Commercial Applications of Knowledge Based Systems: Initiatives in the Electric Power Industry

John Spina  
Vice President, Technology Applications  
Kaman Sciences Corporation  
258 Genesee St.  
Utica, NY 13502

For the most part, commercial applications of knowledge based systems have focused on specific problems within some commercial domain. Applications which address a broader segment of a commercial market are not as well treated. For example, knowledge based systems for an entire commercial industry, like communications, medicine, or petroleum are not well documented. How does one organize a program which addresses a broad spectrum of knowledge-based issues for a large market segment? In the panel discussion, topics related to organizing, planning and implementation of a knowledge based facility will be explored. In particular, the concept of such a facility for the electric power industry will serve as the framework for the panel discussion.

The Electric Power Research Institute (EPRI) recently established a Knowledge Based Technology Applications Center (KBTAC). The goal of KBTAC is to assist EPRI member utilities in the application of expert system technology and its mission is to develop, test and transition expert systems into power plant operations, maintenance, and administration.

The initial focus of the Center will be on nuclear power plants. The approach of KBTAC is to provide several kinds of technical support so that utilities themselves can develop expert systems to address important problems in power plant operations, maintenance and administration. KBTAC will help utilities select expert systems applications consistent with their internal resources. KBTAC will not only provide support for specific applications problems, but it also will provide technology transfer programs and consolidate sources of information to help utility engineers improve their general capabilities for applying expert systems technology. Thus, KBTAC support has three major elements:

1. Central clearinghouse of information about expert system technology where utilities can learn, experiment and evaluate problem solving alternatives.

2. Technology transfer programs including tutorials and workshops for exchanging information about expert systems technology, tools and utility applications.

3. Technical support at crucial stages of the development product, with emphasis on the scope of a project and on design.

The purpose of this proposed panel session is to discuss:
- the rationale which lead to the development of KBTAC  
- the advantages that KBTAC brings to its user base  
- KBTAC data and knowledge base applications  
- how these can be generalized to other applications.

Panelists:
Dr. Walter Meyer—Syracuse University  
Charles Saylor—Niagara Mohawk Power Corporation  
Raymond DeLuke—Knowledge Based Tech Applications Center  
John F. Spina —Kaman Sciences Corp