

Information and Training for Outside Radiation Workers at Krško NPP

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Abstract

According to the basic safety standards the undertaking shall inform exposed workers about the health risks involved in their work, general radiation protection procedures and precautions to be taken in the controlled area. Using available information and knowledge based on international recommendations related to radiation protection, nuclear energy and specific plant design and procedures, the topics of interest have been selected and prepared for computer presentation or film. The paper presents the requirements, suggestions and facts included in this information, such as radiation protection practice in general and nuclear power plant specific information. The presentation will provide a useful example on how to inform and train periodically radiation workers from outside undertakings.

Introduction

Outside radiation workers should be informed about the radiological protection rules in the controlled area. Usually these rules and administrative procedures are plant specific. In addition to these information the plant design and main sources of ionising radiation are important for the presentation. International and national regulations [1] have been put in place to define the requirements for the undertakings regarding information and training for the exposed workers. Using recent tools such as digital video production on discs (DVD) it is easy to perform desired training scope. Radiation Protection Department of Krško NPP has produced for a reasonable cost DVD-s in three languages (Slovenian, Croatian and English) for training of outside workers. They provide most of the basic training information in about half an hour. The trainers use them as one of the main tools to inform the professional radiation workers before they start to work. According to the regulations, the required programme should take eight hours or one working day. In this day, the workers complete the written test and required radiation protection procedure such as whole body counting and registration in plant dosimetric system. The aim of this article is to present the approach for the part of the training supported by DVD technology.

Video production

Following modernisation of the plant facilities, steam generators replacements, implementing new regulation and improved radiation protection procedures in recent years, there was a need to replace old video tapes on plant radiation protection rules. The new digital technology of movie making enable simple compilation of the desired training materials. The radiation protection department took an active role in acting and presentation of the radiation protection rules. The outage time was used to present authentic working environment and tasks.

Selection of the topics

The following main topics were selected for the video presentation:

- location of the plant and general technology information
- operation scheme of the pressurized water reactor
- work in main control room and safe operation
- environmental issues of electric power production
- main plant buildings and controlled areas

- evacuation alarm
- radioactive waste production
- refuelling
- regulatory framework and agreement on radiation protection
- radiation protection programme
- main sources of radiation and radiation levels at primary components
- ALARA and outage planning
- internal and external exposure to radiation
- personal dosimetry and whole body counting
- radiation work permit and related controls
- entrance to the controlled area and the required procedure
- basics about safe work in controlled area
- instructions against contamination and exposure
- posting and designation of areas
- contamination control
- electronic dosimeter alarms
- foreign material exclusion
- presentation of RP technician work
- example of pre-job briefing
- presentation of self-assessment
- respiratory protection
- decontamination
- personal contamination monitoring at the exit from the controlled area
- dose records and reports

The text was prepared by RP superintendent and reviewed by training manager. Professional speakers were engaged for different languages. Draft version was presented on the occasion of the OSART visit at the plant and a few comments of the team members were taken into account for the final version. The master version of the film is available to the plant for any future changes if necessary.

The film provided by computer DVD presentation is a part of the poster session at the 4th European ISOE Workshop.

Conclusion

To support training efforts at the nuclear power plant it is suitable to prepare video presentation on the topic of radiation protection rules and procedures. It may contain also description of basic information related to nuclear power plant, it's safe operation, environmental issues and monitoring. Using modern training tools to present real working environment and entrance or exit procedures related to the controlled area, ALARA work planning and radiation work control, help outside workers to become familiar with the radiation protection requirements and standards before starting their work.

References

1. Council Directive 96/29/Euratom, Basic Safety Standards..., 1996, ISSN 0378-6978