

**TERMS OF REFERENCE (TOR) FOR THE
ENGAGEMENT OF A TRANSACTION ADVISOR (TA) FOR
THE DEVELOPMENT OF PNOC NATIONAL STRATEGIC PETROELUM PROGRAM**

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1. BACKGROUND/RATIONALE

Petroleum Products play a crucial role in every major part of modern society: from the energy that powers the grid and different modes of transportation, to the production of goods that humans use in our day-to-day activities, and this demand continues to rise. The Department of Energy (DOE) estimates that between 2018 and 2040, the demand for petroleum products will rise at an average of 5.2 percent per year¹.

Being a nation that is almost completely reliant on imports to supply its crude oil and petroleum products requirements (in 2019, the country has imported 99 and 65.5 percent of its crude oil and petroleum products requirements, respectively)², pump prices in the Philippines are heavily affected by price adjustments caused by complications between different parties in the global stage, in addition to problems within its own borders, and natural and man-made disasters or unforeseen crises (among other reasons).

A case in point is when the United States imposed sanctions on Iran, the trade tensions between China and the US, and crude oil production cuts from members of the Organization of Petroleum Exporting Countries (OPEC) and non-members like Russia, together with the depreciation of the Philippine Peso and other factors, which caused a net per-liter-increase of PHP 11.40, PHP 12.15, and PHP 10.70 for gasoline, diesel, and kerosene, respectively, from January to October of 2018^{3&4}. Another recent example of complications between global players that had an effect on local prices is the situation the market experienced in 2019 when a combination of market decisions and geopolitical issues caused an increase in prices.

Over the last decades, the world experienced relentless surge in oil prices due to geopolitical conflicts involving oil-producing countries along with the ever-increasing demand brought about by continued economic growths and industrialization. However, due to the unprecedented health crisis brought about by the corona virus disease 2019 (COVID-19), the world market witnessed plunge in oil prices in light of the slump in oil demand due to imposition of lockdowns in affected countries. For most countries, i.e. including the Philippines, the pandemic is much more than a health crisis but an unprecedented socio-economic crisis in light of the travel and economic activity restrictions imposed to contain the spread of COVID-19.

To mitigate our vulnerability and its impact on the country's economy and quality of life, the Department of Energy (DOE) has revived the concept of the development of a Strategic Petroleum Reserve (SPR) for the country as one of the possible undertaking towards oil supply security and price stability. The SPR or more commonly known as a strategic oil stockpile is an emergency fuel storage of oil and/or petroleum products

¹ **Philippine Energy Plan 2018-2040: Energy Supply and Demand Outlook**, Department of Energy

² **Oil Industry Management Bureau's (OIMB's) Year-End Comprehensive Report (FY2019)**, Department of Energy (2020)

³ **Oil and Gas Trends 2018-19**, Biscardini, et al. of Strategy& (<https://www.strategyand.pwc.com/trend/2018-oil-gas>)

⁴ **Oil Monitor as of October 11, 2018**, Department of Energy

maintained by either the Government or private companies or both entities, e.g. 90-day worth of a country's petroleum imports for member-countries of the International Energy Agency (IEA), that are released during periods of local or international oil supply disruptions. The main purpose of SPR is to temporarily replace the physical volumes of imported oil and/or refined petroleum products that could be lost in the short-term during an emergency. The role of governments is to protect the economic and physical well-being of its citizens, and oil disruptions have had large, negative impacts on modern economies.

The DOE has recognized PNOC as the proper government agency legally mandated to carry out the activities on behalf of the government as envisioned in an SPR program. PD334 mandates PNOC "to provide and maintain an adequate and stable supply of oil and petroleum products for the domestic requirement and for that purpose to engage in, control, supervise and regulate the transportation, *storage, importation*, exportation, refining, *supply, sale and distribution of crude oil*, refined petroleum and petroleum-based products, whether imported or produced by local refineries."

In November 2019, the DOE, thru Memorandum Order No. MO2019-11-0001, mandated PNOC to conduct a feasibility study of establishing an SPR for the country, and thereafter an implementation plan based on the result of this study. Relatedly, a Department Circular which shall be known as the implementing Guidelines for the establishment of the Philippine Strategic Petroleum Reserve Program is currently being drafted by DOE, in close coordination with PNOC.

2. OBJECTIVES AND EXPECTED RESULTS

2.1. Overall Objective of the Study

The overall objective of the Study is to determine the viability of establishing a national SPR and develop a detailed plan to implement the program. It also aims to identify and secure the necessary approval and prepare all required documents for the implementation of the program and undertake, as necessary, all pre-development activities in preparation for the roll-out.

Towards this end, PNOC will engage the services of a Transaction Advisor to: prepare the Detailed Feasibility Study (DFS) for its envisioned development of a National Strategic Petroleum Reserve (SPR); assist PNOC in securing necessary project and budget approvals from concerned government agencies (e.g. NEDA, DOF, DBM and others); prepare the preliminary Front-End Engineering Design (FEED); prepare the Terms of Reference (TOR) for the Engineering, Procurement and Construction (EPC) Stage; and assist PNOC in the actual bidding process, evaluation until award of contract to the winning EPC contractor.

By the end of the contract period under this TOR, the Transaction Advisor is expected to produce a comprehensive feasibility study on the development of the country's strategic petroleum reserve. The DFS is expected to cover the technical, legal, social, environmental, financial, and economic viability study as well as the risk assessment of developing and implementing the Project. The TA shall

recommend the best business model and implementation scheme coupled with a comprehensive implementation plan, project timeline, and estimates on the total project cost. Integrated in the DFS shall be preliminary conceptual engineering design/s of the stockpiling method/technology recommended for the SPR development.

If developing a national strategic petroleum reserve is determined viable for the Philippines, the study must assess potential sites considering all the currently existing storage facilities (both private- or government-owned) that can be used for SPR development as well as determine the best stockpile ownership options, methods and technologies to be adopted, composition and volume as well as estimate the total project cost required for SPR development.

Moreover, the study shall also determine if the construction of additional refineries and other infrastructure for the country is necessary, as the country's daily refining capacity is long outpaced by its daily domestic oil requirements.

Considering that building the stockpile inventory alone entails huge capitalization, not to mention the additional cost in constructing and leasing storage facilities, the DFS must present a comprehensive list of available funding sources that PNOC can have access to as well as the appropriate financing options that can be implemented to ensure project sustainability.

Essentially, a legislation must be put in place to provide enabling support and mechanism and to govern the implementation of the SPR, if the development of which is found viable.

Potential challenges and problems that may be faced in the implementation of the Project shall be identified and analyzed and the DFS shall provide recommendations on how to mitigate its impacts if not totally prevented.

If the financial viability of developing a national strategic petroleum reserve will be found a challenge, the TA shall identify, evaluate and recommend potential alternatives of similar nature to the implementation of an SPR program, that will be responsive to PNOC's vision and mandate of ensuring energy and fuel supply security and price stability even during times of crises and emergencies.

Other major deliverables expected from the TA, among others, are the preparation of front-end engineering design (FEED or basic design) for selected assessed sites in the DFS and preparation of TOR and bid documents for the engagement of the Engineering, Procurement, Construction, and Commissioning (EPC) contractor.

In addition, the TA is expected to provide all the necessary assistance and support in securing approvals for project implementation and budget allocation or fund sourcing.

3. SCOPE OF WORKS

The scope of works of the Transaction Advisor shall include, but not necessarily be limited to the following:

A. Preparation of the Technical Feasibility Study

3.1. Market Study

- 3.1.1. Conduct a thorough market research and demand estimation/analysis covering, among others, the need for the project and the appetite of both the government and private sector for undertaking such project.
- 3.1.2. Analyze the current and projected petroleum demand and import requirements of the country (for all sectors) and determine industry players and other entities that may potentially serve as off takers from the SPR's petroleum stocks and the logistical requirements in the stocks drawdown in a business-as-usual scenario.
- 3.1.3. Conduct a comparative analysis of the project's tariff with the cost of fuel from existing/current sources.
- 3.1.4. Prepare a financial model showing the projected tariff (and tariff structure) and its impact to off-takers.
- 3.1.5. Establish the minimum supply requirement/volume to be solicited from the project (i.e., the project's commercial component) considering the estimated potential demand.
- 3.1.6. The analysis shall also include an identification and assessment of other requirements, e.g., bill legislation, drawdown/replenishment mechanisms, policy support, funding, related facilities such as refineries, which will have impact on the overall viability of the project.
- 3.1.7. Analyze current and future supply and pricing of petroleum products and identify producer-countries that may possibly be considered as source of imported oil for the Philippines in consideration of price, quality, accessibility, logistical requirements, others. Study various modes and financing options for reserves acquisition such as Government to Government Scheme, direct financing, loans, etc.
- 3.1.8. Review the experience of other countries in the construction, operations and maintenance of a national strategic petroleum reserve and recommend arrangements that are appropriate for the Project.
- 3.1.9. Provide design parameters based on internationally accepted standards (e.g., scale, alignment, required facilities) of the project including phasing of implementation as may be required in technical study.

3.2. Technical Study

- 3.2.1. Determine the composition, size and estimated cost of the petroleum stockpile necessary for the country;
 - a. Gather, update, and analyze all relevant data on the country's oil supply and demand to establish the most appropriate composition and size of the national strategic oil inventory;
 - b. Assess and review existing policies and standards regarding SPR requirements in terms of capacity/volume/size;
 - c. Determine and recommend the required composition and size of the SPR; and
 - d. Prepare detailed estimation of the cost of petroleum inventory that will be imported for the SPR.

- 3.2.2. Account the country's existing petroleum storage facilities (government or privately owned)
 - a. Assess the capacity of all existing storage facilities in the country (both private- and government owned) and
 - b. Coordinate with storage facility owners and determine the capacity potentially available for use in strategic stockpiling;
 - c. Prepare detailed estimation of the cost of leasing storage facilities from both the government and private sector for the SPR program;
 - d. Prepare draft lease agreement/s between PNOC and the potential storage facility lessors with terms that are aligned with the purpose at which the SPR is being developed;
 - e. Determine the additional capacity of storage required to be built by the government for the SPR program.

- 3.2.3. Review, evaluate and recommend the most viable technology or methods for strategic petroleum stockpiling. Various technologies that may be considered for evaluation are: underground caverns; storage in depleted oil and gas reservoirs; underground tanks; above ground tanks; in-ground tanks; others.

- 3.2.4. Evaluate and determine the stockpiling approach/is and stockpiling ownership option/s most appropriate to implement in the country:
 - a. Review different ownership schemes/approaches being employed in other countries who successfully developed their own SPRs;
 - b. Review and evaluate stockpiling concepts/approaches (such as, but not limited to the options enumerated below), and determine which among these options are most applicable for the country.
 - government industry stockpiling;
 - industry stockpiling;
 - tickets;
 - inviting tank operators;
 - joint stockpiling with exporters;

- regional stockpiling;
 - multilateral arrangement framework; and
 - others
- c. Determine possible international cooperation or partner countries to develop a stockpile with if the recommended option in 3.2.4.b falls under regional stockpiling and/or multilateral arrangement framework.
- d. Determine what percentage of the oil inventory shall be owned and maintained for each of the recommended option in 3.2.4.b.
- 3.2.5. Determine if the country has a need for the construction of additional oil refineries, as its daily refining capacity has been long outpaced by its daily domestic oil requirements. If the construction is said to be necessary, the refinery setup (e.g., conventional, or modular), capacity, and other factors such as location and operation shall be considered where, depending on its allowable expenses for the program, the country can maximize the share of crude oil over refined petroleum products in its daily net imports for stockpiling due to the advantages that crude oil can offer in stockpiling compared to its counterpart.
- 3.2.6. Determine if the country has a need for the construction of other strategic infrastructure, and identify and analyze the optimal location, structure, and operation of such.
- 3.2.7. Determine and recommend best suitable sites for the development of oil stockpile facilities.
- 3.2.8. If an SPR is deemed not feasible:
- a. Identify and evaluate potential alternatives of similar scale to the implementation of an SPR program that will be responsive to PNOC's vision and Mandate.
 - b. Suggest considerations that PNOC and DOE may wish to contemplate to enhance the viability of implementing an SPR program.
- 3.2.9. Prepare a conceptual engineering design and estimate total cost to develop the Project:
- a. Provide design parameters based on internationally accepted standards (e.g., scale, alignment, required facilities) of the project including phasing of implementation as may be required;
 - b. Prepare preliminary engineering design for the oil storage facility/ies to be constructed in consideration of the characteristics of the identified site/s; storage technologies/methods recommended to be employed for the SPR in section 3.2.3.; and relevant technical standards as well as environmental and social safeguard requirements;
 - c. Prepare preliminary engineering design/s for the other facilities deemed necessary for the program.

- d. Recommend on the timing and phasing of development and construction of the facilities and the indicative project cost.
- e. Document compliance with environmental and social safeguard requirements by providing, as separate outputs/reports, the necessary plans (i.e., right-of-way acquisition and resettlement, gender, environmental impact, and mitigation).

B. Development of the Full/Detailed Feasibility Study

After determining the viability of the project and optimum technical solution, the same shall be presented to the PNOC for approval. Once approved, the Transaction Advisor shall proceed with the preparation of the detailed feasibility study.

3.3. Financial and Economic Study

- 3.3.1. Prepare the base case project cost estimates disaggregated into capital expenditures (CAPEX), operations and maintenance (O&M), land acquisition costs, taxes, and the required contingencies, etc.; prepare the project's financing and procurement plans.
 - a. Prepare detailed estimation of the capital investment for the Project including the necessary contingencies and related rationale within acceptable accuracy limits (Cost estimate for the facilities shall have accuracy of +/- 20 %), expressed in value of money at the time of preparation of the Detailed Feasibility Report.
 - b. Prepare detailed estimation of the Operation and Maintenance expenses related to implementing the SPR program taking into consideration the following: cost for the lease of commercial and government-owned storage facilities; importation expenses of oil stocks to build the SPR; and all other O&M expenses that may be incurred in maintaining the SPR.
- 3.3.2. Develop cost recovery options (and alternative revenue generation and/or viability gap funding [VGF]) to ensure that the project is sustainable.
- 3.3.3. Carry out value for money (VFM) analysis.
- 3.3.4. Conduct an economic analysis - identification and estimation of the economic costs and benefits of the project; and calculation of the economic internal rate of return (EIRR), including sensitivity analysis as required for obtaining ICC approval.
- 3.3.5. Conduct an independent market assessment of potential local and foreign investors' interest in the project.
- 3.3.6. Identify and recommend all possible sources of funding and financing options for the project.

- 3.3.7. Conduct a financial analysis -determination of financial internal rate of return (FIRR) and appropriately discounted net present value (NPV) for both project and equity perspectives. The financial analysis model should be designed to provide for project structuring options including the imposition of appropriate project financing constraints including, but not limited to, debt service coverage ratio (DSCR) caps which optimize scenarios for the disbursement of available projected cash flows to potential project creditors. The financial analysis model should have capabilities to allow the conduct of sensitivity analysis for the purpose of quantifying the financial impacts of different structuring options.
- 3.3.8. Develop a full financial model and financing plan including timelines for implementation and funds flow requirements (*with summary of major assumptions and dashboard, in excel format, complete with formula and links*). The financial model should include, but not limited to, demand forecasts, tariff modelling, shadow bid model and bid pricing analysis model, etc., financial model for implementation, based on the project capital structure, project implementation schedule and funding structure, etc.
- 3.3.9. Formulate an appropriate parametric tariff adjustment formula considering the impact of said adjustment to all stakeholders, as necessary.
- 3.3.10. Evaluate and recommend the optimum business model that PNOC may adopt that will make the SPR commercially viable.
- 3.3.11. Compare and assess whether economic benefits outweigh the economic costs for the country to justify the development of its own national SPR.

3.4. Legal and Regulatory Study

- 3.4.1. Conduct comprehensive evaluation of the legal and regulatory framework and other environmental laws governing the development, construction and operation of a national Strategic Petroleum Reserve. Below are some of the current laws and policies that may be considered in the study:
 - a. PNOC Charter
 - b. Philippine Oil Deregulation Law;
 - c. Pertinent Department of Energy Circulars;
 - d. Pertinent Executive Orders;
 - e. Philippine Environmental Policy Act;
 - f. Philippine Environmental Code;
 - g. Environmental Impact Statement System;
 - h. National Integrated Protected Areas System Act;
 - i. The Indigenous People's Rights Act;
 - j. Agreements signed by the country, and other countries and/or groups of the same (e.g., ASEAN, UN); and

k. Others

- 3.4.2. Formulate the appropriate institutional arrangement (including regulatory arrangements/requirements, as may be necessary) for the project taking into consideration the roles and responsibilities of the PNOC (including DOE) and other stakeholders.
- 3.4.3. Assess on how to integrate the strategic petroleum reserve program as part of the national oil contingency plan, in the absence of a legislative bill on the implementation of the SPR.
- 3.4.4. Review and determine legal approaches to enable participation in an inter-country development of a strategic petroleum reserve.
- 3.4.5. Review/validate all legal requirements relating to project implementation (compliance with related laws) and tariff setting (legal review to identify legal processes and impediments/requirements, including review of the relevant jurisprudence, regulatory framework, and previous rulings including COA issuances that might have an impact on the project; and suggest appropriate legal strategies/alternatives to be undertaken in the implementation of the proposed project).
- 3.4.6. Develop and provide detail to the legal architecture and design of the transaction, identifying e.g., the (i) type of project implementation scheme (e.g., joint venture, PPP, etc.); (ii) investment plan, how, where and when investments will be made; and (iii) type of public sector support required (whether through ODA or otherwise), including terms and conditions.
- 3.4.7. Assist in resolving legal issues associated with the management of the social, economic, and environmental impacts of the project in a manner consistent with international best practices, including among others issues on resettlement, and environmental consequences of the project. All legal opinions and advises given during the engagement shall be rendered in a formal communication to PNOC.
- 3.4.8. Gather and review all existing drafts of SPR-related bills and develop a new bill for the program that can be proposed for the purpose of governing the development, implementation and operation of the envisioned SPR, in consideration of the following:
 - a. Role of the private oil companies and their responsibilities under the SPR, and mechanism of access and compensation;
 - b. Penal provisions for those who fail to comply or engage in market abuse or anticompetitive practices;
 - c. Sanctions;
 - d. Budget/Appropriations;
 - e. Mechanism/Protocols for Emergency/Crisis scenario;
 - f. Mechanism/Protocols for Business-as-Usual scenario;

- g. Taxation/Exemptions/Incentives;
- h. Other provisions.

3.5. Environment Sustainability, Gender and Social Safeguards

- 3.5.1. Review of the project's potential environmental impact with reference to local requirements and those of multi-lateral lending agencies. This review shall identify potential negative impacts, discuss the extent to which they can be mitigated, and develop plans for full environmental impact assessment in anticipation of the Project moving forward to the implementation stage.
- 3.5.2. Prepare Environmental Impact Study and Secure Environmental Compliance Certificate (ECC). The scope of the Environmental Impact Assessment shall not be limited to determining the following: Environmental Baseline, Ambient Air Quality, Climatic Data, Noise, Water Quality, Land Use, Terrestrial Ecology, Aquatic Ecology, Socio-economic environment and Health Aspects, Visual Impact, Stakeholders Consultation, Resettlement and Compensation Plans, Mitigation Measures, Mitigation for Air pollution, Mitigation for Waste Water, Mitigation to control Noise, Solid Waste Management, Flora and fauna, Environmental Management Plan (EMP), Environmental Monitoring Plan etc.
- 3.5.3. Assess social acceptability, impact, and awareness on the project (including gender- and IP-related concerns) and recommend environmental and social safeguard requirements (i.e. environmental impact mitigation measures, climate change resiliency and disaster risk mitigation measures, social impact mitigation measures, gender-responsive facilities) consistent with relevant laws and guidelines.
- 3.5.4. Formulate Health, Safety, Security and Environmental Protocols to be implemented in the operation of the SPR.

3.6. Risk Assessment

- 3.6.1. Conduct project risk analysis to determine, assess, allocate and manage risks (such as, but not limited to project construction, commercial [market risk], financial, political, economic, force majeure and legal risks) during all project stages. The risk analysis should cover valuation, allocation, and mitigation measures.
- 3.6.2. The Transaction Advisor should recommend mitigation mechanisms that may be adopted by the party identified to bear each of the identified risks. In doing so, assessment and applicability of various risk mitigation mechanisms should be carried out, including review of the extent to which

the risks of the project can be underwritten by commercial insurance cover and extent to the likely cost of such cover.

3.7. Design, Technical Requirements and Minimum Performance Specifications and Standards (MPSS)

- 3.7.1. Update and finalize project-related requirements, i.e., conceptual design, timing and phasing of development and construction, indicative project cost and fund sourcing, among others.
 - a. Conduct technical surveys of identified potential sites necessary for the site suitability analysis and preparation of conceptual engineering design, including but not limited to: geotechnical; hydrographic; bathymetric; topographic; and marine surveys/studies;
 - b. Conduct site suitability analysis and recommend the most suitable site/s for strategic oil stockpiling in consideration of various standards and guidelines used by the industry for the siting of oil storage facilities and SPR
- 3.7.2. Prepare the MPSS for the construction, supply, installation and operation and maintenance taking into consideration global best practices and finalize the technical specifications for the proposed project.

3.8. Project Development

- 3.8.1. Prepare the detailed project rationale, including job generation projections
- 3.8.2. Prepare the detailed project implementation plan of activities and schedule which will define and set the timelines of the major phases of project work to fulfill the desired objectives and achieve the expected deliverables from the time of award to its completion. The project implementation schedule should include the deliverables, major activities for each deliverable, key milestones, among others.
- 3.8.3. Prepare a design and monitoring framework (DMF) for the proposed project, which will include, among others, the monitoring requirements for the PNOC in terms of contract implementation and management, and expected project outcomes.
- 3.8.4. Devise Information, Education and Communication Campaign (IECC) strategy and timeline of IECC implementation.
- 3.8.5. Provide assistance and support to PNOC in the implementation of the project IECC plan

Further, aside from the specified scope of works mentioned above, the Consulting Firm may propose additional works to enhance the study, provided it shall bear no additional cost to PNOC. The scope of any additional proposed works by the Consulting Firm shall

be established within the first three (3) months of the study, subject to the approval of PNOC.

C. Assistance to PNOC on Securing Project Approval

3.9. Assist PNOC in the presentation of the results of the DFS to PNOC Management Committee, PNOC Board Committees, PNOC Board, and to other government agencies such as but not limited to the Department of Energy, NEDA, Governance Commission for Government Owned and Controlled Corporations and/or DOF for the purpose of seeking support and approval for the implementation of the program.

3.10. Assist PNOC in securing approval for project implementation from the National Economic and Development Authority (NEDA) Board.

3.10.1. Complete all the documentary requirements to be submitted to the ICC and NEDA Board, and assist PNOC in addressing all ICC concerns until the approval is accorded by ICC/NEDA Board, including a pre-ICC presentation briefing/meeting with PNOC and other concerned parties. These documents shall include the following:

- a. Six (6) electronic and hard copies, in MS word format, of the Project Feasibility Study;
- b. ICC Project Evaluation Forms;
- c. Two (2) sets of electronic copies, in MS excel format, of the economic and financial analyses in traceable formula format;
- d. Environmental Impact Statement (EIS)/Environmental Compliance Certificate (ECC)/Certificate of Non-Coverage in electronic and hard copies (MS word file);
- e. Location map (with electronic copy);
- f. Right of way acquisition and resettlement action plan; and
- g. Other documents that may be required by the ICC.

3.11. Assist PNOC in the application to DOE for the issuance of a Certificate declaring the project as Energy Project of National Significance (CEPNS) or whatever is applicable at the time of application.

3.11.1. Complete all the documentary requirements to be submitted to DOE and assist PNOC address all DOE concerns until the issuance of the CEPNS or whatever is applicable at the time of application.

D. Preparation of Front-End Engineering Design/s

3.12. Upon determination of the feasibility of the project and project sites and/or upon approval of other alternative project/s of similar scale, prepare the Front-End Engineering Design/s of the storage and other related facility/ies, which must include, among others the following components:

- 3.12.1. Process
 - a. Design Basis Report
 - b. Heat and Material Balance
 - c. Process Flow Diagram
 - d. Piping and Instrumentation Diagram (with Controls)
 - e. Equipment Data Sheets (Process)
 - f. Instrument Data Sheets
 - g. Utility Consumption Summary
 - h. Material Selection Diagram
 - i. Hydraulic Calculations
 - j. Pressure Relief Calculations
 - k. Pressure Relief Valve Sizing
 - l. Hazard and Operability Study

- 3.12.2. Mechanical
 - a. Equipment Data Sheet (Complete)
 - b. Equipment Supplier Review (Technical and Cost Review)
 - c. Equipment List
 - d. Hazard and Operability Study

- 3.12.3. Instrumentation and Process Control
 - a. Instrument Data Sheet/Instrument Selection and Sizing (Complete)
 - b. Control Architecture
 - c. Instrument Supplier Review (Technical and Cost Review)
 - d. Piping and Instrumentation Diagram (with Process)
 - e. Hazard and Operability Study

- 3.12.4. Piping
 - a. Detailed material selection
 - b. Pipe routing/lay outing
 - c. Pipe Stress calculation and analysis
 - d. Plot Plan Preparation
 - e. Underground piping layout
 - f. Line/Piping List
 - g. Piping Bill of Quantities
 - h. Hazard and Operability Study

- 3.12.5. Civil
 - a. Structural Design Buildings
 - b. Structural Design Piping Supports
 - c. Structural Design Equipment Supports
 - d. Underground piling design
 - e. Bill of quantities (Civil)

- 3.12.6. Electrical
 - a. Electrical Design Architecture

b. Single Line Diagram

3.12.7. Fire Fighting

- a. Design Basis Report
- b. Heat and Material Balance
- c. Process Flow Diagram
- d. Piping and Instrumentation Diagram (with Controls)
- e. Equipment Data Sheets (Process)
- f. Instrument Data Sheets
- g. Utility Consumption Summary
- h. Material Selection Diagram
- i. Hydraulic Calculations
- j. Hazard and Operability Study

3.12.8. Cost Estimation

- a. CAPEX calculation
- b. OPEX calculation

E. Preparation of the TOR and assistance to PNOC on the Bidding Process for the EPC Contractor

3.13. Prepare the Terms of Reference for the Engagement of the EPC Contractor

3.14. Assist PNOC in all stages of the bidding process for the hiring of EPC Contractor. All decisions relative to the bidding shall be subject to the approval of PNOC:

3.14.1. Recommend an appropriate bid strategy including the development of the blueprint of the bid process and appropriate governance for the project. Bid process design and the choice between a single-stage process vis-a-vis a two-stage process will be evaluated. The TA shall provide advice and justification on the best-value bidding parameter, including, but not limited to least cost, least viability gap funding for the government, etc.

3.14.2. Prepare all necessary bidding/tender documents, including the Invitation to Prequalify and Bid (ITPB), draft concession agreement, Information Memorandum, MPSS, bid bulletins, qualification and evaluation criteria, and Bid Forms such as Bid Letter, Statement of Bid, Technical Bid Proposal, Financial Bid Proposal, etc.

3.14.3. Assist PNOC in the procurement of an EPC Contractor from the preparation of documents under 3.14.2, and other activities such as a) preparation or collation of documents and data to be made available in the data room for prospective bidders; b) issuance of all bidding-related notices/requests and supplemental notices; c) conduct of the pre-bid conference/s; d) conduct of bidding; e) responding to queries upon proper consultation with the

PNO; f) pre-qualification of bidders and evaluation of bids; g) contract finalization and award; and h) preparation of minutes of all meetings.

4. TIMELINES AND DELIVERABLES

4.1. Commencement Date and Period of Implementation

The commencement date of the engagement period shall be on the date of issuance of Notice to Proceed. The conduct of the DFS, preparation of FEED and documentary requirements for the NEDA project approval and application of CEPNS from the DOE (or whatever is applicable at the time of application), SPR bill and award of EPC contract shall be completed within a period of three (3) years from the commencement date. Refer to **Annex A** for the indicative implementation timeline.

4.2. Table of Deliverables

A detailed inception report that details the TA’s understanding of the task and the methodology to be employed to complete the task shall be submitted by the winning bidder to PNO for review within five (5) working days from the commencement date. The Inception Report and Work and Financial Plan shall include, among others, the detailed work program for the scope of the study, as well as the detailed schedule for all work, including field work related to applicable tasks. The Inception Report shall also include the fulfillment of the study conditions listed in this TOR as well as approach and methodologies to be utilized in the development of the study.

The deliverables for the engagement, as enumerated in the table below, shall be submitted by the TA in both hard and electronic copies to PNO, together with materials that were used to produce the deliverables (e.g., data sets).

Table 1: Deliverables

Deliverable	Timeline
1. Inception Report and Work and Financial Plan	End of Week 2
2. Monthly Progress Reports	End of every month
3. Draft Market Study	End of Month 4
4. Draft Technical Study	End of Month 4
5. Draft Detailed Feasibility Study (DFS): a. Updated Market and Technical Study b. Financial and Economic Study c. Legal and Regulatory Study d. Environment Sustainability, Gender and Social Safeguards e. Risk Assessment f. Design, Technical Requirements and Minimum Performance Specifications and Standards (MPSS)	End of Month 9

g. Project Development (including detailed implementation plan)	
6. Draft Documentary Requirements for Project Approval by NEDA	End of Month 9
7. Draft Documentary Requirements for the Application to DOE for the Issuance of CEPNS or whatever is applicable at the time of application	End of Month 9
8. Final DFS	Month 11
9. Draft SPR bill	Month 11
10. Final Documentary Requirements for Project Approval by NEDA	Month 11
11. Final Documentary Requirements for the Application to DOE for the Issuance of CEPNS or whatever is applicable at the time of application	Month 11
12. FEED	1 year after approval of project by NEDA
13. TOR and Tender Documents for the hiring of EPC Contractor	30 days after Approval of FEED by PNOB Board
14. Final Engagement Report	1 week after receipt of Notice of Award has been issued to the winning EPC-Contractor

In addition, the Transaction Advisor shall submit the special reports as indicated in the table below.

Special Reports	Timing of Submission
1. Design and Monitoring Framework	With deliverable No. 1, 5
2. Financial and Economic Model/s	With deliverable No. 5
3. Land Acquisition and Resettlement Action Plan	With Deliverable No. 4
4. Gender Assessment and Analysis of Needs	With Deliverable No. 4
5. Environmental Impact Study including an Environmental Management Plan	With deliverable No. 4 or 5
6. Indigenous Peoples' Development Plan, if any	With deliverable No. 4 or 5
7. Detailed Project Implementation Plan	With deliverable No. 5
8. Accomplished ICC-Project Evaluation Forms	With deliverable No. 9
9. Accomplished CEPNS Application Forms or whatever is applicable at the time of application	With deliverable No. 10
10. Draft agreements	With deliverable No. 12
11. Bid Process Report	Upon finalization of bid evaluation report/s

5. EXPERTISE REQUIREMENTS

The TA for this engagement shall be composed of experts who must have, at the minimum, the following qualifications.

Table 2: List of Experts and Minimum Qualifications

Position	Qualifications/Experiences	Key Responsibilities
1. Project Manager/ Team Leader	<ul style="list-style-type: none"> • Has 10 years of demonstrated experience in providing transaction advisory services, development of infrastructure projects or other work engagement in the downstream oil industry, including project structuring; risk analysis, allocation and management; project management; project agreements; and bid process management • Has completed at least 3 projects as a Project Manager handling projects about the conduct of feasibility study or project developments in oil and gas within the last 10 years 	<ul style="list-style-type: none"> • Provide overall coordination of the timely and satisfactory delivery of transaction advisory services in the development of the detailed feasibility study, preparation of bid documents and draft contract, and provision of advisory services, including the validation/finalization of a bill to govern the SPR implementation • Create a project schedule to ensure the accomplishment of the project objectives within the established time frame and ABC as mentioned in the TOR; • Assign tasks to be accomplished for each project member and determine the suitable methodology for the project; • Assist in the bidding process, including marketing, pre-bid meetings, identification of potential bidders, bidding query responses, bidder qualification and evaluation criteria development. • Facilitate completion of all the documentary requirements to be submitted to the ICC and the DOE; assist PNOC in addressing all ICC and DOE concerns until the necessary approvals are accorded; and ensure that all necessary approvals and permissions from NEDA are obtained before commencing the tender process. • Ensure timely submission of all deliverables under the engagement (Team leader shall coordinate all inputs and submit all reports, facilitate meetings and stakeholder consultations, as required; and liaise with PNOC). • Prepare highlights of all meetings, particularly agreements, between PNOC and the Transaction Advisor.

		<ul style="list-style-type: none"> • Overall supervision in the preparation of FEED and review of the same • Assist PNOC in the engagement of an EPC contractor • Provide regular updates of the project status to the PNOC. • Provide all the required assistance and advisory support for the Project
2. Legal Consultant	<ul style="list-style-type: none"> • Degree in Law • Has 10 years of demonstrated experience in sector and institutional assessment, policy analysis (including regulation aspects) of the Philippine energy and oil sector, drafting agreements and other related documents, legal framework, business models, project implementation structure, procurement and resolving all legal issues until contract award • Has completed or been engaged in at least 3 completed energy-related projects as a Legal Expert within the last 10 years 	<ul style="list-style-type: none"> • Assess current laws and policies to ascertain the validity and viability of the proposed institutional and business structure for the project, including recommendations to improve the governance of the same. • Formulate an appropriate institutional arrangement (including regulatory arrangements/requirements, as may be necessary) for the project taking into consideration the roles and responsibilities of the PNOC, DOE, and other stakeholders. • Develop a policy and legal analysis to take into account the requirements of the selected implementation modality • Assess Government's role in the proposed project, whether that role corresponds with the Government's legal obligations, and maintains sufficient power to protect the Governments interests • Identify licensing, permitting and other legal risks that need to be addressed and allocated for the implementation of the project • Review and assess legal issues associated with the management of the social, economic and environmental impacts of the project in a manner consistent with international best practices, including among other issues on resettlement, and environmental consequences of the project. • Recommend appropriate bid strategy; and prepare all necessary bid/tender documents and draft agreements. • Assist PNOC in the: a) preparation or collation of documents and data to be made available in the data room for prospective bidders; b) issuance of all bidding-related notices/requests, c) conduct of the

		<p>pre-bid conference/s; d) responding to queries, e) evaluation of bids, and f) concession agreement finalization and award.</p> <ul style="list-style-type: none"> • Provide legal advice and recommendations for the issues that may arise during the detailed feasibility study. • Review and finalize the bill that will be submitted to the Congress for the purpose of governing the implementation and operation of the national SPR • Provide support to ascertain on-time submission of required deliverables
3. Geotechnical Engineer/Geologist	<ul style="list-style-type: none"> • Licensed Civil Engineer/Licensed Geologist • Has at least ten (10) years of demonstrated experience in analyzing different soil structure, foundations including the impact of seismic data in the design of facilities. • Has completed or been engaged in at least 3 completed energy-related projects as a Geotechnical Engineer/Geologist in subsurface investigation and construction site management within the last 10 years 	<ul style="list-style-type: none"> • Conduct geological survey, geotechnical field reconnaissance, investigations, mapping, and assessment of project-related facilities based on the surface geologic survey, and investigation of possible geological problems or constraints affecting the project as input into engineering design, construction methodology, and equipment to be adopted. • Conduct seismic refraction survey and analysis considering all past earthquakes occurred in the proposed project and prepare mitigating measures/strategies to address the impact of the magnitude of such earthquake of the proposed project • Prepare geologic and seismic mapping indicating all faults and fracture in the proposed project. • Ensure availability of equipment needed for subsurface investigation • Create a report containing all the data and results, and evaluation of the subsurface material. • Provide support to ascertain on-time submission of required deliverables.
4. Project Finance Specialist	<ul style="list-style-type: none"> • Degree in Finance or Related Courses • Ten (10) years of demonstrated experience in financial modelling/ 	<ul style="list-style-type: none"> • Develop a full financial model and financing plan including timelines for implementation and funds flow requirements. The working model shall be submitted whenever requested. The Project Finance Specialist, for the duration of the Transaction Advisor's contract,

	<p>structuring of large infrastructure projects, value for money analysis, project costing and revenue forecast, development of financing plans, tendering arrangements, global insurance and guarantee products</p> <ul style="list-style-type: none"> • Has completed or been engaged in at least 3 completed energy-related projects as a Finance Specialist within the last 10 years 	<p>shall schedule periodic presentations; and shall make himself/herself available to receive comments or queries and provide responses thereto, and entertain consultations, whenever necessary.</p> <ul style="list-style-type: none"> • Conduct project risk analysis (valuation, allocation and mitigation of risks) to determine, assess, allocate and manage risks (such as, but not limited to project, commercial, financial, political, economic, force majeure and legal risks) during all project stages. • Assess extent to which project risks can be underwritten by commercial insurance and corresponding cost. • Prepare a contingent liability model for PNOG that quantifies the contingent liabilities, how the same shall be managed and the funding requirements based on the risk analysis. • Support during the market intelligence gathering from lenders relating to financing terms and incorporating final debt pricing into the financial model. • Assess various stockpiling ownership options and recommend a suitable option/s for the project including required contractual agreements and institutional structures • Ascertain the potential acceptability of the recommended business structure by the private investors and potential lenders; and recommend a suitable bankable financing plan for the recommended structure, including appropriate debt equity ratios, loans tenures and rates for project viability • Identify appropriate funding sources. • Carry out value for money analysis • Develop all required due diligence financial documents for potential lenders • Test all key assumptions against financial model outputs • Assess project financial management capacity • Assist in developing bid documents, evaluation of the bids/proposals
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		<ul style="list-style-type: none"> • Provide support to ascertain on-time submission of required deliverables
5. Economic Specialist	<ul style="list-style-type: none"> • Degree in Economics or Finance or Related Courses • Has 10 years of demonstrated experience in economic assessment, sector assessments, demand-supply for public services, opportunity cost implications, etc. • Has completed or been engaged in at least 3 completed energy-related projects as an Economic Specialist within the last 10 years 	<ul style="list-style-type: none"> • Undertake project economic analysis to provide an economic cost-benefit analysis and project rationale on the proposed project: <ul style="list-style-type: none"> - Conduct sector assessments, demand-supply (market analysis) for crude and petroleum products, opportunity cost implications, projected project benefits and impacts. - Conduct willingness-to-pay survey to determine whether the end-user tariffs are socially acceptable - Determine of project rationale and economic impact in comparison with alternative options - Determine realistic economic rates of return for the project under various scenarios - In consultation with the Social Development and Gender Specialists, ensure that the project provides desired and equitable benefits to end-users. • Provide support to ascertain on-time submission of required deliverables.
6. Environmental Specialist	<ul style="list-style-type: none"> • Degree in Environmental Planning/Science/ Engineering or related field • Has 10 years of demonstrated experience in environmental impact assessment and mitigation measures • Has completed or been engaged in at least 3 completed energy-related projects as an Environmental Specialist within the last 10 years 	<ul style="list-style-type: none"> • Carry out a comprehensive environmental assessment and ensure substantive and forma-wise consistency with the Government's environmental requirements, i.e., ECC. • Assess critical environmental factors related to traffic congestion, noise and air pollution, handling storage and disposal of hazardous products, solid waste, water and flooding, carbon emission, geo-hazard conditions, land use and settlement developments impacts and resiliency to climate change conditions such as storm surges and floods. • Identify key 'at risk' areas and threats to the facilities; identify technical, administrative, institutional, infrastructure, and environmental mitigating measures and recommendations for

		<p>integration into the over-all project design, financial and implementation proposal.</p> <ul style="list-style-type: none"> • In coordination with the Social Development and Gender Specialists, conduct public consultations. • Recommend appropriate mitigating measures and designs to improve the project's environmental sustainability. Ensure that the environmental management plan and mitigation measures are integrated in the project's design, cost, and operation. • Identify all government environmental clearances, required permits, and approvals. • Evaluate PNOC's capacity to implement mitigation measures, and where necessary recommend capacity improvement training programs and measures. • Ensure inclusion of the environmental management plan in the bidding documents, along with the requirements to comply with mitigation measures therein. • Provide support to the project to ascertain on-time submission of required deliverables on the environmental aspects.
<p>7. Social Development and Gender Specialist</p>	<ul style="list-style-type: none"> • Degree in Behavioral Science or related field • Has 10 years of demonstrated experience in assessment of social impacts, and mitigation measures, including on Indigenous People (IP), in accordance with the specific requirements in the Philippines, and in gender analysis 	<ul style="list-style-type: none"> • Develop a framework for poverty and social analysis of the project in accordance with country requirements. • Lead the mapping of social and resettlement impacts from implementing the project and develop strategies to mitigate such impacts. • Prepare poverty reduction and social strategy frameworks (e.g., resettlement plans) with recommendations for involuntary resettlement, and gender safeguards in accordance with the requirements in the Philippines, as applicable. • Assess PNOC's capacity and commitment to undertake social impact due diligence, impact monitoring, and mitigation measures

	<ul style="list-style-type: none"> • Has completed or been engaged in at least 3 completed energy-related projects as a Social Development and Gender Specialist within the last 10 years 	<p>implementation (e.g., resettlement implementation, monitoring and evaluation).</p> <ul style="list-style-type: none"> • Conduct a willingness-to-pay survey to determine whether the proposed tariffs are socially acceptable. • Ensure project compliance with the Philippines involuntary resettlement regulatory framework. • Ensure inclusion of the social/safeguard requirements in the bidding documents, along with the requirements to comply therein. • Collect sex-disaggregated data of clients/users of the project. • Conduct gender assessment and analysis of needs of women and men clients as well as gender differential impact of the project • Review gender risks and develop mitigation measures. • Draft a gender mainstreaming framework for the project, based on Philippine gender laws. • Provide support to ascertain on-time submission of required deliverables.
<p>8. Land Acquisition and Resettlement Specialist</p>	<ul style="list-style-type: none"> • Degree in law or related field • Has 10 years of demonstrated experience in the preparation of land acquisition and resettlement action plan on development projects • Has completed or been engaged in at least 3 completed energy-related projects as a Land Acquisition and Resettlement Specialist within the last 10 years 	<ul style="list-style-type: none"> • Ensure preparation of land acquisition plan and the resettlement action plan that are adequate and compliant with the Philippines requirements. • Ascertain the legal status and site availability of the additional lands that may be acquired for the project. • Establish the appraised value of the lands and recommend the best location in terms of its strategic placement, ease of acquisition, security, etc. • Conduct household survey and make the necessary tagging for use in the development of the compensation plan. • Provide support to ascertain on-time submission of required deliverables.

The bidder shall define the organization of the Project in terms of specific positions and tasks including the above-mentioned profiles, together with certification from the individual experts declaring their availability during the period of the engagement. This information will be provided as a description (indicating the names, profiles and position in the proposed Project organization) supported by a schematic sheet with a clear indication of the functions and dependencies.

The experts' resumes have to be submitted along with the offer of the bidders which will form part of the bases in evaluating the offers. The curriculum vitae should detail the educational background, work experiences (highlighting the experiences set in the TOR) and other qualifications of each of the Project team members. The prospective bidder-firms may be required to present proof to support their credentials as well as those of each of their members/experts, such as list of previous feasibility studies conducted and certificate of employment from previous employers. Any misrepresentation made, orally or in writing, in any of the credentials and its supporting documents submitted, whether pertaining to the firm or to any of its members, shall be a ground for disqualification of the prospective bidder-firm.

6. CRITERIA FOR THE SELECTION

The interested bidders shall be evaluated in accordance with the Implementing Rules and Regulation of RA 9184. Specifically, the evaluation and selection of bidders shall follow Section 33.2.1 (b) the quality-cost based evaluation procedure. In this regard, interested bidders shall submit both the technical and the financial proposals, which shall serve as the bases of selection. The technical and financial proposals shall be evaluated based on the weight of 80% and 20% allocation, respectively.

6.1. Technical Proposal Evaluation (80%)

The bidders shall provide their technical experience, approach and methodology on all technical and cost parameters detailing professional inputs and time requirements and resumes of all proposed technical manpower.

The proposal shall be evaluated based on the following criteria and point system:

6.1.1. Technical Proposal (30%)

The technical proposal shall have and will be evaluated based on the following key components:

- *Technical approach and methodology.* Understanding of the objectives of the assignment, approach to the services, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output.

The bidder shall highlight under this component the problems being addressed and their importance, and explain the technical approach it would adopt to address them. Bidders should also explain the methodologies being proposed to adopt and highlight the compatibility of those methodologies with the proposed approach.

- *Work Plan.* Proposed main activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the PNOC), and delivery dates of the reports.

The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the TOR and ability to translate them into a feasible working plan. A list of the final documents, including reports, drawings, and tables to be delivered as final output, should be included in this component. The work plan should be consistent with the prescribed format.

- *Organization and Staffing.* Proposed structure and composition of the team.

Bidders should list the main disciplines of the assignment, the key expert responsible, and proposed technical and support personnel.

6.1.2. Technical Team (25%)

The technical team will be evaluated based on the following aspects:

- Experience and qualification of the technical experts and the composition of the team as a whole according to the profile requirements as enumerated in Section 5 of this TOR.

6.1.3. Firm Qualification (25%)

The company qualification will be evaluated based on the following aspects:

- Comprehensive knowledge and extensive experience on the provision of transaction advisory and/or consultancy services for projects involving oil storage and stockpiling facility development, operation and management, locally and/or overseas;
- Financial standing based on the company's Net Financial Contracting Capacity (NFCC)

6.2. Financial Proposal Evaluation (20%)

PNOC shall require a detailed financial proposal with indicative program and milestones, and target estimates for defined outputs. The bidder shall also detail all costs items for remuneration, technical surveys and out-of-pocket expenses.

Attached as **Annex B** is the scoring system for the shortlisting of bidders and evaluation of the Technical and Financial Bids.

7. APPROVED BUDGET FOR THE CONTRACT (ABC)

PNOC has an approved corporate budget in the amount of **one hundred million pesos (PHP 100,000,000.00)**⁵ for the acquisition of consultancy services for the envisioned development of a Strategic Petroleum Reserve by PNOC.

8. SOURCE OF FUNDS

Funds for the study will be sourced from the Corporate Operating Budget.

⁵ PNOC Board-Approved Multi-Year Authority

9. INSTITUTIONAL SET-UP/RESPONSIBILITIES

9.1. PNOC

- 9.1.1. Shall be the Executing Agency and will serve as representative of the Government in the Contract Agreement with the TA;
- 9.1.2. Shall be the beneficiary and end-user of the consultancy services;
- 9.1.3. Shall be responsible for contract implementation and management, including ensuring the quality of outputs. Further, PNOC shall be responsible for the monitoring and evaluation of the progress of the study and approval of reports to ensure delivery of outputs as specified in Sections 3 of this TOR;
- 9.1.4. Shall be responsible for the payment based on various milestone achieved and upon issuance of Acceptance Report, based on Section 10 of the TOR;
- 9.1.5. May provide necessary counterpart staff to facilitate the coordination with other agencies as may be needed; and
- 9.1.6. May provide office space, if necessary, to the TA during the conduct of the study.

9.2. Transaction Advisor

- 9.2.1. Shall be responsible for the preparation of the project DFS, FEED, TOR and tender documents for the hiring of the EPC contractor, documentary requirements for the NEDA Board and CEPNS application or whatever is applicable at the time of application, for approval by PNOC;
- 9.2.2. Shall provide the necessary office and survey equipment including computers, printers, paper, and other logistical requirements that are needed during the preparation and presentation of the deliverables under this TOR;
- 9.2.3. Shall shoulder any travel and lodging costs required in the preparation of the DFS and other deliverables; and
- 9.2.4. Shall be responsible for the accuracy and adequacy of data to be used in the preparation of the DFS, FEED, TOR and other deliverables.

10. PAYMENT SCHEME/SCHEDULE

The Transaction Advisor will be paid based on various milestones achieved. The payment shall be released upon approval of PNOC of the outputs delivered by the Transaction Advisor, after ensuring that these outputs conform to the requirements set for the purpose.

The table below describes the payment scheme for this engagement:

Milestone	Percentage of Payment
1. Acceptance of Inception Report, and Work and Financial Plan	10%
2. Acceptance of the Technical Feasibility Study (Market and Technical Studies)	20%

3. Acceptance of the Full/Detailed Feasibility Study	15%
4. Acceptance by PNOC of the documentary requirements for NEDA approval and CEPNS Application (or whatever is applicable at the time of application)	10%
5. Project Approval by NEDA Board	5%
6. Acceptance of FEED	15%
7. Acceptance of Final TOR & tender documents for the hiring of EPC Contractor	10%
8. Award of EPC Contract	5%
9. Acceptance of Final Engagement Report	10%

All of these payments shall be subjected to the usual government accounting and auditing requirements. Hence, the Transaction Advisor is expected to be familiar with the Government Accounting and Auditing Manual (GAAM).

Annex A

Activities	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7				Month 8				Month 9				Month 10			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. Inception Report, Inception Meeting, Work Plan & Workshops	█	█																																						
2. Technical Feasibility Study	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█																								
a. Market Study	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█																								
b. Technical Study	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█																								
3. Review by PNOC of the Technical Feasibility Study including Presentation to and approval by Investment Appraisal Committee													█	█	█	█	█	█	█	█																				
4. Develop Full/Detailed Feasibility Study of DFS																	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█				
a. Updated Market and Technical Studies																	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█				
b. Project Development (including detailed implementation plan)																	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█				
c. Design, Technical Requirements and Minimum																	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█	█				

Activities	Month 1				Month 2				Month 3				Month 4				Month 5				Month 6				Month 7				Month 8				Month 9				Month 10							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Performance Specifications and Standards (MPSS)																																												
d. Legal and Regulatory Study																																												
e. Environment Sustainability, Gender and Social Safeguards																																												
f. Financial and Economic Study																																												
g. Risk Assessment																																												
4. Preparation of the Documentary Requirements for the NEDA and CEPNS Application																																												
5. Preparation of the Documentary Requirements for the NEDA and CEPNS Application																																												
6. Review by PNOOC of the DFS and Documentary Requirements for NEDA and CEPNS application (including RiskCom & Board Approval)																																												

Activities	Month 11				Month 12				Month 13				Month 14				Month 15				Month 16				Month 17				Month 18				Month 19				Month 20			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
6. Review by PNOC (i.e. IAC) of DFS, Documentary Requirements for NEDA and CEPNS application (including RiskCom & Board Approval)																																								
7. Application to DOE for the Issuance of CEPNS																																								
8. Application for NEDA Approval of the Project																																								
9. Preparation of FEED																																								

Activities	Month 21				Month 22				Month 23				Month 24				Month 25				Month 26				Month 27				Month 28							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
9. Preparation of FEED																																				
10. Review by PNOC of FEED (including presentation to and approval by RiskCom and Board)																																				
11. Preparation of TOR and tender documents for the hiring of EPC Contractor																																				

Activities	Month 29				Month 30				Month 31				Month 32				Month 33				Month 34				Month 35				Month 36							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
12. Review of tender docs by PNOC including Presentation to and Approval by RiskCom and Board																																				
13. Bidding for the EPC Contractor (including Bid Evaluation)																																				
14. Presentation to and approval by RiskCom and PNOC Board of Bid Evaluation Results (including Award of EPC)																																				
15. Award of EPC Contract																																				
16. Submission of Final Engagement Report																																				
17. EPC (2 to 4 years)																																				

**PHILIPPINE NATIONAL OIL COMPANY (PNOC)
DEVELOPMENT OF A STRATEGIC PETROLEUM RESERVE**

Criteria and Scoring System for the Engagement of a Project Transaction Advisor

1. Criteria and Scoring System for the SHORTLISTING OF BIDDERS

All parties who expressed interest to pre-qualify and submitted eligibility documents shall be prequalified/shortlisted based on the following criteria. If the minimum requirement under each criterion is not met by the bidder/s, it shall be given a score of zero “0” for such criterion. Zero score to any of the criterion shall be ground to ineligibility and automatic disqualification to submit a bid. All eligible bidders, i.e., all who will meet/pass the minimum requirements, shall be rated according to the following scoring system and shall be ranked from highest to lowest based on the total score/rate they will acquire. Only the top 5 bidders shall be requested to submit the Technical and Financial Proposals/Bids.

1.1. Firm’s Experience – 40%

Criteria	Weight	Unit of measure	Points				
			3	6	9	12	15
Years of experience in Advisory/ Consulting Services ⁶	15%	No. of years	1 to 5	6 to 10	11 to 15	16 to 20	> 20

Criteria	Weight	Unit of measure	Points				
			3	6	9	12	15
Experience in Similar Projects ⁷	15%	No. of projects	1 to 2	3 to 4	5 to 7	8 to 10	>10

Criteria	Weight	Unit of measure	Points				
			2	4	6	8	10
Experience in Related Projects ⁸	10%	Number of projects	1 to 2	3 to 4	5 to 7	8 to 10	>10

⁶ Experience in advisory/consultancy services for oil and gas and other energy related projects

⁷ Experience in Similar Projects – provision of transaction advisory or consultancy services for oil and gas-related projects for the last 10 years

⁸ Experience in Related Projects – provision of transaction advisory or consultancy services for energy-related projects other than oil and gas for the last 10 years

1.2. Qualification of Team Members – 50%

1.2.1. Educational attainment – 10%

Team Members	Points		
	6	8	10
Consultant/s	BS or BA degree holder and has the required PRC requirement (if any)	MS or MA degree holder and has the required PRC requirement (if any)	PhD degree holder and has the required PRC requirement (if any)

1.2.2. Number of relevant trainings acquired⁹ – 10%

Team Members	Unit of Measure	Points				
		2	4	6	8	10
Consultant/s	Number of trainings	1-3	4-6	7-9	10-12	>12

1.2.3. Years of relevant professional experience¹⁰ – 15%

Team Member	Points		
	7	12	15
Project Manager/Team Leader	10 years	11 to 25 years	>25 years
Legal Consultant	10 years	11 to 25 years	>25 years
Geotechnical Engineer/Geologist	10 years	11 to 25 years	>25 years
Project Finance Specialist	10 years	11 to 25 years	>25 years
Economic Specialist	10 years	11 to 25 years	>25 years
Environmental Specialist	10 years	11 to 25 years	>25 years
Social Development and Gender Specialist	10 years	11 to 25 years	>25 years
Land Acquisition and Resettlement Specialist	10 years	11 to 25 years	>25 years

1.2.4. Previous engagement in similar¹¹ and related¹² projects – 15%

Team Member	Points			
	8	10	12	+3
Project Manager/ Team Leader	3 similar projects	4 to 6 similar projects	7 to 10 similar projects	> 10 similar projects

⁹ Relevant trainings refer to trainings related to the expert's line of expertise or those specifically related/relevant to the project

¹⁰ Please refer to Section 5 of the TOR for the minimum professional experience requirements of each individual expert

¹¹ Experience in Similar Projects – provision of transaction advisory or consultancy services for oil and gas-related projects for the last 10 years

¹² Experience in Related Projects – provision of transaction advisory or consultancy services for energy-related projects other than oil and gas for the last 10 years

Legal Consultant	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Geotechnical Engineer/ Geologist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Project Finance Specialist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Economic Specialist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Environmental Specialist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Social Development and Gender Specialist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Land Acquisition and Resettlement Specialist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects

1.3. Net Financial Contracting Capacity (NFCC) - 10%

The Net Financial Contracting Capacity (NFCC) is computed as follows:

NFCC = 15 * (current asset – current liabilities) minus value of all outstanding works under ongoing contracts including awarded contracts that are yet to be started

Decision Criteria: Highest NFCC will get full points (10) while the 2nd highest will receive 9 and so on

2. Criteria and Scoring System for the EVALUATION OF TECHNICAL AND FINANCIAL BIDS

2.1. Technical Bid Evaluation – 80%

2.1.1. Technical Proposal – 30%

Criteria	Weight	Scoring (Points)	Description/Characteristics
1. Approach and Methodology: Adequacy and clarity of the technical approach and methodology	10%	10	Very Good. In addition to the requirements listed under “Good,” important issues are approached in an innovative and efficient way, indicating that the bidder has understood the overall and detailed issues and problems of the assignment. The bidder has outstanding knowledge of the project conditions and a deep grasp of solutions depicted through state-of-the-art approaches and knowledge. The proposal details ways to improve the results and the quality of assignment by using advanced approaches, methodologies, and knowledge.
		7	Good. The proposed approach is discussed in detail and the methodology is specifically tailored to the characteristics of the assignment and flexible enough to allow it to adapt to changes that may occur during the execution of the Services.
		4	Fair. The way to carry out the different activities in the TOR is discussed generically by the bidder. The discussion of the methodology is general and not specifically tailored to the projects. Although suitable, the methodology does not include a discussion on how the bidder proposes to deal with critical site-specific characteristics of the project. No new insights or deep appreciation of the interrelationships of problems and solutions to be provided for the project are added. The discussion indicates an average perception of the project conditions and does not reflect the specific features of the assignment.

Criteria	Weight	Scoring (Points)	Description/Characteristics
		2	Poor. The methodology to carry out important activities indicated in the TOR is inappropriate or poorly presented, indicating that the bidder has misunderstood important aspects of the scope of work. The required contents of the TOR are missing or superficially discussed.
2. Work Plan: Understanding of the scope of work based on the appropriateness of the work plan	10%	10	Very Good. In addition to the requirements listed above under "Good," decision points and sequence and timing of activities are very well defined, indicating that the bidder has optimized the use of resources.
		7	Good. The work plan responds well to the TOR. All the important activities are indicated in the activity schedule, and their timing is appropriate and consistent with the assignment outputs. The interrelation among the various activities is realistic and consistent with the proposed approach. There is a fair degree of detail that facilitates understanding of the proposed work plan.
		4	Fair. All key activities are included but are not detailed. There are minor inconsistencies among timing, assignment outputs, and proposed approach.
		2	Poor. The activity schedule excludes important tasks. The timing of activities and correlation among them are inconsistent with the approach and methodology. The TOR are missing or superficially discussed.
3. Organization and Staffing	10%	10	Very Good. In addition to the characteristics listed above under "Good," the proposed team is integrated and has good support organization. The organizational chart clearly shows the lines of responsibility. The proposal contains a detailed discussion showing that the bidder has optimized the deployment and use of the staff with

Criteria	Weight	Scoring (Points)	Description/Characteristics
			efficiency and economy, based on the proposed logistics.
		7	Good. The organizational chart is complete and there is a detailed definition of duties and responsibilities. Staff skills and needs are matched precisely and enjoy good logistical support. Staffing is consistent with both timing and assignment outputs.
		3	Poor. The proposed organization and personnel schedule are not clear and detailed enough, failing to use the required formats. The assignment schedule of each staff is not adequate. The organization and staffing arrangement are not responsive to the requirement of the TOR. It is assumed that the required output cannot be appropriately prepared within the period of the assignment.

2.1.2. Technical expertise and qualification of team members – 25%

2.1.2.1. Educational attainment – 5%

Team Members	Points		
	3	4	5
Consultant/s	BS or BA degree holder and has the required PRC requirement (if any)	MS or MA degree holder and has the required PRC requirement (if any)	PhD degree holder and has the required PRC requirement (if any)

2.1.2.2. Number of relevant trainings acquired – 5%

Team Members	Unit of Measure	Points				
		1	2	3	4	5
Consultant/s	Number of trainings	1-3	4-6	7-9	10-12	>12

2.1.2.3. Years of relevant professional experience¹³ – 5%

Team Member	Points		
	3	4	5

¹³ Please refer to Section 5 of the TOR for the minimum professional experience requirements of each individual expert

Project Manager/ Team Leader	10 years	11 to 25 years	>25 years
Legal Consultant	10 years	11 to 25 years	>25 years
Geotechnical Engineer/ Geologist	10 years	11 to 25 years	>25 years
Project Finance Specialist	10 years	11 to 25 years	>25 years
Economic Specialist	10 years	11 to 25 years	>25 years
Environmental Specialist	10 years	11 to 25 years	>25 years
Social Development and Gender Specialist	10 years	11 to 25 years	>25 years
Land Acquisition and Resettlement Specialist	10 years	11 to 25 years	>25 years

2.1.2.4. Previous engagement in similar¹⁴ and related¹⁵ projects – 10%

Team Member	Points			
	6	7	8	+2
Project Manager/ Team Leader	3 similar projects	4 to 6 similar projects	7 to 10 similar projects	> 10 similar projects
Legal Consultant	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Geotechnical Engineer/ Geologist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Project Finance Specialist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Economic Specialist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Environmental Specialist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Social Development and Gender Specialist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects
Land Acquisition and Resettlement Specialist	3 related projects	4 to 6 related projects	7 to 10 related projects	at least 2 similar projects

2.1.3. Firm experience and qualification – 25%

¹⁴ Experience in Similar Projects – provision of transaction advisory or consultancy services for oil and gas-related projects for the last 10 years

¹⁵ Experience in Related Projects – provision of transaction advisory or consultancy services for energy-related projects other than oil and gas projects for the last 10 years

2.1.3.1. Years of experience in transaction advisory/consulting services – 10%

Criteria	Unit of measure	Points				
		2	4	6	8	10
Years of experience in Advisory/ Consulting Services	Number of years	1 to 5	6 to 10	11 to 15	16 to 20	> 20

2.1.3.2. Previous engagement in similar and related projects – 10%

a. Number of similar projects – 5%

Criteria	Unit of measure	Points				
		1	2	3	4	5
Experience in Similar Projects ¹⁶	Number of similar projects	1 to 2	3 to 4	5 to 7	8 to 10	>10

b. Number of related projects – 5%

Criteria	Unit of measure	Points				
		1	2	3	4	5
Experience in Related Projects ¹⁷	Number of similar projects	1 to 2	3 to 4	5 to 7	8 to 10	>10

2.1.3.3. Net Financial Contracting Capacity (NFCC) – 5%

The Net Financial Contracting Capacity (NFCC) is computed as follows:

$NFCC = 15 * (\text{current asset} - \text{current liabilities})$ minus value of all outstanding works under ongoing contracts including awarded contracts that are yet to be started

Decision Criteria: Highest NFCC will get full points (5) while the 2nd highest will receive 4 and so on

2.2. Financial Bid Evaluation – 20%

Bidders who quoted a Financial Bid more than the approved budget for the contract (ABC) shall be rejected/disqualified.

¹⁶ Experience in Similar Projects – provision of transaction advisory or consultancy services for oil and gas-related projects for the last 10 years

¹⁷ Experience in Related Projects – provision of transaction advisory or consultancy services for energy-related projects other than oil and gas for the last 10 years

The Bidder who quoted the lowest Financial Bid within that is within the ABC shall get a full rate of 20%. Rating for other bids (Bidder N) shall be determined using the following formula:

$$\frac{\textit{Lowest Financial Bid}}{\textit{Financial Bid of Bidder N}} \times 20\%$$

PNOC shall not be bound to accept the lowest or any other Bid or to assign any reason for non-acceptance or rejection of a Bid. PNOC reserves the right to accept any Bid in respect of the whole or any portion of the work specified in the submitted Bid.