|  |  |
| --- | --- |
| LOGO-Full Wording-P301 | **Moscow Centre****WANO-MC**25 Ferganskaya, Moscow, 109507, RussiaPhone: +7 495 376 15 87Fax: +7 495 376 08 97info@wanomc.ru |

03.07.2016

Pages: 10

**To: Beloyarsk NPP WANO Peer Review Team**

**From: Andrey LACHKOV, Sergey VYBORNOV (Jr.), coordinators of the Beloyarsk NPP Peer Review**

**Subject: Information letter**

Dear colleagues,

Welcome to the WANO peer review (PR) team at Beloyarsk NPP. We hope that your professional experience and knowledge will enable to make a sustainable contribution to the team performance.

The period of the peer review is from **August, 18 (arrival to the site) to September, 3, 2016 (departure).**

The peer review will be conducted in accordance with the WANO Performance Objectives and Criteria (PO&C) 2013-1, issued in March, 2013. You could find this document attached along with a draft peer review schedule, team composition and team leader’s expectations.

Specific training on the plant walkdown (“white cards”) will be done in the hotel conference room on Thursday, August, 18. Training on the peer review process and methodology, discussion of the preliminary information package and experts’ area review plans with the team leader is scheduled on August 20 – 21 for the whole team.

In accordance with PO&C 2013-1 the peer review will be held in the following areas:

Fundamentals:

* Nuclear professionals (NP.1)
* Leadership (LF.1)

Functional areas:

* Operations (OP)
* Maintenance (MA)
* Chemistry (CY)
* Engineering (EN)
* Radiation protection (RP)
* Training (TR)

Cross-functional areas:

* Operational focus (OF)
* Work management (WM, FA, PM)
* Equipment reliability (ER)
* Configuration management (CM)
* Radiological safety (RS)
* Performance improvement (PI)
* Operating experience (OE)
* Organizational effectiveness (SC, OR, HU, IS)
* Fire protection (FP)
* Emergency preparedness (EP)

Please note that you are expected to know both the reviewed area and associated cross-functional areas and foundations from PO&C (reviewed by the whole team):

|  |  |
| --- | --- |
| **Functional area** | **Cross-functional area** |
| **NP, LF – reviewed by the whole team** |
| **OR** **Organizational effectiveness** | Organizational effectiveness **OR** + Nuclear safety culture **SC.1**,  |
| **OP** **Operations** | “Operational Focus” **OF**  |
| **MA** **Maintenance** | Work management **WM**  |
| **EN** **Engineering** | Equipment reliability **ER** Configuration management **CM**  |
| **RP** **Radiation protection**  | Radiological safety **RS**+Effluent control **CY.3** |
| **CY** **Chemistry** | +Equipment reliability **ER.4** |
| **PI** **Performance improvement**  | Operating experience **OE**  |
| **TR****Training** | Human performance **HU** |
| **FP** **Fire protection**  | + Industrial safety **IS.1** |
| **EP** **Emergency preparedness**  | +severe accident management (SAM) in accordance with WANO-MC GB decision  |

Allocation of responsibilities among team members is represented in **Appendix 1**.

# SCOPE OF THE REVIEW:

* Unit-3 and 4, common plant systems and facilities;
* Status of the SOER recommendations implementation;
* Severe accident management program ( on the basis of SAM PO&C);
* Nuclear safety culture survey.

# LODGING/MEALS:

We will be staying at the health and recreation resort of the Beloyarsk NPP.

WI-FI access will be available for the team in your rooms.

In august average temperature in Zarechny (Beloyarsk NPP is located in vicinity of this town) is around +16 оC in the afternoon and +12оC in the evening. Lodging and meals will be provided for the team by WANO-MC and Beloyarsk NPP.

For official events like welcome meeting and final briefing you are recommended to wear a suit and a tie. For the rest of the work dress code is business casual.

**WORK ON-SITE:**

Peer review team will be provided with entry passes enabling access to the plant according to the station policy. The WANO team members will have an “Escorted access” which means that they will be accompanied by someone from plant employees every time on-site. The English-Russian interpreters will provide their assistance during observations and interviews to those peers who do not speak Russian. Beloyarsk NPP will provide team members with personal protective equipment, overalls and safety shoes.

WANO-MC will distribute memory sticks for work during the peer review. You can bring your laptops onsite. It is forbidden to bring your cell phones on-site.

# CONTACTS AT BELOYARS NPP:

|  |  |  |
| --- | --- | --- |
| **HOST INTERFACE REPRESENTATIVE:** | **Sergey KIM**, Deputy Chief Engineer on engineering and modifications  | phone +7 (34377) 3-68-68  |
| **WANO-MC ON-SITE REPRESENTATIVE:** | **Grigory VASILIEV**  | phone.: +7 967 851 55 01E-mail: g.b.vasiliev@wanomc.ru  |

# TRAVELLING:

We are planning to fly from Moscow to Ekaterinburg on **August, 18, 2016 at 11:55 from Sheremetyevo airport (flight SU1402). The meeting point is gate in the departure area immediately before the flight.** We willarrive to the Kolcovo airport, Ekaterenburg, at **16:15**. The bus will pick us up and bring to the Beloyarsk NPP health and recreation resort. It will take approximately one hour to get to the destination place.

**RETURN TRIP:**

The team departure from Zarechny is planned for **Saturday, September, 3, 2016.** **The direct flight SU1401 (Aeroflot)** from Ekaterinburg is at 14:05. **Arrival at Sheremetyevo airport (Moscow) is at** **14:35 (local time)**.

The whole round trip from Moscow to Beloyarsk NPP will be financed by the WANO-MC together with Beloyarsk NPP. Your transportation to Moscow and back as well as business expenses should be covered by your company, although WANO will provide you with a “per diem” cash allowance in local currency (roubles).

Please be advised that you should arrive in Moscow **in August, 18 before 09:30**. If there are no such flights then you should arrive in Moscow the day before.

On your way back on September, 3, 2016 please plan your departure from Moscow (either a plane or a train) not earlier than 6 p.m.

Please let us know about your travel plan including dates, arrival/departure time in/from Moscow, and flight numbers at your earliest convenience.

**OBTAINING RUSSIAN VISA:**

By the mid-July we will send to your e-mails a notification that invitation letters have been sent directly to the Russian Federation Consulate in a particular country. After that you can apply for Russian visa. We are kindly asking you to inform us if you face any problems.

**PRELIMINARY INFORMATION PACKAGE:**

Shortly we will send a link (with the help of “Liquid files” secured software) to download preliminary information package. You are expected to review thoroughly this information including the analysis of plant events, performance indicators and preliminary visit results. On the basis of this information you should develop your area review plan as well as a plan of cross-functional areas and send it to the coordinators before August, 11. The template and the example of the area review plan is attached to the message.

**ADDITIONAL INFORMATION:**

1. By arrival to Beloyarsk NPP **please bring your medical certification (hard copy) that allows you to work with radioactive materials and sources** (the medical certification form has been sent to you together with the registration form before). It’s also necessary to have medical insurance (valid for the period of your staying at Beloyarsk NPP).
2. Bring your laptop along with you.
3. Please take comfortable clothes for work on the NPP (except blue jeans) and outdoor clothing, taking into consideration average temperature in the NPP region.
4. Note that your personal daily expenses like laundry, ironing, etc. should be paid by your own.
5. The plant is planning some social events for the weekend. Do not forget to bring your sports clothes and comfortable shoes.
6. It is preferable to bring small souvenirs for friends who you will meet at the peer review.

Please inform us that you have received this letter. You can address us if you need any information or assistance:

|  |  |
| --- | --- |
| Andrey LACHKOV | phone.: +74952210274;mobile phone: +79639938740;e-mail: lachkov@wanomc.ru |
| Sergey VYBORNOV | phone: +74952210274;mobile phone: +79636693378;e-mail: s.vybornov@wanomc.ru |
|  |  |

Best regards,

WANO-MC advisors

Andrey Lachkov

Sergey Vybornov

#### Beloyarsk NPP WANO Peer review. Team composition.

|  |  |
| --- | --- |
| **NPP:** | BELOYARSK |
| **REVIEW DATES:** | **August, 18 – September, 2, 2016** |
| **TEAM LEADER:** | **Vladimir BANDURKO**, Deputy chief engineer on operations, South-Ukraine NPP |
| **DEPUTY TEAM LEADER:** | Jean-Michel LAVERDURE, Team Leader, WANO Paris Centre, France |
| **EXIT REPRESENTATIVE:** | **János TÓTH,** WANO-MC governing board Chairman**Vasily AKSENOV,** WANO-MC Director |
| **HOST INTERFACE REPRESENTATIVE:** | **Sergey KIM,** Deputy chief engineer, Beloyarsk NPP |
| **COORDINATORS:** | Andreii LACHKOV,Sergey VYBORNOV,Advisers, WANO-MC |
| **WANO ON-SITE REPRESENTATIVE** | Grigory VASILIEV |
|  |  |
| **AREA OF REVIEW** | **LEAD REVIEWER**  | **REVIEWER** |
| FUNDAMENTALS: Nuclear professionals **(NP.1)** and Leadership **(LF.1)** – to be reviewed by the whole team |
| **ORGANIZATIONAL EFFECTIVENESS (OR.1 ÷ OR.5)**Nuclear professionals (NP.1);Leadership (LF.1);Nuclear Safety Culture (SC.1);Industrial Safety (IS.1);Human performance (HU.1) | **LAVERDURE Jean-Michel,**Team Leader, WANO Paris Centre, France | **BAGH PANAH Shahrokh**, Deputy manager of Supervision & Management System, Bushehr NPP, Iran |
| **OPERATIONS (OP.1 ÷ OP.2)**Operational focus (OF.1 ÷ OF.3) | **Yury SHCHELIK**, WANO-MC on-site representative, Kalininskaya NPP, Russia | **Roman BOJKOVSKY,**WANO-MC on-site representative, Mochovce NPP, Slovakia |
| **MAINTENANCE (MA.1 ÷ MA.2)**Work management (WM.1);Fuelling activities (FA.1);Project management (PM.1) | **Dmitry KOPYLOV**, WANO-MC on-site representative, Rostov NPP, Russia | **Sergey GOLIK,** Head of maintenance planning department, Smolensk NPP, Russia |

|  |  |  |
| --- | --- | --- |
| **ENGINEERING (EN.1 ÷ EN.2)**Equipment reliability (ER.1 ÷ ER.3)Configuration management (CM.1 ÷ CM.4) | **OSÚSKY** **Augustín,**Head of Nuclear Safety, Bohunice NPP, Slovakia | **MARTINEZ Alma Georgina,**Liaison Engineer, INPO, Mexico**SETTIMO David** project Manager GEN IV- Sodium Fast Reactors. EDF, France |
| **PERFORMANCE IMPROVEMENT (PI.1 ÷ PI.3)**Operating experience (OE.1) | **Veselin NIKOLOV,** Head of operating experience and self-assessment indicators section, Kozloduy NPP,Bulgaria | **Dmitry ALMIKIEIEV,**WANO-MC adviser, Ukraine |
| **RADIATION PROTECTION (RP.1 ÷ PR.4)**Radiological safety (RS.1);Effluent Controls (CY.3) | **Valentyn KOSTENKO**, WANO-MC on-site representative, Khmelnitskaya NPP, Ukraine | **Pavol BRYNDZIAR,**Radiation safety engineer, Mochovce NPP, Slovakia |
| **CHEMISTRY (CY.1 ÷ CY.2)**Materials reliability (ER.4) | **Evgenii KHROMOVSKIKH,** WANO-MC adviser, Russia |
| **TRAINING (TR.1)** | **Viktor SEREDNEV,** Head of simulator group, Balakovo NPP, Russia | **Toshihiro ODO**,Chief Engineer, Technical Support Mission Sec, Japan |
| **FIRE PROTECTION (FP.1)** | **Jean Gérard PRELE,**Engineer, SFR expert, EDF, France |
| **EMERGENCY PREPAREDNESS (EP.1 ÷ EP.3)**Severe accident management | **Andrii PIDIPRYHORA,** WANO-MC adviser, Ukraine |
| **SOER** | **Nadezda BILA,**WANO-MC on-site representative, Temelin NPP, Czech Republic |
| **Interpreters** | **Elena PANARINA,**WANO-MC, Russia | **Victoria SPITSYNA,** WANO-MC, Russia |
| **Nataliya SHABARKINA,**Ukraine |
| **Representative of “young generation” - observers**  | **Aleksey LIAPIN,** Turbine shift superviser, Balakovo NPP, Russia | **Maxim BRUSNICYN,** Engineer of technical support service, Beloyarsk NPP, Russia |

TEAM LEADER’S EXPECTATION LETTER

Dear colleagues,

Welcome to the WANO peer review team of Beloyarsk NPP, where you will participate as an experts in the period August, 18 – September, 3, 2016. Following to the WANO Moscow Centre information letter, I would also like to approach you as the Team Leader of this peer review.

First of all, I look forward to having you in our team and I rely on your good experience and expertise in your specific area which we will all use for the benefit of Beloyarsk NPP. You will receive most of the basic information related to the Beloyarsk‘s peer review in sent materials such as information letter, Preliminary Information Package (PIP), operating experience (OE) and performance indicators (PI) analyses and additionally e-mail notes by the coordinators. Please treat all those information as confidential and do not disclose it to any third party.

Beloyarsk NPP is an efficient nuclear power plant with good operating history and unique design of fast breeder reactors. Nevertheless, we are here to find additional opportunities and gaps where WANO team can help and suggest other areas where this station can be better, to improve and be even safer. This is our role in achieving excellence of nuclear power industry. Therefore, our team should devote maximum effort for good preparation of this peer review and study available materials. It is vital for the good peer review!

My expectation to every member of the team:

1. Please, come well prepared!
2. You should study the provided material from all possible angles and prepare so called **area review plan** with Potential Focus Areas (PFA) for your specific area before the peer review. This area plans should be in the electronic version (template is attached). **Please, send area plans to me and coordinators no later than August, 11** and be ready to share your thoughts of PIP with the rest of the team. The station materials you can actively use are as follows:
* PIP
* OE analysis developed by Moscow Centre + A list of station events
* PI analysis developed by Moscow Centre
* Pre-visit Observations
* Other information – if available + your experience
1. Please, study also your part of the WANO PO&C 2013 document and related “How to”.
2. Every day (in week 2) you will prepare a note from your area for the Team Meeting (a memory stick to be handed over to the secretary by 16:50 hrs). You will have the Daily Meeting format on your memory sticks.
3. In addition, we are going to assess the Nuclear Safety Culture – based on the NSC Assessment Guidance. More detailed explanation and training for the NSC assessment will be provided during the first weekend.
4. Finally, please don’t hesitate to ask me any question you have in all period of the preparation and during the peer review (v\_bandurko@sunpp.atom.gov.ua ). I am ready to help you any time.

Best regards,

Vladimir Bandurko,

WANO Peer Review Team Leader

**DRAFT SCHEDULE OF THE BELOYARSK NPP PEER REVIEW: August 18 – September 02 2016. Version 2.**

***1st week***

|  |  |  |  |
| --- | --- | --- | --- |
| **THURSDAY** **August 18** | **FRIDAY** **August 19** | **SATURDAY****August 20** | **SUNDAY****August 21** |
|  | **07:00** Breakfast | **08:00** Breakfast | **08:00** Breakfast |
| **17:00-18:00**Arrival in Zarechny town. Accommodation in a recreation center.**Time is to be specified according to the arrival schedule of Team members.** | **07:40** DEPARTURE FROM THE RECREATION CENTER**08:00-10:00**Entrance formalities. Access training. Check facilities, PPE, overalls**10:00-11:00**Meeting with the Plant Management and counterparts. Plant Manager’s and Team Leader’s opening address.Plant Management’s presentation on NPP status.**11:00-13:00**Whole body counting Agreement with counterparts the plan for next week | **09:00-13:00**Team training in the RECREATION CENTER | **09:00-13:00**Team training in the RECREATION CENTER. Methodology of the peer review.Evaluation results of Plant Information PackageOE summaryPI summaryFocus areas discussion. |
| **18:00 – 19:00** Dinner | **13:00-14:00** Lunch | **13:00-14:00** Lunch | **13:00-14:00** Lunch |
| **19:00-20:30**Team meeting,Introduction of experts,Initial Peer Review information,Plant Inspection and “white cards method” training. | **14:00-17:00**Plant walkdown (WANO White Cards Exercise)**17:00-18:00**Team meeting**18:00** Departure to the Recreation Center | **14:00-18:00**Team training in the RECREATION CENTER  | **14:00-18:00**AREA PLAN PRESENTATION TO TL, area by area(Potential focus areas and schedule for Observations) |
| **19:00 – 20:00** Dinner | **19:00 – 20:00** Dinner | **19:00 – 20:00** Dinner |

***2nd week***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **MONDAY****August 22** | **TUESDAY****August 23** | **WEDNESDAY****August 24** | **THURSDAY** **August 25** | **FRIDAY** **August 26** | **SATURDAY****August 27** | **SUNDAY****August 28** |
| **07:00**Breakfast | **07:00**Breakfast | **07:00**Breakfast | **07:00**Breakfast | **07:00**Breakfast | **08:00**Breakfast | **08:00**Breakfast |
| **07:45**DEPARTURE FROM THE RECREATION CENTER**08:15-13:00**Observations, Interview | **07:45**DEPARTURE FROM THE RECREATION CENTER**08:15-13:00**Observations, Interview | **07:45**DEPARTURE FROM THE RECREATION CENTER**08:15-13:00**Observations, Interview | **07:45**DEPARTURE FROM THE RECREATION CENTER**08:15-13:00**Observations, Interview | **07:45**DEPARTURE FROM THE RECREATION CENTER**08:15-13:00**Observations, Interview | **09:00 – 13:00**Experts finalize and render their observation reports and nuclear safety culture survey | **08:00-19:00**SocialActivities,Free time |
| **13:00-14:00**Lunch | **13:00-14:00**Lunch | **13:00-14:00**Lunch | **13:00-14:00**Lunch | **13:00-14:00**Lunch | **13:00-14:00**Lunch |
| **14:00-16:00**Observations, Interview **16:00-17:00**Debriefing with counterparts,Revision of Review Schedule, preparation to the meeting**17:00-18:00**Team meeting**18:00** Departure to the recreation center | **14:00-16:00**Observations, Interview **16:00-17:00**Debriefing with counterparts,Revision of Review Schedule, preparation to the meeting**17:00-18:00**Team meeting**18:00** Departure to the recreation center | **14:00-16:00**Observations, Interview **16:00-17:00**Debriefing with counterparts,Revision of Review Schedule, preparation to the meeting**17:00-18:00**Team meeting**18:00**Departure to the recreation center | **14:00-16:00**Observations, Interview **16:00-17:00**Debriefing with counterparts,Revision of Review Schedule, preparation to the meeting**17:00-18:00**Team meeting**18:00** Departure to the recreation center | **14:00-16:00**Observations, Interview **16:00-17:00**Debriefing with counterparts,Revision of Review Schedule, preparation to the meeting**17:00-18:00**Team meeting**18:00** Departure to the recreation center | **14:00-17:00** Team discussion of nuclear safety culture and potential issues.Reading observation reports package  |
| **19:00 – 20:00** Dinner | **19:00 – 20:00** Dinner | **19:00 – 20:00** Dinner | **19:00 – 20:00** Dinner | **19:00 – 20:00** Dinner | **19:00 – 20:00** Dinner | **19:00 – 20:00** Dinner |
| **20:00**Observation reports writing | **20:00**Observation reports writing | **20:00**Observation reports writing | **20:00**Observation reports writing | **20:00**Observation reports writing  | **20:00**Reading observation reports package | **20:00**Reading observation reports package |

***3rd week***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **MONDAY****August 29** | **TUESDAY** **August 30** | **WEDNESDAY** **August 31** | **THURSDAY** **September 01** | **FRIDAY****September 02** | **SATURDAY****September 03** |
| **07:00**Breakfast | **07:00**Breakfast | **07:00**Breakfast | **07:00**Breakfast | **08:00**Breakfast | **08:00** Breakfast  |
| **07:45**DEPARTURE FROM THE RECREATION CENTER **08:15-13:00**Observations, Interview**13:00** **Deadline for** **observation reports**Preparation of the final version of observation reports package.  | **07:45**DEPARTURE FROM THE RECREATION CENTER**08:15-13:00**AFI development, Causes and Contributors development **together with counterparts** Observation reports package handover to Plant Management | **07:45**DEPARTURE FROM THE RECREATION CENTER **08:15-13:00**PR Team meeting (Exit representatives participating).AFI & Strengths discussion within PR Team (Challenge meeting). | **07:45**DEPARTURE FROM THE RECREATION CENTER **08:15-12:00**Finalizing AFIs, Causes & Contributors, Current Perspective, Strengths.  | **08:45**DEPARTURE FROM THE RECREATION CENTER**09:15-12:00**Complete Area Assessment Shits (AAS).Filling in the feedback forms.Whole body counting.OFFICE CLEAN-UP**12:00-13:00**Final Briefing Rehearsal | **Time is to be specified accord-ing to the departure schedule of Team members.**Departure to Moscow from the recreation center |
| **13:00-14:00**Lunch | **13:00-14:00**Lunch | **13:00-14:00**Lunch | **12:00-13:00**Lunch | **13:00-14:00**Lunch |  |
| **14:00-15:30**Training on AFI development, Causes and Contributors, Current perspective (Yellow Sticky exercises) **Peers together with counterparts.****15:30-18:00**AFI development **together with counterparts** **18:00** Departure to the rec-reation center | **14:00-18:00** AFI development, Causes and Contribu-tors development **together with counter-parts** **Arrival of WANO-MC Exit Representatives****18:00** Departure to the recreation center | **14:00-18:00** WANO - MC Exit Representative meet NPP Management. Tour on the site**14:00-18:00**AFI development, Causes & Contributors, Current Perspective development **together with counterparts****18:00** Departure to the recreation center | **13:00-18:30** **Team & Senior Management Briefing:** area-by-area presentation of AFIs, Causes and Contributors to Plant Manager by peers and counterparts **18:30** Departure to the recreation center | **14:00-16:00****Final Briefing** of WANO-MC PR at Beloyarsk NPPTeam & Counterparts CO photo**16:00** Departure to the recreation center |  |
| **19:00 – 20:00** Dinner | **19:00 – 20:00** Dinner | **19:00 – 20:00** Dinner | **19:00 – 20:00** Dinner | **18:00****Official dinner** |  |