



Australian Government

Australian Nuclear Science and Technology Organisation

Quality Management

Using ISO 9001 to Manage Accelerators

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What is ISO 9001?

- It is a self regulation method
- ensures reproducibility and traceability
- based on consolidating specific processes
- streamlining work instructions
- designed to ensure continual improvement

- **It is a self regulation method**
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The overall procedures capture the workings of the management system and addresses:

- *Responsibilities and authorities*
- *Controlling resources*
- *Training*
- *Safety*
- *Operations*
- *System improvements*
- *Record keeping*

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- **Ensures reproducibility and traceability**
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It provides a mechanism for ensuring outputs are reproducible and methods used are traceable:

- *Standard operating procedures*
- *Standardised methods*
- *Records kept up to date*
- *Output is constantly reviewed and assessed*

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An analysis of all processes must be carried out. Sometimes this involves reviewing external processes as well

- *What are our key processes?*
- *What inputs produce the outputs?*
- *Are we doubling up on our work?*
- *What do we need to change?*

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- **Streamlining work instructions**
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The fine detail of what you do is captured in the work instructions. Choose carefully, the instructions that can influence the outputs of your system.

- *All quality documents must be reviewed regularly*
- *Some instructions stay in their indigenous form and some will need to be written*
- *Writing instructions can make some people wary*

- It is a self regulation method
- Ensures reproducibility and traceability
- Based on consolidating specific processes
- Streamlining work instructions
- **Designed to ensure continual improvement**

The 'nuts and bolts' end of the system. Continual improvement is the basis of the whole quality system.

- *It doesn't happen overnight*
- *it requires commitment from upper management right down to the people on the floor*
- *Improvement must be traceable*



The ANSTO Accelerators story

Once upon a time

- *A representative from the division was selected to be part of the ANSTO Quality Committee*
- *A representative from each group was selected to be in the divisional Quality Team*
- *They were all trained in the ISO 9001:1994 standard and were also given 'internal auditor' training*

The ANSTO Accelerators story *continued*

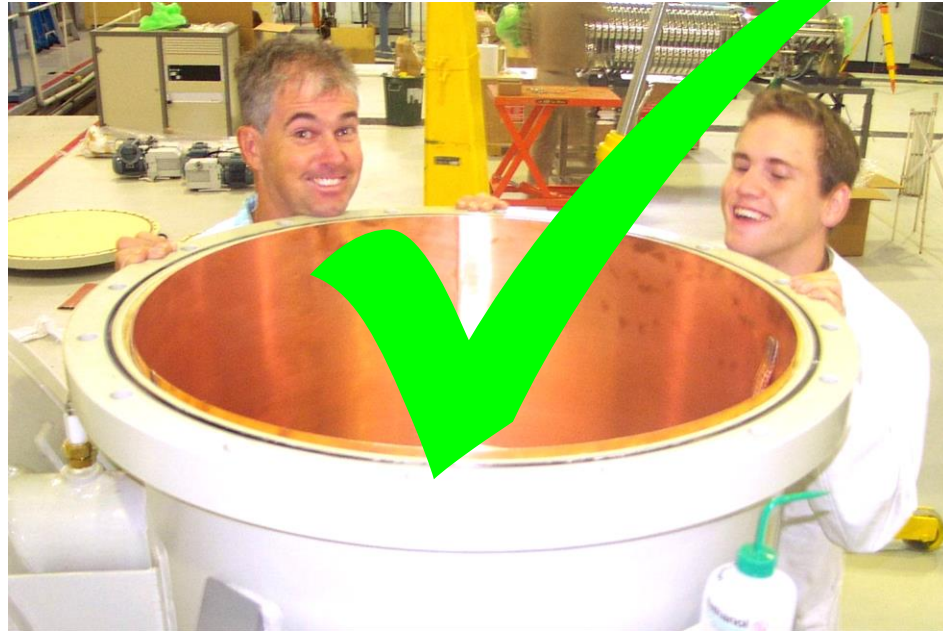
- The team representatives reported back to their groups
- After the laughter simmered down, the accusations began (this is an unofficial part of the process)
- The reps had to help the groups identify their current SOP's and develop a process plan
- From the plan it would be clearer where the 'holes' were.

The ANSTO Accelerators story *continued*

- The divisional level quality documents were written. These must come first
- The groups then produced draft procedures based on covering the 20 elements of the standard and meshing with the divisional procedures
- This absorbed much of everyone's time and took them away from their *normal* duties

Physics Division





ANSTO Environment

The ANSTO Accelerators story *continued*

- With the change to Environment and the additional responsibility of the 3rd accelerator came a change in our quality system
- We had a few major tasks to complete:
 - *Dissect the Physics quality system and keep what we needed to continue with compliance*
 - *change of procedures to meet the new requirements of ISO 9001:2000*
 - *Consolidate our system to be more concise and effective*
 - *Mop up loose ends not previously resolved*

The ANSTO Accelerators

One quality procedure manual called “Management of the ANSTO Accelerators” It has been audited externally and internally and had high commendations for its simplicity and thoroughness.

- *It came from the frustration of managing separate SOP's, standing orders, SAC's and safety directives*
- *It consolidated all of the important procedures from these documents*

The ANSTO Accelerators

The procedures manual took into account a complete review of all accelerator management procedures

- *It reduced over 30 documents into 1 document*
- *it is more user friendly than previous versions*
- *it is easier to review and audit*
- *it is an effective training document*

The ANSTO Accelerators

There are still many outstanding tasks to be completed. These have been requested from the ANSTO - SAC and ARPANSA

- *To have a complete set of top level engineering drawings*
- *Well defined work instructions*
- *Consistent use of forms*
- *Control of modifications*
- *Streamlined maintenance system*

Quality , a living system

- The quality management system is a living system
- It requires regular review and assessment for improvement
- Non conformances must be tracked
- Auditing will occur at regular intervals
- After you have used the system for a period of time you can then approach a licenced standards organisation to assess your system for certification.

Recommendations

- Analyse your processes
- Develop a process plan
- Develop your procedures from the plan
- Only write work instructions for those tasks that are crucial to maintaining a consistent project output
- Do not reinvent the wheel. If there are existing manuals see if they are suitable for use
- Keep records

Reality

The quality system can be as complex or as simple as you wish but it must cover the issues just discussed

There are shortcuts but they must be taken with caution or you will find your work has just doubled

- *It is okay to make mistakes*
- *if you fudge things you will be caught out (eventually)*
- *make it work for you*
- *share the load*



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Management of the ANSTO Accelerators

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Procedure document