

OSART Good Practices
MANAGEMENT, ORGANIZATION AND ADMINISTRATION
Organization and Administration

Kashiwazaki 3/6, Japan

Mission Date; 1-18 Nov, 2004

The process of plant improvements is well organized and displayed to the plant personnel and contractors. The plant has established a process in which anyone can suggest findings on the site for improvements. Proposals are regularly evaluated and in reasonable cases timely implemented. The bulletin boards at the entrances to the plant units are used to display results of the evaluation or implementation of the improvements. These boards further promote the improvement process and encourage personnel to participate.

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The removal of work in order to save valuable time for developmental initiatives was stimulated by an excessive work load and ever increasing overtime during recovery from the disclosure scandal and the subsequent increased regulation and external scrutiny. The approach used has been to initiate a "work scrap" process with the mandate to remove unnecessary work and save time for improvement projects. The difference with the approach used by Kashiwazaki-Kariwa NPP is the wide mandate and the high level of sponsorship and commitment. The implementation team, which has a formal mandate and process with essential criteria, meets once per week and is sponsored by the Site Superintendent and chaired by the Deputy Superintendent Quality assurance and Nuclear safety. It contains high level representation from all areas of the site. In the first four months of operation 84 ideas have been received and 23 enacted. As an example the meeting process and structure was examined. It was found that there were 35 meeting per month for managers above group level. Of those 6 have been eliminated and 9 shortened saving a total of 5600 manager hours per year. The OSART team also observed that the efficiency of some meetings could be improved and that there may be opportunities to combine some. The site management is encouraged to continue to reduce meeting time. As well as "meetings" the Work-Scrap team has identified many other areas such as inefficient organisational aspects, which are only in existence because "that was always the way it has been done" or where a small team approach can save considerable time over the normal process. With the high level sponsorship necessary changes are quickly enacted. An added side benefit is that the managers are working together in a cross function mode, out of their normal silos and creating group successes.

Competence Mapping System as a tool to solve the retiring personnel issue and future staffing needs.

The national and local programme of replacement of retiring personnel ensures availability of knowledge with the long-term view (up to 2022), by defining the recruitment and training programme.

The significant number of staff reaching retirement over the coming years is being addressed proactively through the setting up of a skills renewal programme. This project is coordinated by corporate management from the Nuclear Operations Division of EDF.

To illustrate the problem, half of the plant personnel will be taking retirement over the next 10 years. The strengths of this programme are:

1. An overview of crafts and how they are changing encompasses the strategic view of corporate management and the experience of plant management.
2. The programme for forecasting succession management structured at three levels – corporate, plant and craft – with coordination between them. This initiative enables the flow of personnel to be proactively forecasted (recruitment, reallocation, etc.) as a way of covering for future retirement.
3. Skills mapping for each craft at plant level:
 - To visualise available skills and any changes over time
 - To decide on actions to be taken in the area of skills and resource management (training courses, shadow training, induction of newcomers)
4. Through developing complementary action plans for addressing transfer of knowledge, based around four points:
 - Integrating newcomers
 - Craft-specific initial training
 - Shadow training in the workplace
 - Know-how that is the key to performance

The programme is based on every single area of competence, how and when the change has to be organized. The date of change is estimated for every position. Lost skills and knowledge is identified. New requirements are defined assuming other factors such as development in area of safety, management improvement, company internal sources and sensitiveness of skills. Based on previous steps the recruitment and training programme is defined.

Relationship between plant, public departments and media.

Public Relations (PR) of SUNPP works in cooperation with public relations departments of Ukrainian NPPs and region mass media. PR department systematically takes part in workshops and other activities devoted to nuclear power engineering. PR department also provides experience exchange related to PR activities. It also uses advanced technology as nonlinear editing for TV-programmes and computer makeup. PR department provides subject-matter video and radio-programmes, newspaper releases of SUNPP performance. PR cooperates to broadcasting local and regional channels, FM-broadcasting and regional newspapers releasing. PR department provides excursions of the SUNPP and pumped-storage plant for pupils, representatives of other enterprises of the satellite-city as well as for regional settlements. PR department arranges annual competitions such as brain-rings and exhibitions for pupils aimed to be acquainted with power engineering.

Examples of regular projects of public relations department:

- "Energetic" newspaper - once a week
- TV programme- once a week
- Radio programme- 3 times a week
- Special Informational programme- 2-3 times a week
- Press-fact release- once a week

Results: Workers, community or any person interested can obtain complete information about SUNPP performance and be convinced of its reliability and safety. Additionally, on a regular basis the SUNPP staff and local residents are informed via local mass media about the results of implementation of ALARA principle and of activities to minimize the quantity of liquid and solid radioactive waste at SUNPP.

Note: The OSART team leader was invited to present OSART methodology and OSART objectives to a meeting where all mayors of the SUNPP Region (about 30) were present. This meeting was followed by a press release. In the same way a video was taped during the press conference, which was organized at the end of the mission to inform the public on the progress of the OSART mission.

Permanent safety upgrades to reduce overall plant risk.

The FORTUM Corporation has demonstrated a long term commitment to ongoing investment in equipment and system upgrades that have significantly reduced overall plant risk for core damage and release of radioactivity.

Several extensive modifications were completed to improve availability of the ultimate heat sink following internal and external events, including:

- Improved design and added additional redundancy for the residual heat removal system, including electrical separation.
- Providing redundant cooling water supply to emergency diesel generators

Several extensive modifications have been completed to reduce the likelihood of radioactive release post-accident including:

- Addition of automatic isolation of primary coolant purification system when pressurizer pressure decreases.
- Relocation of the reactor coolant pump emergency seal water suction line.
- Addition of automatic isolation of reactor coolant pump seal water heat exchangers based on high pressure.

Structuring the management manual in such a way that the requirements for each unit are described in one chapter of the management manual. Responses by the units on how they will meet these requirements are described in an adjacent chapter. This structure aids in communicating expectations and commitments to the plant staff.

It is important to safety for the organization to be committed to the requirements. Thereby, the personal engagement can be improved supporting fulfilment of the expectations.

The plant has structure the management manual into four main chapters:

1. Management principles
 - a. Company structure
 - b. Vision and company mission
 - c. Management philosophy
 - d. Policies
 - e. Management expectations
2. Organization
 - a. Responsibilities
 - b. Definitions of management levels
 - c. Safety management principles
 - d. Delegation
 - e. Authorities
 - f. Organization charts
3. Quality requirements
4. Replies from the individual units on how they meet the quality requirements.

In chapter 4, all eleven organizational units give their replies on how they meet the quality requirements stipulated in chapter 3. The replies are given on a free format, where applicable instructions, procedures, etc., are referenced in order to facilitate more detailed information when required.

Each reply must respond to all requirements placed on the organizational unit and the reply is used in internal audits to ensure that all responsibilities are taken care of. Internal audits are performed to ensure field observations are consistent with the commitments made.

Overall personal commitment to the requirements set up by the company is significantly improved by this structured approach.

Balakovo 4, Russia

Mission Date; 19 May - 6 Jun., 2008

Permanent public answering machine (hot line) on the plant current status. There are several ways how the plant information center informs the public in case of an operational event in the plant. The press release on the event is distributed to about 20 press agencies and newspapers. The information about the plant event is published on the corporate and the plant web pages. Following press articles and web information are monitored to provide timely and focused feedback. The plant information center also operates an answering machine permanently available to the public. In case of an operational event in the plant, the information on the answering machine is updated within few hours, 24 hours round, including days off. Using a permanent public answering machine with prompt information on the plant safety status is considered as a good element of transparency.

Example of the hot line information about an abnormal event:

"...on 8 April 2008, 13:32, there was a power reduction and disconnection from national grid of the Balakovo NPP unit 4 caused by a problem at the external electrical transmission line. The reactor unit was stabilized at 40% of nominal power. Power output of the units 2 and 3 was reduced to 700 MWe on request of the national grid dispatcher.

Level of radiation in the town of Balakovo and in the vicinity of the plant is without changes. Eight (8) to 15 microrentgen per hour, is the level of natural background activity in the European part of Russia. ..."

The effective use of Performance Indicators to provide a foundation for driving continuous improvement

The plant staff utilizes performance indicators to effectively influence plant performance. The indicators are prevalent at all levels of the organization with lower tier indicators feeding forward to the broader scope indicators. The management team monitors the indicators and drives performance based on the goals reflected by the indicators. Goals are established which represent excellence in the industry. The monitoring of the indicators is woven into the daily plant status meetings to facilitate a high level of engagement in performance. The indicators are also used as key input elements in decisions. The administrative aspects of populating the indicators are integrated into the tasks to minimize the burden.

There are a variety of examples where the indicators have been used to improve performance. In the Radiological Protection area, dose and contamination performance has been sharply improved by broadly communicating the overall goals and then establishing short and intermediate targets for organizational focus. For example, success in meeting the annual dose goal is built upon meeting daily and weekly goals throughout the year. Dose performance is reviewed daily in management and working level meetings. Progress curves are utilized to monitor outage preparation and execution. These curves are reviewed frequently and are utilized to coordinate resources, identify problem areas and motivate the staff. The focus on goals associated with INPO index, forced loss rate, and unit capability factor have also resulted in significant improvements in these areas.

The plant's high level indicators are reviewed by the corporate office and peers from other plants on a six week basis as part of Management Review Meetings. This provides an opportunity to examine performance, challenge goals and exchange ideas for improvements. The higher tier performance indicators reviewed at this level are reflective of the lower tier indicators and performance. This structure helps establish vertical alignment of the organization giving the plant staff common goals.

The indicators are both leading and lagging meaning they are used to establish performance goals for the future and measure past performance. The leading indicators are commonly indicators that measure preparation or monitoring of activities. The lagging indicators commonly measure actual production or accomplishments.

The benefit gained from this approach is a collective focus of the staff on the correct performance elements for the plant. The performance indicators are a leadership tool, a management tool, a communication tool, an education tool and a means of motivation. The engrained nature of the use of performance indicators provides a foundation for driving continuous improvement.

Planning of staffing needs, cooperation with external educational institutions, and succession training for manager positions

A five yearly and an annual planning procedure for staffing needs is implemented at Rivne NPP. The planning is performed on the basis of the analysis of the human resources flow, which includes the following:

- Analysis of retiring personnel of all categories,
- Analysis of voluntary terminations of working contracts by employees,
- Study of promotions including transfer to other parts of the organization.

On the basis of scheduled needs, the sources of human resources are specified. Usually they are the state employment services, external hiring processes, vocational schools of Rivne NPP and high educational institutions.

In order to satisfy the needs of staffing and work with personnel, a system of cooperation with educational institutions of different levels (universities, technical schools, vocational schools, training centres of other Ukrainian nuclear power plants) is implemented at Rivne NPP and in the operating organization. Cooperation with educational institutions is aimed at addressing the following issues:

- Selection candidates for future employment at Rivne NPP (professional orientation)
- Preliminary preparation of NPP working personnel and managers in order to provide them professional training
- Creation and maintaining the plant training base on the necessary level
- Advanced full time training of the personnel
- Improvement of the plant personnel of their general and professional education and knowledge

In addition, the cooperation with educational institutions has the following benefits:

- Work in the area of professional orientation for young population of the region in order to form a positive image of the power plant and encourage people to learn the professions necessary for the nuclear power plants.
- Support of the student development process.
- Provision of opportunities for internships.
- Ensuring future employment for students who have decided to work at the power plant.

The positions of managers of all levels are supported by the availability of well structured and trained staff reserve of all the management chains. A high level of effectiveness of manager staff reserve should be noted. The policy of planning for career promotion of these personnel ensures sufficient number of qualified and experienced personnel and the necessary inflow of young trained personnel. Creation and management of the management staff reserve is performed at all the levels of the Rivne NPP structure taking into account the following basic principles: dialogue, publicity, mobility, detection of potential, joint leadership, delegating of authorities. The process of generation and management of the management staff reserve in accordance with the above mentioned principles ensures the following:

- Organizational system of Rivne NPP management training on the basis of principle of management competencies development
- Development of management incentive and motivation in the staff reserve development
- Creation of a new generation of managers, capable of transferring to the modern type of NPP management based on the principles of strategic management and the involvement of managers of different levels in the organization management.

