




## 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.

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## SAT Project goal and management

- **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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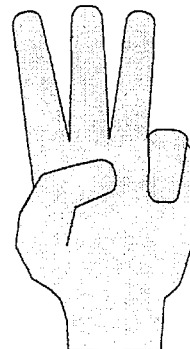
## SAT Project goal and management

- **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.

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

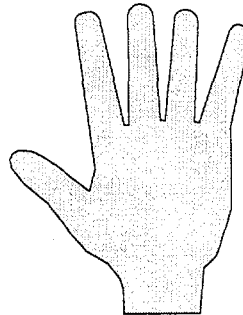
- Needs identified and justified.
- Customer's desire exists.
- Financial resources available as identified needs dictate.



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## Could you tell me any two more ?

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



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## 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)*



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## 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.

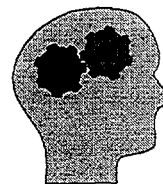


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## Three major phases of a SAT project implementation

### (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



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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

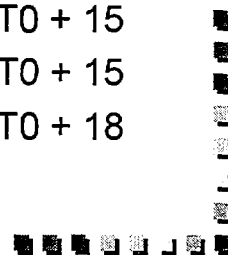


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## An actual example of the SAT Project implementation (*Kursk NPP, Russia*)

- 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

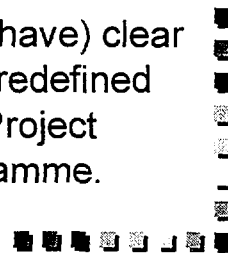


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## ***What is the difference between SAT introduction and SAT Project implementation ?***



- 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.



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***SAT is an approach. SAT project implies specific technology.***

***“There is only one religion, though there are a hundred versions of it”  
(G.B. Shaw)***

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## **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.

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### 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)*

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### 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.

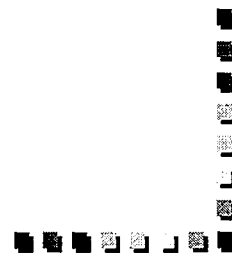
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## Project QAP should at least define:

- 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.

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## 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)*

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## 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 corective 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

*(o 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.

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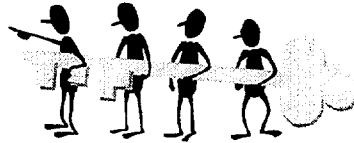
## SAT procedures

- 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

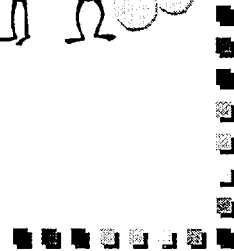
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## Project Team construction and training

- 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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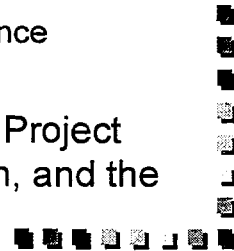


## SAT Project Manager



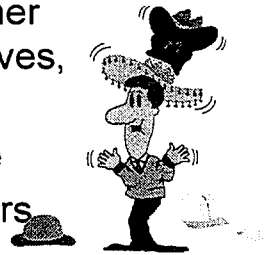
- Role and Responsibilities
  - Project QAP implementation
  - Project Team management
  - Project Plan scedule performance
  - Cost control
  - Deliverable performance
  - Action item tracking
- Requirements to the Project Manager qualification, and the means to achieve it

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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.

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