NATIONAL ENERGY REGULATOR OF SOUTH AFRICA

In the matter regarding

THE LICENCE APPLICATION FOR THE CONSTRUTION OF PETROLEUM STORAGE AND LOADING FACILITIES

by

Sunrise Energy (Pty) Ltd

in the area of

Saldanha Bay, Western Cape Province

Application Number: **PPL.sf.F1/88/2009**

The Decision

On 23 February 2011 the National Energy Regulator of South Africa decided to issue a combined licence to Sunrise Energy (Pty) Ltd for the construction of liquefied petroleum gas (LPG) storage facilities and loading facilities in Saldanha Bay in the Western Province. The facilities to be constructed are as follows:

1. an LPG **loading facility** consisting of a central buoy mooring (CBM) located offshore at 33° 01' 31.18742 S 17° 59' 47.69765" E in Saldanha Bay, a 12-inch diameter, approximately 3km long undersea pipeline that reaches the shore at 33° 00' 23.06460" S 18° 00' 35.62880" E, a 12-inch diameter 1.8km long overland pipeline connecting the undersea pipeline to an LPG storage facility and the auxiliary equipment to operate the facilty; and

2. an LPG **storage facility** located in Saldanha Bay and connected to the loading facilities through the pipelines mentioned. The storage facility will consist of:

    a. six (6) cylindrical, horizontal tanks (or 'bullets'), each with a design capacity of 1 278m^3 are to be constructed in the first phase of project; and
    b. a further six (6) cylindrical, horizontal tanks (or 'bullets'), each with a design capacity of

       1 278m^3 are to be constructed in the second phase of project; and
    c. auxiliary equipment to operate the facility.

Reasons for Decision

Introduction

1. On 26 June 2009 the National Energy Regulator of South Africa (NERSA or 'the Energy Regulator') received a licence application from Sunrise Energy (Pty) Ltd ('the applicant' or 'Sunrise') for the construction of a liquefied petroleum gas (LPG) storage facility and associated loading pipelines. The application was submitted in terms of section 4(a) of the Petroleum Pipeline Act, 2003 (Act No. 60 of 2003) ('the Act').

2. The construction is to be carried out in Saldanha Bay, Western Cape.

The Application

3. After the applicant requested a delay in the processing of the application due to internal Sunrise matters and after a number of clarification meetings between the applicant and NERSA staff to ensure that the application meets the minimum licensing requirements, the application was finally advertised on 15, 16 and 17 September 2010 in the *Business Day* and *Die Burger* newspapers.

4. The application was made available to the public from 15 September 2010 to 18 October 2010 at the Sunrise offices in Cape Town and on the NERSA website.

5. Subsequent to amendments introduced into the application by Sunrise at the public hearing, the application was again made available for public comment for a 14-day period starting on 10 December 2010.

The Applicant

6. Sunrise is a recently formed and privately owned company registered under the South African Companies Act, 1973 (Act 61 of 1973) and with registration number 2005/027952/07. The company was 100 per cent owned by ILITHA Group Holdings ('ILITHA') and was formed specifically for the purpose of the LPG storage project for which the licence application is submitted.

7. According to the ILITHA website, ILITHA is '*a group of companies focused on providing innovative solutions to in the fields of energy, environment and industrial development'.* The company operates locally and internationally and owns other companies that are active in oil and gas, petrochemicals, chemicals, power and marine diamond mining.

8. In the application, it is stated that in December 2008 the board of the Industrial Development Cooperation (IDC) approved the taking up of an equity stake in Sunrise. This has been implemented and Sunrise is now 49 per cent owned by the IDC.

Promotion of Historically Disadvantaged South Africans

9. According to the information provided in the application, ILITHA is a South African Black Economic Empowerment (BEE) company with a 40 per cent black ownership, an Empowerdex rating of AAA+ and is rated as a Level 1 contributor.

Objectors and Other Intervening Parties

10. No objections were received during the 30-day public viewing period. However, in response to the Energy Regulator's call for representations at the public hearing convened for the application, comments were received from:
    - PetroSA; and
    - Gesi Gas Africa (Gesi).

11. PetroSA and Gesi are both interested in launching LPG projects in Saldanha Bay that are similar to the Sunrise Energy LPG project.

Facilities Details – *General*

12. The application is for the construction of a petroleum loading facility and petroleum storage facility. The petroleum product in this case is liquefied petroleum gas. The facility will be used to import between 5 000 and 7 000 tonnes of LPG per month, sourced from Angola and Nigeria. The facility will also be capable of handling other hydrocarbons, such as propylene and butadiene, used as feed stock for various polymers and consumer products.

13. The facility is expected to cost approximatelyR500 million and will be completed in approximately 18 months.

14. In its initial application documents, Sunrise stated that most of the land required for the project would be owned by the Transnet National Ports Authority and that it had submitted a request as per the Transnet National Ports Authority processes for access to the necessary land.

15. At the public hearing held on 11 November 2010 (see also later section on the decision-making process), Sunrise submitted modifications to its design that will reduce its dependence on the Transnet National Ports Authority processes.

16. The following modifications were considered significant enough to warrant further public consultation through a notice-and-comment process:

- Sunrise identified alternative land on which to locate the storage facility. This land is owned privately by ArcelorMital and is outside the Transnet National Ports Authority jurisdiction;
- for the off-loading of LPG, Sunrise decided to construct a central buoy mooring (CBM) and locate it inside the Saldanha Bay waters, rather than construct loading arms on the on-shore jetty. This option mitigates the risk of Sunrise Energy not getting access to the Transnet National Ports Authority land, since access to this land is subject to the processes and procedures prescribed by the National Ports Act, 2005 (Act No. 12 of 2005); and
- Sunrise also identified an existing and operational servitude through which it could lay the pipelines connecting the CBM to the storage facility.

Facilities Details – *Storage Facility*

17. As stated earlier, the storage facility will be constructed on land belonging to ArcelorMittal. This land is adjacent to the land owned by the Transnet National Ports Authority in Saldanha Bay. In its initial application, Sunrise had provided a number of sites on Transnet National Ports Authority land as possible locations for the storage facility. Sunrise has now narrowed down their choice to the ArcelorMittal quarry site.

18. According to the process flow diagram submitted in the application, in the first phase, the storage facility will consist of:

- six cylindrical, horizontal LPG tanks (or 'bullets') each of 1 728m^3 design capacity for the storage of LPG, and two smaller tanks for product transfer;
- two rail tanker loading gantries; and
- two road tanker loading gantries.

19. According to the site map, provision has also been made for the future addition of eight more LPG 'bullets' and a refrigerated storage tank capable of holding liquefied natural gas (LNG). The applicant expects the first phase, consisting of six LPG tanks and auxiliary equipment, product transfer tanks and tanker loading gantries to be operational by July 2011. Further expansions will be completed in 2013 and 2015.

20. The site map is attached as **Annexure A** – *Sunrise Storage Facility Site Layout* in the licence conditions. The site layout was drawn assuming a generic site, since a site for the construction was yet to be found. The location of the ArcelorMittal site is given in the

licence conditions **Annexure B** – *Sunrise Storage Site Location,* while a schematic of the overall facilities process flow is given in **Annexure C** – *Schematic Flow Diagram.*

Facilities Details – *Loading Facility and Associate Pipelines*

21. The loading facility (the CBM) will be located within the Saldanha Bay harbour. The CBM will be anchored at 33° 01' 31.18742" S 17° 59' 47.69765" E (coordinate system WGS 84). While connected to the CBM and discharging, a ship will be anchored in approximately 12m deep water and be tied to and held in position by four buoys, at the bow (the front of the ship) and at the stern (the rear of the ship).

22. The CBM will be connected to the storage facility through a approximately 3km long, 12-inch diameter undersea pipeline. The pipeline will reach the shore at coordinates 33° 00' 23.06460" S 18° 00' 35.62880" E (WSG 84) where it will be connected to a 1.8km long, 12-inch diameter overland pipeline that will lead to the storage facility. The overland pipeline will run through an existing Strategic Fuel Fund petroleum pipeline servitude to the ArcelorMittal site.

23. The pipelines will be capable of handling normal flow rates of 500m^3 per hour and maximum flow rates of 750m^3 per hour at a design pressure of 20 bar (g) and design temperatures as low as -30° Celsius. The details of the location of the CBM are contained in **Annexure E** – *CBM Location Site Maps* of the licence conditions.

Project Costs and Funding

24. The total cost of the construction is estimated by the applicant at R500 million. The project will be funded by equity from the IDC and by debt from commercial banks; an initial debt to equity ratio of 60:40 is planned. Sunrise expects the facilities to be constructed and commissioned within 14 months.

Future Development Plans

25. Sunrise states in the application that it plans to add additional bullets for a storage capacity expansion of 1 000 tonnes. The current civil work will be built to cater for 15 bullets in total (seven more than are to be built in the current phase). All the auxiliary plants, utilities, piping and instrumentation will be designed for a facility that will handle a throughput of 15 000 tonnes per months.

26. One of the site layout maps submitted with the licence application also shows an area earmarked for a future LNG storage facility.

Regulations, Standards and Codes

27. Sunrise submits the following as the regulations, standards and codes that it needs to consider for the bulk storage and handling of LPG:
    - SANS1774:2007;
    - SANS 10089 -1:2007;
    - API 2519;
    - API 2510A;
    - NISTIR 6564;
    - NFPA 59;
    - API 610;
    - API 62;
    - ASTM D 1265;
    - ASTM D 1835;
    - IEC 79-14 ASME/ANSI B31.3;
    - ASME VIII;
    - NFPA 58;
    - IP Code Part 9;
    - IMDG;
    - OCIMF;
    - SIGTTO; and
    - API RP 1004.

Decision-Making Process

28. The Energy Regulator held a public hearing for the application on 11 November 2010.

29. Sunrise gave a presentation at the public hearing, and, in private, requested an amendment to its licence application. The amendment related to Sunrise having narrowed down the location of the storage facility to a quarry site belonging to ArcelorMittal and the use of a floating CBM. This site is adjacent to the Transnet National Ports Authority land and was not included as an alternative site in the initial application.

30. PetroSA and Gesi Gas registered as objectors and made representations at the hearing. Sunrise was given copies of the representation but did not comment on the content.

31. After Sunrise's request for the application to be amended was formalised at the public hearing through following the prescription of the Petroleum Pipelines Rules, 2009, the

Energy Regulator put the proposals through a notice-and-comment process that was advertised on 10 December 2010. No further objections to the application were received.

Applicable Law

32. The legal mandate for the Energy Regulator to grant petroleum storage and pipelines construction licences is derived from the National Energy Regulator Act, 2004 (Act No. 40 of 2004) and the Act. In accordance with section 4(a) of the Act, The Energy Regulator must, as appropriate

    (a) issue licences for –

    (i) the construction of petroleum pipelines, loading facilities and storage facilities

33. This Section 4 (a) must be read with section 15(1) of the Act which states that:

    (1) a person may not, without a licence issued by the Authority –

    (a) construct; or

    (b) operate a petroleum pipeline, a loading facility or a storage facility

34. The Act further defines 'petroleum products' as *'any liquid petroleum fuel and any lubricant whether used or unused, and includes any other substance which will be used for a purpose for which petroleum fuel or any lubricant may be used'.*

35. The Act thus includes liquefied petroleum[1] gas in its definition of petroleum products.

Key Issues for Consideration

36. The key issues for consideration are:
    - the Sunrise rationale for the project;
    - comments from Gesi and PetroSA;
    - third party access; and
    - tariffs.

The Sunrise rationale for the project

37. In its application, Sunrise states that the project is necessary for the continued security of supply of LPG to the steel plants in Saldanha. The Western Cape currently depends on LPG produced from Chevron's Caltex refinery in Milnerton, Cape Town and from the PetroSA Gas-to-Liquids Plant in Mosselbay.

[1] The Gas Act, 2001 defines 'gas' as *'all hydrocarbon gases transported by pipeline'*, and thus excludes LPG in the liquefied form, in transit and under storage. (Our emphasis.)

38. Sunrise states that during 2008 LPG had to be imported from Port Elizabeth and that in 2009 LPG was shipped from Secunda to Cape Town for the ceramics industries there. This was because the two primary LPG suppliers for the Western Cape could not meet the demand for LPG in the region.

39. Sunrise further states that should PetroSA cease or reduce its LPG production, the supply of LPG into the Western Cape will become a crisis for Western Cape LPG users such as steel makers, aluminium moulders, ceramics manufactures and small home industries. Sunrise believes that such a scenario is not far-fetched, given that there are reports indicating that the gas reserves providing feedstock to PetroSA are likely to run out in and around 2013.

40. Sunrise envisages the market development for the project to be in three phases, but does not provide the timing for the phases. The phases are summarised below:

- Phase One – 'Bridging Shortages from PetroSA And Chevron': As Chevron and PetroSA production becomes inadequate for the market demand, Sunrise will fill the gap
- Phase Two - 'Industrial Expansion': Sunrise states that the expansion of the ArcielorMittal and the Durferco steel plants is being restricted by unreliable LPG supply
- Phase Three – 'Power Generation': The use of diesel for power generation is considered expensive, and Sunrise will expand into this market.

41. Sunrise further states that the facility, once completed, may also be used to supply LPG to Namibia, i.e. there are LPG export opportunities.

42. Sunrise also believes that it will be able to develop the household market for LPG effectively enough to alleviate health and safety issues associated with the burning of coal and similar primary fuels. The alleviation of these issues result in improved air quality in the low income residential areas in the Western Cape.

43. The subsequent Transnet National Ports Authority request for proposals to fund, construct and operate LPG facilities in Saldanha Bay, issued in December 2010, supports the view that there is a need for such facilities.

Comments – Gesi Gas Africa

44. No information could be found on the internet pertaining to Gesi, but based on its presentation, it would seem that the company is active in or intends to be active in bulk LPG sales.

45. In its submission to the Energy Regulator, Gesi alleges the following:
    - that a decision has not been made with regard to the allocation of the Transnet National Ports Authority land, and that due processes still had to be followed;
    - that Sunrise has seriously underestimated the storage capacities and the overall project costs and Sunrise's vision will prove to be inadequate *'when viewed against the required scale of an LPG project for South Africa incorporating the myriad of bulk sourcing, storage, safety, distribution and pricing components'*;
    - that Angola and Nigeria, listed in the application as potential LPG suppliers for the project, are not recognised as LPG suppliers and that they do not have the experience or the reputation required to meet and sustain the long-term demands of a South African national LPG project; and
    - that Gesi intends launching *'a true national LPG project for South Africa'*, *'designed to be a JV* [Joint Venture] *with appropriate government institutions and other established players in the LPG sector'*. The Sunrise application will thus jeopardise the Gesi project. Gesi further alleges that the Gesi project has been designed in alignment with the most successful internationally launched projects and *'with respect,* [the Sunrise project] *will fail and in the process, will significantly disrupt progress for the launch of a true national LPG project for South African…'*.

Transnet National Ports Authority Land

46. As indicated earlier, Sunrise has amended its application and will now locate the storage facility on a site that is privately owned by ArcelorMittal. This significantly increases the chances of Sunrise securing a site for its project, since it now does not have to go through the Transnet National Ports Authority tender processes.

47. The Gesi objection is therefore no longer a consideration.

Project Costs and Capacities

48. Sunrise states that its application is for an LPG facility that will address the LPG demands for the Western Cape. In this context, it is possible that its project will not be at a scale that will cover the LPG requirements for the whole country, as alleged by Gesi. It

is therefore possible that the capacities and costs that Sunrise has put in its application are appropriate for its targeted market demand and project requirements.

49. In the context, should it so wish, Gesi as an interested party could negotiate with Sunrise for changes in the capacities of the pipelines, loading facility or the storage facility, as is allowed by sections 20(1)(h), (l) and (o) of the Act.

The Gesi Project

50. One of the objects of the Act is to promote the **orderly** development of petroleum loading and storage facilities. This would require that the Energy Regulator give due consideration in this case to all LPG storage facilities construction projects.

51. The Energy Regulator has not received any applications from Gesi for the construction of any LPG facilities in the Western Cape or anywhere in the country and the only application for the construction of LPG facilities is the Sunrise application. The Energy Regulator cannot therefore comment on the effect, if any, of the Sunrise Energy project on the Gesi LPG project or vision.

52. The Energy Regulator must therefore consider the Sunrise application and base its decision on the merits of the application.

Comments - PetroSA

53. PetroSA contends that the Sunrise project appears to be based on the work done by ILITHA for PetroSA and that as such, the ownership and the rights to use the information was under review. PetroSA further states that it is conducting an investigation into constructing LPG storage facilities in Saldanha Bay, and that the work done by ILITHA is a part of its project.

54. PetroSA further raises the issue of the due process for access to Transnet National Ports Authority land.

55. The issue of ownership and right to use the information appears to be a commercial contract matter over which the Energy Regulator has no jurisdiction.

Project Progress Status

56. In the application, Sunrise provides a site layout and various process flow diagrams detailing, among others, the overall operations of the facility, the operation of the individual bullets, the transfer of product from ship to the storage bullets, the operation of

the rail loading facilities, the operation of the road loading facilities, the operation of the equipment to export product from the facilities and the water reticulation network details.

57. Sunrise initially expected five tanks and the associated loading facilities to be operational by July 2011, i.e. about 18 months after the approval of the licence by the Energy Regulator on the basis of the date of the first submission of the application. Further expansions to the facilities would then have been completed in 2013 and 1015.

Third Party Access

58. Sunrise indicates that the facility will provide commercial storage services to LPG bulk wholesalers and importers, i.e. the facilities will be operated as those of a 'common carrier'.

59. The use of a storage facility as a 'common carrier' is contemplated in section 20(1)(n) of the Act, which provides that *'...and applicant for a storage facility or an amendment of such a licence may elect to give users access to the facility on the basis that the capacity is shared among all users in proportion to their needs'.*

60. Such access is generally perceived to create competition in the petroleum products market serviced by the facility, and consequently provide for affordable energy for the final user.

Tariffs

61. Section 28(1) of the Act requires the Energy Regulator to approve the tariffs that a storage facility and/or loading facility licensee will charge to prospective users of its facilities. Such a tariff is required by regulation 4(2)[2] of the regulations passed under the Act to allow the licensee to:
    (a) Recover the reasonable operation and maintenance of the (storage facility and loading facility) in the year in which they were incurred;
    (b) Recover capital investment and make profit thereon commensurate with the risk

62. With regard to tariffs, Sunrise states that it '*envisage as "Usage or Throughput Tariff" that is charged to anyone using the facility. The revenue (minus the opex), will be used to support the return on investment. As such, the project cash flow is insensitive to (the) actual price of LPG) into the facility or ex-works). It is only sensitive to maintaining the opex level and getting the (required) throughput'*

[2] The approval of tariffs is subject among other things to regulation 5(2) which reads *'The provisions of regulation <u>4(2)</u>, 4(3), 4(4), 4(5) and 4(9) apply, subject to the changes required by the context, to the approval of tariffs for loading and storage facilities.'* (Our emphasis.)

63. While it is possible that the initial throughput at the facility will be low, resulting in high per volume tariffs, Sunrise is confident that '*Saldanha Bay has a number of potential industrial sites that can be stimulated by having a versatile energy source nearby. (These industries) include downstream metal works, manufacture of alloys, manufacture of catalysts, drawn steel and aluminium products, pipeline manufacture for the petroleum industry, plate manufacture, wire, railway lines, cables etc*'.

64. It should also be noted that Sunrise states in the application that it intends to distribute the LPG using a pipeline network in the future; the details of such a network are however not contained in the licence application and will have to be the subject of a separate application.

65. The Energy Regulator has developed guidelines that may be followed by storage and loading facilities operators in seeking approval of their proposed tariffs.

Confidentiality

66. In a letter dated 3 November 2009, Sunrise requested that certain information contained in its licence application be treated as confidential. This request was considered and decided on at the Energy Regulator meeting of 8 February 2010 (Energy Regulator Decision Number ER54/05/08022010/D). The licence application was subsequently made available to the public.

Conclusions

67. The application meets the minimum requirements for an application to construct petroleum facilities licensable under the Petroleum Pipelines Act, 2003. The applicant has demonstrated the technical, administrative and financial abilities necessary for this project.

68. On the conspectus of facts and evidence, it is appropriate and in compliance with the requirements of section 10(1) of the National Energy Regulator Act, 2004 (Act 40 of 2004) to grant Sunrise Energy (Pty) Ltd a licence to construct LPG facilities in Saldanha Bay.

69. The Energy Regulator will consider all similar applications on their merits, and the granting of a construction licence to Sunrise Energy (Pty) Ltd is non-exclusive. If Sunrise is unsuccessful in obtaining the necessary permits and access from the Transnet National Ports Authority, the licence will be revoked by the Energy Regulator.