



National Commission for Nuclear Activities Control

Licensing Process for Decommissioning in Romania

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Specific Requirements for Decommissioning

- Norms on Decommissioning of Nuclear Installations (NSN-15) – Order No. 181/2002 issued by CNCAN President
- Norms regarding specific requirements for the quality management systems applied to the decommissioning activities of nuclear objectives (NMC-11) – Order No. 75/2003 issued by CNCAN President
- IAEA SRS-45 – Standard Format and Content for Safety Related Decommissioning Documents, Vienna, July, 2005



Norms on Decommissioning of Nuclear Installations (NSN-15)

General Considerations

- applicable for decommissioning of:
 - research reactors
 - subcritical assemblies
 - intermediary storages of spent nuclear fuel
 - intermediary storages of radioactive waste



Norms on Decommissioning of Nuclear Installations (NSN-15)

Decommissioning steps (1)

- elaboration and approval of decommissioning plan
- issuing the official decision for permanent shutdown
- obtaining the license for nuclear fuel removal from nuclear installation building
- evacuation of nuclear fuel from nuclear installation building
- elaboration of licensing documentation and submission to CNCAN



Norms on Decommissioning of Nuclear Installations (NSN-15)

Decommissioning steps (2)

- obtaining from CNCAN the decommissioning license
- implementation of decommissioning activities
- issuing the Final Decommissioning Report at the end of decommissioning activities
- issuing the Final Radiological Survey Report
- obtaining from CNCAN the Certificate for ending of nuclear activities and release from regulatory control



Norms on Decommissioning of Nuclear Installations (NSN-15)

Requirements for decommissioning licensing

- Decommissioning Plan – 5 years update
- Safety Analysis Report for spent nuclear fuel storage
- Radiological Surveillance Program for Decommissioning
- Quality Assurance Manual for Decommissioning
- Emergency Plan during Decommissioning



Norms on Decommissioning of Nuclear Installations (NSN-15)

Documentation for Decommissioning Licensing (1)

- license application
- decision for nomination the responsible person for the installation during decommissioning
- documents which prove the technical capabilities and the licenses for the organizations and persons involved in the decommissioning activities
- prove of financial capabilities for decommissioning
- Decommissioning Plan approved by CNCAN
- official decision for permanent shutdown of nuclear installation, published in the Official Gazette of Romania



Norms on Decommissioning of Nuclear Installations (NSN-15)

Documentation for Decommissioning Licensing (2)

- documents of removing of spent nuclear fuel from the nuclear installation building
- the list of organizations/companies authorized by CNCAN which will be involved in decommissioning activities, their responsibilities and the interface between them and the decommissioning licensee
- the list of dosimetric equipments
- the list of owned radioactive sources
- Waste Management Program
- Radiation Protection Program



Norms on Decommissioning of Nuclear Installations (NSN-15)

Documentation for Decommissioning Licensing (3)

- Emergency Plan
- Quality Assurance Manual for decommissioning
- approved procedures on: radiological characterization, reporting, safeguards
- Physical Protection Program
- Environmental Agreement/License
- Sanitary Approval
- legal tariffs and taxes for decommissioning licensing



Norms on Decommissioning of Nuclear Installations (NSN-15)

CNCAN evaluation and approval of decommissioning plan

- 60 days from the date of receiving the application
- remarks and requirements for additional completion
- 30 days for the licensee to accomplish the CNCAN requirements



Norms on Decommissioning of Nuclear Installations (NSN-15)

Permanent shutdown of nuclear installation

- based on strong technical-economical justification
- Government Decision, at the licensee proposal, for permanent shutdown and starting decommissioning process
- within 60 days from publishing of the Government Decision in the Official Gazette, the licensee will take all the necessary measures in order to have access in the reactor building only the personnel involved in decommissioning activities



Norms on Decommissioning of Nuclear Installations (NSN-15)

Decommissioning stages (1)

- **Stage 1** - permanent shutdown and permanent surveillance
 - the nuclear spent fuel may be still stored in the nuclear installation building
 - no dismantling or removal activities to the components of the nuclear the installation
 - clean-up activities
- **Stage 2** - spent nuclear fuel removed from the installation building
 - decontamination, dismantling, waste treatment
- **Stage 3** - spent nuclear fuel removed from the site
 - clearance level for the nuclear installation



Norms on Decommissioning of Nuclear Installations (NSN-15)

Decommissioning stages (2)

- CNCAN could authorize intermediary stages of decommissioning, based on well documented justification by the licensee
- for each decommissioning stage, based on justified cases, CNCAN could issue partial decommissioning license for some parts of nuclear installation



Norms on Decommissioning of Nuclear Installations (NSN-15)

Valability of decommissioning license

- CNCAN issues decommissioning license for at most 5 years

At expiring date:

- renewal of the decommissioning license, or
- license for possessing the nuclear installation, partial decommissioned – 5 years
- renewal of the possessing license



Norms on Decommissioning of Nuclear Installations (NSN-15)

License for possessing a nuclear installation, partial decommissioned (1)

- Final Assessment Report for storage of the nuclear spent fuel
- Final Decommissioning Report until the stage of possessing license
- Radiological Survey Report
- Decommissioning Plan for the period after expiration of the possessing license



Norms on Decommissioning of Nuclear Installations (NSN-15)

License for possessing a nuclear installation, partial decommissioned (2)

At the end of the possessing period, the licensee must:

- perform the radiological characterization of the nuclear installation and elaborate the radiological survey report
- actualize the Decommissioning Plan based on the radiological survey report
- to start again the decommissioning process in order to achieve the levels of release



Norms on Decommissioning of Nuclear Installations (NSN-15)

Requirements for implementing the decommissioning activities

- specialized, qualified and authorized personnel
- compliance of the deadlines established in the license
- minimum risks, in radiological safety conditions, protecting the workers, the public, the environment and the property
- decontamination and radioactive waste treatment and storage capability



Norms on Decommissioning of Nuclear Installations (NSN-15)

Requirements for reporting and records keeping

Reporting: quarterly, annually and events reports

Records keeping: the licensee shall organize and keep the archive of all documents and records specific to decommissioning activities during all decommissioning period and minimum 30 years after obtaining the Certificate of release from nuclear regulatory control



Norms on Decommissioning of Nuclear Installations (NSN-15)

Modifications of the Decommissioning Plan

- appearance of significant factors which are not in accordance with regulations in force or are beyond of authorized limits
- CNCAN approval



Norms on Decommissioning of Nuclear Installations (NSN-15)

Certificate for ending of nuclear activities and for release from the regulatory control

Documents to be submitted to CNCAN:

- Application for the Certificate
- Final Decommissioning Report
- Final Radiological Survey Report
- Sanitary approval
- Environmental agreement
- the final radiological safety assessment performed by a technical support organization which is notified / accepted by CNCAN, to confirm the levels of release of the building and of the site
- the site remediation program



Norms regarding specific requirements for the quality management systems applied to the decommissioning activities of nuclear installations (NMC-11)

- General requirements for quality management system applied to the construction, commissioning, operation and decommissioning of nuclear installations
- Specific requirements for quality management system applied to decommissioning



Norms regarding specific requirements for the quality management systems applied to the decommissioning activities of nuclear installations (NMC-11)

General requirements for quality management system applied to the construction, commissioning, operation and decommissioning of nuclear installations (1)

- Quality manual
- Quality policy
- Gradual application
- Organization and responsibilities
- Personnel training and qualification
- Individual obligations and responsibility
- Control of interfaces
- Human Factor
- Using experience gained from operation



Norms regarding specific requirements for the quality management systems applied to the decommissioning activities of nuclear installations (NMC-11)

General requirements for quality management system applied to the construction, commissioning, operation and decommissioning of nuclear installations (2)

- Planning and control of activities
- Control of items, processes and practices
- Verification
- Non-conformities
- corrective actions
- Control of modifications
- Control of documents
- Control of records
- Quality management system assessment



Norms regarding specific requirements for the quality management systems applied to the decommissioning activities of nuclear installations (NMC-11)

Specific requirements for quality management system applied to decommissioning – Decommissioning documentation

- Conceptual decommissioning plan
- Detailed decommissioning plan
- Nuclear safety assessment for decommissioning
- Waste assessment
- Documentation of the final status of each decommissioning stage
- Decommissioning procedures



Norms regarding specific requirements for the quality management systems applied to the decommissioning activities of nuclear installations (NMC-11)

Specific requirements for quality management system applied to decommissioning – Control of activities

- Compliance with the procedures
- Modification of procedures
- Implementation of procedures
- Authorization of the works



Norms regarding specific requirements for the quality management systems applied to the decommissioning activities of nuclear installations (NMC-11)

Specific requirements for quality management system applied to decommissioning

- Control of materials, identification of structures, systems, equipments and components
- Transfers
- Status of structures, systems, equipments and components
- Decommissioning surveillance
- Communication
- Nuclear fuel management
- Control of contamination, wastes and effluents



Norms regarding specific requirements for the quality management systems applied to the decommissioning activities of nuclear installations (NMC-11)

Specific requirements for quality management system applied to decommissioning

- Industrial safety and fire protection
- Physical protection
- Auxiliary activities related to decommissioning
- Reports
- Emergency planning



IAEA SRS-45 – Standard format and content for safety related decommissioning documents

Decommissioning plan details (1)

- Introduction
- Facility description
- Decommissioning strategy
- Project management
- Decommissioning activities
- Surveillance and maintenance
- Waste management
- Cost estimate and funding mechanisms



IAEA SRS-45 – Standard format and content for safety related decommissioning documents

Decommissioning plan details (2)

- Safety assessment
- Environmental assessment
- Health and safety
- Quality assurance
- Emergency planning
- Physical security and safeguards
- Final radiation survey



IAEA SRS-45 – Standard format and content for safety related decommissioning documents

Related documents

- Characterization plan
- Characterization survey report
- Final radiological survey plan
- Final radiological survey report
- Public relations plan
- Site policies and procedures
- Final decommissioning report



IAEA SRS-45 – Standard format and content for safety related decommissioning documents

Supporting documents (1)

- Characterization survey plan
- Characterization survey report
- Safety assessment
- Cost estimate
- Financial assurance plan
- Environmental impact assessment
- Environmental protection plan
- Radiation protection programme



IAEA SRS-45 – Standard format and content for safety related decommissioning documents

Supporting documents (2)

- Quality assurance plan
- Waste management plan
- Emergency plan
- Physical security plan
- Safe enclosure plan
- Site preparation plan
- Surveillance and maintenance plan
- Final survey plan
- Health and safety plan



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