

1. Executive Summary

This volume of the Draft Final Report discusses the regulatory and legal situation among the three member countries of Comité Maghrébin de l'Electricité (COMELEC) that were reviewed (the "sister utilities"). This Feasibility Study ("the Study") recommends certain contractual and regulatory vehicles for improving interconnection and transmission service between the sister utilities and facilitating cross-border transmission and sales. The study was financed by a grant from the United States Trade and Development Agency (US TDA). The three utilities whose laws and regulations that were reviewed were the following:

- ✓ In Morocco, the Office National de l'Electricité or ONE,
- ✓ In Tunisia, the Société Tunisienne de l'Electricité et du Gaz or STEG,
- ✓ In Algeria, the Société Algérienne de l'Electricité et du Gaz or Sonelgaz.

The regulatory environments in Algeria, Morocco and Tunisia are being liberalized in varying degrees. The nature and degree of this liberalization, as well as the inevitable differences in the legal/regulatory regimes of the three countries, will have important implications for the electricity grids and their interconnection. In addition, other non-technical factors may prevent or impede the full realization of the benefits of interconnection.

This report also discusses the potential for the creation of a Regional Transmission Operator (RTO) in the region. Such an organization may be charged with the responsibility of operating unbundled transmission service and operating a power sales exchange for the purchase and sale of competitive power. Creation of a stable legal and regulatory regime is essential to the ability for power exchanges to be established and function properly. The clear implication of the financial analysis is that significant benefits may be realized through the sale of electricity through the region to the EU either in the form of incremental revenue, avoided fuel cost savings or avoided generation investment costs.

Power exchanges were based upon PFA's and Electrotek Concepts (collectively the "Consultant") performance of 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 analysis performed using Power Technologies PSS/E software. In addition, Electrotek performed a maximum transfer capability analysis using its proprietary MultiArea Transfer Capability Analyzer.

The technical analysis produced power transfer scenarios based upon generation schedules and load estimates provided by each of the sister utilities. Generation and load estimates were provided for peak load conditions in winter for 2005 and 2010. The topology of each sister utility's transmission network was provided to PFA/Electrotek using PSS/E software files, EXCEL files and other media. Whereas the original Terms of Reference (TOR) had mandated four power transfer scenarios, the power exchange scenarios were revised in June 2002 during

the initial fact gathering trip¹ to twelve base cases reflecting three power exchange scenarios using winter and summer peak load but further simplified based upon available data.

There are three components to the legal report:

- (1) the regulatory setting in each country is reviewed;
- (2) model interconnection and transmission contracts are outlined, based on a survey of similar agreements;
- (3) an overview is provided of an open access transmission tariff and the framework for the creation of an RTO.

An analysis of a number of provisions standard in an “Open Access Regime” and the newly emerging RTO regime in the United States may be useful to the three utilities to adopt in their contracting procedures. Some of these procedures may be well suited for regional and country specific concerns over the short to medium term.

Our review of the state of energy markets in the COMELEC nations indicates a diverse picture. In Morocco and Tunisia, electric service is provided by traditional, state-owned, vertically integrated utilities providing bundled transmission, distribution and generation service under one corporate structure. Algeria, by contrast, has embraced a statutory scheme for the implementation of an open access framework, the creation of an Independent System Operator and a power exchange. The nature and degree of this liberalization, as well as the inevitable differences in the legal/regulatory regimes of the three countries, will have important implications for the electricity grids and their interconnection. In addition, other non-technical factors may prevent or impede the full realization of the benefits of interconnection

Information, as PFA has been able to develop it, indicates that while there are a number of electrical interconnections between the COMELEC nations, limited use is made of these facilities. Our understanding of the state of interregional cooperation and transactions is summarized in the next section.

The primary observations made in the analysis are as follows:

- Until recently the legal regimes governing the electricity sectors in Algeria, Tunisia and Morocco were substantially similar: In each country there was a state monopoly administered by a state electricity company.
- While state monopolies are still in place in Morocco and Tunisia, a new regime has been put into place in Algeria with the implementation of the new electricity and gas distribution law enacted on 5 February 2002 and the Presidential Decree of 1 June 2002 (together, the “Electricity Law”) creating the Algerian State Electricity and Gas Company, SONELGAZ Spa.

¹ Conducted from June 12th to June 28th, 2002.

- Existing interconnections between the COMELEC nations are few and operated only informally, without agreements specifying the parties' rights and responsibilities.
- There are no formal power sales between the COMELEC nations or parties within these nations. Inadvertent imbalances at existing interconnections are rectified in-kind.
- There are no transmission agreements between the nations, and no agreements for mutual reinforcement in the event of system difficulties.

Based upon these observations, and upon the benefits that would accrue from improvements in the management of interconnections between the sister utilities and transmission of power across the region, the legal report recommends, first, that the COMELEC nations consider formalizing the interconnection agreements between the sister utilities, and adopting a standard form of transmission agreement to facilitate cross-border sales. Next, the report recommends that the COMELEC nations consider the benefits, and costs, that may be associated with the establishment of an open access tariff, and or an RTO.

Recommendation

For the COMELEC countries, PFA believes adoption of some basic elements of standard transmission and interconnection agreements will provide greater transparency and reliability to a regime in which power may be exchanged throughout the region and with the European Union (EU). The financial analysis contained in this Study also introduces some pricing mechanisms for energy transport and generation that would form an important element of an unbundled tariff structure. The issue of unbundled tariffs has been partially addressed by Algeria's new energy law that mandates energy and capacity payments in new contracts.

To improve the reliability of the regional grid, and to facilitate cross-border transactions, PFA recommends that the COMELEC countries consider adopting a model interconnection agreement governing interconnections between the sister utilities, and a model transmission agreement governing inter-regional transmission (See Appendices B and C, attached). The COMELEC nations may further wish to consider adopting an open access tariff further standardizing transmission transactions throughout the region. This would be in keeping with the intent set forth in Algeria's new electricity law. Although it is our understanding, as discussed below, that Algeria has adopted an open access regime, Tunisia and Morocco have not done so. Finally, consideration may also be given to the development of an RTO, charged with the responsibility of operating and administering transmission services throughout the Maghreb region, not only Algeria. Each of these options is discussed below.