

平成 24 年 1 月 6 日
独立行政法人日本貿易保険

環境レビュー結果

(1) 照会番号

11-021

(2) プロジェクト名

地熱発電所

(3) 実施場所

ニュージーランド ワイカト地域

(4) プロジェクト概要

(5) 地熱発電所を新たに建設し、近隣の既存地熱発電所を代替するプロジェクト

(6) カテゴリ分類

カテゴリ A

(7) カテゴリ分類の根拠

本プロジェクトは、環境ガイドラインに示される影響を及ぼしやすい特性および影響を受けやすい地域に該当するため。

(8) 環境許認可

EIA レポートに相当する書類が作成され、裁判所が任命するメンバーから構成される Bord of Inquiry により 2008 年 9 月 3 日付で承認されている。

(9) 汚染対策

地下熱水源はシミュレーションにより解析・把握されており、地下水圧はモニタリングされている。汲み上げた熱水および蒸気利用後の水は、水圧等の状態を踏まえ複数の井戸と深度を適宜選択しながら再び地下へ充填されるなど、現地当局の承認を得た地盤沈下に対する総合的な対策が講じられている。

(10) 自然環境面

プロジェクトサイト周辺は既存の地熱開発地域であり、当該国の法律・国際条約等に定められた保護区内に立地していない。また、プロジェクトサイトは、牧草地帯であるため、原生林等の生態学的に重要な生息地は含まれず、特段に保護を必要とする貴重種は存在しない。

(11) 社会配慮面

本プロジェクトは大部分が事業者の敷地内で実施され(一部牧草地等の取得あり)、住民移転を伴わない。

(12) その他(モニタリング等)

地域評議会の承認に基づくモニタリング(大気質、悪臭、水質、熱水状況、地熱井、騒音、振動、地盤沈下、生態系等)が定期的実施され、それらのレポートが関係当局へ提出される計画である

以 上

Questions

Q1. Please provide the address of the project site.

Address of the project site: Te Mihi steamfield between State Highway 1 and Poihipi Road, Taupo, New Zealand

Q2. Please provide brief explanation of the project.

The development of a new power station on a site located about 5km west of the existing Wairakei Power Station. The power station will, over the period beyond 2016, eventually entirely replace the existing Wairakei Power Station (built in 1958). The power station will utilise a number of resource consents held already by Contact Energy as part of its existing Wairakei Power Station operations and other consents specifically obtained for the construction and operation of the power station. The current development would consist of 166MW gross generation capacity and will make use of the geothermal resource and infrastructure of the existing Wairakei Geothermal Field. It is planned that the first two generating units will commence operation in 2013 and a third unit may be added at a later stage.

Q3. Will NEXI insurance 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.

- | | |
|---|--|
| <input checked="" type="checkbox"/> New Project | <input type="checkbox"/> Executing Project (with Claim etc.) |
| <input type="checkbox"/> Executing Project (without Claim etc.) | <input type="checkbox"/> Others (Please specify) |

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

- | | |
|--|---|
| <input checked="" type="checkbox"/> Required (Completed) | <input type="checkbox"/> Required (Under execution or under planning) |
| <input type="checkbox"/> Not Required | <input type="checkbox"/> Others (Please specify) |

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

- | | |
|---|--|
| <input type="checkbox"/> Approved (without condition) | <input checked="" type="checkbox"/> Approved (conditional) |
| <input type="checkbox"/> Under approval process | <input type="checkbox"/> Others (Please specify) |

Date of Approval: 3 September 2008

Name of Authorities: Approved by the Board of Enquiry for Waikato Regional Council (WRC) and Taupo District Council (TDC)

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

- | | |
|--|---|
| <input checked="" type="checkbox"/> Obtained | <input type="checkbox"/> Required, but not obtained yet |
| <input type="checkbox"/> Not required | <input type="checkbox"/> Others (Please specify) |

Name(s) of required permit(s): Resource Consents under the Resource Management Act 1991. There are thirteen WRC and three TDC consents that have been obtained, and are directly or indirectly relevant to the construction and operation of the power station, steam field and transmission connection..

Q7. Will the insurance 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)?

(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) not on the site but around the site

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

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

- ☐ (1) National parks, protected areas designated by government (coastal areas, wetlands, habitats of minorities or indigenous populations, heritage sites, etc.)
- ☐ (2) Primeval forests, tropical natural forests
- ☐ (3) Ecologically important habitats (coral reefs, mangrove, tidal flats, etc.)
- ☐ (4) Habitats of endangered species of which protection is required under local laws and international agreements.
- ☐ (5) Areas that have risks of large scale increase in soil salinity or soil erosion
- ☐ (6) Desertification areas
- ☒ (7) Areas with special values from archaeological, historical and/or cultural viewpoints
- ☐ (8) Habitats of minorities, indigenous populations, nomadic people with traditional life style, or areas with special social value

Q9. Does the project involve following characteristics?

(Yes)

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 questions 11 and after.

- ☐ (1) Involuntary resettlement (Number of resettlers:)
- ☒ (2) Pumping of groundwater (Scale: 34,675,000 tonnes per year)
Note: *As part of the Geothermal Energy Process, Contact will be extracting hot geothermal fluid from the Earth, and reinjecting cooled geothermal fluids back into the Earth into a depth significantly below the drinking water aquifers (which has the side benefit of reducing environmental impact).*
- ☒ (3) Land reclamation, development and/or clearing (Scale: 6.5 ha)
- ☐ (4) Deforestation (Scale: ha)

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

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

Q11. Will the value insured by NEXI in the export, loan or investment project be equal or less than 5% of the total project cost, or equal or less than SDR 10 million? (In the case of additional support for a past project, this shall be the accumulated total amount)

(No)

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

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

Q12. Does the project belong to either of the sectors that impact on the environment is deemed immaterial or is not anticipated under normal conditions (e.g. maintenance of the existing facilities, non-expansionary

renovation project, acquisition of rights or interests without additional capital investment)?

(No)

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

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

Q13. Does the project belong to the following sectors?

(No)

If you answered "Yes", please specify the sector by marking, and reply to questions 14 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) Manufacturing and transport of toxic or poisonous substances regulated by international treaties, etc.
- ☐ (11) Thermal power
- ☐ (12) Nuclear power
- ☐ (13) Hydro power, dams and reservoirs
- ☐ (14) Power transmission and distribution lines involving large-scale involuntary resettlement, large-scale logging or submarine electrical cables
- ☐ (15) Roads, railways and bridges
- ☐ (16) Airports
- ☐ (17) Ports and harbors
- ☐ (18) Sewage and wastewater treatment having sensitive characteristics or located in sensitive areas or their vicinity
- ☐ (19) Waste management and disposal
- ☐ (20) Agriculture involving large-scale land clearing or irrigation
- ☐ (21) Forestry
- ☐ (22) Tourism (Construction of hotel, etc.)

Q14. 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 EIA is required on account of the large scale of the project in the country where the project is implemented.

The site is about 10ha in area with 6.5ha of this being occupied by structures.

A new sealed access road will be constructed from Oruanui Road to the site.

The primary buildings will be the turbine hall and the cooling towers. An electrical switchyard will be located adjacent to the turbine hall and cooling towers.

Pipelines on the borefield will be located above ground due to insulation and thermal expansion requirements, and to facilitate maintenance and inspections.

The turbine hall will be 100m long x 25m wide, plus minor adjacent buildings for electrical switchrooms.

The building will be about 26.4m high from the reconfigured site level of 516 metres above sea level.

The building will be of concrete foundations and lower walls with steel portal framing and metal cladding.

The mechanical draft cooling towers will be the other major structures making up the development. There will be two cooling towers, one for each turbine, each comprising eight cells.

The cooling tower structures (eight cells) will be about 100m long by 18m wide and 16m high.

A switchyard will be located adjacent to the power station in order to combine the outputs of the two generators and connect them, via a transmission circuit, to the Wairakei - Whakamaru B transmission line.

The switchyard will be approximately 170m x 110m. The height would be 5.5m with lightening poles extending to 25m.

The RMA process in New Zealand requires an EIA, which in the New Zealand context is called an Assessment of Environmental Effects (AEE).