

SCOPE OF WORK

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) PROCESS FOR A GAS TO POWER FACILITY PROJECT (PROJECT ALPHA) FOR PETROSA, MOSSEL BAY

1. BACKGROUND

The Petroleum Oil and Gas Corporation of South Africa (SOC) (PetroSA) is the national oil company of South Africa. It operates a Gas-to-Liquids (GTL) refinery in Mossel Bay South Africa. The GTL Refinery previously produced synthetic fuels and high value products from methane-rich gas and condensate via the Fischer-Tropsch technology.

In December 2020 PetroSA's gas production capacity reached the lower threshold for profitable gas to liquids processing at the GTL Refinery. However, there is still significant remaining and accessible gas in the offshore fields to continue production for alternative uses.

The project encompasses a full end-to-end scope from the gas field reservoir to the power station distribution terminals at the input to the electricity transmission grid.

PetroSA is envisaging the following projects:

A) Gas to Power facility within the battery limit of the GTL Refinery located in Mossel Bay. The Gas to Power facility will consist of the following:

- 1) Multiple combined cycle gas turbines, with a heat recovery steam generator and steam turbine, generating up to 360 MW. This will result in additional air emission point sources from the GTL Refinery.
- 2) Grid connection line to ESKOM within the GTL Refinery battery limit.
- 3) Grid connection to Mossel Bay - 2nd power line to a point on the Eastern boundary of the GTLR near / adjacent to Gate 1
- 4) Installation of service pipelines (for utilities such as natural gas, cooling water, steam and boiler feed water) within the GTL Refinery battery limit.
- 5) Revamp of existing facilities to handle and stabilise the co-produced landed condensate.

The above turbines are permanent installations and will be located within the GTL Refinery battery limit. Fuel (natural gas) will be provided to the gas turbine generator sets from the depleting offshore gas fields and the generated electricity will be supplied via an on-site or off-site connection to the main incomers, 2 x 200 MVA 132 kV lines, directly linked to Eskom's

substation. The temporary installation will be operating for an interim period to supplement base load power.

B) Production from existing Wells/Fields and Development of New Offshore Wells

As part of the project, gas will initially be supplied by the existing wells and subsea infrastructure of the FA, EM, SCG and FO fields within Block 9 of the South Coast of South Africa. Most of these fields have not been producing since 2020 when the GTLR was shut down and require statutory maintenance and subsea repairs to reinstate and bring the fields back to production.

In addition, new well developments within the existing infrastructure in Block 9 of the south coast for PetroSA offshore operations is required to sustain gas production at the required rate for the supply of electricity. Offshore activities will entail the drilling and completion of up to 5 wells as well as the subsea tieback of these wells to the existing subsea infrastructure network.

A more in-depth scope of work will be provided, upon appointment of the successful tenderer, however the activities above is noted for completeness of the project requirements as it will also trigger the listed activities as per the EIA regulations.

It is to be noted that an EA was awarded for the development of the E-BK well, but unfortunately lapsed due to the activities not commencing within the five-year period. No extension was requested, hence the application for commencement with another EA. As such all reports including that of the EIR, EMPr and specialists' reports are available, and it is not expected that there will be any material impact changes. A production right was also awarded by the Petroleum Agency of South Africa (PASA) for the E-BK well development.

The tenderer to quote separately for this part of the scope as it will require additional work in terms of impact assessment and specialist studies, however where items such as project meetings, public participation process and or authority consultation can be combined, this to be excluded from the additional costing.

2. SERVICES TO BE PROVIDED

The service of a registered independent Environmental Assessment Practitioner (EAP) is required to manage and co-ordinate the Environmental Impact Assessment (EIA) process on behalf of

PetroSA as defined by the project scope. The service includes the appointment and management of all specialists accordingly as per the specialist's assessment and reporting that will be required. **EAP is to be registered** as per section 24 of NEMA and the regulations promulgated thereof, with Environmental Assessment Practitioners Association of South Africa (EAPASA).

For the purposes of this document, the requirement for a Scoping and Environmental Impact Reporting process will be applicable and the project falls under the ambit of the Listing Activity 2 and 6, 7 and 14 of Listing Notice 2, and Activity 17 of Listing Notice 1, though is not limited to this.

The EAP is required to:

- To assess and confirm the category of listed activities the project will deem to fall under,
- To plan, manage and coordinate the EIA process and associated EMPs, including that for the application/ amendment for the relevant permit and licenses,
- Take into account the issues listed in section 13 of the EIA regulations (GN326)
- Manage the public participation and EIA approval process on behalf of PetroSA as required by the National Environmental Management Act (NEMA) No 107 of 1998, Environmental Impact Regulations (Gazette No 326, 07 April 2017 or as amended),
- Ensure that the provisions of the NEMA and the EIA Regulations as well as other legislation (if applicable) are adhered to. This will include ensuring that the relevant statutory procedures are followed and to apply for the required authorisations in terms of the aforementioned legislation,
- Take into account all potential impacts of the proposed activity and consider alternatives, all comments and concerns raised by interested and affected parties, and all other related planning documentation or reports that may be relevant to the study.

Specialist Studies:

- The EAP must assess which specialist's studies may be required for the EIA.
- Appoint the various specialists as will be required for the specialist's studies. This will be done on a quote basis in consultation with PetroSA.
- The EAP will liaise with, and co-ordinate the activities and inputs of the specialists appointed to the project team.
- Please note that the appointment of the specialists will be the responsibility of the EAP and form part of this contract and financial proposal.

- For the purposes of this tender, all specialists' studies are to be quoted for. During the start of the EIA process and after completion of site sensitivity assessments, any specialist studies not required will not form part of the project cost.

4. DELIVERABLES

The deliverable shall include the necessary reports as per legislative requirements in a presentable form consisting of one electronic copy (for each report)

5. TECHNICAL PROPOSAL / TENDER DELIVERABLES

The Technical Proposal **must** comprise the following, failure to provide will result in the service provider (Consultant) being disqualified from the tender process.

5.1 Overview of Project

In this part of the proposal the Consultant shall demonstrate a thorough understanding of the requirements by indicating what is considered to be the aims and the desired end-products of the Service.

5.2 Approach to Work

The Consultant is expected to work closely with the technical team to ensure an aligned and iterative process. It is expected that the Consultant has in the past, and will in the case of this project, carry out as much work as possible in South Africa and shall closely involve PetroSA personnel in the day-to-day work and transfer the maximum knowledge possible.

For the purpose of clarity and complete understanding of the Services to be provided, the work items are to be broken down into a hierarchy of main and subordinate tasks, which will adequately describe the Consultant's approach to the work.

5.3 Schedule

The Consultant is requested to define how this will be achieved in the quickest possible time, noting the timeframes as guided by the EIA regulations. The Consultant should provide a detailed **schedule in line with the required legal phases including the expected deliverables**. The consultant should also include a Project Inception phase where activities could typically include confirmation of scope of work, meeting with key regulators, confirmation of legal framework, setting up appropriate project management and approval structures, meeting with other project consultants and PetroSA.

The Consultant shall provide a combined bar chart and tabulations (or series of charts) showing:

- Calendar time in months;
- Major activities and milestones;
- Consultant's programme of work, indicating main and sub tasks.

5.4 Company Information

Concise but full information should be provided on the company designated the Controlling Company, which would take overall responsibility for the Services and which would enter into a contract with the Client. If the designated company is part of a group or a consortium, the proposal should clearly indicate the following:

- The company's relationship to the other members of the group.
- The percentage of work that will be carried out by these designated sub-contractors
- The exact manner in which any other company member or members of the group would participate in the assignment and contribute to the work.
- What the fields of activity of each partner shall be.
- The Black Economic Empowerment status of these other groups or subcontractors.

The information should be presented in a **tabular fashion** as far as possible, with the applicable agreements between partners and any supporting descriptive material regarding these agreements, being presented in a separate addendum.

5.5 Company Experience Record

The Consultant must provide information of company experience in the relevant aspects pertaining to conducting an EIA process. Note that PetroSA wishes to discourage brochuremanship and unnecessary costly proposal preparation. The material presented should be prepared with maximum economy to ensure that the resources of neither Proposers nor Evaluators are wasted.

The Consultants must list (**as per the table below**) at least five (5) projects undertaken pertaining to Scoping and Environmental Impact Reporting (i.e the full EIA process) within the last 10 years.

For each of the projects listed, the following information must be provided:

Table 1:

| Brief project description | Exact services performed | Date of commencement | Date of completion | Value of the Contract of Services performed | Location of Project, owner's name, address and telephone number |
|---------------------------|--------------------------|----------------------|--------------------|---|---|
| | | | | | |
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In the case where the services listed above were performed as sub-contractors, or within a consortium of joint venture, this should be clearly stated, with an indication of the proportions of the services provided by each participant

5.6 Project Team Experience

In this part of its proposal, the Consultant shall supply the following information in a tabular format (**as indicated in the table below**) for professional staff that will be involved in the project.

The following information is required:

Table 2

| Name | position in company | Educational qualifications | Professional qualifications (societies, publications, etc) | Relevant experience |
|------|---------------------|----------------------------|--|---------------------|
| | | | | |
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The project team is required to have experience with the management and coordination of a Scoping and Environmental Impact Reporting process with at least 3 projects.

PetroSA attaches a great degree of importance to the qualifications and experience of the staff proposed. The Consultant must ensure that if selected for this project, the **nominated staff is assigned as proposed**. Failure to do so may result in the annulment of the award of contract.

6. FINANCIAL PROPOSAL

6.1 General

A lump-sum fee plus direct reimbursable costs contract will be awarded. The overall price ceiling will be established during contract negotiations, on the basis of the cost estimate contained in the Financial Proposal.

Payment to the Consultant will be in the two categories listed below:

- Consultancy Fee
- Direct Reimbursable Costs

The consultant shall provide an estimate of hours and hourly rates per project phase, per task identified in each phase. Included should be an estimated disbursements in order to determine how the calculation of the quoted lump sum.

6.2 Consultancy Fee

The Consultant shall assume, for the preparation of their financial proposals that payments will be made in the following manner:

The payments for services will be made at completion of defined stages expressed as a percentage of the total lump sum fee. The specific percentages will constitute individual ceilings that will not be exceeded. The fees proposed shall be based on the specified disbursement schedule.

If changes to the specified disbursement schedule are required, the Consultants shall provide motivation for the proposals.

6.3 Direct Reimbursable Costs

The consultant should provide an indicative total figure for the reimbursable element and provide a description and unit cost for expenses. All costs not so itemized, shall be deemed to be covered by the consultancy fee.

Only actual costs supported by invoices and/or receipts, with no mark-up, will be reimbursed.

Please note that the tenderer to costs for activities as outlined in the scope above pertaining to PART A and PART B separately.

Some items that could be combined, such as project initiation meeting and or consultation with authorities have been omitted from the costing of PART B

| ITEM | Professional Fees | TOTAL |
|--|-------------------|-------|
| PART A COSTING | | |
| Pre-Application / Kick Off | | |
| Project initiation meeting | | |
| Review available information | | |
| Site Visit | | |
| Pre-application consultation | | |
| Compile DFFE Screening Report and Site Verification Report | | |
| Appoint specialists | | |
| Compile IAP database | | |
| Compile application forms | | |
| Compile Scoping Report (SR) | | |
| Scoping Phase | | |
| Submit application forms to DFFE | | |
| Notify IAP's, newspaper advertisements and site posters | | |
| Authority Consultation | | |
| Manage IAP comments | | |
| Compile issues and responses summary | | |
| Finalize SR and submit to DFFE | | |
| Impact Assessment | | |
| Review Specialist Reports | | |
| Compile EIR and EMPr | | |
| Authority consultation | | |
| Manage IAP comments (including authorities) | | |

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|---|--|----------|
| Compile issues and responses summary | | |
| Finalize EIR and EMPr and Submit to DFFE | | |
| Communicate Authority decision and Appeal Period | | |
| Specialist Studies | | |
| Noise Impact | | |
| Air Quality Impact / GHG and Climate Change (This includes dispersion modelling and or all other calculations that would be required for this project scope) | | |
| Wetland Impact Study | | |
| Biodiversity Impact | | |
| Heritage & Archaeological Impact Study | | |
| Socio-Economic Impact | | |
| Visual Impact | | |
| Major Hazardous Installation Risk Assessment | | |
| Other | | |
| Open Public Day if required | | |
| Project Management | | |
| | | |
| Total Cost for Part B (Excl Vat) | | R |
| PART B COSTING - Costs Pertaining to additional work for Part B of Scope | | |
| Review of Information for previous EIA conducted for EBK | | |
| Compile DFFE Screening Report and Site Verification Report | | |
| Compile IAP database | | |
| Manage IAP comments | | |
| Compile issues and responses summary | | |
| Compilation of Scoping Report (SR) | | |
| Compilation of EIR and EMPr | | |
| Appointment of Specialists | | |

| | | |
|---|--|----------|
| Marine Ecology Impact Study | | |
| Impact on Fishing Industry | | |
| Total Cost for Part B (Excl Vat) | | R |

6.4 Provisional Sums

Certain Provisional Sums may be included in the contract amount. Such sums shall be expended only on the direction or with the approval of the Client. This shall apply to the scope of work and terms of payment.

6.5 Payment Schedule

The Consultant's cost estimates are to be presented generally in the format of a payment schedule as per the project phases described in the approach to work

| ITEM | MILESTONE | % PAYMENT |
|-----------------------|-------------------------------|-------------|
| Pre Application & PPP | Scoping Report | 25% |
| Specialist Studies | Submission for PetroSA review | 17% |
| Impact Assessment | Draft EIR and EMPr | 34% |
| EIR and EMPr | EIR and EMPr submission | 22% |
| EA | EA notification to IAP's | 2% |
| Total | | 100% |