



QUALITY MANAGEMENT IN SNSA

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ABSTRACT

The Slovenian Nuclear Safety Administration (SNSA) within the Ministry of Environment, Spatial Planning and Energy acts as the national regulatory authority for nuclear safety and radiation protection of workers in nuclear installations and of population in the vicinity of nuclear facilities.

The SNSA has decided to document its own quality management system due to two basic reasons.

Firstly, as a regulatory body for nuclear and radiological safety the SNSA should have an adequate quality management system. Secondly, the Slovenian Government stimulates the initiation of a quality system in all public authorities and that is evident from its strategic directives and aims.

In order to develop the quality management system the Quality Board and the Project Team have been established.

The quality management system is being developed in accordance with International Standard ISO 9001: 2000, IAEA Safety Series No. 50-C/SG-Q; January 2001 and the IAEA-TECDOC-1090: "Quality Assurance within Regulatory Bodies"; June 1999 considering all other adequate documents referring to nuclear quality.

The quality manual together with subordinate level documents are the means to conveying the elements and operation of the quality system to all staff involved, ensuring that the system is effectively implemented and achieves its goals.

1 INTRODUCTION

The Slovenian Nuclear Safety Administration (SNSA) within the Ministry of Environment, Spatial Planning and Energy acts as the national regulatory authority, whose mission is to prevent or restrict any harmful effects of ionising radiation to the public, workers and the environment and to ensure peaceful use of nuclear energy. The SNSA consists of 46 employees for the time being, however it is foreseen that staff will increase to 65 in the near future, so that the European Union (EU) requirements of Acquis Communautaire will be adequately supported.

The SNSA is firmly convinced, that as a regulatory body of nuclear and radiological safety should have a formal quality management system. Because the SNSA is performing pretentious professional tasks the SNSA must use clearly defined rules, give overriding priority to safety and be friendly towards the customers and open to the public.

Further, the need for quality management (QM) in regulatory bodies is expressed in IAEA Safety Standards Series NO. GS-R-1 on "Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety" requiring that, a regulatory

body shall establish and implement appropriate arrangements for a systematic approach to quality management which extends throughout the range of responsibilities and functions undertaken [1].

On the other hand, the development of such a system in public authorities is stimulated by the Slovenian Government as well and that is evident from its strategic directives and aims for the year 2001 [2].

In any case it is expected that with the development of a formal QM system the SNSA will control its activities and perform them more efficiently. With the introduction and implementation of the QM system the SNSA would additionally:

- increase clients' satisfaction and public confidence,
- increase employees' satisfaction,
- improve efficiency and effectiveness,
- control costs,
- improve the organisation transparency,
- increase public reputation and recognition.

2 STANDARDS AND GUIDES ON THE QUALITY MANAGEMENT SYSTEM

Various publications give different definitions of the terms quality assurance and quality management and this may cause confusion. The term "quality assurance" used by the IAEA and "quality management" used in the series of ISO 9000 standards have essentially the same meaning [3], although in the standard ISO 9000:2000 "Quality management system-Fundamentals and vocabulary" [4], the terms are defined as follows:

- "quality management: coordinated activities to direct and control an organisation with regard to quality"
- "quality assurance: part of quality management focused on providing confidence that quality requirements will be fulfilled"

Consideration of standards on quality management is a prerequisite for assuring the quality of products and services, improving the effectiveness of a quality management system, and enhancing stakeholders' satisfaction.

The most significant standards and guides defining quality management requirements are as follows:

- ISO 9001: 2000 standard "Quality management systems-Requirements [5],
- ISO 9004: 2000 standard "Quality management systems-Guidelines and performance improvement [6],
- IAEA Safety Series, No . 50- C/SG-Q, "Quality Assurance for Safety in Nuclear Power Plants and other Nuclear Installations" Code and Safety Guides Q1-Q14 [7].

The comparison between IAEA 50-C/SG-Q and ISO 9001:2000 was made by a joint IAEA/FORATOM working group and in year 2002 the results were issued in:

- IAEA Safety Reports Series NO 22 "Quality Standards: Comparison between IAEA 50-C/SG-Q and ISO 9001:2000" [8].

3 INTRODUCING THE QUALITY MANAGEMENT SYSTEM INTO SNSA

3.1 Steps in introducing the SNSA's quality management system

In the year 2001, the SNSA decided to introduce an internal quality management system and therefore a responsible quality manager was appointed.

It was to develop the QM system in accordance with the standard ISO 9001:2000 mainly due to the fact that the ISO standard is well known in the governmental area, as well. As a supplement to it, it was decided to consider equally the requirements defined in IAEA-

TECDOC-1090: “Quality assurance within regulatory bodies” [9], IAEA Safety Series No. 50-C/SG-Q, Code and Safety Guides Q1-Q14 [7] and all other adequate documents referring to nuclear quality.

The first document that the SNSA prepared was “The Terms of References for Establishing the Quality Management System into the SNSA”; The document defines:

- ❑ responsibilities and authorities for quality,
- ❑ a schedule of key activities,
- ❑ a description of key activities,
- ❑ all processes and the belonging procedures that described them,
- ❑ a schedule of preparation of procedures.

In accordance with item 5.5.2 of the ISO standard 9001:2000 [5], the management of the SNSA appointed a management representative for quality. It was decided that the quality manager would play the role of the management representative for quality, as well. The management representative for quality, irrespective of other responsibilities, has responsibility and authority to ensure, that the quality management system is established, effectively implemented and maintained.

The QM system is being brought into force through the Project Team and the Quality Board.

The Quality Board consists of the director, the heads of divisions, the management representative for quality and two counsellors to the government. The role of the Quality Board is mainly to ensure the development and the implementation of the QM system and continuous improvement of its effectiveness.

The role of the Project Team that consists of five members: the management representative and the representatives of each division, is to establish, document and introduce the QM system. Simultaneously, the internal regulations define, that every SNSA employee is responsible for implementation, maintaining and improvement of the QM system within the scope of his activities.

For better understanding of the QM system at the beginning of introducing it, a one day course was organised that was attended by majority of the staff. Later on, the staff will be trained for performing internal audits.

The processes that should be developed were recognised, as well. In accordance with the ISO Standard 9001:2000, the processes are divided into four groups:

- ❑ processes that define establishing, documenting, implementing and maintaining the QM system,
- ❑ processes that define Management Responsibility,
- ❑ processes that define Resource Management,
- ❑ processes that define core activities in SNSA,
- ❑ processes that define the assessment of quality system.

Typical core processes in the SNSA are: Technical Support, Regulation and Guides, Review and Assessment, Licence Issue and Reissue, Inspections, Enforcement, Emergency Response, Public Relations, Radiological Monitoring, International Relations. All other processes are vital as a support for correct implementation of the core processes.

The SNSA QM system is built around processes and is defined in the QM documentation in form of process approaches, meaning, that all single activities are described, as well as their inputs and outputs and interfaces within the process and among different processes. Experience with the use of a process description by the regulator was found to be positive [3].

The quality documentation contains the following levels:

- ❑ Level 0: quality policy and quality objectives provide a framework for establishing and reviewing quality objectives;

- Level 1: a quality manual consists of QM system description;
- Level 2: procedures document core processes and supporting processes;
- Level 3: work instructions describe in detail the performance of a particular process activity;
- Level 4: required records provide an evidence of conformity to requirements of QM system;

A great deal of documents has been already prepared and implemented before the official introduction of the QM system in the SNSA, particularly the third level documentation relating to core processes i. e. Inspections and Emergency response, as well as some general procedures. All these procedures shall be considered as a part of the SNSA quality management system.

The SNSA is in the phase of documenting the second level documentation: the core and the supporting processes. Before documenting a single process, a review of the existent status is made and on the basis of findings improvements are defined and made. Simultaneously, the third level documentation is being prepared where it is necessary to describe particular activities for clear understanding of performing the processes. The beginning of the year 2003 is foreseen that the processes will be defined and after that an internal audit will be performed. On the basis of the audit findings, the deficiencies will be corrected and the documentation will be supplemented according to the audit findings. On the basis of the defined and documented processes the Quality Manual will be prepared.

Certification of the QM system is a possible final result, however the decision about certification of the SNSA quality management system has not been reached, yet.

4 CONCLUSION

Based on its more than ten year experience, the SNSA started to build up its QM system in 2001. In order to make this task real, three main steps were made: the full time job quality manager /the management representative for quality/ was involved in the process; the Project team and the Quality Board were established; the main core processes were identified and the four level scheme was developed.

Although an efficient QM system demands continuous maintenance and improvement because developing such a system is a never ending process, the SNSA believes that the results in improvement of effectiveness and efficiency of its work will be shown already during its introduction. Further, in the year 2004, the Slovenian Government is planning to open a pilot project phase introducing the excellence model and the SNSA will made an effort to take part in this activity.

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