

1. Executive Summary

The general objective of the financial analysis in this Feasibility Study is to evaluate the economic viability of power exchanges among specific utilities (referred to as the “sister utilities”) of the Comité Maghrébin de l’Electricité (COMELEC). In general, this Feasibility Study concerns the reinforcement of the interconnection of the national electric grids of Algeria, Morocco and Tunisia. The Feasibility Study (henceforth referred to as the Study) was financed by a grant from the United States Trade and Development Agency (US TDA).

The financial review is predicated upon the technical analysis of the integrated systems of Morocco (Office National de l’Electricité or ONE), Tunisia (the Société Tunisienne de l’Electricité or STEG) and Algeria (Société Algérienne de l’Electricité et du Gaz or SONEGAS). PFA’s subcontractor, Electrotek Concepts (the collectively the “Consultant”), performed a static analysis, a dynamic analysis and a number of contingency reviews of the integrated system. The results of that analysis are contained in Tasks 1 and 2 of the Study as well as in analysis performed using Power Technologies PSS/E software. In addition, Electrotek performed a maximum transfer capability analysis using its proprietary the MultiArea Transfer Capability Analyzer.

This volume of the Final Report provides specific information related to the expected cost of implementing generation and transmission additions and upgrades over the Project Horizon (through 2010). This information is based on the financial analysis in Volume I of Task 3 of the Final Report. Some brief comments are made on these costs that are then followed by a list of potential US suppliers.

The issue of how to finance new transmission and generation assets as well as the costs for the Consultant’s upgrades to ensure technical power reliability is discussed in Section 8 of this volume. Some observations are drawn from the Legal and Regulatory review as they pertain to the ability to finance the project as well as the ability of a government owned transmission company to finance such a program through sovereign debt or multilateral programs. Some of the more likely multilateral agencies are identified and discussed. The Project ends in a series of recommendations for an immediate implementation plan by the three participating utilities of COMELEC.

The primary conclusions and recommendations in this volume are the following:

- In aggregate (across all utilities), the financial analysis indicates strong profitability from implementation of the generation and transmission upgrades and investments already planned for each utility plus the Consultant’s recommendations. The Consultant assumes that each utility will consider implementing the recommended deviations from their current plans submitted to Electrotek to ensure greater power flow and reliability.
- The Consultant’s recommended deviations will cost about \$292 million using an amalgamation of local and western cost standards. This represents about 5.3% of total

planned spending for transmission and generation investment through 2010 for all three countries.

- The ability to recognize better profit points to the need for a reliable *regional regime* in which power can be exchanged and transmitted to other markets. It also supports an argument for the creation of regional power pool with excess power capacity to ensure that generation failures can still be instantaneously replaced and that end users can receive energy on a timely manner. The additional potential savings from avoided generation costs is the order of \$4 to \$5 billion that could be used for other high priority public policy projects in each country.
- Multilateral lending agencies in combination with sovereign ministries and credit support should be used as much as possible to finance immediate and long-term investment needs not only on a country-by-country basis but also on a regional basis.
- A combined plan that includes generation and transmission investments, inclusive of the Consultant's recommendation, should be presented to a group of 'sovereign-to-sovereign' multilateral agencies. The most likely candidate is the IBRD of the World Bank Group. The ability to present a combined plan will ensure that the networks in all three countries will be developed in such a way as to promote power integration.
- To accomplish reliable power exchange, the legal regimes in each country need to be revised to allow for the enforcement of power purchase contracts. Currently STEG and ONE will continue to have the jurisdiction to enter into power purchase contracts. These contracts should be encouraged with Algeria and other COMELEC member states on a cost based pricing scheme where economic profits are clearly understood and openly negotiated.