Luxembourg, 19.11.2013

Environmental and Social Data Sheet

Overview

Project Name:	El Shabab Power Plant
Project Number:	2013-0298
Country:	Egypt
Project Description:	Conversion of existing open cycle gas turbine power plant at El Shabab to combined cycle operation, increasing generating capacity from 1000MW to 1500MW
EIA required:	no
Project included in Carbon Footprint Exercise[1]:	yes

Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

The project concerns the retrofitting of heat recovery boilers, steam turbines and generators to an existing peak load open-cycle gas turbine power plant in order to improve the plant capacity and electricity generating efficiency by approximately 50%. Once converted, the more efficient power plant will be operated in base load, with the load factor increased from around 50% to up to 85%. While this will generate valuable additional supplies of power to the grid to meet increasing demand, the higher load factor will result in an increase in fuel consumed and GHG emissions released to the atmosphere.

The plant is located in a sparsely populated area bordered by sandy desert and some irrigated agricultural land. An EIA procedure for the open-cycle power plant was carried out in 2010 and was approved by the Egyptian Environmental Affairs Agency (EEAA). No resettlement was required for either the existing open-cycle plant or the combined-cycle conversion project. An EIA was not carried out for the CCGT conversion project; however, the promoter has commissioned a number of complementary studies to assess the additional environmental impact of the project. Satisfactory completion of these studies and incorporation of any recommended mitigating measures in the design and operation of the project will be required by the Bank as a condition of disbursement.

The project is not expected to have a significant negative impact on local residents or the environment. Atmospheric emissions from the power plant will be maintained in line with standards applicable within the European Union. The use of natural gas as a main fuel, combined with low-emission combustion technology, will result in an acceptable level of specific atmospheric emissions from the plant. Ambient air quality standards at the site could be exceeded under unfavourable climatic conditions if the units are fired on distillate fuel; however this is foreseen only in emergencies when the natural gas supply is interrupted. Overall, the social and environmental impacts of the project are expected to be acceptable and, subject to satisfactory completion of the complementary studies referred to above, the project is considered to be suitable for Bank financing.

Environmental and Social Assessment

Environmental Assessment

Due to its size and technical characteristics, the project, if located within the EU, would fall under Annex II of the EIA Directive 2011/92/EU, leaving it to the competent national authorities to determine the EIA requirements. The project does not require an EIA under

[1] Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100,000 tons CO2e/year absolute (gross) or 20,000 tons CO2e/year relative (net) – both increases and savings.

Egyptian legislation. The appropriate procedures are underway to obtain the necessary approval for extension of the existing area to provide space for the combined cycle equipment.

The project will not displace or disturb any productive land use on the site and will use existing infrastructure to connect to the power transmission network and the high pressure natural gas grid. The land use in the surrounding areas is mainly for agricultural purposes, with some scattered low-rise residential buildings and small and intermediate industries. To the east, northeast and southeast of the site are extended irrigated farms while to the west and southwest the land is sandy desert. Due to the absence of suitable cooling water supplies, the plant will employ air-cooled condensers to condense exhaust steam from the steam turbine. The project is not expected to have negative impacts on any sites of nature conservation importance or on any endangered species of flora or fauna.

Construction and operation of the power plant is not expected to have an impact on any know archaeological, historic or cultural resources. Consultation undertaken with local officials and experts of the Supreme Council of Antiquities verified that the site is not of archaeological interest.

The impacts during construction are limited to the typical nuisance effects of traffic, noise and dust. These impacts are mitigated by workplace procedures with which the various contractors are required to comply. The main operational impacts of the plant are assessed to be the release of atmospheric pollutants (mainly NO_x and CO_2) and these are mitigated by the choice of low-pollution and high-efficiency technology, as well as continuous monitoring of plant performance and emissions.

EIB Carbon Footprint Exercise

The absolute emissions of the project are estimated to be 4500 k tonnes CO_2 equivalent per year. Estimated emissions savings achieved by the project, using as a baseline the promoter's generation expansion plan for the period 2013 to 2020, which assumes a forecast increase in demand of 6.4%/a, amounts to 500 k tonnes of CO_2 equivalent per year.

For the annual accounting purposes of the EIB Carbon Footprint, the project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of project cost'

Social Assessment, where applicable

The project will be implemented on an existing plot of land belonging to EDEPC (East Delta Electricity Production Company) and will not impact on any settlements or assets belonging to other parties. The ESIA verified that the project will have no direct impact on land use or terrestrial resources for communities surrounding the project area. A key positive impact of the project will be the generation of employment during construction and operation, with a large proportion of the labour force to be sourced locally.

EDEPC has in place policies and procedures to ensure that construction and operation of the power plant is carried out in accordance with Egyptian regulations and in line with international standards for good practice, including an Environmental Health and Safety manual for the power plant with which all contractors are required to comply. Health and safety of personnel during operation of the power plant is ensured through the implementation of an Operational Health and Safety Plan, with appropriate training provided to all staff.

Public Consultation and Stakeholder Engagement, where required

A formal public consultation procedure was carried out for the existing open-cycle power plant according to national requirements and World Bank guidelines. No additional public consultation has been required regarding the combined-cycle conversion works included in this project.

Other Environmental and Social Aspects

Suitably qualified and experienced contractors will be responsible for the detailed design and construction of the project, under the supervision and control of the EDEPC's management

staff. Monitoring and control of the plant following its conversion to combined-cycle operation will be carried out under the existing procedures applied for the open-cycle plant, including monitoring and record keeping of exhaust stack emissions, ambient air quality, noise, quality of water discharge and waste management