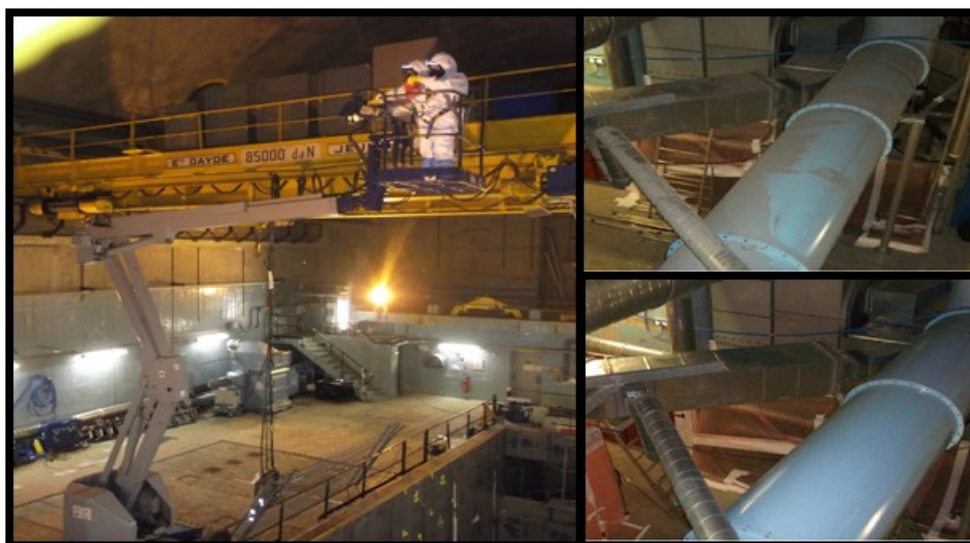


Nuclear decommissioning: main aspects of management, planning and conduct of occupational exposure control



Chooz A decontamination (2014). Left side – decommissioning of the fuel building. Right side – pipework before and after cleaning (courtesy of Chooz A, France)

Register

Moderator: H. Burçin Okyar (IAEA)

Presenters: Derek Hagemeyer (ORISE IEAV Director, US), Ellen Anderson (Director of Radiological Services for Radiation Safety & Control Services, US)

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Worldwide, [more than 60% of the nuclear reactors is over 25 years old](#), raising important questions in the medium term about their [decommissioning schedule](#). By 2025, [it is probable that 50 of 129 European nuclear reactors in operation \(39%\) need to be shut down and by 2030 about 90% of all present existing European nuclear reactors are expected to be shut down](#), if no retrofit measures are undertaken for prolongation of their operation life.

About the Webinar

Decommissioning of nuclear installations worldwide is an [increasing activity](#) and will continue to be so in the future. Experiences in occupational radiation protection in the context of decommissioning activities exist, however there is a need to enhance capacity building in this specific area.

Decommissioning of a nuclear installation includes a range of different activities, mainly related to dismantling, decontamination and demolition of structures, systems and components (SSCs) in addition to the erection of new SSCs. Therefore, workers will also be subject to other types of risks and hazards, in addition to the radiation exposure.

[IAEA Safety Standards Series No. GSR Part 3, Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards](#) establishes requirements on occupational radiation protection, and [IAEA Safety Standards Series No. GSG-7](#), Occupational Radiation Protection provides recommendations on meeting these requirements.

Compared to the operational phase of nuclear installations, the work activities during decommissioning will be different, and will be conducted in a different work environment that is continuously changing as explained in detail in a recently published [Technical Document on Occupational Radiation Protection during the Decommissioning of Nuclear Installations](#). Taking account of the fact that [over 70% of the world's nuclear reactors are to be decommissioned by 2040](#), this publication can be used in the planning of new decommissioning projects and for improvements in the implementation of existing decommissioning projects. Useful input for licensing and supervision of decommissioning projects are also provided.

Learning objectives:

Participants of the webinar will learn about:

- IAEA GSR Part 3, GSG-7 and TECDOC 1954 approach for nuclear decommissioning
- Decommissioning strategy
- Regulatory requirements, records and information systems
- Management and analysis of occupational radiation exposure records
- Practical information on occupational radiation protection and examples from the nuclear industry
- Independent verification
- Practices and lessons learned

About the presenters:

Derek HAGEMEYER



Mr Derek Hagemeyer serves as Director of the Independent Environmental Assessment and Verification (IEAV) program at the Oak Ridge Institute for Science and Education (ORISE). In this role, Mr Hagemeyer is responsible for the team that provides independent verification for the U.S. Department of Energy (DOE), U.S. Nuclear Regulatory Commission (NRC) and other federal and state agencies. When DOE or NRC facilities undergo decontamination and decommissioning, Mr Hagemeyer's team serves as the independent group that verifies and informs these agencies whether the remediated sites meet the release criteria to ensure the safety of people and the environment.

Mr Hagemeyer has more than three decades of experience in occupational radiation exposure, including regulatory requirements, records and information systems, and project management. He serves as the principal investigator for the DOE Radiation Exposure Monitoring System (REMS) and the NRC Radiation Exposure Information and Reporting System (REIRS) projects, which involve

the management and analysis of occupational radiation exposure records received at all DOE facilities and NRC licensees.

He is the project manager of the NRC's effluent project, which entails the collection and analysis of radioactive material releases from nuclear power plants. Mr Hagemeyer oversees the professional training programmes, which provide training in the radiological sciences since 1948.

Mr Hagemeyer is also serving as Vice Chairman of the International Information System on Occupational Exposure (ISOE) Working Group on Data Analysis. The objective of this group is to provide support in the collection and analysis of ISOE's international database of radiation exposure information. ISOE is jointly sponsored by the Organisation for Economic Co-operation and Development and the International Atomic Energy Agency.

He received a Bachelor of Science degree in nuclear engineering from the University of Virginia. He serves on the University of Tennessee Nuclear Engineering Department Board of Advisors. Mr Hagemeyer is a 2016 Leadership Oak Ridge graduate.

Ellen Anderson



Mrs Ellen Anderson is the Director of Radiological Services for Radiation Safety & Control Services, Inc. (RSCS). RSCS provides consulting services and project management oversight in all aspects of radiation protection including commercial nuclear power plants as well as government, educational and industrial facilities during operations and decommissioning phases.

Prior to this position, Ms. Anderson was the Director, Radiation Safety & International Liaison for the Nuclear Energy Institute in Washington D.C.,USA, where she coordinated the resolution of occupational and public radiation exposure regulatory issues on behalf of U.S. nuclear power plants. She was also a member of the Health Physics Society's ANSI N-13 Committee, International System of Occupational Exposure (ISOE) working groups, and has participated in several IAEA consultancies and continues to participate on the World Nuclear Association (WNA) Radiation Protection Working Group.

Ms. Anderson is also a former U.S. Radiation Protection Manager. She earned a Bachelor of Science degree from Virginia Polytechnic Institute & State University and a Master of Science degree from Wilmington University.