

**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**

**October 2017**

**Plan for**

**Bushehr NPP Comprehensive Emergency Exercise**

**With Participation of WANO Regional Crisis Center (RCC) in Moscow AND London, and Members**

1. **Date for implementing the emergency preparedness exercise**: 10 October, 2017.
2. **Time (local time) for implementing the emergency preparedness exercise**: 10:00–12:30 and 14:00-16:00.
3. **Subject**:

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

1. **A summary of accident scenario**
2. On Tuesday dated 10.10.17 at 8 o’clock a.m., Due to breakage of Turbine Main Steam Header and emergence of leakage in it, the signal for pressure drop to 5.1 MPa has been appeared and the Turbine Stop and Control Valve of Steam entering to the Turbine closes, after 3 seconds, the Generator also gets disconnected from the national grid.
3. Due to appearance of signals: temperature difference of saturation of primary circuit and secondary circuit reaches to more than 75°С (ΔТS-1,2 > 75°С) and the amount of steam pressure in the Steam Generators (SG) reaches to less than 4,9МПа, the signal for steam leakage in secondary circuit appears and reactor emergency protection activates, in addition, the signal of closure of Fast-acting Steam Isolation valves (FSIV) and the Valves installed after them will be sent – out of 8 valves (2 valves in the outlet of each SG). 2 Valves installed on the steam pipeline of SG № 3 do not close due to various reasons - 4 Emergency Feed Water Pumps for Safety Systems also turn on.
4. Due to closure of FSIV related to the SG № 1, 2 & 4, the pressure in them increases and reaches to more than 4,9MPa, consequently, due to elimination of the signal of leakage in the aforementioned SG, the Reactor Circulating Pumps (RCP) № 1, 2 & 4 turn off.
5. Due to pressure drop in the SG № 3 to 4,4MPa and existence of signals ΔТS-1,2> 75°С and ТHot Leg >150°C, the RCP № 3 has been turned off, the signal of closure will be sent for the FSIV № 3 (but due to the aforementioned failure, the FSIV does not close), in addition, all of inlets and outlets of SG № 3 to the adjacent systems get closed. Due to all 4 RCP of primary circuit being turned off, the natural circulation of coolant in the primary circuit will be controlled and inspected.
6. With complete closure of FSIV related to the SG № 1, 2 & 4 and then increase of steam pressure in the SG № 1, 2 & 4, the Fast acting Steam Dump Valve for Steam Discharge into Atmosphere (BRU-A) opens and pressure on the surface Р2C=6,67 MPa will be fixed.
7. At the time of evaporation of water of SG № 3 and its exit from the leakage point, due to the high thermal tension, breakage of Warm Collector № 3 (with the diameter of 100mm) happens. Consequently, the signal of leakage from Primary Circuit to Secondary Circuit appears due to decrease of level in the Pressurizer (PRZ) to less than 4 m and increase of level of Gama Radiation more than 10-3 mSv/hour appears in the steam pipelines of SG № 3. Considering the accident’s circumstances and occurrence of leakage from primary circuit to the secondary one, the coolant of primary circuit in the form of steam exits from the leakage point of the Main Steam Header and the internal space of the Turbine Hall, as well as the surrounding area will be severely contaminated with the radioactive radiation. Automatic cooling with the velocity 60°C /hour through 3 BRU-A related to the intact SG № 1, 2 & 4 to a temperature equal to 200°C (reducing the pressure of primary circuit to 70kgf/cm2) will be started.
8. The signal of severe leakage of primary circuit ТS1C - ТH < 10°С appeared and equipment of safety channels start to work automatically. Gradually with the decrease of pressure of primary circuit and respectively in pressures 7,8MPa, 5,88MPa, 2,5MPa and 1,2MPa, High Pressure Boron Solution Supply Pumps, Passive Storage Tank of 1st stage, Passive Storage Tank of 2nd stage and Low Pressure Pumps of Emergency Cooling System of the Reactor Core, inject boron solution with concentration 16 gr/dm3 into the primary circuit.
9. After decrease of primary circuit temperature to 200°C (decrease of primary circuit pressure to 70 Kgf/cm2) the process of filling the intact SG should be started. In this situation, considering all RCP shutting down before and existence of natural circulation of primary circuit’s coolant, the cooling velocity of the primary circuit should be adjusted to 15°C /hour

In order to do this, the order of cooling the reactor by opening the necessary number of BRU-A valves will be issued (normally, manual opening of one BRU-A is sufficient)

1. Finally, the maintenance team will repair the valve installed after the FSIV of SG № 3 and will close it manually and thus they prevent further outflow of radioactive material into the environment.
2. Continuation of heat removal of primary circuit by the method of natural circulation of primary circuit’s coolant, through manual opening of at least one of BRU-A and decreasing the temperature of coolant to approximately 150°C and finally declaration of normal condition in the NPP site.
3. **Objective of Exercise:**

* Ensuring a systemic communication between Bushehr NPP and WANO Crisis Center at Moscow;
* Evaluating the quality and efficacy of communication systems in NPP and WANO Crisis Center;
* 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, 07:30a.m– 04:30p.m).

1. **Protocol group manager:**

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

1. **Participants:**

* Bushehr NPP-1;
* WANO Crisis Center (Moscow);
* 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-MC Members (other NPPs);
* National competent authority in the region.
* WANO Center Crisis Management Center (London)

1. **Initial Organization of Participants:**

* Determining and approving the scenario and exercise program by the scenario formulation committee and notifying to the internal and external members who participate in it;
* Ensuring the readiness of crisis management center and communication systems considered therein;
* Sending the exercise plan to different sections in NPP;
* Making coordination with NNSD (Regulatory Body);
* Making coordination with operating organization for implementing the exercise;
* Making coordination with national competent authority in the region.
* Making coordination with WANO Crisis Center (Moscow)

1. **Type of exercise**

Comprehensive Communication with participation of WANO 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 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 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, 07:45a.m– 04:15p.m);
* Fax number of Crisis Center for responding: +987731112655;
* E-mail of Crisis Center Coordinator: [jafari.hadi@nppd.co.ir](mailto: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 |
| --- | --- | --- | --- | --- |
|  | 8:30 – 9:30 | H+0:00 – H+1:00 | Starting the emergency preparedness exercise with simulating the accident in initial hours of accident in BNPP | Bushehr NPP |
|  | 9:30 – 10:00 | 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 |
|  | 10:05 – 10:25 | H+1:35 - H+1:55 | Sending the safety significant accident repot at BNPP (Form No.2) to WANO Crisis Center (Moscow), NPPD Co. of Iran (Operating Organization), NNSD (Regulatory Body) and Passive Defense and Crisis Management Committee of AEOI | Bushehr NPP |
|  | 10:15 – 10:35 | H+1:45- H+2:05 | Sending the message from WANO 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 |
|  | 10:45 – 11:05 | H+2:15 – H+2:35 | Sending the message on on-site accidents / extensive accidents (From No.3) to WANO Crisis Center (Moscow), NPPD Co. of Iran (Operating Organization), NNSD (Regulatory Body) and Passive Defense and Crisis Management Committee of AEOI | Bushehr NPP |
|  | 10:55 – 11:15 | H+2:25 – H+2:45 | Sending the message from WANO 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 |
|  | 11:25 – 11:45 | 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 (Forms No.3a and 4) | BNPP |
|  | 11:50 | H+3:20 | Sending the request for stopping the exercise to WANO Crisis Center (Moscow) | Bushehr NPP |
|  | 14:10 – 14:30 | H+5:40 – H+6:00 | Sending the request for consulting-expert and technical- engineering support as well as mobile lab, and welding robot(Form No.4) | Bushehr NPP |
|  | 14:30 – 14:50 | H+6:00 – H+6:20 | Sending the information from NPP in each inspection made from Unit status as well as the radiation status in BNPP and on-site (Forms No.3a and 4) | BNPP |
|  | 14:40 – 15:00 | H+6:10 – H+6:30 | Receiving the consulting-expert and technical- engineering response from WANO 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 |
|  | 15:10 – 15:50 | H+6:40 – H+7:10 | Sending the information from NPP in each inspection made from Unit status as well as the radiation status in BNPP and on-site (Forms No.3a and 4) | BNPP |
|  | 15:25 – 15:45 | H+6:55 – H+7:15 | Announcing the resolving of accident in Bushehr NPP & Announcing the end of emergency exercise plan (Form specified for end of exercise) | BNPP |

Форма РКЦ-2 (Format RCC-2)  
Сообщение о событиях на АС важных с точки зрения безопасности/  
*Plant safety significant event message*сообщение / *message* №

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| Адресат /Аddressee: | | | | | Региональный кризисный центр ВАО АЭС в Москве  WANO Moscow Centre VVER NPPs Regional Crisis Centre | | | | | | | | | | | | | | | | |
| От /From: | | | | |  | | | | | | | | | | | | | | | | |
| Факс /Fax: | |  | | | | | | Эл. почта / Email: | | |  | | | | | Телефон / Phone: | | |  | | |
| Число страниц /Pages | | | | | | | |  | | | | | | | | | | | | | |
|  | срочно  /urgently | | |  | | | требует ответа /response required | | | | |  | для ознакомления / for information | | | |  | подтвердить получение  /acknowledge receipt | | | | | |
| 1. Станция /Plant: Блок / Unit: Страна / Сountry: | | | | | | | | | | | | | | | | | | | | | | |
| 2. Возникновение события (местное время) /Event Occurrence (local time):  Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: | | | | | | | | | | | | | | | | | | | | | | |
| 3. Состояние реакторной установки до возникновения события / Unit status prior event: | | | | | | | | | | | | | | | | | | | | | | |
|  | **На мощности / At power** | |  | | | **% от ном./ % of nominal** | | |  | **Горячий ост. / Hot Condition** | | | |  | **Холодный ост./ Cold Condition** | | | | |  | **Перегрузка / Refueling** | |
| 4. Событие / Event:  4.1 Срабатывание системы безопасности/ Safety system actuation  4.2 Отказ системы безопасности / Safety system failure  4.3 Отключение от энергосистемы / Loss of external grid   4.4 Пожар или взрыв/ Fire or explosion  4.5 Внешняя опасность злонамеренных действий/ External human threat  4.6 Экстремальные внешние условия/ Extreme external conditions  4.7 Выход радиоактивности в пределах станции/ Release of radioactivity inside plant  4.8 Выход радиоактивности за пределы станции/ Release of radioactivity outside plant  4.9 Другое/ Other | | | | | | | | | | | | | | | | | | | | | | |
| 5. Описание события /Description of event: *при необходимости, продолжите описание события на стр. 2 / if necessary, continue the description on page 2)* | | | | | | | | | | | | | | | | | | | | | | |

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| 6. Последствия / Consequences:  6.1 Количество пострадавших/ Number of injured persons:  6.2 Повреждения станции/ Plant damages:  6.3 Радиационная обстановка/ Radiation situation: нормальная / normal  6.4 Повышенные уровни радиации внутри зданий станции/ Increased levels measured inside plant buildings        мЗв/ч / mSv/h 6.5 Повышенные уровни радиации на промплощадке / Increased levels measured inside the fence        мЗв/ч / mSv/h | | | | | | | | | |
| 7. Надзорные органы оповещены/ Authorities informed: Да / Yes  Нет / No   7.1 Население и пресса оповещены/ Public and media informed: Да / Yes  Нет / No | | | | | | | | | |
| 8. Состояние энергоблока на момент сообщения / Unit status at time of message: | | | | | | | | | |
|  | На мощности / At power |  | % от ном./ of nominal |  | Горячий ост. / Hot Condition |  | Холодный ост./ Cold Condition |  | Перегрузка / Refueling |
| 9. Отправлено: Ф.И.О. и должность / Sender and position:  Год/Year: Месяц/ Month:       День/ Day: Час/ Hour:       Мин/ Min: | | | | | | | | | |
| 10. Получено Ф.И.О. и должность /Receiver and position:  Год/Year:      Месяц/ Month:       День/ Day:       ас/ Hour:       Мин/ Min: | | | | | | | | | |
| 11. Направлено на станции- члены ВАО АЭС / Forwarded to member plants:  Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: | | | | | | | | | |

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| *(при необходимости продолжите описание события здесь / if necessary, continue the description here)* |
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Форма РКЦ-3 (Format RCC-3)  
Сообщение об аварии в пределах промплощадки АС / общей аварии   
*ON-SITE / GENERAL EMERGENCY* message

Сообщение / *message* №

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| Адресат /Аddressee: | | | | Региональный кризисный центр ВАО АЭС в Москве/  WANO Moscow Centre VVER NPPs Regional Crisis Centre | | | | | | | | | |
| От /From: | | | |  | | | | | | | | | |
| Факс /Fax: | |  | | | | Эл. почта / Email: |  | | | Телефон / Phone: | | |  |
| Число страниц /Pages | | | | | |  | | | | | | | |
|  | срочно  /urgently | |  | | требует ответа /response required | | |  | для ознакомления / for information | |  | подтвердить получение  /acknowledge receipt | |

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| 1. Станция /Plant: Блок / Unit: Страна / Сountry: | | | | | | | | | | | | | | | |
| 2 Объявлена /Announced: авария в пределах промплощадки АС/ On-Site Emergency , общая авария / General Emergency | | | | | | | | | | | | | | | |
| 3. Авария объявлена (местное время) /Announced at (local time):  Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: | | | | | | | | | | | | | | | |
| 4. Состояние реакторной установки до возникновения события / Unit status prior event: | | | | | | | | | | | | | | | |
|  | | На мощности / At power |  | | | % от ном./ % of nominal |  | | Горячий ост. / Hot Condition | |  | | Холодный ост./ Cold Condition |  | Перегрузка / Refueling |
| 5. Работоспособность систем безопасности / Availability of safety systems:  Внешнее питание / External grid: Да/Yes  Нет/ No  Неизвестно/Status unknown  Наличие аварийного электропитания /  Emergency power supply: Да/Yes  Нет/No  Неизвестно/Status unknown  Отвод остаточного энерговыделения / Residual heat removal: Да/Yes  Нет/No  Неизвестно/Status unknown  САОЗ ВД /High pressure safety injection: Да/Yes  Нет/No  Неизвестно/Status unknown  САОЗ НД/Low pressure safety injection: Да/Yes  Нет/No  Неизвестно/Status unknown  Баки САОЗ/Emergency water tanks: Да/Yes  Нет/No  Неизвестно/Status unknown  Гидроемкости САОЗ/ECCS accumulators: Да/Yes  Нет/No  Неизвестно/Status unknown | | | | | | | | | | | | | | | |
| 6. Описание события /Description of event: | | | | | | | | | | | | | | | |
| *(при необходимости, продолжите описание события на стр. 2 / if necessary, continue the description on page 2)* | | | | | | | | | | | | | | | |
| 7. Последствия / Consequences:  7.1 Количество пострадавших/ Number of injured persons:  7.2 Повреждения станции/ Plant damages:  7.3 Радиационная обстановка/ Radiation situation: нормальная /normal  7.4 Максимальное повышение уровня радиации внутри зданий станции / Maximum Increased levels measured inside plant buildings        мЗв/ч / mSv/h; Указать где / Where?       7.5 Радиационная обстановка на промплощадке /  Increased levels measured inside the fence        мЗв/ч / mSv/h;  Указать где / Where? | | | | | | | | | | | | | | | |
| 8. Надзорные органы оповещены/ Authorities informed: Да / Yes  Нет / No   8.1 Население и пресса оповещены/ Public and media informed: Да / Yes  Нет / No | | | | | | | | | | | | | | | |
| 9. Состояние энергоблока на момент сообщения/ Unit status at time of message: | | | | | | | | | | | | | | | |
|  | На мощности / At power | | |  | % от ном./ % of nominal | | |  | | Горячий ост. / Hot Condition |  | Холодный ост./ Cold Condition | |  | Перегрузка / Refueling |
| 10. Отправлено: Ф.И.О. и должность / Sender and position:  Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: | | | | | | | | | | | | | | | |
| 12. Получено Ф.И.О. и должность/ Receiver and position:  Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: | | | | | | | | | | | | | | | |
| 13. Направлено на станции- члены ВАО АЭС / Forwarded to member plants: Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: | | | | | | | | | | | | | | | |
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**Format RCC-3 а**

**Форма РКЦ-3 а (Format RCC-3 а)  
Данные о развитии аварии в пределах площадки/общей аварии**

***Status up-date of on-site / general emergency*сообщение / *message* №**

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| Адресат /*Аddressee:* | | | | Региональный кризисный центр ВАО АЭС в Москве  *WANO Moscow Centre VVER NPPs Regional Crisis Centre* | | | | | | | | | |
| От /*From:* | | | |  | | | | | | | | | |
| Факс /*Fax:* | |  | | | | Эл. почта / Email: |  | | | Телефон / Phone: | | |  |
| Число страниц /Pages | | | | | | 2 | | | | | | | |
|  | срочно  */urgently* | |  | | требует ответа /*response required* | | |  | для ознакомления / *for information* | |  | подтвердить получение  */acknowledge receipt* | |

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| --- |
| 1. Станция /Plant: Блок / Unit: Страна / Сountry: |
| 2 Объявлена /Announced: авария в пределах промплощадки АС/ On-Site Emergency , общая авария / General Emergency |
| 3 Авария объявлена (местное время) /Announced at (local time):  Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: |
| 4. Состояние критических функций безопасности / Status of critical safety functions:  Функция (Состояние)/ Экстремальное Тяжелое Неудовл. Удовл. Неизвестно  Function(Condition) Extreme Severe Unsatisf. Satisf. Not known  4.1 Подкритичность активной зоны /Reactor core sub criticality  4.2 Охлаждение активной зоны / Reactor core cooling  4.3 Отвод остаточного тепловыделения (перв./втор. контур)/ Residual heat removal (prim./sec. circuit)  4.4 Наличие конечного поглотителя /  Ultimate heat sink availability  4.4 Целостность первого контура /Primary circuit integrity  4.5 Целостность гермооболочки / Containment integrity  4.6 Запас теплоносителя в первом контуре /  Primary circuit inventory |
| 5. Работоспособность систем безопасности / Availability of safety systems:  Внешнее питание / External grid: Да/Yes  Нет/ No  Неизвестно/Status unknown  Питание от дизель-генератора/  Emergency diesel power: Да/Yes  Нет/No  Неизвестно/Status unknown  Отвод остаточного энерговыделения/ Residual heat removal: Да/Yes  Нет/No  Неизвестно/Status unknown  САОЗ ВД /High pressure safety injection: Да/Yes  Нет/No  Неизвестно/Status unknown  САОЗ НД/Low pressure safety injection: Да/Yes  Нет/No  Неизвестно/Status unknown  Баки САОЗ/Emergency water tanks: Да/Yes  Нет/No  Неизвестно/Status unknown  Гидроемкости САОЗ/ECCS accumulators: Да/Yes  Нет/No  Неизвестно/Status unknown |
| 6. Корректировка данных по ситуации (изменения в ситуации перед последним сообщением)/ Situation update (changes in situation prior last message): |
|  |

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| 7. Последствия /Consequences:  7.1 Количество пострадавших/ Number of injured persons:  7.2 Повреждения станции/ Plant damages:  7.3 Радиационная обстановка/ Radiation situation: нормальная / normal  7.4 Максимальное повышение уровня радиации внутри зданий станции / Maximum Increased levels measured inside plant buildings        мЗв/ч mSv/h   Указать где / Where?       7.5 Повышенные уровни радиации на промплощадке /  Increased levels measured inside the fence        мЗв/ч mSv/h  Указать где / Where?  7.6 Персонал станции эвакуирован /Plant personnel evacuated: Да/Yes  Нет/No  7.7 Население из зоны аварийного реагирования эвакуировано / Protective area evacuated:Да/Yes  Нет/No |
| 8. Метеорологические условия/ Weather conditions:   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Направление распространения выброса / release transport direction | |  | Осадки/ Precipitation |  | да/yes | |  | нет/no |  | | | | | | |  | Скорость/ Speed, м/с  m/s |  | Интенсивность осадков / Precipitation intensity | | | мм/ч       mm/h | | |  |  |  |  |  |  | |  |  |  | | |  | | |  |  |  |  |  |  | |
| 9. Дополнительная информация/ Additional information  Ф.И.О. Name: Телефон/ Phone: |
| 10. Отправлено: Ф.И.О. и должность / Sender and position:  Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: |
| 11. Получено Ф.И.О. и должность / Receiver and position:  Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: |
| 12. Направлено на станции- члены ВАО АЭС / Forwarded to member plants:  Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: |
| *(при необходимости продолжите описание здесь / if necessary, continue the description here)* |
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**Форма РКЦ-4 (Format RCC-4 )**

**Запрос об оказании экспертной / консультативной и инженерно-технической поддержки/** Format of request for expert/consultative and engineering and technical support

***Request for expert/consultative and engineering support***

**сообщение / *message* №**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Адресат /*Аddressee:* | | | | Региональный кризисный центр ВАО АЭС в Москве  *WANO Moscow Centre VVER NPPs Regional Crisis Centre* | | | | | | | | | |
| От /*From:* | | | |  | | | | | | | | | |
| Факс /*Fax:* | |  | | | | Эл. почта / Email: |  | | | Телефон / Phone: | | |  |
| Число страниц (Pages) | | | | | | 1 | | | | | | | |
|  | срочно  */urgently* | |  | | требует ответа /*response required* | | |  | для ознакомления / *for information* | |  | подтвердить получение  */acknowledge receipt* | |

1. Станция /Plant: Блок / Unit: Страна / Сountry:

2. Суть запроса / Content of request:

|  |
| --- |
|  |

|  |
| --- |
| 3. Отправлено: Ф.И.О. и должность / Sender and position: |
| 4. Дата и время (местное) / Date and time (local time):   Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: |
| 5. Получено Ф.И.О. и должность (местное время) /Receiver and position (local time):  Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: |
| 6. Направлено на станции- члены ВАО АЭС (местное время) / Forwarded to member plants (local time):  Год/Year:      Месяц/ Month:       День/ Day:       Час/ Hour:       Мин/ Min: |

**Форма РКЦ-5 (Format RCC-5 )**

**Запрос о предоставлении о противоаварийных сил и средств членов РКЦ/  
Request for provision of RCC member emergency response forces and resources**

**сообщение / *message* №**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Адресат /*Аddressee:* | | | | Региональный кризисный центр ВАО АЭС в Москве  *WANO Moscow Centre VVER NPPs Regional Crisis Centre* | | | | | | | | | |
| От /*From:* | | | |  | | | | | | | | | |
| Факс /*Fax:* | |  | | | | Эл. почта / Email : |  | | | Телефон / Phone : | | |  |
| Число страниц/Pages | | | | | | 1 | | | | | | | |
|  | срочно */urgently* | |  | | требуетответа /*responserequired* | | |  | для ознакомления / *for information* | |  | подтвердить получение  */acknowledgereceipt* | |

1. Станция /Plant:  Блок / Unit:  Страна /Сountry:

2. Требуются следующие силы (людские ресурсы) /*Required forces (human resources)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Страна/*Country* | Наименование организации/*Name of organization* | Необходимы следующие силы (специализация)/*Requird forces (specialization)* | Численность/*Quantity* | Примечание/*Comments* |
|  |  |  |  |  |
|  |  |  |  |  |

3. Требуются следующие материально-технические средства (МТС)/ *Required material and technical resources*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Страна/  *Country* | Наименование организации/ *Name of organization* | Необходимые материально-технические средства (название и подробные характеристики)/*Required material and technical resources (names and detailed characteristics)* | Количество/*Quantity* | Примечание/*Comments* |
|  |  | *Например:*   * *дозиметры и их подробные характеристики;* * *роботы и их подробные характеристики;* * *манипуляторы и их подробные характеристики; и т.д.*   *Example:*   * *dosimeters and their detailed characteristics;* * *robots and their detailed characteristics;* * *manipulators and their detailed characteristics;*   *etc.* |  |  |

|  |
| --- |
| 4. Отправлено: Ф.И.О. и должность */ Sender and position*:  Год/*Year:* Месяц/*Month:*День/*Day:*Час/*Hour:*Мин/*Min:* |
| 5. Получено Ф.И.О. и должность *Receiver and position*:  Год/*Year:* Месяц/*Month:*День/*Day:*Час/*Hour:*Мин/*Min:* |
| 6. Направлено на станции- члены ВАО АЭС *Forwarded to member plants*: Год/*Year:* Месяц/*Month:*День/*Day:*Час/*Hour:*Мин/*Min:* |

**Форма РКЦ-6 (*Format RCC-6)***

**Технологические и радиационные параметры энергоблока/  
*Power Unit process and radiation parameters***

**сообщение / *message* №**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Адресат /*Аddressee:* | | | | 1. Региональный кризисный центр ВАО АЭС в Москве 2. *WANO Moscow Centre VVER NPPs Regional Crisis Centre* | | | | | | | | | |
| 1. От /*From:* | | | |  | | | | | | | | | |
| 1. Факс /*Fax:* | |  | | | | 1. Эл. почта / Email : |  | | | 1. Телефон / Phone : | | |  |
| 1. Число страниц /Pages | | | | | | 1. 1 | | | | | | | |
|  | 1. срочно  */urgently* | |  | | 1. требует ответа /*response required* | | |  | для ознакомления / *for information* | |  | 1. подтвердить получение 2. */acknowledge receipt* | |

**Таблица РКЦ-6-1 /*Table RCC-6-1*– Состояние энергоблока / *Power Unit status***

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Станция /Plant: Блок / Unit: Страна / Сountry: | | | | | | | | | |
| 2. Исходное состояние/ *Initial condition*: | | | | | | | | | |
|  | На мощности  *At power* |  | % от ном. *of nominal* |  | Горячее сост.  *Hot Condition* |  | Холодное сост. *Cold Condition* |  | Перегрузка *Refueling* |
| 3. Последовательность событий/ *Sequence of events*: | | | | | | | | | |
| 4. Дополнительные отказы/ *Additional failures:* | | | | | | | | | |
| 5. Ситуация на аварийном энергоблоке /*Situation at the affected Power Unit*: | | | | | | | | | |
| 6. Состояние остальных блоков/ *Status of other units:* | | | | | | | | | |
| 7. Отказы систем безопасности / *Failures of safety systems*: Да/*Yes*  Нет/*No* , указать какие/ indicate what systems | | | | | | | | | |
| 8. Наличие связи с энергосистемой / *Grid connection availability*: Да/*Yes*  Нет/*No* | | | | | | | | | |
| 9. Отправлено: Ф.И.О. и должность */ Sender and position*:  Год/*Year:* Месяц/ *Month:* День/ *Day:* Час/ *Hour:* Мин/ *Min:* | | | | | | | | | |
| 10. Получено Ф.И.О. и должность *Receiver and position*:  Год/*Year:* Месяц/ *Month:* День/ *Day:* Час/ *Hour:* Мин/ *Min:* | | | | | | | | | |
| 11. Направлено на станции- члены ВАО АЭС / *Forwarded to member plants*:  Год/*Year:* Месяц/ *Month:* День/ *Day:* Час/ *Hour:* Мин/ *Min:* | | | | | | | | | |

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| стр. 1 из 1  page 1 of 1 |

**Таблица РКС-6-2 *Table RCC-6-2* – Перечень параметров отправляемых в региональный кризисный центр в случае аварии в пределах площадки/аварии с выходом за пределы площадки (образец для АЭС «БУШЕР-1») /*List of parameters to be sent to the regional crisis center in case of on-site / general accident  
(for* «BUSHEHR-1» NPP*)***

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Поз. No.  *It. No.* | Описание /  *Description* | Единицы измерения /  *Measurementunits* | Показания приборов/  *Instrumentreading* | Пределы измерения/  *Measurementboundaries* | | Регламентныепределы/  *Technical Specification boundaries* | | Аварийные пределы или уровни действия /  *EmergencyorAction*  *boundaries* | |
| Нижний/  *Lower* | Верхний/  *upper* | Нижний/  *lower* | Верхний/  *upper* | Нижний/  *lower* | Верхний/  *upper* |
| 1 | 1 | 3 |  | 4 | 5 | 6 | 7 | 8 | 9 |
| **1** | **РЕАКТОР / *REACTOR*** |  |  |  |  |  |  |  |  |
| 1.1 | Температуракорпусареактора  *Reactor pressure vessel temperature*(YC10T001) | оС |  |  |  |  |  |  |  |
| 1.2 | Давление теплоносителя в первом контуре  *PrimaryCoolantpressure*(YA13P902) | бар  bar |  |  |  |  |  |  |  |
| 1.3 | Запас до температуры насыщения  *SubcoolingMargin*(YQ30T915) | оС |  |  |  |  |  |  |  |
| 1.4 | Температура на выходе топливной сборки  *Fuel assembly out let temperature*(YQ30T801) | оС |  |  |  |  |  |  |  |
| 1.5 | Мощность реактора  *Reactorpower*(YX13X801) | % |  |  |  |  |  |  |  |
| 1.6 | Уровень воды в компенсаторе давления  *Pressurizerwaterlevel*(YP10L002) | м  m |  |  |  |  |  |  |  |
| **2** | **ПАРОГЕНЕРАТОРЫ / *STEAM GENERATORS*** |  |  |  |  |  |  |  |  |
| 2.1 | Давление острого пара в ПГ1 (YB11)  *Live steam pressure in SG 1 (YB11)* (RA11P901) | бар  bar |  |  |  |  |  |  |  |
| 2.2 | Давление острого пара в ПГ 2 (YB52)  *Live steam pressure in SG 2 (YB52)* (RA52P901) | Бар  bar |  |  |  |  |  |  |  |
| 2.3 | Давление острого пара в ПГ 3 (YB13)  *Live steam pressure in SG 3 (YB13)* (RA13P901) | бар  bar |  |  |  |  |  |  |  |
| 2.4 | Давление острого пара в ПГ 4 (YB54)  *Live steam pressure in SG 4 (YB54)* (RA54P901) | бар  Bar |  |  |  |  |  |  |  |
| 2.5 | Давление острого пара в ПГ 5 (YB15)  *Live steam pressure in SG 5 (YB15)* (RA15P901) | бар  bar |  |  |  |  |  |  |  |
| 2.6 | Давление острого пара в ПГ 6 (YB56)  *Live steam pressure in SG 6 (YB56)*(RA56P901) | бар  bar |  |  |  |  |  |  |  |
| 2.7 | Уровень котловой воды в ПГ 1 (YB11)  *Boiler water level in SG 1 (YB11)* (YB11L005) | м  m |  |  |  |  |  |  |  |
| 2.8 | Уровень котловой воды в ПГ 2 (YB52)  *Boiler water level in SG 2 (YB52)* (YB52L005) | м  m |  |  |  |  |  |  |  |
| 2.9 | Уровень котловой воды в ПГ 3 (YB13)  *Boiler water level in SG 3 (YB13)* (YB13L005) | м  m |  |  |  |  |  |  |  |
| 2.10 | Уровень котловой воды в ПГ 4 (YB54)  *Boiler water level in SG 4 (YB54)* (YB54L005) | м  m |  |  |  |  |  |  |  |
| 2.11 | Уровень котловой воды в ПГ 5 (YB15)  *Boiler water level in SG 5 (YB15)* (YB15L005) | м  m |  |  |  |  |  |  |  |
| 2.12 | Уровень котловой воды в ПГ 6 (YB56)  *Boiler water level in SG 6 (YB56)* (YB56L005) | м  m |  |  |  |  |  |  |  |
| **3** | **Аварийные системы безопасности**  ***Emergencysafetysystems*** |  |  |  |  |  |  |  |  |
| 3.1 | Уровень раствора в гидроемкости САОЗ 1 (TH40B01)  *Solution level in ECCS 1 accumulator (TH40B01)*  (TH40L801) | м  m |  |  |  |  |  |  |  |
| 3.2 | Уровень раствора в гидроемкости САОЗ 2 (TH40B02)  *Solution level in ECCS 2 accumulator (TH40B02)*  (TH40L803) | м  m |  |  |  |  |  |  |  |
| 3.3 | Уровень раствора в гидроемкости САОЗ 3 (TH80B01)  *Solution level in ECCS 3 accumulator (TH80B01)*  (TH80L801) | м  m |  |  |  |  |  |  |  |
| 3.4 | Уровень раствора в гидроемкости САОЗ 4 (TH80B02)  *Solution level in ECCS 4 accumulator (TH80B02)*  (TH80L803) | м  m |  |  |  |  |  |  |  |
| 3.5 | Давление в гидроемкости САОЗ 1 (TH40B01)  *Pressure in ECCS 1 accumulator (TH40B01)*  (TH40P001) | бар  bar |  |  |  |  |  |  |  |
| 3.6 | Давление в гидроемкости САОЗ 2 (TH40B02)  *Pressure in ECCS 2 accumulator (TH40B02)*  (TH40P006) | бар  bar |  |  |  |  |  |  |  |
| 3.7 | Давление в гидроемкости САОЗ 3 (TH80B01)  *Pressure in ECCS 3 accumulator (TH80B01)*  (TH80P001) | бар  bar |  |  |  |  |  |  |  |
| 3.8 | Давление в гидроемкости САОЗ 4 (TH80B02)  *Pressure in ECCS 4 accumulator (TH80B02)*  (TH80P006) | бар  bar |  |  |  |  |  |  |  |
| 3.9 | Система аварийного впрыска высокого давления канал 1 (TJ20)  *High Pressure Safety Injection RED 1 (TJ20)*  (TJ20F001) | кг/с  kg/s |  |  |  |  |  |  |  |
| 3.10 | Система аварийного впрыска высокого давления канал 2 (TJ60)  *High Pressure Safety Injection RED 2 (TJ60)*  (TJ60F001) | кг/с  kg/s |  |  |  |  |  |  |  |
| 3.11 | Система аварийного впрыска низкого давления канал 1 (TH20)  *Low pressure Safety Injection RED 1 (TH20)*  (TH20F001) | кг/с  kg/s |  |  |  |  |  |  |  |
| 3.12 | Система аварийного впрыска низкого давления канал 2 (TH60)  *Low pressure Safety Injection RED 2 (TH60)*  (TH60F001) | кг/с  kg/s |  |  |  |  |  |  |  |
| 3.13 | Спринклерная система гермооболочки канал 1 (TQ 20)  *Containment Spray System RED 1 (TQ 20)*  (TQ20F001) | кг/с  kg/s |  |  |  |  |  |  |  |
| 3.14 | Спринклерная система гермооболочки канал 2 (TQ 60)  *Containment Spray System RED 2 (TQ 60)*  (TQ60F001) | кг/с  kg/s |  |  |  |  |  |  |  |
| 3.15 | Уровень бака аварийного запаса воды (TH00)  *Emergency Water Tank Level (TH00)*  (TH00L963) | м  m |  |  |  |  |  |  |  |
| 3.16 | Уровень в отстойнике гермооболочки канал 1 (TH10N01)  *Containment sump level RED 1 (TH10N01)*  (TH10LTH10N01) | м  m |  |  |  |  |  |  |  |
| 3.17 | Уровень в отстойнике гермооболочки канал 2 (TH50N01TH50N01)  *Containment sump level RED 2 (TH50N01TH50N01)*  (TH50L) | м  m |  |  |  |  |  |  |  |
| 3.18 | Впрыск бора высокого давления канал 1 (TB10)  *HP boron injection RED1 (TB10)*  (TB12F801) | кг/с  kg/s |  |  |  |  |  |  |  |
| 3.19 | Впрыск бора высокого давления канал 2 (TB20)  *HP boron injection RED2 (TB20)*  (TB22F801) | кг/с  kg/s |  |  |  |  |  |  |  |
| **4** | **Гермооболочка**  ***Containment*** |  |  |  |  |  |  |  |  |
| 4.1 | Давлениевнутригермообъема  *Pressure inside containment*  (TL90P961) | мбар  mbar |  |  |  |  |  |  |  |
| 4.2 | Температуравнутригермообъема, вверху  Temperature inside containment, up  (TL15T001)  Внизу  down  (TL15T001) | оС  оС |  |  |  |  |  |  |  |
| 4.3 | Концентрацияводородавнутригермообъема  *Hydrogen concentration inside containment*  (XW56A001) | % |  |  |  |  |  |  |  |
| 4.4 | Температура воды в отсеке бассейна отработанного топлива  *Water temperature in spent fuel pool compartment*  (TG30T001) | оС |  |  |  |  |  |  |  |
| 4.5 | Уровень воды в отсеке бассейна отработанного топлива  *Water level in spent fuel pool compartment*  (TG30L004) | м  m |  |  |  |  |  |  |  |
| **5** | **Электроснабжение**  ***Power Supply*** |  |  |  |  |  |  |  |  |
| 5.1 | Наличие связи с энергосистемой (400/110 кВ)  *Connection to national grid (400/110kV)* | да / нет  yes / no |  |  |  |  |  |  |  |
| 5.2 | Связь с гидроэлектростанцией  *Hydropowerconnection* | да / нет  yes / no |  |  |  |  |  |  |  |
| 5.3 | Работоспособность аварийной РДГЭС имеющейся на площадке (10МВт) (EY07)  *Site emergency reserve diesel power plant availability (10MW) (EY07)* (AE05E002) | кВт  kW |  |  |  |  |  |  |  |
| 5.4 | Мощность аварийного дизель-генератора 1  (2,8 MВт) (EY01)  *Capacity of emergency diesel generator 1*  *(2,8 MW) (EY01)*(EY01E002) | кВт  kW |  |  |  |  |  |  |  |
| 5.5 | Мощность аварийного дизель-генератора 2  (2,8 MВт) (EY02)  *Capacity of emergency diesel generator 2  ( 2,8 MW) (EY02)* (EY02E002) | кВт  kW |  |  |  |  |  |  |  |
| 5.6 | Мощность аварийного дизель-генератора 3  (2,8 MВт) (EY03)  *Capacity of emergency diesel generator 3*  *( 2,8 MW) (EY03)*(EY03E002) | кВт  kW |  |  |  |  |  |  |  |
| 5.7 | Мощность аварийного дизель-генератора 4  (2,8 MВт) (EY04)  *Capacity of emergency diesel generator 4*  *(2,8 MW) (EY04)*(EY04E002) | кВт  kW |  |  |  |  |  |  |  |

*(****\*****)На каждом работающем блоке/каждой АС, на основании перечня параметров, приведенного в таблице РКЦ-6-2, должны быть разработаны (для данного типа реакторной установки и проекта) минимальные перечни параметров, передаваемых в Региональный Кризисный Центр в случае аварии в пределах площадки/аварии с выходом за пределы площадки, эти перечни должны быть согласованы с РКЦ.*

*(****\*****)Each OU/NPP, based on the list of parameters indicated in Table RCC-6-2, shall develop for its type of reactor plant and design its minimal list of parameters to be sent to the Regional Crisis Center in case of on-site/general accident, and get approval of RCC for it.*

|  |
| --- |
| 6. Отправлено: Ф.И.О. и должность */ Sender and position*: |
| 7. Дата и время / *Date and time*:   Год/*Year:* Месяц/*Month:*День/*Day:*Час/*Hour:*Мин/*Min:* |
| 8. Получено Ф.И.О. и должность *Receiver and position*:  Год/*Year:* Месяц/*Month:*День/*Day:*Час/*Hour:*Мин/*Min:* |
| 9. Направлено на станции- члены ВАО АЭС / *Forwarded to member plants*: Год/*Year:* Месяц/*Month:*День/*Day:*Час/*Hour:*Мин/*Min:* |

**Таблица РКЦ-6-3 / *Table RCC-6-3*– Радиационные параметры энергоблока */Power Unit radiation parameters***

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| № п/п  *It. No.* | Описание  *Description* | Единица измерения  *Measure-ment unit* | Данные КИП  *Instrument reading* | Нижняяграницаизмерений  *Lower measurement boundary* | Верхняя граница измерений  *Upper measurement boundary* | Верхняя граница уровня предупреждения  *Upper warning boundary* | Верхняя граница аварийного уровня  *Upper emergency boundary* |
| *1* | *2* | *3* |  | *4* | *5* | *6* | *7* |
|  | Мощность дозы на крыше здания реакторного отделения  *Dose rate on reactor department building roof* | мЗв/ч  *mSv/h* |  |  |  |  |  |
|  | Мощностьдозывнутригермообъема  *Dose rate inside containment* | мЗв/ч  *mSv/h* |  |  |  |  |  |
|  | Мощность дозы инертного радиоактивного газа – вентиляционная труба 1  *Dose rate of inert radioactive gas - ventilation stack 1* | мЗв/ч  *mSv/h* |  |  |  |  |  |
|  | Активность инертного радиоактивного газа – вентиляционная труба 1 (уровень излучения \*0,3e6, Kr87 ekv)  *Activity of inert radioactive gas – ventilation stack 1 (dose rate \*0,3e6, Kr87 ekv)* | кБк/м3  *kBq/m3* |  |  |  |  |  |
|  | Аэрозольная активность – вентиляционная труба 1, отбор проб  *Aerosol activity – ventilation stack 1, sampling* | кБк/м3  *kBq/m3* |  |  |  |  |  |
|  | Йодная активность – вентиляционная труба 1, отбор проб  *Iodine activity – ventilation stack 1, sampling* | кБк/м3  *kBq/m3* |  |  |  |  |  |
|  | Мощность дозы в паропроводе острого пара ПГ1  *Dose rate in live steam line of SG1* | мЗв/ч  *mSv/h* |  |  |  |  |  |
|  | Мощность дозы в паропроводе острого пара ПГ2  *Dose rate in live steam line of SG 2* | мЗв/ч  *mSv/h* |  |  |  |  |  |
|  | Мощность дозы в паропроводе острого пара ПГ3  *Dose rate in live steam line of SG 3* | мЗв/ч  *mSv/h* |  |  |  |  |  |
|  | Мощность дозы в паропроводе острого пара ПГ4  *Dose rate in live steam line of SG 4* | мЗв/ч  *mSv/h* |  |  |  |  |  |
|  | Мощность дозы в паропроводе острого пара ПГ5  *Dose rate in live steam line of SG 5* | мЗв/ч  *mSv/h* |  |  |  |  |  |
|  | Мощность дозы в паропроводе острого пара ПГ6  *Dose rate in live steam line of SG 6* | мЗв/ч  *mSv/h* |  |  |  |  |  |
|  | Мощность дозы внутри огороженной территории (~100 м)  *Dose rate inside the fence (~100 m)* | мЗв/ч  *mSv/h* |  |  |  |  |  |
|  | Мощность дозы за пределами огороженной территории вокруг АС (~400 м)  *Dose rate outside the fence in the vicinity of NPP (~400 m)* | мЗв/ч  *mSv/h* |  |  |  |  |  |
|  | Мощность дозы на расстоянии 2 км от АС  *Dose rate at the distance of 2 km* | мЗв/ч  *mSv/h* |  |  |  |  |  |

*(****\*****)Каждая РУ/АС, в соответствии с перечнем параметров, указанных в Таблице РКЦ-6-3, должна разработать применительно к своему типу реактора и особенностям проекта минимальный список параметров, направляемый в Региональный Кризисный Центр в случае аварии на площадке/общего характера, и утвердить его в РКЦ.*

*(****\*****)Each OU/NPP, based on the list of parameters indicated in Table RCC-6-3, shall develop for its type of reactor plant and design its minimal list of parameters to be sent to the Regional Crisis Center in case of on-site/general accident, and get approval of RCC for it.*

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| 16. Отправлено: Ф.И.О. идолжность */ Sender and position*:  Год/*Year:*Месяц/*Month:*День/*Day:*Час/*Hour:*Мин/*Min:* |
| 17. ПолученоФ.И.О. идолжность*Receiver and position*: Год/*Year:*Месяц/*Month:*День/*Day:*Час/*Hour:*Мин/*Min:* |
| 18. Направленонастанции- членыВАОАЭС / *Forwarded to member plants*: Год/*Year:*Месяц/*Month:*День/*Day:*Час/*Hour:*Мин/*Min:* |

**Форма РКЦ-7 (*Format RCC-7)***

**Форма подтверждения получения  Региональным кризисным центром сообщения от «аварийной» АС/ Regional Crisis Center’s confirmation form of getting the message from «emergency» NPP**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Адресат /*Аddressee:* | | | |  | | | | | | | | | |
| 1. От /*From:* | | | |  | | | | | | | | | |
| 1. Факс /*Fax:* | |  | | | | 1. Эл. почта / Email : |  | | | 1. Телефон / Phone : | | |  |
| 1. Число страниц (Pages) | | | | | | 1. 1 | | | | | | | |
|  | 1. срочно  */urgently* | |  | | 1. требует ответа /*response required* | | |  | для ознакомления / *for information* | |  | 1. подтвердить получение 2. */acknowledge receipt* | |

1. Ваше Сообщение №       от год      месяц       день       час       мин      получено / *Your Message №       dated by year      month:       day:       hour:       min       have been received.*

|  |
| --- |
| 2. Отправлено: Ф.И.О. и должность */ Sender and position*:  Год/*Year:* Месяц/ *Month:* День/ *Day:* Час/ *Hour:* Мин/ *Min:* |
| 3. Получено Ф.И.О. и должность *Receiver and position*: |
| 4. Год/*Year:* Месяц/ *Month:* День/ *Day:* Час/ *Hour:* Мин/ *Min:* |

**Региональный кризисный центр**

**Объявление оперативной паузы при проведении тренировки/**

**Regional Crisis Centre**

**Operational break announcement**

Aдpecaт /Addressee:

Участникам РКЦ / RCC Participants:

OT /from:

Факс /Fax: Эл. почта / Email: Телефон / Phone:

срочно требует ответа / ознакомления/ Утвердить получение/

Urgently response required for information knowledge receipt

То тправлено: Ф.И.О. должность

Sender and position:

Год/Year: Месяц/ Month День/ Day Час/ Hour Мин/ Min:

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Стр.1 и з 1

Page 1 of 1

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|  |

**Форма РКЦ «Окончание тренировки» (Format”End of Exercise”)**

Адресат / Addressee: Участникам РКЦ / RCC Participants

От / From:

Факс /Fax Эл. почта / Email: Телефон / Phone:

Число страниц /PagesЖ

срочно требует ответа для ознакомления подтвердить получени /urgently /response required / For information /acknowledge receipt

............................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................

|  |
| --- |
| Отправлено: Ф.И.О. должность  Sender and position: |
| Дата и время (местное) / Date and time (local time):  Год / Year: Месяц / Month: День / Day: Час / Hour: Мин / Min: |
| Получено Ф.И.О. и должность (местное время) / Receiver and position (local time):  Год / Year: Месяц / Month: День / Day: Час / Hour: Мин / Min: |

Стр.1 и з 1

Page 1 of 1