SAT Project Introduction: Management Issues

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Objectives and Expectations:

- To review SAT project goal and project management objectives.
- To introduce the concepts of SAT project planning.
- To discuss recurring problems in SAT implementation projects.

(to be continued)

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Objectives and Expectations: *(contn)*

- To discuss recurring problems and the recommendations associated with:
  - Resources planning
  - Project QAP
  - SAT project team construction and training
  - Roles, responsibilities, and qualification of the project participants

*(to be continued)*

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Objectives and Expectations: *(contn)*

- For the Workshop participants to be able to:
  - Describe three major phases of a SAT project
  - In the short-term, evaluate the fields of SAT introduction improvement
  - In the medium-term, apply SAT implementation project check-list to identify the strengths, weaknesses, and corrective actions.

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SAT Project goal and management

- **SAT Project** is a NPP/utility training development project, which in turn is a part of a NPP/utility overall safety and efficiency programme.

- **SAT Project goal** is to upgrade existing training programmes or to establish new ones through successful implementation of SAT.

- Project management is a technique for the efficient expenditure of resources to achieve a desired result.

- **Project management:**
  - Defines the work to be done,
  - Estimates the resources that will be required to accomplish that work,

  (to be continued)

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SAT Project goal and management

- **Project management:** *(continuation)*
  - Controls the quality of the work and the expenditure of the resources,
  - Monitors the progress towards the final objectives, and,
  - Makes corrections in all the foregoing as may be required to achieve the ultimate goal.

To successfully launch any project, a SAT project in particular, three criteria must be satisfied:

- Needs identified and justified.
- Customer's desire exists.
- Financial resources available as identified needs dictate.
Could you tell me any two more?

- Needs identified and justified.
- Customer desire exists.
- Financial resources available as identified needs dictate.
- ...
- ...

Recurring problems in SAT projects:

- Regulations and policies in training field do not fully support a SAT implementation.
- NPP/operating organization managers do not provide support as needed.
- Lack of the resources due to poor project planning and insufficient managers support.
- Not developed or not adhered project QAP.

(to be continued)
Recurring problems in SAT projects:
(continuation)

- SAT procedures are absent or fuzzy or not customized.
- Project team do not receive training and formal qualification as needed.
- Project manager and group leaders do not possess sufficient management competence.
- Training Department instructors are not prepared to introduce a SAT.

(to be continued)

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Recurring problems in SAT projects:
(continuation)

- Data and materials from the similar projects are not available. The co-ordination and co-operation need improvements.
- Data is not traceable enough.
- Resource-extensive Analysis methods.
- Discrepancies between training objectives, tests, and actual training requirements.
- SAT is not applied to all training settings as required, e.g. OJT, self-study.

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Three major phases of a SAT project implementation

- (1) Conceptual design.
- (2) SAT introduction for the first set of job classifications or duty areas.
- (3) Project final evaluation and SAT platform upgrade.

(1) Conceptual design phase

- Overall Project Plan
- Project QAP
- SAT seminar for the managers
- Training system evaluation and Needs Analysis
- SAT-based training system conceptual document
- Developed training policies
- Job positions or duty areas selected
Three major phases of a SAT project implementation

(2) SAT implementation for the first set of job classifications / duty areas
- Detailed Action Plan
- Project support infrastructure
- SAT procedures
- Project team training
- Support software package
- Training organization development.
- SAT phases implementation
- In-process Project evaluation

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Three major phases of a SAT project implementation

(3) Project final evaluation and SAT platform upgrade
- Final evaluation
- Problems, causes, solutions, lessons learned
- Upgraded:
  - SAT model and procedures
  - Support SAT software
  - Policies and administrative documents
- Recommendations for further SAT introduction

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An actual example of the SAT Project implementation *(Kursk NPP, Russia)*

- Needs Analysis accomplished... T0 + 3
- Project Team trained............... T0 + 6
- SAT-based continuing training launched.......................... T0 + 15
- Training organization upgraded.. T0 + 15
- Administrative documents........... T0 + 15
- SAT technology transfer done... T0 + 18

What is the difference between SAT introduction and SAT Project implementation?

- SAT-based training process has continuous nature predefined by the training evaluation, new training needs identification, and training conduct as necessary.
- SAT Project has (should have) clear beginning and the end, predefined by the Project Plan and Project Quality Assurance Programme.
SAT is an approach. SAT project implies specific technology.

“There is only one religion, though there are a hundred versions of it”

(G.B. Show)

Recurring weaknesses of a SAT Project resource planning
(actual examples of the causes)

- Overall Project Plan (Program) is too detailed. Project Action Plan is too generic.
- Real and attainable needs to develop training system are not identified.
- Specific SAT model and technology are not defined timely.
- Personnel involved in project planning does not know real resources needed to conduct SAT phases and activities. Skilled external specialists are not involved.
Man-hours needed to develop one hour of training (when training specification done)

- Classroom (10 - 30)
- Laboratory, workshop (15 - 30)
- Simulator scenarios (15 - 30)
- Plant OJT (10 - 25)
- Self-study materials (10 - 20)
- CBT (20 - 60)

*(These estimates do not include JPMs, tests and exams development)*

Project Quality Assurance Programme shall:

- Be developed, implemented and maintained.
- Include details of how work is to be managed, performed and assessed.
- Include the organizational structure, functional responsibilities, levels of authority and interfaces for those managing, performing and assessing the adequacy of work.
- Address management measures, planning, scheduling and resources.
Project QAP should at least define:

- Purpose and scope.
- Project Team Quality policies.
- Definitions.
- Organizational structure.
- Roles and responsibilities.
- Interfaces.
- Project Team qualifications.
- Main quality assurance activities.

(to be continued)

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Project QAP should at least define:

(continuation)

- Quality Objectives.
- Quality Criteria.
- Project Quality Criteria Applicability Matrix.
- Quality Control:
  - In-process control
  - Project reporting
  - Acceptance of activities and products

(to be continued)

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Project QAP should at least define:

(continuation)

- Quality verification:
  - Project analysis
  - Audits
  - Independent assessment
- Project Records and document control.
- Non-conformance control and corrective actions.
- Changes to the QAP.

SAT Project QAP recurring weaknesses:

- Definitions are fuzzy and do not cover a project scope
  - *Customized SAT Glossary of terms is needed*
- Responsibilities of and interfaces with the plant are not clearly defined
  - *Matrixes defining responsibilities and interfaces*

(to be continued)
SAT Project QAP recurring weaknesses: (continuation)

- Project Team training and qualification are not strictly defined
  - Define for all Project Team, including Training Department personnel, plant SMEs, project managers, and external experts

(to be continued)

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SAT Project QAP recurring weaknesses: (continuation)

- Quality Criteria do not incorporate specific SAT project features
  - Attach SAT standards to be applied
- Assessment of SAT phase activities is not defined specifically
  - Develop the check-lists for SAT phases

(to be continued)

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SAT Project QAP recurring weaknesses: *(continuation)*

- Project records are not fully defined and not maintained as necessary
  - SAT project generates a lot of documents. Define clearly the records to be maintained
  - Develop and implement support software
  - Provide management control

*(to be continued)*

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SAT Project QAP recurring weaknesses: *(continuation)*

- Non-conformance control is ineffective
  - Identify the procedure for non-conformance control
  - Identify repeatable deficiencies
  - Identify the root causes
  - Provide corrective actions at the necessary levels, including preventive actions (SAT procedures change, QAP upgrade, etc.)

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SAT-based training system
conceptual document

- Training system upgrade justification
- National concept for NPP personnel training
- Training policy
- Current status of the training system
- Fields for improvement and development
- SAT implementation
- Needs for co-operation
  
  (to be continued)

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SAT-based training system
conceptual document  (continuation)

- Training Department organizational structure
- Requirements for:
  - Instructors
  - Training materials and tools
  - Training facilities
- Responsibilities of the personnel for training
- Long- and medium-term programme
  
  (to be continued)

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SAT-based training system conceptual document (continuation)

One of the most important parts of the conceptual document is a "SAT Implementation" section, as:

- It should define the strategy and tactics of a SAT implementation
- Different approaches may be used, e.g.:
  - "Traditional" SAT approach
  - "Vertical Slice"
  - To begin with continuing training, etc.

SAT procedures

- Must be established for all SAT phases
- Shall be developed or customized with the involvement of the procedure users
- Should consist of two sets:
  - Administrative SAT procedures
  - Implementation SAT procedures
  - Project Team shall be trained and qualified in the procedure use
Project Team construction and training

- A number of Project Team members
- Qualifications
- Equivalency
- Subject Matter Experts
- Contractors
- Adherence to the QAP
- Audits by the plant managers

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SAT Project Manager

- Role and Responsibilities
  - Project QAP implementation
  - Project Team management
  - Project Plan schedule performance
  - Cost control
  - Deliverable performance
  - Action item tracking

- Requirements to the Project Manager qualification, and the means to achieve it

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Local Project Team vs. external contractors

- Quality policies (project deliverables will meet Customer and Contractor quality objectives, whichever is higher)
- Contractors vs. Project phase
- Role of the external contractors (actual examples)
- Qualifications of the contractors
- QAPs of the contractors and subcontractors

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Project co-ordination from the plant level

- Training programme ownership
- Commitments stated in training policy and Project QAP
- Resources and infrastructure
- Co-ordination through Training Review or Steering Committees
- Audits according to a QAP
- Adherence to the SAT Administrative and Implementation procedures

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Key considerations

- Critical issues: Needs, Desire, Funds.
- Quality is manageable and applies to all project activities as well as deliverables.
- Project Plan and Project QAP are the cornerstones for the quality of the Project.
- Outstanding role of the Project Team qualifications.