WANO MC Corporate Peer Review for NPPD
15-24 May 2022

CORPORATE LEADERSHIP (CO.1)

**Performance Objective**

The corporate organisation provides the strategic direction and leadership for the nuclear stations to improve and sustain continuously high levels of safe, reliable operation and emergency response.

**Area for Improvement CO.1-1**

**The Company Leadership is performing support for the plant Safety and Performance,**

**however it requires some improvement in setting more strict goals and in implementing**

 **more support to improve plant performance:** the overall performance of the plant

 is not improving enough and currently the plant is in the last quartileof the world fleet.

**Causes and Contributors**

* The company needs more support from WANO MC and from other international companies on Operating Experience, Maintenance and Emergency Preparedness…..
* The corporate is very well involved, a lot of progress has been made from the last PR. Plant performance is improving but the plant came from a long way and all cannot be performed at the same time. It needs time to increase performance
* An important methodologic work to assess Nuclear Safety Culture has been put in place. Evolution of the culture and behaviour take a lot of time to be well embedded in the organisation. All the manager line needs to reinforce and repeat continuously the message to staff on human behaviour and use of Human Performance tools.
* The Corporate has already defined several annual goals to be reached and is following them, has developed IMS system. However it needs to be reinforced to continue to improve safety and plant performance.

**Supporting Facts**

**Plant Performance**

1. Plan Safety performance indicators at the Corporate level are mainly WANO PI plus 3 specific Corporate indicators: NR (Number of request deviations), NNC (Number of non-compliances) and CNC (Difference between plant and Corporate assessment). The results of these last years shows that plant performance is rather low and could be improved. Even the WANO indicators on safety equipment availability (SP1, SP2 and SP5) are at high level, WANO index class the plant in the last quartile of the world for several years. Even the plant performance is slightly increasing more challenge and more support are needed from corporate to allow a significant increase of the plant results. For example to have a target for 2022 to reach 70% for the WANO Index while the current result is 73% is not challenging at all. Moreover 70% is one of worse value in the world.
2. According the “Performance evaluation report on the achievement of NPPD Co. annual goals in 2020-2021”, the following NPPD annual goals in 2020-2021 were not achieved: Generating reliable power at the rate of 6400 million kWh (3 out of 8), Safe and efficient power generation (7 out of 26), Supplying technical support services required by BNPP in 2020-2021 (4 out of 8), Manufacturing BNPP parts and equipment in parallel with current addenda with Russian contractor (3 out of 3), Implementation of defined and approved localization plans and definition of new plans based on needs assessment and feasibility study (3 out of 3), Improving the attitudes of human resources and staff growth and development (14 out of 29), Establishment and improvement in the field of human sources and training infrastructure (6 out of 11).
3. Several Plant events due to human errors occurred since the last FUCPR:- manual scram after loss of all FWPs on 21 Jul 2018, RCP trip on 30 Sep 2018 due to work without permission and procedure, power reduction on 4 May 2019 due to inadequate command, control and communication of CR staff, generator protection on 3 Dec 2019 due to inadequate maintenance, de-energetisation of safety train No4 on 20 Jan 2020 due to failure in technical service, RCP trip on 28 Jan 2020 due to loss of attention, over-confidence thus not used Human Error Performance Tools, boron pump unavailability on 19 Jan 2021 due to improper maintenance generator trip on 3 Jul 2021 after improper Pre-Job Brief and without procedure. In additionally when performing walkdown in the plant near the BNPP training center workers were performing work without PPE. Nobody from the BNPP personnel challenged them. These examples show progresses need to be made on staff behavior to reduce Human Error.
4. Among the Company concerns it was mentioned the reliability of the Main Generator, in Equipment Reliability - repetitive defects. The Company approach, reflected in KPIs, is to maintain currently achieved level of reliability, or improve. There are already achieved level performance expectations for some area, some can be reinforced.
5. Company document “Annual performance indicators and goals for 2022” includes 23 goals to be reached, and set target for HU errors – to have ‘decreasing trend’. The company goals could be more accurate than decreasing trend to improve Human Performance from Staff.
6. According to the company's "Safety Culture Assessment Report", the company's NSC score improved to 125 points (from 110 in the previous year). The current improvement target for 3 year is to increase 15% this value during. The Safety Culture Assessment measurement is expected to be improved with integration of Focus team NSC assessment and integration of direct interviews.

1. A plan for NSC improvement exists at the plant level for 20-21. This plan is focusing on le lowest traits defined in the "Safety Culture Assessment Report", Working Environment, Motivation, Sanction and rewards. It is signed by the Plant Managing Director and by the Plant Chief Engineer and agreed by the Corporate. At this stage one action expected closed end of Mars 2022 on WE5 is already overdue. The explanation is due to Corona virus inpact.
2. These last year several events happened because of Human Error. Behavior expectation from people and manager are published in the booklet and BNPP personnel has been informed about it. In addition, training, and procedure have been developed. There are needs to continue and to reinforce interactively, for example, in safety messages, work performance assessment, observations, training.

**Supporting Plant**

1. In the current situation of the company with only one reactor there are important needs that NPPD will provide to the plant and to the corporate people more external and international contact to share and gain experience. WANO MC is of course a source of benchmarking but creating direct contacts with other companies in the same situation could be beneficial for safety and performance improvement.
2. BNPP needs support from NPPD for:
* benchmarking and Operating experience with other international compagnies (operation, maintenance and Emergency Preparedness….)
* knowledge transfer from retired experienced personnel
* Infrastructure for practical training (laboratories, workshop, mock ups)
* Fastening SAM guideline compliance for contractor purchase, for off-site coordination and for official documentation approval
1. NPPD is expected by the Plant to have more potential contractors providing services to have opportunity to choose. The NPPD has not yet determined how this selection will be carried out in the future. Currently, NPPD does not have any criteria for the selection of contractors.
2. The maintenance contractor TAPNA said need more support from NPPD to be able to have autorization to appoint new manpowers. It needs also support from NPPD for reducing the time for receiving spare parts
3. Self-assessment requirements document has been developed at the Plant but no guidance was provided from Company level for this topic.

**Current Perspective**

* Optimisation program of plant repair periodicity implementation
* Outage length reduction program implementation
* Develop international benchmarking for KPI system, Operating experience …. from other companies
* Considering a plan for improvement of Plan performance throw modernisation and modification
* Use more the psychologist centre in BNPP for test and for Human Error root cause analysis
* Improve the Nuclear Safety Culture assessment by using integration of focus team and integration of direct interviews.

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