

BNL ALARA Center Data Base

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ALARA AND WORK MANAGEMENT

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Project Manager:

Objectives: Present the main results of the first two years of a study by the French Nuclear Protection Evaluation Centre (CEPN) on the effects of work management on occupational exposures.

Comments: Within the framework of its ALARA program for the French nuclear power plants, EDF (Electricite de France) has initiated a pluri-annual research project conducted by CEPN in order to delineate the various factors related to work management which can influence occupational exposures and to evaluate the effectiveness of possible protection actions influencing these factors. Three different categories of factors have been defined: the factors linked to working conditions (ergonomic of work areas, adaptation of tools...), those characterizing the operators (qualification, experience level, motivation...) and the factors directly depending on the operations' organization (tasks planning, general preparation of works...). The results have been complemented by a survey carried out in five French nuclear power plants and focused on three types of operations: primary valves maintenance, decontamination of reactor cavity, and some specialized maintenance operations.

Remarks/Potential for dose limitation: The results of the first 2 years of study tend to confirm that a great potential for reducing exposures can be obtained through work management actions without spending vast sum of money or even with savings of money. However, this is most likely to occur effectively if management apply a systematic approach to the application of ALARA; that means at the three stages characterizing the operations:

- 1) Preparation of maintenance operations
 - integration of areas "design" into and procedures
 - planning by working area
 - prediction of exposure taking into account real dose rates
- 2) Follow up
 - implementation of systematic data collection network
 - quantification of doses due to mishaps
- 3) Feed back experience
 - use of databases to rapidly communicate lessons learned
 - comparison between dosimetric performances must be done by reference to a same level of ambient dose rate

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References: Schieber, C., "ALARA and Work Management," *1993 Radiation Exposure Management Seminar*, Westinghouse, Pittsburgh, Pennsylvania, 1993.

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