

**OSART Good Practices**  
**LEADERSHIP AND MANAGEMENT FOR SAFETY**  
Management system

**St. Laurent, France**

Mission Date; 7 Nov.-14 Dec., 2006

Electronic Control of Document and Records Management System.

Cross-functional project (S.A.R.- SSQ) within the context of an electronic document management project of the fleet and the reorganization of the documentation structure of the plant.

All reference documents are available via the intranet with two access points:

From lists of applicable documents according to entity and process

- By direct search in the document database, according to criteria
- Overview of applicable documents according to entity or process
- Immediate availability for the user and indication of the date of validity and the status of cancelled or out of date documents.
- Various simple search criteria for user
- Possibility to see the last indicator recorded in the centralized documentation department.
- A single documentary reference database at the plant
- Reduce unnecessary documentation (going from 28 to 2) and thus the risk of error linked to its management.
- Availability of documents with the most recent indicator as soon as they are recorded in the centralised documentation with numerous search possibilities.
- Faster availability and improved relations between documentation staff and crafts.
- Simplified access to reference documents due to more frequent consultations of these documents.
- Reduce potential use of outdated documents
- Enhanced control of documentation system by management (Heads of Department and process coordinators) due to lists of applicable documents according to department and process.

All documents can be accessed by the whole fleet and it is possible to access other electronic databases (GED), including the R.P. GED.

### Safety Management System Concept

The plant has commissioned in 2006 a Safety Management System (SMS) which is based on ISO 9001 standard.

The initiative started after a German event in 2001. The concept is to divide plant processes. For each process there have been defined performance indicators and an owner is responsible to monitor the process. The processes are separated in three categories: leadership processes, core processes and support processes. In total there are around 70 processes. For each process, there are common structured descriptions, which are shown in comprehensive flowcharts. These flowcharts describe how the process is working, the interfaces and the distribution of responsibilities. Process owners make sure that the process functions as expected, using performance indicators. All is supported by a sophisticated computer programme.

With the implementation of this concept the plant obtains:

- a standardized structure of the main plant processes,
- ensure the processes work appropriately at the cross functional interfaces, and
- by monitoring the processes, early decline can be detected.

## Balakovo 4, Russia

Mission Date; 19 May-5 Jun., 2008

Informative system to track changes of process and instrumentation diagrams

The plant piping & instrumentation diagrams (P&ID) are included into an electronic plant documentation management system. In addition to the electronic version, on pre-defined working places (such as the control rooms) the P&IDs are also provided in a paper form.

In case of change in the plant documentation, the memo about it is sent to the relevant working places prior the paper copy is replaced by a new version. In addition to a standard version control practice, on the back side of the new version of the P&ID there are shown altered fragments of the P&ID before and after modification.

Tracking of piping & instrumentation diagram modifications by printing diagram fragments before and after the last modification on the back side of the drawings is considered as a good practice.

The plant has developed an integrated management system which includes communication, quality structures and documentation links.

The management system for the plant is organised in a simple and easily understood manner in a computer based structure. This structure describes the plant's operations from business data through the requirements and description of tasks to the specific instructions for practice. The management system ensures that the possible factors which can affect the operation are taken into account in order to guarantee a high quality of work.

The centre of this system is the Intranet "Karnan"; it is managed by an internal editorial group which has a combination of competences. Karnan is designed from a structure corresponding to the main goal of the plant (called "goal areas"). Each document and indicator relative to the areas can be accessed easily, also a compact vision is dedicated to communication.

All employees receive training on how the management system works. At training the managers are involved by demonstrating and explaining what is most important for their section. This gives co-workers many different possibilities of finding what they need directly via a document number or via the structure of the organisation.

Some examples of positive outcomes include:

- Possibility for every worker to easily access the documentation.
- Plant staff knowledge about the Karnan structure.
- A posting for indicators in coherence with the structure of the quality system.

The organization of the commissioning interface between DNMC and CNPEC is well established.

The commissioning interface is clearly documented, responsibilities are clearly determined, regular coordination meetings are held, goals and objectives are consistent among both Company's line managers, experienced staff are assigned to CNPEC. The organization is very well supported by shared Information and Management System that allows both Companies to thoroughly monitor the commissioning. Examples of systems put in place are:

- Process to take over systems is well described in clear procedures: take over for blocking, take over for maintenance, take over for temporary operations, Building Hand Over. At each stage level 1 criteria are defined which are to be fully complied with for take over. A leading DNMC department has been designated for the different stages.
- A computer data base is shared with CNPEC, Take over Information and Management System, which allows both organizations to follow-up pending issues related to take over process, to have statistics and retrieve all documents related to the system take over.
- A unique schedule of DNMC and CNPEC activities is issued regularly and reviewed by the operations preparation department. This schedule includes all activities, including take over for blocking, for temporary operations, etc. It allows management to address potential resource conflicts with the needs of operating units.
- Instrumentation and Control maintenance engineers were involved in the review and test acceptance of a new design, the Distributed Control System, at the beginning of the process.
- DNMC personnel have a defined schedule of participation in the start-up of systems and plant in order to get the technical knowledge needed during operations. A schedule to verify the consistency and accuracy of the plant procedures is in place to take opportunity of the different stages of the commissioning.
- The monthly monitoring report on readiness for operations reviewed by the management gives comprehensive performance indicators on quality and readiness during commissioning.
- A comprehensive review of all contracts to check the comprehensiveness of spare parts needed for the two first years of operations has been performed by DNMC. Spare parts are procured by CNPEC. A data base "Equipment Integrated Preparation System" is shared by both companies to monitor and check the full process.
- Responsibility is clearly defined between construction and operations. The responsibility of chairing the commissioning committee is taken by the plant manager from the first fuel loading.
- In order to handle the main milestones, a dedicated focus team has been set up, lead by senior managers (cold functional test, hot functional test, first fuel load, take over, environment and emergency, etc.).

To set up such a well linked organization between DNMC and CNPEC will strengthen co-operation and capability to address any issue during the take over of the plant.

## Seabrook, USA

Mission Date: 6-23 Jun., 2011

Use of video communication tool to ensure operational focus on topics such as decision-making and safety.

Communication tools at the plant are used to ensure an operational focus on topics such as decision-making and safety. This ensures that members of the team at all levels of the organization understand why decisions on plant operations have been made, and that safety is always the #1 priority in all operational decision-making at the plant.

Frequent video messages are produced and posted to the eWeb page in order to be available to plant staff. This method was initiated by plant management to communicate important information on a variety of subjects in a formal manner. Typically, the messages are a few minutes long, conducted as interviews and cover one or more recent events or topics of interest. No teleprompter is used and the host and the person being interviewed simply use small note cards if necessary.

Feedback from members of the plant staff has been very positive. Viewers like the informal tone and the ability to watch the messages at the computer on their desk when it is convenient for them. This video format has been used by the Site VP, Plant General Manager, Health and Safety Manager, Engineering Manager, Outage Manager and others.

Recent examples of the use of the tool at the plant:

- Plant General Manager provides the team with an update on valve SI-V-82 safety case, OSART mission and the INPO Maintenance and Technical training accreditation.
- Plant General Manager interview about the decision making process to take the plant off line over the weekend of June 4, 2011 to conduct repairs on the secondary side of the plant.
- Design Engineering Manager provides details of the condition called Alkali-Silica Reaction discovered on the wall section of the B electrical tunnel.
- Plant General Manager talks about closing the breaker on outage 14 and getting the plant back online.

## Koeberg, South Africa

Mission Date: 22 Aug.-8 Sep., 2011

Communications are organized systematically at Koeberg to link the national stakeholder engagement and communication strategy and plan, to the Koeberg communication strategy.

The Internal Communication strategy is to ensure open, effective, efficient and transparent communication all the time, allowing its use as a leadership tool, to keep the staff informed, consulted, engaged, led, empowered, energized, to play their role in making the plant safe for employees as well as public.

### Mechanisms

- Safety themes for all publications in every month
- Specific communications from work unit, project, event leaders
- Communication liaisons in internal groups to guide, plan, direct and coordinate their communication needs
- Projects managers / leaders take the lead in getting their needs incorporated in the internal communication main stream
- Large number of posters displayed in the plant at relevant locations.
- Daily monitoring of media (local, national, international) focus on nuclear industry and station specific coverage), shared with key station personnel.
- Charismatic Master of Ceremony (MC) are appointed for an event / forum / breakaway etc.
- Communication is also linked to key Calendar dates / events / holidays including those relevant to nuclear industry
- Competitions, quizzes are also used to get messages across

### Specific internal publications

- Core magazines: Events, key articles to meet monthly objectives
- Nuclear News: Important news covering every / majority of all nuclear employees in the utility e.g. major events, leadership direction / changes etc
- Captains Log: Special communication from the PSM covering plant important specific information e.g. outage focus, nuclear safety message across lines, station leadership direction etc
- BUF Bulletin – Labour magazine covering all the labour management decisions and negotiations on monthly basis
- News flash: Daily notices, key information, events summary, training dates, station performance snapshot, key training dates, birthdays & deaths of co-employees and family members, key short messages etc
- Blogs: Outage blog, during normal operation Power Station Manager (PSM) blog, Chief Executive (CE) blog etc
- Website: covering Nuclear operating Unit departmental, sections, groups, projects, key events, nuclear emergency plan, Key station events, displays pictures of employees performing critical tasks, key events information etc,
- Station key access point: Handouts containing key station information, usually by station senior managers accompanied by entertainment group to highlight the information. Dress code of managers is associated with the type of message delivered.
- Departmental Work teams sessions: Once a month.
- Breakaways – strategic review sessions and refocusing sessions

## Other platforms

Medium	Responsible Person	Frequency	Format	Distribution
Log on Screen	Internal Communication Practitioner	Daily	Electronic	At individual log
Open Forum	Internal Communication Practitioner	Monthly	Face to Face	Direct and Face to Face
Plasma Screens	System Operator	BUF Bulletin	Live	Mailed to Secretaries, HODs / HOGs and saved on g:/drive and distributed at key points.
Website	Internal Communication Practitioner	Live	Live	On-line
Handouts	Internal Communication Practitioner	Ad Hoc	Printed / Other	Direct
Nuclear news	Internal Communication Practitioner	Ad Hoc	Electronic	E-mailed to Nuclear Division and on Intranet
Surveys	Internal Communication Practitioner	Ad Hoc	Electronic and Printed verbal	Mailed to Secretaries, HODs / HOGs and saved on g:/drive and distributed at keypoints.

Table : Internal communications tools and platforms

## Communication with the Public

- Monthly press briefing
- Quarterly public forum, chaired by an eminent person appointed by the Regulator, includes press, local authorities, national political personalities, public (invited to join).
- Articles in the local / international press
- Occasional Radio / TV Programs with guests from Koeberg
- Special programs, debates, competitions in schools
- Visits to the plant by special groups, mainly schools

## Management of Communications

- Effectiveness of Internal communication is reviewed every day, week, month, 6 months and yearly,
- Feedback from internal stakeholders through quizzes, feedback requests, surveys, communication briefs, review slips.
- Communication committee meets bi-weekly to review and plan the process and strategy with management feedback.



Communication concept and means used to inform plant personnel.

The plant has a concept for fast and broad communication to the entire plant staff. The plant also has an on-going development of this concept. Quarterly assessments by the plant management ensure that these communication tools are implemented in the best way.

- The management holds monthly Staff information meetings "Pinf" where senior plant management addresses different topics. Examples are: Follow up on plant operation, follow up on plant goals and targets, information on outage activities, information on external events and other topics that might be of general interest or which might affect the plant. The meetings are organized in the plant restaurant and are attended by most plant staff, although presence is not mandatory. Extra meetings are held to inform if there are upcoming issues of general interest. Procedures are in place to enable a short-notice assembly. All Pinf presentations, including an audio recording, are uploaded onto the plant's intranet within 24 hours.
- Every Monday, following the operations meeting where plant management and all departments and groups are represented, there is a lecture series dedicated to safety "Five minutes for safety". The purpose is to have an effective way of internal experience exchange on safety. Topics may concern nuclear safety, safety culture or industrial safety. There are guidelines and personal support available to help prepare the presentations. Afterwards, these presentations are posted onto the KKM-Intranet for all staff to see.
- The plant intranet is used for different types of information to and communication with plant personnel, for example: Quarterly follow up on plant targets, a Q&A (questions and answers) section where plant personnel can get feedback on questions and an open discussion forum.
- There is an "anonymous mailbox" for all plant staff to anonymously report their concerns to plant management.
- For urgent issues, the plant manager sends an e-mail to all personnel.
- Up to date safety information is presented on screens in the plant.
- A senior management blog has been used on some occasions, for example during the outage.
- A black board with all relevant and up-to-date plant information is maintained next to the entrance of the plant. All employees have to pass by this board on their way to work.

Benefit:

Plant personnel has up to date information on relevant topics and safety related issues and there are, in addition to the communication within the responsibility lines, several ways for information and communication that can be accessed and used by all plant staff.

Process maturity model for monitoring the progress and improvement of the integrated management system.

EPZ has developed a process maturity model. Its main purpose is to make communication about the status of a (complex) Integrated Management System (IMS) easy and to help process owners and management improve the management system.

The maturity model is a powerful tool because:

- It serves as a common reference for talking about processes, which makes communication about the status of the IMS easier;
- It helps to create awareness about the gaps within the IMS;
- It shows which aspects of a process need the most improvement;
- It stimulates process ownership;
- It helps to make objectives SMART and to make progress visible.

The model is based on six areas that are key for any process: process ownership, process performance, process risk control, process compliance, process structure and process execution. For each area the maturity level is determined periodically. Characteristics of the levels are:

- Not present;
- Activities are only done when necessary;
- Activities are done but not organized as a process;
- The process is well organized and executed;
- Pro-active behaviour and continuous improvement are normal.

In December 2012 two internal auditors assessed twenty processes. The average maturity level of the assessed processes was 3.1. This was communicated to the senior and middle management and created the awareness and sense of urgency required to start the IMS improvement project that is currently on-going. Now the maturity of a process is assessed during the execution of internal audits and progress is monitored and reported by the Quality Assurance Department.

Currently the average process maturity level (same processes as in 2012) has increased to 3.3. The best example of a single process improvement is the ICT process: 2.2 (Dec. 2012), 2.5 (Sept. 2013) and 3.6 (July 2014).

The Young EPZ Professionals (YEP) was established as a response to rapidly changing employee demographics. YEP provides young employees with an opportunity to discuss, comment, exchange knowledge and contribute to the development of EPZ.

The arrival of many new colleagues at EPZ the past years considerably reduced the average age of employees. The particular processes and the department-oriented thinking at EPZ, however, makes it rather difficult to meet with other colleagues with whom one is not working together on a daily basis. In response to this, Young EPZ Professionals (YEP) was established by a group of motivated colleagues to help increase the communication and interaction in the organization. A kick-off meeting was held in December 2012. The target audience consists of all EPZ employees under the age of 35 which currently consists of 102 people. Fifty five of these individuals currently belong to YEP.

YEP provides young EPZ colleagues the opportunity to exchange knowledge and experience as they often face similar challenges in their daily work. By meeting regularly and facilitating discussions on current issues and developments within EPZ, YEP works to contribute positively to achieving the organization's goals to enhance personal development on the other. Discussions, think tanks and workshops are facilitated on issues such as "how to improve FME policy", "how to apply and communicate EPZ' rules of conduct" and "how to improve EPZ if you were a manager". The results of such activities are documented and formally presented to the relevant EPZ employee for his or her consideration. YEP further contributes to strengthening EPZ communication by arranging regular informal meetings with members of the EPZ management, communication with professional and functional levels within EPZ as well as various teambuilding events for EPZ members. YEP also facilitates communication and cooperation with young professional peers outside of EPZ.

Examples of results in relation to nuclear safety:

- YEP discussed the FOCUS 2 with the Senior Management team. Based on this discussion, the action plan was modified.
- YEP had a presentation on Lean Six Sigma, and after that, YEP asked for a more structured approach to implement Lean Six Sigma at EPZ. Due to this request, 4 lean six sigma projects started in 2014, and these projects are anticipated to help make significant improvements in 4 processes.
- YEP discusses with managers and workers all over the company about organizational and cultural issues. They try to break organizational barriers.

## Bruce B, Canada

Mission Date; 30 Nov.-17 Dec.,2015

Effective engagement with different communities (interested parties) to ensure open communication with associated confidence of mitigation measure response.

Bruce power has applied adaptable communication methods to meet the needs of the extensive varied communities in the immediate and extended locality. These methods target specific groups to effectively communicate and share safety information about plant e.g. outage campaigns, environment impact, or emergency planning.

A key component in any communication effectiveness is trust. The methods and application are designed to build trust in communications from the plant, for example:

- Protocol agreements signed with all three Aboriginal groups who claim Aboriginal and/or treaty rights. These agreements layout how communication will happen and how to work through matters of interest, in particular safeguarding the environment. This planning enables effective communication (usually face to face through trusted ambassadors) to take place.
- Virtual 'Town Hall' meetings where a large number (greatest number signing in was 10,000) of on-line public can take part in a question/answer session with the CEO of Bruce Power. The Video Town Hall meeting called over 40,000 homes in Grey Bruce and Huron counties and over 10,000 connected to the call for at least a portion of the session. It combines features of a conference call with the functionality of a talk radio show. During the meeting, people have the opportunity to ask questions, answer polling questions, leave messages upon the conclusion of the meeting and other options. It is a new and unique way of conducting public meetings for nuclear communication.

Applicability to others: The identification of specific communication methods to reach specific communities assists a site to develop trust and effective communication exchanges that facilitate emergency protocols and public understanding of the site's actions and activities.

## Pickering, Canada

Mission Date; 19 Sep.-6 Oct.,2016

The plant has fostered a longstanding positive relationship with community partners to develop young leaders and improve environmental stewardship and awareness.

Since 2006, the plant has sponsored a community-based educational and leadership development program reaching over 16000 community members. Held at a local park adjacent to the plant site, "Tuesday's on the Trail" capitalizes on partnerships established between the plant and the local community to provide a unique opportunity for families to experience a fun, interactive and educational program focused on environmental stewardship, arts and culture, and Indigenous teachings. The program provides an additional forum for the plant to educate the public on their operations.

In addition, the program provides mentoring and leadership development opportunities for local high school students. These volunteers engage younger participants by assisting in delivery of the programs and serving as role models to participants. Many of the mentors are returning participants who went through the program themselves. This provides them with the opportunity to further grow as leaders and transfer knowledge and experience to subsequent participants. This will help develop community leaders and mentors for future generations.

Community partners participating in the program include a local university, a theatre group, an arts council, a museum, an Aboriginal group, and the national conservation foundation. These partners help to develop diverse educational and leadership development programs for families with school aged children.

Applicability to others: The identification of specific partnerships focused on education and leadership development opportunities for younger community members fosters foundational support by future generations. The program reinforces a plant's commitment to their host communities, demonstrates shared values, strengthens valuable relationships and partnerships, and increases the public awareness of nuclear power.

## Almaraz 2, Spain

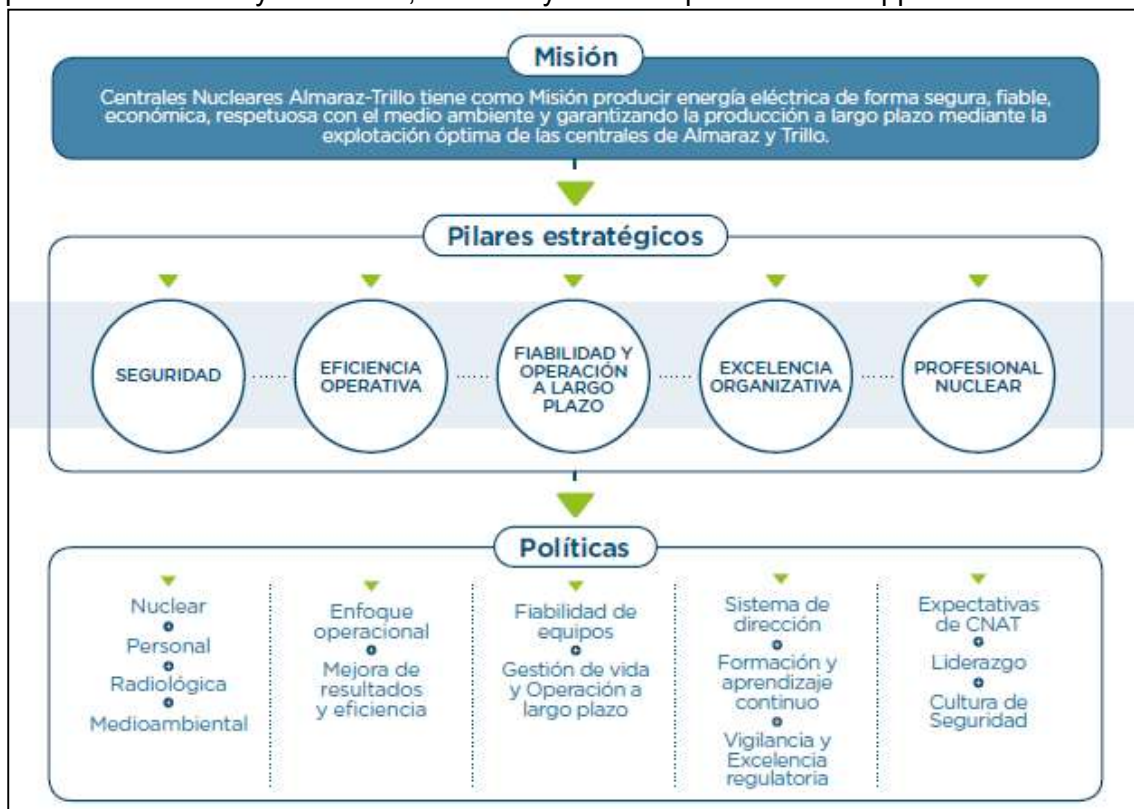
Mission Date; 5-22 Feb., 2018

Development of a recruitment programme that allows new staff to gain significant knowledge and experience from peers prior to starting a role and for the existing staff to benefit from the new capabilities being brought by the new staff.

During the last years, Almaraz NPP has faced a situation of personnel renewal at all levels of the organization (From plant manager to workforce) due to the increasing aging.

This has been a challenge for the organization, since the aim was to maintain the high standards in the values and safety culture of the veteran staff, but also wanted to incorporate the capabilities and differentiating characteristics of the new-comers.

A key success factor for the effective implementation of this process was the clear definition of the business model, which includes the mission, vision and values of the company, as well as the pillars on which they are based, and finally the main policies to be applied.



Likewise, within CNAT's new leadership model, the desirable 9 characteristics (divided on Management, Strategic and relational competencies) of the managers are defined (middle and top graduates at all levels of the organization), and have been explained in workshops to all personnel with personnel depending on them, requiring to the top graduates a specific improvement plan, including two of them, to be followed by their direct manager.



The clear definition has been very important, but what has been crucial has been the way in which this culture has been incorporated gradually to the new staff.

During the recruitment process, staff is sought with positive characteristics similar to those already existing in the organization (openness, nearness, empathy, assertiveness, critical and rigorous attitude, high safety standards, etc.).

During the welcome process, the new staff receives the main documents about the principal aspects of the organization, but what has been a qualitative leap in this respect has been the incorporation of a mentoring process, through which the newly incorporated has a personal support, during the theoretical training (very solid, extensive and with an eminently practical approach) and finally a direct mentoring during on-the-job training (with direct supervision all the time). This mentoring requires progress reports and lines of work to ensure both the integration of the differentiating characteristics of the organization, as well as technical knowledge, in order to detect what needs to be improved.

**Benefits:**

The Plant has transmitted the highly beneficial experience and knowledge aspects of the existing staff (many that are close to retirement) regarding the mission, vision, values and culture of the plant, and incorporated the new capabilities in the new generations (multitasking, great understanding of new technologies and new software, acceptance of new training methodologies) into the working culture of the station.

### The CONNECT project and its applications

The CONNECT project upgrades the communication systems in the EDF nuclear plants and allows real time access to information to provide support to Operations and other functional groups working in the plants by facilitating:

- Performance of field operator rounds.
- Management of tagging and Operations line-up procedures.
- Remote requests for technical assistance.
- Management of emergent work via surveillance video or video calls.
- The ability of Operators to access equipment line-up procedures.
- Review of equipment specifications.
- Initiation of work requests when equipment defects are identified.
- Reporting of issues in the “Caméléon” database from the field.
- Display of plant mechanical drawings.

The enhanced capability will improve the efficiency and quality of plant operations and other departments when performing work in the field.