 16 March 2007.

5. For the purposes of this condition only "relevant year" means a period of twelve months commencing on 1 May at the start of the Day (as defined in the Uniform Network Code).

6. In this condition "Safety Case" means the safety case prepared by the licensee pursuant to the Gas Safety (Management) Regulations 1996.

Appendix 3 - The Authority's Powers and Duties

1.1. Ofgem is the Office of Gas and Electricity Markets which supports the Gas and Electricity Markets Authority ("the Authority"), the regulator of the gas and electricity industries in Great Britain. This appendix summarises the primary powers and duties of the Authority. It is not comprehensive and is not a substitute to reference to the relevant legal instruments (including, but not limited to, those referred to below).

1.2. The Authority's powers and duties are largely provided for in statute (such as the Gas Act 1986, the Electricity Act 1989, the Utilities Act 2000, the Competition Act 1998, the Enterprise Act 2002 and the Energy Acts of 2004, 2008 and 2010) as well as arising from directly effective European Community legislation.

1.3. References to the Gas Act and the Electricity Act in this appendix are to Part 1 of those Acts.²⁶ Duties and functions relating to gas are set out in the Gas Act and those relating to electricity are set out in the Electricity Act. This appendix must be read accordingly.²⁷

1.4. The Authority's principal objective is to protect the interests of existing and future consumers in relation to gas conveyed through pipes and electricity conveyed by distribution or transmission systems. The interests of such consumers are their interests taken as a whole, including their interests in the reduction of greenhouse gases and in the security of the supply of gas and electricity to them.

1.5. The Authority is generally required to carry out its functions in the manner it considers is best calculated to further the principal objective, wherever appropriate by promoting effective competition between persons engaged in, or commercial activities connected with,

- the shipping, transportation or supply of gas conveyed through pipes;
- the generation, transmission, distribution or supply of electricity;
- the provision or use of electricity interconnectors.
-

1.6. Before deciding to carry out its functions in a particular manner with a view to promoting competition, the Authority will have to consider the extent to which the interests of consumers would be protected by that manner of carrying out those functions and whether there is any other manner (whether or not it would promote competition) in which the Authority could carry out those functions which would better protect those interests.

²⁶ Entitled "Gas Supply" and "Electricity Supply" respectively.

²⁷ However, in exercising a function under the Electricity Act the Authority may have regard to the interests of consumers in relation to gas conveyed through pipes and vice versa in the case of it exercising a function under the Gas Act.

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1.7. In performing these duties, the Authority must have regard to:

- the need to secure that, so far as it is economical to meet them, all reasonable demands in Great Britain for gas conveyed through pipes are met;
- the need to secure that all reasonable demands for electricity are met;
- the need to secure that licence holders are able to finance the activities which are the subject of obligations on them²⁸; and
- the need to contribute to the achievement of sustainable development.

In performing these duties, the Authority must have regard to the interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes, or residing in rural areas.²⁹

Subject to the above, the Authority is required to carry out the functions referred to in the manner which it considers is best calculated to:

- promote efficiency and economy on the part of those licensed³⁰ under the relevant Act and the efficient use of gas conveyed through pipes and electricity conveyed by distribution systems or transmission systems;
- protect the public from dangers arising from the conveyance of gas through pipes or the use of gas conveyed through pipes and from the generation, transmission, distribution or supply of electricity; and
- secure a diverse and viable long-term energy supply,
- and shall, in carrying out those functions, have regard to the effect on the environment.

1.8. In carrying out these functions the Authority must also have regard to:

- the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed and any other principles that appear to it to represent the best regulatory practice; and
- certain statutory guidance on social and environmental matters issued by the Secretary of State.

The Authority may, in carrying out a function under the Gas Act and the Electricity Act, have regard to any interests of consumers in relation to communications services and electronic communications apparatus or to water or sewerage services (within the meaning of the Water Industry Act 1991), which are affected by the carrying out of that function.

1.9. The Authority has powers under the Competition Act to investigate suspected anti-competitive activity and take action for breaches of the prohibitions in the legislation in respect of the gas and electricity sectors in Great Britain and is a designated National Competition Authority under the EC Modernisation Regulation³¹

²⁸ Under the Gas Act and the Utilities Act, in the case of Gas Act functions, or the Electricity Act, the Utilities Act and certain parts of the Energy Acts in the case of Electricity Act functions.

²⁹ The Authority may have regard to other descriptions of consumers.

³⁰ Or persons authorised by exemptions to carry on any activity.

³¹ Council Regulation (EC) 1/2003.

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and therefore part of the European Competition Network. The Authority also has concurrent powers with the Office of Fair Trading in respect of market investigation references to the Competition Commission.

Appendix 4 - Glossary

C

Capital Expenditure (Capex)

Expenditure on investment in long-lived assets, such as LNG storage tanks and process plant.

L

Liquefied Natural Gas (LNG)

LNG consists mainly of methane gas liquefied at around -162°C. Cooling and liquefying the gas reduces its volume by 600 times such that a tonne of LNG corresponds to about 1,400 cubic metres of methane in its gaseous state. LNG may be stored or transported by special tanker.

N

National Grid Gas (NGG)

The licensed gas transporter responsible for the gas transmission system, and four of the regional gas distribution companies.

National Grid Liquefied Natural Gas (NG LNG)

A trading division of NGG, which owns and operates the LNG Storage facilities which are the subject of this review.

National Transmission System (NTS)

The high pressure gas transmission system in Great Britain.

O

Operating Expenditure (Opex)

The costs of the day to day operation of the sites such as staff costs, repairs and maintenance expenditures, and overheads.

Operating Margins (OM)

In relation to gas, OM is gas in storage which is reserved by the NTS to ensure that the supply of gas is maintained in the event of a network emergency.

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R

[Regulated Asset Base \(RAB\)](#)

The value ascribed by Ofgem to the capital employed in the licensee's regulated business.

S

[Scotia Gas Networks \(SGN\)](#)

The Gas Transmission licence holder for the Southern and Scotland Gas Distribution Networks (GDNs).

[Scottish Independent Undertakings \(SIUs\)](#)

Four remote towns in Scotland (Wick, Thurso, Oban and Campbeltown), comprising around 6,500 customers, that receive regasified LNG via road tankers loaded at the Glenmavis LNG facility.

T

[Transmission Price Control review 4 \(2007-12\) \(TPCR4\)](#)

The TPCR established the price controls for the transmission licensees which took effect in April 2007 for a 5 year period. The review applies to the three electricity transmission licensees, National Grid Electricity Transmission (NGET), Scottish Power Transmission Ltd (SPTL), Scottish Hydro Electric Transmission Ltd (SHETL) and to the licensed gas transporter responsible for the gas transmission system, NGG.

[Transmission System Operator \(TSO\)](#)

The system operator has responsibility to construct, maintain and operate the NTS and associated equipment in an economic, efficient and co-ordinated manner. In its role as SO, NGG NTS is responsible for ensuring the day-to-day operation of the transmission system.

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Appendix 5 - Feedback Questionnaire

1.1. Ofgem considers that consultation is at the heart of good policy development. We are keen to consider any comments or complaints about the manner in which this consultation has been conducted. In any case we would be keen to get your answers to the following questions:

- Does the report adequately reflect your views? If not, why not?
- Does the report offer a clear explanation as to why not all the views offered had been taken forward?
- Did the report offer a clear explanation and justification for the decision? If not, how could this information have been better presented?
- Do you have any comments about the overall tone and content of the report?
- Was the report easy to read and understand, could it have been better written?
- Please add any further comments?

1.2. Please send your comments to:

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