Safety Culture Assessment at Regulatory Body – PNRA Experience of Implementing IAEA Methodology for Safety Culture Self Assessment

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Importance of Safety Culture for Nuclear Regulatory Authority

The concept of safety culture is equally important for nuclear regulatory authority similar to other organizations involved in nuclear business. The management system for activities and facilities i.e. IAEA GS-R-3 highlights the importance of safety culture for all kind of organizations i.e. operators, vendors, regulators.

IAEA report on "Strengthening Nuclear Regulatory Effectiveness in the light of Fukushima accident" and "Human and Organizational Factors in Nuclear Safety in the light of accident at Fukushima NPPs" highlighted the need of incorporation of safety culture into regulatory processes and assessment of safety culture at regulatory authority.

Factors Driven Safety Culture Self Assessment (SCSA) at PNRA

1. Realization of growing importance of safety culture worldwide for regulatory authority.
2. Maintaining safety culture at PNRA at par with international standards.
3. Presenting PNRA as role model at national and international level by incorporating safety culture in its regulatory processes.

Communication of SCSA Results at PNRA

Communication session was arranged after completion of SCSA at PNRA to convey outcomes to PNRA management.

The session comprised of;

1. Theory of culture and safety culture
2. Summary of SCSA process carried out
3. Strong and weak areas of safety culture at PNRA covering cultural themes, factors driving these cultural trends, basic assumptions and linkages of these cultural trends with normative framework.

Implementation of PNRA Safety Culture Self Assessment (SCSA) Project

1 — Team Selection
Twenty two (22) Members from different segments of PNRA

2 — Training by IAEA Expert
- IAEA Safety Culture Self Assessment Methodology
- Safety Culture Oversight

3 — Planning for Implementation
- Procedure Development
- Assignment of responsibilities

4 — Awareness Campaign at PNRA
- To clarify objectives of SCSA
- Convey expected contribution

5 — Implementation of SCSA Tools
- Observations
- Interviews (77)
- Focus Groups (10)
- Document Analysis (50)
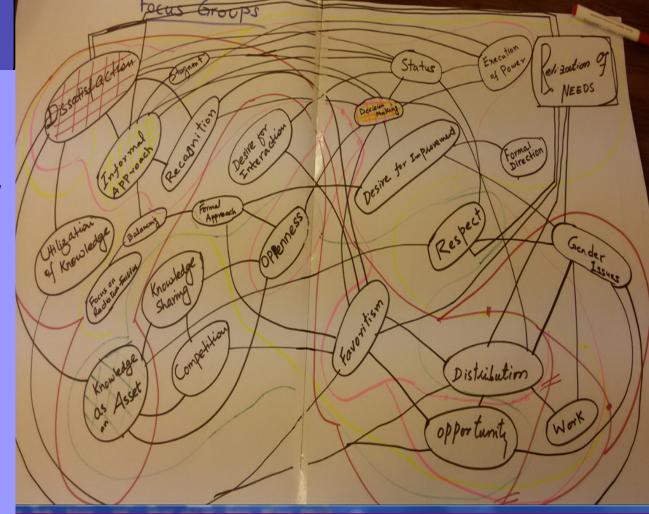- Survey

6 — Descriptive Analysis
- 1900 cultural facts
- Grouping of data
- Bubble charts

7 — Normative Analysis
- Modified IAEA normative framework (GS-G-3.5) for applicable to regulatory body
- Identified strengths and weaknesses

Bubble Charts

In order to unfold values, beliefs and basic assumptions from cultural data collected from implementation of SCSA tools, bubble charts were developed. These charts helped to unveil cultural drivers and basic assumptions that are leading to these facts.

Lessons Learnt for Effective Future Implementation of SCSA

1. Realistic Planning of SCSA considering workload of other important on going activities.
2. Representation of social scientist on SCSA team.
3. Consideration of factors e.g. immediate drafting cultural facts after observing, comprehensive write of cultural facts, etc. to improve effective capturing of cultural data.
4. Consideration of measures to avoid leading during designing and implementation of SCSA tools.

Safety Culture Improvement Activities

Generic Activities

Seminars / Workshops on safety are being planned to improve safety culture concepts and its importance for regulatory authority.

Integrated Activities

Promoting dialogue instead of discussions for establishing shared space in routine working / meetings.

Specific Activities

Planning is in progress.

Conclusion

1. SCSA provided opportunity to assess safety culture at PNRA in comparison with international standards (i.e. IAEA). Highlighted strong and weak areas.
2. Presented PNRA as role model at national and international level regarding assessing safety culture at regulatory body.

Learning Journey: The implementation of SCSA at PNRA was learning journey that helped to understand linkage of thoughts / beliefs / basic assumptions with physical part of the culture i.e. Actions, attitudes etc.