

OSART Good Practices
MANAGEMENT, ORGANIZATION AND ADMINISTRATION
Management of Safety

Penly, France

Mission Date; 29 Nov.-16 Dec., 2004

Enhancement of safety through self-assessment and teamwork.

Penly NPP has developed periodic reviews of its performance in the area of safety at each managerial level.

With regards to plant senior management, the review focuses on plant performance and trends. It also benchmarks performance with other EDF sites.

Thanks to the review process, the plant senior management team shares a common view and management priorities. Consequently, further to these reviews, plant management sets 4 or 5 priority areas for the plant for the following year.

The reviews are deployed in every department while taking into account aspects specific to each area of concern and they result in improvement action plans. At department level, this process includes the department manager, team managers and sometimes workers.

Human factors are also taken into account. Management field inspection reports are analysed to identify trends, which lead to the main vulnerable areas.

At team level, general training sessions are held every year, bringing together the teams of different departments in order to analyse weaknesses and define future actions for each one of them.

In 2003 the topic was housekeeping and material condition. These sessions have been effective in implementing common plant standards regarding housekeeping.

In 2004 the subject was organisational lines of defence. It helped to finalise the plant safety policy. Many aspects of this policy have been suggested by the teams themselves.

A training project is currently being prepared for 2005. It will include some comments and proposals to reinforce the most vulnerable lines of defence.

Training initiatives for plant managers have been developed for that purpose: two training days on housekeeping in 2003, a one-day training session on lines of defence in 2004 and in 2005, a planned training session on exchanging experience from presence in the field.

This comprehensive initiative provides the whole plant with a common perception of safety and progress objectives. It is also based on a common language regarding site priorities and provides some perspective on safety management whilst giving some freedom to individual teams and departments for their own actions.

The plant manager and his management team attend each training day when all teams work together. This presence helps them to better understand the plant and to focus on the importance of safety at the plant, as well as to maintain dialogue with plant workers.

The initiative given to departments enables them to put forward innovative actions. A benchmarking exercise is done every year so that the various departments can share best practices and make progress together.

"Safety forums" are also organised, during which work teams present their innovations on a display stand.

Since the introduction of this initiative, overall plant performance has improved.

Blayais, France

Mission Date; 2-19 May, 2005

Plant management has implemented a "Blame free" culture that is open and transparent at all levels of the organization. Staff at all levels are willing to discuss events at the plant, how they recognize the need for improvement in some areas, and they are open to suggestions for improvement.

-Operations management is willing to discuss the shortcomings of their own organization in the past. They described their own "units 1 & 2" vs. "units 3 & 4" silo mentality, and that they were working hard, within the new organization, to overcome this mentality.

-Operations staff freely admitted that, in the past, the performance at Blayais suffered because their "insular and isolated" attitude led them to disregard opportunities to learn from other plants. They are now actively participating in benchmarking trips to other plants, both in France and abroad. It is a requirement that trainee shift managers participate in at least one benchmarking trip.

-A tagging supervisor freely volunteered that, as a field operator, he had been responsible for a "wrong equipment" event in during the wrong 6.6 KV safety-related circuit breaker was racked out, thus rendering an essential Water pump unavailable for several minutes. Furthermore, the supervisor team led a field tour to the circuit breakers in question, in order to demonstrate how the error occurred.

-Members of the human factors department freely discussed the difficulties associated with implementation of a human performance improvement plan. A project outline for the plan was very candid about the issues associated with implementation.

Blayais, France

Mission Date; 2-19 May, 2005

Safety Quality Bulletin

At the end of the safety engineer's week on duty, the Safety and Quality Department writes up a document (Safety Quality Bulletin) summarizing the key points in the areas of operational safety, fire protection and radiation protection for that week.

The bulletin is distributed every week, being sent to 350 staff members down to supervisory level. According to the results of a poll 70% of staff has read it. The bulletin is an important tool for communicating practical everyday safety questions concerning operation, fire protection and radiation safety. It identifies the main points of the safety engineer's evaluation and it is used also by power operations steering committee. The bulletin provides a summarized overview of operational safety and gives answers to the questions raised. The bulletin has its own place for strengthening the safety culture of the plant.

Blayais, France

Mission Date; 2-19 May, 2005

Every two months, the plant's team leaders or managers spend half a day together with their teams (own staff or contractors) discussing and analyzing activities in the field especially from industrial safety point of view.

At the end of the morning, each manager enters the gathered information into the "deficiency" database, under the section "industrial safety day". Good practices are implemented as soon as possible and problems after the discussion with his/her team are transferred for corrective actions. A Risk Prevention Department's hotline has been set up to assist managers if an immediate answer to a specific question is required.

Senior management involvement demonstrates the importance of the subject. An important factor is to 'force' management to go to the plant sometimes at the same time so that managerial expectations and control can be shown simultaneously. This kind of common activity is like a booster to increase awareness for safety topics and it improves contacts between the management and other staff. Also actual difficulties are solved including personnel's understanding about the industrial safety.

Brunswick, USA

Mission Date; 9-26 May, 2005

The plant has developed a comprehensive and intrusive self-assessment programme within the organization that has lead to improvements in the quality of work across all plant disciplines.

In 2005, Brunswick NP is scheduled to conduct 39 formalized team self-assessments spanning all functional areas. In 2004, the station conducted 41 self-assessments. All self-assessments are required to have a structured outline approved in advance of the assessment activity. Additionally, self-assessments are required to be led by a qualified self-assessment team leader. Team membership is diverse and frequently includes external peers from other nuclear facilities. All of the aforementioned is planned and submitted for management review and approval prior to commencing assessment activities. The self-assessment team focuses on targeted performance against pre-determined management requirements as well as industry best practices. Deficiencies are categorized as issues, weaknesses, or items for management consideration and documented in the station's corrective action programme. 2004 self assessment activity identified greater than 100 items which were subsequently categorized in the corrective action program and resolved according with the plant schedule.

The programme promotes self critical behaviors and encourages the identification of deficiencies by the organization itself, versus identification by the Quality Assurance organization or the regulator.

Borssele, Netherland

Mission Date; 8 Nov.-7 Dec., 2005

Despite its limited size, EPZ staff is participating in about 40 international working groups and commissions, e.g. in IAEA, WANO and VGB, NEA membership relations.

The EPZ managing director is Governor for the WANO Paris Centre. Additionally, an average of 5 persons of EPZ is yearly involved in WANO, OSART, AMAT and similar missions, resulting in over 90% EPZ management having international experience. The collective experience of the working groups and missions is used to improve the knowledge base, to strive to the international state of the art and to improve the plant and enhance safe work practices by comparison with the best industry practices and by emulating good performers. On the other hand Borssele experiences are shared with the international nuclear community.

There are many examples of major improvements in which EPZ was among the first ones in Europe and in many cases also has been an example for other European plants.

An important contribution was made by EPZ to the establishment of the IAEA guidelines for the equipment ageing management programme.

At INPP 2 systems for monitoring and analysis of safety culture have been developed and implemented.

Both systems are effective tools for management in monitoring safety performance and safety culture.

The first system concerns an assessment among staff, using a survey on safety culture that was developed with the aid of the aid of IAEA and experts from UK and Sweden. On average the survey is done every three years. The questionnaire consists of 33 questions. Answers are grouped towards 11 safety culture characteristics, i.e.:

- Leadership and commitment of top management to safety;
- Safety role of line management;
- Strategic business importance of safety;
- Supportive organizational culture;
- Involvement of employees in the process of safety enhancement;
- Study of operating experience;
- Measurement of safety performance;
- Mutual trust and responsibility of management and employees;
- Openness of communication;
- Absence of safety vs. production conflict;
- Demonstration of care for personnel by administration.

Safety culture monitoring consists of 5 stages:

- Detection of problem areas (causes of safety level degradation);
- Prioritization of each problem area;
- Analysis by determining relationships between the problem areas and the safety culture characteristics;
- Detection of low safety culture characteristics;
- Development and prioritization of corrective actions for safety culture development.

In this way trends on safety culture characteristics are available for management to make an assessment and define, if required, corrective actions.

This monitoring and analysis started in 1998 as a first trial among few numbers of staff (30 employees). In 2000 and 2004 the survey was done among 300 employees. The overall results were generally positive.

The second system comprises a set of 6 safety culture indicators. Some indicators are connected with follow-up of safety related corrective actions, others are characteristics to human performance.

The use of the indicators started in 2004. Information on changes of the safety culture indicators is regularly provided to the Director General; it is subject of discussion with the heads of the departments of the plant and a report is also forwarded to the regulatory body.

At the end of each year completed actions are analyzed and a progress report is made, which is also submitted to the regulatory authority. This information can be found on the intranet and is available to the staff.

This safety culture monitoring system allows top management and line managers to determine trends in nuclear safety performance and culture and corrective actions can be defined if needed.

Chinon, France

Mission Date; 27 Nov. - 14 Dec, 2007

Craft Safety Group (GSM) contribution to addressing safety issues within a particular profession (craft) based on teamwork.

Craft Safety Groups are decision-making committees established for each specific profession (craft) in the plant. The aim of GSM is to formulate safety policy fundamentals, to support safety culture enhancement and to address issues fed back from the field using plant, corporate and external operating experience and to avoid addressing events in isolation, event by event, but as a part of the self learning process.

The definition and implementation of improvement measures is a result of the teamwork inside the craft. When necessary, contractors are involved also.

Some examples of positive outcomes include:

- The team attended one GSM while at the plant. At the meeting, field operators explained that they had identified a deficiency associated with improper valve location within some emergency operating procedures. Operations management assigned an action to resolve the issue.
- At the operations GSM, the cause analysis for current weak areas of performance was covered. Input was solicited from operators on the corrective action plan.
- One item already resolved from this forum is the removal of all non-operations related public address announcements; this has contributed to control room serenity.

Cruas, France

Mission Date; 24 Nov -11 Dec., 2008

In order to support the operating organization, the Safety and Quality Service SSQ has developed an easily accessible database with the answers to significant safety related questions.

This database called FQRL (local question/answer form) centralizes all relevant safety related questions, especially those related to the understanding of the general operational rules (RGE).

Every staff member has very easy access to this database, which is structured by safety function and then by system, one finds the question, the answer, references and, if needed, a deeper analysis.

These forms are very helpful in work preparation and in the real time decision taking process. It is an efficient tool to disseminate safety on the site.

The database enables everybody to input new questions.

The KEPCO and their NPP sites developed a comprehensive process to assess their own safety culture every year. From this assessment issues were identified and countermeasures are planned, implemented and reviewed.

Methods of assessment:

1. The plant assess the awareness and behaviour of personnel and/or organization in the focus of three key points of safety culture, 'the commitment by the top management', 'communication' and 'learning organization'. Each of three key points is assessed through several questions. For example, 'the commitment by the top management' is assessed using following four questions in FY2008.

- (1) Does the senior management clearly show the 'safety is the first priority' policy to the staff?
- (2) Are the responsibility and the authority of each organization clear and appropriate?
- (3) Do the front-line workers understand the view and concept of the top management and put it in practice?
- (4) Are the amount and allocation of resource proper?

In order to assess more objectively, relevant parameters, information, activities and results of questionnaire are collected and trended for each question. For example, following items are collected for question (1).

- Number of the messages given directly from the top management
- Number of the messages given through e-mail from the top management
- Results of the questionnaire
- Contents of the business plan and management plan etc.

The opinion from the employees, management and contractors are also collected and used for the assessment of each question.

2. The plant also evaluates the results of safety status, including plant safety, industrial safety and compliance status, and determines whether or not there are any problems in the awareness and behaviour of personnel and organization based on the results. This evaluation is implemented as a supplement for above 1 assessment.

3. The plant estimates perception of society, based on outside opinions from the local society and Nuclear Maintenance Reform Verification Committee.

The plant identifies 'Issue' and 'Concern' through these assessments. Action plan is developed for the identified 'Issue' and implemented from next FY. The status of these action and 'Concern' is followed up in the next safety culture assessment.