

<b>Project Title</b>	Consulting Services for Upgrading / Purchasing New Applications Software for the Power Engineering Consulting Companies of Vietnam Electricity and Review of Tu Duc 220 kV SAS Technical Specifications
<b>Contracting Agency</b>	Vietnam Electricity (EVN). Project execution and supervision under the responsibility of the Center for Information Technology of EVN
<b>Project Organization</b>	Prime Contractor: Electrotek Concepts, Inc. The work as performed entirely by Savu C. Savulescu as an Independent Consultant, with full responsibility for all the technical and project management aspects of the project
<b>Summary</b>	This project entailed: assessing the entire array of computer applications used at EVN; defining new software acquisition strategy, including the methodology for evaluating bids; and reviewing the technical specifications for the Tu Duc 220 kV Substation Automation System
<b>Background</b>	<p>EVN has four Power Engineering Consulting Companies (PECCs): PECC1, PECC2, PECC3 and PECC4. The Institute of Energy is in charge of building a strategic development plan for the power sector as well as devising mid- and long-term plans. These consultancy teams are involved in investigating, designing and technical supervisory works in power projects as well as constructing and installing network projects. The Institute of Energy and power engineering consulting companies have fulfilled a number of important projects such as devising the master plan for power development in the period 2001-2010; planning provincial power networks; conducting feasibility study reports for Son La hydro-power plant (3,600 MW), Rao Quan hydro-power plant (80 MW), Uong Bi thermal power plant (300 MW), Hai Phong thermal power plant (600 MW); Pleiku-Phu Lam and Phu My-Nha Be-Phu Lam 500 kV lines, as well as rural electrification projects in 671 communes. EVN focuses on strengthening the PECCs and Institute of Energy expertise in the fields of hydro power plant, thermal power plant, transmission line and sub-station, telecommunication and automation. In addition, significant focus is also placed on training activities for experts in each field. This activities need to cooperate with local and international consultants to train local experts and to hire international consultants for PECCs of EVN in order to increase ratio of self-implement the design of hydro power plant, thermal power plant and high-voltage power network. On this basis, the Center for Information Technology of EVN has hired Savu C. Savulescu from Electrotek Concepts, Inc. to provide Consulting Services for Upgrading / Purchasing New Applications Software for the Power Engineering Consulting Companies of Vietnam Electricity.</p>

The contract was subsequently extended to include the Review of Tu Duc 220 kV SAS Technical Specifications. The analysis was predicated on industry accepted paradigms and criteria, such as adherence to standards, protection against recurring obsolescence, integration into enterprise information architectures, and transparency of the competitive bidding process by not permitting the use of proprietary protocols and data access methods. In order to provide a clear foundation for evaluation, a detailed assessment of the

above-mentioned aspects was first conducted and documented. Industry accepted practices for specifying modern power system, monitoring and control information systems, including SAS, were also discussed

## **Objectives**

The primary, and original, goal of this project encompassed the acquisition of computer programs that can help:

- Design: power plants (Hydro, Gas, Oil, Coal); transmission lines and substations (high and medium voltage), including protection relays and infrastructure such as towers and bases; and dams and reservoirs, including the computation of sedimentation in reservoirs
- Conduct transmission planning and operations scheduling studies that entail: steady-state and transient stability assessment evaluation of alternate transmission system expansion plans; and perform a broad array of applications as required by the activities performed at the PECCs

Another objective was to conduct:

- A survey aimed at: classifying the computer programs currently available at, and which have been used by, the PECCs; gathering detailed information of the applications that are actually used by the PECCs for the purpose of identifying the benefits and, respectively, the limitations of such software
- Discussions and workshops within the PECCs to determine the real needs

The original contract was then extended to include the review of the Technical Specifications of Bidding Document No. 9A Package for Improving and Expanding the Thu Duc 220 kV Substation. The objectives of this additional task were to determine whether the Technical Specifications contained in the Bidding Document No. 9A:

- Provide for openness, fairness, competitiveness and quality of system and equipment
- Ensure that EVN will not depend on suppliers in the process of operating and maintaining the Thu Duc SAS
- Specify a system that will conform with EVN's IT Strategic Plan

## **Scope of Work**

The scope of work encompassed the following:

- Task 1: Preliminary Analysis of the Information Received from EVN and Draft Strategy. This activity aimed at: defining an array of new applications to be considered for licensing and, for those packages that are offered in modules, determining what modules are needed; gathering additional information regarding the application software packages identified by EVN; sketching a training program that would allow the PECCs' personnel to become fully conversant with the software; proposing priorities, in terms of both acquisition and training; preparing a draft documenting this strategy and submitting this draft to EVN for subsequent evaluation and discussion in joint meetings to be conducted in Ha Noi

- Task 2: Working visit to EVN conducted in Ha Noi for the purpose of: discussing with EVN-PT the functional capabilities identified during the survey; compiling a "shopping list" of applications to be purchased; preparing a list of "must" and "desirable" features of the targeted applications; establishing a time table for the software acquisition process; drafting a set of guidelines and technical requirements that will allow the EVN-PT to subsequently prepare Terms of Reference and Bidding Documents for the software acquisition process
- Task 3: Preparation of the Final Report that documented the findings gathered during the working visit in Hanoi and formed the foundation for EVN's subsequent activities aimed at specifying and purchasing the required applications

The work entailed in the project extension was performed in one shot and entailed the preparation of the report *Review of the Technical Specifications for Improving and Expanding the Thu Duc 220 kV Substation*

**Period of  
Performance**

July – September 2002