

16 September 2020

To whom it may concern

RE: SOCIO-ECONOMIC SPECIALIST’S LETTER IN RESPONSE TO PROPOSED CHANGES TO THE 400 MW RICHARDS BAY GAS TO POWER PLANT AUTHORISED TO BE ESTABLISHED ON ERVEN 17455, ERVEN 17443, AND ERVEN 17442 WITHIN THE RICHARDS BAY INDUSTRIAL DEVELOPMENT ZONE

1. Introduction

This letter is written in response to the amendments requested as part of a Part II amendment process being conducted by the project proponent, Richards Bay Gas Power 2 (PTY) Ltd, with regard to the authorised 400 MW gas to power plant in Richards Bay.

The above-mentioned project has received an Environmental Authorisation (No. 14/12/16/3/3/2/867) on 4 October 2016. The authorisation was issued based on the description outlined in the following table under “original scope”.

Table 1: Description of the project for which authorisation was issued

Aspect	Original scope		Proposed changes	
			Change status	New scope
Site	Erven 17455; Erven 17443; and Erven 17442		No change	-
Development area	7.3 ha		No change	-
Location	Within urban edge		No change	-
Output	Total capacity	400 MW	No change	-
	Component 1	300 MW combined cycle fuel generated energy	Change	400 MW simple cycle, entirely fuelled
	Component 2	100 MW heat/steam generated energy	Change	Excluded from project
Fuel source	LPG and diesel		Change	LPG or LNG
Infrastructure	Fuel tanks (3 X 2000m ³)		Change	10000m ³ combined
	Two (2) fuel unloading stations		Change	Eight (8) fuel unloading stations
	Access roads within project infrastructure		No change	-
	Six gas turbines		No change	-
	2 steam turbines		Change	Excluded from project
	Multiple engine halls (~60MW) with stacks up to 20m in height		Change	Multiple turbine units (~70MW) with up to 20m stacks height
	Water storage facilities		No change	-
	HV-Yard and substation adjacent to power plant		No change	-
	A new 132 kV powerline connecting to Indus substation bordering the site		No change	-

Aspect	Original scope	Proposed changes	
		Change status	New scope
	Guard house, admin buildings, workshops and a warehouse	No change	-

2. Comparative analysis of changes and implications on the original assessment

Considering the original scope of the project and the proposed changes, the following can be concluded:

- **No changes to the project site are considered.** This means that the zone of influence of the project will remain the same and the baseline conditions of the socio-economic environment will also remain the same as that assessed originally by the socio-economic specialist in May 2016.
- **The generating capacity of the plant will not be changing.** The changes will only affect the use of technologies used to generate electricity at the plant. Such changes will also be associated with an exclusion of one technology, i.e. heat recovery, rather than an inclusion of new technology. From the socio-economic perspective these changes may lead to changes in the initial capital required to be invested to develop the project, as well as its operating capital. It will also likely lead to the changes in the employment figures, both during construction and operation of the project.
- The exclusion of heat recovery technology from the project would lead to the **redundancy of certain infrastructure that was originally planned**. This change will likely reduce the initial capital investments and maintenance expenses required to operate the plant. They are also likely to reduce the number of jobs that will be created during both construction and operation of the plant.
- The **increase in the combined capacity of fuel tanks and construction of unloading bays** will also lead to the changes in capital costs and lead to a different number of employment opportunities created during construction and operation. These changes will result in an increase in capital requirements and employment opportunities created.

Considering the above implications of the changes in the project's scope, there is a possibility that the significance of positive and negative impacts identified during the Environmental Impact Assessment (EIA) phase may be affected and may result in the assessment of impacts different to that presented in the original socio-economic impact assessment study dated May 2016. Since the extent of the changes cannot be easily predicted, it is essential to undergo a comparative analysis exercise which takes into consideration the original significance rating per impact and the possible accompanying changes. This is done for both the construction and operation phase impacts in the sections below.

2.2.1 Assessment of changes of impacts during construction phase

Table 2 presents the list of socio-economic impacts that were identified to take place during the construction phase originally, and the ratings thereof given in the original assessment and considering the expected changes to the scope of the project (i.e. reviewed rating).

Table 2: Assessment of changes of socio-economic impacts during construction

Impact	Status	Original rating	Expected changes	Implications on the rating	Reviewed rating
Direct employment and skills development	Positive	Medium (36)	Negative changes in employment due to certain infrastructure becoming redundant, which are likely to be offset by the need to build fuels tanks with greater combined capacity than originally envisaged. These changes, though, are also not expected to result in the different project duration during construction.	Without exact information on the original number of jobs to be created and the jobs to be created during construction after the project's components are amended, quantifying the change is not possible. Having said this, the existing data suggest that the rating is unlikely to change due to trade-offs as extent, duration, probability and magnitude are not to be affected.	Medium (36)
Economic multiplier effects	Positive	Low (24)	The redundancy of some required infrastructure will reduce positive effects on the economy, but these could be offset by the increase in the capacity of the simple cycle power plant (OCGT) depending on the costs involved.	Further details on the actual costs of the project planned originally and the project costs associated with the proposed changes will be required to determine the extent of the change. However, these are unlikely to be drastic and result in notable changes to the scoring of the impacts. Thus, it is predicted that the rating is unlikely to change due to the described trade-offs as extent, magnitude, probability and duration of the impact to remain the same.	Low (24)
Influx of jobseekers	Negative	Low (24)	Due to the fact that the project's locality will not change and it will not result in the increase of the total capacity of the plant, the interest in the proposed project from the public and potential job seekers will likely remain the same.	No impact on the rating	Low (24)
Impacts on daily living and movement patterns (Traffic Impacts)	Negative	Medium (30)	Some of the project's components will no longer be built, but this will be offset by an increased combined capacity of fuel tanks that need to be constructed and the size of the OCGT. Thus, these changes are likely to be offset one against another and result in "zero net" change from the impact perspective.	No impact on the rating	Medium (30)
Safety and security risks	Negative	Low (14)	No changes in the project locality and no changes expected with respect to influx of job seekers	No impact on the rating	Low (14)
Nuisance impact (noise and dust)	Negative	Low (12)	No change in the project locality and expected zero net change in the activity or duration of the project	No impact on the rating	Low (12)

As indicated Table 2, the changes in the project components are not envisaged to result in the changes of duration, probability, magnitude, or extent of the impacts. This means that the assessment of socio-economic impacts that would ensue from the proposed project considering the envisaged changes will remain the same.

2.2.2 Assessment of changes of impacts during operation phase

Table 3 presents the list of socio-economic impacts that were identified to take place during the operation phase in the study conducted in May 2016. It also outlines the expected changes and the implications of these on the ratings of the impacts.

Table 3: Assessment of changes of socio-economic impacts during operations

Impact	Status	Original rating	Expected changes	Implications on the rating	Reviewed rating
Direct employment and skills development at Mid-merit	Positive	Medium (32)	Since the project is still envisaged to be used for mid-merit/peaking power supply, this impact will remain. The total capacity of the project is to remain the same. Original study estimated that between 25-30 jobs will be created for mid-merit/peaking operations of the power plant. No information on how many jobs will be required is available at this stage. If the project no longer includes heat recovery and increases the capacity of the OCGT plant, it may be possible that less or more jobs would be required	The possible changes in the jobs created are not expected to be significant and influence the magnitude rating of the impact. therefore, the impact rating will still remain the same.	Medium (32)
Direct employment and skills development at Baseload	Positive	Medium (40)	Baseload option is no longer considered. Impact will not occur.	-	-
Economic multiplier effects	Positive	Low (24)	The project will make use of LPG and LNG instead of LPG and diesel as possible sources of fuel. It will also no longer include a heat recovery and associated infrastructure. It is possible that operating costs of the project could be reduced, but reduction would mainly stem from the reduced cost of imported fuel. The structure of the multiplier effects may change slightly due to different procurement needs. Some changes in the induced effects as a result of changes in the number of jobs created could also take place.	The change in the procurement structure could result in different sectors of the economy benefiting more or less than what was originally expected. Since the project though is not envisaged to change in terms of output, such changes are also not expected to affect the magnitude of the multiplier effects. The same can be said for multiplier effects due to changes in household earnings that could be experienced. Thus, the overall magnitude of the impact will remain as originally estimated.	Low (24)
Development of energy infrastructure	Positive	Medium (40)	The strategic nature of the project will remain.	No changes to the rating.	Medium (40)
Impacts on daily living and movement patterns (Traffic Impacts)- Mid-merit	Negative	Medium (36)	Access to site will remain; however, the number of tankers for mid-merit operations may change considering the change from combined cycle, to simple cycle generation. Since the fuelled capacity will increase from 300MW to 400MW, the demand for fuel will grow and	Although the number of tankers travelling the local roads on a daily basis during the use of mid-merit/peaking operations may increase from 18 to 44, the traffic on the road may be more severely impacted than it was	Medium (42)

Impact	Status	Original rating	Expected changes	Implications on the rating	Reviewed rating
			could increase by a third. Original study assumed that 18 tankers will be supplying a mid-merit/peaking plant a day. Increase in the fuelled capacity could increase the number of vehicles on the road for mid-merit operation to 44 tankers a day. The number of tankers for peaking though would drop to between 14-16 a day.	originally assessed. Therefore, the magnitude of the impact is expected to increase to "high". All the other parameters though will remain the same and overall impact will remain rated as medium.	
Impacts on daily living and movement patterns (Traffic Impacts)-Baseload	Negative	Medium (42)	Baseload option is no longer considered. Impact will not occur.	-	-
Visual Impacts and sense of place impacts	Negative	Low (14)	The project locality will not be affected. The changes to the project infrastructure will also not be such that would decrease or increase the visual affect. For example, the stack height of turbine units will still be up to 20m.	The rating will not be affected	Low (24)

As can be seen from the above, the proposed changes will not result in any changes in significance of ratings of socio-economic impacts that are expected to ensue during operations. However, impacts related to baseload operation of the facility will no longer applicable.

2.2.3 Assessment of changes of impacts during decommissioning phase

Table 4 indicates the assessment of possible changes in socio-economic impacts during the decommissioning phase and the implications thereof on the rating of impacts.

Table 4: Assessment of changes of socio-economic impacts during operations

Impact	Status	Original rating	Expected changes	Implications on the rating	Reviewed rating
Social impacts associated with retrenchment including loss of jobs and source of income	Negative	Medium (36)	No change to the original assessment.	-	-
Creation of temporary employment	Positive	Not assessed	The decommissioning of the power plant will create a number of temporary employment opportunities in the construction, engineering and environmental fields.	The duration of the jobs will be temporary and very short. They will have a regional coverage, and similar to the construction phase will have a low magnitude. The probability of these jobs created though is high.	Medium (36)
Economic multiplier effects	Positive	Not assessed	The decommissioning of the power plant will be associated with expenditure on	The duration of the economic impact will be limited to less than one year (very short – 1), assuming that the	Low (16)

Impact	Status	Original rating	Expected changes	Implications on the rating	Reviewed rating
			construction, engineering and environmental services.	decommissioning will take place over that period and no longer. The expenditure required to decommission the plant is not known, but it will be a fraction of its initial construction costs. Since the magnitude of the multiplier effects during construction was originally estimated at Minor, the magnitude of the decommissioning will be low and can be rates as small (0). The probability of this impact to occur will remain high (4) and the extent – regional (3).	

As indicated above, decommissioning will be associated with minor positive socio-economic impacts, such as creation of temporary jobs and support of businesses.

2.2.4 Assessment of changes to cumulative impacts

Table 5 presents the results of the assessment of changes applicable to the originally identified and assessed cumulative impacts. To ensure consistency, the assessment of changes to cumulative impacts assumes that the type and nature of the projects that were considered in the original assessment stay the same. Therefore, the assessment looks at it from the perspective of whether the changes of the proposed project as outlined earlier in this report will likely lead to changes to the cumulative effect exerted on the area.

Table 55: Assessment of changes to cumulative impacts

Impact	Status	Original rating	Expected changes	Implications on the rating	Reviewed rating
Cumulative impacts from employment, skills and business opportunities	Positive	Low (27)	The project's changes are not expected to result in the changes in the ratings of impacts associated with employment, skills development and business opportunities.	No impact on the rating	Low (27)
Cumulative impacts on daily living and movement patterns (traffic impacts)	Negative	Low (24)	The rating of the impact on daily living and moving patterns is expected to remain the same. Therefore, the added effect of the proposed project will be similar to that assessed in the original study.	No impact on the rating	Low (24)
Cumulative impacts with large-scale in-migration of people	Negative	Low (18)	The changes in the project are not so significant that they would alter movement and migration patterns. Therefore, the added impact of the project considering the other developments and activities in the area will stay the same as was originally predicted.	No impact on the rating	Low (18)
Cumulative impacts on the sense of place and landscape	Negative	Low (16)	The project will not be changing the locality, while the surrounding environment and land uses is also expected to remain similar to what was initially predicted. The changes in the project infrastructure are not expected to create any different effects.	No impact on the rating	Low (18)

3. Concluding remarks

Following a careful assessment of the impact of the proposed changes to the project infrastructure and scope, it can be inferred that no changes to the significance ratings of socio-economic impacts are expected during construction and operation phases. The same applies to the cumulative impacts predicted and assessed originally in the study of May 2016. Therefore, the mitigation measures to enhance positive impacts and to mitigate negative effects that have been proposed in the study of May 2016 will remain applicable to the project.

The impacts associated with the baseload option will no longer be applicable. However, two additional positive impacts have been identified – one associated with the creation of temporary employment opportunities and the other – business opportunities. Enhancement measures proposed in the original study for similar impacts during the construction phase will also be applicable to the same impacts during decommissioning.

Overall, considering the current knowledge, it can be reasonably concluded that from the socio-economic perspective the project in its revised scope should be approved for the development. No mitigation measures in addition to those proposed in the original study are recommended.

Yours sincerely,



Elena Broughton

for URBAN-ECON Development Economists (Pty) Ltd

Cell: 082 463 2325

elena@urban-econ.com