



Terms of Reference for the Review of the Environmental Impact Assessment for the Exploratory Drilling Program, Block 31, Offshore Suriname of Teikoku Oil (Suriname) Co., Ltd.

Background

NIMOS, the Nationaal Instituut voor Milieu en Ontwikkeling in Suriname (National Institute for Environment and Development in Suriname) was established by Presidential Decree in March 1998. As a technical institute under the Ministry of Labour, Technological Development and Environment, it advises this Ministry and others regarding environmental implications of projects and other activities.

Teikoku Oil (Suriname) Co., Ltd. (Teikoku) proposes to conduct exploratory drilling in Block 31 offshore Suriname. The exploration program in Block 31 will involve one well to be drilled primarily in the first quarter of 2011. This well, designated Aitkanti 1, is anticipated to be drilled in January 2011. The well site is located 111 km from shore and 160 km from Paramaribo.

Review of the Environmental and Social Impact Assessment Reports

For the above mentioned exploratory drilling an Environmental Impact Assessment (EIA) was conducted by the consultancy firm CSA International, Inc. As NIMOS is responsible to advise the government regarding environmental implications of projects, NIMOS has to review the EIA for the government. For this review NIMOS will need some external expertise regarding the following areas:

- Dispersion Modeling of Drilling Discharges
- Dispersion Modeling of Accidental SBM Spill
- Spill Trajectory Analysis
- Oil Spill Response Plan

Objective

The review is needed to assess the technical quality, accuracy and completeness of the Environmental and Impact Assessment for the Teikoku Exploratory Drilling Project. By conducting the review it must be assured that the Environmental and Social Impact Assessments presents all the relevant information necessary for a well considered decision-making regarding this project.

Tasks

The external reviewers will assist The Office of Environmental and Social Assessment to finalize the review of the Environmental Impact Assessments of the Teikoku Exploratory Drilling Project. The set up of the review is as follows:

- Individual review of the Draft EIA studies and the related Specialist Studies



- Reporting
- NIMOS will submit to the project proponent (Teikoku Oil) a complete review report of the Draft ESIA Studies and the related Specialist Studies
- Review of the Final ESIA studies
- Advice to the Government of Suriname (by NIMOS)

Qualifications and Duties of the External Reviewers

Expert on Dispersion Modeling of Drilling Discharges (Expert I)

- a. As a minimum, a Master's Degree in Oceanography with emphasis on ocean currents, waves and geophysical fluid dynamics or related disciplines
- b. A minimum of ten years experience in related field and expert experience in modeling programs concerning the Offshore Oil Industry
- c. Experience and knowledge of Environmental and Social Impact Assessment (ESIA) is an asset
- d. Language capability: fluently speaks, reads and writes English

The duties of the expert on Dispersion Modeling of Drilling Discharges are:

- To assess the technical quality, accuracy and completeness of the Dispersion Modeling of Drilling Discharges Specialist Study with regard to the described impacts regarding drilling discharges, their mitigation, management and monitoring measures by:
 - i. Reviewing the Dispersion Modeling of Drilling Discharges Specialist Study, explaining the strengths and weaknesses of the study, pointing out incongruities or gaps in information, explaining the bases for alternative scientific judgments, and suggesting strategies for handling the technical issues
 - ii. Make recommendations on how the study and the associated information in the Draft EIA report should be modified to yield more accurate/definitive results (if and where required)
 - iii. Reviewing the Draft EIA Reports, where related to Dispersion Modeling of Drilling Discharges Assessment and Mitigation
- Advising NIMOS on the Final EIA Reports, where related to Dispersion Modeling of Drilling Discharges Assessment and Mitigation, especially regarding managing any significant negative aspects and impacts of the project on the affected sensitive receptors
- To list recommendations based on the reviewed information and expert knowledge

Expert on Dispersion Modeling of Accidental SBM Spill (Expert II)

- a. As a minimum, a Master's Degree in Oceanography with emphasis on ocean currents, waves and geophysical fluid dynamics or related disciplines
- b. A minimum of ten years experience in related field and expert experience in modeling programs concerning the Offshore Oil Industry
- c. Experience and knowledge of Environmental and Social Impact Assessment (ESIA) is an asset



d. Language capability: fluently speaks, reads and writes English

The duties of the expert on Dispersion Modeling of Accidental SBM Spill are:

- To assess the technical quality, accuracy and completeness of the Dispersion Modeling of Accidental SBM Spill Specialist Study with regard to the described impacts regarding drilling discharges, their mitigation, management and monitoring measures by:
 - i. Reviewing the Dispersion Modeling of Accidental SBM Spill Specialist Study, explaining the strengths and weaknesses of the study, pointing out incongruities or gaps in information, explaining the bases for alternative scientific judgments, and suggesting strategies for handling the technical issues
 - ii. Make recommendations on how the study and the associated information in the Draft EIA report should be modified to yield more accurate/definitive results (if and where required)
 - iii. Reviewing the Draft EIA Reports, where related to Dispersion Modeling of Accidental SBM Spill Assessment and Mitigation
- Advising NIMOS on the Final EIA Reports, where related to Dispersion Modeling of Accidental SBM Spill Assessment and Mitigation, especially regarding managing any significant negative aspects and impacts of the project on the affected sensitive receptors
- To list recommendations based on the reviewed information and expert knowledge

Expert on Spill Trajectory Analysis (Expert III)

- a. As a minimum, a Master's Degree in Oceanography with emphasis on ocean currents, waves and geophysical fluid dynamics, Environmental Engineering, Marine Sciences or related disciplines
- b. A minimum of ten years experience regarding Spill Trajectory Analysis for Offshore Oil Industry
- c. Experience and knowledge of Environmental and Social Impact Assessment (ESIA) is an asset
- d. Language capability: fluently speaks, reads and writes English

The duties of the expert on Spill Trajectory Analysis are:

- To assess the technical quality, accuracy and completeness of the Spill Trajectory Analysis Specialist Study with regard to the described impacts regarding Spill Trajectory Analysis, their mitigation, management and monitoring measures, by:
 - iv. Reviewing the Spill Trajectory Analysis Specialist Study, explaining the strengths and weaknesses of the study, pointing out incongruities or gaps in information, explaining the bases for alternative scientific judgments, and suggesting strategies for handling the technical issues



- v. Make recommendations on how the study and the associated information in the Draft EIA report should be modified to yield more accurate/definitive results (if and where required)
- vi. Reviewing the Draft EIA Reports, where related to Spill Trajectory Analysis Assessment and Mitigation
- Advising NIMOS on the Final EIA Reports, where related to Spill Trajectory Analysis Impact Assessment and Mitigation
- To list recommendations based on the reviewed information and expert knowledge

Expert on Oil Spill Response Plan (Expert IV)

- a. As a minimum, a Master's Degree in Chemical Engineering or Environmental Engineering or Occupational Safety and Health or related disciplines
- b. A minimum of ten years experience regarding Oil Spill Response Assessment in the Offshore Oil Industry
- c. Experience and knowledge of Environmental and Social Impact Assessment (ESIA) is an asset
- d. Language capability: fluently speaks, reads and writes English

The duties of the expert on Oil Spill Response Plan are:

- To assess the technical quality, accuracy and completeness of the Oil Spill Response Plan Specialist Study with regard to the described risks, their mitigation, management and monitoring measures by:
 - vii. Reviewing the Oil Spill Response Plan Specialist Study, explaining the strengths and weaknesses of the study, pointing out incongruities or gaps in information, explaining the bases for alternative scientific judgments, and suggesting strategies for handling the technical issues
 - viii. Make recommendations on how the study and the associated information in the Draft EIA report should be modified to yield more accurate/definitive results (if and where required)
 - ix. Reviewing the Draft EIA Reports, where related to Oil Spill Response Assessment and Mitigation
- Advising NIMOS on the Final EIA Reports, where related to Oil Spill Response Assessment and Mitigation, especially regarding managing any significant negative aspects and impacts of the project on the affected sensitive receptors
- To list recommendations based on the reviewed information and expert knowledge

NOTE:

Preferably, the duties of Expert I and Expert II can be taken up by one specialist.



Deliverables

For evaluation of bids/quotations NIMOS will give priority to those whereby the required external reviewers are a team or have submitted bids/quotations as a team.

The estimated time allocation for the **total external review team is 100 hours**. The review of the studies will **start in September 2010** and **terminates in November 2010**.

The Review of the draft documents for the Dispersion Modeling of Drilling Discharges, Dispersion Modeling of Accidental SBM Spill, Spill Trajectory Analysis and Oil Spill Response Plan Studies should be submitted to NIMOS not later than the 8th of October 2010.

CRITERIA AND SCORE SYSTEM FOR SELECTION Review of Teikoku Oil Environmental Assessments

Bids will be evaluated taking into consideration the following factors:

	<u>Points</u>
(I) Specific experience of the firm related to the Assignment	20
(II) Adequacy of the proposed work plan and methodology in responding to the TOR	30
(III) Qualifications and competence of the key staff for Assignment	<u>50</u>
Total	100