



SAT ADMINISTRATOR

INFORMATION SYSTEM FOR NUCLEAR POWER PLANT PERSONNEL TRAINING PROGRAM DESIGN

Why do we apply the SAT methodology for the design of NPP personnel training programs?

The answer is in the characteristics of nuclear power plant personnel training, more specifically in the training system of Paks Nuclear Power Plant.

Characteristics of NPP personnel training

- Skills outside of the scope of academic training to be transferred
- Training program quality directly affects nuclear safety
- Top expectations
- Training is to keep pace with the ongoing technical-procedural developments

Characteristics of Paks NPP training system

- Corporate training center on plant site since 1980
- Well-equipped training center with full-scope simulator since 1987 and maintenance training center since 1997 providing top quality training environment for both operational and maintenance personnel
- Responsibility in initial training and qualification as well as continuing training of all corporate and contractor staff

International standards of training

The expectations identified by the IAEA is included in the TRS-380 (Nuclear Power Plant Personnel Training and its Evaluation) document which in parallel provides the tool that is the SAT (Systematic Approach to Training).

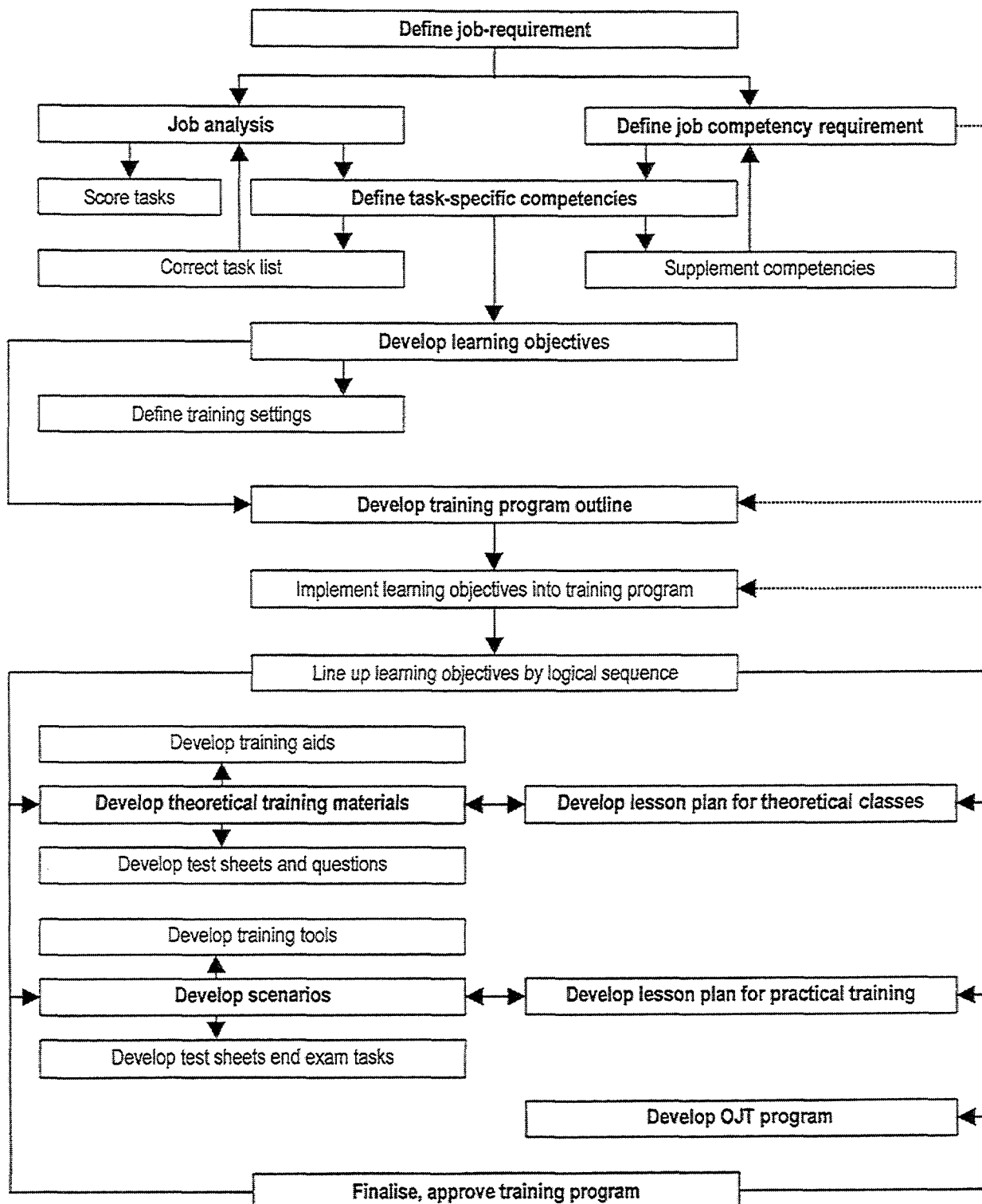
SAT characteristics

- Acknowledged best tool for NPP personnel training
- Detailed theory for NPP application but practical realization subject to local needs and environment
- During application large amount of interrelational data generated

- Without computerized support, training program management and maintenance are almost unmanageable tasks

The Paks-specific SAT method

At Paks Nuclear Power Plant Ltd. between 1994-98, a complex training development project (Hungarian Model Project - Strengthening Training for Operational Safety of Paks NPP) supported by the IAEA was running, a task of which was to refurbish safety significant operational-maintenance job-specific training programs, according to the SAT principles. The project elaborated and has applied the methodology most suitable for Paks specialities (VVER-440) for about 25 job-positions. The steps of the methodology is described in the following picture hereunder:



The SAT Administrator supports the design of training programs in the following phases:

- **Job analysis**

Definition of job-specific duty areas, systems and their interrelations.

- **Task analysis**

Collection and classification of job-specific tasks into hierarchy task lists (tree structures).

- **Competency analysis**

Definition and structuring of job-specific KSAs (knowledge, skills and attitudes)

- **Task to competency association**

Association of competencies with tasks, task-elements or steps, updating the competency structure.

- **Definition of learning objectives to competencies**

Definition of competency-specific learning objectives and of knowledge test items

- **Training program design**

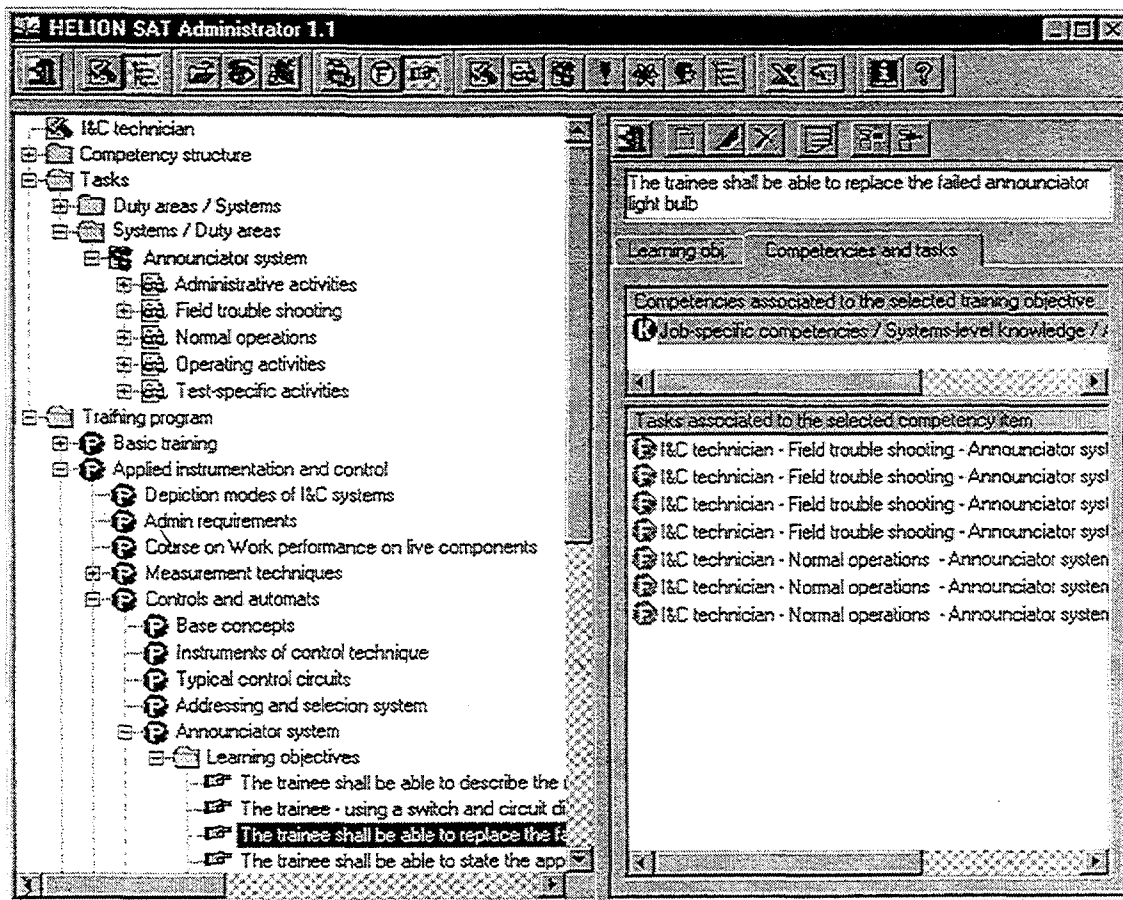
To establish a training program to cover all job-specific KSAs.

- **Definition of test items**

Definition of test items, questions to control accomplishment of learning objectives, associated to training program elements.

The general structure of the database and of management software supports application of the SAT Administrator in any nuclear power installation.

The SAT Administrator is a system with a client/server architecture building upon Oracle database. The database server therefore may not only be a PC, but a high capacity computer running UNIX or other operating system (on which Oracle server can be operated) as well. The management software runs under Windows 95 or Windows NT 4.0 operating systems and provides an easy-to-use, friendly user interface as usual in the Windows environment.



FOR FURTHER INFORMATION, PLEASE FEEL FREE TO CONTACT US AT:



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