



ROSATOM

STATE ATOMIC ENERGY CORPORATION "ROSATOM"

Qualification requirements to suppliers and Rosatom's standard practice Part 1

"Atomex-Europe 2013" Forum

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Main documented requirements

Legislative requirements



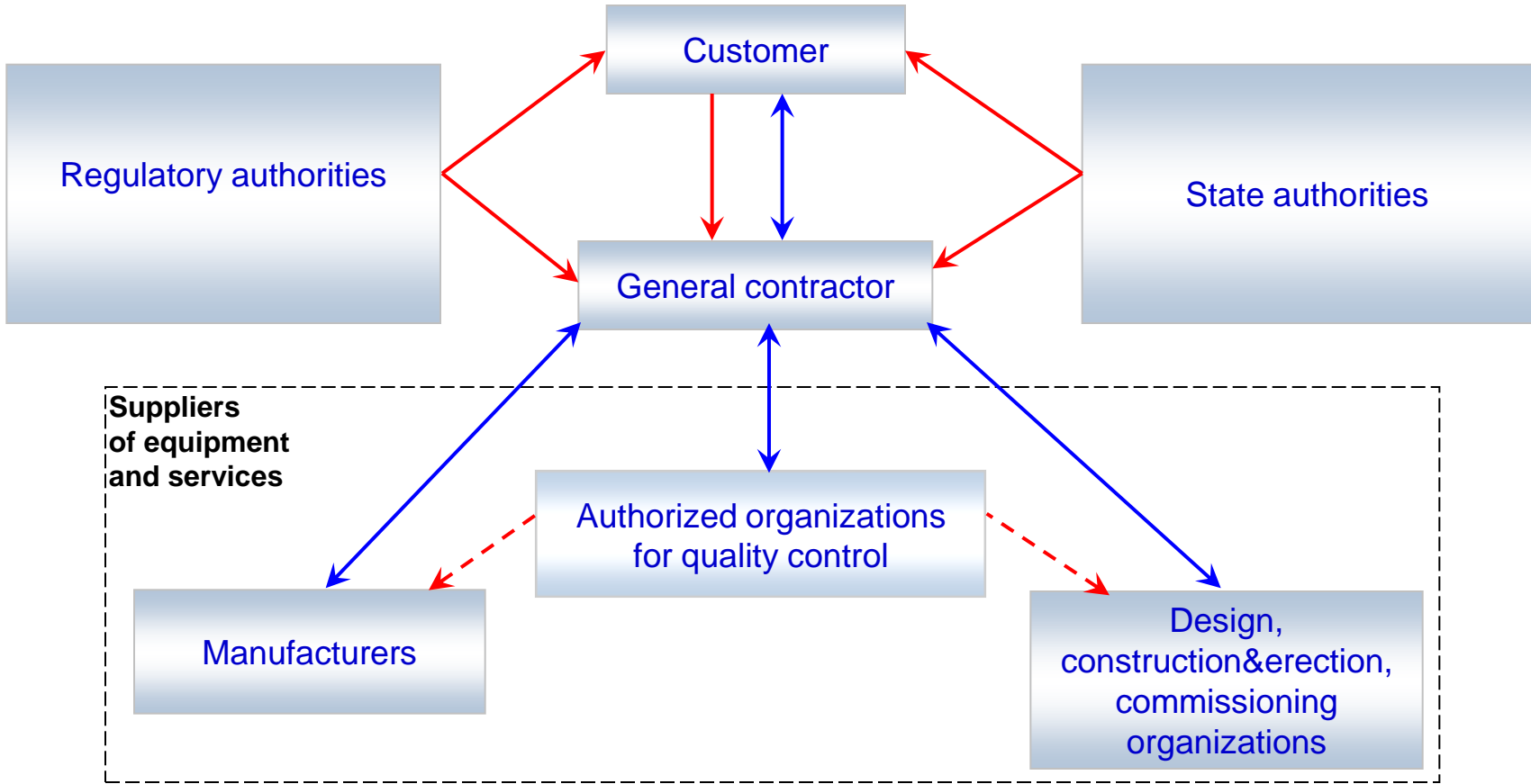
Contractual requirements






Requirements to Suppliers

- **Technical requirements**
- **Project management (works implementation schedules and milestones)**
- **Scope of developed technical accompanying documentation**
- **Packing, marking, transportation**
- **Quality requirements**
- **Reports**

Major interfaces



-  Regulation
-  Quality control
-  Agreements/contracts

Major normative documents on supplies

- **Compliance assessment of equipment, elements, items, materials and semi products to be delivered to nuclear facilities (НП-071-06)**
- **Conditions of delivery of imported equipment, elements, items, materials and semi products for nuclear installations, radiation sources and storage facilities of the Russian Federation (РД-03-36-2002)**

Conditions of imported deliveries application (РД-03-36-2002)

- **Observation of the Russian legislation**
- **Observation of the Russian norms and rules in the field of nuclear power**
- **Observation of the mandatory certification requirements defined in the System of mandatory certification of equipment, items and technologies**
- **Availability of positive experience of equipment, elements, items, materials and semi products at nuclear power**
- **Exclusion of possibility of deterioration of prescribed by nuclear facility design parameters/characteristics of a system, where imported equipment, elements, items, materials and semi products use is envisaged, as well as negative influence on the other nuclear facility systems functioning**
- **Possibility of the Customer's and Regulator's verifications of imported equipment, elements, items, materials and semi products quality, including verifications at manufacturer**

General considerations

Equipment, elements, items, materials and semi products to be delivered to nuclear facilities have to be assessed for compliance with the requirements of the federal norms and rules in the field of peaceful use of nuclear power. Assessment has to be made for compliance with requirements of other documents included as prescribed into technical requirements (ИТТ), technical assignments (ТЗ), technical conditions (ТУ). These requirements are imposed to equipment and/or systems of a nuclear facility.

Before assessing the compliance equipment documentation analysis must be performed aimed at defining special requirements to the compliance assessment, which are based on conditions of equipment, elements, items, materials and semi products operation at a nuclear facility.

Forms of compliance assessment

Compliance assessment is performed in the following forms :

- 1. State control (surveillance)**
- 2. Tests**
- 3. Acceptance**
- 4. Confirmation of compliance**

It is allowed to apply not all the forms for certain equipment, elements, items, materials and semi products, if such a possibility is identified in e.g contracts.

Compliance assessment in the form of tests

Compliance assessment in the form of tests is performed:

- 1. During incoming control**
- 2. During manufacturing**
- 3. Upon manufacturing completion (factory acceptance tests)**
- 4. During erection/installation, adjustment works, commissioning (within a system, in case of separate delivery of large and multi component equipment, which testing could be made only at a nuclear facility site)**

Compliance assessment in the form of tests

Tests are performed in accordance with Quality plans (Inspections and Tests Plans), technological processes, programs and methodic of tests. Next manufacturing stage is allowed only upon successful completion of controls and testing of the pervious stage with relevant results documenting.

Factory acceptance tests (ПЧ) have to confirm compliance of equipment, elements, items, materials and semi products with the prescribed requirements.

Compliance assessment in the form of tests

FAT results are documented with identification of:

- 1. Name of equipment passed certain test stage or tests on the whole,**
- 2. Program and methodic of tests,**
- 3. Dates of test performing,**
- 4. Test types,**
- 5. Test and measuring equipment and tools used, information of the calibration and adjustment,**
- 6. Confirmation of test personnel compliance with the requirements fixed up,**
- 7. Information on test results, their analysis and/or assessment,**
- 8. Information about specialists, made these analysis and/or assessment.**

Compliance assessment in the form of tests

If the test results are negative (i.e. non-conformances of parameters/characteristics of equipment, elements, items, materials and semi products with the identified requirements are revealed) for making decision on application at nuclear facility it is necessary to define sequences of these NCs and to develop adequate corrective action, which are to be agreed with the Operating Utility and the State Regulatory Authority – the Federal Service for Ecological, Technical and Atomic Surveillance (Rostekhnadzor).

Compliance assessment in the form of the State controls (surveillance)

This form of compliance assessment is performed in the frames of the controls and surveillance over observation of the federal norms and rules in the field of the peaceful use of nuclear power, as well as over conditions of validity of licenses issued by the State Regulatory Authority.

Compliance assessment in the form of acceptance

This form of assessment is mandatory for equipment.

There must be obtained confirmation of:

- 1. Implementation of procedures and processes prescribed by the technical documentation,**
- 2. Complete performance of controls and tests during manufacturing (Quality plan (ITP) must be finalized),**
- 3. Availability of controls and tests documented results,**
- 4. Elimination of NC revealed.**

Spare parts and elements delivered to nuclear facilities for repairs are to be accepted in the scope similar to the scope for the equipment.

For certified equipment this form of compliance assessment is allowed not to perform.

Compliance assessment in the form of compliance confirmation

This assessment is performed in the form of mandatory certification.

In the course of mandatory certification is verified the compliance of parameters/characteristics of equipment, elements, items, materials and semi products for nuclear facilities with the technical requirements, defined in the federal norms and rules in the field of peaceful use of nuclear power, as well as in the other documents included as prescribed into technical requirements (ИТТ), technical assignments (ТЗ), technical conditions (ТУ).

Specific features of compliance assessments

1. For off-the-shelf equipment, used for completion of nuclear facility equipment of safety classes 1, 2 and 3, nuclear facility or equipment designer must formulate requirements to compliance assessment basing on analysis of such equipment parameters/characteristics, and also equipment operation conditions at nuclear facility.
2. For elements, materials and semi products:
 - Those used for different safety classes equipment works have to meet normative requirements of the highest safety class,
 - Mandatory is availability of certificates, passports or other documents, proving their compliance with the identified requirements,
 - Must be confirmed their admittance for use in nuclear facility equipment accordingly to the federal norms and rules requirements,
 - Must be confirmed availability of the identification information.

Specific features of compliance assessments

3. For imported equipment, elements, items, materials and semi products :
- Mandatory is performing of enterprise manufacturing availability verification
 - Mandatory is performing of expertise of documentation, substantiating quality and safety of equipment, elements, items, materials and semi products,
 - Acceptance (for pilot samples) or FAT.

It is allowed not to perform FAT at compliance assessment of imported equipment, elements, items, materials and semi products for

- Electro – and radio items,
- Main and welding materials.

These are to be assessed within equipment which they are prescribed for.

Specific features of compliance assessments

Before FAT the following information must be reviewed:

- Information on observation of the Russian Federation Legislation and the federal norms and rules in the field of peaceful use of nuclear power, which cover area of equipment, elements, items, materials and semi products use,
- Information on equivalence between requirements of national or international normative documents and requirements of the Russian norms and rules, if equipment design and manufacturing are carried out per national or international norms,
- Technical requirements for equipment, elements, items, materials and semi products,
- Availability of positive experience of application at the nuclear facilities of equipment, elements, items, materials and semi products or their analogs,
- Data on possibility of deterioration of prescribed by nuclear facility design parameters/characteristics of a system, where imported equipment, elements, items, materials and semi products use is envisaged, as well as data on possibility of safety deficit emergence during other nuclear facility systems functioning.

Thank You for Attention!

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