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Avonmouth Liquefied Natural Gas Facility Price Review: Initial Proposals

Consultation

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Contact:	Natasha Ranatunga, Senior Manager
Team:	Gas Transmission Policy
Tel:	020 7901 7183
Email:	gas.transmissionresponse@ofgem.gov.uk

Overview:

National Grid Liquefied Natural Gas (NG LNG) operates a storage facility at Avonmouth which provides a combination of commercial and regulated services. NG LNG's commercial services are subject to market forces, but its regulated services have been subject to a price cap since 1997. This has been reviewed and revised regularly to ensure consumers are protected. The level of the price cap was last reviewed in 2010/11 and applies until 30 April 2013. A new price cap is required for the period from May 2013 onwards.

This document presents our Initial Proposals for the price review of the regulated services supplied by Avonmouth. It contains our proposals for the review, along with the costs and revenues that we consider should be allowed. We are inviting views on these proposals by 4 January 2013.

We will be publishing our Final Proposals for this review in February 2013.

Context

National Grid (NG) owns an LNG storage facility at Avonmouth. It provides 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 NGG's gas transporter's licence ("C3 prices"). These regulated prices were last reviewed in 2010/11 and were set to apply until 30 April 2013.

NGG and SGN submitted their respective business plans as part of the RIIO price controls. The RIIO business plans highlighted their requirements for continued use of the Avonmouth facility for regulated services until 2018. Therefore, C3 prices need to be set for this five year period based upon the costs and revenues in this period.

This document follows on from a previous open letter on the subject, and sets out our Initial Proposals on the Avonmouth LNG facility C3 price review.

Associated documents

'Avonmouth Liquefied Natural Gas facility C3 price review – Open letter' 25/09/2012, Ofgem:
http://www.ofgem.gov.uk/Networks/Trans/GasTransPolicy/LNGPriceControl/Documents1/120925_AvonmouthC3review_openletter.pdf

'National Grid Liquefied Natural Gas (LNG) facilities price control - Final Proposals' 21/02/2011, Ofgem (Ref: 18/11):
http://www.ofgem.gov.uk/Networks/Trans/GasTransPolicy/LNGPriceControl/Documents1/LNGPC%202011%20Final%20Proposals.pdf

Contents

Executive Summary

Background

National Grid LNG operates an Liquefied Natural Gas (LNG) storage facility at Avonmouth which provides both commercial and regulated gas storage services. It provides commercial storage services to shippers and the price for these services is dictated by the market. The regulated services it provides are support to National Grid Gas (NGG) to help it balance the gas transmission system and to Scotland Gas Networks (SGN) for supplying LNG through tankers to four towns in Scotland which are not connected to the distribution networks. These regulated services are subject to a price cap specified in Special Condition C3 of NGG's gas transporter's licence. This price regulation is intended to protect consumers because SGN has no current alternative to using Avonmouth and to avoid cross-subsidies between National Grid businesses.

Process to Date

In September 2012, we issued an open letter which informed stakeholders of our intention to undertake this review. We asked for views on the scope, form and duration of the control. We received three responses to that letter. We also held a series of meetings with NG LNG and obtained data to determine the extent of the changes to the business since the 2010/11 review and the requirements on the business beyond 2013.

Summary of our Initial Proposals

Having considered the responses and data received, we have developed our Initial Proposals for the revised price cap. These are described in this document. We have considered the operating and capital expenditure submissions by NG LNG with regards to the costs it considers should be included to calculate the price cap levels. Our views on the appropriate levels are given in this document.

- We will continue to apply a C3 price cap and not apply a revenue allowance.

- We will be setting a five year duration for the control which will take funding for Avonmouth to 30 April 2018, on the assumption that both NGG and SGN will continue to rely on Avonmouth for regulated services until April 2018.

- We will continue to provide for a return on only a proportion of the asset base that reflects the share of regulatory service that Avonmouth will provide. The regulated share will increase from 42 per cent to 44 per cent.

- There will be no provision for decommissioning costs and we will not allow any costs associated with the closure of Avonmouth.

- We will assume NG LNG will continue to receive revenues from commercial services until April 2018.

- The proposed change is a decrease of 11% compared with the current C3 price.

We generally accept NG LNG's levels of operating costs and expected revenues, but we have extended the time period for revenues and costs (to 2018) to reflect both commercial revenue foregone from having to provide the regulated services and SGN's stated reliance on Avonmouth. We do not agree with NG LNG on the treatment of return on asset base and decommissioning costs.

Next Steps

We are seeking views on these Initial Proposals by 4 January 2013. We will consider respondents' views and will publish our Final Proposals in February 2013.

1. Introduction

Chapter Summary

This chapter explains the purpose of this document and the context of the Initial Proposals.

Background

1.1. NG LNG owns an LNG storage facility at Avonmouth. The facility provides a combination of commercial and regulated services. NG LNG previously owned four other LNG storage facilities that provided regulated services. These facilities were at Partington, Glenmavis, Dynevor Arms and the Isle of Grain. The Partington, Glenmavis and Dynevor Arms facilities have been closed[1]. The Isle of Grain facility was converted into a LNG import terminal in 2005.

1.2. These LNG facilities were 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 system planning requirements. It was considered to be a more economical solution than the construction of additional pipeline capacity in those locations.

1.3. LNG storage facilities operate by taking gas off the NTS and cooling it to about -165ºC, 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 an energy intensive process, which makes the operation of the LNG storage facilities expensive.

Services Provided by Avonmouth LNG Storage Facility

1.4. LNG storage facilities have certain characteristics that make them useful for particular services. The storage facilities can re-gasify large quantities of gas very quickly which makes them ideal for providing rapid-response, but short-duration, support for the NTS. However, some of the disadvantages of the liquefaction process are that it makes the storage facilities expensive to run and slow to fill. The facilities also have a limited storage capacity. The types of service Avonmouth provides are described below.

[1] Dynevor Arms formally closed in March 2009. Partington formally closed in March 2012. Glenmavis will formally close once decommissioning has been completed.

Operating Margins[2]

1.5. Avonmouth supplies NGG with Operating Margins (OM) services. OM services are used to maintain system pressures when the system has been put under stress until other system management actions become effective. Typically, OM services are used in the period immediately following a supply loss, demand forecast change or plant failure.

1.6. A portion of LNG is reserved for the purposes of OM services in order to manage the orderly rundown of the system in an emergency. NGG must maintain a level of OM service bookings in order to comply with its safety case[3]. The price at which NGG can procure OM services is limited by Special Licence Condition C3 of its gas transporter's licence.

1.7. Since the review of LNG prices we undertook in 2008, changes have been made to the Unified Network Code (UNC) and NGG's Safety Case to increase the number of providers able to offer OM services. In particular, this has allowed other market participants to compete with the NG LNG facilities for OM services provision through supply increase/demand reduction contracts. Going forward NGG has indicated a requirement for OM services at Avonmouth until 2018. Due to insufficient alternative providers, NGG will continue to rely on Avonmouth until that date.

Scottish Independent Undertakings

1.8. SGN uses the tanker loading facility at Avonmouth to load road tankers which transport LNG to four remote towns in Scotland known as the SIUs[4]. These towns are Wick, Thurso, Oban and Campbeltown. They use around 91km of pipes, which are owned by SGN, and which provide supply to around 7,500 consumers with re-gasified LNG. Glenmavis provided this service before it closed in 2012. Currently there are no other LNG facilities in GB that can provide the same service as Avonmouth.

1.9. This service is provided as part of a bilateral contract between NGG and SGN that formed part of the distribution network sales package. The prices charged for this service are also restricted to those specified in Special Condition C3 of NGG's gas transporter licence.

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[2] Further information on Operating Margin services can be found at: http://www.nationalgrid.com/uk/Gas/OperationalInfo/GasOperatingMargins

[3] Under the Gas Safety (Management) Regulations 1996 SI 1996/551, the Health and Safety Executive (HSE) requires that gas transporters submit for approval (and comply with) a 'safety case', which details how they manage the safety of the network. The procurement of OM services is part of NGG's safety case obligations.

[4] Stornoway on the Isle of Lewis is also an SIU. It is not supplied with LNG and instead receives Liquid Petroleum Gas (LPG) from other sources.

1.10. SGN has stated that it will continue to rely on Avonmouth as the sole source of gas for the SIUs. SGN has stated that it intends to submit its plans for an enduring solution to supplying the SIUs in 2015.

Resolution of Local Constraints

1.11. In the past Avonmouth has provided Constrained LNG (CLNG), a type of NTS Transportation Support Service (NTS TSS). NTS TSS allows NGG to meet its capacity obligations in remote parts of the network without having to build additional pipeline capacity. NGG requires shippers who book capacity at a CLNG site to maintain minimum levels of gas in store 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 CLNG are given a discount, reflecting the saving in investment in the pipeline system. Revenues received in relation to this service are currently subject to NGG's CLNG incentive scheme and are planned to be subject to the NTS TSS incentive scheme from April 2013, as part of our RIIO-T1 proposals.

1.12. NGG has indicated that it will continue to have a requirement for CLNG which it will need to source from Avonmouth. NGG states that its requirements will reduce once the NTS has been reinforced in the South West.

Commercial Storage Services

1.13. NG LNG has provided commercial storage services to shippers at Avonmouth, these services are not charged at the C3 price. The provision of these services has not been formally discontinued.

Interaction with RIIO price control

RIIO

1.14. We are undertaking the first price control to be conducted under our new RIIO model. Through RIIO-T1, we are setting the regulatory framework to apply to electricity and gas transmission companies from 1 April 2013 to 31 March 2021. Through RIIO-GD1, we are setting the regulatory framework to apply to gas distribution companies from 1 April 2013 to 31 March 2021.

RIIO –T1

1.15. NGG requested funding for an enduring solution to its Avonmouth requirements in its RIIO-T1 business plans. In our RIIO-T1 Initial Proposals we allowed funding for network reinforcement in the South West NTS. This network reinforcement will allow NGG to safely operate the NTS without using services from Avonmouth from 2018 onwards.

RIIO – GD1

1.16. In the context of the RIIO-GD1 price control process SGN requested funding to continue to procure its requirements for the SIUs through Avonmouth. In addition it stated that it would submit its plans for an enduring alternative to relying on the Avonmouth facilities to tanker LNG to the SIUs in 2015. In our RIIO-GD1 Initial Proposals we allowed SGN funding to supply the SIUs for the whole RIIO-GD1 period until 2021[5].

1.17. The costs for SGN procuring LNG from Avonmouth are currently subsidised at the direction of the Secretary of State for Energy and Climate Change. SGN only pays the average GB transportation charge for the SIUs; the difference is paid by NGG which in turn charges all GB customers. These arrangements are set to lapse on 31 March 2013. We have set out options for funding the SIUs in absence of these arrangements in the RIIO-GD1 initial proposals.

[5] The funding is based on the costs of securing LNG from Avonmouth.

2. Scope, Form, Duration and our Initial Proposals for the price review

Chapter Summary

We consulted on our general approach to reviewing the price cap at Avonmouth LNG storage facility in September 2012. This Chapter summarises the responses to our letter and explains our response to them.

Questions

Question 1: Do you agree with our Initial Proposals that NGG and SGN should be more exposed to the capex costs and return on asset base associated with the provision of regulated services at Avonmouth?

Question 2: Do you agree with our Initial Proposals to remunerate the regulated share of Avonmouth based on the economic life of the asset rather than its design life?

Question 3: Do you think it is appropriate to include commercial revenues foregone in the consideration of the C3 price cap?

Introduction

2.1. We issued an open letter in September 2012 which outlined the role of the Avonmouth LNG storage facility and its current regulatory regime. We asked for responses regarding the scope, form and duration of the control. We also outlined our timetable for the process.

2.2. We received three responses to the open letter. These were from NG LNG, NGG and SGN. All the responses are non-confidential and can be viewed on our website as associated documents to our open letter. The following sections set out: our open letter views on the scope, form and duration of the control; respondents' views on these issues; and, our Initial Proposals on these aspects of the review.

Scope of the Control

2.3. In our open letter we highlighted that both NGG and SGN have stressed that they have an ongoing requirement to access the Avonmouth LNG storage facility from 1 May 2013. In its RIIO-T1 business plan submission, NGG put forward a network reinforcement solution that would remove its need for Avonmouth LNG storage facility from October 2018[6]. We have commented on this in our RIIO-T1 Initial Proposals[7]. SGN has stated in the context of the RIIO-GD1 price control process that it requires LNG facilities at Avonmouth until October 2018 as an interim supply solution. When it expects to introduce the enduring solution.

2.4. In our open letter we stated that NG's LNG business was not subject to price control regulation in the same way as NGG's NTS business and therefore we did not intend to bring Avonmouth under the remit of the main RIIO-T1 price review. We proposed to conduct a separate review of the funding required to contribute to Avonmouth LNG storage facility's continued provision of the regulated services, until the alternatives for NGG and SGN are in place, and to determine what this means for the C3 price.

Respondent's Views

2.5. NG LNG provided its views on why regulated C3 prices should fully recover ongoing costs on the basis that the industry had chosen to rely on Avonmouth beyond 2013. It believes that future allowances should adequately capture the fixed and variable costs associated with providing an interim service and allow for the site to be closed and decommissioned at the earliest opportunity.

2.6. NG LNG also stated that it expected allowances for critical investment to underpin short term operational resilience in addition to the unrecovered costs of closing and demolishing other sites and the anticipated costs associated with closure and demolition of Avonmouth within the RIIO-T1 period.

2.7. SGN stated that due to the experience of the significant increase in C3 costs for provision of services to the SIUs as part of the closure of Glenmavis, it held a view that that a rigorous assessment of NG LNG's ability to provide those services should form part of the review process.

2.8. SGN believed it was essential to ensure that any changes in C3 prices for providing gas to the four Scottish towns beyond April 2013 could be passed through to all consumers in Great Britain via the continuation of a mechanism in Special Condition 26 of NGG's gas transporter licence. This is due to expire in March 2013.

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[6] This may be dependent on obtaining relevant planning consents.
[7] RIIO-T1: Initial Proposals for National Grid Electricity Transmission and National Grid Gas http://www.ofgem.gov.uk/Networks/Trans/PriceControls/RIIO-T1/ConRes/Documents1/RIIO%20T1%20NGGT%20and%20NGET%20Outputs%20and%20incentives.pdf

Our View

2.9. Our Initial Proposals consider only the funding required for Avonmouth's continued provision of the regulated services up to April 2018. This provides NGG and SGN with sufficient time to reduce their reliance on the Avonmouth facility and to implement their enduring solutions which have been detailed in their respective RIIO business plan submissions.

2.10. We also maintain the view that the review should be limited to the C3 prices and we will not be reviewing Special Condition C26 of NGG's gas transporter licence. We will address the issue of how SGN recovers the costs it incurs in relation to the supply of SIUs (and Special Condition C26) as part of the RIIO-T1 and RIIO-GD1 Final Proposals that we will publish on 17 December 2012.

Form of the Control

2.11. The existing C3 price cap which will end in April 2013 was determined by comparing the expected costs and revenues for all services, and then adjusting the scale of charges for the regulated services so that the total costs and revenues balance. The regulated prices, defined by the "price cap[8]" methodology, set an upper limit on the prices that can be charged by regulated facilities and has been used for this service since it became regulated.

2.12. The basis of this decision, as distinct from adopting other forms of control, is that it keeps the volume and decommissioning risks and benefits with NG LNG, which is best placed to manage the associated risks and benefits.

Respondent's Views

2.13. NGG indicated that it believed a revenue allowance rather than a price cap should be in place. It believes it would enable NG LNG to plan its use of Avonmouth and ensure sufficient investment for Avonmouth to maintain suitable levels of availability and deliverability as well as to meet its statutory requirements. NGG justified this view on the basis that the demand for commercial services continues to decline whilst the regulated services are becoming a significant proportion of the services that will be provided by Avonmouth in the future.

2.14. NG LNG expressed surprise that regulated C3 prices were being continued as it had expected that LNG storage costs until 2018 were to be included as part of the main RIIO-T1 price controlled revenue for NGG. NG LNG also stated its concern with the continuation of the adoption of C3 prices for the provision of regulated services due to volume uncertainty arising from regulated customers. It also cited a demise of commercial storage required at Avonmouth which would impact upon NG LNG.

[8] Although denoted as a price cap, this represents a minimum price for the services, as the licence allows NG LNG to charge the greater of the regulated price or the price it has been able to secure for commercial services.

Our View

2.15. We believe it would not be appropriate to move to a revenue allowance. We consider that the price cap approach is both consistent with previous treatment and proportionate. A price cap places the risks with those best placed to manage them whereas a revenue allowance would expose consumers to risks they do not currently face and would represent an unfair balance of risk and reward between NG LNG and consumers given that NG LNG (not consumers) have benefitted during the years when commercial revenues have been higher.

2.16. In our RIIO-T1 Initial Proposals we allowed funding for network reinforcement to replace NGG's requirement for regulated services at Avonmouth. We did not provide funding for LNG storage costs to be included as part of the main RIIO-T1 price controlled revenue.

Duration of the Control

2.17. In our open letter we stated that our initial thoughts are that the C3 prices determined by this review should be for the period from 1 May 2013 until April 2018.

Respondent's Views

2.18. NGG stated in its response that the duration was reasonable; NG LNG and SGN did not provide a view on the duration. However, SGN stated that the October 2018 date was what it considered its 'backstop' for receiving LNG supplies from Avonmouth. According to SGN, this assumption is based on a statement in NGG's second RIIO-T1 submission in which NGG indicates that investment in network reinforcement would remove NGG's need for Avonmouth from 2018.

Our View

2.19. In our Initial Proposals we propose that the duration of the price review should be for a five year period to ensure funding for Avonmouth until April 2018. We do not believe it is appropriate that SGN should base the timings for its own enduring SIU solution on when NGG expects to have completed network reinforcement in the south west of England. Therefore, we will only consider funding until April 2018 as it is expected that both NGG and SGN should have in place alternative arrangements.

Return on Asset Base

2.20. We have assessed NG LNG's costs associated with providing the regulated services in order to set an appropriate return on the relevant proportion of the asset base, and for NGG and SGN to have certainty on the costs of the regulated services.

2.21. At the previous review we increased the proportion of forward capex at Avonmouth on which we proposed to allow depreciation and return. This was because the assumed provision of the SIU service from the site increased the regulated to commercial ratio of projected volumes, and so we allowed 42 per cent of efficient capex to earn depreciation and return through the C3 price mechanism.

2.22. For our Initial Proposals we have adopted the same approach. We have assumed that SGN and NGG continue to use Avonmouth until April 2018. We have also assumed that commercial services continue at Avonmouth until 2018. Therefore we have included commercial charges foregone to reflect this assumption. By taking this into account, this increases the regulated share for the 5 year period from 42 per cent to 44 per cent.

Decommissioning

2.23. In previous controls we have always maintained that consumers should not bear decommissioning costs, and we have disallowed all costs associated with the closure and rundown of these assets. Dynevor Arms, Partington, Glenmavis and Isle of Grain have not received any funding in relation to decommissioning. This decision was reached on the basis that the facilities were originally separated from NGG National Transmission System's (NTS) Regulated Asset Base (RAB), and NG's shareholders have enjoyed the benefits from the commercial services revenues and the transfer of the Isle of Grain site from the regulated business.

2.24. NG LNG believes that decommissioning costs should be allowed because it has forecast that Avonmouth will cease to offer commercial services from 2015/16 although it will remain open until 2018 in order to provide regulated services. However, we are not minded to allow decommissioning costs given that commercial services have been provided historically and that the decommissioning costs would be the same in 2018 as now.

Depreciation

2.25. Our general policy position on depreciation is that we will allow depreciation over the assets' economic lives, but where assets are being retired early the asset design life should take precedence. This is to avoid perverse incentives which might undermine incentives to maximise asset lives. In the previous controlling review, we determined that NG shareholders should be expected to bear the cost of retiring assets early.

2.26. Beyond 2013, NG LNG had intended to reduce functionality at Avonmouth and to only provide a regulated service to NGG until 2018 when NGG is expected to complete its network reinforcement. NG LNG had anticipated incurring a minimal level of opex and capex in order to meet NGG's requirements. SGN's requirement for a continuation of regulated services from Avonmouth beyond 2013 significantly increases the levels of opex and capex incurred. SGN's requirement for regulated services signifies that the annual liquefaction process programme will need to continue until 2018.

2.27. NG LNG has requested that we allow full remuneration of Avonmouth in line with its economic life (five years), and therefore allow full depreciation within the control period. Without significant investment, or a requirement for regulated services beyond 2018, Avonmouth will close. Avonmouth is an aging asset and it is not considered economic and efficient to invest significantly to maintain this facility beyond 2018 when regulated services will no longer be required. Avonmouth is being kept open beyond 2013 and is not being retired early in order to provide regulated services for SGN and NGG. On this basis, we consider that there is justification for remunerating the regulated share of Avonmouth based on the economic life of the asset rather than the asset design life. However, we will retain the option to revisit this issue if Avonmouth does not close in 2018.

Commercial Services

2.28. In the previous LNG review we stated that as Avonmouth was the newest of NG LNG's three sites[9], its facilities were in comparatively good condition. NG LNG considered that it had a viable future supplying both commercial and regulated services, and submitted plans for refurbishment prolonging the site beyond 2020. We allowed an efficient level of funding for Avonmouth on this basis.

2.29. NG LNG has indicated that the majority of its commercial revenue stream[10] at Avonmouth is derived from shippers providing LNG storage services on behalf of tanker operators (not GB licensed gas shippers). An unregulated part of NG Group, NG Grain LNG[11], launched an open season process[12] on 23 October 2012 seeking to ascertain the market appetite for the new tanker LNG refilling facilities at Isle of Grain.

2.30. Avonmouth supplies LNG that is compliant with the Gas Safety (Management) Regulations (GSMR)[13]. The service at Isle of Grain would offer LNG from its tanker refilling facilities and would have a direct impact upon Avonmouth's revenue streams as the majority of its current commercial customers do not require GSMR compliant LNG[14] as they supply natural gas for vehicles.

2.31. In considering the commercial revenue streams, we note that if an unregulated part of NG Group chooses to install tanker LNG refilling facilities, Avonmouth's commercial services income will fall due to a NG Group commercial decision as opposed to a fall in market demand. We believe that NG's shareholders rather than consumers should bear the costs of revenue falls at Avonmouth as shareholders will gain from increased commercial revenues at Isle of Grain. We will

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[9] The 2010/11 LNG price control focused on Partington and Glenmavis in addition to Avonmouth.
[10] Unregulated capacity income at Avonmouth.
[11] National Grid Grain LNG, a wholly owned subsidiary of NG, owns and operates the Isle of Grain LNG importation terminal. It is a wholly unregulated entity of NG.
[12] http://www.nationalgrid.com/corporate/Media+Centre/Press+Releases/Global+Press+Releases/LNG+Tanker+23.10.12.htm
[13] The GSMR regulations apply to the conveyance of natural gas (methane) through pipes to domestic and other consumers.
[14] Natural gas vehicles are alternative fuel vehicles that use LNG as a cleaner alternative to fossil fuels.

therefore take into account such commercial revenue forgone when calculating the C3 price for Avonmouth for the full five year period.

Our Initial Proposals

2.32. In order to determine the C3 prices, our Initial Proposals are as follows -

- We will continue to apply a C3 price cap and not apply a revenue allowance.

- We will be setting a five year duration for the control which will take funding for Avonmouth to 30 April 2018, on the assumption that both NGG and SGN will continue to rely on Avonmouth for regulated services until April 2018.

- We will continue to provide for a return on only a proportion of the asset base that reflects the share of regulatory service that Avonmouth will provide. The regulated share will increase from 42 per cent to 44 per cent.

- There will be no provision for decommissioning costs and we will not allow any costs associated with the closure of Avonmouth.

- We will assume NG LNG will continue to receive revenues from commercial services until April 2018.

3. Costs, Revenues and Calculations

Chapter Summary

This chapter details the cost and revenue information submitted by NG LNG and shows how this has been used to formulate our Initial Proposals.

Introduction

3.1. We have used data provided by NG LNG to develop these Initial Proposals. This data covered both historical and forecast costs and revenues. We have taken a view on the appropriateness of elements of NG LNG's cost submissions, and used data submissions from previous reviews to assess the operating costs (opex) and capital expenditure (capex) levels and plans.

3.2. NG LNG submitted data for a six year period (2013-2019), in line with our information request. Subsequent to the receipt of this data we decided that it was appropriate that we set a C3 price for a five year period. Consequently we have aligned the costs over the five years until April 2018.

3.3. We consider that our assessment of NG LNG's cost submissions is robust and we have developed a fair set of Initial Proposals. For our Final Proposals we will carefully consider responses to this consultation, any further evidence provided by NG LNG and wider respondents.

Operating Expenditure (Opex)

3.4. NG LNG submitted both controllable and non-controllable operating cost data for Avonmouth for the period 2010/11 to 2018/19. Our review of the opex levels indicates that they have been reasonably constant (in real terms) over the period. Although we have queried the inclusion of some costs, we propose allowing the majority (approx. 96 per cent) of the submission in setting the C3 price level. We have extended NG LNG’s opex costs for staff and contractors, utilities and maintenance and site services to reflect the supply of both regulated and commercial services until 2018.

3.5. We will not allow decommissioning costs to be included in the calculation of the C3 price level. NG LNG has stated that beyond 2015/16 Avonmouth will only provide regulated services, NG LNG believes that it is reasonable that if Avonmouth is to remain open longer than 2015/16, 100 per cent of decommissioning costs should be funded from the regulated income. Our views on the commercial services are contained in the previous chapter. However, we believe that commercial services will be offered from Avonmouth beyond 2015/16 and therefore 100 per cent of decommissioning costs should not be borne by all consumers.

3.6. We have excluded the related party margins on labour and we consider that the risk premium that NG LNG has applied to utilities costs should be disallowed. NG LNG proposed to apply a risk premium to cover for market price movements for its costs for electricity, gas and process materials[15]. However, we believe that NG LNG is best placed to manage such risks, not consumers and therefore NG LNG should not be allowed the risk premium. In addition, we have also considered NG LNG's proposal regarding inflation adjustment as appropriate (please refer to the Calculations section below), therefore any price movements will be reflected there.

Capital Expenditure (Capex)

3.7. Our Initial Proposals allow 94 per cent of NG LNG's capex submission. We have excluded the cost of security fence upgrades. We do not consider these costs to be critical to the actual operation of the facility.

3.8. As stated in the previous chapter we will increase the proportion of forward capex at Avonmouth on which we propose to allow depreciation and return based upon our view of the increased regulated to commercial ratio of projected volumes at Avonmouth.

3.9. In addition to the forward capex, consistent with the previous control, we have made provision for depreciation and return on a portion of the opening asset base. In the previous control, we allowed depreciation and return on 27 per cent of Avonmouth's historical asset base and then allowed depreciation and return on 42 per cent of forward capex. For this price review we will allow depreciation over 5 years, in line with previous price controls depreciation and return will be allowed on 44 per cent of forward capex based upon our projected volume splits between regulated and commercial services.

Revenue Forecast

3.10. NG LNG provided specific forecasts of revenue streams up to 2019. These are largely based on: the level of OM services requirement being relatively constant until 2018; SIU requirements falling away in 2016; and Avonmouth commercial services ceasing in 2015/16. The revenue information that NG LNG submitted is provided in the table below.

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[15] This includes refrigerants such as ethylene.

Table 3.1: Summary of NG LNG's revenues forecast

£m 12/13 Prices	2013/14	2014/15	2015/16	2016/17	2017/18
Operating Margins	5.7	5.7	5.7	5.7	5.7
SIU	6.9	6.9	6.9	0	0
Shipper	2.5	2.5	2.5	0	0
Constrained LNG	0.4	0.4	0.4	0	0
Total C3	12.6	12.6	12.6	5.7	5.7
Total	15.5	15.5	15.5	5.7	5.7

3.11. We have considered the data in conjunction with NGG's estimates of future OM services requirement, and believe that NG LNG's estimates are reasonable. In its response to our open letter, SGN stated that it plans to continue using Avonmouth until 2018. In our Initial Proposals we have assumed that SGN will continue to use Avonmouth until then and have adjusted the revenue information accordingly. We have assumed that commercial services will also continue until April 2018. Therefore we have taken into account commercial revenue forgone when calculating the C3 price for Avonmouth for the full five year period.

3.12. We have ensured that all costs associated with maintaining these services continue until April 2018. Our Initial Proposals on NG LNG revenue forecasts are as follows –

Table 3.2: Summary of Ofgem's revenues forecast

£m 12/13 Prices	2013/14	2014/15	2015/16	2016/17	2017/18
Operating Margins	5.7	5.7	5.7	5.7	5.7
SIU	6.9	6.9	6.9	6.9	6.9
Shipper	2.5	2.5	2.5	2.5	2.5
Constrained LNG	0.4	0.4	0.4	0.4	0.4
Total C3	12.6	12.6	12.6	12.6	12.6
Total	15.5	15.5	15.5	15.5	15.5

Calculations

3.13. The basic principle of the price control calculation is that forecast revenue should equal forecast costs for the period under consideration. NG LNG has provided revenue and cost forecasts for each year until 2018/19. These forecasts were based on Avonmouth closing in April 2018 when regulated services will no longer be required from the facility.

3.14. The net present values (NPVs) of the forecast revenue and cost streams for the years in question (2013/14-2017/18) are compared, and any mismatch recouped from (or returned to) customers. This is done by calculating the scaling of regulated service revenues (using NG LNG's projections) 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.

3.15. All prices used have been adjusted to 2012/13 real prices, using an inflation assumption of 3 per cent. We have used 3 per cent as it reflects the inflation assumptions used in the previous price review and in NG LNG's own submission.

3.16. In the previous price control, Avonmouth assets were depreciated on a straight line basis over 15 years to reflect the remaining design life of the storage facility. However without significant capex or the requirement for regulated services beyond 2018 Avonmouth will close. On this basis, we consider there is a justification for moving away from our past approach and allowing depreciation in line with the economic life of the facility. We proposed to depreciate the regulated portion of Avonmouth's assets fully over 5 years. We will retain the option to revisit this if Avonmouth does not close in 2018.

3.17. To allow for the time lag between the investment and its subsequent remuneration through the depreciation allowance, NG LNG receives a return allowance of the cost of capital multiplied by a proportion of the asset base. In this calculation, the cost of capital used is a pre-tax rate that varies between (5.15-5.19 per cent) as used in RIIO-T1 for NGG. This is less than the cost of capital used in the previous price control but we consider it justified to align the cost of capital with that used in RIIO-T1.

Conclusion

3.18. After all these factors are taken into account, we are proposing that £70.5m of costs should be included when setting the C3 price caps for the five year period, whereas NG LNG's proposed figure was £126m. The breakdown is shown in the table below.

Table 3.3: Overview of cost components

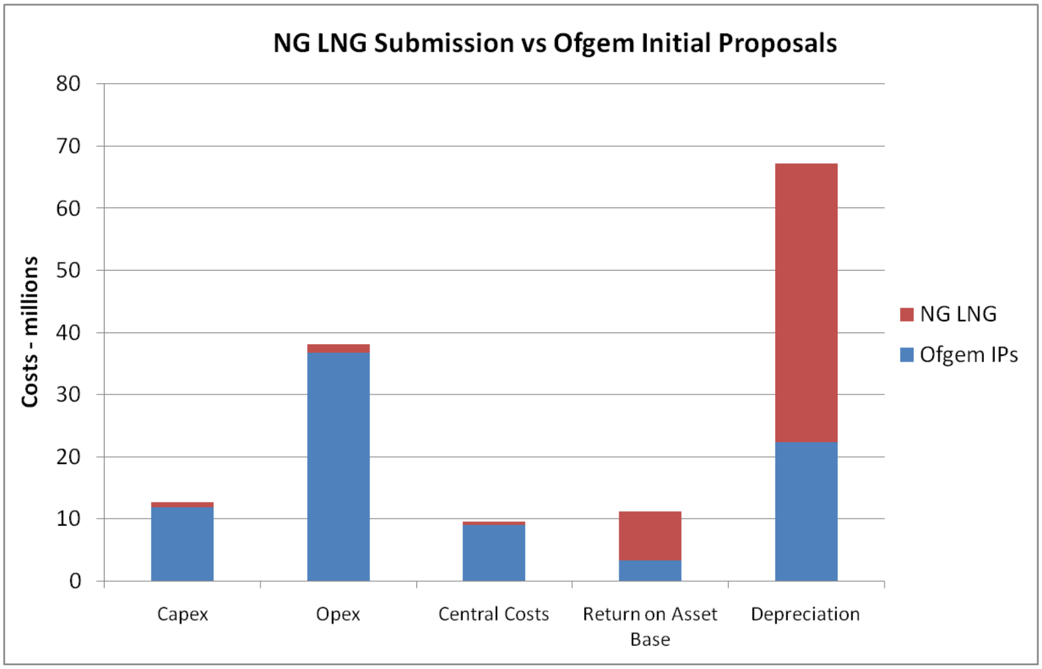
Costs in NPV and 2012/13 Prices	NG LNG Submission (£m)	Ofgem Initial Proposals (£m)
Capital Expenditure[16]	12.7	11.9
Operating Expenditure	38.2	36.7
Central Costs	9.5	9.0
Return on Asset Base	11.2	3.4
Depreciation	67.2	22.3

3.19. The calculations based on the above assumptions are laid out in Appendix 4. The net effect on the current C3 prices is a proposed 11% decrease.

[16] Whilst we allow a regulated proportion of capital expenditure, it is not included directly in the costs allowed. It is instead fed through into the asset base and is included as both a return on the asset and depreciation.

3.20. The differences between our Initial Proposals and NG LNG's submission are illustrated below.

Figure 3.1: Graphical comparison of Ofgem and NG LNG proposals



3.21. Appendix 4 itemises the detail of Ofgem's Initial Proposals.

Alternative Scenario

3.22. To allow interested parties to gauge the effects of changing the inputs to the price control calculation, we have included an alternative scenario. This is based on accepting NG LNG's full cost submission. This includes all of depreciation, return on 100 per cent of the asset base at Avonmouth over 5 years[17], all of NG LNG's projected costs as well as their projected revenue. Under NG LNG's proposals the C3 prices would need to be increased by 133 per cent. The detail of NG LNG's proposals can be found be in Appendix 4.

[17] Return on RAB and depreciation were approximated by using NG LNG's figures and scaling them to fit five years.

4. Next Steps

Chapter Summary

This Chapter outlines the next steps and the timeframe for the remainder of the Avonmouth LNG facility C3 price review.

4.1. Responses to this consultation must be made by 4 January 2013.

4.2. This document is the second of a planned series of three documents on the Avonmouth LNG facility C3 price review. The next planned document is our Final Proposals, which we expect to be issued in February 2013. This document will also contain the formal Section 23 Notice consultation to amend NGG's gas transporter licence.

4.3. We will be engaging with NG LNG between now and the Final Proposals to discuss any issues arising out of these Initial Proposals. We would also be pleased to consider representations from and hold discussions with any other interested parties during this consultation period which ends on 4 January 2013.

Appendices

Index

Appendix 1 - Consultation Response and Questions

1.1. We would like to hear the views of interested parties in relation to any of the issues set out in this document.

1.2. We would especially welcome responses to the specific questions which we have set out at the beginning of each chapter heading and which are replicated below.

1.3. Responses should be made by 4 January 2013 preferably by email and should be sent to:

Gas Transmission Policy
Ofgem
9 Millbank
London, SW1P 3GE
gas.transmissionresponse@ofgem.go.uk

1.4. Any questions on this document should, in the first instance, be directed to:

Natasha Ranatunga
Tel: 020 7901 7183
E-mail: natasha.ranatunga@ofgem.gov.uk

1.5. Unless marked confidential, all responses will be published by placing them in Ofgem's library and on its website www.ofgem.gov.uk. Respondents may request that their response is kept confidential. Ofgem shall respect this request, subject to any obligations to disclose information, for example, under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.6. Respondents who wish to have their responses remain confidential should clearly mark the document/s to that effect and include the reasons for confidentiality. It would be helpful if responses could be submitted both electronically and in writing. Respondents are asked to put any confidential material in the appendices to their responses.

Next steps: Having considered the responses to this consultation, we intend to publish our Final Proposals in February 2013.

CHAPTER: Two

Question 1: Do you agree with our Initial Proposals that NGG and SGN should be more exposed to the capex costs and return on asset base associated with the provision of regulated services at Avonmouth.

Question 2: Do you agree with our Initial Proposals to remunerate the regulated share of Avonmouth based on the economic life of the asset rather than its design life?

Question 3: Do you think it is appropriate to include commercial revenues foregone in the consideration of the C3 price cap?

Appendix 2 - Glossary

C

Capital Expenditure (Capex)

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

Consumer

In considering consumers in the regulatory framework we consider users of network services (for example generators, shippers) as well as domestic and business end consumers, and their representatives.

D

Design Life

The period an asset has been designed to last for.

E

Economic Life

The period over which an asset performs a useful function.

G

Gas Safety (Management) Regulations 1996 (GSMR)

The GSMR regulations apply to the conveyance of natural gas (methane) through pipes to domestic and other consumers and cover four main areas:

- The safe management of gas flow through a network, particularly those parts supplying domestic consumers, and a duty to minimise the risk of a gas supply emergency.
- Arrangements for dealing with supply emergencies.
- Arrangements for dealing with reported gas escapes and gas incidents.
- Gas composition.

H

The Health and Safety Executive (HSE)

A public body responsible for regulating health and safety in Great Britain with the primary function to secure the health, safety and welfare of people at work and to protect others from risks to health and safety from work activity.

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.

R

Regulated Asset Base

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

RIIO (Revenue = Incentives + Innovation + Outputs)

Ofgem's new regulatory framework, stemming from the conclusions of the RPI-X@20 project, to be implemented in forthcoming price controls. It builds on the success of the previous RPI-X regime, but better meets the investment and innovation challenge by placing much more emphasis on incentives to drive the innovation needed to deliver a sustainable energy network at value for money to existing and future consumers

RIIO-Gas Distribution Price Control Review 1 (RIIO-GD1)

The price control review to be applied to the gas distribution network operators, following GDPCR1. This price control would be expected to run from 1 April 2013 and will be the first distribution price control review to reflect the new regulatory framework, RIIO, resulting from the RPI-X@20 review.

RIIO-Transmission Price Control Review 1 (RIIO-T1)

The price control review to be applied to the electricity and gas transmission network operators, following the TPCR4 rollover. This price control would be expected to run from 1 April 2013 and will be the first transmission price control review to reflect the new regulatory framework, RIIO, resulting from the RPI-X@20 review.

S

Scotland Gas Network (SGN)

The gas transporter licence holder for the Scotland gas distribution network.

Scottish Independent Undertakings (SIUs)

Four remote towns in Scotland (Wick, Thurso, Oban and Campbeltown), comprising around 7,600 customers, that receive regasified LNG via road tankers loaded at the Avonmouth 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 (SHE) Transmission PLC 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.

Appendix 3 – Regulation of Storage Facilities

Unbundling from Transco's Regulatory Asset Base

1.1 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 1997[18] and by a subsequent Fair Trading Act investigation in 1999.

1.2 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

1.3 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 commercial 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 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.

1.4 TPCR4 also considered whether it was appropriate to reincorporate the LNG storage facilities into the NGG RAB. Although one element of capital expenditure in

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[18] 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

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.

1.5 Additionally, TPCR4 introduced a new licence obligation[19] 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.

1.6 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 Storage Price Control 2008

1.7 The C3 regulated prices were reviewed 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.

National Grid LNG Facilities Price Control 2010

1.8 Before the 2010 price control NG LNG closed the facility at Dynevor Arms due to a lack of OM requirements. As a result of OM contestability being introduced, NGG was also able to award some OM contracts to new providers in 2010/11, reducing its need for OM services from NG LNG.

1.9 During the 2010 review of the price control a leak developed in the cold box in the Glenmavis facility and Glenmavis was removed from the price control. The provision of LNG tankering services for the SIUs was moved to Avonmouth from Glenmavis.

1.10 The C3 prices for the price control were set to run until 2013 to align with RIIO-T1 so that long term funding issues could be considered. In determining the C3 prices we took account of the commercial revenue foregone at Partington due to NG LNG withdrawing commercial volumes from the market because of commercial issues and not a decrease in market demand.

1.11 We continued to not allow any decommissioning costs in line with previous decisions that NG will be responsible for the costs. We also depreciated assets over their design life rather than the economic lives.

[19] Special Condition C25

Changes since the 2010 control

1.12 NG LNG performed a strategic review in 2010 of its storage facilities. As a result it stopped offering commercial storage services at Glenmavis and Partington from early in 2011. The closure of the Glenmavis and Partington facilities was subsequently announced in June 2012[20], leaving Avonmouth as the only functioning LNG storage facility.

1.13 NGG and SGN have both stated their desire to continue to use Avonmouth. NGG has plans to reinforce the South West NTS to remove its requirement for Avonmouth from October 2018; SGN is still working on its enduring solutions.

[20] National Grid, 'Closure of Partington and Glenmavis LNG Storage Facilities', 27 June 2010. Available at: http://www.nationalgrid.com/uk/gas/lngstorage/media

Appendix 4 – Initial Proposals Financial View

Data source	Ofgem IP					
Site	Avonmouth					
Opening asset base allowance[21]	17.0					
Cost of capital	Variable (5.19% decreasing to 5.15%)					
Asset Depreciation (years)	5					
Year of provision for SIUs	2013/14-2017/18					
Year ending 30 April £m 12/13	**2014**	**2015**	**2016**	**2017**	**2018**	
Capex forecast	4.8	4.5	1.8	0.6	0.1	
Cost breakdown						
Opex	6.9	6.7	6.6	6.7	6.6	
Decommissioning	-	-	-	-	-	
Central costs	1.8	1.8	1.8	1.8	1.8	
Rates	0.6	0.6	0.6	0.6	0.6	
Depreciation	3.5	3.9	4.3	4.5	5.8	
Return on Asset Base	0.8	0.8	0.6	0.4	0.2	
Total	13.7	13.8	14.0	14.0	15.0	
Net Present Value of total	12.7	12.2	11.7	11.2	11.4	
Scenario NPV						**59.1**
Revenue Forecast						
NG LNG forecast	15.5	15.5	15.5	15.5	15.5	
NPV of revenue	14.3	13.6	13.0	12.3	11.7	
Scenario NPV						**65.0**
Revenue less Cost						
PV of Revenue less costs						**5.9**
NGG LNG income from regulated						
NG LNG regulated services income	12.6	12.6	12.6	12.6	12.6	
NPV of NG LNG regulated services income	11.7	11.1	10.5	10.0	9.5	
Scenario NPV					52.8	
Percentage change to C3 prices required						**-11%**

[21] The opening asset base allowance represents the regulated proportion of the asset base that Ofgem allows a return and depreciation on.

Data source	NG LNG
Site	Avonmouth
Opening asset base allowance[22]	69.1
Cost of capital	Variable (5.19% decreasing to 5.15%)
Asset Depreciation (years)	5
Year of provision for SIUs	2013/14-2017/18

Year ending 30 April £m 12/13	**2014**	**2015**	**2016**	**2017**	**2018**	
Capex forecast	5.2	4.5	2.2	0.6	0.1	
Cost breakdown						
Opex	7.2	6.9	6.8	5.8	4.2	
Decommissioning	-	-	-	0.5	3.5	
Central costs	1.9	1.9	1.9	1.9	1.9	
Rates	0.6	0.6	0.6	0.6	0.6	
Depreciation & Return on Asset Base	15.7	15.7	15.7	15.7	15.7	
Total	25.4	25.1	25.0	24.5	25.9	
Net Present Value of total	23.5	22.1	20.9	19.5	19.6	
Scenario NPV						**105.6**
Revenue Forecast						
NG LNG forecast	15.5	15.5	15.5	5.7	5.7	
NPV of revenue	14.3	13.6	13.0	4.5	4.3	
Scenario NPV						**49.8**
Revenue less Cost						
PV of Revenue less costs						**- 55.9**
NGG LNG income from regulated						
NG LNG regulated services income	12.6	12.6	12.6	5.7	5.7	
NPV of NG LNG regulated services income	11.7	11.1	10.5	4.5	4.3	
Scenario NPV					42.1	
Percentage change to C3 prices required						**133%**

[22] NG LNG's opening asset base allowance represents their view of the value of the Avonmouth asset base. They have also asked for return and depreciation on the full amount of the asset base.

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:

1. Do you have any comments about the overall process, which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand, could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?
6. Please add any further comments?

1.2. Please send your comments to:

Andrew MacFaul
Consultation Co-ordinator
Ofgem
9 Millbank
London
SW1P 3GE
andrew.macfaul@ofgem.gov.uk