OSART Good Practices

LEADERSHIP AND MANAGEMENT FOR SAFETY

Continuous improvement/learning organization (monitoring and assessment)

Bohunice 3/4, Slovakia

Mission Date; 1-18 Nov., 2010

Independent nuclear safety oversight organisation at utility level

The independent nuclear safety oversight is provided by the Nuclear Oversight Department (NOS) for both nuclear plant sites of the utility. The department is independent of operation, maintenance, engineering and safety departments and only reports to the General Director.

–NOS mission: To identify opportunities for improvement in order to achieve excellence in operational safety.
–NOS rules: NOS activities are governed by requirements specified in the following documents:
–IAEA NS-R-2: Safety of Nuclear Power Plants: Operation, §2.4
–IAEA GS-R-3: The management system for Facilities and activities, §6.3, §6.4, §6.5
–WANO GL 2006-02-9: Principles for a Strong Nuclear Safety Culture, §8
NOS actions:
–in accordance with IAEA Safety Standards and international good practices (NS-R-2, GS-R-3, WANO GL 2006-02-9), to monitor and review the field of nuclear and operational safety of SE, a.s. independently and critically; to identify opportunities for improvement and thus to assist in reaching excellent levels of nuclear and operational safety.
–to establish a supportive proactive environment in relation to the Slovak National Regulatory Authority (ÚJD SR) by providing timely information on planned activities in SE, a.s. and to receive information on activities of ÚJD SR related to development of legislation and safety criteria.
–to promote a proactive approach to the implementation of IAEA and WANO good practices in SE, a.s.
–to receive inputs from units or individual workers of the company for effective management and continuous improvement of the nuclear and operational safety of the nuclear installations in SE, a.s.
–to prepare and present proposals leading to improvement of the nuclear and operational safety of the nuclear units of SE, a.s.
–to provide the top management of SE, a.s. and ENEL ATN with a feedback on the reviews of nuclear and operational safety of the nuclear units of SE and identified areas for improvement resulting from comparison with nuclear power engineering industry
Nuclear Safety Advisory Committee (NSAC)
The NOS scope of actions includes the Nuclear Safety Advisory Committee. NSAC is an advisory body to the Board of Directors and is directly responsible to the Board of Directors. NSAC evaluates the performance of SE, a.s. staff and proposes solutions to nuclear safety issues identified in SE, a.s. nuclear installations.
The NSAC membership structure includes the Chairman (Independent person), the Vice-Chairman (Independent person) and no more than four independent Members (including International expertise). All of them have nuclear industry experience from countries and companies all over Europe.
The NSAC team meets twice a year in one of two NPP localities.
Activities of NOS:
–According to annual work plan for 2009 and 2010 -six areas based on WANO PO&Cs

were reviewed. NOS work plan is approved by CEO, CNO, plant directors.
–NOS reviews are based on WANO PO&C methodology. During 2009, there were totally 51 findings from NOS independent reviews presented to SE management.
–long term and yearly work plan for the NPP.
–list of pending questions with ÚJD SR.
–annual, quarterly and monthly reports on NOS results.
–reports of particular planned and unplanned reviews of selected fields of the nuclear and operational safety.
–coordination of corrective actions on NSAC recommendations.

Reports are presented to CEO, COO, CNO, Nuclear Power Plant Directors, Director of Safety and Environment Section, NSAC members and NSO ENEL.

Seabrook, USA

Mission Date; 6-23 Jun., 2011

Risk ranked activities evaluations are used to monitor contractors in the field.
The Nuclear Project Group is responsible for many of the capital improvement projects undertaken at plant and it relies heavily on contracted work forces to implement these projects. As a result, an important focus area for staying in the preventive mode is contractor control. Nuclear Project Group uses many tools to achieve an effective contractor control program. One of the more comprehensive tools is a detailed Contractor Field Activity Monitoring Plan (FAMP).
The Nuclear Project Group develops the FAMP to ensure contractors' activities are performed safely and completed with first time quality. Focus areas of the FAMP include the contractor's organization, supervisor to worker ratios, training/qualifications and work package preparation. The plan uses a graded approach for identifying where focused monitoring and oversight will be performed. The contractor's field activities are evaluated and risk ranked. The risk ranking considers both industrial safety and equipment/nuclear safety. Activities identified as high risk are flagged in the outage schedule as a High Risk FAMP Hold Points.
The use of FAMP has become an important and effective tool to strive for improvement in the area of contractor control. The plant has been using FAMP the last 5 years. The plant has had several plants come and benchmark the process and have FAMP as one of their transferable good practices.
The efficiency of the Nuclear Project Group's control is evidenced by:
•Back to back breaker to breaker runs for the last two operation cycles with no challenges due to contractor performance in the field; and
•Contractor performance during the last refuelling outage where there was one first aid, no Occupational Health and Safety recordable injuries.

Clinton, USA

Mission Date; 11-28 Aug., 2014

The implementation of Nuclear Oversight at Clinton Power Station is comprehensive and well integrated. It covers Audits (on areas with regulatory significance), Comprehensive Performance Assessments (for activities without regulatory aspects) and quality verification.

Audits are conducted by multiple teams at different sites using the same scope and plan, covering the entire Exelon nuclear fleet over a six week period.

Comprehensive Performance Assessments are similarly performed simultaneously across the whole nuclear fleet during a single 2 week period.

The periodicity of the audits and assessments is graded depending on the topic area.

Emergent issues early in the roll-out of each audit or assessment are noted for possible inclusion in the next audit in the sequence. Preparation of the resulting reports is very timely: within 3 working days after each audit or assessment.

The use of the same scope and the close timing of the audits, assessments and reports means that CPS and the rest of the Exelon nuclear fleet gains a highly consistent view of common, current issues. Findings are fed into each site's corrective action programme but also 'rolled-up' to identify common themes so that senior executives and Corporate Functional Area Managers can ensure a consistent response across the nuclear fleet. The result is that fleet-wide solutions can be created and implemented in a resource efficient manner in accordance with the Exelon Nuclear Management Model.

The way the audits and assessments are scoped, planned and executed also provides management with credible cross-fleet performance comparisons.

Additional benefit is gained from the use of specialist auditors, some from outside the company. This spreads the experience of 'aiming for excellence' more widely and promotes learning from fresh perspectives.

Clinton, USA

Mission Date; 11-28 Aug., 2014

The Exelon Nuclear Management Model (NMM), coupled with strong inter-site and corporate support allows credible cross-site comparisons to be drawn and leverages the efficient use of company resources. Station personnel are widely familiar with the NMM and the expectations for its use. The model integrates all the elements of management of the Exelon nuclear fleet so that processes and activities that may affect safety are established and conducted coherently with other requirements. Implementing the model ensures that safety is not compromised by other requirements or demands and accords with IAEA SSR 2/2 Section 3: The management and organizational structure of the operating organization.

The structure and purpose of the NMM and its documented structure is clear. It facilitates consistent application of company standards and procedures across a large, technically diverse fleet. When new stations enter the Exelon fleet a gap analysis is performed between the NMM and the incoming plant's arrangements. The model is updated where improvements are seen and a reasonable period of time is given for the new plant to transition to the model.

Similarly, if a gap is identified through processes such as self-assessments and INPO evaluations, peer groups consider the issue and whether the model should be updated. Proposed revisions are piloted at a small number of sites prior to introduction across the fleet if the pilot is successful. This promotes engagement of the peer groups and their associated working groups.

New hires in certain supervisory or 'singleton-expert' roles are assigned mentors from other parts of the fleet or the corporate organization. This accelerates their development and promotes use of fleet best practice.

Corporate Functional Area Managers (CFAMs) are drawn from senior levels within the organization. The knowledge, experience and authority they possess gives added credibility to the use of the NMM and encourages inter-station co-operation and use of corporate support.

Some of the notable standardizations and benefits noted by the team are:
Operating experience: the CFAM co-ordinates the company response for all level 1 and 2 INPO Event reports (IERs), distributing the required actions to the fleet, monitoring the response and ensuring consistency.

・Training: the corporate organization has provided a centralized training centre used for much of the initial training and certain specialized training such as welding. The corporate organization has oversight of the training procedures.

・Emergency Planning and Preparedness: corporate personnel are involved in the provision of facilities, equipment and procedures for the fleet. They have deployed standard criteria for the evaluation of drills and exercises which facilitates support from site to site, fleet comparisons of performance and dissemination of lessons learned.

・Nuclear Oversight: audits and assessments are coordinated across the fleet and conducted using peers from stations, other nuclear utilities and the corporate organization. The results are used to implement fleet-wide solutions in a resource-efficient manner.

・Severe Accident Mitigation: a unified approach to, and means of mitigating, severe accidents.

Examples were also seen in other review areas such as Operations, Radiation Protection, Technical Support and Maintenance.

Dampierre, France

Mission Date; 31 Aug.-17 Sep., 2015

The plant encourages its staff to submit innovative proposals for safety improvements. The plant implemented " an innovation" scheme where personnel can submit improvements for consideration. These are assessed and a trophy is awarded for the best idea. One example of the application of this scheme was the suggestion to use an electronic device to detect the approach of a person. It was suggested to be installed at the entrance of the electrical buildings to trigger a voice asking to check the location and prevent the "wrong location" error. This was a simple solution to intervene at the point of a potential error. The sensor, located at the entrance of the electrical building at elevation 7m, triggers a pre-recorded message: "Attention, risk of entering the wrong unit, apply the one-minute rule". This reminds people of the need to implement the correct human performance tool before opening the door.
Secondly this illustrated the scheme's opportunity for people not directly involved with the technical work, to offer their ideas to reduce errors. The idea of the sensor came from a site person not working in a technical area. Plant managers are fostering contributions for continuous improvement from all employees on the site.
Since the detector was installed, there have been no errors of wrong unit selection in that plant area. A program for installing the same sensors in different areas of the plant has been developed.