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What is it - Manage a Nuclear Organization ?

STEINBERG Mykola Olexander
CJSC SEMCO
8a, Staronavodnitskaya, apt. 40
01015 Kiev
UKRAINE

What is it – to Manage a Nuclear Organization?

(Operator – Regulator Interface)

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N. Steinberg

Regulator – Operator Interface

Regulatory Body (RB), Guarantor of Safety on behalf of the State,

and

Operating Organization (Operator), carries on full responsibility for safety -

are

two leading players in Nuclear Power

Operator – RB interface is critical for safe and smooth development of Nuclear Power. The relation RB - Operator should base on mutual understanding and respect as well as frank and open communication ("the love on the distance of outstretched arm").

The relation RB - Operator should apply the principle that the prime responsibility for safety rests with the Operator and the primary role of the RB is to ensure that the Operator fulfils its responsibilities.

Regulatory Body

Core functions of the Regulatory Body:

- preparation of regulations and guides;
- review and assessment of information relevant to safety;
- authorization of facilities and activities;
- inspection of facilities and activities;
- enforcement of compliance with regulations and standards.

The Regulatory Body's responsibilities also include:

- ensuring that emergency preparedness arrangements and emergency plans are in place;
- providing information to interested parties in a transparent manner;
- promoting safety culture; and
- promoting coordination with other national and international bodies.

Role RB in RB/Operator relations (1)

The RB should:

- maintain suitable working relations with the Operator;
- plan and conduct all the required licensing and oversight activities to be conducted during the licensing process, including siting, construction, commissioning, and decommissioning;
- establish a consistent procedure for issuing, revising and revoking regulations and guides, and ensure that comprehensive set of regulations and guides is in place for regulating construction, commissioning and operation;
- implement its program for inspection and enforcement during all stages of NPP life time;
- review and assess programs connected to safety to be implemented by the Operator.

Role RB in RB/Operator relations (2)

No one starts to plan, design and construct NPP before legal framework (Government responsibility) and safety regulations (RB responsibility) are established.

The RB should establish links with other States' regulatory bodies whose expertise is well established and recognized, and also with regional and international forums and networks.

The RB should have staff capable of absorbing the knowledge and experience of RBs of other countries and of the nuclear World knowledge and experienced are transferred by IAEA, OECD/NEA and other international organizations.

The RB should distribute important for safety information to Operator.

Role RB in RB/Operator relations (3)

- The government should establish an effectively independent RB and should empower it with adequate legal authority, technical and managerial competence, and human and financial resources to discharge its responsibilities in the nuclear power programme;

- Responsibilities of RBs should be specified and coordinated to avoid any omissions or duplication and to avoid conflicting requirements being laid upon the Operator;

- RB should consider the various regulatory approaches (prescriptive approaches or more flexible goal setting approaches) that are applied for nuclear power programs;

- RB should begin establishing a suitable working relationship with the Operator.

Licensing Regime. Prescriptive Approach

- places a great deal of importance on the adequacy of the regulations for safety and requires detailed development;
- the regulations establish clear requirements and expectations for the RB as well as for the Operator, and thus can be used to promote systematic interaction RB – Operator, and with other stakeholders;
- the regulations could set detailed technical requirements, or could identify issues that the Operator and its suppliers should address and present for assessment by the RB;
- specific technical requirements can then be taken from relevant national industrial standards or industrial standards of other States, as agreed by the RB in an early stage of the NPP licensing process;
- issuing detailed regulations places a high demand on the RB resources for their development and updating, which adds to the administrative burden.

Licensing Regime. Performance Based Approach

- allows the Operator more flexibility in determining how to meet the established safety goals and may require fewer, less detailed regulations;
- requires the establishment of specific safety goals and targets;
- verifying that appropriate measures to ensure safety have been identified by the Operator may be difficult;
- the RB staff, the staff of its support organization and the staff of the Operator all have a high level of professional competence and are able to interact to determine whether established safety objectives for each topic are met.

Licensing Peculiarities

- The approaches in different States vary with respect to the scope and depth of safety assessment and inspection;
- Issues that are under regulatory control may include all SSC classified as safety relevant or may be limited to the most safety relevant parts only;
- The targets of the comprehensive and systematic regulatory control and inspections are specified in a deterministic manner, on the basis of a safety classification, or they can be chosen on the basis of a probabilistic assessment of risks;
- In some States the RB puts the main emphasis on the assessment and auditing of the management system and the operations of the Operator and their suppliers;
- In other States the RB prefers to make comprehensive independent analyses and inspections of its own, and so on.

Regulatory Body – Operator Interface (1)

- Regulations that could have an impact on the choice of technology should be established early in the process;
- Arrangements of the licensing process should be specified by the RB in such a way that Operator are aware of the requirements. The RB should specify what documents are required for a licence application and basic guidance on the format and content of the documents, as well as the depth of review for documents submitted in support of a licence application.
- Hold points should be specified for certain steps in design, construction and commissioning, for the purpose of verifying the results of work and the preparedness to proceed (*particular or special permit*).
- Licensing Plan RB and Operator should jointly develop to assure orderliness of licensing process.

Regulatory Body – Operator Interface (2)

- Once the NPP Vendor has been chosen the RB should consider co-operation with the RB of the States in which the Vendor has supplied similar NPP, and especially of the State of the Vendor;

- It is helpful to accept the use of technical standards of the Vendor State or of a State having experience with a reactor of the type selected.

- It is helpful for both, RB and Operator, to use the regulations and standards of the supplier State. This had an advantage in that the supplier knew in detail which requirements it had to meet, and it was easier for the RB because of the criterion that such a plant was licensed in the supplier State.

Attention: last one has a significant disadvantage. The importing State's regulatory approach should be aligned with the approach of the regulations adopted, and keeping abreast of all changes in these regulations is difficult. If the State subsequently purchases a plant from a supplier with a different regulatory approach or a different licensing system, or if a major back-fitting programme is implemented, the two systems would have to be reconciled.

Regulatory Body – Operator Interface (3)

- Once the RB issues the construction licence, construction starts, including the manufacture of important safety (and safety related) systems and components. In this phase, the Operator, and the RB as applicable, should monitor continuously the construction of safety related SSC, both at the site and at manufacturing facilities, to ensure that the construction is in accordance with the approved design.

- The RB should develop a comprehensive inspection programme to carry out its inspection duties. Consideration should be given to obtaining support from States that have experience with the selected reactor type. The overall inspection programme should comprise:
  - routine inspections of the plant status and operations conducted by resident or non-resident inspectors;
  - topical inspections conducted by inspectors with relevant expertise, in accordance with a scheduled programme;
  - reactive inspections conducted after abnormal events.

Regulatory Body – Operator Interface (4)

RBs authority is conferred by legislation and the more detailed instruments under which they operate, and is manifested in several general ways:

- The management style of RB ensures that common concern for safety leads to relations with Operators that are open and cooperative and yet have the formality and separateness appropriate for bodies with recognizably different accountabilities.
- Controversial topics are dealt with in an open fashion. An open approach is adopted to setting safety objectives so that those whom they regulate have an opportunity to comment on the intent.
- Requirements are adopted that call for appropriate levels of safety while recognizing the inevitable residual risk. By this means a consistent and realistic approach to safety is achieved.
- Primary responsibility for safety rests with the Operator and not with the RB. To this purpose, they ensure that regulatory requirements are clear but not so prescriptive as to set undue constraints.
- In dealing with new problems, while a generally conservative approach may be taken, innovation is not stifled by insistence on adherence only to approaches that have been used in the past. Improvements in safety result from a well judged combination of innovation and reliance on proven techniques.

Regulatory Body – Operator Interface (5)

- Operator commitment to Safety Culture is stated in statement of safety policy and objectives. The objectives should be understood by staff at all levels. Particularly, reference is made in the statement to the vital importance of safety, such that concern for safety may on occasion override production objectives;

- Operator should determine and implement own organizational structure, assignment of responsibilities and allocation of resources. Person responsible for every day routine interference with RB should be defined;

- Operator should regularly review the safety performance of the NPP and the reviews could not be overestimated. Such reviews and the responses to their findings are important for RB – Operator interface.

- The relationship between the NPP management and the RB and its site representatives should be opened and based on a common concern for nuclear safety, but with a mutual understanding of the different accountabilities. Experience has shown that periodic meetings between high level officials of the RB and the Operator are essential. The meetings should be systematic, good planned in advance and did not connect to the current issues

Regulatory Body – Operator Interface

Self-assessment of RB – Operators Interference

- Is the relation frank, open and yet adequately formal?
- What is the nature of arrangements for access of RB to documentation?
- What is the nature of arrangements for access of RB to facilities?
- What is the nature of arrangements for access of regulators to operating staff?
- Are required reports to the RB made in a timely fashion?
- At what levels does the NPP interact with the inspectors?
- Does the plant manager meet routinely with site inspectors?
- Does Operator managers meet regularly with senior regulators?