

Electricity Network Connectivity between the GCC Countries

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INTRODUCTION

In 1986 the first project study was conducted by a committee from the GCC countries in coordination with the Kuwait Research Institute and King Fahad University of Petroleum & Minerals. By recognizing the technical benefits of the interconnection of the power grid, the committee in coordination with Gulf Investment Bank and SNC-Lavalin had conducted a feasibility update study in 1990 to determine its viability on an economical and financial perspective. As a result the GCC Interconnection Authority was established in July 2001 by Royal Decree with its headquarters located in Dammam, and control center in Ghunan, Saudi Arabia.

Figure 1: Approximate route and layout of the GCC Interconnection



Power System in GCC Countries – Year 2004

GCC State	Total Generation Capacity (MW)	Peak Load (MW)	Energy (GWH)	Growth Rate (%)
State of Kuwait	9.326	8.635	43.308	6.0
Kingdom of Saudi Arabia	30.500*	27.847*	146.569*	6.2*
Kingdom of Saudi Arabia East Region	11.873	11.235	69.756	8.2
Kingdom of Bahrain	2.097	1.738	8.918	6.0
State of Qatar	3.025	2.710	13.580	9.5
United Arab Emirates	11.184	10.564	59.721	6.9
Sultanate of Oman	2.485	2.406	10.582	3.9
TOTAL	39,990	37,288	205,865	

- Not included in the total, (East Region of Saudi Arabia is considered).

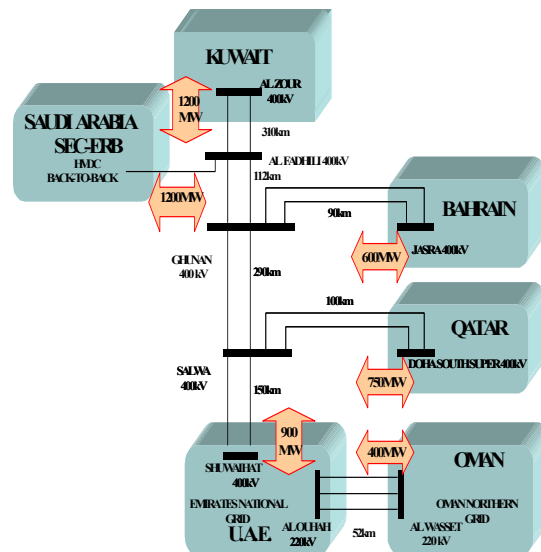


Table 1: Capacity of Interconnection to each GCC Country

Country	Capacity (MW)
Kuwait	1200
Saudi Arabia (East Region)	1200
Bahrain	600
Qatar	750
UAE	900
Oman	400

COST OF THE INTERCONNECTION PROJECT

The estimated cost of the Interconnection Project based on economic conditions of 2003 for Phase I, Phase II and Phase III is \$US 1189 million, \$US 300 million and \$US 137 million respectively.

SHARING OF THE COSTS OF THE INTERCONNECTION PROJECT

It was agreed amongst the countries to share the costs of the Interconnection in proportion to the reserve capacity savings. Considering the time value of money and that the capacity savings occur at different points of time, it was agreed to share the costs in proportion to the present value of the capacity savings proportionately.

FINANCING FOR THE PROJECT

Various options for financing the total cost (capital and operational) of the project were considered. It was decided that the governments of the countries would be responsible for providing their share of the capital. This could be in the form of equity or debt supported by the respective governments.

IMPLEMENTATION STRATEGY

It has been decided to proceed with the implementation of Phase I of the Project, i.e. the interconnection of Kuwait, Saudi Arabia, Bahrain and Qatar.

The project has been divided into several work packages: substations, back-to-back HVDC converter station, submarine cable, overhead transmission line and a control centre. The intent is to enable a wide participation by international contractors in the implementation of the GCC project in an efficient and economic manner. The work packages will be executed on an EPC basis.

The services of an "Owners Engineer" have been retained to assist the GCCIA in the implementation of the Project.

TIME SCHEDULE FOR THE PROJECT

- Bidders were pre-qualified for the different packages in the first quarter of 2004.
- Tender documents were issued in February 2005 and bids are expected in April/May 2005.
- The bids will be evaluated and it is expected that contract awards will be made in August/September 2005.
- It is anticipated that the Phase I of the GCC grid will be in operation by mid 2008.

SCHEDULE

TASK	DATE
Engagement of Consultant for Tendering & Adjudication	September, 2004
Availability of Document for Bidding	February, 2005
Invitation to Pre-qualified Bidders	February, 2005
Pre-Tender Meetings	March, 2005
Tendering Period	April, 2005

Bid Evaluation	June-July, 2005
Project Contract Award	September, 2005
Project Construction Commencement	October, 2005
Project Commissioning	1st & 2nd Quarter, 2008