

# Term of Reference: TOR

## Strategic Environmental Assessment of Construction area for Coal-fired Power Plant in Southern Thailand

May 15, 2018

### 1. Rationale

The Power Development Plan (PDP 2015), the master plan for long-term power sector development in the country has required the Electricity Generating Authority of Thailand (EGAT) to build two power plants to meet the demand and to secure the power system in the Southern Thailand. The two power plants has been planned to use imported coal as fuel and modern technology that can meet the environmental requirements in accordance with international standards. The projects are located at Krabi Province with a net capacity of 800 MW, and Thepha District, Songkhla Province with a net capacity of 2,000 MW. EGAT has conducted environmental, social and health impact assessments (EHIA) for both projects.

During the development of the coal-fired power plant project, there have been arguments in the wide society about the suitability of both projects which concern about the impact on health, quality of life of communities around the power plant, the environment and natural resources that affect the well-being of the community. This is a limitation to carry out a power plant project further. Furthermore, communities around the construction of the projects have expressed their support for the continuation of the power plant construction project. As a consequent, the Minister of Energy has signed a memorandum of understanding with opposition group and advocacy group.

In order for both groups to participate in the study to explore the areas in the South which all parties agree to build coal-fired power plant and make a comparison of the feasibility of the coal-fired power plant project in such areas with Krabi and Thepha, it is needed to have a study of Site Selection of Coal-fired Power Plant Development in the South and the Strategic Environmental Assessment (SEA). The study must be conducted by an expert on such matters which is neutral and compliance with international standards, to provide alternative options and assessment of those alternatives for the power plant development in the South to the government.

### 2. Objectives

2.1 To analyze the economic, social and environmental feasibility of the South whether there should be coal-fired power plant(s) If yes, what areas are suitable for the construction of large-scale coal-fired power plants? Also make a comparison of the feasibility of the coal-fired power plant project in such areas with Krabi and Thepha

- 2.2 To develop other energy generation technology to be options for energy development in the South
- 2.3 To provide alternatives for the development of power plants in the south by involving all general public including the impact assessment and mitigation measures of such alternatives
- 2.4 To present the results of the study and alternative areas to government agencies, social groups and organizations, stakeholders, and participants in all sectors. Also gather comments for the consideration of the Power Development Plan.

### 3. Scoping of study

#### 3.1 Scoping : Consultant must conduct

- 1) Review and present related policy and plan in order to analyze conformity and constraints leading to the setting of goals, objectives and scope, including actions which link of plan to development with related policies and plans to ensure that the SEA objectives are aligned with related plans and policies.
- 2) Review existing baseline environmental data, issues and impacts in the area including identifying the major and possible positive and negative impacts of the three dimensions such as economic, social and environmental, leading to the identification of appropriate indicators. Provide a list of all issues that are being evaluated. Describe the acquisition of key issues and link such issues with sustainable development.
- 3) Present concepts, methods and criteria for developing and evaluating alternatives including measures to mitigate impact and monitoring, auditing and evaluation.
- 4) Present concepts and methods for analyzing stakeholders including presenting plans and conducting public consultations and communication plans in stages of strategic environmental assessment.
- 5) A scoping report has been developed that has been consulted by all stakeholders and has been accepted by all sectors.

#### 3.2 Alternative development and assessment : Consultant must conduct

- 1) Develop alternative of energy development in Southern Thailand in case of should there be coal-fired power plant(s). If there should be a plant, what areas are suitable for the development? Develop alternative of energy development in Southern Thailand in case of the absence of suitable sites for the establishment of coal-fired power plants, business as usual alternatives should be offered.
- 2) Evaluate the impact of alternatives covering all aspects of economic, social, environmental, and technological feasibility.
- 3) Ranking the alternatives

**3.3 Mitigation, Monitoring and Evaluation** The consultants must conduct a mitigation plan and monitoring and evaluation plans

**3.4 Consultation and exchange of views of the various sectors. And the agencies involved openly, thoroughly and continuously.**

- 1) Analyze stakeholders which relate in various stages.
- 2) Arrange participation, consultation and exchange of ideas in proper time, duration, completeness and accuracy of any type of information
- 3) Conclude and present recommendation, concerns and suggestions at all steps of the project.

**3.5 Conclusions and Recommendations**

#### 4. Targeted Areas for study

The Southern Thailand which is composed of 15 provinces include Krabi, Chumphon, Trang, Nakhon Si Thammarat, Narathiwat, Pattani, Phangnga, Phatthalung, Yala, Ranong, Songkhla, Satun, SuratThani and PrachuapKhiri Khan

#### 5. Expected Benefits

- 5.1 The government is able to efficiently determine policy on development and supply of energy in the South with public acceptance.
- 5.2 The Ministry of Energy can revise Power Development Plan (PDP) as a framework for developing and investing in energy infrastructure in the southern region. This resulted in a stable supply of energy to meet the demand of the people in the South.

#### 6. Operation and Delivery การดำเนินการและส่งมอบงาน

**6.1 Operating period** 9 months (from the date the consultant requires to start work). Such period includes the inspection period of the consultant.

**6.2 Delivering** The Consultant must provide the study report to the employer in accordance with the terms and time specified.

- 1) Inception Report which identifies action plan of the project in Thai ....sets must be submitted within 1 month from the date of signing the contract.
- 2) Scoping Report ...sets must be submitted within 3 months from the signing date of the contract.
- 3) Interim Report ...sets must be submitted within 5 months from the signing date of the contract. The content consists of
  - 3.1) Analyses of economic, social and environmental feasibility of the South whether there should be a coal-fired power plant.

3.2) If there should be a coal-fired power plant, what areas are feasible for the establishment of large-scale coal-fired power plants? Also make a comparison of the feasibility of the coal-fired power plant project in such areas with Krabi and Thepha.

3.3) Analysis results of alternative of energy development in the South.

4) Draft Final Report ....sets must be submitted within 7 months from the signing date of the contract.

5) Final Report in Thai with CD-Rom ... sets and executive summary in Thai ..sets must be submitted within 9 months from the signing date of the contract.

**6.3 Public Hearing Meeting are periodically held.** The consultant must hold Public Hearing Meeting to listen to the opinions of the concerned parties periodically. The hearings focus on the involvement of stakeholders and open an opportunity for all parties to involve in the study process seriously through seminars or focus groups, focus groups in each stage of the project. And seminars to listen to comments as appropriate.

## **7. Personnel or educational institutions must have minimum qualification or experiences as below.**

7.1 Specialization in Strategic Environmental Assessment (SEA)

7.2 Specialization in the field of Energy, Transport, Tourism, Environment, Fisheries, Oceanography and Hydrographic, Agriculture, Industry

7.3 Specialization in Economics, Social sciences, Environment, Sociology - Anthropology Public Health and Wellness, Ecology and Natural resources, Marine transportation, Law, Urban Planning, Engineering, Geography and Geography Information, Project analysis, Project Management, Communication and Public Hearing

## **8. Paymentscheduleกำหนดการชำระเงิน**

The employer will pay the wages in 5 installments, which will be due each time the consultant fulfills the terms and details completed at each stage. The results of the work must be submitted to the employer for approval and use as evidence in the disbursement. The employer shall pay the wages within 30 days after the inspection committee has approved the work. This will be divided into the following period.

8.1 First installment, 30% of the contract after signing the employment contract.

8.2 Second installment of not more than 10% of the contract after submitting Inception Report

8.3 Third installment of not more than 10% of the contract after submitting Scoping Report

8.4 Fourth installment of not more than 20% of the contract after submitting Interim Report

8.5 Fifth installment, not more than 30% of the contract after submitting Complete Report. and the remaining outstanding (if any) completed.