

OSART Good Practices
EMERGENCY PREPAREDNESS AND RESPONSE
Organization and functions

South Ukraine³, Ukraine

Mission Date; 9-25 Oct., 2006

Round table discussions for plant Emergency Planning Preparedness representatives

Round table discussions are regularly organized with the plant Emergency Planning Preparedness representatives in the course of the public information process.

At the SUNPP they routinely organize "round table discussions" (1-2 times per month) involving representatives of public authorities, institutions of local governing, social and party organizations, mass media and enterprises.

"Round table discussions" are carried out on regional and local levels. NPP managers, including Emergency Response Department Head, take part in them.

During 2006 (from February to July) the following "round table discussions" took place:

- on regional level - 2;
- on local level- 5; and
- on enterprise level - 1;

About 359 representatives of off-site organizations participated in the "round table discussions".

"Round table discussions" allowed NPP visitors to understand the principles of the SUNPP safe operation including EPP tasks. The visitors receive comprehensive and qualified answers to all questions, what creates the atmosphere of openness and trust towards nuclear power engineering.

South Ukraine³, Ukraine

Mission Date; 9-25 Oct., 2006

There is a very strong and regular based co-operation with local authorities involved in EPP tasks.

Every month two NPP representatives as staff members take part in the meetings of so called local committee on technological and environmental safety and emergency situations formed out of the town organizations.

In 2006:

- 10 committee meetings were held;
- 21 questions related to the prevention and elimination of the consequences of potential emergency situations on NPP site and in the town were raised,
- 7 schedules of activities were approved; and
- 3 exercises were conducted.

This reflects good interaction between plant and town ERO organizations in the frame of territorial subsystem of United State system of prevention and response to man-caused and environmental emergency situations.

Fessenheim, France

Mission Date; 23 Mar.-8 Apr., 2009

Harmonization of measuring points between the plant and the national authorities of France and Germany.

In the event of an activity release it is important that all resources can work together in an organized and effective manner. Measuring points in the environment in the event of emergency have been standardized with the French and German authorities so that a common set of points are used.

During an emergency, measurements would be carried out and compared. This practice leads to an increase in the number of measurements since the teams no longer take measurements in duplicate at neighbouring points.

This practice has been implemented since 2005 for the French part and 2009 for the German part. It was tested by a joint exercise with the authorities. This practice has led to validated measurements (since taken in the same places), an increase in the number of measurement points (with sharing of results by fax) and an increase in the area covered by these measurements.

Angra 2, Brazil

Mission Date; 28 Mar.-14 Apr., 2011

The site evacuation could be performed efficiently at the appropriate decision point due to efficient preparatory measures.

The site has implemented a car parking policy that requires cars to be parked at authorized locations. It is also required that the cars are to be parked facing out in these locations. This car policy is included in the mandatory yearly retraining document for the general employees. The implemented policy observed during the mission facilitates a safe evacuation process.

Every three months, the plant assesses the number of people expected for each of the four assembly points. This estimation is further more refined weekly and is completed by the determination of the number of the busses needed depending on the working conditions (working hours, outside working hours, week, week-end) and the figures are recorded in the weekly on-duty call list. This practice facilitates the initiation of an evacuation of the site by limiting the required actions to the identified resources.

During the general off-site exercise, organized every two years, an effective evacuation of the site is tested and the time needed to perform such a site evacuation is recorded. These records indicate a complete evacuation of the site could be conducted within ninety minutes, including the subsequent verification of the effective site evacuation.

Dukovany, Czech

Mission Date; 6-23 Jun., 2011

Strong support for the public to be effectively prepared for an emergency.

The Civic Safety Committee operating within the Emergency Planning Zone plays an active role in preparing the public for emergencies. Members of the committee are authorized to enter the plant, read plant documents and to discuss issues with plant staff to understand how the plant is operated safely as desired by the public. The members of the committee receive the same daily report from the plant about the operational events as the regulatory body. One member of the committee and his counterpart from the plant deal with emergency preparedness matters. The members of the committee reported that the plant is open in sharing all information with the public, important for their preparation for emergencies.

Biannually the plant provides a calendar that contains detailed instructions on how the public should proceed in an emergency. The content is approved by the regional and national authorities. Pre-defined forms are attached to the calendar and used to provide the most important preliminary information by the citizens to the authorities to support effective evacuation. The forms, submitted to the local authorities in advance, contain information about how many persons are expected to evacuate, if there are disabled in the household, if they need any special treatment/medication, who can assist them after evacuation and the main communication means that can be used to contact them. There are also forms to be put on the door after evacuation about how many persons, how and when they left and if there are animals left behind.

Public information, education and interaction with external authorities.

The plant has an educational bus that visits communities within a 16km radius of the plant. The bus teaches both school children and adults about the activities that take place on the plant and the actions that they should take in the event of an emergency declaration. In the last two years, approximately 1000 people have utilised this service, which represents around 10% of the population living within the 16 km zone. Almost 50% of these people visit the plant information centre as a result of participating in the educational programme. The statistics show that almost 100% of these people have a positive opinion of the plant following these interactions.

An extensive, robust communications system is in place to notify the relevant external bodies in the event of an emergency. This includes a maintained radio system that is effective to a range of 80km from the site which is supplemented with dedicated direct phone lines to relevant authorities and satellite phones.

A committee, chaired by a government department, meets 4 times a year and reviews the coordination of the response to an event. This committee has sub-committees that ensure that all relevant issues are addressed to maintain an adequate capability.

In the event of an emergency the offsite emergency control centre has the capability to track the public being received in the evacuation centres within the evacuation zone. This allows the site to track the arrival of approximately 13000 people at evacuation centres with a high degree of accuracy in the event of an offsite release.

The plant carries out an annual census that includes visiting all households within the 16km exclusion zone. During this census, the plant representative provides a member of the household with a copy of the emergency calendar and reinforces the actions to be taken in the event of an emergency by personally briefing the householder.

The plant maintains all roads within a 16km radius of the plant and provides evacuation points, evacuation route signage and has a dedicated supply of buses available to ensure that all people living within a 5km radius of the plant are evacuated in a timely manner.

Fleet-wide standardized process for emergency preparedness and response with strong involvement from Corporate offices, qualified personnel and high availability of facilities, equipment and materials.

Some of the components are:

- Exelon has developed a standard Emergency Plan and procedures that allow support from corporate offices and other Exelon stations in drills/exercises control and evaluation, review of procedures, and verification of off-site facilities and equipment.
- The review of procedures and the plan takes advantage of having a team of EP managers that ensures that intended changes are appropriate.
- Corporate offices are responsible for the relationship with external agencies, allowing the station EP group to concentrate in onsite activities. This relationship allows better understanding and participation of external organizations in the station emergency plan.
- Common set of performance indicators allows the comparison among fleet EP programmes fostering healthy competition and driving the effort for improvement. Corporate offices have a good tool to assess the performance of the EP process in all fleet stations.
- A standardized training programme has been developed using a detailed job task analysis for each Emergency Response Organization position, including performance-based activities. Most of the training material is common to the fleet helping to ensure better use of resources.
- Having standardized processes facilitates corporate offices to operate common facilities such as the Emergency Operations Facility (EOF) and the Joint Information Center (JIC) and the purchase and storage of supplies such as KI tablets.
- Standard criteria for the evaluation of drills and exercises allow support from other stations and corporate offices, comparisons in performance and dissemination of lessons learned from drills/exercises. More than 300 criteria allow detailed tracking and monitoring of performance.

Most of the performance indicators are challenging and are 100% or in the high 90s, for example: equipment availability, staffing and qualification of personnel, and drills participation.

Having a common process for all the stations in the fleet improves not only the level of preparedness but also, on the level of response, and allows better support from corporate offices and other stations in the fleet.

Partnership between Dampierre NPP and Belleville NPP to take care of each other's potentially contaminated staff in case of an accident.

Dampierre NPP and Belleville NPP are located near each other (about 30 km).

Through this partnership between the two sites, the emergency preparedness organisation can take care of each other's staff in the event of an accident. This arrangement ensures that potentially contaminated persons are taken care of.

In order to have a permanent operational facility, the Dampierre and Belleville NPPs decided to share their emergency preparedness organisations. As a result, the impacted plant will be able to evacuate its staff to the partner site. Evacuated staff will therefore be placed under the responsibility of the partner site. This may include the management of potentially contaminated people.

Once a year, during an emergency exercise, each site tests this arrangement in order to make sure that each partner has the capacity to manage personnel. In 2015, Dampierre and Belleville both took the opportunity during their own on-site emergency plan - radiological safety (PUI SR) exercise in March - to transfer their employees by bus to the partner site. So far, no deviations have challenged the practicability of this arrangement. The main benefits of this partnership are:

- Use of the partner site's facilities, therefore easier maintenance because they are used every day by the partner site.
- The partner site is placed in charge of managing transferred staff, therefore simplifying management of the emergency response and implementation of protective actions of impacted plant;
- Access to the partner site's facilities for decontaminating persons, etc.
- The on-duty emergency preparedness system of the partner site can be used (remotely) by the impacted site to take care of staff.

The plant has developed a set of special arrangements to assist emergency personnel in welfare matters especially regarding concerns for their family and relatives.

As experienced during the Fukushima Daichi accident, the families of the emergency personnel who may live in the surrounding area of an NPP may be seriously affected by the consequences of an emergency at an NPP. As a result, emergency personnel involved in the emergency response could be distracted from performing their responsibilities and duties by worries and concerns for their family and relatives. This may reduce the efficiency of their response and lead to potential safety hazards.

To deal with this concern, the plant developed specific arrangement consisting of three parts:

- Identification of the emergency personnel needs: in the emergency response action sheet of each emergency response group, the head of each response group has the responsibility to collect and record the specific needs of the group members and collect the detailed associated details and data (such as the contacts of the person to be contacted).

The compiled needs are then forwarded to the logistics support group for treatment and follow-up.

- Treatment and follow-up of compiled needs: a dedicated member of the logistic support group takes the appropriate actions (contacts with non-emergency staff, requests of support from CGN, contact with the relatives...) to treat and follow up the compiled needs.

- Continuous feedback: feedback to the concerned emergency personnel is given on regular basis and at least every 3-4 hours, until the topic or issue is resolved.

These specific arrangements are incorporated in the concerned emergency response procedures and instructions and were tested during a drill in December 2016.

By implementing these arrangements, not only the physical needs of the emergency staff, but also the mental and social needs are taken into consideration. Each emergency personnel member will therefore be focused on the dedicated response tasks and duties without being worried about the welfare of their family and relatives possibly affected by the emergency.

The plant has established excellent relationships with Off-site Organizations and other interested parties.

The plant continuously supports stakeholders to meet the regulatory requirement (# 50 meetings in 2017) and the highest standards by providing them the plans framework, training modules and deliver the training (150 Off-site Response Organization trained, 182 Critical Infrastructure and Coastal Protection Authority staff trained).

A single building at Ruwais contains the following:

- Alternative TSC (Technical Support Center) on the ground floor,
- EOF (Emergency Operations Facility) on the first floor,
- EOC (Emergency Operations Center) on the second floor.

The EOC can send text messages (SMS) to all 700 people living inside the Urgent Protective Action Planning Zone - 16 km radius (UPZ) and make announcements in 4 languages: Arabic, Urdu, English and Korean (using sirens on vehicles and from the mosques with predetermined messages, road announcements, etc.). All stakeholders and the plant utilize the same web-based programme known as Web EOC.

A 'planning section' works on future operations (logistics, needs, costs, etc.), evaluates the risks / consequences and gives the Incident Commander different options with criteria, and their recommendations.

A reception center can be activated within 4 hours with a capacity of 20000 people, plus vehicles, in 2 different locations depending on the wind direction, with all equipment for evacuation of the UPZ using a 47km long road specially built for evacuation outside the plume. An extended Planning Distance (80 km radius) has been defined to monitor the dose rates from deposition to anticipate any further decision for this extended UPZ.