Existing Training Workshop
''Safety and regulation of nuclear power plants – Regulatory project management for a new build''

3-7 September, 2012, Helsinki and Olkiluoto construction site

This workshop is proposed to be used as ''existing training course ''in the frame of INSC Project MC.03/10 – LOT1

The scope corresponds (with reduced duration to 1 W) to the Consultant proposed training course n.7

TRAINING PROGRAM

Objective

The objective of the workshop is to share the main lessons learned from the regulatory project management of licensing and construction of European Pressurized Water Reactor in Olkiluoto and its regulatory oversight.

Workshop addresses the safety principles and requirements for new NPP's, feasibility studies for a new NPP, environmental issues, key issues during construction license phase, and the regulatory lessons learned from the regulatory project management including the inspection of mechanical components and structures, and electrical and I&C equipment as well as quality management.

Special focus will be on regulatory project management and lessons learned in Finland. Workshop also covers the roles of the Inspection Organisations and Technical Support Organisations that have contributed to the regulatory inspections and safety assessment during the project.

Place

3. - 5. September, STUK, Helsinki
6. - 7. September, Olkiluoto construction site

Language

All presentations and discussions are carried out in English.

Outline of the workshop

The workshop will be organized in sessions addressing the following issues:

- Regulatory framework and regulatory project management
- Site evaluation and safety assessment
- Regulatory inspection during construction, manufacturing, and installation of mechanical components and steel structures, concrete structures, and electrical and I&C equipment as well as quality management
- Utility view to the project management

Schedule

Daily schedule in Helsinki	
09:00	Lecture 1
09:45	Lecture 2
10:30	Coffee break
11:00	Lecture 3
11:45	Lecture 4
12:30	Lunch
13:30	Lecture 5
14:15	Lecture 6
15:00	Coffee break
15:30	Lecture 7
16:15	Lecture 8
17:00	Panel with questions on topics of the day
17:30	End of the day

Programme

Monday 3 September

Welcome and introductory remarks (Varjoranta)

1. National infrastructure, licensing and regulatory framework (Tiippana)
    a. establishing nuclear and radiation legislation
    b. licensing and regulatory organizations
    c. independence of the regulatory body
    d. organizational arrangements for safety review and inspection
    e. education and training of experts
    f. role and responsibility of the licensee

2. Licensing steps and documents to be reviewed in each step (Nevalainen)
    a. environmental impact assessment
    b. feasibility studies and preliminary safety assessment
    c. construction license
    d. operating license

3. Site evaluation and site specific design requirements (Sandberg)
    a. natural hazards
    b. man made hazards
    c. emergency preparedness

4. Public communication (Isaksson)
    a. public communication in connection with licensing
    b. public communication during construction

5. Management system of the regulatory organization (Koskinen)
    a. regulatory processes and procedures
    b. quality manual
    c. self-assessment and audits
    d. external assessment

6. Regulatory project management (Alm-Lytz)
    a. Project organization
    b. QM arrangements and internal procedures
    c. Organizational arrangements for inspection of systems, structures and components

7. Development of national safety regulations (Reiman)
    a. national regulations versus international safety standards
    b. structure of national safety regulations
    c. organizational arrangement for developing national safety regulations
    d. presentation of safety criteria for a new NPP in legislation and regulations

8. Safety research needed for a new build (Järvinen)

- Discussion session, Topics including:
  - National Policy and Strategy for Safety
  - Legal and Regulatory Framework
  - Research for Safety and Regulatory Purposes
  - Site survey and selection and feasibility studies
  - Transparency and Openness

Tuesday 4 September

1. Safety Assessment conducted by the Regulatory Body (Valtonen)
   a. deterministic safety analysis
   b. defence in depth concept
   c. accident classification

2. Support from expert organizations (independent analysis, testing) (Valtonen)

3. The role and methods of Probabilistic Risk Assessment (Sandberg / Julin)
   a. Role of PRA in licensing
   b. Methods of PRA
   c. Preliminary results to be achieved

4. Severe accident management (Sairanen)
   a. severe accident management practices
   b. stress tests and results in Finland
   c. effect on a new build

5. Safety culture and its promotion in different organizations (Kuivalainen et al)
   a. safety culture within the regulatory organization, licensee and vendor and its sub-contractors
   b. interactions between the regulatory organization, the licensee, and the vendor
      i. reporting practices and formal and informal communication practices
   c. learning from experience

6. Assessment of the management of the licensee and the vendor organizations (Kuivalainen et al)
   a. staff qualifications
   b. quality management
   c. licensee - vendor - subcontractor interfaces
   d. control of non – conformances

7. European reactor concepts: Ukrainian approach for safety improvements – use of PSA and results from stress tests (Sevbo)

8. European reactor concepts: e.g. AES 2006 or some other – lessons learned from Fukushima (Laaksonen?)

- Discussion session, Topics including:

- External Support Organizations and Contractors
- Safety Assessment
- Design Safety
- Safety culture

Wednesday 5 September

1. Basis for inspection of systems, structures and components (Vilpas)
    a. Safety classification
    b. Design and manufacturing standards

2. Inspection of civil structures (Välikangas)
    a. design documents
    b. construction work at site

3. Inspection of mechanical equipment (P. Vuorio)
    a. design documents
    b. manufacturing
    c. final products and their installation

4. Inspection of I&C systems and equipment (Järvinen / Wahlström)
    a. systems architecture
    b. qualification of hardware and software

5. Radiation protection (Soviniemi)
    a. radiation protection as part of design
    b. occupational radiation protection
    c. control of radioactive releases
    d. radiation monitoring in the environment

6. Emergency preparedness (Vilkamo)

7. European reactor concepts: EPR – experiences and future prospects (AREVA)

- Discussion session, Topics including:
    - Regulatory inspections
    - Leadership and Management for Safety
    - Developing safety – learning from experience

Transfer to Rauma for visiting Olkiluoto site

Olkiluoto site

Arrival to Olkiluoto Visitor centre at 8:30 on Thursday and Friday morning

TVO presentations and plant and facility visits

Thursday 6 September

09:00 - 09:30 Company presentation/
09:30 - 10:20 Studies for site evaluation /
10:20 - 10:40 Coffee break
10:40 - 11:30 Feasibility studies for new units/
11:40 - 12:30 Project management in operating organization/
12:30 - 13:30 Lunch
13:30 - 15:30 Visit to NPP OL1
15:45 - 16:30 Coffee / Visitor centre

Friday 7 September

09:00 - 10:00 Preparations for operation and arrangements for operator training in Olkiluoto /
10:00 - 10:45 Strategy for radioactive waste/
10:45 - 11:00 Coffee break
11:00 - 11:45 Strategy for spent fuel management/ POSIVA
11:45 - 12:30 AREVA project management at site for EPR construction (AREVA)
12:30 - 13:30 Lunch
13:30 - 16:00 Site tour (Posiva area, OL3 observation tower), visit to training centre, visit to the final disposal of plant waste (VLJ-repository)

Transfer to Helsinki
