

Results of Environmental Review

- (1) Reference Number
18-033
- (2) Project Name
Refinery and Petrochemical plant
- (3) Project Site
Johor, Malaysia
- (4) Project Outline
Construction of petroleum refinery and petrochemical plant
- (5) Category
A
- (6) Reason of Categorization
The project falls into the large-scale Petrochemical sector and Petroleum refining sector, and has sensitive characteristics under the Environmental Guidelines.
- (7) Environmental Permission / Approval by the Environmental Authority
The EIA report was developed in accordance with the laws and regulations of Malaysia and was approved by the Department of Environment in Malaysia in August 2017 with conditions.
- (8) Pollution Prevention
Appropriate measures against pollutions, including air quality, water quality, waste, noise, soil contamination and odor etc. will be taken.
- (9) Natural Environmental Considerations
Appropriate measures to protect the natural environment will be taken.
- (10) Social Considerations
Appropriate measures and plans are taken for the local people who are affected by the project.

(11) Applied International Standards
IFC Performance Standard

(12) Monitoring

The monitoring results are reported regularly to the Department of Environment in Malaysia by the project sponsors.

(end)

Questions

Q1. Please provide the address of the project site.

Address of the project site : Pengerang 81600 Johor, MALAYSIA

Q2. Please provide brief explanation of the project.

Petroleum Nasional Berhad ("PETRONAS") and Saudi Arabian Oil Company ("Saudi Aramco") (collectively known as the "Sponsors") through their respective wholly owned subsidiaries, entered into a share purchase agreement dated February 28, 2017 in relation to Saudi Aramco's potential acquisition of an equity interest in, and the joint development by the Sponsors and their respective affiliates of, certain of the facilities and units forming part of the refining and petrochemicals complex ("RAPID Project") for the production and marketing inside and outside Malaysia of petroleum and petrochemical products ("Project Marigold").

RAPID Project is part of PETRONAS wider investment in the Pengerang Integrated Complex ("PIC") in South Johor, Malaysia which occupies an area of 6,242 acres. The RAPID Project is expected to have the capability to process 300,000 barrels per day of crude oil and to manufacture fuels and derivatives of propylene, ethylene and butadiene, with plant start-up scheduled for 2019. The RAPID Project shall be supported by key associated facilities concurrently being developed by PETRONAS, and in some of the key associated facilities, together with identified partners within the PIC, including a deep-water oil terminal, Liquefied Natural Gas ("LNG") regasification plant, crude oil and LNG storage tanks, and a co-generation power plant.

Q3. Will JBIC loan be applied to a new project or an executing project? In case of an executing project, please inform of strong claims by stakeholders such as local residents, as well as improvement guidance or cessation orders for construction work / operations, from environmental authorities.

- | | |
|---|--|
| ☒ New Project | ☐ Executing Project (with Claim etc.) |
| ☐ Executing Project (without Claim etc.) | ☐ Others (Please specify _____) |

Q4. In case of this project, is it necessary to execute Environmental and Social Impact Assessment (ESIA) based on the laws or regulations of the country where the project is to be implemented? If necessary, please inform the progress of ESIA.

- | | |
|---|---|
| ☒ Required (completed) | ☐ Required (under execution or under planning) |
| ☐ Not Required | ☐ Others (Please specify _____) |

Q5. In case that ESIA is already completed, please inform whether ESIA report is already approved based on the environmental and social assessment system of the country where the project is to be implemented or not. If ESIA report is already approved, please provide the date and name of authorities of the approval.

- | | |
|---|--|
| ☐ Approved (without condition) | ☒ Approved (conditional) |
| ☐ Under approval process | ☐ Others (Please specify _____) |

Date of Approval: 3 August 2017

Name of Authorities : Department of Environment

Q6. If environmental and social permit(s) other than ESIA is required, please provide the name of required permit(s). Have you obtained required permit(s)?

- | | |
|--|---|
| ☐ Obtained | ☐ Required, but not obtained yet |
| ☒ Not required | ☐ Others (Please specify _____) |

Name(s) of required permit(s) : _____

Q7. Will the loan be used for the undertaking that cannot specify the project at this stage (e.g. export or lease of machinery that has no relation with specific project, or Two Step Loan that cannot specify the project at the time of loan agreement)?

(Yes / ☒ No)

If you answered "Yes", it is not necessary to reply to the following questions.

If you answered "No", please reply to the following questions.

Q8. Are there any environmentally sensitive area(s) shown below in and around project site(s)?

(Yes / ☒ No)

If you answered "Yes", please select applicable items by marking, and reply to the following questions.

If you answered "No", please reply to the questions 9 and after.

- ☐ (1) National parks, nationally-designated protected areas (coastal areas, wetlands, areas for ethnic minorities or indigenous people, and cultural heritage, etc. designated by national governments)
- ☐ (2) Forests with important ecological value (including primary forests and natural forests in tropical areas)
- ☐ (3) Habitats with important ecological value (including coral reefs, mangrove, wetland and tidal flats.)
- ☐ (4) Habitats of rare species requiring protection under domestic legislation, international treaties, etc.
- ☐ (5) Areas in danger of large-scale salt accumulation or soil erosion
- ☐ (6) Areas with a remarkable tendency towards desertification
- ☐ (7) Areas with unique archaeological, historical or cultural value
- ☐ (8) Areas inhabited by ethnic minorities, indigenous peoples or nomadic peoples with traditional ways of life (including areas which are used for cultural or spiritual purposes) and other areas with special social value

Q9. Does the project involve following characteristics?

(☒ Yes) / No)

If you answered "Yes", please describe the scale of applicable characteristics, and reply to the questions 10 and after.

If you answered "No", please reply to the questions 11 and after.

- ☒ (1) Involuntary resettlement and/or loss of means of livelihood
(Number of affected people: 3,122 residents, all locals)
- ☐ (2) Pumping of groundwater (Scale: m³/year)
- ☒ (3) Land reclamation, development and/or clearing (Scale: 6,242 acres cleared)
- ☐ (4) Deforestation (Scale: ha)

Q10. Under the environmental and social impact assessment system of the country where the project is to be implemented, do the applicable characteristics from (1) – (4) of the questions 9 above and their scale serve as basis for executing an ESIA for the project?

- ☒ They do ☐ They do not
- ☐ Others (Please specify)

Q11 May the project involve significant social impacts?

(Yes) / No)

If you answered "Yes", please describe the outline of the impacts, and reply to the questions 12 and after.

If you answered "No", please reply to the questions 12 and after.

- ☐ The likelihood of severe project-related human rights impacts ()
- ☒ Others (involuntary land acquisition and community resettlement, cultural heritage (e.g. graves and worship places relocation)

Q12. Will JBIC share in the project be equal or less than 5% of the total project cost, or the total amount of JBIC loan equal or less than SDR 10 million? (In the case of additional support for a past project, this shall be the accumulated total amount)

(Yes) / (No)

If you answered "Yes", it is not necessary to reply to the following questions.

If you answered "No", please reply to the questions 13 and after.

Q13. Does the project belong to either of the sectors that impact on the environment and society is deemed immaterial or is not anticipated under normal conditions (e.g. maintenance of the existing facilities, non-expansionary renovation project, and acquisition of rights and interests without additional capital investment)?

(Yes) / (No)

If you answered "Yes", it is not necessary to reply to the following questions.

If you answered "No", please reply to the questions 14 and after.

Q14. Does the project belong to the following sectors?

☒ (Yes) / ☐ (No)

If you answered "Yes", please specify the sector by marking, and reply to the questions 15 and after.

If you answered "No", it is not necessary to reply to the following questions.

- ☐ (1) Mining
- ☐ (2) Oil and natural gas development
- ☐ (3) Pipelines
- ☐ (4) Iron and steel (projects that include large furnaces)
- ☒ (5) Non-ferrous metals smelting and refining
- ☒ (6) Petrochemicals (manufacture of raw materials; including complexes)
- ☒ (7) Petroleum refining
- ☐ (8) Oil, gas and chemical terminals
- ☐ (9) Paper and pulp
- ☐ (10) Cement plants (including a greenfield quarry)
- ☐ (11) Manufacture and transport of toxic or poisonous substances regulated by international treaties, etc.
- ☐ (12) Thermal power
- ☐ (13) Nuclear power
- ☐ (14) Hydropower, dams and reservoirs
- ☐ (15) Power transmission and distribution lines involving large-scale involuntary resettlement, large-scale logging or submarine electrical cables
- ☐ (16) Roads, railways and bridges
- ☐ (17) Airports
- ☐ (18) Ports and harbors
- ☐ (19) Sewage and wastewater treatment having sensitive characteristics or located in sensitive areas or their vicinity
- ☐ (20) Waste management and disposal
- ☐ (21) Agriculture involving large-scale land-clearing or irrigation
- ☐ (22) Forestry
- ☐ (23) Tourism (construction of hotels, etc.)

Q15. Please provide information on the scale of the project (project area, area of plants and buildings, production capacity, amounts of power generation, etc.) Further, please explain whether an execution of ESIA is required on account of the large scale of the project in the country where the project is implemented.

RAPID Project is part of PETRONAS wider investment in the Pengerang Integrated Complex in South Johor, Malaysia which occupies an area of 6,242 acres. Under RAPID there will be Refinery, Steam Cracker and Petrochemical Complex.

Refinery Complex is designed to process medium and sour crude with a processing capacity of 300,000 bpd. The Refinery Complex will serve as the primary feedstock supplier to the Petrochemical Complex as well as to produce the targeted fuel products. The Steam Cracker Complex consists of pyrolysis cracking and recovery facilities which will have a combined annual production capacity of more than 3,000,000 tonnes of ethylene, propylene, C4 olefins and benzene products.

The Petrochemical Complex will consist of five (5) process units namely Linear Low-Density Polyethylene ("LLDPE"), Polypropylene ("PP") Spheripol, PP Spherizone, High-Density Polyethylene ("HDPE") Multimodal and Ethylene Oxide/Ethylene Glycol ("EOEG") which are designed to produce 350 KTPA LLDPE, 450 KTPA PP Spheripol, 450 KTPA PP Spherizone, 400 KTPA HDPE Multimodal and 808 KTPA EOEG.

RAPID project falls under the Department of Environment ("DOE") prescribed activities which requires the submission of Detailed Environmental Impact Assessment ("DEIA") for the approval by the Director General of the Department of Environment as stipulated in Section 34A of the Environmental Quality Act, 1974 (Act 127).

In Malaysia, EIA is a statutory requirement for any development activities listed under EIA Order 2015 (a regulation under the Environmental Quality Act, 1974). There are 17 development activities prescribed under the EIA Order ranging from large-scale agriculture to inter-state transportation project. RAPID falls under the following prescribed activities;

- # 6. Industry, d) Petrochemicals
- # 9. Petroleum, c) Construction of oil and gas refineries