



**Federal Environmental, Industrial and Nuclear Supervision
Service of Russia
Rostekhnadzor**

MC&A Inspections: Increasing Efficiency

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MC&A system in Russia

Complicated because of:

- **More than 50 nuclear facilities;**
- **More than 200 MBA;**
- **Many agencies/ministries have nuclear facilities;**
- **A number of large facilities with few types of production plants.**

Quality of MC&A system

- Independent state oversight by Rostekhnadzor.
- Industry control by Rosatom.
- Site administrative control.

- Regulations (?);
- Licensing (?);
- Inspections.
- Sanctions.

Inspections

- ~ 250 MC&A inspections per year.
- ~ 40% - target inspections, objective – to check MC&A system at whole or chapter of MC&A system (PIT, Measurement system etc.).
- ~60% - ad hoc inspections (“event” – to check readiness for NM transfer or be present during NM receipt, to check that prescription was fulfilled; MC&A procedure verification – during PIT, measurement etc.).
- Each facility is inspected with target inspection at least once a year.
- 20% of inspections – with NDA measurements.

Improving MC&A oversight

- Analysis and optimization of Rostekhnadzor internal documents on inspections.
- Training courses and inspection exercises.
- Development of methods of quantitative evaluations of MC&A system and inspection activity.

Improving MC&A oversight

- Implementing information system to automate reporting and analyze of inspection results, facilitate easy store and use of inspector's information.
- Improving methods and procedures for use of technical means: NDA measurements, TID and MOM (in future).

- Continuous process.
- System approach to training – to analyze needs and evaluate and justify them.
- Use of training courses (general knowledge) and inspection exercises (hands-on experience).

Training and inspection exercises

- Inspection exercises are most effective (have both theoretical and in-field exercises on base of real facility).
- Inspection exercises – benefit for operator as well (audit of MC&A system without immediate sanctions).
- Interactive guidance are under development (pilot PP interactive guidance was developed 3 years ago, show good results).

Quantitative evaluations

- No officially issued/approved methods for quantifying MC&A system and oversight.
- Pilot methods for evaluation of status of PP system on base of inspection results was developed and approved (2004).
- Two approach considered to be implemented, using inspection results to evaluate MC&A system and it's subsystems on base of violations found.

Quantitative evaluations

- Results of quantitative evaluations will be basis for decision making on implying sanctions, reducing scope of inspections.
- Quantitative evaluations for inspection activity should help reveal weak points in oversight.

Results

- Effective independent oversight, including all scope of activities – from verifying of accounting and balance reports, PIT results, facility design information to verifying the NM itself – is a very powerful tool to ensure proper function of MC&A system at facility and state level.