



U.S. TRADE AND DEVELOPMENT AGENCY

EXECUTIVE SUMMARY

Hadjret En Nouss 1200 MW IPP Project

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Region: Africa/Middle East
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Sector: Energy & Power

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ES.1 Project Economics

This study finds that the proposed project is technically and economically feasible, subject to adequate demand being identified for the power. If certain aggressive assumptions regarding schedule can be met, it is possible that the first unit for the Hadjret en Nouss project might enter service as soon as July 1, 2004.

ES.2 Project Background

The Government of Algeria has approved a draft law ending SONELGAZ's power production monopoly and allowing it to enter into partnerships with foreign investors in the areas of electricity generation and distribution to clear the way for Algeria's first IPPs.

Demand on the northern interconnection in Algeria is forecasted to grow at an average rate of 5.8% per year for the period 2000-2010, and the average rate of capacity addition needed to cover growth and maintain adequate reliability is about 350 MW per year. Installation of the Hadjret en Nouss facilities in the 2004-2005 time frame would result in a reserve margin on that interconnection of 15% to 20% through year 2006.

The potential for power exports is the principal motivation for considering Hadjret en Nouss for the 2004-2005 time frame. SONELGAZ has begun implementation of its Project 2000 project, by issuing on May 23, 2000 an Invitation to Foreign and Local Investors to design, finance, build, own, operate, and maintain one or many power plants of 2,000 MW total capacity. The notice says the invitees are also in charge of selling the generated power both in the local and foreign markets, where SONELGAZ would be the sole purchaser of 400 MW of the total and the balance would be exported. Possible export markets are Morocco, Tunisia, or Europe. It is up to developers to identify possible export markets. Under the program, projects developed for domestic sales only could be fully foreign-owned. Projects developed in part or completely for export would have to be joint venture arrangements that would include SONELGAZ as an equity participant, probably in the range of 20% to 30% ownership. Due to the size of the Hadjret en Nouss project, it would have to be structured as a joint venture project company because exports would be needed for marketing the power.

ES.3 Description of Project

The Hadjret en Nouss project is conceived as nominal 2 x 600 MW combined cycle power units and related infrastructure that will be developed on a BOO basis. The primary fuel for the power plants will be natural gas delivered by a pipeline that will have to be constructed. Back-up fuel will be No. 2 distillate oil delivered by ship. Fuel will be supplied by SONEGGAZ in a tolling arrangement, where the project company will not pay for the fuel and the sell price for electricity will not include a fuel price component.

The Hadjret en Nouss site, selected by SONEGGAZ, is located roughly 80 km west of Algiers. The site has an area of 34 hectares and is bordered by the Mediterranean Sea to the north. Seawater will be the condenser cooling medium. A desalination facility, with enough capacity to provide for the makeup and potable water requirements of the plant, is required. Site development will have to accommodate two wadis in the area, and development will have to protect the facility from sea swells that might cause flooding. The electrical interconnection interface will be the transmission line terminal to the gantry of the 400 kV switchyard.

Because SONEGGAZ wanted the feasibility study to address all the major options available in the marketplace, this report includes costs for Alstom, General Electric (GE), and Siemens-Westinghouse Power Corporation designs, to allow initial development of the site to as close to 1,200 MW as is possible, given the equipment available in the marketplace today for 50 Hz application. GE would likely propose a multi-shaft design that could more than satisfy the 1,200 MW requirement with two units, which we have assumed would be installed a year apart. Use of the single-shaft design would require installation of three units of about 400 MW each, which we have assumed would be installed in six-month intervals.

ESA Environmental

This study assumes the facility will have to satisfy World Bank and Algerian environmental requirements, which are discussed here in some detail. Permitting requirements also are discussed.

ES.5 Power Sales Agreement

The report contains a discussion of power sales agreements, covering the aspects required in the USTDA request for proposal.

ES.6 Schedule

Sargent & Lundy recommends that tender documents (RFP) not be finalized and issued for bids until final passage of Algerian legislation governing private ownership and operation of power suppliers in the country. Assuming that finalization of legislation will take at least until the end of the third quarter of 2000, tender documents would not be issued before the beginning of the fourth quarter 2000. We suggest that a list of pre-qualified bidders be developed prior to issuance of bids. In order to attract high-quality bids, we recommend

allowing bidders three months for proposal preparation, meaning that bids could be received as soon as the beginning of year 2001. Because this private power project is likely to be a first-of-a-kind venture for Algeria, we recommend allowing three months for evaluation of bids, followed by at least one year for negotiations between SONELGAZ, the Government of Algeria, the sponsors, the sponsors' contractors, and the lenders, leading to financial close. This one-year allowance for negotiations is a tight schedule, considering the fact that limited-recourse project financing has not been done in Algeria before and that no sovereign guarantee is being offered to support the financing.

Assuming the one-year period can be achieved between award and financial close, financial closing and start of construction might occur as early as the middle or end of the first quarter of year 2002, if all goes smoothly. We are assuming a 27-month construction period, so commercial service of the first unit would occur by July 1, 2004.

Shortages in equipment supply could cause other problems in achieving commercial service of the first unit by mid-2004 because of the tight market for large combustion turbines. Lead times for ordering combustion turbines have been increasing due to high demand.