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Marathon Oil Ireland Limited
The Development of an Irish Based Storage Service
Effective from April 2005

1. Introduction

Marathon Oil Ireland Limited and Marathon International Petroleum Hibernia Limited are both subsidiaries of Marathon Oil Company. Marathon's Celtic Sea assets are owned and operated by Marathon Oil Ireland Limited and Marathon's west coast assets are owned by Marathon International Petroleum Hibernia Limited.

Marathon has been operating in Ireland since 1961 and is a leading explorer in Irish offshore waters. To date, it has either drilled or been involved in the drilling of 66 of the over 153 exploration wells drilled both onshore and offshore Ireland. It was the first company to have discovered natural gas in commercial quantities in the Irish Offshore and, to date, it has developed three natural gas bearing reservoirs in the Celtic Sea. From 1978 to 1995, Marathon was the sole supplier of natural gas to the Irish market. Marathon's headquarters are in Cork where the company currently employs about fifty five people with twenty four of these being based offshore on the Kinsale Alpha platform. In addition to its sole ownership of the three Kinsale area reservoirs, Marathon also owns 18.5% of the Corrib Gas Field located off the Mayo coast. A description of Marathon's Celtic Sea facilities is included for background purposes in Appendix 1.

Marathon further developed its Southwest Kinsale reservoir during 2001/02 pursuant to a commercial agreement with BGÉ. This agreement, which expires on March 31 2005, provides for the Southwest Kinsale reservoir and the installed facilities to be used for the purpose of re-profiling quantities of Kinsale Field gas production from summer to winter. However, these same physical assets could, by making use of proven gas swapping techniques, be used to provide a storage service to the Irish market by way of the virtual injection of third party gas. But, the market and, in particular, the market structure will determine the economic feasibility of such a service.

This paper sets out the scope of the storage service being contemplated by Marathon and the process by which we propose to bring this service to the market and we would appreciate any comments in this regard from interested parties. We, of course, accept that the marketing of a gas storage service in Ireland is subject to both national and

European legislation and that the manner in which such a service is made available is subject to regulatory oversight by the CER. We believe, therefore, that all comments relating to the proposed regulatory framework should be directed to the CER.

2. General Description of Service on Offer and Competing Products

In accordance with its obligations under the existing re-profiling agreement, Marathon currently injects, each summer, about 6 bcf of gas produced from its Kinsale & Ballycotton reservoirs into its Southwest Kinsale reservoir and then, during the following winter, withdraws that gas, all in accordance with nominations received from BGÉ. Typically, this gas is injected at a rate of up to 50 mmscfd and is withdrawn at a rate of up to 90 mmscfd. It is this level of service that, in aggregate, Marathon proposes to offer to the market from 1 April 2005.

The UK market is by far the most competitive of all European gas markets and, in that market, products such as beach gas (both with and without swing), interruption, seasonal production, storage (both physical and virtual) etc. are all readily traded at the NBP. The storage service being contemplated by Marathon is similar, in many respects, to the storage service available from Rough or Hornsea in the UK. Therefore, any shipper looking to purchase storage from Marathon at Inch has a ready alternative that can be sourced in an open and transparent manner in the UK.

Ireland's total and unconstrained capacity interconnection with the UK market ensures the unfettered ability of shippers to import these competing products into Ireland and this, in turn, prevents any Irish based provider of a similar service from developing any degree of market dominance, regardless of whether the service is purchased by either one or many parties.

- For instance, a shipper looking to purchase 1bcf of space, 8 mmscfd of injection capacity and 15mmscfd of withdrawal capacity at Inch would be required to contract with Marathon as the service provider and also contract with Bord Gáis Transmission to purchase 15mmscfd of capacity at Inch.

- Similarly, a shipper looking to purchase an equivalent service in the UK would be required to contract with the service provider in the UK and also contract with Bord Gáis Transmission to purchase 15mmscfd of capacity in the interconnectors.

Thus, in order to be able to offer an attractive service, Marathon has to be cost competitive with the UK based alternatives including associated transportation. This ensures that there is a cap on the price that Marathon can charge and that there is no opportunity for market dominance.

3. Marathon's Alternative and Kinsale Storage Specific Issues

There are a number of Kinsale specific issues that Marathon must take into account when contemplating the development of a fully fledged storage service. These are the disposition of its Kinsale tail gas, injection limitations and, of course, the commercial value of any alternatives to proceeding with the storage service.

- **Disposition of Kinsale Tail Gas:** The rate of production from Marathon's Celtic Sea reservoirs has declined to about 20% of its historic highs and this decline will continue into the future. Gas produced during this period in the life of a reservoir is typically referred to as "tail gas". The revenues generated from the sale of this tail gas is fundamental to the economics of Marathon's ongoing operations in the Celtic Sea and, as such, provision must be made for the disposition of this tail gas as part of any new arrangements at Inch.

    - In offering a fully fledged storage service to the market, Marathon is prepared to 'unbundle' its tail gas sales from its storage product. Thus, a shipper wishing to inject his own gas would nominate same for injection in accordance with the standard terms, Marathon would physically inject its own gas offshore and take delivery of the storage customers gas within the transportation system via a simple swap arrangement. The rules governing these arrangements would need to ensure that no unnecessary costs were incurred by either party.

    - It is also a fundamental requirement of Marathon that baseload tail gas production would not be impacted to any significant extent by the manner in which the injection service would operate. Marathon believes this is relatively easily achievable using appropriate injection rules, which will not unduly impact injection flexibility.

    - Although tail gas unbundling is eminently feasible, Marathon would also be prepared to link some of the storage service to its tail gas production. Under this scenario the storage customer would also purchase, at prevailing market prices, an equivalent amount of tail gas to the space it has reserved. This arrangement would potentially offer greater injection flexibility for customers looking for relatively smaller amounts of storage (~ 1 bcf), for reasons outlined below. As time progresses however the amount of tail gas available for direct injection will decline below the total space on offer.

- **Injection Limitations:** The injection of gas into the Southwest Kinsale reservoir is accomplished via a single 4.5 megawatt compressor.

- This compressor has some turn down limitations but, also, the quantity of fuel required to inject a small volume of gas is simply uneconomic. Therefore, Marathon cannot accept nominations for the injection of gas unless the aggregate of all such nominations is of the order of 15 mmscfd.

- This limitation would not apply in the circumstance where Kinsale tail gas were part of the storage offer, as Marathon would simply deem gas to have been injected in the event a small injection nomination were received and make up the injection shortfall when sufficient aggregate injection nominations were received.

- The limitation would also not apply to any given customer once the aggregate injection nominations exceeded the minimum.

- Given that significant injection would have to take place for most of the injection season, Marathon believes that it should be possible to put in place a set of rules that reflects these limitations without unduly limiting injection flexibility.

- **Marathon's Alternatives to Storage:** The development of a storage service cannot be justified if the assets employed to support the service can be re-deployed to a more profitable use.

    - An ongoing storage business requires significant capital to be tied up in the form of cushion gas, this is native gas in the reservoir that provides the high deliverability associated with storage withdrawals.

    - Were Marathon to not proceed with the offering of a storage service, this gas would be produced over the following number of years. We would do this by either:-

        i The straight blowdown of the Southwest Kinsale reservoir where the rate of production will decline in a manner not unlike that of the Kinsale tail gas, or

        ii The gradual blowdown of the reservoir whereby we would continue to inject Kinsale tail gas during the summer and that gas, along with a portion of the SWK cushion gas would be produced for sale each winter together with the tail gas for a number of years.

    - Therefore in determining whether it can proceed with a fully fledged storage business, Marathon must ensure that the storage business can offer

greater overall economic value than either of the alternatives outlined above.

4. Marathon's Storage Service Offering

As previously mentioned, Marathon can store up to 6 bcf of Kinsale gas in its Southwest Kinsale reservoir. This 6 bcf of gas can be injected into the reservoir at a rate of up to 50 mmscfd and the stored gas can be withdrawn from the reservoir at a maximum rate of 90mmscfd up to and including the day when the last of the stored gas is withdrawn. It is this level of storage service which Marathon will, if commercially viable, make available from April 2005, to all shippers on a non discriminatory basis.

Marathon currently uses the full capability of the Southwest Kinsale facility to optimise its ongoing production operations in the Celtic Sea and this optimisation must continue as a priority going forward. However, to facilitate the offering of a significantly sized storage service, Marathon proposes to market the sale of its tail gas, on an unbundled basis, from April 2005, thus permitting customers to effectively stock their own gas in the Southwest Kinsale reservoir.

While Marathon is open to input from the industry on the exact make up of the storage products, we set out below a proposed structure to provide definition to the debate. We also point out that since the storage service will only be marketed at a wholesale level, the size of each unit offered is necessarily reasonably significant:

We propose to combine the three components of the storage service (space, deliverability and injection) into a single product called Standard Storage Units or SSUs. Marathon propose to market six such SSUs.

- Each SSU will entitle a shipper to store up to 1 bcf of gas at any time, to withdraw the stored gas at a rate of up to 15 mmscfd and to make gas available for injection at a rate of up 8 mmscfd.

- Marathon will accept nominations for the withdrawal of stored gas throughout the year both on a day ahead and within day basis, except during periods of pre-agreed planned maintenance.

- Marathon will accept nominations for the injection of gas into storage during the months of April to September inclusive both on a day ahead and within day basis, except during pre-agreed planned maintenance periods and subject to minimum injection rules.

- In circumstances where a customer wishes to contract for one or more SSU's utilising Kinsale tail gas, minimum injection requirements would not apply, however the customer would have to purchase the gas commodity at prevailing market prices.

- In addition to the overall commercial considerations outlined below, gas injected into storage will attract an injection charge reflecting the incremental cost of fuel and compressor use. Marathon does not envisage a specific withdrawal charge.

5. Commercial Considerations

An advantage of the SSU approach to the marketing of a storage service is the open and non-discriminatory nature of the offering. Shippers contracting for the storage service will each have an equal entitlement to both inject and withdraw gas on a day or, where required, to leave the gas in storage.

However, such an approach is premised on there being sufficient demand for a storage service structured in this manner. Marathon will, therefore, have to satisfy itself that the necessary demand exists before committing to the development of such a service. We propose to do this by seeking formal expressions of interest from shippers.

In conjunction with, and on the basis of feedback from, this consultation process Marathon will prepare a set of standard terms and conditions which will be used to govern access to its storage facility on a day to day basis. These terms and conditions will address technical issues such as capacity booking, nominations, allocations, overruns, invoicing, payment, liabilities, force majeure etc. We also intend to provide for the reshaping of an SSU through a change to the standard relationship between space, deliverability and injection. These terms and conditions will be circulated to interested parties in due course and a formal expression of interest will be solicited from those parties.

Marathon will prepare and issue an invitation to tender (ITT) document detailing the standard terms and conditions outlined above and a pre-agreed commercial tender pro forma to be completed by the interested parties.

- We currently envisage that the commercial formula would involve two elements: one reflecting the transportation benefit of the service to the customer and the other reflecting the seasonal benefit.

- Marathon would be amenable to potentially discussing some risk sharing formula on the seasonal element. We would also be satisfied with a fixed amount.

- Interested parties would respond to the ITT on the basis of sealed bids. Parties will be free to bid for any or all of the six SSU's available. Marathon would retain the right to decline any or all of the bids received.

- Marathon would envisage that the term of each SSU contract would be for a minimum of one year and a maximum of three years.

- In the case that the bids were rejected, Marathon would proceed with one of its alternatives to storage as outlined above. In the case that some bids were not sufficiently commercially attractive Marathon might at its option offer the storage service to the successful bidders and / or retain a number of SSU's for its own use as high swing winter sales using KH tail gas.

A number of objective criteria, which we propose to pre-agree with the CER, will be used to select the winning bids. These will primarily be based on price but would also take into account the degree of compliance with standard terms and conditions. The optimised production of the Kinsale & Ballycotton tail gas must continue as a priority of Marathon's into the future and this will be reflected in these criteria.

In order to provide certainty to both Marathon and its potential customers with respect to the 2005 season, the consultation process needs to be completed by June of this year and the tendering process must be substantially complete by August.

6. Transportation System Requirements

BGÉ's Code of Operations does not provide for gas to exit from the Bord Gáis transmission system at Inch Terminal. As a consequence, it is not clear as to how the injection of gas, particularly that not originating from the Kinsale, Ballycotton and Seven Heads reservoirs, will be accommodated. A prerequisite to the development of any storage service at Inch has to be, therefore, that Bord Gáis, Marathon and the CER work together to provide the necessary clarity to those shippers wishing to contract for the storage service.

- It is not possible, nor necessary, at present, to physically exit gas from the Bord Gáis transmission system at Inch. Nevertheless, it is still necessary for shippers to be able to nominate for the flow of gas from the UK NBP to Inch for back-haul to the offshore storage reservoir.

- However, any Code changes that may be required to accommodate the physical exiting of gas at Inch Terminal must be identified and put in place in a timely fashion.

- The rules should be simple and, to the extent possible, unnecessary complexity must be avoided.

- Notwithstanding that Marathon propose to market six SSU's, the reality is that most and, in the early years, all of the gas injected will have originated from Marathon's own reservoirs. Consequently, any costs associated with the provision of a storage service are likely to be quite significant when expressed in terms of the

quantities of gas actually imported into the Marathon facilities. The current practice in the UK is to levy exit charges only on the consumption of gas and Marathon propose the adoption of a similar arrangement in Ireland.

7. Other Considerations

- The development of a gas storage facility within Ireland will make a significant contribution to the security of Irish gas supplies. However, notwithstanding this benefit, Marathon proposes to market its storage service as a commercial product competing with its alternatives.

- The level of storage service proposed in this paper reflects the current capability of the Southwest Kinsale reservoir and its associated facilities. The capability exists to further expand his facility and Marathon will evaluate the feasibility of such an expansion once the adequacy of demand for the service can be confirmed.

8. Conclusions

- Marathon is committed to engaging with both the CER and industry to make a gas storage service available in Ireland.

- The efficient depletion of the Kinsale tail gas is a prerequisite to the offering of a storage service.

- Both the market and the market structure will determine the economic feasibility of a storage service.

- The gas storage service being contemplated by Marathon must be competitive with that of equivalent services which are readily available from the UK market.

- It is important that the cost of accessing the service be minimal and that all unnecessary costs are avoided.

- It is equally important that simple rules are adopted to govern access to the service.

- Any decision by Marathon to offer a storage service to the market will be taken in the context of its alternatives to storage.

Appendix 1

A Brief History and Description of Marathon's Celtic Sea Operations

Marathon was the first company to have discovered natural gas in commercial quantities in the Irish Offshore and, to date, it has developed three natural gas bearing reservoirs in the Celtic Sea.

The Kinsale Head Gas Field was the first and is by far the largest of the three reservoirs to have been developed. It was discovered in 1971 and it has total reserves of about 1.8 trillion cubic feet of natural gas. It was developed during 1975/78 and first gas was produced from the reservoir in August 1978. The development scheme comprised two steel jacket-supported production platforms located about 33 miles off the south coast of Cork and a 24" subsea pipeline which connected both platforms to an onshore terminal near Inch beach in east Cork. The two platforms, which each weigh about 8,600 tonnes, were set about 3 miles apart and stand in 300 ft of water. Seven wells were drilled from each of the platforms into the Kinsale Head gas field. The gas produced through these wells was processed on the host platform before being transported to shore through the 24" pipeline where it was metered prior to delivery into the Bord Gáis transmission system.

The smaller Ballycotton Gas Field, with reserves of approximately 60 bcf was discovered in 1989 and brought on stream in 1991. The Southwest Kinsale Gas Field with reserves of approximately 30 bcf was discovered in 1995 and brought on stream in 1999. Both of these fields were developed as single well subsea tie-backs to platform Bravo, via 10" and 12" pipelines respectively. Gas produced from the subsea wells was transported to the Bravo platform through these pipelines where it was processed along with gas produced from the Kinsale Head gas field and the co-mingled stream was transported to the Alpha platform for onward transportation to Inch terminal.

During 2001/2, Marathon further developed its Southwest Kinsale reservoir to enable it to inject gas produced from the Kinsale & Ballycotton reservoirs during the summer and to subsequently withdraw this gas during the winter for delivery to BGÉ at Inch terminal. This involved the drilling of two new wells into the reservoir, the extension of the 12" pipeline to the Alpha platform and the installation of a gas injection compressor on the Alpha platform. The installation of this compressor has made it possible to inject gas produced from the Kinsale Head & Ballycotton reservoirs into the Southwest Kinsale reservoir.

During 2001, the Bravo platform was converted to normally unmanned operations. Since then, all gas has been processed on the Alpha (East) platform. During this processing, free water is first removed in the gas/water separators, the pressure of the gas is increased in the gas compressors, the gas is dehydrated to pipeline quality and then transported to the onshore terminal at Inch.

The Seven Heads gas field, owned and operated by Ramco Energy and its partners, Lundin and Sunningdale, was developed during 2002/3 and first gas was produced from the field in December 2003. The development scheme comprises five wells completed subsea and tied back to the Alpha platform via an 18" pipeline and control umbilical. Marathon processes Seven Heads gas on the Alpha platform, on behalf of the Seven Heads group and after processing, the Seven Heads gas commingles with the Kinsale and Ballycotton gas and is then transported to Inch Terminal via the 24" pipeline in a common stream.

The gas delivered into the Bord Gáis system at Inch can, on any day, have been produced from any or all of the offshore reservoirs including the Seven Heads reservoir. Each day, therefore, the quantity of gas actually delivered to Inch Terminal is, in the first instance, disaggregated on the basis of ownership and then allocated to those shippers who have contracted for the purchase of the gas on the day. This has necessitated the introduction of new administrative procedures at Inch Terminal and these are being designed to provide for the offering of a storage service.

Between 1978 and 1995, until construction of the first interconnector, the Kinsale and Ballycotton fields were the sole source of natural gas for the Irish market. During this entire period beach supplies were never once interrupted. Although production rates have substantially declined since the mid nineties as the fields go into decline, the excellent reliability of both the production and storage facilities, that has been the hallmark of the Kinsale infrastructure, continues to the present day.