

LEGAL AND REGULATORY FRAMEWORK FOR DECOMMISSIONING OF NUCLEAR FACILITIES IN MEXICO

Mr. Antonio Hernandez Maldonado
National Commission on Nuclear Safety and
Safeguards
(CNSNS)

INTRODUCTION

- Laguna Verde Nuclear Power Plant Unit 1 and Unit 2 (675 MWe each Unit) BWR (GE)
 - Unit 1 (Start operation in 1990) Federal Commission of Electricity
 - Unit 2 (Start operation in 1995) Federal Commission of Electricity
- Reactor TRIGA Mark III (ININ) Mexican Nuclear Research Institute
 - 1MW (First Critically in 1968)
 - 1st Operating Licensee: June 1990 (10 Years)
 - 2nd Operating Licensee: July 2003 (10 Years)
 - Neutron activation analysis, Radioisotopes Production, Research and Training
- Pilot Fuel Factory (ININ) Mexican Nuclear Research Institute
 - Closed in 1998
 - Licensee for Storage of Nuclear Material (according with the Mexican standards)
- Operation of Nuclear facilities exclusive for the Federal Government
- CNSNS was born on January 26th of 1979

Legal and Regulatory Framework

- Mexican Constitution: Art. 27 "Nuclear Policy":
 - ININ responsible for operating and decommissioning of the research reactor
 - CNSNS responsible for conducting inspection and audits during the operation and decommissioning of the nuclear facilities
 - Mexican National Standards (address aspects of transportation of nuclear material, disposal and storage of nuclear waste)
 - Radiological Protection Rules
 - Nuclear Safety Rules (Draft). One Chapter address the decommissioning process:
 - * Mexican National Standard
 - * Usually based on USA regulations and IAEA standards
- RTMI Licensee Conditions for Operations:
 - * Number 3: national standards, and USA and IAEA standards shall be applied according with the applicability that the RB requires
 - * Number 17: 5 years before shutdown the financial arrangements to closure or dismantling the research reactor shall be arrangement
- The Federal Government shall provide the financial resources for such process

Standards Applied for Decommissioning as Established in the Operating Licensee

- 10 CFR 50.75 and 50.82
- US Regulatory Guide 1.86 "Termination of Operating Licenses for Nuclear Reactors"
- NUREG-1537 "Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors"
- ANSI/ANS 15.10 "Decommissioning of Research Reactors"
- NUREG/CR-1756 "Technology, Safety and Costs of Decommissioning Reference Nuclear Research and Test Reactors"
- NUREG/CR-2082 "Monitoring for Compliance with Decommissioning Termination Survey Criteria"
- IAEA Safety Series 74 "Safety in Decommissioning of Research Reactors"

Standards and Documents that are Being Analyzed for Potential Application for the RTMIII

- Code of Conduct for Research Reactors (one RB specialist participated in the IAEA meetings for the revision)
- Conduct of Operations for Research Reactors (currently provided by IAEA for comments)

Decommissioning Plan

- 5 years before the permanently shutdown it shall be prepare the preliminary decommissioning plan:
 - Decommissioning strategy (decontamination, Safe Storage or Entomb)
 - Technology applied
 - Disposal of the low and high level radioactive waste
 - Residual radioactive criteria
 - Other specific factors which can affect the planning and cost of decommissioning
- 2 years before expire the Operating Licensee:
 - Request an operating licensee renewal, or
 - Decommissioning plan
 - Request to amend the operating licensee for a solely-possession licensee (period of time during the transition for the decommissioning process)
- The CNSNS evaluate and accept the decommissioning plan and submit to the Ministry of Energy the results to request the financial resources to implement the decommissioning plan.

MAJOR ISSUES WHICH CAN INFLUENCE THE REACTOR DECOMMISSIONING PROCESS

- Budget (financial and human resources)
- International Influence
- National Standards and Rules (Draft)
- Lack of Experience
- Passive RB attitude
- Experience feedback
- No common sense (decommissioning must be affront in a near future)