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_____ 2018

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**RCC REPORT
ON PARTICIPATION IN EMERGENCY EXERCISE
AT PAKS NPP**

25 September 2018

Topic: EMERGENCY EXERCISE AT PAKS NPP (HUNGARY)

Moscow 2018

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AREVIATIONS

NPP	nuclear power plant
JSC «Consist-OS»	joint stock company "Consist – Telecoms operator"
WANO-MC	WANO Moscow Center
VVER	water-cooled water-moderated power reactor
VCC	video conference communication
VNIIAES	joint stock company "All-Russian scientific and research institute for NPP operations"
CC	crisis center
SPC "Taifun"	scientific and production company "Taifun"
NRC “Kurchatov Institute”	National Research Center “Kurchatov Institute”
OPAS	NPP emergency support group
OKB "Gidropress"	design bureau "Gidropress"
EE	emergency exercise
PC	personal computer
RCC	regional crisis center
SCC Rosatom	FGUP "Situational and crisis center of Rosatom"
CC&OPAS FG	functional group ensuring CC and OPAS functioning
RCC FG	functional group ensuring RCC functioning
TSC	technical support center
UT	utility (operator), nuclear power plants

Introduction

Pursuant to schedule of the WANO Moscow Centre Regional Crisis Center (hereinafter RCC) for 2018 the emergency exercise with Paks NPP (Hungary) on subject: “Emergency Exercise at Paks NPP (Hungary)” took place on the 25th September 2018 from 9:00 till 13:00 (Moscow time).

The main EE objective was to practice Regulations on functioning and Regulations on information exchange between participants of the WANO-MC Regional Crisis Center while responding to a simulated accident at Paks NPP (Hungary).

The RCC EE supervisor – V.A. Golubkin, the chief technologist of the CC and OPAS functioning unit of the Emergency preparedness and radiation protection department.

Objectives of the EE were:

- RCC – Paks NPP communication channels (phone, fax, e-mail) test in the frames of response to a simulated accident at Paks NPP;
- evaluation of Paks NPP personnel readiness and skills in terms of ability to send and transfer RCC formats;
- to practice provision of expert/advisory and logistical support to Paks NPP.

The simulated accident at Paks NPP occurs at unexpected moment of time.

Emergency exercise participants

JSC "Concern Rosenergoatom" (OPAS group), Technological branch JSC "Concern Rosenergoatom", TSCs (JSC VNIIAES, SPC "Taifun", NRC "Kurchatov Institute", OKB "Gidropress"), technical support group JSC "Consist-OS" took part in the emergency exercise from Russian side.

Paks NPP (Hungary), Fortum Corporation (Loviisa NPP (Finland), Slovenske Elektrarne (Bohunice NPP, Mochovce NPP (Slovak Republic), CEZ (Dukovany NPP, Temelin NPP (Czech Republic), JNPC (Tianwan NPP (China), NNEGC “Energoatom” (Ukraine), Kozloduy NPP (Bulgaria), Armenian NPP (Armenia), Belorussian NPP (Belorussia), Bushehr NPP (Iran) took part in the emergency drill from the side of foreign companies.

World Association of Nuclear Operators, Moscow Centre, took part in the emergency drill as an international organization.

1 Results analysis of the emergency exercise

1.1 In course of the emergency exercise the information exchange procedures had been practiced between the RCC and RCC member utilities/NPPs in accordance with the Regulations

on information exchange between the participants of the WANO-MC Regional Crisis Center (hereafter – the Regulations on information exchange).

1.2 E-mail have been used as the main communication channel in frames of the exercise; in addition, all messages on the exercise shall be duplicated at the ftp-server of the Crisis Center. Videoconferencing, e-mail and phone were used for communication with the TSCs (NRC KI, OKB “Gidropress” and RPA “Typhoon”). There were not certain deficiencies in communication channels functioning in course of the emergency exercise.

1.3 During the exercise, the RCC received and transferred overall amount of 8 messages on simulated accident occurrence and development at Paks NPP. The chronological consequence of information exchange is provided in tables 1.1 and 1.2.

Table 1.1 – Chronological sequence of information received by RCC from emergency exercise participants (Incoming messages)

Msg. No	Sender	Data transmission channel	Message	Sending time (MOW)
1	Paks NPP	e-mail-fax	RCC-2 format Information on safety significant events at NPP	09:12
2	Paks NPP	e-mail/fax	RCC-3 format Information on accident within the site of NPP	10:16
3	Paks NPP	e-mail/fax	RCC-3a format Data on accident evolution within plant site/general accident	10:55
4	Paks NPP	e-mail/fax	End of the exercise	12:30
Messages received in total			4	

Table 1.2 - Chronological sequence of information sent from RCC to emergency exercise participants (Outgoing messages)

Reg. No	Addressee	Data transmission channel	Message	Sending time (MOW)
1	TSC, OO/NPP – RCC members	e-mail/fax, ftp	Form RCC-2 Information on safety-significant events at NPP	09:55
2	TSC, OO/NPP – RCC members	e-mail/fax, ftp	RCC-3-VVER format Message on accident within the NPP site	10:45
3	TSC, OO/NPP – RCC members	e-mail/fax, ftp	RCC-3a-VVER format Data on accident evolution within plant site/general accident	12:56
4	TSC, OO/NPP – RCC members	e-mail/fax, ftp	End of the exercise	12:30
Messages forwarded in total			4	

Having analyzed the tables 1.1 and 1.2 it should be concluded that the information submission timeframes in accordance with the Regulations on information exchange have been mainly observed. The EE allowed revealing certain deficiencies concerning filling out the RCC formats:

- Not up-to-date forms of information exchange were used. The forms contained obsolete RCC naming «WANO Moscow Centre VVER NPPs Regional Crisis Centre»;
- All messages forwarded from Paks NPP did not contain sender's name;
- RCC formats RCC-2,3,3a contained information on accidental sequence at units 1-4. At the same time, information in section 4 format RCC-3 and sections 4 and 5 format RCC-3a related to Unit 2 state;
- Messages received from Paks NPP have not been filled out by date-time and not been signed by receiver.
- Not all RCC members acknowledged receipt of messages in course of the exercise.

2 Evaluation of the emergency exercise

The results of comprehensive evaluation show good convergence of the EE assessment conducted by RCC and Paks NPP.

Attachment 1 provides comprehensive assessment of the emergency exercise performed at Paks NPP on 25.09.2018 r.

Expert/advisory support to the ETC Concern Rosenergoatom.

Paks NPP had not requested expert/advisory support from the RCC.

Conclusion

During the emergency exercise the information exchange practices were performed according to the Regulations of information exchange between participants of the WANO-MC Regional Crisis Center. In course of the exercise RCC received 4 messages from Paks NPP on conditional accident occurrence and development at Paks NPP that were processed and re-transmitted to RCC member utilities/NPPs.

Positive elements of the emergency exercise to be mentioned are:

- the information submission timeframes in accordance with the Regulations on information exchange have been mainly observed;
- the results of a comprehensive two-sided evaluation showed good convergence.

Certain deficiencies have been noted regarding correctness of filling out of RCC formats, it is recommended to conduct respective briefing.

The main objective of the EE with Paks NPP, which was conducted on 25 September 2018 was achieved. The RCC shift on duty and the responsible for interaction with RCC from side of Paks NPP practiced actions in accordance with the Regulations on information exchange between the RCC members.

Attachment 1 – Evaluation of emergency exercise at Paks NPP on 25.09.2018

No.	Evaluation criteria	RCC evaluation	Paks NPP evaluation	Summative evaluation	Remarks
1	Adherence to the timeframes of messages sending to the RCC according to the Information Exchange Regulations.	SAT	SAT	SAT	The information submission timeframes in accordance with the Regulations on information exchange have been mainly observed.
2	Correctness of forms filling out and sequence of information exchange	NOF	NOF	NOF	All messages forwarded from Paks NPP did not contain sender's name; RCC formats RCC-2,3,3a contained information on accidental sequence at units 1-4. At the same time, information in section 4 format RCC-3 and sections 4 and 5 format RCC-3a related to Unit 2 state; Messages received from Paks NPP have not been filled out by date-time and not been signed by receiver.
3	Number of received by RCC and forwarded forms	SAT	SAT	SAT	Number of messages sent does not correspond with the planned messages number.
4	Sufficiency of data to understand situation at the plant.	SAT	SAT	SAT	Technical information provided by Paks NPP was insufficient to understand the situation.
5	Correctness of the initiating event description in accordance with the EE scenario.	NOF	SAT	NOF	A technological scenario was not provided by Paks NPP
6	Use of proper forms	NOF	SAT	NOF	Not up-to-date forms of information exchange were used
7	Organization of interaction within emergency drills and exercises (audio/video conference communication).	SAT	SAT	SAT	A part of communication channels used during the exercise were not functioning
8	Availability of backup communication channels	SAT	SAT	SAT	Backup communication channels were available for use

No.	Evaluation criteria	RCC evaluation	Paks NPP evaluation	Summative evaluation	Remarks
9	Provision of expert / advisory support to the utility / NPP.	NOT	NOT	NOT	Paks NPP had not requested expert/advisory support from the RCC
10	List of the forces and means engaged into the emergency exercise.	NOT	NOT	NOT	Paks NPP had not requested technical support from the RCC
11	Acknowledge receipts by the RCC	SAT	SAT	SAT	RCC was sending acknowledge receipts to Paks NPP

***SCORE:**

SAT: Satisfactory fulfillment of the criterion. Minor deficiencies could exist that do not impact the overall fulfillment of the criterion.

NOF: Criterion is not fully fulfilled. Efforts are needed to resolve deficiencies.

UNSAT: Unsatisfactory fulfillment of the criterion. Performance criterion is not fulfilled.

NOT: Not applicable to the RCC member (depends on the participation level).



РОСЭНЕРГОАТОМ
ЭЛЕКТРОЭНЕРГЕТИЧЕСКИЙ ДИВИЗИОН РОСАТОМА

СОГЛАСОВАНО
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С.В. Выборнов
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“18” 10 2018 г.

В.Е. Хлебцевич
2018 г.

**ОТЧЕТ ПО УЧАСТИЮ РКЦ
В ПРОТИВОАВАРИЙНОЙ ТРЕНИРОВКЕ
НА АЭС ПАКШ**

25 сентября 2018 года

**ТЕМА: «ПРОТИВОАВАРИЙНАЯ ТРЕНИРОВКА НА
АЭС ПАКШ (ВЕНГРИЯ)»**

Москва 2018