

**Nuclear Power Production & Development Company**

**Operating Company of Bushehr NPP**

**Committee of Passive Defense & Crisis Management**

**Plan for**

**Bushehr NPP Comprehensive Emergency Exercise**

**With Participation of WANO Regional Crisis Center (RCC) and Members**

**August 2018**

**Plan for**

**Bushehr NPP Comprehensive Communication Exercise**

**With Participation of Offsite Response Organizations including WANO Regional Crisis Center (RCC) in Moscow and London, and WANO Members**

1. **Date for implementing the emergency preparedness exercise**: 3 October, 2018.
2. **Time (Moscow time) for implementing the emergency preparedness exercise**: 7:30 –10:50 and 12:40-14:45.
3. **Subject**:

Bushehr NPP Emergency Communication Exercise with Participation of WANO Regional Crisis Center (RCC**)** during the Accident and Exchanging Information for fixing it based on the Accident Scenario.

1. **A summary of accident scenario**

Due to wrong opening of safety valve of the steam generator (SG) No. 4 and leakage of steam into atmosphere, pressure drop signal down to 5.1 MPa pressure was created and turbine steam stop valves were closed. After 3 seconds, the generator also got disconnected from the national grid. As steam pressure dropped in SG No. 4, secondary circuit steam leakage signal was formed and reactor emergency protection was actuated. As pressure dropped more in this SG, hot collector of this SG was fractured due to the thermal stress. Therefore, contaminated (active) water of primary circuit leaked into secondary circuit. Since the safety valve of this SG was open, contaminated steam entered into the medium.

1. **Objective of Exercise:**
* Ensuring a systemic communication between Bushehr NPP and WANO Regional Crisis Center at Moscow;
* Evaluating the quality and efficacy of communication systems in NPP and RCC;
* Evaluating the personnel in using the communication systems;
* Evaluating the personnel in filling and approving the report forms;
* Evaluating the inter-team communications in BNPP during the accident and how to offer recommendation, consultancy and required guides;
* Evaluating the quality and adequacy of required responses received from off-site (recommendation, consultancy, expertise).
* Identifying the possible defects and deficiencies and formulating the corrective measures
1. **Manager of Exercise:**

Mr. Hossein Ghaffari: Director of Bushehr NPP-1.

1. **Coordinator Person:**

Mr. Mohammad Hadi Jafari: Emergency Planning manager at Bushehr NPP-1;(Saturday to Wednesday, 07:30 a.m. – 04:30 p.m. (local Time) +987731112640).

1. **Protocol group manager:**

Mr. Kazem Khezri: Manager of Management and Supervision System at Bushehr NPP-1.

1. **Participants:**
* Passive Defense and Crisis management Committee of Bushehr NPP-1;
* WANO Moscow Centre RCC;
* WANO London office Emergency Response Organization (ERO);
* National Nuclear Safety Department (Regulatory Body);
* Nuclear Power Production & Development Co. of Iran (Operating Organization);
* Passive Defense and Crisis Management Committee of AEOI;
* Other WANO Members (other NPPs);
* Bushehr Province Passive Defense general Administration
1. **Initial Organization of Participants:**
* the BNPP scenario formulation committee determines and approves the scenario and exercise program and notifies to the internal and external members who participate in it;
* Internal coordinating and ensuring the readiness of crisis management center and communication systems considered therein;
* Making coordination with WANO Regional Crisis Center(Moscow)
* Making coordination with NNSD (Regulatory Body);
* Making coordination with Nuclear Power Production & Development Co. of Iran (Operating Organization);
* Making coordination with Passive Defense and Crisis Management Committee of AEOI;
* Making coordination with local response organization (Bushehr Province Passive Defense general Administration)
1. **Type of exercise**

Comprehensive Communication with participation of WANO Regional Crisis Center (Moscow) and domestic response organizations.

1. **Method of performing the exercise**
* Schematic Performance of employees in the workplace with simulating the accident in BNPP-1 and informing to the WANO Regional Crisis Center (Moscow) as per the regulation for information exchange and procedure on “how to plan, implement and evaluate the preparedness drills of emergencies at BNPP-1”
* Informing to the WANO Regional Crisis Center (Moscow) and other member NPPs as per the regulation for information exchange and procedure on “how to inform the emergencies during the accident at BNPP-1”.
1. **Organizing the information transfer in emergency preparedness exercises within RCC framework:**
* Readiness of communication system for operation such as telephone, fax, internet, email and video conference;
* Telephone number of drill manager for responding: +987731112644;
* Telephone number of Crisis Center Coordinator Person: +987731112640 (Saturday to Wednesday, 07:45 a.m.– 04:15 p.m., Iranian local time);
* Fax number of Crisis Center for responding: +987731112655;
* E-mail of Crisis Center Coordinator: jafari.hadi@nppd.co.ir;
* Telephone number of plant shift Supervisor:

+987731113112 & +987731114403 (24 hours);

* All information and reports are developed and sent on the basis of Regulation for Information Exchange;
* All conversations and correspondences through various communication systems begin with the word **“exercise”**.
1. **Evaluating the emergency preparedness exercise:**

Evaluation is made based on achieving the objectives in article 2 and as per the following criteria:

* Using the Regulation for Information Exchange;
* Using the approved reporting forms;
* Using sufficient communication systems during the accident;
* Implementing the exercise as per schedule of accident trend;
* Correct answers for handle the simulated accident;

**Plan of BNPP Crisis Management Center in Emergency Preparedness Exercise**

| NO | Official time | Time for taking measures | Simulated accident, Measures taken by participants | Actor |
| --- | --- | --- | --- | --- |
|  | 07:30 – 08:30 | H+0:00 – H+1:00 | Starting the emergency preparedness exercise with simulating the accident in initial hours of accident in BNPP | Bushehr NPP |
|  | 09:30 – 09:00 | H+1:00-H+1:30 | Simulation of calling the members of passive defense and crisis management committee to crisis management center and submission of accident report by NPP shift supervisor to the committee and decision making of the committee members based on submission of report to Moscow regional crisis center. | Bushehr NPP |
|  | 09:05 – 09:25 | H+1:35 - H+1:55 | Sending the safety significant event message at BNPP (Form RCC-2) to WANO Regional Crisis Center (Moscow), NPPD Co. of Iran (Operating Organization), NNSD (Regulatory Body) and Passive Defense and Crisis Management Committee of AEOI | Bushehr NPP |
|  | 09:15 – 09:35 | H+1:45- H+2:05 | Sending the message from WANO Regional Crisis Center (Moscow), NPPD Co. of Iran (Operating Organization), NNSD (Regulatory Body) and Passive Defense , Crisis Management Committee of AEOI and Bushehr Governorate to BNPP on receiving the information on safety significant accident in Bushehr NPP | RCC- NPPD- NNSD- AEOI- Bushehr Governorate  |
|  | 09:45 – 10:05 | H+2:15 – H+2:35 | Sending the message on on-site accidents / extensive accidents (Form RCC-3) to WANO Regional Crisis Center (Moscow), NPPD Co. of Iran (Operating Organization), NNSD (Regulatory Body) and Passive Defense and Crisis Management Committee of AEOI | Bushehr NPP |
|  | 09:55 – 10:15 | H+2:25 – H+2:45 | Sending the message from WANO Regional Crisis Center (Moscow), NPPD Co. of Iran (Operating Organization), NNSD (Regulatory Body) and Passive Defense , Crisis Management Committee of AEOI and Bushehr Governorate to BNPP on receiving the information about the on-site or extensive accidents | RCC- NPPD- NNSD- AEOI- Bushehr Governorate  |
|  | 10:25 – 10:45 | H+2:55 – H+3:15 | Sending the information from NPP in each inspection made from Unit status as well as the radiation status in BNPP and on-site (Form RCC-3a) | BNPP |
|  | 10:50 | H+3:20 | Sending the request for stopping the exercise to WANO Regional Crisis Center (Moscow) | Bushehr NPP |
|  | 12:40 – 13:00 | H+5:10 – H+5:30 | Sending the request for consulting-expert and technical- engineering support as well as mobile lab, and welding robot(Forms RCC-4, RCC-5) | Bushehr NPP |
|  | 13:00 – 13:20 | H+5:30 – H+5:50 | Sending the information from NPP in each inspection made from Unit status as well as the radiation status in BNPP and on-site (Form RCC-3a) | BNPP |
|  | 13:10 – 13:30 | H+5:40 – H+6:00 | Receiving the consulting-expert and technical- engineering response from WANO Regional Crisis Center (Moscow), NPPD Co. of Iran (Operating Organization), NNSD (Regulatory Body), Passive Defense and Crisis Management Committee of AEOI and Bushehr Governorate. | RCC- NPPD- NNSD- AEOI- Bushehr Governorate  |
|  | 13:40 – 14:10 | H+6:10 – H+6:40 | Sending the information from NPP in each inspection made from Unit status as well as the radiation status in BNPP and on-site (Form RCC-3a) | BNPP |
|  | 13:45 – 14:15 | H+6:15 – H+6:45 | Announcing the resolving of accident in Bushehr NPP & Announcing the end of emergency exercise plan (Form specified for end of exercise) | BNPP |