

NNSD experience of Supervision over Safety Culture of BNPP-1

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Introduction:

One of the findings of accident investigations is the growing recognition of the impact of cultural context of work practices on safety. The assumed link between culture and safety, epitomized through the concept of safety culture, has been the subject of extensive research in recent years. The objective of this paper is to conduct an assessment of some safety culture attributes of Bushehr Nuclear Power Plant (BNPP-1).

Methods:

The methodology used is based on the IAEA tool, "Tool for Oversight of Safety Culture Attributes (TOSCA)". The basis of this method is to collect safety culture related data by the regulatory bodies in an established procedure (fig.1).



Figure 1: TOSCA Process

Based on this method, a questionnaire containing 38 questions was prepared and filled up by the BNPP-1 operating staff. In other hand, the staff was interviewed and the plant working documents were studied by the NNSD-TOSCA inspection team. Subsequently, all of the collected data was analyzed by the NNSD-TOSCA inspection team. For analysis of the results, IAEA-SCART method was used. 6650 data was collected from BNPP-1 based on this method.

BNPP-1 staff participation

- Number of BNPP-1 staff who selected to fill the questionnaires randomly: 137 (82 experts and 55 managers).
- Number of BNPP-1 staff who participated in the interviews/document review: 38 (19 experts and 19 managers).



Figure 2: BNPP-1 Staff participation

The following attributes were selected for BNPP-1 personnel evaluation process:

- 1. Everyone is personally responsible for nuclear Safety
- 2. Leaders demonstrate commitment to safety
- 3. Trust permeates through the organization
- 4. Decision making reflects safety first
- 5. Nuclear technology is recognized as special and unique one
- 6. A questioning attitude is cultivated
- 7. Organizational learning is embraced
- 8. Safety Culture Self assessments are done periodically
- 9. Appropriate and effective corrective action plans are used

Results:

The results for attributes No. 1 & 3 were shown in fig 3. They show a remarkable improvement in certain safety culture indicators in the plant in recent years.



Fig 3: the result of TOSCA analysis for attribute No. 1&3

Conclusion:

Major findings would be summarized as:

- There was a positive attribute of staff in participating in this task.
- Relative knowledge of the Safety exists within the organizations.
- There was a meaningful differences between managers and experts in safety culture point of views.
- The main problem is systematic Training for experts and managers.
- System of reward and punishment are not effectively used.