

M A N U A L

Nuclear Projects (Sites/Facilities Construction/Modernization) Development, Licensing & Management in Russia

**(Construction/Modernization of Nuclear- and Radiation
Hazardous Facilities in Russia)**

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- IBR™ staff
- Selected experts from state & private institutions

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Abbreviations

SC "Rosatom"	State Atomic Energy Corporation "Rosatom" ¹
SED	Safety and Emergency Department now SC "Rosatom" Department for Nuclear and Radiation Safety, Organization of Licensing and Approval
Rostekhnadzor (former Gosatomnadzor)	Federal Environmental, Industrial and Nuclear Supervision Service
RF Minzdravsotsrazvitiya	MoH&SD Ministry of Health and Social Development of the Russian Federation
EMERCOM SFFS	EMERCOM State Fire-Fighting Service
EMERCOM of Russia	Ministry of the Russian Federation for Civil Defense, Emergencies and Elimination of Consequences of Natural Disasters
Mintrans of Russia, MoT	Ministry of Transport of the Russian Federation
Rostekhnregulirovanie (former Gosstandart)	Federal Agency for Technical Regulation and Metrology
RF MD, MoD	Ministry of Defense of the Russian Federation
SSNRS	RF MD Department of State Supervision Over Nuclear and Radiation Safety
RF Minekonomrazvitiya, MED	Ministry of Economic Development of the Russian Federation
Rosstroy	Federal Agency for Construction and Communal Utilities (The Agency was eliminated by Presidential Decree No. 369 dated 20.03.2008, its functions were delegated to Ministry of Regional Development of the RF)
FSE "Glavosekspertiza Rossii"	Federal State Enterprise "Main State Examination Department"
RF Minprirody, MNRE, MoNR	Ministry of Natural Resources and Ecology of the Russian Federation
RF Mintruda	Ministry of Labor and Social Development of the Russian Federation
RF Minfin	Ministry of Finance of the Russian Federation
RTC NRS	Research and Technical Center for Nuclear and Radiation Safety
SUE	State Unitary Enterprise
CS	Construction specifications
EP	Environmental protection
EIA	Environmental impact assessment
INVA	Investment validation
SNiP	Construction norms and specifications
TCN	Territorial construction norms
RS	Requirements specification
TU	Technical specifications
SAR	Safety analysis report
FS	Feasibility study
DD	Detailed design
SE	State examination
SEIA	State environmental impact assessment
PEIA	Public environmental impact assessment
PNAE	Nuclear power rules and regulations
CG	Construction guidelines
GOST	State standard
OST	Branch standard
BAO	Building and assembly operations
CQAP	Construction quality assurance program
SAC	State acceptance committee

¹ State Atomic Energy Corporation "Rosatom" (SC Rosatom) was set up in conformity with federal law No. 317-FZ dated 01.12.2007 "On State Atomic Energy Corporation "Rosatom" and Presidential Decree No. 556 RF dated 27.04.2007 "On restructuring the atomic power and industrial complex of the Russian Federation". SC Rosatom was established by reorganization of the Federal Atomic Energy Agency of the same name, i.e. Rosatom (former Minatom). The Corporation includes JSC "Atomenergoprom", nuclear weapon complex enterprises, fundamental science institutions and enterprises operating in the sphere of nuclear and radiation safety. SC Rosatom is an absolute legal successor to Federal Atomic Energy Agency.

RW, radwaste	Radioactive waste
SNF	Spent nuclear fuel
RF	Reactor facility
CERS	Comprehensive engineering and radiation survey
EIT (OIT)	Equipment, items and technologies
ECC	Expert certification center
RL	Research laboratory
OKPO	All-Russian classifier of enterprises and organizations
FT NC	Foreign Trade Nomenclature of Commodities
GTFA	Gratuitous technical and financial aid
VAT	Value added tax
HEU-LEU	Highly enriched uranium – low-enriched uranium
R&D	Research and engineering development

Basic Terms and Definitions

Project	action envisaging investment of certain monetary, material and labor resources for achieving the planned aims and purposes in specified terms.
Project management	methods used in the arrangement, planning and coordination of material and labor resources during the whole life cycle of a project, with the view of reaching the given project aims and purposes by applying modern managerial methods, instruments, and techniques.
Construction	new construction, extension, reconstruction, and modernization of enterprises, buildings, installations, and facilities.
Pre-design documentation	validation of investments in construction, extension, reconstruction, and modernization of enterprises, buildings, installations, and facilities.
Design documentation	investment project, working project regarding construction, reconstruction, extension, overhaul and modernization of enterprises, buildings, installations, and facilities, as well as preservation and liquidation of hazardous industrial enterprises.
Investments	monetary means, securities, other property, including property rights or other rights subject to monetary evaluation, which are invested in business projects and/or other activity for getting profit and/or obtaining useful results.
Foreign investment	investment of foreign capital in business projects on the RF territory as objects of civil law belonging to a foreign investor, provided such objects of civil law are not withdrawn from circulation, or their circulation is not limited on the RF territory pursuant to federal laws, including money, securities (in home and foreign currencies), other property and property rights subject to monetary evaluation, exclusive rights to results of intellectual activity (intellectual property), as well as services and information.
Investment project	assessment of economic expediency, amount and terms of direct foreign investment, including design and estimate documents worked out in conformity with standards being in force in Russia.
Foreign investor	(a) foreign juridical person, whose legal capacity is determined by laws of the founder state, authorized by the said state to make investments on the RF territory; (b) foreign organization, not being a juridical person, whose legal capacity is determined by laws of the founder state on the territory of which it was established, authorized by the said state to make investments on the RF territory; (c) foreign citizen, whose legal capacity and competence are determined by laws of his/her state, authorized by the said state to make investments on the RF territory; (d) stateless person, resident of a foreign state, whose legal capacity and competence are determined by laws of the said state, authorized by the said state to make investments on the RF territory; (e) international organization, authorized pursuant to an international agreement of the Russian Federation to make investments on the RF territory; (f) foreign states, pursuant to the procedure specified by Russian federal laws.
Direct foreign investment	(a) foreign investor's acquisition of at least 10% share in the authorized capital of a commercial organization, created or being re-created on the RF territory as an economic partnership or society, pursuant to the RF Civil Code; (b) investment of capital in the fixed assets of a foreign juridical person subsidiary being created on the RF territory; (c) foreign investor's activity as a lessor of equipment indicated in sections XVI and XVII of the CIS Foreign Trade Nomenclature of Commodities with a customs value not less than 1 million rubles (over \$33,000).
Capital investment	investments in fixed capital (fixed assets), including costs of new construction, as well as extension, reconstruction, and modernization of acting enterprises, acquisition of machinery, equipment, instruments, parts and accessories, R&D work, etc.
Priority investment project	investment project with the total share of foreign capital being at least 1 billion Rubles, or investment project with the minimal share of foreign capital in the authorized fund of a commercial organization being at least 100

Nuclear installations	million Rubles entered in a list subject to approval by the RF Government. facilities and complexes with nuclear reactors, including nuclear power plants, vessels and other floating means, spacecraft and flight apparatuses, other transport means; constructions and complexes with industrial-scale, experimental and research reactors, critical and subcritical benches; facilities, complexes, polygons, installations and devices with nuclear charges used for peaceful purposes; other facilities, complexes, installations containing nuclear materials and intended for production, use, reprocessing, and transport of nuclear fuel and nuclear materials.
Radiation sources	facilities, complexes, installations, apparatuses, equipment, and articles, not related to nuclear installations, containing radioactive substances or generating ionizing radiation.
Points for storage of nuclear materials and radioactive substances, storage facilities for radioactive wastes (RW)	stationary objects and facilities not relating to nuclear installations and intended for storage of nuclear materials and radioactive substances, storage and disposal of radioactive wastes.
Nuclear materials	materials containing or capable of generating fissionable nuclear substances.
Radioactive substances	substances emitting ionizing radiation, but not relating to nuclear materials.
Radioactive wastes	nuclear materials and radioactive substances whose further utilization is impossible.
License	permit (right) to execution of a licensed activity, presuming observation of license requirements and conditions, issued by a licensing agency to a juridical and/or natural person. Pursuant to the Federal law "On atomic energy utilization", a license is a properly executed document authorizing the right to certain activity, provided safety of nuclear power installations and jobs executed is ensured.
Licensed activity	activity execution of which on the RF territory requires a license pursuant to the acting legislation.
Licensing	actions pertaining to the issue of licenses, re-execution of license-confirming documents, suspension and annulment of licenses, and control of licensing agencies over observation of license requirements and conditions.
Licensing requirements and terms	totality of requirements and terms set forth by statutory legal acts, compulsory for licensee when undertaking the licensed activities.
Licensing agencies	federal power bodies, power bodies of RF entities, and local authorities engaged in licensing procedures in conformity with the RF legislation.
Licensee	juridical person or individual businessperson, possessing a license for particular activity.
Applicant for a license	a legal entity or an individual undertaker submitting a license application to a licensing body for a specific type of activities
License register	licensing agencies databases containing data on issued, suspended, restored, and annulled licenses on particular activity.
Supervision over licensee compliance with licensing requirements and terms	a system of measures performed by licensing bodies, state supervisory and control bodies within their terms of reference, assuring that licensees comply with the relevant licensing requirements and terms when undertaking the licensed activities
National Classifier of economic activity	list of economic activities, products, and services, part of the Unified system of classification and encoding of technical, economic and social information in Russia, approved by the RF Government in the specified order.

Accreditation		procedure by which the federal executive bodies, authorized to organize and carry out work on mandatory certification in the system, officially acknowledged the possibility of execution by certification body or test laboratory (center) of the specific works in the declared area
Accreditation certificate		document authorizing the competence of a certification agency or testing laboratory (center) in performing operations in a particular field.
Sign of conformity		officially registered mark, authorizing (pursuant to the System-adopted regulations) conformity of equipment or articles for nuclear installations, radiation sources, and storage facilities to the specified requirements.
Equipment for nuclear installations, radiation sources, and storage facilities		any equipment intended for use (independently or as part of a system) in nuclear installations, radiation sources, and storage facilities, and exerting influence on safety. Equipment subject to obligatory certification is given in the Nomenclature of equipment, articles, and technologies for nuclear installations, radiation sources, and storage facilities.
Control over observance of certification regulations		inspection carried out by the System's Governing body for checking correspondence of certification agencies and testing laboratories (centers) to the System-adopted regulations.
Testing laboratory (center)	laboratory	laboratory (center) engaged in testing (separate tests) of equipment and articles for nuclear installations, radiation sources, and storage facilities.
Normative documents		state or sectoral regulations and standards in the field of nuclear power, specifications, other norms and regulations, international and national standards enacted in the RF.
Certification body		organization engaged in certification of equipment, articles, technologies, and/or quality systems.
Certificate of conformity	of	document issued pursuant to the System adopted rules and confirming correspondence of certified equipment, articles, and technologies to the specified requirements.
Certification tests		tests conducted by an authorized testing laboratory (center) within the certification procedure.
Certification		activity aimed at confirming correspondence of equipment, articles, and technologies for nuclear installations, radiation sources, and storage facilities to the specified requirements.
Normative documents		state or sectoral regulations and standards in the field of nuclear power, specifications, other norms and regulations, international and national standards enacted in the RF.
Mandatory Certification		certification made compulsory by the RF legislation
Certification of conformity	of	third party action proving correspondence of identified equipment, articles, and technologies for nuclear installations, radiation sources, and storage facilities to particular standards or other normative documents.
Quality system		managerial structure together with liabilities, procedures and resources required for general quality control.
Certification system		system applying own regulations and procedures for effecting certification of conformity.
Technologies for nuclear installations, radiation sources, and storage facilities		technologies used during production, testing, storage, reprocessing, transportation, and disposal of nuclear materials, radioactive substances and articles based thereon, including RW. Technologies subject to obligatory certification are given in the Nomenclature of equipment, articles, and technologies for nuclear installations, radiation sources, and storage facilities.
Central Authority of certification system		a body at the head of a certification system of uniform types of equipment, items and technologies for nuclear facilities, radiation sources and storage points
Gratuitous technical and financial aid (GTFA)		a type of free aid granted for rendering assistance in the course of economic and social reforms with the view of disarmament by conversion, weapons and military equipment disposal, taking of radiation-related environmental measures aimed at handling radioactive waste, spent nuclear fuel and other nuclear materials, previously accumulated and (or)

Facilities of federal significance	<p>generated during operation and decommissioning of nuclear energy facilities for peaceful and military applications, as well as arranging investigations, training, exchange of experts, post graduates and students, transfer of experience and technologies, supplies of equipment and other materiel within projects and programs officially registered according to procedure specified by the RF Government</p> <ul style="list-style-type: none">• projects aimed at construction, reconstruction, expansion, technical re-equipment, moth-balling and closing down of businesses and other economic entities in the Russian Federation and other projects, irrespective of their estimated cost, jurisdiction and form of ownership, their implementation liable to affect natural environment within the territory of two and more subjects of the Russian Federation, inclusive of projected facilities, to be provided by citizens or legal entities of the Russian Federation with foreign citizens or foreign legal entities participation, if the amount of foreign investments exceeds five hundred thousand US dollars• projects of economic activities that might affect the natural environment of adjacent states or necessitating the use of natural bodies shared by neighboring states or concerning the interest of adjacent states defined in "Convention on Environmental Impact Assessment In a Transboundary Context"• facilities, their operation liable to affect the natural environment, which are referred to the terms of reference of Federal executive power bodies in line with the Russian Federation legislation• projects aimed at construction of new hardware, technologies, materials, substances, certified products and services, which are on the list approved by a specially authorized federal state body in environmental examination, inclusive of the products purchased abroad
Facilities of regional significance	<ul style="list-style-type: none">• projects aimed at construction, reconstruction, expansion, technical re-equipment, moth-balling and closing down of businesses and other economic entities in the Russian Federation and other projects, irrespective of their estimated cost, jurisdiction and form of ownership, located in the territory of the relevant subject of the Russian Federation, except for economic entities under the jurisdiction of the Russian Federation, inclusive of projected facilities to be provided by citizens or legal entities of the Russian Federation with foreign citizens or foreign legal entities participation, if the amount of foreign investments exceeds five hundred thousand US dollars• projects of economic activities that might affect the natural environment that do not refer to the terms of reference of the federal executive power bodies• economic or other activities, which may affect directly or indirectly the natural environment within the territory of a subject of the Russian Federation.
Facilities of local significance	<p>The rest, i.e. facilities that are not classified among facilities of federal and regional significance.</p>

Introduction

The purpose of this Manual is to provide detailed information/guidelines on the system of licensing and management of projects aimed at construction, reconstruction and modernization of facilities, as well as supplies of equipment for nuclear- and radiation-hazardous facilities in Russia, attracting foreign investments, gratuitous technical and financial assistance, projects implemented on contractual basis inclusive.

The Manual is intended for foreign companies and organizations engaged or planning to be engaged in the activities pertinent to nuclear energy use in Russia in the following main trends:

- Investment activities aimed at implementation of commercial nuclear projects in Russia
- Investment projects in the framework of gratuitous technical and financial assistance
- Development of construction and modernization projects, construction and modernization of facilities relating to nuclear energy use in Russia
- Supply and installation of equipment for facilities envisaging nuclear energy use in Russia, initial testing activities
- Consulting
- Project management
- Monitoring of nuclear technologies nonproliferation
- Monitoring of environmental protection

The Manual provides classification of project implementation stages based on currently effective regulations, the following stages being enlarged on:

- ✓ Declaration of intentions
- ✓ Investments validation (INVA)
- ✓ Development, concurrence, expert's appraisal and approval of project documentation (environmental impact assessment (EIA) stage inclusive)
- ✓ Construction of a facility and its commissioning
- ✓ Operation of a facility and its decommissioning

Detailed characteristic is provided for each project implementation stage, the requirements for documents to be submitted for approval, concurrence and substantiation being formulated. Routine and procedures for approval and concurrence of documents to be approved, concurred and substantiated are described. Requirements to the contents of the documents and model documents are presented.

The following aspects of project implementation in nuclear energy use in Russia involving foreign organizations and companies are considered in the Manual in detail:

- State regulation principles, licensing routine and procedures
- Equipment, items and technologies certification procedures
- Exemption scheme and its employment procedure
- Project management system

Along with the provided compulsory description of general principles, schemes, routine and procedures, specific examples of successful implementation of diverse investment projects in Russia are considered in many sections.