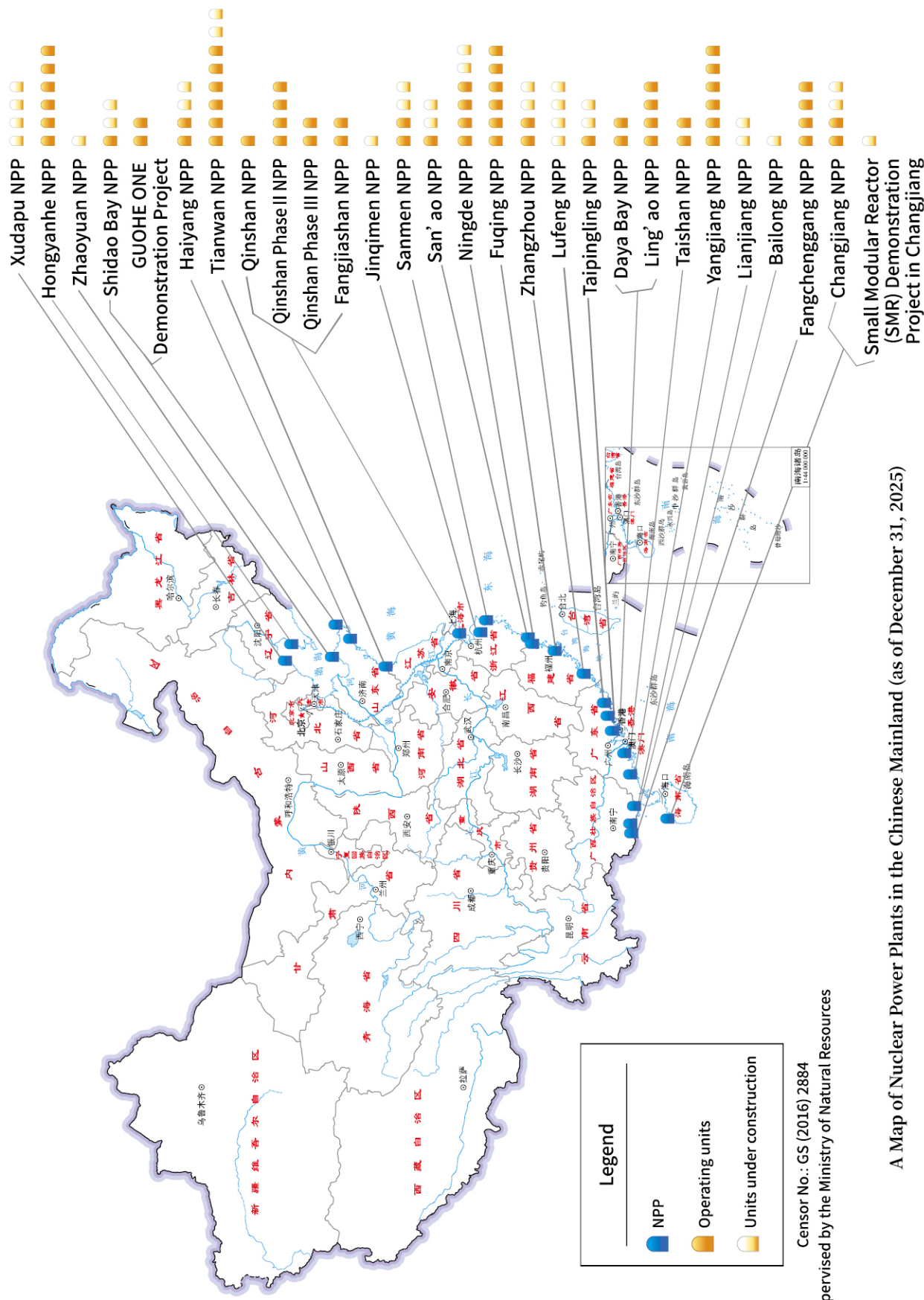




National Nuclear Safety Administration The People's Republic of China



2025 Annual Report



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Supervised by the Ministry of Natural Resources

A Map of Nuclear Power Plants in the Chinese Mainland (as of December 31, 2025)

Message from the Administrator



DONG Baotong

Vice Minister of the Ministry of Ecology and Environment and
Administrator of the National Nuclear Safety Administration

The year 2025 marks the conclusion of the “14th Five-Year Plan” and the year for mapping the “15th Five-Year Plan”. The Fourth Plenary Session of the 20th Central Committee of the Communist Party of China has listed "upholding the coordination of development and safety" as one of the six major principles that must be followed in economic and social development during the “15th Five-Year Plan” period, and has called for strengthening national safety capability building in emerging fields such as nuclear energy. Over the past year, we have resolutely implemented the decisions and arrangements of the CPC Central Committee; under the strong leadership of the Party Leadership Group of the Ministry and the Ministry’s leadership team, we strove for progress while ensuring stability and made innovations on the basis of good practices, adhered to strict measures and law-based regulation, consolidated the foundation

and improved capability, promoted development through persistent overall coordination, and ensured nuclear and radiation safety.

First, NNSA made innovations on the basis of good practices and fully implemented the important decisions and arrangements of the CPC Central Committee. NNSA has treated the implementation of the spirit of General Secretary Xi Jinping's important instructions and directives as a major political task, has pursued it with rigor and diligence, and ensured that the tangible outcomes are achieved. NNSA has promoted the construction of a strict nuclear safety responsibility system, urging 4 nuclear power groups and 9 nuclear safety equipment enterprise groups to further fulfill their nuclear safety management responsibilities, and ensuring that the highest priority requirements for nuclear safety are implemented in all links

including decision-making. The Discipline Inspection & Supervision Team stationed at the Ministry and the Discipline Inspection & Supervision Team stationed at the Nuclear Power Group have carried out "cross-group" coordination, giving full play to the supervisory and urging role of discipline inspection authorities, to push forward the resolution of key issues such as imbalanced progress in the construction of the nuclear safety responsibility system.

Second, NNSA strengthened strict regulation to effectively safeguard the high-quality development of the nuclear energy industry. Targeted regulation was conducted on first reactor projects such as the GUOHE ONE and High Temperature Gas-cooled Reactor (HTGR) Demonstration Projects, ensuring high-quality development of new reactor types. First-of-a-kind and new reactors and water intake safety for nuclear power plants were listed as Category A regulatory items. After the domestic substitution of main pump inverters at Haiyang NPP Unit 2 and Sanmen NPP Unit 1, unplanned shutdowns have decreased significantly. China's nuclear power plants have withstood the impacts of multiple marine organism outbreaks, with no unplanned reactor shutdowns caused thereby. NNSA advanced safety improvements for research reactors in an orderly manner and strengthened safety regulation of nuclear fuel cycle facilities. NNSA supported and promoted scientific research and technological development of controlled thermonuclear fusion, and issued requirements for the graded and classified management of fusion device. NNSA strengthened the capacity building for nuclear safety regulation, established a

regulatory system for small mobile reactors, strictly regulated gamma radiography, and promoted and made positive progress in the treatment of tailings and slags from radioactive associated minerals. NNSA optimized the scope of licensing activities for Class 1E cables and nuclear-grade castings and forgings, and strengthened quality management for the manufacturing of components such as nuclear fuel assemblies and cladding tubes.

Third, NNSA consolidated the foundation to enhance the capacity of the nuclear safety regulatory system. NNSA convened a conference on nuclear and radiation safety regulation, to accelerate the development of a modern nuclear safety regulatory system. NNSA organized the formulation of the "15th Five-Year Plan" for nuclear safety-related work, and optimized systems and mechanisms including annual nuclear safety regulation dialogues, quarterly situation analysis, centralized experience feedback and analysis, and direct reporting of important information from on-site supervision at nuclear power bases. NNSA effectively operated special regulatory task forces for reactor types including M310 and its improved version, AP series, VVER, and Hualong One, enhancing research and resolution of common safety issues across the same reactor types. A work system for nuclear power safety and safety status files was developed, and the collection and compilation of over 10,000 status reports from operating nuclear power units were completed. The comprehensive management system for nuclear and radiation safety regulation was improved, with the General Provisions and 42 second-tier documents upgraded. Centered on the safety standards of

the International Atomic Energy Agency (IAEA), NNSA carried out intensive thematic study and seminars to build a learning-oriented nuclear safety regulatory agency.

Fourth, NNSA ensured overall coordination and continuously improved nuclear safety governance. The 4·15 National Security Education Day nuclear safety themed event was carried out. NNSA implemented the *Work Plan for Improving Scientific Cognition of Nuclear Energy and Nuclear Safety (2025-2029)*, and built the brand "Nuclear Safety for a Better Life". NNSA conducted multilateral and bilateral cooperation with the IAEA and key countries, and actively participated in the work of the IAEA Commission on Safety Standards (CSS). The IAEA conducted a new round of Integrated Regulatory Review Service (IRRS) missions for nuclear and radiation safety in China, concluding that the Ministry of Ecology and Environment (the National Nuclear Safety Administration) (MEE/NNSA) is a "solid, robust, and reliable regulatory agency," recognizing and recommending multiple "good practices" from China, including its quarterly nuclear safety situation analysis. The Eighth Review Conference of the *Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management* was completed, with four of China's practices included in 21 global good practices for promotion.

In 2025, operation licenses were issued for four nuclear power units, construction licenses for twelve units, and site selection review approvals for four units. The Operation License renewal for

one research reactor was approved, with more than 30 nuclear safety licenses for nuclear fuel cycle facilities, environmental impact assessment documents, etc. In 2025, the 99 nuclear power units (62 with operation licenses and 37 with construction licenses), 21 civil research reactors (17 in operation, 2 under construction, 2 in decommissioning), and 21 civil nuclear fuel cycle facilities (20 in operation, 1 under construction) in the Chinese Mainland maintained safe and stable operation records and controlled construction quality. The operational safety performance of nuclear power plants met the corresponding safety objectives, with 4 unplanned shutdowns recorded. The safety of about 178,000 radioactive sources in use and 355,000 radiation-emitting devices was well controlled. The quality of the national radiation environment was good. I would like to express, on behalf of the MEE/NNSA, heartfelt gratitude to all colleagues contributing to nuclear and radiation safety and to friends from all walks of life who care about and support nuclear and radiation safety.

The year 2026 marks the beginning of the "15th Five-Year Plan". We will fully implement the spirit of the 20th National Congress of the Communist Party of China and all plenary sessions of the 20th Communist Party of China Central Committee, fully act on Xi Jinping Thought on Ecological Civilization, Holistic Approach to National Security, and China's Approach to Nuclear Security. We will uphold and practice a correct view of political performance, with the goal of achieving high-level nuclear safety, based on fulfilling the entities' responsibilities for nuclear safety,

focusing on mitigation and elimination of nuclear safety risks and hidden dangers, and supported by continuously enhancing basic nuclear safety capacity. We will adhere to bottom-line thinking and strict measures, rely on professionalism,

make innovations on the basis of good practices, accelerate the development of a modern nuclear safety regulatory system, and ensure a sound start and solid foundation for nuclear and radiation safety regulation during the “15th Five-Year Plan”!

Vice Minister of the Ministry of Ecology and Environment
Administrator of the National Nuclear Safety Administration

A handwritten signature in black ink, consisting of stylized Chinese characters '董保同' (Dong Baotong).

DONG Baotong
May 19th, 2026

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I. Brief Introduction to the National Nuclear Safety Administration

The Ministry of Ecology and Environment (MEE) retains the nameplate of the National Nuclear Safety Administration (NNSA) for external purposes. NNSA, a regulatory body for nuclear and radiation safety under the State Council, is responsible for the regulation of nuclear and radiation safety. It formulates relevant policies, plans and standards, participates in nuclear emergency response, and takes charge of emergency response to radiation environment accidents. It conducts regulation of the safety of nuclear facilities and radioactive sources, and regulation of pollution prevention and control in nuclear facilities, nuclear technology application, electromagnetic radiation, and development and utilization of nature occurring radioactive materials. It performs regulation of nuclear material control and the design, manufacture, installation, and non-destructive testing (NDT) of civil nuclear safety equipment.

The Department of Nuclear Facility Safety Regulation, the Department of Nuclear Power Safety Regulation and the Department of Radiation Source Safety Regulation are internal bodies of both the MEE and the NNSA. Six regional offices of nuclear and radiation safety inspection covering North China, East China, South China, Southwest China, Northeast China and Northwest China carry

out regulatory inspection for regional nuclear and radiation safety nationwide. Professional technical institutions and social organizations including the Nuclear and Radiation Safety Center, National Marine Environmental Monitoring Center, China Nuclear Safety and Environmental Culture Promotion Association and Radiation Monitoring Technical Center provide technical support. In addition, institutions such as Suzhou Nuclear Safety Center, China Machinery Productivity Promotion Center, Beijing Nuclear Safety Review Center, Shanghai Nuclear Safety Review Center, and Radiation Safety Center provide long-term cooperative technical support .

In accordance with the "Three-Determinations (of posts, duties and staffing)" and relevant policies, laws and regulations, NNSA performs regulation of national nuclear safety, radiation safety and radiation environment. It implements full-chain, full-life-cycle and phased review and licensing for nuclear facilities, nuclear materials, nuclear activities and radioactive material, carries out whole-process inspection and law enforcement on nuclear facilities and entities engaged in nuclear activities, and conducts round-the-clock monitoring of radiation environment. The regulatory objects mainly include: installations such as nuclear power plants, nuclear cogeneration plants and nuclear

heating and steam supply plants; reactors other than nuclear power plants such as research reactors, experimental reactors and critical assemblies; nuclear fuel cycle facilities covering nuclear fuel production, processing, storage and reprocessing; radioactive waste treatment, storage and disposal facilities; nuclear material control activities; radioactive material transportation activities; nuclear technology application projects; uranium (thorium) mines and nature occurring radioactive materials; electromagnetic radiation installations and facilities; design, manufacture, installation and non-destructive testing of civil nuclear safety equipment; and practitioners engaged in nuclear and radiation safety.

* This report does not contain relevant data of Hong Kong Special Administrative Region, Macau Special Administrative Region and Taiwan Province of the People's Republic of China.

II. Introduction

Rule of Law

Positive progress was made in the rule of law for nuclear and radiation safety in 2025. Provisions on prevention and control of radioactive pollution and electromagnetic radiation pollution were incorporated into the ecology and environment code. The Atomic Energy Act of the People's Republic of China was issued on September 12, 2025 and shall come into force on January 15, 2026. The Work Plan for the Modernization of the Nuclear and Radiation Safety Rule and Standard System was issued and implemented to accelerate the iteration and upgrading of relevant regulations and standards. As of the end of 2025, there are currently 266 effective nuclear and radiation safety regulations and standards, including 3 laws, 7 administrative regulations, 26 departmental rules, 121 standards, and 109 guides.

Capacity Building

New achievements were achieved in scientific research on nuclear safety, the nuclear safety was included in the National Technology Forecasting System for the first time, and relevant content was incorporated into the special plans for the “15th Five-Year Plan”. Active efforts were made to approve and initiate special nuclear safety research projects, and acceptance of three National Key



Figure 1. SUN Jinlong, Secretary of the Party Leadership Group of MEE, Investigated Equipment Capacity at the National Nuclear and Radiation Safety Technology R&D Base in March 2025

R&D Program projects was completed; preliminary research on nuclear safety for nuclear-powered merchant ships was conducted; a big data center was established and a special AI technology task force was set up. The laboratories were constructed in an orderly manner at the National Nuclear and Radiation Safety Technology R&D Base, with 21 laboratories already in operation, 13 under construction, and 4 new laboratories added for NDT examination and review. A nuclear safety test and verification platform was completed, including the erection, installation, and joint commissioning of test benches for small water reactors, low-temperature heating reactors, etc. Breakthroughs were achieved in the acceptance of major projects; the project of regional repositories for emergency was approved

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for initiation; the engineering technology center was officially approved for operation. The South-Western Regional Office of Nuclear and Radiation Safety Inspection obtained CMA certification for X- γ radiation dose rate as well as α and β surface contamination monitoring. The North-Western Regional Office of Nuclear and Radiation Safety Inspection obtained CMA certification for X- γ radiation dose rate, atmospheric radon, and α and β surface contamination monitoring. The Radiation Monitoring Technical Center was officially accredited by the National Nuclear Emergency Commission as the “National Technical Support Center for Data Analysis and Evaluation of Environmental Radiation Monitoring in Nuclear Emergencies”.



Figure 2. HUANG Runqiu, Minister of Ecology and Environment, Attended the Symposium on Nuclear and Radiation Safety Regulation and Delivered a speech in December 2025

Strengthening Regulation

A work conference on nuclear and radiation safety regulation was held to plan and arrange key regulation tasks during the “15th Five-Year Plan” and accelerate the establishment of a modern nuclear safety regulatory system. Targeted regulation was conducted on first reactor projects

such as the GUOHE ONE and High Temperature Gas-cooled Reactor (HTGR) Demonstration Projects, ensuring high-quality development of new reactor types. A graded and classified regulation mode was adopted, the list of Category A regulatory items was dynamically adjusted, and stricter upgraded regulation was imposed on key issues. Special regulatory task forces for reactor types including M310 and its improved version, AP series, VVER, and Hualong One were effectively operated, and a work system for nuclear power safety and safety status file was developed. Active efforts were put to optimize the safety licensing and approval system for nuclear power plants. With water intake safety regulation strengthened, nuclear power plants have withstood the impacts of multiple marine organism outbreaks, with no unplanned reactor shutdowns caused thereby. Nuclear safety licensing and EIA document approval was conducted in strict accordance with the law. Graded and classified management of fusion devices was promoted, and a top-level framework for the fusion standards system was established. Remove of reactor core was approved for the Miniature Neutron Source Reactor (MNSR) in Shenzhen University, with cores successfully removed and safely handled. NNSA effectively operated the experience feedback system, consolidated and strengthened mechanisms such as centralized analysis of feedback and regular screening and notification of event and important exceptions. In 2025, the National Nuclear Safety Expert Commission held 24 meetings and reviewed 120 various topics covering rules and standards, administrative approvals and major issues, providing advisory suggestions for nuclear safety decision-making.

International Cooperation

NNSA deeply participated in global nuclear safety governance. It attended the Eighth Review Meeting of the Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management, prepared for the Tenth Review Meeting of the Contracting Parties to the Convention on Nuclear Safety, and actively engaged in important multilateral mechanisms including the IAEA Commission on Safety Standards, IAEA Senior Officials Meeting on Nuclear Safety and Security Regulation, IAEA International Nuclear Safety Advisory Group, Multinational Design Evaluation Programme (MDEP) Administration Commission, and United Nations Scientific Committee on the Effects of Atomic Radiation. It actively carried out bilateral nuclear safety cooperation with countries including Russia, France, Pakistan, Kazakhstan, Uzbekistan, and the United Arab Emirates. It successfully conducted the IAEA Integrated Regulatory Review Service for nuclear and radiation safety regulation and won three “Good Practice” awards.

Public Communication



Figure 3. A photo of the April 15 Nuclear Safety Themed Event

NNSA adhered to the “four-in-one” work plan featuring scientific decision-making support, accurate information dissemination, effective public sentiment response and sound atmosphere building to raise public scientific awareness of nuclear energy and nuclear safety, and organize the implementation of the Work Plan for Improving Scientific Cognition of Nuclear Energy and Nuclear Safety (2025-2029). NNSA consistently promoted the construction of the "Three Libraries/Databases and One Atlas," vigorously developed popular science resource databases, publicity guideline databases, and public opinion response guideline databases, and explored the development of a public communication knowledge spectrum. NNSA conducted rigorous public opinion response work. It held a regular press conference of the MEE on the theme "Strict Nuclear and Radiation Safety Regulation: Safeguarding the Nuclear Safety Defense Line for Building a Beautiful China." NNSA carefully organized and carried out the nuclear safety themed event on 4·15 National Security Education Day. It guided nuclear-related groups, academic societies and associations to continuously hold brand events such as “8·7” Public Open Day, "Charm Light" and "Xiaohezhisheng"; further advanced the activity of introduction of nuclear knowledge "into Party Schools", "into Campuses" and "into Communities"; explored nuclear science popularization research and study tours; organized "A Tour to Nuclear Power Plants by the Media" and volunteer activities; and establish a multi-dimensional publicity matrix centered on the core brand "Nuclear Safety For a Better Life". It effectively operated the official website and

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WeChat official account of NNSA to strengthen interaction and exchanges among all institutions. It produced and released the promotional video series titled New Trends in Borderland Nuclear Safety, collected outstanding cases concerning nuclear and radiation safety work, and demonstrated the professionalism and good practices of personnel in the nuclear industry. The Q&As on National Nuclear Safety was serialized on the official account and widely republished by industrial media, fostering a sound social atmosphere where the whole society pays close attention to nuclear safety.

Technical Support

In 2025, the Nuclear and Radiation Safety Center (NSC) provided comprehensive technical support for nuclear and radiation safety regulation. It handled over 4,000 tasks, participated in over 600 regulatory inspections, and produced nearly 3,000 technical outputs. It completed preliminary reviews for 14 nuclear power units, reviewed applications for construction licenses of 11 nuclear power units and 1 research reactor, as well as applications for operation licenses of 15 nuclear power units. It kept track of rectification of major nuclear safety issues, strengthened environmental impact assessment for nuclear power plants and performed verification calculation for key projects. It utilized the academic expert panels and advanced generic and basic scientific research on nuclear facilities. It established the basic framework for reactor safety demonstration coordinated with the integration of “Hualong One 2.0”. It established and improved forward review logic and technical systems to support the optimization of safety licensing approval systems for nuclear power plants. It

efficiently operated the comprehensive review system for the front and back ends of the nuclear fuel cycle, properly addressed regulatory review pressure arising from large-scale construction of nuclear equipment, and continuously strengthened the qualification management of personnel in critical nuclear safety positions. It studied and formulated the management system for radiation pollution monitoring qualifications, and steadily enhanced radiation monitoring and emergency response capabilities. It steadily promoted the improvement of radiation safety and electromagnetic pollution prevention and control capacity. Throughout the year, it reviewed 71 radiation safety licensing projects, examined over a hundred exemption filing documents and conducted pre-issuance inspections on 58 entities, and completed EIA reviews for 21 electromagnetic construction projects.

The National Marine Environmental Monitoring Center strictly fulfilled its technical support functions for marine radiation monitoring. It strengthened capacity building; organized the preparation of construction plans for the second batch of marine radiation monitoring bases in the East China Sea and South China Sea, etc.; advanced pre-research on three standards; optimized personnel training and laboratory upgrading; participated in the international comparison of radionuclides in environmental samples organized by the IAEA; successfully organized the “Yellow Sea 2025” marine radiation emergency monitoring drill in collaboration with the Department of Ecology and Environment of Shandong Province; and participated in the IAEA regional cooperation project “Monitoring

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Marine Environment to Improve Understanding of Abundance and Impacts of Marine Plastic Pollution in the Asia-Pacific Region”.

The China Nuclear Safety and Environmental Culture Promotion Association completed the development of two national ecological and environmental standards — the General Guidelines for Nuclear Safety Culture Development and the Implementation Guidelines for Nuclear Safety Culture Assessment, which provide technical support for regulatory agencies to explore nuclear safety culture regulation models and conduct nuclear safety culture inspections at nuclear power plants in China. It explored initiatives to enhance public scientific awareness of nuclear energy and nuclear safety, continuously carried out public welfare live streams for science popularization themed “For a Beautiful China, Let Us Volunteer — Nuclear Safety for a Better Life” and activities inviting young scientists from Hong Kong and Macao to visit domestic nuclear facilities, and facilitated the popularization of nuclear safety knowledge into communities and schools.

The Radiation Monitoring Technical Center organized and implemented the 2025 Monitoring Plan for National Radiation Environment and the Quality Assurance Plan for National Radiation Environment Monitoring, and compiled dozens of environmental quality reports. It completed reviews on more than 30 supervisory monitoring plans for key nuclear facilities. The annual data acquisition rate of automatic radiation monitoring stations reached 99.2%, a record high over the last ten years. It hosted the experience feedback and exchange sessions for the 3rd National

Radiation Monitoring Skills Competition and the experience exchange sessions on safe operation and management of waste repositories to systematically summarize and standardize practical experience. It expanded the scope of technical comparison of measurements and unified metrological traceability. Its special capacity building project passed final acceptance, and its pilot program for electromagnetic radiation emission licensing was successfully completed with high quality.

III. Polices, Plans, Rules, Standards, and Nuclear Safety Culture

Nuclear Safety Polices and Plans

NNSA organized the preliminary studies on the “15th Five-Year Plan” for nuclear safety, sorted out basic ideas and compiled the draft plans. It organized the summary and evaluation of the "14th Five-Year Plan" for nuclear safety. It organized Tsinghua University and other institutions to conduct the think tank studies on "Building a Modernized Nuclear Safety regulatory system in Line with the Development of China's Nuclear Industry". It conducted quarterly nuclear safety situation analysis activities and continuously optimized the quarterly situation analysis mechanism.

Development/Revision of Rules and Standards

NNSA cooperated with the Legal Affairs Commission of the Standing Committee of the National People's Congress in the compilation of the ecology and environment code, and conducted research and justification on major systems and key issues such as the prevention and control of radioactive pollution and electromagnetic radiation pollution. A total of 15 rules and standards documents were issued throughout the year, including 8 standards such as Regulations for Environmental Radiation Protection of Nuclear Power Plant (GB 6249-2025) and 7 guides such as External Events in Design for Nuclear Power Plants (HAD102/05-2025), as detailed in Table 1. See Table 2 for the situation on reviews of National Nuclear Safety Expert Commission Situation on rules and standards.

Table 1. List of Nuclear and Radiation Safety Rules and Standards Issued in 2025

No.	Name	Category	No.	Issue type	Issue date
1	<i>Regulations for Environmental Radiation Protection of Nuclear Power Plant</i>	National standards	GB 6249-2025	MEE Bulletin [2025] No. 5	01/21/2025
2	<i>Acceptable Levels of Residual Radioactivity in Soil of Release Site form Nuclear Facility Decommissioning</i>	National standards	GB 45437-2025	MEE Bulletin [2025] No. 8	02/28/2025

Policies, Plans, Rules, Standards, and Nuclear Safety Culture

Table 1

No.	Name	Category	No.	Issue type	Issue date
3	<i>The Regulation for Radiation Safety and Protection of Particle Accelerators</i>	National standards	GB 5172-2025	MEE Bulletin [2025] No. 21	10/31/2025
4	<i>Technical Specification for Operation and Management of Radioactive Waste Repository for Nuclear Technology Application</i>	EE standards	HJ 1417-2025	MEE Bulletin [2025] No. 16	06/27/2025
5	<i>Technical Guidelines for Environmental Impact Assessment - Research Reactor</i>	EE standards	HJ 5.1-2025	MEE Bulletin [2025] No. 26	11/11/2025
6	<i>Guidelines for the Impact Test of Packaging for Radioactive Material</i>	EE standards	HJ 1421-2025	MEE Bulletin [2025] No. 32	12/13/2025
7	<i>Guides for Thermal Test of Transport Cask for Radioactive Material</i>	EE standards	HJ 1422-2025	MEE Bulletin [2025] No. 32	12/13/2025
8	<i>Determination of Gross Beta in Liquid Effluent of Nuclear Facilities - Standard Curve Method</i>	EE standards	HJ 1429-2025	MEE Bulletin [2025] No. 40	12/24/2025
9	<i>External Events in Design for Nuclear Power Plants</i>	Guides	HAD102/05-2025	NNSA [2025] No. 78	05/28/2025
10	<i>Periodic Safety Review for Nuclear Power Plants</i>	Guides	HAD103/11-2025	NNSA [2025] No. 95	06/22/2025
11	<i>Safety Classification of Structures, Systems and Components in Nuclear Power Plants</i>	Guides	HAD102/03-2025	NNSA [2025] No. 153	09/18/2025
12	<i>Repair of Nuclear Power Plants</i>	Guides	HAD103/08-2025	NNSA [2025] No. 165	10/02/2025
13	<i>Terminology and Abbreviations for Nuclear Safety Regulation of Nuclear Power Plants and Research Reactors</i>	Guides	HAD001/01-2025	NNSA [2025] No. 213	11/25/2025
14	<i>External Human Induced Events in Site Evaluation for Nuclear Power Plants</i>	Guides	HAD101/04-2025	NNSA [2025] No. 244	12/30/2025
15	<i>Evaluation of Seismic Hazards for the Sites of Nuclear Power Plants</i>	Guides	HAD101/01-2025	NNSA [2025] No. 245	12/30/2025

<http://nnsa.mee.gov.cn/ztzl/fgbzwjk/>

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Table 2. List of Nuclear and Radiation Safety Rules and Standards Reviewed by the National Nuclear Safety Expert Commission in 2025

No.	Name	Category	Development/ Revision	Project progress	Review conference
1	<i>Performance Requirements for Low Level Radioactive Waste Form - Cemented Waste Form</i>	National standards	Revision	First review	Q1 Regular Meeting
2				Second review	Q2 Regular Meeting
3	<i>Determination of Gross Beta in Liquid Effluent of Nuclear Power Plant - Standard Curve Method</i>	EE standards	Development	First review	Q1 Regular Meeting
4				Second review	Q2 Regular Meeting
5	<i>Technical Guidelines for Environmental Impact Assessment - Decommissioning of Nuclear Technology Application</i>	EE standards	Development	First review	Q2 Regular Meeting
6				Second review	The ninth symposium
7	<i>Technical Guidelines for Environmental Impact Assessment - Nuclear Technology Utilization</i>	EE standards	Revision	First review	The ninth symposium
8				Second review	The eighteen symposium
9	<i>Analytical Method of Thorium-230 in Waste Water - Anion Exchange Separation and Alpha Spectrometry</i>	EE standards	Development	First review	The ninth symposium
10				Second review	Q4 Regular Meeting
11	<i>Technical Guidelines for Environmental Impact Assessment - Magnetic Confinement Fusion Facility</i>	EE standards	Development	First review	Q4 Regular Meeting
12	<i>General Guidelines for Nuclear Safety Culture Development</i>	EE standards	Development	First review	Q4 Regular Meeting
13				Second review	The nineteenth symposium
14	<i>Implementation Guidelines for Assessment of Nuclear Safety Culture</i>	EE standards	Development	First review	Q4 Regular Meeting
15				Second review	The nineteenth symposium
16	<i>Core Management and Fuel Handling of Nuclear Power Plants</i>	Guides	Revision	Second review	Q1 Regular Meeting
17	<i>Commissioning of Nuclear Power Plants</i>	Guides	Revision	Second review	Q2 Regular Meeting

Polices, Plans, Rules, Standards, and Nuclear Safety Culture

Table 2

No.	Name	Category	Development/ Revision	Project progress	Review conference
18	<i>Safety Basis Management for Nuclear Power Plants</i>	Guides	Development	First review	Q2 Regular Meeting
19				Second review	The sixteenth symposium
20	<i>Chemical Programme for Nuclear Power Plants</i>	Guides	Development	First review	The ninth symposium
21				Second review	The seventeenth symposium
22	<i>Nuclear Power Plant Accident Management</i>	Guides	Development	First review	The ninth symposium
23				Second review	Q4 Regular Meeting
24	<i>Experience Feedback Management for Nuclear and Radiation Safety Regulation</i>	Guides	Development	First review	The thirteenth symposium
25				Second review	The seventeenth symposium

Nuclear Safety Culture

NNSA drew on international experience and combined with China's practice, organized the development of two national ecological and environmental standards — the General Guidelines for Nuclear Safety Culture Development and the Implementation Guidelines for Nuclear Safety

Culture Assessment. All relevant entities conducted discussions to promote the strengthening of nuclear safety culture within regulatory agencies, carried out self-assessments according to their actual conditions, to improve nuclear safety culture.

IV. Safety Regulation on Nuclear Power Plants

As of the end of 2025, A total of 62 nuclear power operating units had been granted with the operating licenses, 37 nuclear power units with the construction licenses, and 13 nuclear power units were approved to be built in the Chinese Mainland . In 2025, 36 operational events and 68 construction events were reported by nuclear power plant licensees, and no radioactive events endangering the public and environmental safety caused by the nuclear operating plants . The monitoring results indicate that the integrity of the three physical barriers in all operating plants remained intact throughout the year.

In 2025, A siting approval was respectively issued for Taishan NPP Units 3 and 4 and Laiyang Nuclear Power Project Phase I; The construction licenses were issued for Lufeng NPP Units 1 and 2, Taipingling NPP Units 3 and 4, Jinqimen NPP Units 1 and 2, Zhaoyuan NPP Units 1 and 2, San'ao NPP Units 3 and 4 and Bailong NPP Units 1 and 2; operation licenses were issued for Unit 2 of the GUOHE ONE demonstration project, Zhangzhou NPP Unit 2, Taipingling NPP Unit 1 and San'ao NPP Unit 1.

The operation data of China's nuclear power plants in 2025 are shown in Table 3.

Table 3. Operation Data of Nuclear Power Plants in China in 2025

NPP Name	Unit No.	Unified Unit No.	Rated power (MW)	Electricity Generation (TWh)	Load Factor (%)	Capacity Factor (%)
Qinshan NPP	1	CN01	35.0	2.59	84.64	89.31
Qinshan Phase II NPP	1	CN04	67.0	5.52	93.99	94.62
	2	CN05	70.8	5.09	84.34	86.57
	3	CN14	67.0	5.80	98.88	99.98
	4	CN15	67.0	5.33	90.77	93.81
Qinshan Phase III NPP	1	CN08	72.8	5.91	92.67	94.14
	2	CN09	72.8	6.21	97.44	100.00
Fangjiashan NPP	1	CN24	108.9	8.47	88.75	90.02
	2	CN25	108.9	8.83	92.56	93.79
Daya Bay NPP	1	CN02	98.4	8.37	96.36	93.91
	2	CN03	102.6	8.17	90.91	91.48

Safety Regulation on Nuclear Power Plants

Table 3

NPP Name	Unit No.	Unified Unit No.	Rated power (MW)	Electricity Generation (TWh)	Load Factor (%)	Capacity Factor (%)
Ling'ao NPP	1	CN06	99.0	7.94	91.52	94.07
	2	CN07	99.0	8.60	99.08	99.99
	3	CN12	108.6	8.67	91.11	92.99
	4	CN13	108.6	8.52	89.57	93.38
Tianwan NPP	1	CN10	106.0	9.02	91.71	99.62
	2	CN11	106.0	7.99	86.04	91.20
	3	CN45	112.6	8.78	95.83	100.00
	4	CN46	112.6	8.40	88.64	90.44
	5	CN53	111.8	8.86	90.47	93.22
	6	CN54	111.8	8.67	88.56	93.99
Hongyanhe NPP	1	CN16	111.9	8.39	85.64	91.31
	2	CN17	111.9	9.24	94.26	100.00
	3	CN26	111.9	8.67	88.49	99.53
	4	CN27	111.9	8.27	84.35	89.33
	5	CN49	110.9	8.02	81.86	90.97
	6	CN50	110.9	9.68	98.79	99.99
Ningde NPP	1	CN18	108.9	9.17	96.13	99.99
	2	CN19	108.9	8.60	90.14	93.82
	3	CN34	108.9	8.42	88.30	89.59
	4	CN35	108.9	8.83	92.58	93.18
Fuqing NPP	1	CN20	108.9	8.69	91.05	91.32
	2	CN21	108.9	9.26	97.07	100.00
	3	CN42	108.9	9.04	94.71	100.00
	4	CN43	108.9	9.48	99.35	100.00
	5	CN51	115.0	9.94	97.74	100.00
	6	CN52	115.0	8.29	81.56	86.28

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Table 3

NPP Name	Unit No.	Unified Unit No.	Rated power (MW)	Electricity Generation (TWh)	Load Factor (%)	Capacity Factor (%)
Yangjiang NPP	1	CN22	108.6	8.84	92.93	94.45
	2	CN23	108.6	8.39	88.18	89.61
	3	CN40	108.6	9.38	98.66	99.99
	4	CN41	108.6	8.39	88.25	90.49
	5	CN47	108.6	8.55	89.85	92.09
	6	CN48	108.6	9.44	99.23	99.99
Sanmen NPP	1	CN28	125.1	9.73	88.87	92.45
	2	CN29	125.1	9.66	88.24	91.49
Haiyang NPP	1	CN30	125.0	10.48	97.68	99.64
	2	CN31	125.0	9.75	92.73	96.79
Taishan NPP	1	CN32	175.0	10.41	67.93	68.80
	2	CN33	175.0	13.08	85.35	86.61
Changjiang NPP	1	CN36	65.0	5.23	91.80	99.87
	2	CN37	65.0	4.79	84.07	92.54
Fangchenggang NPP	1	CN38	108.6	8.60	90.36	99.71
	2	CN39	108.6	8.25	86.68	93.89
	3	CN55	118.0	8.26	79.39	84.06
	4	CN56	118.0	7.89	75.41	81.10
Zhangzhou NPP	1	CN57	121.2	10.21	96.18	99.95
	2	CN58	121.2	NA	NA	NA
GUOHE ONE Demonstration Project	1	CN59	153.4	8.76	65.17	73.38
	2	CN60	153.4	4.05	86.78	97.02
Shidao Bay NPP	HTGR Demonstration Project	CN44	15.0	0.68	51.97	51.97
Taipingling NPP	1	CN61	120.2	NA	NA	NA
San'ao NPP	1	CN63	120.8	NA	NA	NA

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Qinshan NPP

In 2025, the unit of Qinshan NPP continued stable and safe operation. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 24th refueling outage of Unit 1 was completed on November 20, 2025.

The nuclear safety-related regulatory approvals for Qinshan NPP in 2025 are shown in Table 4. Qinshan NPP was reported with 1 operational event, as shown in Table 5. The occupational radioactive doses at the Qinshan NPP are shown in Table 6.

In 2025, the Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 2,009 man-days for inspection at Qinshan Nuclear Power



Figure 4. Regulatory Inspection on Renovation of Emergency Diesel Engine at Qinshan NPP

Base (including Qinshan NPP, Qinshan Phase II NPP, Qinshan Phase III NPP, and Fangjiashan NPP), including 10 routine inspections. A total of 181 findings were identified and 84 regulatory requirements were imposed.

Table 4. Nuclear Safety-Related Regulatory Approvals for Qinshan NPP in 2025

Date	Document No.	Document Title
05/14/2025	NNSA [2025] No. 85	<i>Notice on Approving the "Operation Quality Assurance Programs for Qinshan NPP, Qinshan Phase II NPP, Qinshan Phase III NPP, and Fangjiashan NPP (Version D)"</i>
10/16/2025	NNSA [2025] No. 171	<i>Notice on Approving Revisions relevant to Boron Dilution Accident Analysis in the Final Safety Analysis Report of Qinshan NPP Unit 1</i>

Table 5. Operational Events of Qinshan NPP Reported in 2025

Date of Occurrence/Discovery	Event	Cause	INES Level
11/23/2025	An operational event of shutdown caused by generator transverse differential protection action at Qinshan NPP Unit 1	Human factor	0

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Table 6. Occupational Radioactive Doses at Qinshan NPP in 2025

Unit	Annual Average Effective Dose/Person(mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Unit 1	0.111	6.237	0.536	0.207

Qinshan Phase II NPP

In 2025, the four units of Qinshan Phase II NPP continued operating stably and safely. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 19th refueling outage of Unit 1 was completed on October 19, 2025, the 17th refueling outage of Unit 2 done on March 23, 2025, and the 11th refueling outage of Unit 4 done on September 22, 2025.

The nuclear safety-related regulatory approvals for Qinshan Phase II NPP in 2025 are shown in Table 7. Qinshan Phase II NPP was reported with 2 operational events, as shown in Table 8. The



Figure 5. Regulatory Inspection on the Spent Fuel Storage System in Qinshan Phase II NPP Units 3 and 4

occupational radiative doses at Qinshan Phase II NPP are shown in Table 9.

Table 7. Nuclear Safety-Related Regulatory Approvals for Qinshan Phase II NPP in 2025

Date	Document No.	Document Title
02/08/2025	NNSA [2025] No. 29	Notice on Approving Modifications relevant to Conventional Island Power Upgrading of Qinshan Phase II NPP Units 1 and 2
02/08/2025	NNSA [2025] No. 30	Notice on Approving the “In-Service Inspection Program for Qinshan Phase II NPP Units 1 and 2 (Rev. C)”
03/04/2025	NNSA [2025] No. 42	Notice on Approving Modifications relevant to Prevention of Inadvertent Boron dilution in the Reactor Primary System of Qinshan Phase II NPP Units 1 and 2
03/05/2025	NNSA [2025] No. 45	Notice on Approving the “Technical Specification for Operation of Qinshan Phase II NPP Units 3 and 4” (Rev.000.16)
08/21/2025	NNSA [2025] No. 142	Notice on Approving Modifications relevant to Core Refueling Application of CF3 Fuel Assemblies in Qinshan Phase II NPP Unit 4

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Table 8. Operational Events of Qinshan Phase II NPP Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
10/14/2025	An operational event of automatic startup of auxiliary feedwater system caused by high-high water level of steam generator during startup of Qinshan Phase II NPP Unit 1	Human factor	0
10/16/2025	An operational event that the out-of-service duration of two containment isolation valves in the nuclear sampling system of Qinshan Phase II NPP Unit 1 exceeded the limits stipulated in the technical specifications for operation	Human factor	0

Table 9. Occupational Radioactive Doses at Qinshan Phase II NPP in 2025

Unit	Annual Average Effective Dose/ Person(mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Unit 1	0.244	6.003	0.240	0.044
Unit 2			0.616	0.121
Unit 3			0.041	0.007
Unit 4			0.325	0.061

Qinshan Phase III NPP

In 2025, the two units of Qinshan Phase III NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 13th outage of Unit 1 was completed on May 20, 2025.

The nuclear safety-related regulatory approvals for Qinshan Phase III NPP in 2025 are shown in Table 10. Qinshan Phase III NPP was reported with 1 operational event, as shown in Table 11. The occupational radioactive doses at the Qinshan Phase III NPP are shown in Table 12.



Figure 6. Regulatory Inspection in the Main Control Room of Qinshan Phase III NPP

Table 10. Nuclear Safety-Related Regulatory Approvals for Qinshan Phase III NPP in 2025

Date	Document No.	Document Title
03/05/2025	NNSA [2025] No. 44	<i>Notice on Approving the “Commissioning Programme (Version D) for Heavy Water Distillation Facility in Qinshan Phase III NPP”</i>
05/08/2025	NNSA [2025] No. 72	<i>Notice on Approving Qinshan Phase III NPP to Carry Out Disassembly and Activity Measurement of Yttrium-90 Isotope Targets</i>
07/30/2025	NNSA [2025] No. 128	<i>Notice on Approving Modifications relevant to Domestic Substitution and Application of Zirconium Materials for Fuel Plates and Rods at Qinshan Phase III NPP</i>

Table 11. Operational Events of Qinshan Phase III NPP Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
05/03/2025	An operational event of actuation of No.1 shutdown system caused by ionization chamber amplifier fault in Channel F at Qinshan Phase III NPP Unit 1	Equipment	0

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Table 12. Occupational Radioactive Doses at Qinshan Phase III NPP in 2025

Unit	Annual Average Effective Dose/ Person(mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Unit 1	0.192	6.033	0.719	0.122
Unit 2			0.117	0.019

Fangjiashan NPP

In 2025, the two units of Fangjiashan NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 8th refueling outage of Unit 1 and that of Unit 2 were completed on April 5, 2025 and October 1, 2025 respectively.

The nuclear safety-related regulatory approvals for Fangjiashan NPP in 2025 are shown in Table 13. Fangjiashan NPP was reported with an operational event, as shown in Table 14. The administrative



Figure 7. Regulatory Inspection on Electrical Building at Fangjiashan NPP

penalties imposed on Fangjiashan NPP are shown in Table 15. The occupational radioactive doses at Fangjiashan NPP are shown in Table 16.

Table 13. Nuclear Safety-Related Regulatory Approvals for Fangjiashan NPP in 2025

Date	Document No.	Document Title
03/04/2025	NNSA [2025] No. 40	Notice on Approving "Chapter 16 Technical Specifications (Rev.001.01) of the Final Safety Analysis Report of Fangjiashan NPP"

Table 14. Operational Events of Fangjiashan NPP Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
04/01/2025	An operational event of reactor protection signal actuation as a result of staff's irregular operation at Fangjiashan NPP Unit 1	Human factor	0

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Table 15 Administrative Penalties Imposed on Fangjiashan NPP in 2025

Date	Document No.	Document Title
09/10/2025	MEE Decree [2025] No. 64	<i>Decision of Administrative Penalty on Nuclear Safety (Case of CNNC Nuclear Power Operation Management Co., Ltd. for Failing to Implement the Quality Assurance System)</i>

https://www.mee.gov.cn/xxgk2018/xxgk/xxgk03/202509/t20250911_1127266.html

Table 16. Occupational Radioactive Doses at Fangjiashan NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Unit 1	0.430	8.118	0.981	0.116
Unit 2			0.556	0.063

Daya Bay NPP

In 2025, the two units of Daya Bay NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 24th refueling outage of Unit 1 and that of Unit 2 were completed on November 24, 2025 and May 27, 2025 respectively.

The nuclear safety-related regulatory approvals for Daya Bay NPP in 2025 are shown in Table 17. The occupational radioactive doses at the Daya Bay NPP are shown in Table 18.

In 2025, Southern Regional Office of Nuclear and Radiation Safety Inspection assigned 959 man-days for inspection on the six operating units at Daya



Figure 8. Regulatory Inspection of D224 Refueling Outage at Daya Bay NPP

Bay Nuclear Power Base (including Daya Bay NPP and Ling'ao NPP), including 9 routine inspections. A total of 120 findings were identified and 53 regulatory requirements were imposed.

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Table 17. Nuclear Safety-Related Regulatory Approvals for Daya Bay NPP in 2025

Date	Document No.	Document Title
01/26/2025	NNSA [2025] No. 23	<i>Notice on Approving the Clearance Process of Slightly Contaminated Waste Solvent at Daya Bay Nuclear Power Base</i>
01/26/2025	NNSA [2025] No. 25	<i>Notice on Approving the Fuel Assembly Type Amendment at Daya Bay NPP</i>
10/22/2025	NNSA [2025] No. 180	<i>Notice on Approving the Application for Disposal and Conditioning of the Old Reactor Pressure Vessel Head Cover at Daya Bay NPP</i>
11/01/2025	NNSA [2025] No. 183	<i>Notice on Approving the Modification to the Operational Quality Assurance Programs for Daya Bay NPP and Ling'ao NPP</i>

Table 18. Occupational Radioactive Doses at Daya Bay NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Units 1 and 2	0.249	6.634	0.867	0.052

Ling'ao NPP

In 2025, the four units of Ling'ao NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 13th refueling outage of Unit 3 was completed on May 2, 2025 and the 12th refueling outage of Unit 4 was done on October 18, 2025.

The nuclear safety-related regulatory approvals for Ling'ao NPP in 2025 are shown in Table 19. Ling'ao NPP was reported with 1 operational event, as shown in Table 20. The administrative penalties imposed on Ling'ao NPP are shown in Table 21. The occupational radioactive doses at Ling'ao NPP are shown in Table 22.



Figure 9. Regulatory Inspection on the Seawater Pump House at Ling'ao NPP

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Table 19. Nuclear Safety-Related Regulatory Approvals for Ling'ao NPP in 2025

Date	Document No.	Document Title
01/26/2025	NNSA [2025] No. 23	<i>Notice on Approving the Clearance Process of Slightly Contaminated Waste Solvent at Daya Bay Nuclear Power Base</i>
11/01/2025	NNSA [2025] No. 183	<i>Notice on Approving the Modification relevant to the Operational Quality Assurance Programs for Daya Bay NPP and Ling'ao NPP</i>

Table 20. Operational Events of Ling'ao NPP Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
11/17/2024	An operational event of unplanned transfer of approximately 0.7 m3 of LIRCV002BA boron water to waste liquid treatment system during replacement of LIRCV002DE due to isolation error at Ling'ao NPP Unit 1	Human factor	0

Table 21 Administrative Penalties Imposed on Ling'ao NPP in 2025

Date	Document No.	Document Title
07/18/2025	MEE Decree [2025] No. 50	<i>Decision of Administrative Penalty on Nuclear Safety (Case of Daya Bay Nuclear Power Operations and Management Co., Ltd. for Failing to Implement the Quality Assurance System)</i>

https://www.mee.gov.cn/xxgk/xxgk03/202507/t20250722_1123955.html

Table 22. Occupational Radioactive Doses at Ling'ao NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Units 1 and 2	0.209	4.218	0.614	0.037
Units 3 and 4	0.208	4.359	0.666	0.039

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Tianwan NPP

In 2025, Units 1 to 6 of Tianwan NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 15th refueling outage of Unit 2 was completed on October 12, 2025, the 5th refueling outage of Unit 4 on June 22, 2025, the 4th refueling outage of Unit 5 on December 16, 2025, and the 3rd refueling outage of Unit 6 on May 10, 2025. Units 7 and 8 were in the installation and commissioning stage. Unit 7 was completed cold test on July 23, 2025, and hot test on December 30, and Unit 8 completed main pipe welding on August 10, 2025.

The nuclear safety-related regulatory approvals for Tianwan NPP in 2025 are shown in Table 23. Tianwan NPP was reported 4 operational events, as shown in Table 24, and 8 construction events, as shown in Table 25. Regulatory inspection activities at Tianwan NPP are shown in Table 26. The occupational radiative doses at Tianwan NPP are shown in Table 27.



Figure 10. Regulatory Inspection on Main Pipeline Welding at Tianwan NPP Unit 8

In 2025, the Northern Regional Office of Nuclear and Radiation Safety Inspection assigned 3,420 man-days for inspection of Tianwan NPP, including 10 routine inspections. A total of 179 findings were identified and 68 regulatory requirements were imposed.

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Table 23. Nuclear Safety-Related Regulatory Approvals for Tianwan NPP in 2025

Date	Document No.	Document Title
01/26/2025	NNSA [2025] No. 26	<i>Notice on Approving the Scheme Adjustment for the Renovation Project of Physical Protection Perimeter in the Controlled Area of Tianwan NPP</i>
02/10/2025	NNSA [2025] No. 31	<i>Notice on Approving the "Project Quality Assurance Programs (at Construction Stage) for Tianwan NPP Units 7 and 8" (Version C)</i>
03/01/2025	NNSA [2025] No. 39	<i>Notice on Approving the "Maintenance Program (Version C1) of Tianwan NPP Units 1 and 2" and the "Maintenance Program (Version B1) of Tianwan NPP Units 3 and 4"</i>
03/28/2025	NNSA [2025] No. 49	<i>Notice on Approving the "Operation Quality Assurance Program for Tianwan NPP" (Version C)</i>
05/28/2025	NNSA [2025] No. 84	<i>Notice on Approving Modifications relevant to the Technical Specifications for Tianwan NPP Units 1 and 2</i>
06/22/2025	NNSA [2025] No. 92	<i>Notice on Approving the Commissioning Program for Tianwan NPP Units 7 and 8</i>

Table 24. Operational Events Reported by Tianwan NPP in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
05/02/2025	An operational event of automatic start-up of the row-A emergency diesel generator of Unit 6 caused by a fault on the 220kV auxiliary external power grid side of Tianwan NPP Unit 6	Equipment	0
05/06/2025	An operational event of primary system coolant leakage caused by cracking of sampling pipeline (30KUL03) of the primary system coolant purification system of Tianwan NPP Unit 3	Equipment	0
09/21/2025	An operational event that all operation terminals of the main control room operation and monitoring system (OM-690) became unavailable due to process blockage of historical data storage server of Tianwan NPP Unit 4	Equipment	0
12/29/2025	An operational event of incorrect parameters of key safety function status tree caused by incomplete design documents of Tianwan NPP Units 5 and 6	Others	0

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Table 25. Construction Events Reported by Tianwan NPP in 2025

Date of Occurrence/ Discovery	Event
02/05/2025	Steam generator tube plugging carried out by overseas welders without approval due to inadequate welding management at Tianwan NPP units 7 and 8
02/05/2025	Weight non-conformance of some ventilation equipment due to insufficient control on manufacturing standards by suppliers at Tianwan NPP Units 7 and 8
02/28/2025	Unfused defects in the internal overlay cladding at weld seam 4N°2 of the main pipeline because of factory ineffective welding management at Tianwan NPP Unit 8
07/04/2025	In-corrective flow direction of orifice plates for shaft seal cooling water of 4 main pumps of Tianwan NPP Unit 7 due to errors in factory design documents
11/11/2025	Expired welding process qualification applied for welding production of partial pipeline welds due to inadequate welding management at Tianwan NPP Units 7 and 8
12/04/2025	The indicated value of nuclear-grade thermocouple thermometer installed on the hot leg of the primary system main pipeline of Tianwan NPP Unit 7 was lower than normal, due to cold junction compensation affected by heat conduction
12/04/2025	The design values of some seismic Category I sub-items failed to meet the committed due to wrong reference documents of design input conditions for Tianwan NPP Units 7 and 8
12/12/2025	Unintended actuation of the monitoring safety valve of #2 steam generator occurred due to insufficient drainage of Tianwan NPP Unit 7

Table 26. Regulatory Inspection Activities at Tianwan NPP in 2025

Starting Date	Activity	Main Content of the Inspection
06/17/2025	Inspection on control points of cold functional test of Tianwan NPP Unit 7	Operation of the quality assurance system, installation and handover of nuclear safety-related structures, systems and equipment, preliminary tests and preparations for cold functional tests, and implementation of conditions specified in the construction license as well as administrative requirements imposed by previous nuclear safety regulatory inspections

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

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Table 27. Occupational Radioactive Doses at Tianwan NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Units 1 and 2	0.065	1.951	0.226	0.013
Units 3 and 4	0.108	1.896	0.364	0.021
Units 5 and 6	0.203	4.189	0.773	0.044

Hongyanhe NPP

In 2025, six units of Hongyanhe NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 9th refueling outage of Unit 1, the 7th refueling outage of Unit 4, and the 3rd refueling outage of Unit 5 were completed on May 24, 2025, March 5, 2025, and September 26, 2025, respectively.

The nuclear safety-related regulatory approvals for Hongyanhe NPP in 2025 are shown in Table 28. Hongyanhe NPP was reported 4 operational events, as shown in Table 29. Regulatory inspection activities at Hongyanhe NPP are shown in Table 30. The occupational radiative doses at Hongyanhe NPP are shown in Table 31.



Figure 11. Regulatory Inspection on Essential Service Water System at Hongyanhe NPP

In 2025, the North-Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 2,154 man-days for inspection of the Hongyanhe NPP, including 5 routine inspections. A total of 127 issues were identified and 22 regulatory requirements were imposed.

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Table 28. Nuclear Safety-Related Regulatory Approvals for Hongyanhe NPP in 2025

Date	Document No.	Document Title
05/08/2025	NNSA [2025] No. 69	<i>Notice on Approving the "Assembly and Refueling Programs for Hongyanhe NPP Units 1, 2, 3 and 4 in Liaoning" (Version 1)</i>
05/08/2025	NNSA [2025] No. 70	<i>Notice on Approving the "Assembly and Refueling Programs for Hongyanhe NPP Units 5 and 6 in Liaoning (Version 3)"</i>
06/27/2025	NNSA [2025] No. 98	<i>Notice on Approving Technical Specifications of Hongyanhe NPP Units 1-6 in Liaoning</i>
07/30/2025	NNSA [2025] No. 123	<i>Notice on Approving Modifications Relevant to Thermal Sleeve Dropping of Control Rod Drive Mechanisms of Hongyanhe NPP Units 1-6 in Liaoning</i>
11/04/2025	NNSA [2025] No. 184	<i>Notice on Approving the "In-Service Inspection Program of Hongyanhe NPP in Liaoning" (Version 3)</i>

Table 29. Operational Events of Hongyanhe NPP Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
07/03/2025	An operational event that the material of upstream elbows of some drain valves in the essential service water system failed to meet the design requirements at Hongyanhe NPP Units 3, 4, 5 and 6	Equipment	0
07/23/2025	An operational event of external leakage of inlet isolation valve of No.7 decay tank for common hydrogen-containing waste gas in the waste gas treatment system at Hongyanhe NPP Units 1 and 2	Equipment	0
10/14/2025	An operational event of emergency diesel generator startup caused by unintended tripping of incoming circuit breaker of the station service equipment busbar at Hongyanhe NPP Unit 3	Equipment	0
12/07/2025	An operational event of missing one boundary door in the connecting buildings at Hongyanhe NPP Units 2 and 5	Human factor	0

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Table 30. Regulatory Inspection Activities at Hongyanhe NPP in 2025

Starting Date	Activity	Main Content of the Inspection
04/27/2025	Water intake safety inspection at Hongyanhe NPP	Cold source support facilities, cold source risk plans and procedures, unit operation & management, abnormal response, organizational support, etc.

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

Table 31. Occupational Radiative Doses at Hongyanhe NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Units 1 and 2	0.172	3.312	0.439	0.025
Units 3 and 4	0.216	4.145	0.577	0.034
Units 5 and 6	0.142	3.087	0.375	0.021

Ningde NPP

In 2025, Units 1 to 4 of Ningde NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 8th refueling outage of Unit 2 was completed on September 22, 2025, the 7th refueling outage of Unit 3 done on May 25, 2025 and the 6th refueling outage of Unit 4 was completed on February 15, 2025. Units 5 and 6 were in the construction stage. The FCD for the nuclear island foundation of Unit 6 was on December 16, 2025.

The nuclear safety-related regulatory approvals for Ningde NPP in 2025 are shown in Table 32. The Ningde NPP was reported 2 operational events, as shown in Table 33, and 1 construction



Figure 12. Regulatory Inspection on Combined Pump House at Ningde NPP

event, as shown in Table 34. Regulatory inspection activities at Ningde NPP are shown in Table 35. The occupational radiative doses at Ningde NPP are shown in Table 36.

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In 2025, the Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 1,437 man-days for inspection of Ningde NPP,

including 3 routine inspections. A total of 337 findings were identified and 131 regulatory requirements were imposed.re imposed.

Table 32. Nuclear Safety-Related Regulatory Approvals for Ningde NPP in 2025

Date	Document No.	Document Title
01/09/2025	NNSA [2025] No. 5	<i>Notice on Approving the “Technical Specifications for Ningde NPP Units 1 and 2 (Version 7 - Draft for Approval)”</i>
01/09/2025	NNSA [2025] No. 6	<i>Notice on Approving the “Technical Specifications for Ningde NPP Units 3 and 4 (Version 6 - Draft for Approval)”</i>
01/27/2025	NNSA [2025] No. 27	<i>Notice on Approving Modifications Relevant to Treatment of Radioactive Waste by High-efficiency Degradable Technology Application at Ningde NPP</i>
04/17/2025	NNSA [2025] No. 57	<i>Notice on Approving Modifications Relevant to Thermal Sleeve Dropping of Control Rod Drive Mechanisms of Ningde NPP Units 3</i>
11/04/2025	NNSA [2025] No. 191	<i>Notice on Approving the Revision Relevant to In-Service Inspection Program for Ningde NPP Units 1~4</i>
12/18/2025	NNSA [2025] No. 229	<i>Notice on Approving the Design Change of Structural Form of Diesel Generator Building at Ningde NPP Unit 5</i>

Table 33. Operational Events of Ningde NPP Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
04/28/2025	An operational event of spalling and cracking of the forebay side wall at the water intake of Train A of Unit 3 in the combined pump house of Ningde NPP due to concrete quality defects	Equipment	0
09/21/2025	An operational event of automatic startup of an electric auxiliary feedwater pump caused by tripping of the electric main feedwater pump of Ningde NPP Unit 2	Human factor	0

Table 34. Construction Events of Ningde NPP Reported in 2025

Date of Occurrence/ Discovery	Event
06/12/2025	The sampling method for mechanical reinforcement splices under partial working conditions of the nuclear island building of Ningde NPP Unit 5 failed to meet the requirements of national mandatory standards

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Table 35. Regulatory Inspection Activities at Ningde NPP in 2025

Starting Date	Activity	Main Content of the Inspection
10/21/2025	Conventional ecological environmental protection inspection of Ningde NPP	Development of non-radioactive environmental management system, compliance review of EIA documents, rectification of issues identified in routine ecological environment inspection, prevention and control of air pollution, water pollution, solid waste pollution, noise pollution and marine construction pollution

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

Table 36. Occupational Radiative Doses at Ningde NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Units 1 and 2	0.157	3.966	0.480	0.027
Units 3 and 4	0.487	7.044	1.541	0.089

Fuqing NPP

In 2025, the six units of Fuqing NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 8th refueling outage of Unit 1 and the 3rd refueling outage of Unit 6 were completed on October 2, 2025 and October 25, 2025 respectively.

The nuclear safety-related regulatory approvals for Fuqing NPP in 2025 are shown in Table 37. Fuqing NPP was reported 3 operational events, as shown in Table 38. The occupational radiative doses at Fuqing NPP are shown in Table 39.

In 2025, the Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 1,249



Figure 13. Regulatory Inspection on Main Steam Isolation Valve Room at Fuqing NPP

man-days for inspection of Fuqing NPP, including 2 routine inspections. A total of 102 findings were identified and 66 regulatory requirements were imposed.

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Table 37. Nuclear Safety-Related Regulatory Approvals for Fuqing NPP in 2025

Date	Document No.	Document Title
01/13/2025	NNSA Letter [2025] No. 4	<i>Letter on Confirming the Amendment of Legal Representative Information of the Operating License for Fuqing NPP Units 1-6 in Fujian</i>
03/04/2025	NNSA [2025] No. 43	<i>Notice on Approving the Removal of Secondary Neutron Sources for Fuqing NPP Units 1-4 in Fujian</i>
04/08/2025	NNSA [2025] No. 55	<i>Notice on Approving the “Operation Quality Assurance Program for Fuqing NPP Units 1-6 in Fujian (Version 0)”</i>
07/30/2025	NNSA [2025] No. 126	<i>Notice on Approving the Adjustment of Leakage Rate Test Platform after Primary Circuit Opening of Fuqing NPP Units 1-4 in Fujian</i>
12/29/2025	NNSA [2025] No. 241	<i>Notice on Approving Waste Resin Clearance for Steam Generator Blowdown System of Fuqing NPP</i>

Table 38. Operational Events of Fuqing NPP Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
09/01/2025	An operational event that the iodine filtration circuit of the air conditioning system in the main control room was interlocked to startup due to power loss of 3KRT018MA, the gamma dose rate monitoring meter for intake air in the main control room of Fuqing NPP Unit 3	Equipment	0
11/03/2025	An operational event of the reactor shutdown caused by a turbine rotor earth fault, which resulted in a steam generator high-high water level signal superimposed with P7 at Fuqing NPP Unit 6	Equipment	0
11/29/2025	An operational event of tripping of one set of reactor shutdown circuit breakers caused by communication card failure in safety class plant process control cabinet system at Fuqing NPP Unit 5	Equipment	0

Table 39. Occupational Radiative Doses at Fuqing NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Units 1 and 2	0.181	4.096	0.608	0.034
Units 3 and 4	0.035	1.524	0.094	0.005
Units 5 and 6	0.112	3.03	0.391	0.022

Yangjiang NPP

In 2025, the six units of Yangjiang NPP maintained stable operation with good safety status. The leakage rate of the primary system, the failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 8th refueling outage of Unit 1, the 7th refueling outage of Unit 2, the 6th refueling outage of Unit 4, and the 5th refueling outage of Unit 5 were completed on October 16, 2025, March 4, 2025, September 28, 2025 and February 8, 2025, respectively.

The nuclear safety-related regulatory approvals for Yangjiang NPP in 2025 are shown in Table 40. Yangjiang NPP was reported one operational event, as shown in Table 41. Regulatory inspection activities at Yangjiang NPP are shown in Table 42. The occupational radiative doses at Yangjiang NPP are shown in Table 43.



Figure 14. Unpacking Inspection of Imported Equipment at Yangjiang NPP

In 2025, the Southern Regional Office of Nuclear and Radiation Safety Inspection assigned 913 man-days for inspection of the six operating units of Yangjiang NPP, including 7 routine inspections. A total of 74 findings were identified and 23 regulatory requirements were imposed.

Table 40. Nuclear Safety-Related Regulatory Approvals for Yangjiang NPP in 2025

Date	Document No.	Document Title
12/31/2025	NNSA [2025] No. 247	<i>Notice on Approving the Addition of An Emergency Diesel Generator Set in Yangjiang NPP</i>

Table 41. Operational Events of Yangjiang NPP Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
10/15/2025	An operational event of automatic startup of electric auxiliary feedwater pump caused by tripping of electric main feedwater pump of Yangjiang NPP Unit 1	Human factor	0

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Table 42. Regulatory Inspection Activities at Yangjiang NPP in 2025

Starting Date	Activity	Main Content of the Inspection
03/24/2025	Water intake safety inspection at Yangjiang NPP	Design safety focus including specific study on water intake design, design scheme of water intake works, design of open channels and onshore facilities, and continuous design improvement; operation management focus including risk identification, operation and maintenance, and technical improvement of equipment and facilities, response plans and actions, unit control, training and drills, organizational system and resource support capacity

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

Table 43. Occupational Radiative Doses at Yangjiang NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Units 1 and 2	0.274	9.788	1.72	0.106
Units 3 and 4	0.225		0.917	0.0548
Units 5 and 6	0.109		0.427	0.0253

Sanmen NPP

In 2025, Sanmen NPP Units 1 and 2 maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of the containment were all within the prescribed limits. The 5th refueling outage of Unit 1 and the 4th refueling outage of Unit 2 were completed on November 23, 2025 and June 20, 2025, respectively. Units 3 and 4 were in the installation and commissioning stage. The lifting of the first main pump in the nuclear island of Unit 3 was completed on April 2. The lifting and installation of the dome of Unit 4 was completed on June 11, 2025. Units 5 and 6 were granted with official approval to build on April 27, 2025.



Figure 15. Risk-Informed Regulatory Inspection on Sanmen NPP

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The nuclear safety-related regulatory approvals for Sanmen NPP in 2025 are shown in Table 44. Sanmen NPP was reported 2 operational events, as shown in Table 45, and 11 construction events, as shown in Table 46. Regulatory inspection activities at Sanmen NPP are shown in Table 47. The occupational radiative doses of Sanmen NPP are shown in Table 48.

In 2025, the Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 1,351 man-days for inspection of Sanmen Nuclear Power Base, including 2 routine inspections. A total of 268 findings were identified and 153 regulatory requirements were imposed.

Table 44. Nuclear Safety-Related Regulatory Approvals for Sanmen NPP in 2025

Date	Document No.	Document Title
04/08/2025	NNSA [2025] No. 56	<i>Notice on Approving the "Quality Assurance Program (Operation Stage) for Sanmen NPP Units 1 and 2" (Version 3)</i>
11/04/2025	NNSA [2025] No. 190	<i>Notice on Approving the In-core Demonstration Operation of Domestic Samples of AP1000 Black Control Rod Assemblies at Sanmen NPP</i>

Table 45. Operational Events of Sanmen NPP Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
05/22/2025	An operational event of local hydrogen explosion occurring in the refueling water tank during Outage 204 of Sanmen NPP Unit 2	Management	0
12/08/2025	An operational event of unavailability of the water gate caused by reverse installation of a check valve on the standby air source pipeline of the water gate at the spent fuel container loading pit of Sanmen NPP Unit 1	Management	0

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Table 46. Construction Events of Sanmen NPP Reported in 2025

Date of Occurrence/ Discovery	Event
01/10/2025	The material of some items under the protective plate of the containment recirculation strainer of Sanmen NPP Units 3 and 4 was inconsistent with those in the Preliminary Safety Analysis Report due to design reasons
01/23/2025	The welder qualifications for some welds of CA02 module of Sanmen NPP Unit 3 failed to meet the relevant technical requirements
03/26/2025	Some areas of insert plates (MRP11) of steel containment penetration assemblies of Sanmen NPP Units 3 and 4 were inaccessible so that the ultrasonic angle beam testing was inexecutable
04/18/2025	The no-go gauge inspection of partial bolt holes on the casing of 01B main pump of Sanmen NPP Unit 3 failed to meet the requirements
04/27/2025	Inconsistency between welding materials and design requirements caused by incorrect input of base metal material information for some welds of Q601 module of Sanmen NPP Units 3 and 4
07/03/2025	Foreign matters were discovered during the installation of 01B main pump of Sanmen NPP Unit 3
08/01/2025	The quality certified documents of some raw materials for the water gates (MY06) in the fuel building of Sanmen NPP Units 3 and 4 were Falsified
10/12/2025	Nuclear island foundation pit slope monitoring data for Sanmen NPP Unit 6 was falsified
11/09/2025	Solenoid coil of the pressure vessel head vent valve was damaged due to improper use of temporary power supply at Sanmen NPP Unit 3
11/29/2025	The welder qualifications for some nuclear-grade welds of expansion joints on the main steam and main feedwater pipeline penetration assemblies of Sanmen NPP Units 3 and 4 failed to meet the requirements
12/16/2025	Ultrasonic angle beam testing was not in accordance with technical requirements to perform on some circular rings of CV ring crane beams and base metals of rolled sleeves for some penetration assemblies of Sanmen NPP Unit 4

Table 47. Regulatory Inspection Activities at Sanmen NPP in 2025

Starting Date	Activity	Main Content of the Inspection
03/31/2025	Non-routine nuclear safety inspection of Units 3 and 4	Verify to confirm the effectiveness of implementation of the quality assurance program for Sanmen NPP Units 3 and 4, the compliance of welding, NDT and other activities with nuclear safety rules and standards, as well as the implementation of nuclear safety regulation requirements and relevant nuclear safety commitments

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

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Table 48. Occupational Radiative Doses at the Sanmen NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Units 1 and 2	0.265	6.658	0.855	0.044

Haiyang NPP

In 2025, the Units 1 and 2 of Haiyang NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. Units 3 and 4 were in the construction and commissioning stage. The dome hoisting and installation of Unit 3 was completed on March 23, 2025, and its circulating cooling water system was available on October 29, and the main pipeline welding of Unit 4 was completed on November 20, 2025. Units 5 and 6 was granted with official approval to build on April 27, 2025.

Nuclear safety-related regulatory approvals for Haiyang NPP in 2025 are shown in Table 49. Haiyang NPP was reported 8 construction events, as shown in Table 50. The occupational radiative doses at Haiyang NPP are shown in Table 51.



Figure 16. Regulatory Inspection on Haiyang NPP Unit 2

In 2025, the Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 1,645 man-days for inspection of Haiyang Nuclear Power Base, including 3 routine inspections. A total of 185 findings were identified and 156 regulatory requirements were imposed.

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Table 49. Nuclear Safety-Related Regulatory Approvals for Haiyang NPP in 2025

Date	Document No.	Document Title
03/04/2025	NNSA [2025] No. 41	<i>Notice on Approving Chapter 16 “Technical Specifications” (Version 3B) of “Final Safety Analysis Report for Units 1 and 2 of Shandong Haiyang Nuclear Power Phase I Project”</i>
05/15/2025	NNSA [2025] No. 73	<i>Notice on Approving the Safety-Significant Modification to Change of Partial Fence on the East Side of the Main Entrance of the Controlled Area in Haiyang NPP Phase I Project</i>
06/22/2025	NNSA [2025] No. 93	<i>Notice on Approving the Safety- Significant Modification relevant to Road Blockers Arranged at Emergency Lanes of the Main Entrance of the Physical Protection Area in Haiyang NPP Phase I Project</i>
06/22/2025	NNSA [2025] No. 94	<i>Notice on Approving the Technical Renovation Plan for Overhead Heating Network Pipelines of External Industrial Steam Crossing the Physical Protection Perimeter in Haiyang NPP Phase I Project</i>
08/11/2025	NNSA [2025] No. 135	<i>Notice on Approving the Safety Significant Modification to the Containment Leakage Rate Test Pressure of Haiyang NPP Units 3 and 4</i>
08/15/2025	NNSA [2025] No. 138	<i>Notice on Approving the Safety- Significant Modification to Capacity Increase for the Storage Rack in Zone II of Spent Fuel Pools of Haiyang NPP Units 3 and 4</i>
09/10/2025	NNSA [2025] No. 148	<i>Notice on Approving the Disposal Plan for the Event that No-go Gauge Inspection of Bolt Thread Holes on 01B Main Pump Casing of Haiyang NPP Unit 3 in Shandong Failed to Meet the Requirements</i>
11/04/2025	NNSA [2025] No. 189	<i>Notice on Approving the Design Change of Downcomer of External Heat Exchanger for SN26 Main Pump of Haiyang NPP Unit 3</i>

Table 50. Construction Events of Haiyang NPP Reported in 2025

Date of Occurrence/ Discovery	Event
12/20/2024	The surface material of items under the protective plate of containment recirculation strainer of Haiyang NPP Units 3 was not compliant with the relevant requirements of the Preliminary Safety Analysis Report
01/22/2025	Welder qualifications for some welds of wall steel-plate reinforced concrete structure module (CA02) of the In-Containment Refueling Water Storage Tank in Haiyang NPP Unit 3 failed to meet the requirements of HAF603.
03/27/2025	Steel containment accessories (4 penetration insert plates of penetration assemblies) of Haiyang NPP Units 3 and 4 were inaccessible, so the performance of ultrasonic angle beam testing was not able to be executed
05/06/2025	The no-go gauge inspection of main bolt thread holes on the pump casing of 01B main pump of Haiyang NPP Unit 3 failed to meet the requirements

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Table 50

Date of Occurrence/ Discovery	Event
05/12/2025	Inconsistency between welding materials and design requirements caused by incorrect input of base metal material information for some support welds of Q601 module of Haiyang NPP Unit 3
09/24/2025	Hebei China Nuclear Geotechnical was suspected of falsifying nuclear island foundation pit slope monitoring data for Haiyang NPP Unit 5
11/29/2025	The welder qualifications for some nuclear-grade welds of expansion joints on main steam and main feedwater pipeline penetration assemblies of Haiyang NPP Units 3 and 4 failed to meet the requirements
12/16/2025	Ultrasonic angle beam testing was performed in no accordance with technical requirements on some circular ring base metal of steel containment ring crane beams of Haiyang NPP Units 3 and 4

Table 51. Occupational Radiative Doses at Haiyang NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Unit 1	0.026	1.156	0.037	0.0035
Unit 2	0.028	0.873	0.039	0.0040

Taishan NPP

In 2025, Units 1 and 2 of Taishan NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 3rd refueling outage of Unit 1 was completed on July 14, 2025. Units 3 and 4 were granted with official approval to build on April 27, 2025.

The nuclear safety-related regulatory approvals for Taishan NPP in 2025 are shown in Table 52.



Figure 17. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of the National Nuclear Safety Administration, conducted filed investigations of the central station of the environmental monitoring system at Taishan NPP

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Taishan NPP was reported one operational event, as shown in Table 53. Regulatory inspection activities at Taishan NPP are shown in Table 54. The occupational radiative doses at Taishan NPP are shown in Table 55.

In 2025, the Southern Regional Office of Nuclear and Radiation Safety Inspection assigned 876 man-days for inspection of Taishan NPP, including 7 routine inspection. A total of 82 findings were identified and 36 regulatory requirements were imposed.



Figure 18. On-site Environmental Monitoring Regulatory Inspection at Taishan NPP

Table 52. Nuclear Safety-Related Regulatory Approvals for Taishan NPP in 2025

Date	Document No.	Document Title
03/13/2025	NNSA [2025] No. 46	<i>Notice on Approving the Clearance Process for Spent Activated Carbon of Iodine Filters in the Ventilation System of Taishan NPP</i>
07/07/2025	NNSA [2025] No. 106	<i>Notice on Approving the Delayed Replacement of Pressure Vessel Heads of Taishan NPP Units 1 and 2</i>

Table 53. Operational Events of Taishan NPP Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
05/27/2025	An operational event of automatic startup of the first train emergency diesel generator caused by overtime switching from auxiliary transformer to station transformer at Taishan NPP Unit 1	Equipment	0

Table 54. Regulatory Inspection Activities at Taishan NPP in 2025

Starting Date	Activity	Main Content of the Inspection
01/13/2025	On-site inspection and evaluation on nuclear safety management at Taishan NPP Units 1 and 2	Implementation and optimization of supervised operation plan, progress of sorting out fuel-related issues
05/07/2025	Field investigation and inspection on supervised operation and T103 outage of Taishan NPP Units 1 and 2	Implementation of supervised operation plan, fuel inspection during T103 outage

Table 54

Starting Date	Activity	Main Content of the Inspection
09/10/2025	Field investigation and inspection on supervised operation of Taishan NPP Units 1 and 2	Supervised operation of units, progress of handling fuel-related issues
12/17/2025	On-site investigation and inspection on supervised operation and T204 Outage of Taishan NPP Units 1 and 2	Supervised operation of units, progress of T204 Outage, response to SPND faults, construction progress of Units 3 and 4, etc.

Table 55. Occupational Radiative Doses at Taishan NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Unit 1	0.121	2.749	0.380	0.036
Unit 2	0.056	1.023	0.145	0.011

Changjiang NPP

In 2025, Units 1 and 2 of Changjiang NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 7th refueling outage of Unit 2 was completed on November 12, 2025. Unit 3 was in the pre-fuel loading preparation stage, in which cold test was completed on April 10, 2025 and hot test was completed on November 10, 2025. Unit 4 was in the equipment installation stage, with the main pipeline welded on April 21, 2025. The small reactor was in the equipment installation and commissioning stage, in which nuclear circuit flushing was completed on April 13, 2025, and secondary side hydrostatic test of steam generators was completed on October 20, 2025.



Figure 19. Regulatory Inspection on Reactor Internals of Changjiang NPP Unit 4

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The nuclear safety-related regulatory approvals for Changjiang NPP in 2025 are shown in Table 56. Changjiang NPP was reported two operational events, as shown in Table 57, and 9 construction events, as shown in Table 58. Regulatory inspection activities at Changjiang NPP are shown in Table 59. The occupational radiative doses at Changjiang NPP Units 1 and 2 are shown in Table 60.

In 2025, the Southern Regional Office of Nuclear and Radiation Safety Inspection assigned 1,684 man-days for inspection of Changjiang NPP, including 9 routine inspection. A total of 339 findings were identified and 67 regulatory requirements were imposed.

Table 56. Nuclear Safety-Related Regulatory Approvals for Changjiang NPP in 2025

Date	Document No.	Document Title
01/06/2025	NNSA [2025] No. 22	<i>Notice on Approving the "Commissioning Program for Changjiang NPP Units 3 and 4 in Hainan" (Version A2)</i>
04/07/2025	NNSA [2025] No. 54	<i>Notice on Approving the "Quality Assurance Program for Changjiang Multi-Purpose Small Modular Reactor Science and Technology Demonstration Project in Hainan Province (Construction Stage)" (Version E)</i>
04/22/2025	NNSA [2025] No. 61	<i>Notice on Approving the "Quality Assurance Program for Changjiang NPP Units 1 and 2 in Hainan (Operation Stage)" (Version C)</i>
07/25/2025	NNSA [2025] No. 121	<i>Notice on Approving the "Assembly and Refueling Programs for Changjiang NPP Units 3 and 4 in Hainan" (Version C0)</i>
07/25/2025	NNSA [2025] No. 122	<i>Notice on Approving the "Maintenance Program for Changjiang NPP Units 3 and 4 in Hainan" (Version A1)</i>
09/18/2025	NNSA [2025] No. 158	<i>Notice on Approving the "Quality Assurance Program for Changjiang NPP Units 3 and 4 in Hainan (Operation Stage)" (Version B)</i>
11/05/2025	NNSA [2025] No. 192	<i>Notice on Approving the "In-Service Inspection Program for Changjiang NPP Units 3 and 4 in Hainan" (Version B0)</i>

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Table 57. Operational Events Reported by Changjiang NPP in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
09/11/2025	An operational event that some QC personnel failed to witness sign-off on site and some QC personnel conducted witnessing activities with expired authorization at Changjiang NPP Units 1 and 2	Human factor	0
10/22/2025	An operational event violating the operation technical specifications for the radioactive monitoring meter 2KRT041MA was not be able to in service, failing to meet requirements during Outage 207 of Changjiang NPP Unit 2	Human factor	0

Table 58. Construction Events of Changjiang NPP Reported in 2025

Date of Occurrence/ Discovery	Event
03/28/2025	Some ventilation equipment of Changjiang NPP Units 3 and 4 was overweight
04/09/2025	Weight of some ventilation equipment was not consistent with design drawings in Changjiang Multi-Purpose Small Modular Reactor Science and Technology Demonstration Project in Hainan Province
04/29/2025	Quality abnormalities were discovered in flow straightener of the residual heat removal pump at Changjiang NPP Unit 3 in Hainan Province
05/06/2025	Installation errors were discovered in the inner pipes of few mechanical penetration assemblies at Changjiang NPP Units 3 and 4 in Hainan Province
06/03/2025	Partial electric heaters were damaged during electric heaters test for pressure stabilizer in Changjiang Multi-Purpose Small Modular Reactor Science and Technology Demonstration Project in Hainan Province
06/11/2025	Quality abnormalities at outlet safety end of ring 2 main pump casing of Changjiang NPP Unit 4 in Hainan Province
11/19/2025	Falling off temporary weight block on reactor internal filter of Changjiang NPP Unit 3 in Hainan Province
11/19/2025	The quantity of check valves installed in the upstream of the junction between the core makeup tank outlet pipeline and the safety injection tank inlet pipeline was not in consistence with the requirements of the Preliminary Safety Analysis Report for Changjiang Multi-Purpose Small Modular Reactor Science and Technology Demonstration Project in Hainan Province
12/03/2025	Multiple incomplete fusion defects were occurred during welding in the replacement of electric heating elements for the pressure stabilizer in Changjiang Multi-Purpose Small Modular Reactor Science and Technology Demonstration Project in Hainan Province

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Table 59. Regulatory Inspection Activities at Changjiang NPP in 2025

Starting Date	Activity	Main Content of the Inspection
11/10/2025	Inspection on routine ecological environment protection at Changjiang Nuclear Power Base in Hainan	Development of non-radioactive environmental management system, compliance review of EIA documents, rectification of findings identified in routine ecological environment inspection, prevention and control of air pollution, water pollution, solid waste pollution, noise pollution and marine construction pollution

Table 60. Occupational Radiative Doses at Changjiang NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Units 1 and 2	0.141	2.811	0.333	0.033

Fangchenggang NPP

Fangchenggang NPP Units 1 to 4 continued to operate stably and safely in 2025. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. The 6th refueling outage of Unit 2 was completed on February 16, 2025, the 2nd refueling outage of Unit 3 on October 6, 2025 and the 1st refueling outage of Unit 4 on July 6, 2025. Units 5 and 6 were granted with official approval to build on April 27, 2025.

The nuclear safety-related regulatory approvals for Fangchenggang NPP in 2025 are shown in Table 61. Fangchenggang NPP was reported 2 operational events, as shown in Table 62. The occupational radiative doses of Fangchenggang NPP are shown in Table 63.



Figure 20. Regulatory Inspection on Nuclear Auxiliary Building at Fangchenggang NPP

In 2025, the Southern Regional Office of Nuclear and Radiation Safety Inspection assigned 992 man-days for inspection of Fangchenggang NPP, including 7 routine/non-routine inspections. A total of 181 findings were identified and 58 regulatory requirements were imposed.

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Table 61. Nuclear Safety-Related Regulatory Approvals for Fangchenggang NPP in 2025

Date	Document No.	Document Title
01/08/2025	NNSA [2025] No. 3	<i>Notice on Approving the Addition of Extended Operation Mode for Fangchenggang NPP Units 3 and 4 in Guangxi</i>

Table 62. Operational Events Reported by Fangchenggang NPP in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
07/25/2025	Intermittent faults of the P16 non-signal delay module of Anti-Dilution Protection (ADP) in Fangchenggang NPP Units 3 and 4, triggering ADP signals	Equipment	0
09/05/2025	Discharge without sampling analysis caused by mis-use of discharge application forms in the Conventional Island Liquid Waste Discharge System (SEL) at Fangchenggang NPP Units 3 and 4	Human factor	0

Table 63. Occupational Radiative Doses at Fangchenggang NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Units 1 and 2	0.319	9.967	1.382	0.042
Units 3 and 4				

Shidao Bay NPP (HTGR Demonstration Project)

In 2025, the HTGR demonstration project were operated stably and safely. The radioactive activity concentration and leakage rate of the primary coolant system were all within the specified limits.

The nuclear safety-related regulatory approvals for the HTGR demonstration project in 2025 are shown in Table 64. The HTGR demonstration project was reported 4 operational events, as shown in Table 65. Regulatory inspection activities for the HTGR



Figure 21. Regulatory Inspection on the Mian Control Room of Shidao Bay NPP

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demonstration project are shown in Table 66. The occupational radiative doses at the Shidao Bay NPP are shown in Table 67.

In 2025, the Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 1,454 man-days for inspection of the Shidao Bay nuclear

power base (including HTGR demonstration project and Phase I Expansion Project of Shandong Shidao Bay NPP), including 8 routine inspections and 1 non-routine inspection. A total of 181 findings were identified and 112 regulatory requirements were imposed.

Table 64. Nuclear Safety-Related Regulatory Approvals for the HTGR Demonstration Project in 2025

Date	Document No.	Document Title
01/09/2025	NNSA [2025] No. 7	<i>Notice on Approving Changes Relevant to Heat Exhaust Pipeline of the Spent Fuel Storage Tank Ventilation System for HTGR Demonstration Project</i>
01/09/2025	NNSA [2025] No. 8	<i>Notice on Approving Class IV Wastewater Volume Changes for HTGR Demonstration Project</i>
06/07/2025	NNSA [2025] No. 89	<i>Notice on Approving Operation Condition Limits of the Heat Discharge System for HTGR Demonstration Project</i>
09/05/2025	NNSA [2025] No. 147	<i>Notice on Approving Changes to Core Refueling Scheme in the Refueling Program for HTGR Demonstration Project (Version B1)</i>
09/18/2025	NNSA [2025] No. 154	<i>Notice on Approving "Quality Assurance Program for HTGR Demonstration Project (Operation Stage)" (Version B)</i>
12/04/2025	NNSA [2025] No. 216	<i>Notice on Approving Application for Revision of Operating Technical Specification for HTGR Demonstration Project</i>
12/04/2025	NNSA [2025] No. 219	<i>Notice on Approving Temporary Test for the Steam Generator Outlet Temperature Difference for HTGR Demonstration Project</i>
12/29/2025	NNSA [2025] No. 240	<i>Notice on Approving Cable Passage Construction Crossing Physical Barriers of Physical Protection Controlled Area for HTGR Demonstration Project</i>

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Table 65. Operational Events of the HTGR Demonstration Project Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
01/02/2025	An operational event of startup of fresh air filter unit of the main control room HVAC system triggered by "high smoke at fresh air inlet" signal in HTGR demonstration project	Equipment	0
03/02/2025	An operational event of emergency manual shutdown of No.2 reactor y as a result of the shutdown of No.2 main helium fan in HTGR demonstration project	Equipment	0
05/21/2025	An operational event of emergency shutdown of No.1 reactor triggered by the protection signal of low mass flow ratio of the primary and secondary circuit due to main helium fan inverter fault in HTGR demonstration project	Equipment	0
08/07/2025	An operational event of unplanned discharge of small amount of regenerative gas in helium purification train 2 low-temperature adsorbers for HTGR demonstration project	Equipment	0

Table 66. Regulatory Inspection Activities at the HTGR Demonstration Project in 2025

Starting Date	Activity	Main Content of the Inspection
02/17/2025	Special inspection on operational safety	Severe weather protection, internal anti-flooding measures, fire prevention, operator management, nuclear material accounting, physical protection, water intake safety for high temperature gas-cooled reactors
03/18/2025	Quarterly nuclear safety inspection on Shidao Bay HTGR demonstration project	Implementation of safety requirements, major design modifications, disposal of key findings found during overhaul, and operation status of HTGR in all previous regulatory inspections after initial fuel loading
04/08/2025	Special inspection on environmental protection at Shidao Bay NPP	Inspection on effluent management, radiation environment and routine environmental protection of Shidao Bay NPP, and rectification of findings in previous inspections
04/26/2025	Nuclear emergency capability assessment and regulatory inspection on 2025 annual comprehensive emergency drill of Shidao Bay NPP	Nuclear accident emergency capability level, maintenance of emergency response capacity, establishment and maintenance of emergency organizations of Shidao Bay NPP; management and implementation of emergency plans and supporting emergency document systems, allocation, management and use of emergency facilities and equipment
06/23/2025	Non-routine nuclear safety inspection on HTGR demonstration project	Operation management, design and maintenance management, radiation protection, radioactive solid waste management and physical protection, radiation environment monitoring and emergency preparedness

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Table 66

Starting Date	Activity	Main Content of the Inspection
09/17/2025	Follow-up inspection on special action for comprehensively strengthening nuclear safety management in the nuclear power industry	Establishment of nuclear safety responsibility system of the operating licensee, implementation of nuclear safety responsibilities of relevant entities, rectification of identified findings, self-inspection of newly involved fields and implementation of experience feedback

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

Table 67. Occupational Radiative Doses at the HTGR Demonstration Project in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
HTGR demonstration project	0.016	0.541	0.013	0.019

Phase I Expansion Project of Shandong Shidao Bay NPP

In 2025, Unit 1 of Phase I Expansion Project of Shandong Shidao Bay NPP was in the civil engineering and installation construction stage, and the steel lining cylinder installation of the reactor building was completed on December 23. Unit 2 was in the civil engineering construction stage, in which the FCD for the nuclear island foundation took place on May 7, 2025.

The nuclear safety-related regulatory approvals for Phase I Expansion Project of Shandong Shidao Bay NPP in 2025 are shown in Table 68. Four construction events were reported for Phase I Expansion Project of Shandong Shidao Bay NPP, as shown in Table 69. Regulatory inspection activities for Phase I Expansion Project of Shandong Shidao Bay NPP are shown in Table 70.



Figure 22. Regulatory Inspection on FCD of Unit 2, Phase I Expansion Project of Shidao Bay NPP

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Table 68. Nuclear Safety-Related Regulatory Approvals for Phase I Expansion Project of Shandong Shidao Bay NPP in 2025

Date	Document No.	Document Title
01/26/2025	NNSA Letter [2025] No. 12	<i>Letter Confirming Change of Information of Legal Representative of Construction License for Phase I Expansion Project of Shandong Shidao Bay NPP</i>

Table 69. Construction Events Reported for Phase I Project of Shandong Shidao Bay NPP in 2025

Date of Occurrence/ Discovery	Event
06/12/2025	Deviation of local dimensions of steel lining cylinder of Unit 1, Phase I Expansion Project of Shandong Shidao Bay NPP from design requirements
10/31/2025	Cracking of concrete protective layer for waterproof coiled material on raft foundation slab of emergency diesel generator building, Unit 2, Phase I Expansion Project of Shandong Shidao Bay NPP
11/11/2025	Unauthorized cutting additional reinforcing bars at door opening joints of safety building wall, Unit 2, Phase I Expansion Project of Shandong Shidao Bay NPP
11/19/2025	Hebei China Nuclear Geotechnical falsified nuclear island foundation pit slope monitoring data of Units 1 and Unit 2, Phase I Expansion Project of Shandong Shidao Bay NPP.

Table 70. Regulatory Inspection Activities for Phase I Project of Shandong Shidao Bay NPP in 2025

Starting Date	Activity	Main Content of the Inspection
11/03/2025	Inspection on routine ecological environment protection of Shandong Shidao Bay NPP	Development of non-radioactive environmental management system, compliance review of EIA documents, rectification of findings identified in routine ecological environment inspection, prevention and control of air pollution, water pollution, solid waste pollution, noise pollution and marine construction pollution

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

GUOHE ONE Demonstration Project

In 2025, GUOHE ONE Units 1 and 2 maintained stable operation with good safety condition. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. Unit 2 was granted with its operating license on May 8, 2025.

The nuclear safety-related regulatory approvals for the GUOHE ONE demonstration project in 2025 are shown in Table 71. Three operational events were reported for GUOHE ONE demonstration project, as shown in Table 72. Two construction events were reported for GUOHE ONE demonstration project, as shown in Table 73. The occupational radiative doses of GUOHE ONE demonstration project are shown in Table 74. Regulatory inspection activities for GUOHE ONE demonstration project are shown in Table 75.



Figure 23. Regulatory Inspection on the Commissioning Test of GUOHE ONE Demonstration Project

In 2025, the Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 1,390 man-days for inspection of the GUOHE ONE demonstration project, including 2 routine inspections and four non-routine inspections. A total of 182 findings were identified and 190 regulatory requirements were imposed.

Table 71. Nuclear Safety-Related Regulatory Approvals for GUOHE ONE Demonstration Project in 2025

Date	Document No.	Document Title
05/08/2025	NNSA [2025] No. 68	<i>Notice on Issuing the Operation License for Unit 2 of the GUOHE ONE Demonstration Project</i>
05/08/2025	NNSA [2025] No. 71	<i>Notice on Approving the "In-Service Inspection Program for GUOHE ONE Units 1 and 2 (Version 1)"</i>
07/21/2025	NNSA [2025] No. 119	<i>Notice on Approving Revisions to Coastdown Acceptance Criteria for Reactor Coolant Pumps of GUOHE ONE Demonstration Project</i>

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Table 72. Operational Events of the GUOHE ONE Demonstration Project Reported in 2025

Date of Occurrence/ Discovery	Event	Cause	INES Level
05/29/2025	An operational event of inadvertent actuation of reactor trip signal in the signal forcing process for GUOHE ONE Unit 2 due to insufficient risk analysis	Human factor	0
06/26/2025	An operational event of abnormal radionuclide data of Unit 1 caused by incorrect input of calibration information of the high-purity germanium γ spectrometer	Human factor	0
08/17/2025	An operational event of unintended entry of inert gas into the containment during pressurizer venting of GUOHE ONE demonstration project Unit 1	Equipment	0
08/31/2025	An operation event that the reactor coolant flow measurement test at 100% power plateau of Unit 2 of GUOHE ONE demonstration project failed to meet the acceptance criteria	Equipment	0
11/03/2025	An operation event that minor scratches were found during visual inspection of the inner wall of the reactor pressure vessel of Unit 1 of GUOHE ONE demonstration project	Equipment	0

Table 73. Construction Events of the GUOHE ONE Demonstration Project Reported in 2025

Date of Occurrence/ Discovery	Event
02/10/2025	Partial surface materials of items under the protective plate of the containment recirculation strainer of GUOHE ONE demonstration project Unit 2 are inconsistent with those in the final safety analysis report
03/26/2025	Ultrasonic angle beam testing was not performed on containment accessories of GUOHE ONE demonstration project Unit 2, including one penetration insert plate and two ring girder rings, due to inaccessible location

Table 74. Occupational Radiative Doses at GUOHE ONE Demonstration Project in 2025

Uni	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Unit 1	0.148	4.005	0.334	0.038
Unit 2	0.001	0.165	0.003	0.001

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Table 75. Regulatory Inspection Activities at the GUOHE ONE Demonstration Project in 2025

Starting Date	Activity	Main Content of the Inspection
03/17/2025	Comprehensive inspection before issuing the operating license for GUOHE ONE demonstration project Unit 1	Implementation of the quality assurance program for Unit 2; structures and nuclear safety related equipment; system commissioning; operation and production preparation; radiation protection; emergency preparedness; physical protection and fuel storage; radioactive waste management and environmental monitoring; fire-fighting facilities; implementation of construction license conditions, operating license application documents and issues identified in the technical review; implementation of regulatory requirements proposed in the nuclear safety regulatory inspection at construction stage; etc.
07/07/2025	Inspection of Unit 2 of GUOHE ONE demonstration project when departing from 5% rated thermal power control point	System commissioning, operation management, maintenance management, non-compliance, remaining items from the previous stages, and the implementation of previous nuclear safety regulatory inspection requirements for Unit 2
08/01/2025	Inspection of Unit 2 of GUOHE ONE demonstration project when departing from the 50% rated thermal power control point	System commissioning, operation management, maintenance management, inspection and supervision, test management, design change and modification management, non-compliance of mechanical, instrumentation and electrical equipment, and implementation of previous nuclear regulatory inspection requirements for Unit 2

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

Zhangzhou NPP

In 2025, Units 1 and 2 of Zhangzhou NPP maintained stable operation with good safety status. The failure rate of fuel elements, leakage rate of the primary system coolant pressure boundary, and leakage rate of containment were all within the prescribed limits. Unit 2 was granted with the operating license on October 10, 2025. Units 3 and 4 were in the construction stage. Unit 3 commenced nuclear island system equipment installation on April 15, 2025, and completed the hoisting of the reactor building polar crane bridge on November 14, 2025. Unit 4 finished the hoisting of containment steel lining Module 5 of the reactor building on December 16, 2025.



Figure 24. Inspection on the Operating Personnel's Performance of the Code of Conduct of Zhangzhou NPP

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The nuclear safety-related regulatory approvals for Zhangzhou NPP in 2025 are shown in Table 76. The Zhangzhou NPP was reported 3 construction events, as shown in Table 77. The regulatory inspection activities at Zhangzhou NPP are shown in Table 78. The occupational radiative doses at Zhangzhou NPP are shown in Table 79.

In 2025, the Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 1,947 man-days for inspection of Zhangzhou NPP, including five routine/non-routine inspections. A total of 211 findings were identified and 94 regulatory requirements were imposed.

Table 76. Nuclear Safety-Related Regulatory Approvals for Zhangzhou NPP in 2025

Date	Document No.	Document Title
10/10/2025	NNSA [2025] No. 166	<i>Notice on Issuing the Operation Licenses for Zhangzhou NPP Unit 2 in Fujian</i>

Table 77. Construction Event of Zhangzhou NPP Reported in 2025

Date of Occurrence/ Discovery	Event
04/09/2025	Some ventilation equipment of Unit 2 at Zhangzhou NPP was overweight.
07/07/2025	No physical and chemical property tests were carried out on carbon steel elbows of Part A in the main feedwater flow control system and turbine bypass system of Zhangzhou NPP Unit 2
10/16/2025	Hebei China Nuclear Geotechnical falsified nuclear island foundation pit slope monitoring data for Zhangzhou NPP Units 3 and 4

Table 78. Regulatory Inspection Activities at Zhangzhou NPP in 2025

Starting Date	Activity	Main Content of the Inspection
08/26/2025	Comprehensive inspection on Zhangzhou NPP Unit 2 in Fujian before issuance of operating license	Implementation of the quality assurance program; structures and nuclear safety equipment; system commissioning; operation and production preparation; radiation protection; emergency preparedness; physical protection and fuel storage; radioactive waste management and environmental monitoring; fire protection in nuclear power plants; implementation of construction license conditions, operation license application documents and issues identified in the technical review; implementation of regulatory requirements proposed in the nuclear regulatory inspection at construction stage

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

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Table 79. Occupational Radiative Doses at Zhangzhou NPP in 2025

Unit	Annual Average Effective Dose/Person (mSv)	Annual Maximum Individual Effective Dose(mSv)	Annual Collective Effective Dose (man·Sv)	Normalized Collective Effective Dose (man·mSv/Gwh)
Unit 1	0.011	0.278	0.018	0.002

Taipingling NPP

In 2025, Taipingling NPP Unit 1 was granted with the operating license on December 24. Unit 2 was in the system commissioning stage and completed hot test on July 30, 2025. Units 3 and 4 were acquired construction license on June 4, 2025. The first concrete date (FCD) for the nuclear island foundation of Unit 3 was carried out on June 10, 2025.

The nuclear safety-related regulatory approvals for Taipingling NPP in 2025 are shown in Table 80. The Taipingling NPP was reported four construction events, as shown in Table 81. The regulatory inspection activities at Taipingling NPP are shown in Table 82.

In 2025, the Southern Regional Office of Nuclear and Radiation Safety Inspection assigned 825 man-days for inspection of Taipingling NPP, including



Figure 25. Regulatory Inspection on the Nuclear Island of Taipingling NPP Unit 1

six routine inspections. A total of 92 findings were identified and 37 regulatory requirements were imposed.

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Table 80. Nuclear Safety-Related Regulatory Approvals for Taipingling NPP in 2025

Date	Document No.	Document Title
01/26/2025	NNSA [2025] No. 17	<i>Notice on Approving the "Quality Assurance Program (Construction Stage) for CGN Guangdong Taipingling NPP Phase I Project (Version 5)"</i>
01/26/2025	NNSA [2025] No. 18	<i>Notice on Approving the "Maintenance Program for Guangdong Taipingling NPP Units 1 and 2 (Draft for Approval)"</i>
01/26/2025	NNSA [2025] No. 21	<i>Notice on Approving the "Refueling Program for Guangdong Taipingling NPP Units 1 and 2 (Draft for Approval)"</i>
04/22/2025	NNSA [2025] No. 63	<i>Notice on Approving the "Commissioning Program for Taipingling NPP Units 1 and 2 (Version B2 - Draft for Approval)"</i>
06/04/2025	NNSA [2025] No. 88	<i>Notice on Issuing Construction Licenses for Guangdong Taipingling NPP Units 3 and 4</i>
12/24/2025	NNSA [2025] No. 234	<i>Notice on Issuing the Operation License for Guangdong Taipingling NPP Unit 1</i>

Table 81. Construction Events of Taipingling NPP Reported in 2025

Date of Occurrence/ Discovery	Event
04/18/2025	Insufficient source term analysis related to floor pit filter screens for new detachable thermal insulation (hook-and-loop) in reactor buildings, Taipingling NPP Units 1 and 2.
06/05/2025	The hardness test requirements for Grade M2 and M3 fasteners requiring post heat treatment specified in "Technical Specifications for Fasteners of Class M1, M2 and M3 Equipment" for Taipingling NPP Units 1 and 2 are inconsistent with those stipulated in standards cited in PSAR.
08/19/2025	The Anti-Dilution Protection (ADP) signal failed to trigger as expected during tests of Taipingling NPP Unit 2.
08/27/2025	Incomplete accessibility inspection was conducted in rectification of fastener faults for Taipingling NPP Units 1 and 2

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Table 82. Regulatory Inspection Activities at Taipingling NPP in 2025

Starting Date	Activity	Main Content of the Inspection
02/24/2025	Nuclear safety inspection for the preparations before FCD for the nuclear island foundation of Taipingling NPP Unit 3	Implementation of the quality assurance program at construction stage; preparation for construction management such as the construction organization and construction plan; preparation of technical conditions such as design documents and construction schemes; handling of outstanding issues from early construction supervision and inspection; site preparation before FCD for nuclear island foundation; establishment and operation of the experience feedback system
10/13/2025	Comprehensive inspection before issuing the Operation License for Taipingling NPP Unit 1	Implementation of the quality assurance program; structures and nuclear safety equipment; system commissioning; operation and production preparation; radiation protection; emergency preparedness; physical protection and fuel storage; radioactive waste management and environmental protection equipment; fire-fighting facilities; implementation of requirements for license conditions, operation license application documents and issues identified in the technical review; implementation of regulatory inspection requirements proposed during construction stage

San'ao NPP

In 2025, San'ao NPP Unit 1 was obtained with the operating license on December 24. Unit 2 was in the installation and commissioning stage. Units 3 and 4 were acquired construction license on November 13, 2025. The first concrete date (FCD) for the nuclear island foundation of Unit 3 was carried out on November 19, 2025.

The nuclear safety-related regulatory approvals for San'ao NPP in 2025 are shown in Table 83. The regulatory inspection activities at San'ao NPP are shown in Table 84.

In 2025, the Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 1,325 man-days for inspection of San'ao NPP, including



Figure 26. Regulatory Inspection on the FCD Work of San'ao NPP Unit 3

5 routine inspections. A total of 145 findings were identified and 34 regulatory requirements were imposed.

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Table 83. Regulatory Approvals for San'ao NPP in 2025

Date	Document No.	Document Title
05/28/2025	NNSA [2025] No. 81	<i>Notice on Approving the "In-Service Inspection Program for San'ao NPP Units 1 and 2 (Version 1 - Draft for Approval) "</i>
07/04/2025	NNSA [2025] No. 102	<i>Notice on Approving the "Quality Assurance Program (Operation Stage) for CGN Zhejiang San'ao NPP Units 1 and 2" (Version 1)</i>
07/05/2025	NNSA [2025] No. 105	<i>Notice on Approving the Quality Assurance Program (Construction Stage) for CGN Zhejiang San'ao NPP Units 3 and 4 (Version 1 - Draft for Approval)</i>
10/01/2025	NNSA [2025] No. 163	<i>Notice on Approving the Revision to Commissioning Program for San'ao NPP Units 1 and 2</i>
10/22/2025	NNSA [2025] No. 179	<i>Notice on Approving the "Refueling Program for San'ao NPP Units 1 and 2" (Version 1)</i>
11/13/2025	NNSA [2025] No. 201	<i>Notice on Issuing the Construction Licenses for Zhejiang San'ao NPP Units 3 and 4</i>
12/24/2025	NNSA [2025] No. 235	<i>Notice on Issuing the Operation License for CGN San'ao NPP Unit 1</i>
11/13/2025	MEE App [2025] No. 107	<i>Approval of the Environmental Impact Reports for Zhejiang San'ao NPP Units 3 and 4 (Construction Stage)</i>
12/24/2025	MEE App [2025] No. 136	<i>Approval of the Environmental Impact Reports for CGN San'ao NPP Units 1 and 2 (Operation Stage)</i>

Table 84. Regulatory Inspection Activities at San'ao NPP in 2025

Starting Date	Activity	Main Content of the Inspection
08/19/2025	Nuclear safety inspection for the preparations before FCD for the nuclear island foundation of San'ao NPP Unit 3	Implementation of the quality assurance program at construction stage; preparation of construction management conditions such as the construction organization and construction plan of the nuclear island; preparation of technical conditions such as design documents and construction schemes; handling of outstanding issues from early construction supervision and inspection; site preparation before First Concrete Date (FCD) for nuclear island foundation; establishment and operation of the experience feedback system
10/28/2025	Comprehensive inspection before issuing the Operation License for Zhejiang San'ao NPP Unit 1	Implementation of the quality assurance program; structures and nuclear safety equipment; system commissioning; operation and production preparation; radiation protection; emergency preparedness; physical protection and fuel storage; radioactive waste management and environmental protection equipment; fire protection for nuclear power plant; implementation of license conditions, operation license application documents and issues identified in the technical review; implementation of regulatory requirements proposed in previous nuclear regulatory inspections

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

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Xudapu NPP

In 2025, Xudapu NPP Units 1 and 2 were at the civil construction and installation stage. Unit 1 commenced main pipeline welding on September 25. Unit 3 was in the installation and commissioning stage and completed cold test on December 12. Unit 4 was in the civil construction and installation stage, and commenced the main pipeline welding on March 23, 2025.

The nuclear safety-related regulatory approvals for Xudapu NPP in 2025 are shown in Table 85. The Xudapu NPP was reported 6 construction events, as shown in Table 86. The regulatory inspection activities at Xudapu NPP are shown in Table 87.

In 2025, the North-Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 1,840 man-days for inspection of Xudapu NPP, including five routine inspections. A total of 152 findings were identified and 19 regulatory requirements were imposed.



Figure 27. Regulatory Inspection on the Effectiveness of the Civil Construction Quality Assurance of Xudapu NPP Unit 2

Table 85. Nuclear Safety-Related Regulatory Approvals for Xudapu NPP in 2025

Date	Document No.	Document Title
09/18/2025	NNSA [2025] No. 155	<i>Notice on Approving the "Commissioning Program for Liaoning Xudapu NPP Units 3 and 4" (Version B0)</i>
11/01/2025	NNSA [2025] No. 181	<i>Notice on Approving the "Quality Assurance Program for Liaoning Xudapu NPP Units 3 and 4 (Construction Stage)(Version G0)"</i>

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Table 86. Construction Event of Xudapu NPP Reported in 2025

Date of Occurrence/ Discovery	Event
11/21/2024	Some ventilation equipment of Xudapu NPP Units 3 and 4 was overweight
02/08/2025	The material of components around recirculation filters and protective plates of Xudapu NPP Units 1 and 2 was not in consistent with the requirements of the Preliminary Safety Analysis Report
02/28/2025	The valve body of No.4 main steam valve station of Xudapu NPP Unit 3 fell down during transportation
07/04/2025	Foreign matters were found in bearing housings of key pump units inside the nuclear island of Xudapu NPP Unit 3
12/08/2025	The indicated value of nuclear-grade thermocouple thermometer installed on the hot leg of the primary circuit main pipeline of Xudapu NPP Unit 3 was lower than normal, due to cold junction compensation affected by heat conduction
12/30/2025	Part of steel bars in CA20 module of Xudapu NPP Unit 1 left unembedded

Table 87. Regulatory Inspection Activities at Xudapu NPP in 2025

Starting Date	Activity	Main Content of the Inspection
11/03/2025	Inspection of control points of cold functional test for Xudapu NPP Unit 3	Operation of the quality assurance system, installation and handover of nuclear safety-related structures, systems and equipment, preliminary tests and preparations for cold functional tests, and implementation of conditions specified in the construction license as well as administrative requirements put forward in previous nuclear regulatory inspections

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

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Lufeng NPP

In 2025, Units 1 and 2 of the Lufeng NPP were obtained with construction licenses on February 10. The FCD for nuclear island foundation was carried out on February 24, 2025 for Unit 1 and on December 22, 2025 for Unit 2. Units 5 and 6 were in the construction and installation stage. Unit 5 completed main pipeline welding on June 21, 2025, and Unit 6 completed dome hoisting on July 14, 2025.

The nuclear safety-related regulatory approvals for Lufeng NPP in 2025 are shown in Table 88. The Lufeng NPP was reported five construction events, as shown in Table 89.

In 2025, the Southern Regional Office of Nuclear and Radiation Safety Inspection assigned 887



Figure 28. Inspection on the Base Plate Bar Binding of Lufeng NPP Unit 2

man-days for inspection of Lufeng NPP, including 5 routine/non-routine inspections. A total of 62 findings were identified and 13 regulatory requirements were imposed.

Table 88. Nuclear Safety-Related Regulatory Approvals for Lufeng NPP in 2025

Date	Document No.	Document Title
02/10/2025	NNSA [2025] No. 32	<i>Notice on Issuing Construction Licenses for Lufeng NPP Units 1 and 2 in Guangdong</i>
11/05/2025	NNSA [2025] No. 193	<i>Notice on Approving Design Changes of Primary Coolant Source Term for Lufeng NPP Units 5 and 6</i>
11/05/2025	NNSA [2025] No. 194	<i>Notice on Approving Design Changes of Number of Neutron Sources for Lufeng NPP Units 5 and 6</i>
08/01/2025	NNSA Letter [2025] No. 72	<i>Reply Letter on Approving the Technical Capability Verification Program for Non-destructive Inspection in Pre-service and In-service Inspection of Lufeng NPP Units 5 and 6</i>
08/22/2025	NNSA Letter [2025] No. 83	<i>Reply to Siting Opinions on Supervisory Monitoring Systems for Radiation Environment Site at Lufeng NPP</i>
11/11/2025	NNSA Letter [2025] No. 104	<i>Letter on Confirmation of Name Change of the Licensee for Construction License of Lufeng NPP Units 5 and 6</i>
02/10/2025	MEE App [2025] No. 14	<i>Approval on the Environmental Impact Reports (Construction Stage) for Guangdong Lufeng NPP Units 1 and 2</i>

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Table 89. Construction Event of Lufeng NPP Reported in 2025

Date of Occurrence/ Discovery	Event
02/28/2025	Incorrect selection of concrete mix proportion for raft foundation of nuclear island additional cooling water building (5bej) at Lufeng NPP Unit 5
05/17/2025	Crack defects found on partial base material after lifting lug removal on steel containment bottom head at Lufeng NPP Unit 1
05/18/2025	Design drawing error of side wall of staircase in pump area of combined pump house at Lufeng NPP Units 5 and 6
07/04/2025	Local damage of the detector guide tube of the nuclear instrumentation system caused by drilling work for secondary tray installation at Lufeng NPP Unit 5
07/23/2025	Position deviation of steel containment bottom head at Lufeng NPP Unit 1

Lianjiang NPP

In 2025, Lianjiang NPP Units 1 and 2 were at in the civil construction and installation stage. Unit 1 completed nuclear island pressure vessel hoisting on February 27, 2025 and hoisting of two steam generators on September 27 and October 25 respectively, and pressurizer hoisting on October 9. Unit 2 finished construction of layer E of nuclear island shield wall on April 28, 2025.

Regulatory approvals for Lianjiang NPP in 2025 are shown in Table 90. Lianjiang NPP reported 5 construction events, as shown in Table 91. Regulatory inspection activities at Lianjiang NPP are shown in Table 92.

In 2025, the Southern Regional Office of Nuclear and Radiation Safety Inspection assigned 1,095 man-days for inspection of units under construction at Lianjiang NPP, including four routine inspections. A total of 93 findings were identified and 21 regulatory requirements were imposed.



Figure 29. Regulatory Inspection on the CV Attachment Plate Cutting and Rewelding of Lianjiang NPP

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Table 90. Nuclear Safety-Related Regulatory Approvals for Lianjiang NPP in 2025

Date	Document No.	Document Title
09/29/2025	NNSA Letter [2025] No. 90	<i>Reply to Siting Opinions on Supervisory Monitoring Systems for Radiation Environment Site at Guangdong Lianjiang NPP</i>

Table 91. Construction Events of Lianjiang NPP Reported in 2025

Date of Occurrence/ Discovery	Event
01/24/2025	The surface material of components under the protective plate of containment recirculation filter of Lianjiang NPP Unit 1 was not inconsistent with the relevant requirements of the Preliminary Safety Analysis Report
03/03/2025	Unauthorized cutting and rewelding of shell plate attachment plates of the steel containment at Lianjiang NPP Unit 1
04/10/2025	Concrete construction of the cooling tower barrel wall fails to comply with codes and construction scheme at Lianjiang NPP Unit 1
11/05/2025	Partial steel bars unembedded and misplaced in CA20 module at Lianjiang NPP Unit 1
12/16/2025	Ultrasonic angle beam testing was performed in no accordance with the technical requirements on some circular ring base metal of steel containment ring crane beams of Lianjiang NPP Unit 1

Table 92. Regulatory Inspection Activities at Lianjiang NPP in 2025

Starting Date	Activity	Main Content of the Inspection
03/06/2025	Investigation on construction incident of unauthorized cutting and rewelding of steel containment shell attachment plates at Lianjiang NPP Unit 1	Investigating the construction incident of unauthorized cutting and rewelding of steel containment shell attachment plates at Lianjiang NPP Unit 1
06/09/2025	On-site verification of rectification status for construction incident of unauthorized cutting and rewelding of steel containment shell attachment plates at Lianjiang NPP Unit 1	Nuclear safety culture development; operation and improvement of quality assurance system; progress and effectiveness of anti-fraud system optimization; rectification and implementation status concerning the unauthorized cutting and rewelding of attached plates on the steel containment shell cylinder of Guangdong Lianjiang NPP Unit 1

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

Bailong NPP

In 2025, Units 1 and 2 of the Bailong NPP were obtained construction licenses on December 19. For Unit 1, the FCD for the nuclear island foundation was carried out on December 22, 2025.

The nuclear safety-related regulatory approvals for Bailong NPP in 2025 are shown in Table 93. Regulatory inspection activities at Bailong NPP are shown in Table 94.

In 2025, the Southern Regional Office of Nuclear and Radiation Safety Inspection assigned 138 man-days for inspection of Bailong NPP, including 2 routine inspections. A total of 36 findings were identified and 11 regulatory requirements were imposed.



Figure 30. Regulatory Inspection on the NDT Room of Bailong NPP

Table 93. Nuclear Safety-Related Regulatory Approvals for Bailong NPP in 2025

Date	Document No.	Document Title
11/10/2025	NNSA [2025] No. 195	<i>Notice on Approving the "Quality Assurance Program (Construction Stage) for Guangxi Bailong NPP Units 1 and 2" (Version D)</i>
12/19/2025	NNSA [2025] No. 232	<i>Notice on Issuing Construction Licenses for Guangxi Bailong NPP Units 1 and 2</i>
12/18/2025	MEE App [2025] No. 132	<i>Approval on the Environmental Impact Reports (Construction Stage) for Guangxi Bailong NPP Units 1 and 2</i>

Table 94. Regulatory Inspection Activities at Bailong NPP in 2025

Starting Date	Activity	Main Content of the Inspection
11/11/2025	Nuclear safety inspection for preparations before FCD for the nuclear island foundation of Bailong NPP Unit 1	Implementation of the quality assurance program at construction stage; preparation of construction management conditions such as the construction organization and construction plan; preparation of technical conditions such as design documents and construction schemes; handling of outstanding issues from early construction supervision and inspection; site preparation before FCD for nuclear island foundation; establishment and operation of the experience feedback system

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

Safety Regulation on Nuclear Power Plants

Jinqimen NPP

In 2025, Jinqimen NPP Units 1 and 2 were obtained construction licenses on August 5. For Unit 1, the FCD for the nuclear island foundation was on Sunday, August 10, 2025.

The nuclear safety-related regulatory approvals for Jinqimen NPP in 2025 are shown in Table 95. Jinqimen NPP was reported 1 construction event, as shown in Table 96. Regulatory inspection activities at Jinqimen NPP are shown in Table 97.

In 2025, the Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 150 man-days for inspection of Jinqimen NPP. A total of 40 findings were identified and 40 regulatory requirements were imposed.



Figure 31. Regulatory Inspection on the FCD Work of Jinqimen NPP Unit 1

Table 95. Nuclear Safety-Related Regulatory Approvals for Jinqimen NPP in 2025

Date	Document No.	Document Title
04/22/2025	NNSA [2025] No. 62	<i>Notice on Approving the “Quality Assurance Program for Zhejiang Jinqimen NPP Units 1 and 2 (Construction Stage)” (Version B)</i>
08/05/2025	NNSA [2025] No. 132	<i>Notice on Issuing the Construction Licenses for Zhejiang Jinqimen NPP Units 1 and 2</i>
08/05/2025	MEE App [2025] No. 74	<i>Approval on the Environmental Impact Reports for Zhejiang Jinqimen NPP Units 1 and 2 (Construction Stage)</i>

Table 96. Construction Event of Jinqimen NPP Reported in 2025

Date of Occurrence/ Discovery	Event
12/29/2025	Issues on inadequate concrete chain management of Jinqimen NPP Unit 1

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Table 97. Regulatory Inspection Activities at Jinqimen NPP in 2025

Starting Date	Activity	Main Content of the Inspection
06/23/2025	Nuclear safety inspection for the preparations before FCD for the nuclear island foundation of Jinqimen NPP Unit 1	Preparation of construction management conditions such as nuclear island construction organization and construction plan; preparation of technical conditions such as design documents and construction schemes; site preparation before FCD for the nuclear island foundation; implementation of quality assurance program in construction stage; handling of legacy issues identified in preliminary construction regulatory inspection; the establishment and operation of the experience feedback system.

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

Zhaoyuan NPP

In 2025, the Zhaoyuan NPP Units 1 and 2 were obtained construction licenses on November 13. For Unit 1, the FCD for the nuclear island foundation was carried out on November 18, 2025.

The nuclear safety-related regulatory approvals for Zhaoyuan NPP in 2025 are shown in Table 98. Zhaoyuan NPP was reported 1 construction event, as shown in Table 99. Regulatory inspection activities at Zhaoyuan NPP are shown in Table 100.

In 2025, the Eastern Regional Office of Nuclear and Radiation Safety Inspection assigned 71 man-days for inspection of Zhaoyuan NPP. A total of 52 findings were identified and 26 regulatory requirements were imposed.



Figure 32. Regulatory Inspection on the FCD Work of Zhaoyuan NPP Unit 1

Safety Regulation on Nuclear Power Plants

Table 98. Nuclear Safety-Related Regulatory Approvals for Zhaoyuan NPP in 2025

Date	Document No.	Document Title
09/10/2025	NNSA [2025] No. 150	<i>Notice on Approving the "Quality Assurance Program (Construction Stage) for Shandong Zhaoyuan NPP Phase I Project" (Version A)</i>
11/13/2025	NNSA [2025] No. 202	<i>Notice on Issuing the Construction Licenses for Units 1 and 2 of Shandong Zhaoyuan NPP Phase I Project</i>
11/11/2025	MEE App [2025] No. 106	<i>Approval on the Environmental Impact Report (Construction Phase) for CGN Shandong Zhaoyuan NPP Phase I Project</i>

Table 99. Construction Events of Zhaoyuan NPP Reported in 2025

Date of Occurrence/ Discovery	Event
11/24/2025	Unauthorized cutting of steel reinforcement at P07 sump of the fuel building at Zhaoyuan NPP Unit 1

Table 100. Regulatory Inspection Activities at Zhaoyuan NPP in 2025

Starting Date	Activity	Main Content of the Inspection
09/17/2025	Nuclear safety inspection for the preparations before FCD for the nuclear island foundation of Zhaoyuan NPP Unit 1	Handling of residual nuclear island foundation construction issues, preparation of construction management and technical conditions, and implementation of quality assurance system for Unit 1

V. Safety Regulation on Research Reactors

As of the end of 2025, there were 17 in-service civilian research reactors (critical assemblies), 2 under-construction civilian research reactors, and 2 civilian research reactors (critical assemblies) under decommissioning in China (see Table 101). Out of the civil research reactors (critical assemblies) in service, two were under closure management, and the rest 15 ones were operated well generally. According to the Reporting System for Research Reactor Licensees, in-service civil research reactors (critical assemblies) reported 9 operational events throughout the year (see Table 102), none of which caused unacceptable consequences for the environment outside the reactor building. Two civil research reactors under construction was under construction quality control.

In 2025, the regional offices of nuclear and radiation safety inspection assigned 2,980 man-days for inspection of research reactor licensees,



Figure 33. Regulatory Inspection on the Research Reactors of China Institute of Atomic Energy

including and 32 inspections. A total of 501 findings were identified and 172 regulatory requirements were imposed.

The nuclear safety-related regulatory approvals for research reactors in 2025 are shown in Table 103, and the regulatory inspection activities in Table 104.

Table 101. Operation of Research Reactors in 2025

Facility	Design Power	Licensee	Operation Situation
China Experimental Fast Reactor	65MW	China Institute of Atomic Energy	In service
China Advanced Research Reactor (CARR)	60MW	China Institute of Atomic Energy	In service
49-2 Swimming Pool Reactor	3.5MW	China Institute of Atomic Energy	In service

Safety Regulation on Research Reactors

Table 101

Facility	Design Power	Licensee	Operation Situation
Prototype Miniature Neutron Source Reactor	27kW	China Institute of Atomic Energy	In service
Zero-power Assembly of MNSR	—	China Institute of Atomic Energy	In service
DF-VI Fast Neutron Critical Assembly	—	China Institute of Atomic Energy	In service
Nuclear Criticality Safety Test Facility in Pilot Plant	—	China Institute of Atomic Energy	In service
101 Heavy Water Research Reactor (101 HWRR)	10MW	China Institute of Atomic Energy	Under decommissioning
10MW High-Temperature Gas-Cooled Test Reactor	10MW	Tsinghua University	In service
5MW Low Temperature Nuclear Heating Test Reactor (NHR-5)	5MW	Tsinghua University	Closure management
Bulk Shielding Reactor (BSR)	1MW	Tsinghua University	Under decommissioning
Medical Isotope Test Reactor	200kW	Nuclear Power Institute of China	Under construction
High Flux Engineering Test Reactor (HFETR)	125MW	Nuclear Power Institute of China	In service
Critical Assembly of High Flux Engineering Test Reactor (HFETR)	—	Nuclear Power Institute of China	In service
China Pulsed Reactor (CPR)	1MW	Nuclear Power Institute of China	In service
Minjiang Test Reactor	5MW	Nuclear Power Institute of China	In service
18-5 Critical Assembly	—	Nuclear Power Institute of China	In service
Miniature Neutron Source Reactor (MNSR) in Shenzhen University	30kW	Shenzhen University	Closure management
In-Hospital Neutron Irradiator (IHNI)	30kW	Beijing Capture Tech Co., Ltd.	In service
2 MWt Liquid Fuel Thorium Molten Salt Test Reactor	2MW	Shanghai Institute of Applied Physics, Chinese Academy of Sciences	In service
Tianhong Research Reactor	20MW	Tianhong Technology Co., Ltd.	Under construction

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Table 102. Operational Events of Research Reactors in 2025

Date of Occurrence	Facility	Event	Cause	INES Level
04/10/2025	Minjiang Test Reactor	Reactor shutdown triggered by 3# power protection meter due to uranyl nitrate solution irradiation test	Management	0
05/07/2025	China Advanced Research Reactor (CARR)	Unintended activation of ATWS mitigation system leads to reactor trip	Equipment	0
06/17/2025	China Advanced Research Reactor (CARR)	Short-period protection system triggers reactor trip under subcritical state	Equipment	0
08/18/2025	China Advanced Research Reactor (CARR)	Fault of DC power supply of 2#control rod solenoid coil	Equipment	0
08/19/2025	High Flux Engineering Test Reactor (HFETR)	Abnormal discharge of gaseous effluent from exhaust tower	Management	0
09/28/2025	China Advanced Research Reactor (CARR)	Reactor protection shutdown caused by fan failure in cold neutron source compressor cabinet	Equipment	0
10/17/2025	2 MWt Liquid Fuel Thorium Molten Salt Test Reactor	Low wide-range neutron flux setpoint (20%FP) triggers protection system reactor trip	Equipment	0
11/18/2025	China Experimental Fast Reactor	False source range period signal triggers protection action during scheduled shutdown	Equipment	0
12/04/2025	Minjiang Test Reactor	Reactor trip caused by instantaneous external power loss of Minjiang Test Reactor	Equipment	0

Table 103. Nuclear Safety-Related Regulatory Approvals for Research Reactors in 2025

Date	Document No.	Document Title
01/08/2025	NNSA Letter [2025] No. 2	<i>Approval of Confirming Changes in Legal Representative Information on Research Reactor Nuclear Safety License of Nuclear Power Institute of China</i>
04/07/2025	NNSA [2025] No. 53	<i>Notice on Approving Minjiang Test Reactor to Carry out Fuel Solution Irradiation Test</i>
05/19/2025	NNSA [2025] No. 77	<i>Notice on Approving the Extension of the Validity Period of the Operation License of In-Hospital Neutron Irradiator (IHNI)</i>
05/28/2025	NNSA [2025] No. 79	<i>Notice on Approving the Function Expansion of Room 144 of Nuclear Island of China Experimental Fast Reactor and the Implementation of Spent Cold Trap Disposal</i>
05/28/2025	NNSA [2025] No. 80	<i>Notice on Approving the Conduct of Irradiation Tests on SiC Cladding Materials in the 500kW Test Loop of the High Flux Engineering Test Reactor (HFETR)</i>
06/30/2025	NNSA [2025] No. 100	<i>Notice on Approving the Protection System Modification of the China Experimental Fast Reactor</i>

Safety Regulation on Research Reactors

Table 103

Date	Document No.	Document Title
06/30/2025	NNSA [2025] No. 101	<i>Notice on Approving Nuclear Measurement System Modification of China Experimental Fast Reactor</i>
07/08/2025	NNSA [2025] No. 109	<i>Notice on Approving the Modification of Air Inlet Radioactivity Monitoring Channel in the Main Control Room of China Experimental Fast Reactor</i>
08/01/2025	NNSA [2025] No. 129	<i>Notice on Approving Discharging Operation of Miniature Neutron Source Reactor at Shenzhen University</i>
08/01/2025	NNSA [2025] No. 131	<i>Notice on Approving Revision of Operating Limits and Conditions for Cover Gas Cavity Pressure of Main Vessel of China Experimental Fast Reactor</i>
08/19/2025	NNSA [2025] No. 139	<i>Notice on Approving In-core Irradiation Test of Target Materials in China Advanced Research Reactor</i>
08/21/2025	NNSA [2025] No. 140	<i>Notice on Approving Irradiation Test of Lutetium-177 Samples in China Advanced Research Reactor</i>
08/21/2025	NNSA [2025] No. 141	<i>Notice on Approving Irradiation Test of Promethium-147 Samples in China Advanced Research Reactor</i>
12/13/2025	NNSA [2025] No. 223	<i>Notice on Approving ATF Fuel Short Rod Irradiation Test Conducted by Nuclear Power Institute of China Using High Flux Engineering Test Reactor</i>

Table 104. Regulatory Inspection Activities at the Research Reactors in 2025

Starting Date	Activity	of the Inspection
03/11/2025	Quarterly nuclear safety inspection of China Experimental Fast Reactor	Documents and records on quality assurance, physical protection and fire prevention of nuclear facilities
07/15/2025	Non-routine inspection on significant abnormality management and test risk identification of China Advanced Research Reactor	Heard the report on the relevant operational incidents of China Institute of Atomic Energy and the incident investigation organized by CNNC, conducted spot checks on the relevant procedures, documents and records of China Advanced Research Reactor, and interviewed the relevant personnel
09/01/2025	Pre-major-activity non-routine nuclear safety inspection (Beijing) was conducted at the Institute of Nuclear and New Energy Technology of Tsinghua University	Safety management status of the 10MW high-temperature gas-cooled reactor, decommissioning progress of the shielding test reactor, 5MW low-temperature nuclear heating test reactor, and 301 Fuel Element Laboratory, etc., at the INET
11/19/2025	"Three Simultaneities" inspection on environmental protection of a project of China Institute of Atomic Energy	Verifying the implementation of the requirements of the "Three Simultaneousness" of environmental protection, including the construction and commissioning of environmental protection facilities

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

VI. Safety Regulation on Nuclear Fuel Cycle Facilities

As of the end of 2025, China had a total of 20 civil nuclear fuel cycle facilities in operation and 1 civil nuclear fuel cycle facility under construction. China's in-service facilities of nuclear fuel production, processing, storage, etc. were operated safely and maintained a good safety record continuously. The quality of facilities under

construction was controlled effectively. Nuclear and radiation safety of nuclear fuel cycle facilities was under control. The facilities did not pose any unacceptable nuclear and radiation hazard to staff, the public and the environment. The main facilities are listed in Table 105.

Administrative Approvals

In 2025, two nuclear safety technical modifications were approved.

Table 105. Civil Nuclear Fuel Production, Processing and Storage Facilities in China

Facility	Licensee	Major Product Form	Current Status
Dry Conversion Fabrication Line	CNNC Jianzhong Nuclear Fuel Co., Ltd.	UO ₂ powder	In operation
Powder Metallurgical Fabrication Line	CNNC Jianzhong Nuclear Fuel Co., Ltd.	UO ₂ pellet	In operation
Fuel Element Assembly Line	CNNC Jianzhong Nuclear Fuel Co., Ltd.	PWR fuel element	In operation
IDR Process Research and Equipment Production Line	CNNC Jianzhong Nuclear Fuel Co., Ltd.	UO ₂ powder	In operation
Nuclear Fuel Element Fabrication Line Extension and Technical Reconstruction Project	CNNC Jianzhong Nuclear Fuel Co., Ltd.	PWR fuel element	In operation
HWR Nuclear Fuel Element Fabrication Line	CNNC North Nuclear Fuel Co., Ltd.	HWR Nuclear fuel element	In operation
PWR Nuclear Fuel Element Fabrication Line	CNNC North Nuclear Fuel Co., Ltd.	PWR fuel element	In operation
Nuclear Fuel Element Fabrication Line for the HTGR Demonstration Project	CNNC North Nuclear Fuel Co., Ltd.	HTGR fuel element	In operation

Safety Regulation on Nuclear Fuel Cycle Facilities

Table 105

Facility	Licensee	Major Product Form	Current Status
Nuclear Fuel Element Fabrication Line for PWR NPPs	CNNC North Nuclear Fuel Co., Ltd.	PWR fuel element	In operation
Nuclear Fuel Element Fabrication Line for AP1000 NPP	CNNC North Nuclear Fuel Co., Ltd.	PWR fuel element	In operation
405-1A Project	CNNC Shaanxi Uranium Enrichment Co., Ltd.	Low enriched UF ₆	In operation
New Centrifuge Project, Phase IV	CNNC Shaanxi Uranium Enrichment Co., Ltd.	Low enriched UF ₆	In operation
Centrifuge Project Extension in North Region, Phase I	CNNC Shaanxi Uranium Enrichment Co., Ltd.	Low enriched UF ₆	In operation
Centrifuge Project Extension in North Region, Phase II	CNNC Shaanxi Uranium Enrichment Co., Ltd.	Low enriched UF ₆	In operation
Centrifuge Project	CNNC Lanzhou Uranium Enrichment Co., Ltd.	Low enriched UF ₆	In operation
Commercial Demonstration Project of Domestic Centrifuge	CNNC Lanzhou Uranium Enrichment Co., Ltd.	Low enriched UF ₆	In operation
Uranium Enrichment Project, Phase III	CNNC Lanzhou Uranium Enrichment Co., Ltd.	Low enriched UF ₆	In operation
Uranium Enrichment Project, Phase IV	CNNC Lanzhou Uranium Enrichment Co., Ltd.	Low enriched UF ₆	In operation
Temporary Dry Storage Facility for Spent Fuel of Qinshan Phase III NPP	CNNC Nuclear Power Operation Management Co., Ltd.	—	In operation
CGN Advanced Fuel Development Center	CGNPC Uranium Resources Co., Ltd.	PWR fuel element	In operation
Hot Cell Facility Construction Project for CGN Nuclear Power Technology Research Institute Co., Ltd.	CGN Research Institute Co., Ltd.	—	Commissioning

Regulatory inspection

In 2025, the regional offices of Nuclear and Radiation Safety Inspection assigned 2,658 man-days for inspection of the nuclear fuel cycle facility licensees, including 17 routine regulatory inspections, and 4 non-routine inspections. A total of 297 findings were identified and 312 regulatory requirements were raised.



Figure 34. Regulatory Inspection on the Fuel Assemblies of CNNC North Nuclear Fuel Co., Ltd.

VII. Regulation of Radiation Environment on Uranium Mines and Nature Occurring Radioactive Materials

As of the end of 2025, China had 12 uranium mining and milling facilities in operation, 6 under testing, 10 under construction (including test facilities), 11 suspended from production and construction, 15 to be decommissioned, 2 under decommissioning, 2 partially decommissioned and 49 decommissioned.

Administrative Approvals

In 2025, MEE/NNSA approved the environmental impact assessment (EIA) documents of 8 uranium mining and milling and uranium geological exploration projects, including the Longjiang Uranium Mine Decommissioning Remediation Project (see Table 106).



Figure 35. Regulatory Inspection on the Uranium Exploration Project

Table 106. Administrative Approvals for the Uranium Mining and Milling Radiation Environmental Regulation in 2025

Date	Document No.	Document Title
05/01/2025	MEE App [2025] No. 47	Approval of the Environmental Impact Report Form for Uranium Reconnaissance in Haidewula Area, Dulan County, Qinghai Province
10/01/2025	MEE App [2025] No. 91	Approval of the Environmental Impact Report for Mining Development Project of Barun and Eastern Bayanwula Ore Blocks of Bayanwula Uranium Deposit, CNNC Inner Mongolia Mining Co., Ltd.
10/01/2025	MEE App [2025] No. 93	Approval of the Environmental Impact Report Form of the Investigation, Assessment and Exploration Project of Uranium Resources in Shengyuan Ore Field and Adjacent Area of Jiangxi Province

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Table 106

Date	Document No.	Document Title
10/16/2025	MEE App [2025] No. 97	<i>Approval of the Environmental Impact Report From for Expanded In-situ Leaching Uranium Mining Test Project in Eastern Menggiguer Deposit</i>
10/16/2025	MEE App [2025] No. 98	<i>Approval of the Environmental Impact Report Form of the Investigation, Assessment and Exploration Project of Uranium Resources in Xingguo and Adjacent Area of Jiangxi Province</i>
11/21/2025	MEE App [2025] No. 115	<i>Approval of the Environmental Impact Report From for Upgrade Project of Wastewater Treatment Facilities of Qinglong Uranium Mine, CNNC Northern Uranium Industry Co., Ltd.</i>
11/21/2025	MEE App [2025] No. 116	<i>Approval of the Environmental Impact Report From for In-situ Leaching Uranium Mining Research Project of BSK1 Ore Block, Zhenyuan Uranium Mine, Gansu Province</i>
12/22/2025	MEE App [2025] No. 134	<i>Approval of the Environmental Impact Report for Decommissioning Remediation Project of Longjiang Uranium Mine, CNNC Xi'an Lantian Uranium Industry Co., Ltd.</i>

Regulatory Inspections

MEE/NNSA organized and conducted the review of the annual reports on effluent and environmental monitoring for 2024 submitted by uranium mining and milling enterprises, and a special verification on the environmental radiation monitoring and information disclosure conditions of nature occurring radioactive material/ore development and utilization enterprises.

In 2025, MEE/NNSA's regional offices of nuclear and radiation safety inspection assigned 1,010 man-days for inspection of uranium mining and milling facilities, including 46 routine regulatory inspections and 28 non-routine inspections. A total of 159 findings were identified and 128 regulatory requirements were imposed.

VIII. Safety Regulation on Radioactive Waste

As of the end of 2025, China had 51 radioactive waste storage, treatment and disposal facilities in operation and 3 radioactive waste storage, treatment and disposal facilities under construction. NNSA vigorously promoted the construction of radioactive waste disposal facilities, strengthened safety regulation of radioactive waste, promoted the treatment and disposal of legacy radioactive wastes as well as the decommissioning and remediation of old nuclear facilities, and made efforts in operational safety regulation of radioactive waste disposal facilities, radioactive waste storage and treatment facilities.

Administrative Approvals

In 2025, radioactive waste treatment and storage licenses were granted to the Nuclear Power Institute of China (NPIC), and a solid radioactive waste treatment license was issued to Hunan Nuclear Industry Honghua Machinery Co., Ltd.

Table 107. Major Radioactive Waste Treatment, Storage and Disposal Facilities In China

Facility	Licensee	Type	Current Status
National Centralized Disused Sources Storage Facility	CNNC Qingyuan Environmental Technology Engineering Co., Ltd.	Storage Facility	In operation
Northwest Nuclear Industry Disused Source Storage Facility	CNNC Qingyuan Environmental Technology Engineering Co., Ltd.	Storage Facility	In operation
Northwest Low- and Intermediate-Level Solid Waste Disposal Site (Phase I, Stage 1)	CNNC Qingyuan Environmental Technology Engineering Co., Ltd.	Disposal Facility	In operation
Feifengshan Low- and Intermediate Level Solid Waste Disposal Site (Phase I, Stage 1)	CNNC Qingyuan Environmental Technology Engineering Co., Ltd.	Disposal Facility	In operation
Jinta Very Low-Level Waste Landfill Site	CNNC Qingyuan Environmental Technology Engineering Co., Ltd.	Disposal Facility	In operation
Low-Level Radioactive Waste Storage Facility	Gansu Dongfang Ruilong Environmental Treatment Co., Ltd.	Storage Facility	In operation

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Table 107

Facility	Licensee	Type	Current Status
Longhe Near-Surface Disposal Site (Phase I, Stage 1) Low-Level Waste Reception and Storage Building	Gansu Longhe Environmental Protection Technology Co., Ltd.	Storage Facility	In operation
Longhe Near-Surface Disposal Site (Phase I, Stage 1)	Gansu Longhe Environmental Protection Technology Co., Ltd.	Disposal Facility	In operation
Low- and Intermediate-Level Solid Radioactive Waste Conditioning Center	CNNC Sichuan Environmental Protection Engineering Co., Ltd.	Treatment Facility	In operation
Combustible Solid Radioactive Waste Incineration Station	CNNC Sichuan Environmental Protection Engineering Co., Ltd.	Treatment Facility	In operation
Combustible Solid Radioactive Waste Incineration Facility	The 404 Company Limited, China National Nuclear Corporation	Treatment Facility	In operation
Low- and Intermediate-Level Solid Radioactive Waste Transfer Station, Subitem 05	The 404 Company Limited, China National Nuclear Corporation	Storage Facility	In operation
New Radioactive Waste Repository	The 404 Company Limited, China National Nuclear Corporation	Storage Facility	In operation
418/4-12#Source Library	The 404 Company Limited, China National Nuclear Corporation	Storage Facility	In operation
Very Low-Level Solid Radioactive Waste Landfill, Phase I Project	The 404 Company Limited, China National Nuclear Corporation	Disposal Facility	In operation
710 Nuclear Power Plant Waste Metal Melting Facility	Hunan Nuclear Industry Honghua Machinery Co., Ltd.	Treatment Facility	In operation
NPIC Radioactive Waste Treatment Facility	Nuclear Power Institute of China	Treatment Facility	In operation
NPIC Solid Waste Storage Facilities	Nuclear Power Institute of China	Storage Facility	In operation
Guangdong Low- and Intermediate-Level Solid Radioactive Waste Beilong Disposal Site	Guangdong Daya Bay Nuclear Power Environmental Protection Co., Ltd.	Disposal Facility	In operation
Urban radioactive waste storage facilities s in various provinces	Competent authorities of ecology and environment in all provinces	Storage Facility	In operation

Regulatory Inspections

In 2025, the northwest disposal site received a total of 13,088 radioactive waste packages, with a total volume of $6,385.8 \text{ m}^3$, and a total waste activity of $1.44\text{E} + 13\text{Bq}$. By the end of 2025, the northwest disposal site had received an accumulative total of 95,273 radioactive waste packages, with a total volume of $44,676.9 \text{ m}^3$, and a total waste activity of $7.56\text{E} + 14\text{Bq}$.

In 2025, the Feifengshan disposal site received a total of 5,317 radioactive waste packages, with a total volume of $5,022.6 \text{ m}^3$, and a total waste activity of $6.47 \text{E} + 12\text{Bq}$. By the end of 2025, the Feifengshan disposal facility had received 124,952 radioactive waste packages in total, with a volume of $61,305.28 \text{ m}^3$, and a radioactivity of $3.72\text{E} + 15\text{Bq}$.

In 2025, no waste was received at the Beilong disposal facility. By the end of 2025, the Beilong disposal facility had received 2,240 radioactive waste packages in total, with a volume of $2,526.44 \text{ m}^3$, and a radioactivity of $7.95\text{E} + 13\text{Bq}$.

In 2025, the Longhe disposal site received a total of 3,644 radioactive waste packages, with a total volume of $1,498.9 \text{ m}^3$, and a total waste activity of $2.11 \text{E} + 14\text{Bq}$. By the end of 2025, the Longhe disposal site had received an accumulative total of 10,227 radioactive waste packages, with a total volume of $6,431.02 \text{ m}^3$, and a total waste activity of $3.56 \text{E} + 14\text{Bq}$.

In 2025, the Jinta very low-level radioactive waste landfill received 1,335 radioactive waste packages, with a volume of 534.26 m^3 , and a radioactivity of



Figure 36. Regulatory Inspection on Radioactive Source Waste Treatment Facility

$7.37\text{E} + 9\text{Bq}$. By the end of 2025, the Jinta very low-level radioactive waste landfill had received 12,214 radioactive waste packages in total, with a volume of $5,283.28 \text{ m}^3$, and a radioactivity of $1.45\text{E} + 11\text{Bq}$.

In 2025, the regional offices of nuclear and radiation safety inspection assigned 214 man-days for inspection of radioactive waste disposal facilities, including 5 routine regulatory inspections, 1 non-routine regulatory inspection and 1 special inspection. A total of 105 findings were identified and 70 rectification/regulatory requirements were raised.

In 2025, the spiral ramp at the Beishan Laboratory achieved a cumulative excavation length of 7,471.6 m, successfully completing the world's first spiral ramp tunnel constructed using the TBM method with continuous tight curves and steep gradients. The three-shaft project was fully broken through; the -280 m auxiliary test level was completed, and the -560 m main test level reached 96% excavation

completion. The underground main works of the Beishan Laboratory were broken through completely, enabling large-scale underground in-situ tests. The construction of Beishan Underground Laboratory and supporting scientific research projects advanced simultaneously. Scientific experiments entered a peak period with steady progress.

Treatment of Legacy Radioactive Waste and Decommissioning of Nuclear Facilities

NNSA further strengthened the safety regulation of legacy radioactive waste to promote the decommissioning of old nuclear facilities and the treatment and disposal of legacy radioactive waste. In 2025, a total of 18 environmental impact assessment-related documents were approved and 3 special inspections were carried out.

In 2025, the regional offices of nuclear and radiation safety inspection assigned 2,175 man-days for inspection of the legacy radioactive waste treatment and decommissioning of nuclear facilities, including 21 routine regulatory inspections and 3 non-routine regulatory inspections. A total of 260 findings were identified and 158 rectification/regulatory requirements were imposed.

IX. Safety Regulation on Radioisotopes and Radiation-emitting Devices

By the end of 2025, there were 162,400 nationwide institutions engaged in the production, sale and use of radioisotopes and radiation devices. Among them, 9,700 institutions handled radioisotopes, and 152,700 institutions solely operating radiation devices. There are 178,000 radioactive sources in service, including 17,800 Category I, 18,000 Category II, 1,800 Category III and 140,600 other sources. The number of various radiation devices stands at 354,600 sets. The repositories for radioactive waste in provinces, autonomous regions, and municipalities directly under the Central Government collected and stored a total of 49,600 disused sealed sources. Totally, 174,100 disused sealed sources were collected to the national repository for centralized storage of disused sealed sources or recycled by the manufacturers.

In 2025, 256 organizations were under direct regulation of MEE/NNSA, which involve those producing radioisotopes [excluding those for self-use to prepare radiopharmaceuticals for Positron Emission Computed Tomography (PET)], selling and using Category I radioactive sources (excluding Category I radioactive sources for medical use), selling (including construction) and using Class I radiation-emitting devices, having workplaces

with Class A unsealed radioactive materials. The radiation safety of these organizations was under control.

Supervision and Administration

Strengthen system construction. In 2025, the *List of Major Amendments to Nuclear Technology Application Construction Projects (On Trial)* was issued for the first time to standardize and guide the environmental impact assessment of relevant projects. *The national standard GB 5172-85 The Rule for Radiation Protection of Particle Accelerators* was revised and released to regulate radiation safety and protection of particle accelerators nationwide. The national ecological environmental standard *Technical Specification for Operation and Management of Radioactive Waste Repository for Nuclear Technology Application* promulgated matching the construction standard issued in 2021, standardizes the whole-process management of waste repositories covering site selection, design, construction and operation.

Carry out safety rectification in key areas. A national radiation accident experience sharing meeting was held in May 2025. Special inspections on gamma radiography and irradiation were

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conducted nationwide, covering 433 flaw detection institutions with 2,600 mobile radioactive sources and 97 irradiation facility users with 115 gamma irradiation devices.

Improve the informatization of radiation safety regulation. To give full play to the online monitoring system for high-risk mobile radioactive sources in gamma radiography supervision, the relevant platform was upgraded. Functions including data transmission and risk early warning were optimized to boost technological support and build a coordinated supervision model integrating manual and technical prevention.

Perform radiation safety and protection training and assessment. In 2025, 4,121 on-site assessments were held across 31 provinces (autonomous regions and municipalities). There were 187,252 registrants, 151,961 candidates and 108,804 passers, registering a pass rate of 71.6%. A total of 401 cases of irregular examination conducts were penalized. Independent assessments for personnel operating three categories of radiation devices were steadily advanced, with 87,394 newly recorded assessment records on the regulation platform.



Figure 37. Handling of operational faults in irradiation devices

Administrative Approvals

In 2025, NNSA issued radiation safety licenses to 21 nuclear technology application organizations. Licenses of 36 organizations were renewed, licenses of 71 organizations were re-applied, and licenses of 23 organizations were modified. The licensees of 3 organizations were partially canceled (see Table 108). In 2025, a total of 4 conditional exemption letters were replied to.

In 2025, NNSA approved 3,702 import and export applications for radioactive sources and unsealed radioactive materials (containing radiopharmaceuticals and their raw materials), including 1,455 applications for importing radioactive sources and 1,288 applications for exporting radioactive sources, with 9,795 radioactive sources imported and 4,301 exported. The gross radioactivity of imported unsealed radioactive materials was $1.62\text{E} + 16\text{Bq}$, and the gross radioactivity of exported unsealed radioactive materials was $1.52\text{E} + 12\text{Bq}$. The gross radioactivity of imported radiopharmaceuticals and their raw materials was $7.46\text{E} + 15\text{Bq}$ and that of exported radiopharmaceuticals and their raw materials was $4.62\text{E} + 12\text{Bq}$.

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Table 108. List of Radiation Safety Licenses Approved in 2025

No.	Organization	Project Category
1	Hefei Institutes of Physical Science, Chinese Academy of Sciences	Re-application
2	Ruijin Hospital, Shanghai Jiao Tong University School of Medicine	Re-application
3	Shanghai Advanced Research Institute, Chinese Academy of Sciences	Re-application
4	Zibo Wanjie Cancer Hospital	Re-application
5	China Israel Bocconi Medical Technology (Shandong) Co., Ltd.	Initial application
6	University of Science and Technology of China	Re-application and partial cancellation
7	Shanghai Atom Kexing Pharmaceuticals Co., Ltd.	Re-application and renewal
8	Guotong (Wuxi) Pharmaceutical Technology Co., Ltd.	Application and re-application
9	Zhejiang Cancer Hospital	Initial application
10	Chongqing Dongcheng AMS Pharmaceutical Co., Ltd.	Re-application and renewal
11	Hebei Yizhou Cancer Hospital Co., Ltd.	Re-application
12	Cancer Hospital of Shandong First Medical University	Re-application
13	Huazhong University of Science and Technology	Re-application and renewal
14	Dongguan Campus, Institute of High Energy Physics, Chinese Academy of Sciences	Re-application and renewal
15	Nuclear Power Institute of China	Re-application and partial cancellation
16	Harbin Institute of Technology	Re-application
17	CNNC (Xinghua) Irradiation Technology Co., Ltd.	Renewal
18	CNNC Dalian Radiation Technology Co., Ltd.	Renewal
19	Zhengzhou Hongyuan Bioengineering Co., Ltd.	Re-application
20	China Isotope & Radiation Corporation	Re-application and amendment
21	CNNC Bini (Beijing) Nuclear Technology Co., Ltd.	Renewal
22	Zhengzhou Tianhong Lvyuan Irradiation Co., Ltd.	Renewal
23	Beijing Sanqiang Nuclear Radiation Engineering Technology Co., Ltd.	Renewal
24	Shanxi Ruidesheng Technology Co., Ltd.	Renewal
25	Institute of High Energy Physics, Chinese Academy of Sciences	Re-application

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No.	Organization	Project Category
26	Institute of Nuclear physics and Chemistry, China Academy of Engineering Physics	Re-application
27	Neutron Science (Chongqing) Research Institute Co., Ltd.	Initial application
28	Sichuan Cancer Hospital	Initial application and addition
29	Chongqing Jian'an Instrument Co., Ltd.	Re-application and renewal
30	CNNC China Isotope and Radiation Corporation, Sichuan	Renewal
31	Union Hospital affiliated to Tongji Medical College of Huazhong University of Science and Technology	Renewal and re-application
32	Sichuan Zhonghe Gaotong Pharmaceutical Co., Ltd.	Re-application, renewal and amendment
33	Luohe Longxiang Radiation Technology Co., Ltd.	Renewal
34	Beijing HTA Jinhui Radiation Technology Co., Ltd.	Renewal
35	Changchun Radiation Technology Co., Ltd., CIRC	Renewal
36	China State Shipbuilding Corporation, Limited (CSSC) 719th Research Institute	Re-application
37	China Institute of Atomic Energy	Re-application
38	Nuclear and Radiation Safety Center of Liaoning Province	Re-application
39	Siemens Medical Systems Limited	Re-application
40	Comprehensive Administrative Law Enforcement Bureau of Department of Ecology and Environment of Heilongjiang Province	Re-application
41	OUR United Corporation	Renewal
42	Tianjin Andike Pharmaceutical Co., Ltd.	Initial application
43	Dalian Institute of Chemical Physics, Chinese Academy of Sciences	Re-application
44	Shanghai Tech University	Re-application
45	Tsinghua University	Re-application
46	Hitachi (China) Ltd.	Initial application
47	Chengdu Shetai Medical Technology Co., Ltd.	Initial application and amendment
48	Hefei Ion Medicine Center	Re-application
49	China-Japan Friendship Hospital	Initial application
50	Hefei Institutes of Physical Science, Chinese Academy of Sciences	Re-application

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No.	Organization	Project Category
51	Tongji Hospital affiliated to Tongji Medical College of Huazhong University of Science and Technology	Re-application
52	C-Ray Therapeutics (Chengdu) Co., Ltd.	Re-application
53	Tianjin Hengrui Pharmaceuticals Co., Ltd.	Re-application and amendment
54	Beijing Beike Radioisotope Science & Trade Co., Ltd.	Renewal and re-application
55	Jiangsu Nuclear and Radiation Safety Supervision and Management Center	Renewal
56	Shanghai Radiation Environment Safety Technology Center	Renewal
57	Zhejiang Jiaxiang Radiation Technology Co., Ltd.	Renewal
58	Xiamen Annuo Irradiation Co., Ltd.	Re-application
59	Shinva Medical Instrument Co., Ltd.	Re-application
60	Chengdu Syncor Pharmaceutical Co., Ltd.	Re-application
61	Institute of isotope research, Henan Academy of Sciences	Re-application and change
62	Kunshan Hospital of Chinese Medicine	Re-application
63	Guangdong AMS Co., Ltd.	Initial application
64	Elekta Medical Instruments (Shanghai) Co., Ltd.	Re-application
65	Beijing Hefuyuan Science & Technology Development Co., Ltd.	Re-application
66	Shanghai Institute of Measurement and Testing Technology	Re-application and amendment
67	Hefei CAS Ion Medical and Technical Devices Co., Ltd.	Re-application and renewal
68	Sichuan CNNC Tongyuan Technology Co., Ltd.	Initial application
69	People's Hospital of Wuhan Economic and Technological Development Zone (Hannan District)	Initial application
70	Beijing Normal University	Re-application
71	Shanghai JPY Ion-Tech Co., Ltd.	Renewal
72	Chongqing Hengde Irradiation Technology Co., Ltd.	Renewal
73	Soochow University	Partial cancellation, re-application, amendment
74	Yantai Lannacheng Biotech Co., Ltd.	Initial application
75	Sichuan Atom Gaotong Pharmaceutical Co., Ltd.	Renewal and amendment
76	East China University of Science and Technology	Renewal

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No.	Organization	Project Category
77	CNNC Qinshan Isotope Co., Ltd.	Re-application and amendment
78	Nuclear and Radiation Safety Center of Xinjiang Uygur Autonomous Region	Re-application
79	Nanjing University of Aeronautics and Astronautics	Re-application
80	Xuzhou HTA Pharmaceutical Co., Ltd.	Re-application
81	China Nuclear Energy Industry Corporation	Re-application
82	Institute of Modern Physics, Chinese Academy of Sciences	Re-application
83	Qingdao HTA Pharmaceutical Co., Ltd.	Initial application
84	Shandong AMS Pharmaceutical Co., Ltd.	Initial application
85	Shijiazhuang HTA Pharmaceutical Co., Ltd.	Initial application
86	China National Uranium Corporation Limited	Renewal
87	Glotope (Mianyang) Advanced Pharmaceutical Technology Ltd.	Re-application
88	National Institute of Metrology, China	Re-application
89	Zhejiang Yonghe Pharmaceutical Technology Co., Ltd.	Renewal
90	JYAMS Ltd.	Renewal
91	Radiation Environmental Supervision Station in Xizang Autonomous Region	Renewal
92	CGN Medical Technology (Mianyang) Co., Ltd.	Re-application
93	Seeds Pharmaceuticals Research Institute (Tianjin) Ltd.	Re-application and renewal
94	Chongqing Liangping Xingui Industrial Co., Ltd.	Initial application
95	Jinan HTA Pharmaceutical Co., Ltd.	Initial application
96	Lanzhou Ion Therapy Co., Ltd.	Renewal
97	Hi-tech atom (HTA) Co., Ltd.	Re-application
98	Radiation Environment Management and Monitoring Center Station in Sichuan	Renewal
99	Beijing Hongyi Sifang Radiation Technology Co., Ltd.	Renewal
100	CNNC Tongxing (Beijing) Nuclear Technology Co., Ltd.	Renewal
101	Chengdu New Radiomedicine Technology Co., Ltd.	Re-application
102	CGN Isotope Technology (Mianyang) Co., Ltd.	Initial application
103	Shanghai Xinke Pharmaceutical Co., Ltd.	Re-application

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No.	Organization	Project Category
104	Cancer Hospital Chinese Academy of Medical Sciences Shenzhen Center	Initial application
105	Chengdu Suncadia Pharmaceuticals Co., Ltd.	Initial application
106	Zhongjin Irradiation Chongqing Co., Ltd.	Amendment
107	Nuclear and Radiation Monitoring Center of Inner Mongolia Autonomous Region	Amendment
108	Chengdu Yunke Pharmaceutical Co., Ltd.	Amendment
109	Hebei Radiation Environment Safety Technology Center	Amendment
110	Xi'an ET Medical Technology Co., Ltd.	Amendment
111	Liaoning Branch of JYAMS Ltd.	Amendment
112	Shenzhen JPY Ion-Tech. Co., Ltd.	Amendment
113	Chengdu Gaotong Isotope Co., Ltd. (CNNC)	Amendment
114	Jiangsu Sinotau Molecular Imaging Technology Co., Ltd.	Amendment
115	Radiation Environment Supervision Station of Anhui Province	Amendment
116	Zhongjin Irradiation Chengdu Co., Ltd.	Amendment
117	Beijing Guoyuan New Technology Co., Ltd.	Amendment
118	Fujian Office of Radiation Environment Inspection	Amendment
119	The 18th Research Institute of China Electronics Technology Group Corporation	Amendment

Regulatory Inspections

In 2025, the regional offices of nuclear and radiation safety inspection assigned 1,749 man-days for inspection of nuclear technology application organizations, including 375 routine regulatory inspections, 50 non-routine inspections and 71 special inspections. A total of 1,206 findings were identified and 1,219 regulatory requirements were imposed.

Radiation Accidents

In 2025, 7 radiation incidents were reported, 6 of which were classified as ordinary radiation accidents and the other as major incident, by the ecology and environment departments (bureaus) of 31 provinces, autonomous regions, and municipalities directly under the Central Government, as well as the ecology and environment bureau of the Xinjiang Production and Construction Corps.

X. Nuclear Material Control and Physical Protection of Nuclear Facilities

Continuously strengthen the safety regulation for the whole process of civil nuclear materials and narrowly avoid the safety risks of civil nuclear materials. Annual reports on the accounting for civil nuclear materials from more than 50 nuclear material licensees were received. No loss or illegal transfer of civil nuclear materials has been found.

nuclear and radiation safety inspection carried out 42 inspections on nuclear material license holders, in accordance with the Nuclear Safety Law of the People's Republic of China, the Regulations of the PRC on the Control of Nuclear Materials as well as other relevant laws and regulations, which has effectively strengthened the regulatory control of nuclear materials.

Administrative Approvals

Technical reviews and on-site inspections were carried out on nuclear material license applications from eight enterprises including Xi'an Aohua Electronic Instrument Co., Ltd., CGN Cangnan Nuclear Power Co., Ltd., Huaneng Hainan Changjiang Nuclear Power Co., Ltd., Neutron Science (Chongqing) Research Institute Co., Ltd., Jiangsu Nuclear Power Co., Ltd., CNNP Suneng Nuclear Power Co., Ltd., CNNP Hainan Nuclear Power Co., Ltd., Hainan Nuclear Power Co., Ltd. and CNNP Liaoning Nuclear Power Co., Ltd., as well as CGN Research Institute Co., Ltd, and all approval procedures have been finalized.

Regulatory Inspections

In 2025, NNSA performed its duties on nuclear material control well, and its regional offices of

XI. Safety Supervision of Fusion Devices (Facilities)

By the end of 2025, licenses for 11 fusion devices covering tokamak, spherical tokamak, stellarator have been granted in China and all are in sound safety conditions.

Top-level design

We actively participate in legislation related to fusion under the *Atomic Energy Law of the People's Republic of China* and the *Ecological Environment Code of the People's Republic of China*. Legal requirements are enforced to research ecological environment and safety supervision policies tailored to fusion characteristics and the advancement of fusion energy application.

Standard Technical Documents

The directive on radiation safety management of fusion devices has been formulated. *The Notice on Matters Concerning Radiation Safety Management of Fusion Devices* was issued to implement hierarchical and categorized management based on radiation safety risks.

Research on the regulatory, legal and standard system is conducted to meet supervision demands throughout the whole lifecycle of fusion devices. Environmental impact assessment and safety analysis of fusion facilities are standardized. Draft

guidelines on environmental impact assessment for magnetic confinement fusion devices and safety analysis for deuterium-tritium fusion experimental devices have been compiled.

Administrative Approvals

In 2025, the environmental impact assessment document for the HL-3 experimental research project was approved, and the renewal of the safety license for fusion devices of ENN Science and Technology Development Co., Ltd. was granted.

XII. Safety Regulation on Transportation of Radioactive Materials

In 2025, the transportation activities of radioactive materials were safely implemented without the occurrence of any nuclear and radiation accidents or incidents in China.

Administrative Approvals

In 2025, NNSA issued 8 certificates of approval for the design of transport containers for Category I radioactive materials (including 3 amendments and renewals); issued 7 manufacturing licenses of transport containers for Category I radioactive materials (including 6 amendments and renewals); approved 9 transport containers designed and

manufactured abroad for Category I radioactive materials (including 6 amendments and renewals) for use in China; issued 6 certificates of approval for the design of special form radioactive materials; approved 32 nuclear and radiation safety analysis reports for the transportation of radioactive materials. The major administrative approvals in the field of safety regulation on radioactive material transportation in 2025 are shown in Table 109.

Table 109. Major Regulatory Approvals for the Safety Regulation on Radioactive Material Transportation in 2025

Date	Document No.	Document Title
01/07/2025	NNSA [2025] No. 1	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report for Domestic Road Transport of Radioactive Raw Materials Iodine-131 and Molybdenum-99 by Hi-tech atom (HTA) Co., Ltd.</i>
01/13/2025	NNSA [2025] No. 9	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report on Domestic Transport of the Cobalt Source of Shanghai Academy of Agricultural Sciences (GY-20 Transport Containers)</i>
01/13/2025	NNSA [2025] No. 10	<i>Notice on Issuing the Design Approval of CNGT-RS-02 Radioactive Source Transport Containers</i>
01/13/2025	NNSA [2025] No. 11	<i>Notice on Approving the Increase of Quantity of GB/2773A Transport Containers for the Use in the People's Republic of China</i>

Safety Regulation on Transportation of Radioactive Materials

Table 109

Date	Document No.	Document Title
01/17/2025	NNSA [2025] No. 12	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report on Road Transport of Annular Lead Fuel Assemblies and AFA3G Fuel Assembly of CNNC North Nuclear Fuel Co., Ltd. from Baotou to Tianwan</i>
01/17/2025	NNSA [2025] No. 15	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report on Transport of USTC Cobalt Source (FCTC10 Containers)</i>
01/17/2025	NNSA [2025] No. 16	<i>Notice on Approving the Amendment to the Activity Scope of Manufacturing License for Transport Containers for Category I Radioactive Materials by Sichuan Kexin Mechanical and Electrical Equipment Co., Ltd.</i>
02/28/2025	NNSA [2025] No. 38	<i>Notice on Approving the 2025 Nuclear and Radiation Safety Analysis Report for Multimodal Transport Project of Spent Fuel of CGNPC Uranium Resources Co., Ltd. from Yangjiang NPP and Daya Bay NPP Base to the 404 Company Limited, China National Nuclear Corporation</i>
03/17/2025	NNSA [2025] No. 47	<i>Notice on Approving the Amendment in the Contents of the Design Approval for RY-LA Transport Containers</i>
04/25/2025	NNSA [2025] No. 65	<i>Notice on Approving the "Nuclear and Radiation Safety Analysis Report on Highway Transportation of Cobalt-60 Radioactive Sources Using YKTIB-160000/4300 Type Containers" (2025-2030)</i>
05/15/2025	NNSA [2025] No. 74	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (2025-2030) for the Transport of Co-60 Radioactive Source (SY-I (A) Containers) (Version B)</i>
05/19/2025	NNSA [2025] No. 75	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (2023-2027) for the Transport of Fuel Assemblies from Yibin to Qinshan Nuclear Power Base (Version D)</i>
05/19/2025	NNSA [2025] No. 76	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report for the Domestic Road Transport of Imported Radioactive Raw Materials Iodine-131 and Molybdenum-99 (2022-2027) (Version D)</i>
06/04/2025	NNSA [2025] No. 87	<i>Notice on Approving the "Nuclear and Radiation Safety Analysis Report (Special Arrangement) for the Transport of Qinshan Cobalt-60 Rod Cluster Assemblies (GY-40 Type Container)"</i>
06/14/2025	NNSA [2025] No. 90	<i>Notice on Approving the "Nuclear and Radiation Safety Analysis Report (Version A) for Highway the Transport of Waste Cobalt-60 Radioactive Sources (ZHQY-QG-001 Type Transport Container) by NNC Qingyuan Environmental Technology Engineering Co., Ltd."</i>
06/17/2025	NNSA [2025] No. 91	<i>Notice on Approving the "Nuclear and Radiation Safety Analysis Report for the Road Transport of Cobalt-60 Disused Sealed Sources from Xiangtan (Urban Radioactive Waste Repository of Human) to Jiayuguan"</i>
06/27/2025	NNSA [2025] No. 97	<i>Notice on Issuing the Design Approval of the CNSC-24S Spent Fuel Transport Containers</i>
06/30/2025	NNSA [2025] No. 99	<i>Notice on Approving the Amendment to the Activity Scope of Manufacturing License for the Transport Containers for Category I Radioactive Materials of Xi'an Nuclear Equipment Co., Ltd.</i>

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Table 109

Date	Document No.	Document Title
07/18/2025	NNSA [2025] No. 113	<i>Notice on Approving the Renewal of Approval Letter for the Use of TK-C5-M New Fuel Transport Containers of Jiangsu Nuclear Power Co., Ltd.</i>
07/18/2025	NNSA [2025] No. 114	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report for the Highway Transport of Pressure Tubes and Components from Haiyan Zhejiang to Jiajiang Sichuan by NNC Qingyuan Environmental Technology Engineering Co., Ltd.</i>
07/18/2025	NNSA [2025] No. 115	<i>Notice on Approving the Revision of the Scope of Manufacturing License for Category I Radioactive Material Transport Containers of CNNC Lanzhou Uranium Enrichment Co., Ltd.</i>
07/21/2025	NNSA [2025] No. 117	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (2024-2029) (Version B) for the Road-Sea-Rail Intermodal Transport of Spent Fuel of CNNC Qingyuan Environmental Technology Engineering Co., Ltd. from Daya Bay to Jiayuguan</i>
07/21/2025	NNSA [2025] No. 118	<i>Notice on Approving the "Nuclear and Radiation Safety Analysis Report (Version B) for the Transportation of Cesium-137 and Strontium-90 Radioactive Sources (PO-09 Type Container) (2025-2030)"</i>
07/30/2025	NNSA [2025] No. 124	<i>Notice on Approving the Amendment of Business Scope under Manufacturing License for Transport Containers for Category I Radioactive Materials of CNNC Shanyou Hanzhong Mechanical and Electrical Equipment Manufacturing Co., Ltd.</i>
07/30/2025	NNSA [2025] No. 125	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (Version B) for the Transport of Fuel Assemblies from Yibin to San'ao NPP in Cangnan by CNNC Jianzhong Nuclear Fuel Co., Ltd.</i>
07/30/2025	NNSA [2025] No. 127	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report for the Transport of Cobalt-60 Radioactive Sources (CNGT-RS-02 Containers) of Chengdu Gaotong Isotope Co., Ltd. (CNNC)</i>
08/01/2025	NNSA [2025] No. 130	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report for the Highway Transport of Shenzhen University Mini-reactor Core (RY-LA Type Container) by NNC Qingyuan Environmental Technology Engineering Co., Ltd.</i>
08/05/2025	NNSA [2025] No. 134	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (Version D) for the Transport of Fuel Assemblies from Yibin to Taipingling NPP in Cangnan by CNNC Jianzhong Nuclear Fuel Co., Ltd.</i>
08/15/2025	NNSA [2025] No. 136	<i>Notice on Approving the Use of TK-C5-M Transport Containers of Russian State Nuclear Fuel Company within the Territory of the People's Republic of China</i>
08/26/2025	NNSA [2025] No. 143	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (Version A) for Road-Rail Combined Transportation of Fuel Assemblies (Russian-supplied) for Units 7 and 8 of Tianwan NPP from Manzhouli</i>
08/29/2025	NNSA [2025] No. 144	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report for the Transport of Low-Enriched UF₆ of CNNC Jianzhong Nuclear Fuel Co., Ltd. (Version D)</i>

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Table 109

Date	Document No.	Document Title
09/15/2025	NNSA [2025] No. 151	<i>Notice on Approving the Amendment of Business Scope under Manufacturing License for Transport Containers for Category I Radioactive Materials of CNNC Shanyou Hanzhong Mechanical and Electrical Equipment Manufacturing Co., Ltd.</i>
09/15/2025	NNSA [2025] No. 152	<i>Notice on Issuing the Design Approval Certificate for FCTC-PF20 Type Transport Container</i>
09/18/2025	NNSA [2025] No. 156	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (Version A) for the Transport of Fuel Assemblies from Yibin to Huaneng Changjiang in Cangnan by CNNC Jianzhong Nuclear Fuel Co., Ltd.</i>
09/29/2025	NNSA [2025] No. 161	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report for the Highway Transportation of Cobalt-60 Radioactive Sources (GY-20 Type Container) from Shenyang to Dalian by Dalian CNNC Radiation Technology Co., Ltd.</i>
10/01/2025	NNSA [2025] No. 162	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (Version C, 2025-2030) for the Road-Sea-Rail Combined Transportation of Fuel Assemblies from Yibin to Changjiang NPP by CNNC Jianzhong Nuclear Fuel Co., Ltd.</i>
10/01/2025	NNSA [2025] No. 164	<i>Notice on Approving the Renewal of the Validity Period of 3977A Transport Casks for the Use in the People's Republic of China</i>
11/10/2025	NNSA [2025] No. 196	<i>Notice on Approving the Increase in the Number of SUK50 Transport Containers for the Use in the People's Republic of China</i>
11/10/2025	NNSA [2025] No. 197	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report for the Transport (Version A) of Natural UF₆ by CNNC Lanzhou Uranium Enrichment Co., Ltd.</i>
11/10/2025	NNSA [2025] No. 198	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (Version A) for the Highway Transport of Low-enriched Uranium Dioxide Powder Packages (STC-UO₂C Type Container) from Yibin to Yangjiang by CGNPC Uranium Resources Co., Ltd.</i>
11/10/2025	NNSA [2025] No. 199	<i>Notice on Issuing the Design Approval of GT/CIRP-RS-01 Radioactive Source Transport Containers</i>
11/18/2025	NNSA [2025] No. 204	<i>Notice on Extending the Validity for Domestic Use of BEATRICE and JANE Transport Containers and Increasing the Domestic Usage Quantity of BEATRICE Transport Containers in the People's Republic of China</i>
11/18/2025	NNSA [2025] No. 206	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (Version A) for the Transport of Cobalt-60 Radioactive Sources (F-168/F-168-X Type Container)</i>
11/18/2025	NNSA [2025] No. 208	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (Version A) for the Transport of Cobalt-60 Radioactive Sources (R7021 Type Container)</i>
11/20/2025	NNSA [2025] No. 209	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (Version A) for the Transport of Natural Uranium Hexafluoride (XN3000) from Hanzhong to Manzhouli and Shanghai Port by CNNC Shaanxi Uranium Enrichment Co., Ltd.</i>
11/20/2025	NNSA [2025] No. 210	<i>Notice on Issuing Approval Letters for the Design of 6 Special Form Radioactive Materials of Chengdu Gaotong Isotope Co., Ltd. (CNNC)</i>

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Table 109

Date	Document No.	Document Title
11/20/2025	NNSA [2025] No. 211	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report for the Transport of Cobalt Sources (GY-20 Type Container) from Zhangjiagang to Wujiang District, Suzhou by Zhangjiagang Municipal CNNC Huakang Irradiation Co., Ltd.</i>
12/04/2025	NNSA [2025] No. 218	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (Version A) for the Transport of Fuel Assemblies of CNNC Jianzhong Nuclear Fuel Co., Ltd. from Yibin to Fuqing NPP</i>
12/13/2025	NNSA [2025] No. 221	<i>Notice on Approving the Domestic Use of F-430 Type Transport Container of Best Theratronics Ltd., Canada</i>
12/13/2025	NNSA [2025] No. 224	<i>Notice on Issuing the Manufacturing License for Transport Containers for Category I Radioactive Materials of Nuclear Power Institute of China</i>
12/13/2025	NNSA [2025] No. 225	<i>Notice on Approving the Nuclear and Radiation Safety Analysis Report (Version B) for the Full-road Transport of Fuel Assemblies from Baotou to Ordos/Ezhou by CNNC North Nuclear Fuel Co., Ltd.</i>
12/22/2025	NNSA [2025] No. 233	<i>Notice on Issuing the Design Approval for GY-20A Type Cobalt-60 Transport Container</i>
12/26/2025	NNSA [2025] No. 237	<i>Notice on Approving the Revision of the Design Approval for QJ4U320 Pellets Transport Containers of CNNC No.7 Research and Design Institute Co., Ltd.</i>
12/26/2025	NNSA [2025] No. 238	<i>Notice on Approving the Extension of the Validity Period for the Domestic Use of BEATRICE and JANE Transport Containers in the People's Republic of China</i>
12/26/2025	NNSA [2025] No. 239	<i>Notice on Issuing the Use Approval for 3979A Transport Container to Chengdu Gaotong Isotope Co., Ltd. (CNNC)</i>
12/30/2025	NNSA [2025] No. 242	<i>Notice on Approving the Amendment to the Activity Scope of Manufacturing License for Transport Containers for Category I Radioactive Materials by Shanghai Apollo Machinery Co., Ltd.</i>
12/30/2025	NNSA [2025] No. 243	<i>Notice on Approving the Extension of the Validity Period for the Design Approval of QY4U013 Uranium Compound Powder Transport Container of CNNC No.7 Research and Design Institute Co., Ltd.</i>

Regulatory Inspections

Regulatory inspection activities on transportation safety of radioactive materials in 2025 are shown in Table 110.

Safety Regulation on Transportation of Radioactive Materials

Table 110. Regulatory Inspection Activities of Radioactive Materials in 2025

Starting Date	Activity	Main Content of the Inspection
01/14/2025	Witnessing of the end-of-manufacturing test on QY740 uranium hexafluoride transport containers of CNNC Shaanxi Uranium Enrichment Hanzhong Mechanical and Electrical Equipment Manufacturing Co., Ltd.	Witness of end-of-manufacturing test (mechanical performance test, volumetric test, pressure test, leak test, vacuum test, upper shell load test, container load test)
01/17/2025	Inspection on the pre-conditions for manufacturing of the simulated samples of FCTC-SNF02 spent fuel single-rod transport containers of China Institute of Atomic Energy	Inspection on pre-conditions (Point H)
01/20/2025	Final inspection on the manufacturing of prototypes for GT/CIRP-RS-01 radioactive source transport containers of Chengdu Gaotong Isotope Co., Ltd. (CNNC)	Lead filling process, thermal conductivity test, shielding test; assembly process, and load test
01/20/2025	Inspection on the pre-conditions for fabrication of the prototypes for an application for amendment to Category I radioactive materials (adding FCTC-PF20 fresh fuel transport containers) of CNNC Shaanxi Uranium Enrichment Hanzhong Mechanical and Electrical Equipment Manufacturing Co., Ltd.	Inspection on pre-conditions (Point H)
02/24/2025	Witnessing of the design verification test on three types of transport containers for Category II radioactive materials of Chengdu Gaotong Isotope Co., Ltd. (CNNC)	Design verification witness (shielding test II, mechanical test)
02/27/2025	Witnessing of the end-of-manufacturing test on the prototypes for the application for amendment to Category I radioactive materials (adding FCTC-PF20 fresh fuel transport containers) of CNNC Shaanxi Uranium Enrichment Hanzhong Mechanical and Electrical Equipment Manufacturing Co., Ltd.	End-of-manufacturing test (load test, air tightness test, assembly test)
03/05/2025	Witnessing of the lead filling of the cylinder body of FCTC-SNF02 spent fuel single-rod transport containers of China Institute of Atomic Energy	Witnessing of lead filling process
03/28/2025	Regulatory inspection on the design of radioactive material transport containers of CNNC China Nuclear Power Engineering Co., Ltd.	Operation of the quality assurance system for the design of radioactive material transport containers, implementation of design verification, staffing, design equipment (including software and hardware), control and management of design documents and safety evaluation process
04/23/2025	Witnessing of the thermal conductivity test and shielding test on the prototypes of FCTC-SNF02 spent fuel single-rod transport containers of China Institute of Atomic Energy	Manufacturing verification test (thermal conductivity test and shielding test)
05/07/2025	Witnessing of the End-of-Manufacturing Test and Comprehensive Inspection on Prototypes of Category I Transport Containers (YJ-3) – China Institute of Atomic Energy	End-of-manufacturing test (lug load test on box cover, box lug, and box body) On-site comprehensive inspection of container-related documents, personnel qualifications, manufacturing site, etc.

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Table 110

Starting Date	Activity	Main Content of the Inspection
05/15/2025	Completion inspection on the manufacturing of prototypes for FCTC-SNF02 spent fuel single-rod transport containers of China Institute of Atomic Energy	Inspection on pre-conditions (Point H), welding and non-destructive testing of prototype container, lead filling process, thermal conductivity and shielding test
05/27/2025	On-site witness of the licensing test on the design of FCTC-SNF02 spent fuel single-rod transport containers of China Institute of Atomic Energy	Design verification test (free drop test, free drop test I, free drop test II, heat resistance test)
09/29/2025	Inspection on the pre-conditions for fabrication of the prototypes for the application for amendment to the manufacturing license for Category I radioactive material transport containers (adding ANT-12A fresh fuel transport containers) of Sichuan Kexin Mechanical and Electrical Equipment Co., Ltd.	Inspection on pre-conditions (Point H)
10/30/2025	Inspection on the pre-conditions for fabrication of the prototypes for the application for amendment to Category I radioactive material transport containers (adding ANT-7A fresh fuel transport containers) of Sichuan Kexin Mechanical and Electrical Equipment Co., Ltd.	Inspection on pre-conditions (Point H)
11/30/2025	Witnessing of the fabrication of shock absorbers of the prototypes for FCTC-SNF02 spent fuel single-rod transport containers of China Institute of Atomic Energy	Splicing and welding of annular plate I of the prototype shock absorber, penetration testing of welds

Note: Inspections organized by the Regional Offices of Nuclear and Radiation Safety Inspection, NNSA, are not included.

XIII. Regulation on Civil Nuclear Safety Equipment

Administrative Approvals

In 2025, NNSA received and reviewed 116 applications for civil nuclear safety equipment licenses, and approved 173 applications, including 5 new applications for licenses (see Table 111), 35 applications for renewal (see Table 112), and 133 applications for amendment (see Table 113). As of the end of 2025, a total of 230 organizations have been licensed for the design, manufacture, installation and non-destructive testing (NDT) of civil nuclear safety equipment.

Twenty-seven applications for registration of import of civil nuclear safety equipment were received and reviewed, 28 applications were approved (see Table 114), and the information on 14 confirmations of registration was amended (see Table 113). As of the end of 2025, the total number of overseas organizations holding confirmations of registration for design, manufacture, and/or NDT of civil nuclear safety equipment was 157.

Table 111. Issuance of New Licenses for Civil Nuclear Safety Equipment in 2025

Date	Document No.	Document Title
02/08/2025	NNSA [2025] No. 28	<i>Notice on Issuing the Manufacturing License for Civil Nuclear Safety Equipment to Hebei Hengtong Pipe Fittings Group Co., Ltd.</i>
02/10/2025	NNSA [2025] No. 34	<i>Notice on Issuing the Design and Manufacturing License for Civil Nuclear Safety Equipment to Yantai Goldentide Unikodi Battery Co., Ltd.</i>
11/04/2025	NNSA [2025] No. 185	<i>Notice on Issuing the Manufacturing License for Civil Nuclear Safety Equipment to Jiangxi Baoshun Chang Superalloy Co., Ltd.</i>
11/04/2025	NNSA [2025] No. 186	<i>Notice on Issuing the Manufacturing License for Civil Nuclear Safety Equipment to Beijing Tsingneng Chuangxin Science and Technology Co., Ltd.</i>
11/04/2025	NNSA [2025] No. 188	<i>Notice on Issuing the Design and Manufacturing License for Civil Nuclear Safety Equipment to Xi'an Guanghe Valve Technology Co., Ltd.</i>

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Table 112. Approvals of License Renewal for Civil Nuclear Safety Equipment in 2025

Date	Document No.	Document Title
03/31/2025	NNSA [2025] No. 51	<i>Notice on Approving the Renewal of Licenses for Civil Nuclear Safety Equipment of 10 Organizations Including Jiangsu Yinhuan Precision Steel Tube Co., Ltd.</i>
05/28/2025	NNSA [2025] No. 82	<i>Notice on Approving the Renewal of Licenses for Civil Nuclear Safety Equipment of 2 Organizations Including Beijing Cisri-Gaona Materials & Technology Co., Ltd.</i>
09/18/2025	NNSA [2025] No. 157	<i>Notice on Approving the Renewal of Licenses for Civil Nuclear Safety Equipment of 5 Organizations Including Nuclear Industry Engineering Research and Design Co., Ltd.</i>
09/29/2025	NNSA [2025] No. 159	<i>Notice on Approving the Renewal of Licenses for Civil Nuclear Safety Equipment of 6 Organizations Including Jiangsu Huakan Nuclear Power Equipment Technology Co., Ltd.</i>
09/29/2025	NNSA [2025] No. 160	<i>Notice on Approving the Renewal of Licenses for Civil Nuclear Safety Equipment of 6 Organizations Including Dongfang Electric (Guangzhou) Heavy Machinery Co., Ltd.</i>
12/18/2025	NNSA [2025] No. 227	<i>Notice on Approving the Renewal of Licenses for Civil Nuclear Safety Equipment of 6 Organizations Including Zhejiang Shuangyang Fans Holding Co., Ltd.</i>

Table 113. Amendments to Civil Nuclear Safety Equipment Licenses and Amendments to the Information on the Confirmations of Registration of Overseas Organizations in 2025

Date	Document No.	Document Title
01/08/2025	NNSA [2025] No. 2	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of HE Harbin Power Plant Valve Co., Ltd.</i>
01/08/2025	NNSA [2025] No. 4	<i>Notice on Approving the Amendments to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Shanghai Electric-KSB Nuclear Pumps and Valves Co., Ltd.</i>
01/17/2025	NNSA [2025] No. 14	<i>Notice on Approving the Amendment to the Activity Scope of Manufacturing License for Civil Nuclear Safety Equipment of Wuxi Paike New Materials Technology Co., Ltd.</i>
02/10/2025	NNSA [2025] No. 33	<i>Notice on Approving the Amendments to the Activity Scopes of Design and Manufacturing Licenses for Civil Nuclear Safety Equipment of 14 Organizations Including Jiangsu Shangshang Cable Group Co., Ltd.</i>
04/17/2025	NNSA [2025] No. 58	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Shaanxi Weifeng Instrument Inc.</i>

Regulation on Civil Nuclear Safety Equipment

Table 113

Date	Document No.	Document Title
04/17/2025	NNSA [2025] No. 59	<i>Notice on Approving the Amendment to the Activity Scope of Manufacturing License for Civil Nuclear Safety Equipment of Zhejiang Zhongda Advanced Material Co., Ltd.</i>
04/17/2025	NNSA [2025] No. 60	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Yangzhou Electric Power Equipment Manufacture Factory Co., Ltd.</i>
04/22/2025	NNSA [2025] No. 64	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of SBW Nuclear Pump Corporation</i>
05/01/2025	NNSA [2025] No. 67	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Dalian Dagao Valve Co., Ltd.</i>
07/04/2025	NNSA [2025] No. 103	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Zhejiang Sanfang Control Valve Co., Ltd.</i>
07/07/2025	NNSA [2025] No. 107	<i>Notice on Approving the Amendment to the Activity Scope of Manufacturing License for Civil Nuclear Safety Equipment of Inner Mongolia Northern Heavy Industries Group Corp., Ltd.</i>
07/07/2025	NNSA [2025] No. 108	<i>Notice on Approving the Amendment to the Activity Scope of Manufacturing License for Civil Nuclear Safety Equipment of Shanghai Nagamori Machinery Co., Ltd.</i>
07/18/2025	NNSA [2025] No. 111	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Shijiazhuang No.1 Valve Company Ltd.</i>
07/21/2025	NNSA [2025] No. 116	<i>Notice on Approving the Amendment to the Activity Scope of Manufacturing License for Civil Nuclear Safety Equipment of Hebei Hongrun Nuclear Equipment Science and Technology Co., Ltd.</i>
10/16/2025	NNSA [2025] No. 168	<i>Notice on Approving the Amendment to the Activity Scope of Manufacturing License for Civil Nuclear Safety Equipment of Jiangsu Yinhuan Precision Steel Tube Co., Ltd.</i>
10/16/2025	NNSA [2025] No. 169	<i>Notice on Approving the Amendment to the Activity Scope of Manufacturing License for Civil Nuclear Safety Equipment of Dongfang Electric Corporation/Dongfang Turbine Co., Ltd.</i>
10/18/2025	NNSA [2025] No. 172	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Jiangsu Shentong Nuclear Energy Equipment Co., Ltd.</i>
10/18/2025	NNSA [2025] No. 174	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Jiangsu Cowin Valve Co., Ltd.</i>

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Table 113

Date	Document No.	Document Title
10/18/2025	NNSA [2025] No. 175	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Anshan Electromagnetic Valve Co., Ltd.</i>
10/18/2025	NNSA [2025] No. 176	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Atomhorizon Electric (Jinan) Co., Ltd.</i>
10/18/2025	NNSA [2025] No. 177	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of TBEA Shenyang Transformer Group Co., Ltd.</i>
10/18/2025	NNSA [2025] No. 178	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Zibo Torch Energy Co., Ltd.</i>
11/01/2025	NNSA [2025] No. 182	<i>Notice on Approving the Amendment to the Activity Scope of Manufacturing License for Civil Nuclear Safety Equipment of Wuxi Flange Forging Co., Ltd.</i>
11/04/2025	NNSA [2025] No. 187	<i>Notice on Approving the Amendment to the Activity Scope of Design License for Civil Nuclear Safety Equipment of Institute of Nuclear and New Energy Technology, Tsinghua University</i>
12/18/2025	NNSA [2025] No. 230	<i>Notice on Approving the Amendments to the Activity Scopes of Manufacturing Licenses for Civil Nuclear Safety Equipment of 20 Organizations Including China First Heavy Industries Co., Ltd.</i>
01/08/2025	NNSA Letter [2025] No. 1	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 6 Organizations Including Nuclear Power Institute of China and that in Confirmations of Registration of 2 Overseas Organizations Including SALZGITTER MANNESMANN STAINLESS TUBES ITALIA S.R.L.</i>
01/17/2025	NNSA Letter [2025] No. 6	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 4 Organizations Including Shanghai Nuclear Engineering Research & Design Institute Co., Ltd. and that in Confirmations of Registration of Polesye (a Russian Limited Liability Company)</i>
01/17/2025	NNSA Letter [2025] No. 7	<i>Notice on Approving the of Information in Licenses for Civil Nuclear Safety Equipment of 3 Organizations Including Chuan Kai Electric Co., Ltd.</i>
02/11/2025	NNSA Letter [2025] No. 16	<i>Notice on Approving the Amendment to the Activity Scope of Design and Manufacturing License for Civil Nuclear Safety Equipment of Jiamusi Electric Machine Company Limited</i>
02/28/2025	NNSA Letter [2025] No. 19	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 7 Organizations Including China Techenergy Co., Ltd., and that in Confirmation of Registration of Nippon Gear Co., Ltd.</i>

Regulation on Civil Nuclear Safety Equipment

Table 113

Date	Document No.	Document Title
03/17/2025	NNSA Letter [2025] No. 28	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 3 Organizations Including Nuclear Power Institute of China</i>
04/07/2025	NNSA Letter [2025] No. 32	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 5 Organizations Including Beijing Cisri-Gaona Materials & Technology Co., Ltd.</i>
05/01/2025	NNSA Letter [2025] No. 40	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 4 Organizations Including Chongqing Chuanyi Automation Co., Ltd. and that in Confirmations of Registration of 2 Overseas Organizations Including Trillium Flow Technologies France SAS</i>
05/22/2025	NNSA Letter [2025] No. 47	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 6 Organizations Including Yuan Cheng Cable Co., Ltd.</i>
06/27/2025	NNSA Letter [2025] No. 59	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 9 Organizations Including Sunten Electric Equipment Co., Ltd. and that in Confirmations of Registration of 2 Overseas Organizations Including VELAN S.A.S.</i>
07/21/2025	NNSA Letter [2025] No. 64	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 8 Organizations Including Harbin Electric Power Equipment Co., Ltd. and that in Confirmation of Registration of Sempell GmbH</i>
10/01/2025	NNSA Letter [2025] No. 93	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 11 Organizations Including Dalian Shipbuilding Industry Co., Ltd. and that in Confirmations of Registration of 3 Overseas Organizations Including Central Design Bureau of Machine Building (a Russian Joint Stock Company)</i>
11/18/2025	NNSA Letter [2025] No. 106	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 3 Organizations Including Zhejiang Zhongda Advanced Material Co., Ltd. and that in Confirmations of Registration of Chelyabinsk Pipe Plant (a Russian PJSC)</i>
12/13/2025	NNSA Letter [2025] No. 114	<i>Notice on Approving the Amendment of Information in Licenses for Civil Nuclear Safety Equipment of 6 Organizations Including Jiamusi Electric Machine Company Limited, and that in Confirmation of Registration of FRAMATOME SAS</i>

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Table 114. Issuance of Confirmations of Registration for Civil Nuclear Safety Equipment Activities to Overseas Enterprises in 2025

Date	Document No.	Document Title
02/28/2025	NNSA [2025] No. 36	<i>Notice on Issuing Confirmations of Registration for Overseas Organizations Undertaking Civil Nuclear Safety Equipment Activities to JSC Zavod Znarnya tTruda</i>
03/28/2025	NNSA [2025] No. 50	<i>Notice on Issuing Confirmations of Registration for Overseas Organizations Undertaking Civil Nuclear Safety Equipment Activities to 5 Organizations Including Armaturenfabrik Franz Schneider GmbH + Co.KG</i>
04/25/2025	NNSA [2025] No. 66	<i>Notice on Issuing Confirmations of Registration for Overseas Organizations Undertaking Civil Nuclear Safety Equipment Activities to 2 Organizations Including Vanatome</i>
05/28/2025	NNSA [2025] No. 83	<i>Notice on Issuing Confirmations of Registration for Overseas Organizations Undertaking Civil Nuclear Safety Equipment Activities to 5 Organizations Including Nu-Tech Precision Metals Inc.</i>
07/04/2025	NNSA [2025] No. 104	<i>Notice on Issuing Confirmations of Registration for Overseas Organizations Undertaking Civil Nuclear Safety Equipment Activities to 2 Organizations Including Curtiss-Wright Electro-Mechanical Corporation</i>
10/16/2025	NNSA [2025] No. 170	<i>Notice on Issuing Confirmations of Registration for Overseas Organizations Undertaking Civil Nuclear Safety Equipment Activities to 10 Organizations Including Manoir France SAS</i>
11/18/2025	NNSA [2025] No. 207	<i>Notice on Issuing Confirmations of Registration for Overseas Organizations Undertaking Civil Nuclear Safety Equipment Activities to 2 Organizations Including Pervouralsk Pipe Plant (a Russian JSC)</i>
12/18/2025	NNSA [2025] No. 231	<i>Notice on Issuing Confirmations of Registration for Overseas Organizations Undertaking Civil Nuclear Safety Equipment Activities to NWI Precision Tube ULC</i>

Regulatory Inspections

According to the regulatory inspection program and work plan, the Northern Regional Office of Nuclear and Radiation Safety Inspection carried out 46 comprehensive inspections (see Table 115) and 7 special inspections (see Table 116) on domestic organizations, identifying a total of 1,073 findings and putting forward 275 requirements for rectification; and 2 nuclear safety inspections (see

Table 117) on overseas organizations, identifying 9 findings and putting forward 10 requirements for rectification. The office assigned 2,678 man-days for regulation. It put forward in time rectification requirements for findings found in regulatory inspection, and organized experts to review and conduct special inspections on significant nonconformities affecting nuclear safety. In 2025,

Regulation on Civil Nuclear Safety Equipment

the quality of design, manufacture, installation, and non-destructive testing activities of civil nuclear safety equipment is largely under control.

In 2025, the administrative penalties imposed on domestic organizations of civil nuclear safety equipment are shown in Table 118.

Table 115. Comprehensive Inspections on Domestic Organizations of Civil Nuclear Safety Equipment in 2025

Starting Date	Inspected Organization
01/14/2025	Jiangsu Cowin Valve Co., Ltd.
02/18/2025	Wuzhong Instrument Co., Ltd.
02/25/2025	Shandong Hualing Cable Co., Ltd.
02/28/2025	CGN Inspection Technology Co., Ltd.
03/10/2025	Shanghai Rocksensor Automation Co., Ltd.
03/11/2025	Jiangsu Xinghe Valve Co., Ltd.
03/11/2025	ABB Xiamen Switchgear Co., Ltd.
03/24/2025	Baoding Tianwei Baobian Electric Co., Ltd.
03/25/2025	Siping Juyuan Hanyang Plate Heat Exchanger Co., Ltd.
04/01/2025	Zhejiang Shuangyang Fans Holding Co., Ltd.
04/08/2025	Shanghai Electric Power Generation Equipment Co., Ltd.
04/14/2025	CITIC Heavy Industries Co., Ltd.
04/21/2025	Kehua Data Co., Ltd.
04/26/2025	Dongfang Electric Co., Ltd.
05/07/2025	Ansteel Heavy Machinery Co., Ltd.
05/12/2025	Suzhou East Instrument Electric Technology Co., Ltd.
05/20/2025	Shanghai No.1 Machine Tool Works Co., Ltd.
05/26/2025	Nuclear Power Institute of China
05/27/2025	Weihai Creditfan Ventilator Co., Ltd.
06/04/2025	Baowu Special Steel Co., Ltd.
06/04/2025	Zhejiang Jindun Fans Holding Co., Ltd.

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Table 115

Starting Date	Inspected Organization
06/09/2025	Jiangsu Huaguan Electric Appliance Group Co., Ltd.
06/10/2025	Shanghai Xingshen Instrument Co., Ltd.
06/23/2025	State Nuclear Power Automation System Engineering Company Ltd.
06/24/2025	Baoyin Special Materials Technology Co., Ltd.
06/24/2025	Shanghai Lianggong Valve Factory Co., Ltd.
06/24/2025	Schneider Electric (Xiamen) Switchgear Co., Ltd.
07/07/2025	Jiamusi Electric Machine Company Limited
07/15/2025	Wuxi Paikexin New Materials Technology Co., Ltd.
07/28/2025	Pangang Group Chengdu Steel & Vanadium Co., Ltd.
07/28/2025	Socomec Energy Systems (Xiamen) Co., Ltd.
07/29/2025	Shangwu Valve Co., Ltd.
08/05/2025	CSSC Bohai Shipbuilding Co., Ltd.
08/18/2025	HERMETIC-Pumps Dalian Co., Ltd.
09/09/2025	Shanghai Automation Instrumentation Co., Ltd.
09/10/2025	Yuan Cheng Cable Co., Ltd.
09/16/2025	China First Heavy Industries Co., Ltd.
09/16/2025	China Nuclear Control System Engineering Co., Ltd.
09/22/2025	Baosheng Science & Technology Innovation Co., Ltd.
10/14/2025	Dongfang Electric (Guangzhou) Heavy Machinery Co., Ltd.
10/20/2025	China Energy Engineering Group Zhejiang Thermal Power Construction Co., Ltd.
10/20/2025	Neway Valve (Suzhou) Co., Ltd.
10/20/2025	Changzhou Tianli Intelligent Control Co., Ltd.
10/28/2025	Dongfang Boiler Group Co., Ltd.
11/03/2025	Jiangsu Suzhong Switch Factory Co., Ltd.
11/11/2025	Yangzhou Huayu Pipe Fitting Co., Ltd.

Regulation on Civil Nuclear Safety Equipment

Table 116. Special Inspections on Domestic Organizations of Civil Nuclear Safety Equipment in 2025

Starting Date	Inspected Organization
04/21/2025	Zhejiang Jiuli Hi-Tech Metals Co., Ltd.
04/21/2025	Shanghai Nuclear Engineering Research & Design Institute Co., Ltd.
05/26/2025	Nuclear Power Institute of China
06/23/2025	State Nuclear Power Automation System Engineering Company Ltd.
08/12/2025	Shanghai Regeon Electric Co., Ltd.
09/16/2025	China Nuclear Control System Engineering Co., Ltd.
12/17/2025	Kehua Data Co., Ltd.

Table 117. Regulatory Inspections on Overseas Organizations for Registration of Domestic Civil Nuclear Safety Equipment in 2025

Starting Date	Inspected Organization
07/07/2025	OKB Gidropress JSC of Russia
07/28/2025	Mirion Technologies (MGPI H&B) GmbH of Germany

Table 118. Administrative Penalties Imposed on Domestic Organizations of Civil Nuclear Safety Equipment in 2025

Date	Document No.	Document Title
07/25/2025	MEE Decree [2025] No. 52	<i>Decision of Administrative Penalty on Nuclear Safety (Case of Shandong Nuclear Power Equipment Manufacturing Co., Ltd. for Failing to Implement the Quality Assurance System)</i>
12/08/2025	MEE Decree [2025] No. 102	<i>Decision of Administrative Penalty on Nuclear Safety (Case of Xi'an Nuclear Equipment Co., Ltd. for Failing to Implement the Quality Assurance System)</i>

<https://www.mee.gov.cn/ywdt/bgt/xzcf/>

Safety Inspection of Imported Equipment

NNSA conducted safety inspections of imported civil nuclear safety equipment in accordance with national laws, and further standardized and optimized the safety inspection process. Applicants submitted 662 batches of safety inspection application documents (for customs and unboxing inspection) (including 287 for mechanical equipment, 258 for electrical equipment, and 117 for combined mechanical and electrical equipment), among which, 698 were released, 4 were rejected, and 132 were unboxed for witnessing.



Figure 38. On-site Regulatory Inspection on Civil Nuclear Safety Equipment

XIV. Regulation on Electromagnetic Radiation Environment

Administrative Approvals

In 2025, MEE/NNSA approved the EIA documents of 8 electromagnetic radiation construction projects, including the Gansu–Zhejiang ± 800 kV UHV DC transmission project (see Table 119).

Table 119. Regulatory Approvals for EIA of Electromagnetic Radiation Construction Projects in 2025

Date	Document No.	Document Title
02/28/2025	MEE App [2025] No. 26	<i>Approval of the Environmental Impact Report From for the Gansu–Zhejiang ± 800 kV UHV DC Transmission Project</i>
03/05/2025	MEE App [2025] No. 31	<i>Approval of the Environmental Impact Report for the Baiyin–Tiandu Mountain Third Circuit 750 kV Transmission Line Project</i>
03/05/2025	MEE App [2025] No. 32	<i>Approval of the Environmental Impact Report for the Ruqiang–Linyang (Huatugou East) 750 kV Power Transmission and Transformation Project</i>
04/23/2025	MEE App [2025] No. 43	<i>Approval of the Environmental Impact Report for the Satellite Telemetry, Tracking and Control and Data Transmission Integrated Ground Station Construction Project</i>
10/01/2025	MEE App [2025] No. 92	<i>Approval of the Environmental Impact Report for the Jinshang (Xizang Side)–Hubei UHV DC Transmission Sending End 500 kV Access and Supporting Power Supply Outlet Project</i>
10/01/2025	MEE App [2025] No. 94	<i>Approval of the Environmental Impact Report for the Jinshang (Xizang Side)–Hubei UHV DC Transmission Sending End 500 kV Access and Supporting Power Supply Outlet Project (Karmai Converter Station–Batang Circuit III 500 kV Power Transmission Line Project)</i>
11/11/2025	MEE App [2025] No. 104	<i>Approval of the Environmental Impact Report for the Xiheyang–Fangshan 500 kV Power Transmission Line Project</i>
11/11/2025	MEE App [2025] No. 105	<i>Approval of the Environmental Impact Report Form for the Disaster Chain Field Observation System Precipitation Measurement Radar Station Project under the China Seismic</i>

Pilot Program

NNSA organized pilot programs for the electromagnetic radiation emission licensing system in 5 provinces—Hebei, Liaoning, Zhejiang, Guangdong, and Shaanxi. The types of facilities covered various electromagnetic radiation facilities including power transmission and transformation projects, radio and television, radar, satellite up-link earth stations, and industrial, scientific and medical facilities. The types of licenses covered industry-specific licensing, general process licensing, and element licensing. The implementation pathways for integrating electromagnetic radiation into emission licensing management were comprehensively validated, laying a solid practical foundation for legislation on the prevention and control of electromagnetic radiation pollution.

NNSA established an investigating group and conducted special investigations on the electromagnetic radiation impact of low-altitude economy facilities in 5 provinces and cities, including Shanghai, Zhejiang, Anhui, Guangdong, and Sichuan. Through means such as symposiums, field visits, on-site monitoring, and literature collection, the group gained an in-depth understanding of the development status and environmental impact of various types of electromagnetic radiation facilities in the low-altitude economy, and proposed corresponding policy measures and recommendations.



Figure 39. Project Site Survey

Development/Revision of Rules and Standards

NNSA issued the *List of Major Amendments in Radio and Television, Radar, and Satellite Up-link Earth Station Construction Projects (On Trial)*, clarifying the criteria for determining major amendments in such construction projects.

Regulatory Inspections

NNSA strengthened the regulation of power transmission and transformation construction projects during and after the construction period, and organized State Grid Corporation of China and China Southern Power Grid to complete self-inspection and verification for ecological and environmental protection during the construction period of 405 power transmission and transformation projects involving ecologically sensitive areas, and promoted problem rectification as required.

XV. Radiation Environmental Monitoring

By the end of 2025, a total of 1,835 state-controlled radiation environmental quality monitoring sites have been built, including 500 automatic radiation environmental monitoring stations, 328 terrestrial gamma radiation monitoring sites, 526 water monitoring sites, 34 marine organisms monitoring sites, 362 soil monitoring sites, and 85 electromagnetic radiation monitoring sites.

Monitoring of Ionizing Radiation Environment

In 2025, the nationwide environmental ionizing radiation level was within the range of background fluctuations. The dose rates of γ -radiation were within the range of local natural background fluctuation. The activity concentrations of naturally occurring radionuclides such as Pb-210, Po-210, and Ra-228 in aerosols were at the background level. No abnormalities were detected in the activity concentrations of artificial radionuclides such as Sr-90, Cs-134, and Cs-137. The daily deposition amounts of naturally occurring radionuclides such as Pb-210 and Ra-228 in fallout were at the background level. No abnormalities were detected in the daily deposition amounts of artificial radionuclides such as Sr-90, Cs-134, and Cs-137. No abnormalities were detected in the activity concentration of tritium in air moisture and precipitation. No abnormalities were detected in the activity concentrations of artificial radionuclide

iodine-131 in the air.

In the seven major river basins including the Yangtze River, the Yellow River, the Pearl River, the Songhua River, the Huaihe River, the Haihe River, and the Liaohe River, the rivers in the Zhejiang-Fujian basin, the northwestern rivers, the southwestern rivers, and the key lakes (reservoirs), the concentrations of naturally occurring radionuclides uranium and thorium, and the activity concentration of Ra-226 were at the background level, and no abnormalities were detected in the activity concentrations of artificial radionuclides Sr-90 and Cs-137. In groundwater, the concentrations of naturally occurring radionuclides uranium and thorium, and the activity concentrations of Pb-210, Po-210, and Ra-226 were at the background level. The activity concentrations of gross α and gross β met those specified for Category III in Standard for Groundwater Quality (GB/T 14848-2017). The activity concentrations of gross α and gross β in urban centralized drinking water source were at the background level. No abnormalities were detected in the activity concentrations of tritium, C-14, Sr-90, Cs-134, Cs-137, etc. in the seawater under the jurisdiction. Also, no abnormalities were detected in the activity concentrations of Sr-90, Cs-134, Cs-137, etc. in the sediments under the jurisdiction. No abnormalities were detected in the activity concentrations of

tritium, C-14, Sr-90, Cs-134 and Cs-137 in marine organisms in the nearshore sea area. The activity concentrations of artificial radionuclides such as Sr-90 and Cs-137 in seawater were far lower than the limits specified in the *Sea Water Quality Standard (GB 3097-1997)*.

The activity concentrations of naturally occurring radionuclides such as U-238, thorium-232 and Ra-226 in soil were at the background level. No abnormalities were detected in the activity concentration of artificial radionuclides Sr-90 and Cs-137.

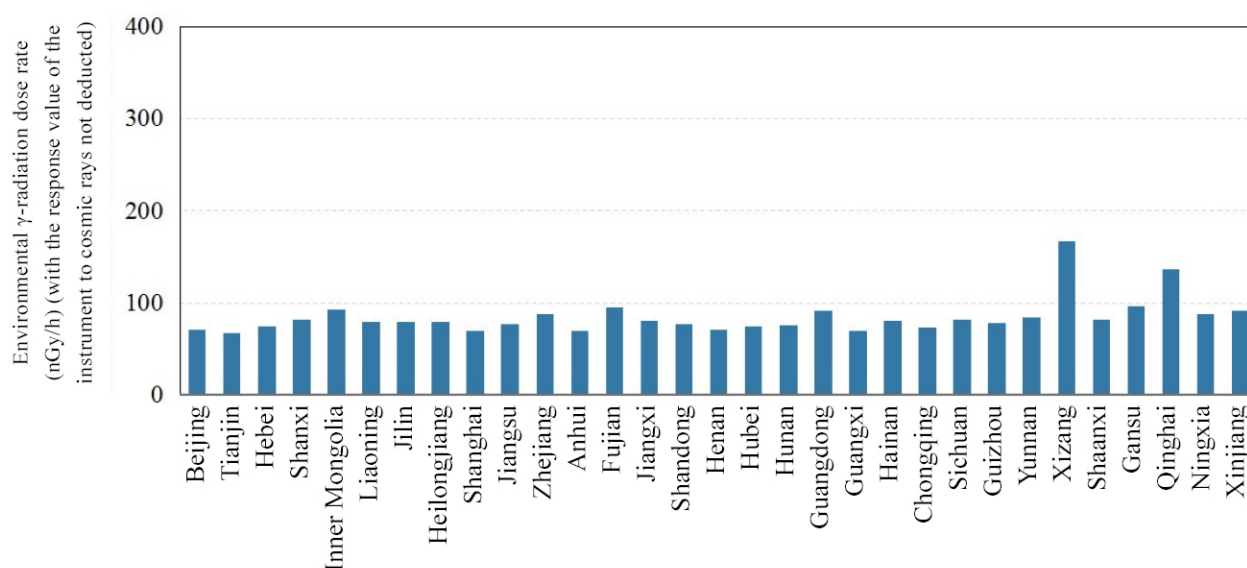


Figure 40. Annual Average Dose Rate of Environmental γ -Radiation Measured by Automatic Radiation Environment Monitoring Stations in 31 Provinces in 2025*

Ionizing Radiation Environmental Monitoring around Nuclear Facilities

In 2025, around operating nuclear power bases, civil research reactors, nuclear fuel cycle facilities and radioactive waste disposal facilities, the dose rates of γ -radiation as well as, the activity concentrations of radionuclides related to activities of such facilities in air, water, soil, organisms and other environmental media were generally

within the fluctuation range over the years. The assessment results indicated that the radiation doses exposure to the public caused by the operation of the above-mentioned nuclear facilities were far lower than the national limits, without any impact on environmental safety and public health.

* (The background range of the national environmental γ -radiation dose rate (the response value of the instrument to cosmic rays was not deducted) was 39.3 ~ 403.5 nGy/h, which was from Environment Natural Radioactivity Levels in China.)

Ionizing Radiation Environmental Monitoring around Uranium Mining and Milling Facilities

In 2025, around uranium mining and milling facilities, the dose rates of γ -radiation were generally within the fluctuation range over the years, so were the activity concentrations of radionuclides related to activities of such facilities in air, water, soil and organisms.

Electromagnetic Radiation

In 2025, the environmental electromagnetic radiation levels at the state control points for electromagnetic radiation environment monitoring in 31 provinces (autonomous regions and municipalities), and the electromagnetic radiation levels at the electromagnetic radiation sensitive targets around the monitored broadcast and television transmitting facilities, power transmission and transformation facilities, and mobile communication bases all complied with the Controlling Limits for Electromagnetic Environment (GB 8702-2014).

Management Enhancement and Capacity Building

NNSA organized provinces to efficiently operate and manage the national radiation environment monitoring network. Throughout the year, the acquisition rate of real-time monitoring data from automatic radiation monitoring stations remained stable at 99.25% on average. It organized six experience feedback and technical exchange sessions for the radiation monitoring skills competition of the 3rd National Ecological and

Environmental Monitoring Skills Competition of Technical Professionals, to further enhance the radiation environment monitoring skills nationwide. Four training courses, including the Seminar on Digital and Intelligent Transformation of Radiation Monitoring, were successfully held to promote the application of digital and intelligent technologies in the field of radiation monitoring. NNSA organized assistance in improving quality management systems for 29 radiation monitoring institutions within the ecological and environmental system and strengthened the quality management of radiation monitoring.

NNSA completed adjustments to monitoring sites in the state-controlled network in provinces such as Jiangsu, Hunan and Hubei. The Management Requirements for Radioactive Supervisory Monitoring of Effluents from Nuclear Power Plants was issued and implemented. NNSA approved the siting reports for the supervisory monitoring systems of Lufeng NPP and Lianjiang NPP Phase I Project, as well as the construction plans for the supervisory monitoring systems of NPPs such as Zhejiang Jinqimen. Pre-acceptance of the supervisory monitoring systems for Zhejiang San'ao NPP, Taipingling NPP, and Liaoning Xudapu NPP was completed, and overall acceptance of the reconstruction project for the supervisory monitoring system frontier station of Liaoning Hongyanhe NPP was well organized.

XVI. Management of Nuclear and Radiation Emergency

In 2025, NNSA reviewed and re-examined the on-site emergency plans for civil nuclear facilities in accordance with laws and regulations. It also conducted regulatory inspection and evaluation on the daily emergency preparedness as well as comprehensive on-site emergency exercises for nuclear facilities, with the aim of effectively strengthening the regulation of emergency preparedness for nuclear facilities. NNSA continued to strengthen its own emergency preparedness and response capabilities and successfully completed several tasks concerning nuclear and radiation emergency response.

Regulation of Nuclear Facility Emergency Preparedness

In 2025, NNSA completed the regulatory inspection of emergency preparedness before the initial loading of San'ao NPP, Changjiang NPP, Tianwan NPP, and Hot Cell Facility Construction Project of CGN Nuclear Power Technology Research Institute Co., Ltd., as well as the inspection and evaluation of on-site comprehensive emergency exercises.

NNSA completed the inspection and evaluation of on-site comprehensive emergency exercises of 18 nuclear facility licensees such as Fuqing NPP, systematically analyzed the finding, provided

relevant experience feedback, strengthened follow-up inspection, and urged the rectification.

Approval of on-Site Emergency Plans

NNSA approved the on-site nuclear emergency response plans for six nuclear facility licensees, including Taipingling NPP, San'ao NPP, Beijing Capture Tech Co., Ltd., CNNC Shaanxi Uranium Enrichment Co., Ltd., CNNC 272 Uranium Industry Co., Ltd., and Sichuan Honghua Industrial Co., Ltd. The on-site nuclear emergency response plans for six nuclear facility licensees such as State Nuclear Power Demonstration Plant Co., Ltd., Haiyang NPP, Hongyanhe NPP, Ningde NPP, Qinshan NPP, and Tianwan NPP.

Nuclear and Radiological Emergency Preparedness

NNSA has put a 24-hour emergency duty system into practice, and kept making good emergency duty preparedness during important events and major festivals. In 2025, NNSA kept making good duty preparedness for nuclear emergency during important meetings and major events such as the Asian Winter Games, the "Two Sessions" of National People's Congress (NPC) and the Chinese People's Political Consultative Conference (CPPCC), the Summer Davos Forum, the World

Games, the Shanghai Cooperation Organization Summit, the commemorative events for the 80th anniversary of the victory of the Chinese People's War of Resistance Against Japanese Aggression and the World Anti-Fascist War, the China International Import Expo, and the National Games, as well as during important festivals such as the New Year's Day, the Spring Festival, the Qingming Festival, Labor Day, the Dragon Boat Festival, the Mid-Autumn Festival, and the National Day.

Coordination for Provincial Ecology and Environment Authorities on Radiation Accident Emergency Exercises

NNSA guided pilot practical emergency exercises of "No advance notice" in Beijing Municipality, Hebei Province, Zhejiang Province, Shaanxi Province, and Qinghai Province, and organized Shandong Province to carry out a special drill for emergency monitoring of marine radiation. Regional offices of nuclear and radiation safety inspection coordinated and guided ecology and environment authorities in Tianjin, Liaoning, Guangdong, Guizhou, Gansu and other provinces (municipalities) to take the lead in implementing comprehensive radiation accident emergency exercises. Through these exercises, the impetus placed by the local governments on radiation accident emergency was enhanced, and the prime responsibilities of the local governments in radiation accident emergency were implemented. The emergency teams were comprehensively trained, the emergency plans and facilities

were examined, the emergency response and handling capabilities were improved, and the radiation safety regulation was further promoted.

Strengthening Emergency Preparedness for Nuclear and Radiation Accidents

NNSA carried out joint comprehensive nuclear accident emergency exercises with Qinshan Nuclear Power Base. It instructed the North-Eastern Regional Office of Nuclear and Radiation Safety Inspection, and the Nuclear and Radiation Safety Center to organize a special drill for emergency monitoring of radiation environment in border areas and surrounding areas of Northeast China. NNSA strengthened the operation and maintenance management of nuclear and radiation emergency coordination platform, and conducted special emergency communication exercises every month to maintain the emergency response capability.



Figure 41. "Safe Liaoning-2025" Comprehensive Radiation Accident Emergency Exercises

XVII. Personnel Qualification

Qualification of Civil Nuclear Facility Operators

In 2025, NNSA supervised the license examinations for nuclear power plant operators; organized training and examinations for research reactor operator licenses, and for the first time, uniformly conducted the general written examination for research reactor operator license. After review, the civil nuclear facility operator licenses were issued in 4 batches by NNSA to 1,111 operators in total, including 1,075 NPP operators, and 36 civil research facility operators; the license of 1 senior operator was revoked.

As of the end of 2025, there were totally 3,593 persons holding NPP operator licenses (see Table 120), including 2,274 persons holding senior operator licenses and 1,319 holding operator licenses. There were 293 persons holding 325 civil research reactor operator licenses (see Table 121), including 166 persons holding 181 senior operator licenses and 135 holding 144 operator licenses.

Table 120. Statistics on Licenses for Operators of Nuclear Power Plants

Licensee	Nuclear Facility	Senior operator	Operator	Subtotal
CNNC Nuclear Power Operation Management Co., Ltd.	Qinshan NPP Unit 1	42	17	59
	Qinshan Phase II NPP Units 1 and 2	69	41	110
	Qinshan Phase II NPP Units 3 and 4	74	28	102
	Qinshan Phase III NPP Units 1 and 2	87	36	123
	Fangjiashan NPP Units 1 and 2	78	30	108
Daya Bay Nuclear Power Operations and Management Co., Ltd.	Daya Bay NPP Units 1 and 2	61	17	78
	Ling'ao NPP Units 1 and 2	64	20	84
	Ling'ao NPP Units 3 and 4	55	17	72

Personnel Qualification

Table 120

Licensee	Nuclear Facility	Senior operator	Operator	Subtotal
Jiangsu Nuclear Power Co., Ltd.	Tianwan NPP Units 1 and 2	70	43	113
	Tianwan NPP Units 3 and 4	70	48	118
	Tianwan NPP Units 5 and 6	94	25	119
	Tianwan NPP Units 7 and 8	39	41	80
Fujian Ningde Nuclear Power Co., Ltd.	Ningde NPP Units 1 and 2	66	18	84
	Ningde NPP Units 3 and 4	58	35	93
Liaoning Hongyanhe Nuclear Power Co., Ltd.	Hongyanhe NPP Units 1 and 2	65	19	84
	Hongyanhe NPP Units 3 and 4	60	16	76
	Hongyanhe NPP Units 5 and 6	52	32	84
Yangjiang Nuclear Power Co., Ltd.	Yangjiang NPP Units 1 and 2	58	13	71
	Yangjiang NPP Units 3 and 4	61	23	84
	Yangjiang NPP Units 5 and 6	52	21	73
Fujian Fuqing Nuclear Power Co., Ltd.	Fuqing NPP Units 1 and 2	65	33	98
	Fuqing NPP Units 3 and 4	60	27	87
	Fuqing NPP Units 5 and 6	72	49	121
Guangxi Fangchenggang Nuclear Power Co., Ltd.	Fangchenggang NPP Units 1 and 2	59	32	91
	Fangchenggang NPP Units 3 and 4	85	48	133
Hainan Nuclear Power Co., Ltd.	Changjiang NPP Units 1 and 2	65	38	103
	Changjiang Multi-Purpose Small Modular Reactor Technology Demonstration Project in Hainan Province	18	24	42
Sanmen Nuclear Power Co., Ltd.	Sanmen NPP Units 1 and 2	84	76	160
	Sanmen NPP Units 3 and 4	21	25	46
Shandong Nuclear Power Company Ltd.	Haiyang NPP Units 1 and 2	87	73	160
	Haiyang NPP Units 3 and 4	30	18	48
Taishan Nuclear Power Joint Venture Co., Ltd.	Taishan NPP Units 1 and 2	65	37	102
Huaneng Shandong Shidao Bay Nuclear Power Co., Ltd.	Units 1 and 2 of HTGR Demonstration Project	39	30	69

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Table 120

Licensee	Nuclear Facility	Senior operator	Operator	Subtotal
State Nuclear Power Demonstration Plant Co., Ltd.	Units 1 and 2 of GUOHE ONE Demonstration Project	39	78	117
CGN Huizhou Nuclear Power Co., Ltd.	Guangdong Taipingling NPP Units 1 and 2	57	55	112
CNNP Guodian Zhangzhou Energy Co., Ltd.	Fujian Zhangzhou NPP Units 1 and 2	42	62	104
CGN Cangnan Nuclear Power Co., Ltd.	San'ao NPP Units 1 and 2	45	31	76
Huaneng Hainan Changjiang Nuclear Power Co., Ltd.	Changjiang NPP Units 3 and 4	32	29	61
CNNP Liaoning Nuclear Power Co., Ltd.	Xudapu NPP Units 3 and 4 in Liaoning	34	14	48
Total		2274	1319	3593

Table 121. Statistics on Civil Research Reactor Operator Licenses

Licensee	Nuclear Facility	Senior operators	Operators	Subtotal
China Institute of Atomic Energy	49-2 Swimming Pool Reactor	17	9	26
	Nuclear Criticality Safety Test Facility in Pilot Plant	9	19	28
	Prototype Miniature Neutron Source Reactor	3	5	8
	China Experimental Fast Reactor	34	24	58
	China Advanced Research Reactor (CARR)	18	12	30
	Zero-power Assembly of MNSR	4	5	9
Nuclear Power Institute of China	High Flux Engineering Test Reactor (HFETR)	28	23	51
	Minjiang Test Reactor	13	7	20
	Critical Assembly of High Flux Engineering Test Reactor (HFETR)	5	5	10
	China Pulsed Reactor (CPR)	6	5	11
	18-5 Critical Assembly	7	6	13

Personnel Qualification

Table 121

Licensee	Nuclear Facility	Senior operators	Operators	Subtotal
Institute of Nuclear and New Energy Technology, Tsinghua University	5MW Low Temperature Nuclear Heating Test Reactor (NHR-5)	7	8	15
	10MW High-Temperature Gas-Cooled Test Reactor	22	7	29
Beijing Capture Tech Co., Ltd.	In-Hospital Neutron Irradiator (IHNI)	0	2	2
Shanghai Institute of Applied Physics, Chinese Academy of Sciences	2 MWt Liquid Fuel Thorium Molten Salt Test Reactor	8	7	15
Total		181	144	325

Management over Qualifications of Non-destructive Testing Personnel for Civil Nuclear Safety Equipment

In 2025, NNSA issued two batches of examination plans for civil nuclear safety equipment NDT personnel and authorized five examination centers to hold 37 NDT personnel exams. Ten batches of civil nuclear safety equipment NDT personnel qualification certificates were issued, and a total of 4,574 persons and 5,681 certificates were approved.

As of the end of 2025, a total of 10,484 persons held 25,637 civil nuclear safety equipment NDT personnel qualification certificates, including 8,581 Level I (primary) certificates, 14,926 Level II (intermediate) certificates and 2,130 Level III (advanced) certificates.

Management over Qualifications of Civil Nuclear Safety Equipment Welders

In 2025, NNSA issued two batches of examination plans for civil nuclear safety equipment welders and authorized 13 examination centers to hold 33 welder qualification exams. Ten batches of civil nuclear safety equipment welder qualification certificates were issued, and a total of 3,088 persons and 3,376 certificates were approved; a total of 4 persons and 5 certificates were revoked.

As of the end of 2025, a total of 11,054 persons held 16,441 civil nuclear safety equipment welder qualification certificates.

Management over Qualifications of Registered Nuclear Safety Engineers

In 2025, a total of 6,923 applicants applied for the National Unified Examination for Qualification of Registered Nuclear Safety Engineers, 4,486 applicants took the examinations, and 1,189 applicants obtained the Registered Nuclear Safety Engineer Qualification. NNSA conducted 4 batches of registration of nuclear safety engineers involving 690 persons.

As of the end of 2025, a total of 6,756 persons obtained the certificates of the Registered Nuclear Safety Engineer Qualification, and 2,066 persons held registered nuclear safety engineer certificates.

Professional Training for Staff in Charge of Nuclear and Radiation Safety Regulation

The Job Training Curriculum for Nuclear and Radiation Safety Regulators and the Job Skill Qualification Requirements for Nuclear and Radiation Safety Regulators were developed and issued. A total of 23 training sessions were completed, with 1,188 trainees in total. The 13th initial training course for nuclear and radiation safety regulators was held, with 70 trainees, 646 trainees in total have been trained. The 13th intermediate training course for nuclear and radiation safety regulators (young cadre training course) was held, with 29 trainees, 408 trainees in total have been trained. Three sessions of leadership improvement training were held and collective learning seminars were carried out.

XVIII. International Cooperation

As of the end of 2025, NNSA signed cooperation agreements on nuclear safety with 23 national nuclear regulatory agencies and international organizations.

Multilateral Cooperation

NNSA cooperated well with the IAEA. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of the National Nuclear Safety Administration, led delegations to attend the 57th and 58th Meetings of the IAEA Commission on Safety Standards in May and December respectively. On the meetings, he systematically elaborated China's positions and practices in the modernization of nuclear safety standards and the regulation of emerging technologies. During these periods, he met with the Deputy Director General of the IAEA as well as senior representatives from nuclear safety

regulatory authorities of Russia, France, Pakistan and other countries. From June 29 to July 11, 2025, at the invitation of China, the IAEA conducted an Integrated Regulatory Review Service (IRRS) mission for nuclear and radiation safety regulation in China, and highly affirmed the level and effectiveness of China's nuclear and radiation safety regulation.

NNSA cooperated with the OECD/NEA. It actively participated in activities under the Committee on Nuclear Regulatory Activities (CNRA), the Committee on the Safety of Nuclear Installations (CSNI), and the Multinational Design Evaluation Programme (MDEP), so as to promote the "Hualong One" Working Group to complete its annual objectives and tasks; and followed up and participated in joint research projects such as fuel cladding integrity and material integrity life extension.



Figure 42. IAEA Integrated Regulatory Review Service for nuclear and radiation safety regulation

Bilateral Cooperation

In March, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of the National Nuclear Safety Administration, led a delegation to visit the United Arab Emirates and held a working meeting with the UAE Federal Authority for Nuclear Regulation (FANR) on the implementation of the nuclear safety cooperation action plan. In May, DONG Baotong led a delegation to visit Kazakhstan and held a bilateral meeting with the Agency of the Republic of Kazakhstan for Atomic Energy on strengthening cooperation in nuclear safety regulatory capacity building. Subsequently, the two sides signed the Memorandum of Understanding on Cooperation in the Field of Nuclear and Radiation Safety Regulation, which was incorporated into the outcome document of the heads-of-state meeting

between the two countries. In July, DONG Baotong attended the 15th China-Japan-Republic of Korea Trilateral Senior Officials Meeting on Nuclear Safety Regulation in Beijing, where the three sides exchanged the latest information on nuclear safety regulatory work. In October, DONG Baotong attended the China-Russia Joint Coordination Meeting on Nuclear Safety Regulation in Beijing and co-signed a supplementary agreement on amending the nuclear safety cooperation agreement with Trembitsky, Chairman of the Federal Environmental, Industrial and Nuclear Supervision Service (Rostekhnadzor) of Russia. In November, the 13th Meeting of the China-Pakistan Nuclear Safety Cooperation Steering Committee was held in a combination of online and offline forms, during which the two sides exchanged views on a number of technical topics.



Figure 43. The 57th Meeting of the IAEA Commission on Safety Standards

XIX. Performance of Obligations under International Conventions

As of the end of 2025, NNSA attended 9 sessions of the Review Meeting of the *Contracting Parties to the Convention on Nuclear Safety* and 6 sessions of the Review Meeting of the *Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management*, faithfully fulfilling international obligations and political commitments, and earnestly fulfill the conventions.

Implementation of the *Convention on Nuclear Safety*

In 2025, four National Report Review Committee (NRRC) meetings for the Tenth Review Meeting of the *Convention on Nuclear Safety* (CNS) were held. On July 2, 2025, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of the National Nuclear Safety Administration, organized the third NRRC meeting for the Tenth CNS Review Meeting. On the meeting, the progress and subsequent plans for the Tenth CNS Review Meeting were reported, and the draft for approval version of China's National Report for the Tenth Review Meeting was deliberated.

Implementation of the *Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management*

In 2025, DONG Baotong, led a delegation to Vienna, Austria to attend the Eighth Review Meeting of the *Contracting Parties to the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management*. He comprehensively presented the current status of spent fuel management safety and radioactive waste management safety, as well as the nuclear safety situation in China, and systematically elaborated on multiple remarkable achievements and innovative practices made under the guidance of XI Jinping's Thought on Ecological Civilization, Holistic Approach to National Security, which were highly recognized by all parties. The four good practices proposed by China received unanimous recognition from the contracting parties, and six good performances of China were also recognized.

XX. Special Focus

MEE Symposium on Nuclear and Radiation Safety Regulation Held

On December 3, 2025, the Ministry of Ecology and Environment (MEE) held a symposium on nuclear and radiation safety regulation in Beijing. HUANG Runqiu, Minister of Ecology and Environment, attended the symposium and delivered a speech.

As pointed out by HUANG Runqiu, General Secretary XI Jinping attaches great importance to nuclear safety, and has delivered a series of important speeches and made a series of important instructions, which have charted the course and provided fundamental guidance for ensuring nuclear and radiation safety regulation. The national nuclear and radiation safety regulatory system has thoroughly studied and implemented the spirit of General Secretary XI Jinping's important speeches and instructions, resolutely implemented the decisions and arrangements of the Central Committee of the Communist Party of China and the State Council, strictly carried out regulation in accordance with the law, to continuously consolidate the regulatory foundation. These have further improved the nuclear and radiation safety regulatory system, continuously enhanced regulatory capabilities, constantly strengthened international influence, and effectively ensured nuclear and radiation safety. Remarkable achievements have been made in China's nuclear

and radiation safety regulation during the "14th Five-Year Plan" period.

HUANG Runqiu emphasized that with the continuous development of nuclear energy and nuclear technology application, China's nuclear and radiation safety regulatory tasks will become more onerous, regulatory difficulties will continue to increase, and regulatory pressure will continue to grow. It is necessary to closely focus on the main thread of building a modern nuclear safety regulatory system, so as to effectively enhance regulatory capabilities and improve regulatory efficiency. It is essential to accurately grasp the strategies and methods for building a modern nuclear safety regulatory system. This entails taking the achievement of a high level of nuclear safety as the goal, the implementation of entity responsibility for nuclear safety as the foundation, the elimination of nuclear safety risks and hidden dangers as the key, and the enhancement of basic nuclear safety capabilities as the support. It also requires strengthening overall planning, coordinated policy implementation, and synergistic advancement. It is necessary to follow objective laws, grasp the principle requirements, adhere to bottom-line thinking, adhere to strictness as a top priority, adhere to professionalism for success, adhere to upholding fundamental principles while breaking new ground, make sustained efforts, and

persevere to create a new situation of high-quality development of the nuclear safety cause.

HUANG Runqiu pointed out that the "15th Five-Year Plan" period is an important period for building a Beautiful China based on past achievements and transition to further progress, and for achieving fundamental improvement of the ecological environment. It is also a strategic opportunity period for the nuclear industry to catch up, surpass, and shape its advantages. It is necessary to thoroughly implement the holistic approach to national security and the nuclear safety strategy, plan and promote nuclear and radiation safety regulation, and effectively guard the nuclear safety bottom line for building a Beautiful China. It is important to strengthen the safety regulation of nuclear facilities, maintain a high level of safety for operating nuclear power units, ensure high-standard and high-quality construction of new units, and effectively guarantee the safety of research reactors and other nuclear facilities. It is essential to strengthen radiation safety regulation, deepen the hierarchical and categorized management of nuclear technology application, accelerate the prevention and control of radioactive and other pollution, and effectively ensure radiation environment safety. It is necessary to continuously improve the nuclear safety regulatory system, improve nuclear safety rules and standards, improve regulatory systems and mechanisms, and deepen international cooperation on nuclear safety. It is essential to continuously enhance nuclear safety regulatory capabilities, promote the construction of a risk monitoring and early warning system, continuously improve nuclear emergency response capabilities, strengthen technological

and digital-intelligent empowerment, enhance the scientific understanding of nuclear safety, and accelerate the development of a professional regulatory workforce, laying a solid foundation for the long-term development of the nuclear and radiation safety regulatory cause.

HUANG Runqiu emphasized that 2026 is the first year of the "15th Five-Year Plan". It is necessary to carry out high-quality preparation and implementation of nuclear safety related plans under the "15th Five-Year Plan". It is imperative to strengthen discipline and work style construction, strictly implement the spirit of the central Party leadership's eight-point decision on improving conduct and its implementation rules, and guard the integrity pass. It is important to make every effort to do a good job in workplace safety and other work, strengthen the investigation and rectification of nuclear and radiation safety hazards, strengthen emergency duty during major holidays, and ensure that nuclear safety is absolutely foolproof.

DONG Baotong, Vice Minister of Ecology and Environment and Administrator of the National Nuclear Safety Administration, presided over the symposium and delivered a concluding speech.

Responsible comrades from relevant departments of the Ministry of Science and Technology, the Ministry of Industry and Information Technology, the Ministry of Public Security, the Ministry of Transport, the National Health Commission, the National Radio and Television Administration, the National Energy Administration and the State Administration of Science, Technology and Industry for National Defense attended

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the symposium. Responsible comrades from the departments (bureaus) of ecology and environment of provinces (autonomous regions and municipalities), the Bureau of Ecology and Environment of Xinjiang Production and Construction Corps, nuclear and radiation safety management divisions, and offices of nuclear and radiation safety inspection, attended the

symposium. Responsible comrades of relevant MEE departments, regional offices, direct affiliates and social organizations attended the symposium.

Representatives from some technical support units for nuclear and radiation safety regulation and nuclear-related enterprise groups attended the symposium.



Figure 44. Symposium on Nuclear and Radiation Safety Regulation

IAEA Highly Affirms the Level and Effectiveness of China's Nuclear and Radiation Safety Regulation

From June 29 to July 11, 2025, the International Atomic Energy Agency, at the invitation of China, conducted an Integrated Regulatory Review Service (IRRS) mission in the field of nuclear and radiation safety regulation (hereinafter referred to as the “IRRS Mission”) in China. The IAEA highly affirmed the level and effectiveness of China's nuclear and radiation safety regulation. The Agency identified a number of good practices and good performances that could be promoted internationally. A joint press conference was held after the conclusion of the mission.

The IRRS Mission is one of the most influential international peer reviews conducted by the IAEA. It aims to provide recommendations for improvement to Member States based on the latest international nuclear safety standards. It also assists Member States in continuously optimizing and improving their nuclear and radiation safety regulatory systems. The review team consisted of 20 senior regulatory representatives from the nuclear safety regulatory authorities of 17 countries, 4 IAEA experts, and 1 observer. The team conducted a comprehensive, in-depth, and objective review of China's nuclear and radiation safety regulation. The review covered the following areas: functions of the government and regulatory bodies; regulatory activities such as licensing, inspection, and enforcement; development of rules and standards; emergency preparedness and response; radioactive sources;

research reactors; nuclear power plants; fuel cycle facilities; radioactive waste management facilities; transport of radioactive materials; decommissioning management; occupational exposure; medical exposure; public exposure; and the interface between nuclear safety and nuclear security.

The review team fully affirmed the achievements of China's nuclear and radiation safety regulation. It highly appreciated the Chinese government's implementation of IAEA safety standards. The team concluded that “MEE/NNSA is a robust, competent, and credible regulatory body that continues to make significant progress in ensuring nuclear and radiation safety, establishing an effective and comprehensive regulatory framework, and fostering a healthy nuclear safety culture.” Foy, head of the review team and Chief Executive and Chief Nuclear Inspector of the United Kingdom's Office for Nuclear Regulation, stated: “In the context of the rapid development in China's nuclear power industry, the regulatory workforce will need to be substantially expanded in the coming years. In addition, China's practice of using innovative technologies to improve regulatory efficiency is worth learning from by other countries.”

The review team unanimously recognized three good practices of China's nuclear safety regulatory system. These practices could serve as references for the international community: First, organizing high-level representatives from all parties in the nuclear industry chain to regularly exchange views on the development of nuclear safety at home and abroad. This ensures that the entire industry moves in sync and jointly promotes the continuous improvement of nuclear safety levels.

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Second, actively developing and applying artificial intelligence technology to enhance the efficiency, safety, and innovation of nuclear regulation. Third, using big data and real-time monitoring technology to develop multiple integrated data platforms. These platforms strengthen regulation by improving safety information analysis capabilities. They also support regulatory authorities and related units in making timely and effective decisions. At the same time, the review team also put forward several constructive recommendations and hopes. These will continue to assist the Chinese government in further improving the level of nuclear and radiation safety regulation, accelerating the construction of a modern nuclear safety regulatory system, and achieving a positive interaction between high-level nuclear safety and high-quality development of the nuclear industry.

During the mission, the review team held multiple rounds of meetings with MEE/NNSA personnel. It also met with senior representatives of the China Atomic Energy Authority, the National Health Commission, and the National Energy Administration. The team conducted field visits to regulatory and oversight activities at nuclear power plants, research reactors, nuclear fuel cycle facilities, radioactive sources, radioactive waste management facilities, transport facilities, and hospitals. It held exchanges and discussions with relevant management and staff. The two sides also held discussions on two topics: the impact of rapid AI development on regulation, and the shortage of human resources due to the sharp increase in the number of operating units in China. Fruitful exchange results were achieved.



Figure 45. Meeting between the Review Team and MEE/NNSA Personnel

MEE Radiation Accident

Experience Feedback

Meeting Held

From May 15 to 16, 2025, the Ministry of Ecology and Environment (MEE) held a radiation accident experience feedback meeting in Beijing. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of the National Nuclear Safety Administration, attended the meeting and delivered a speech.

The meeting emphasized the need to raise political stance, thoroughly study and implement the spirit of General Secretary XI Jinping's series of

important speeches on workplace safety, more consciously coordinate development and safety, and under the background of implementing the holistic approach to national security, strategic games of major powers, building a Beautiful China, and modernizing China's governance system and capacity, clearly understand the situation and weakness in radiation safety regulation, and effectively enhance radiation safety regulation capabilities.



Figure 46. Radiation Accident Experience Feedback Meeting

The meeting demanded that efforts focus on key and difficult areas, fully implementing the requirements of the safety inspection notice for the gamma radiography industry. It is necessary to further consolidate the entity responsibility of nuclear technology applicators, comprehensively carry out risk hazard investigation and rectification according to the highest standard of "zero accidents"; make full use of the real-time monitoring system for high-risk mobile radioactive sources; strengthen organizational support and coordinated interaction to ensure the implementation and effectiveness of safety measures.

At the meeting, the MEE Department of Radiation Source Safety Regulation, the North-Eastern Regional Office of Nuclear and Radiation Safety Inspection, the Nuclear and Radiation Safety Center, and the Bureau of Ecology and Environment of Shanghai conducted policy promotion and experience exchange.

Responsible comrades and representatives from the departments (bureaus) of ecology and environment of provinces (regions and municipalities), the Bureau of Ecology and Environment of Xinjiang Production and Construction Corps, relevant MEE departments, regional offices, and direct affiliates attended the meeting.

XXI. Milestones

On January 2, MEE/NNSA organized a quarterly nuclear safety situation analysis activity in Beijing. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, attended the meeting and delivered a speech.

On January 15, the 2025 Nuclear and Radiation Safety Regulation Work Promotion Meeting was held in Beijing. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, attended the meeting and delivered a speech.

From January 19 to 20, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted a field investigation at Taishan NPP.

On January 21, the national standard *Regulations for Environmental Radiation Protection of Nuclear Power Plant* (GB 6249-2025) (MEE Bulletin No. 5, 2025) was issued.

On February 13, MEE/NNSA held an annual dialogue meeting on nuclear safety regulation with China General Nuclear Power Corporation in Beijing.

From February 17 to 20, DONG Baotong,

Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted field investigations at the Beishan Underground Research Laboratory in China, the 404 Company Limited, CNNC, and the proposed site of the Northwest Material Repository for Nuclear and Radiation Emergency Monitoring.

On February 19, the review opinion on the siting of Guangdong Taishan NPP Units 3 and 4 was issued.

On February 21, MEE/NNSA held an annual dialogue meeting on nuclear safety regulation with the State Power Investment Corporation Limited in Beijing.

On February 24, MEE/NNSA held an annual dialogue meeting on nuclear safety regulation with China Huaneng Group in Beijing.

From February 26 to 27, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, attended the preparatory meeting for the IAEA Integrated Regulatory Review Service for Nuclear and Radiation Safety Regulation in Beijing and met with Mansoor, deputy leader of the IAEA review team.

On February 28, the national standard *Acceptable Levels of Residual Radioactivity in Soil of Release*

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Site form Nuclear Facility Decommissioning (GB 45437-2025) (MEE Bulletin No. 8, 2025) was issued.

On March 4, the normative document *Guidelines for Nuclear Safety Reporting of Research Reactor Licensees* was issued (MEE Bulletin No. 7, 2025).

On March 5, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, met with Lelièvre, Senior Executive Vice President of Framatome, in Beijing.

On March 5, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted a field investigation at CNNC Lanzhou Uranium Enrichment Co., Ltd.

On March 6, MEE/NNSA held an annual dialogue meeting on nuclear safety regulation with China National Nuclear Corporation in Beijing.

From March 18 to 20, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, led a delegation to Vienna, Austria to attend the Eighth Review Meeting of the Contracting Parties to the *Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management*. During the meeting, he met respectively with Evrard, IAEA Deputy Director General, Lachaume, Acting President of the Joint Convention Review Meeting, Abadie, President of the French Authority for Nuclear Safety and Radiation Protection, and Foy,

Chief Executive and Chief Nuclear Inspector of the United Kingdom's Office for Nuclear Regulation.

On March 19, SUN Jinlong, Secretary of the Party Leadership Group of MEE, led a delegation to conduct a field investigation at the Nuclear and Radiation Safety Center of MEE.

From March 21 to 24, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, traveled to the United Arab Emirates and held a nuclear safety working meeting with the UAE Federal Authority for Nuclear Regulation.

On March 25, the Central Commission for Discipline Inspection (CCDI) Inspector's Office and the State Supervisory Commission (SSC) Supervisor's Office at the Ministry of Ecology and Environment, together with MEE/NNSA, held the 2025 Key Work Promotion Meeting on "Group-Group" Coordinated Supervision for Nuclear and Radiation Safety at the Qinshan Nuclear Power Base. LIAO Xiyuan, Chief Inspector of CCDI Inspector's Office and Chief Supervisor of SSC Supervisor's Office at MEE, attended the meeting and conducted field investigations.

On April 1, MEE/NNSA organized a quarterly nuclear safety situation analysis activity in Beijing. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, attended the meeting and delivered a speech.

On April 2, the *Notice on Matters Concerning*

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Radiation Safety Management of Fusion Devices was issued.

On April 9, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, met with Grossi, IAEA Director General, in Beijing.

On April 15, MEE/NNSA and the State Power Investment Corporation Limited held the 4·15 National Security Education Day nuclear safety themed event and the third "GUOHEXING" Public Communication activity in Beijing.

On April 16, MEE/NNSA organized the first centralized experience feedback analysis activity of 2025 in Beijing.

On April 17, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted a field investigation at the Beijing Research Institute of Chemical Engineering and Metallurgy, CNNC.

On April 24, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted a field investigation at Shanghai Electric SHMP Casting & Forging Co., Ltd.

On April 27, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, met with Xavier Ursat, Vice President of Électricité de France, in Beijing.

On April 27, Taishan NPP Units 3 and 4 received approval.

From May 7 to 8, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted field investigations at Yangjiang NPP, CGN Advanced Fuel Development Center, and the Hot Cell Facility Construction Project for CGN Nuclear Power Technology Research Institute Co., Ltd.

On May 8, the Operation License for Unit 2 of GUOHE ONE demonstration project was issued.

From May 11 to 14, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted an in-depth field investigation at Taishan NPP.

From May 23 to 27, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, led a delegation to Kazakhstan and held a bilateral meeting on nuclear safety cooperation with the Agency of the Republic of Kazakhstan for Atomic Energy.

On May 28, *External Events in Design for Nuclear Power Plants* (NNSA [2025] No. 78) was issued as a Nuclear Safety Guide.

On May 30, a fire accident occurred during the coating repair of the steel containment outer wall in the outage 204 of Sanmen NPP Unit 2. At 21:31, the facility entered emergency standby mode, which was terminated at 23:10.

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On June 4, the construction licenses for Guangdong Taipingling NPP Units 3 and 4 were issued.

On June 22, *Periodic Safety Review for Nuclear Power Plants* (NNSA [2025] No. 95) was issued as a Nuclear Safety Guide.

On June 26, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted a field investigation at the China Institute for Radiation Protection.

On June 27, the national environmental standard *Technical Specification for Operation and Management of Radioactive Waste Repository for Nuclear Technology Application* (HJ 1417-2025) was issued (MEE Bulletin No. 16, 2025).

From June 30 to July 11, the International Atomic Energy Agency, at the invitation of China, conducted an Integrated Regulatory Review Service (IRRS) mission in the field of nuclear and radiation safety regulation in China. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, met with Foy, Head of the review team and Chief Executive and Chief Inspector of the UK's Office for Nuclear Regulation, and Mansoor, Deputy Head of the review team and Chairman of the Pakistan Nuclear Regulatory Authority.

On July 3, MEE/NNSA organized a quarterly nuclear safety situation analysis activity in Beijing. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National

Nuclear Safety Administration, attended meeting and delivered a speech.

On July 8, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of the National Nuclear Safety Administration, met with Sätqaliev, Chairman of the Agency of the Republic of Kazakhstan for Atomic Energy, in Beijing.

On July 9, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, met with IAEA Deputy Director General Herviou in Beijing, exchanging views on the comprehensive assessment of nuclear and radiation safety regulation and strengthening cooperation.

On July 11, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, met with Mansoor, Chairman of the Pakistan Nuclear Regulatory Authority, in Beijing, exchanging views on strengthening bilateral nuclear safety cooperation and relevant arrangements of the China-Pakistan Nuclear Safety Cooperation Steering Committee.

On July 14, the 8th Key Inspection Exchange Activity of MEE regional offices of nuclear and radiation safety inspection was held in Shenzhen. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, attended it and delivered a speech.

On July 15, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of

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National Nuclear Safety Administration, attended the graduation ceremony of the 2025 training course for nuclear and radiation safety regulators (young cadre training course) of MEE/NNSA at the Daya Bay Nuclear Power Base.

On July 24, the 15th China-Japan-ROK Senior Officials Meeting on Nuclear Safety Regulation was held in Beijing. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, attended the meeting.

From August 1 to 3, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted a field investigation on nuclear safety work at the Shandong Nuclear Power Base.

On August 5, the construction licenses for Zhejiang Jinqimen NPP Units 1 and 2 were issued.

On August 20, MEE/NNSA organized the second centralized experience feedback analysis activity of 2025 in Beijing.

On August 22, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted a field investigation at China National Nuclear Power Co., Ltd.

On August 29, the *List of Major Changes to Nuclear Technology Application Construction Projects* (On Trial) was issued.

On September 1, DONG Baotong, Vice Minister

of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted a field investigation at the Institute of Nuclear and New Energy Technology, Tsinghua University.

On September 15, the *Notice on Public Solicitation of Comments on the National Environmental Standard "Technical Guidelines for Environmental Impact Assessment - Magnetic Confinement Fusion Facility (Draft for Comments)"* was issued (MEE Office Std. Solicitation Letter [2025] No. 43).

On September 16, the construction license for the CNNC 272 Integrated Construction Project was issued.

On September 18, *Safety Classification of Structures, Systems and Components in Nuclear Power Plants* (NNSA [2025] No. 153) was issued as a Nuclear Safety Guide.

On October 2, *Repair of Nuclear Power Plants* (NNSA [2025] No. 165) was issued as a Nuclear Safety Guide.

On October 10, the Operation License for Fujian Zhangzhou NPP Unit 2 was issued.

On October 11, MEE/NNSA organized a quarterly nuclear safety situation analysis activity in Beijing. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, attended the meeting and delivered a speech.

On October 12, LIAO Xiyuan, Chief Inspector of Central Commission for Discipline Inspection

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(CCDI) Inspector's Office and Chief Supervisor of the State Supervisory Commission (SSC) Supervisor's Office at the Ministry of Ecology and Environment, led a delegation to conduct a special research on nuclear and radiation safety regulation at the North-Western Regional Office of Nuclear and Radiation Safety Inspection, the 404 Company Limited, CNNC, and the Underground Laboratory for High-Level Waste Disposal.

On October 17, the National Experience Exchange Meeting on the Operation of Urban Radioactive Waste Repositories and the Standard Release and Implementation Promotion Meeting for the *Technical Specification for Operation and Management of Radioactive Waste Repository for Nuclear Technology Application* were held.

On October 29, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, attended the China-Russia Joint Coordination Meeting on Nuclear Safety in Beijing and co-signed a supplementary agreement on nuclear safety cooperation with Trembitsky, Chairman of the Federal Environmental, Industrial and Nuclear Supervision Service (Rostekhnadzor) of Russia.

On October 31, the national standard *Regulation for Radiation Safety and Protection of Particle Accelerators* (GB 5172-2025) was issued (MEE Bulletin No. 21, 2025).

On November 11, the national environmental standard *Technical Guidelines for Environmental Impact Assessment - Research Reactors* (HJ 5.1-2025) was issued (MEE Bulletin No. 26, 2025).

On November 13, the construction licenses for Zhejiang San'ao NPP Units 3 and 4 were issued.

On November 14, the construction licenses for Shandong Zhaoyuan NPP Phase I Project Units 1 and 2 were issued.

On November 19, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted a field investigation at Qinshan NPP.

On November 19, the Central Commission for Discipline Inspection (CCDI) Inspector's Office and the State Supervisory Commission (SSC) Supervisor's Office at the Ministry of Ecology and Environment, together with MEE/NNSA, held the 2025 Summary and Exchange Meeting on "Group-Group" Coordinated Supervision for Nuclear and Radiation Safety at the Changjiang Nuclear Power Base. LIAO Xiyuan, Chief Inspector of CCDI Inspector's Office and Chief Supervisor of SSC Supervisor's Office at MEE, attended the meeting and conducted field investigations.

On November 25, *Terminology and Abbreviations for Nuclear Safety Regulation of Nuclear Power Plants and Research Reactors* (NNSA [2025] No. 213) was issued as a Nuclear Safety Guide.

On November 28, the review opinion on the siting of Shandong Laiyang Nuclear Power Project Phase I was issued.

On December 3, the Ministry of Ecology and Environment held a symposium on nuclear and radiation safety regulation in Beijing. HUANG

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Runqiu, Minister of Ecology and Environment, attended the symposium and delivered a speech. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, presided over the symposium.

On December 4, *Exposure Scenarios, Calculation Models and Parameters for Deriving Residual Radionuclide Activity Levels in Soil of Decommissioning Site of Nuclear Facility* (NNSA-HAJ-0001-2025) was issued as a technical document for nuclear safety regulation.

From December 8 to 11, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, attended the 58th Meeting of the IAEA Commission on Safety Standards in Austria. During the meeting, he met respectively with Herviou, IAEA Deputy Director General, and Lachaume, Commissioner of the French Authority for Nuclear Safety and Radiation Protection.

On December 13, the national environmental standards *Guidelines for the Impact Test of Packaging for Radioactive Material* (HJ 1421-2025) and *Guidelines for Thermal Test of Transport Cask for Radioactive Material* (HJ 1422-2025) were issued (MEE Bulletin No. 32, 2025).

On December 15, the *Approval of the Environmental Impact Report for the China's HL-3 Experimental Research Project* (MEE App [2025] No. 131) was issued.

On December 15, DONG Baotong, Vice Minister

of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted a field investigation at Shanghai Institute of Applied Physics.

On December 16, the 9th Key Inspection Exchange Activity of MEE regional offices of nuclear and radiation safety inspection was held in Mianyang, Sichuan. DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, attended it and delivered a speech.

From December 17 to 18, DONG Baotong, Vice Minister of Ecology and Environment and Administrator of National Nuclear Safety Administration, conducted field investigations at the China Academy of Engineering Physics and CNNC Sichuan Environmental Protection Engineering Co., Ltd.

On December 19, the construction licenses for Guangxi Bailong NPP Units 1 and 2 were issued.

On December 22, MEE/NNSA organized the third centralized experience feedback analysis activity of 2025 in Beijing.

On December 24, the Operation License for Guangdong Taipingling NPP Unit 1 and the Operation License for Zhejiang San'ao NPP Unit 1 were issued.

On December 24, the national environmental standard *Determination of Gross Beta in Liquid Effluent of Nuclear Facilities - Standard Curve Method* (HJ 1429-2025) was issued (MEE Bulletin

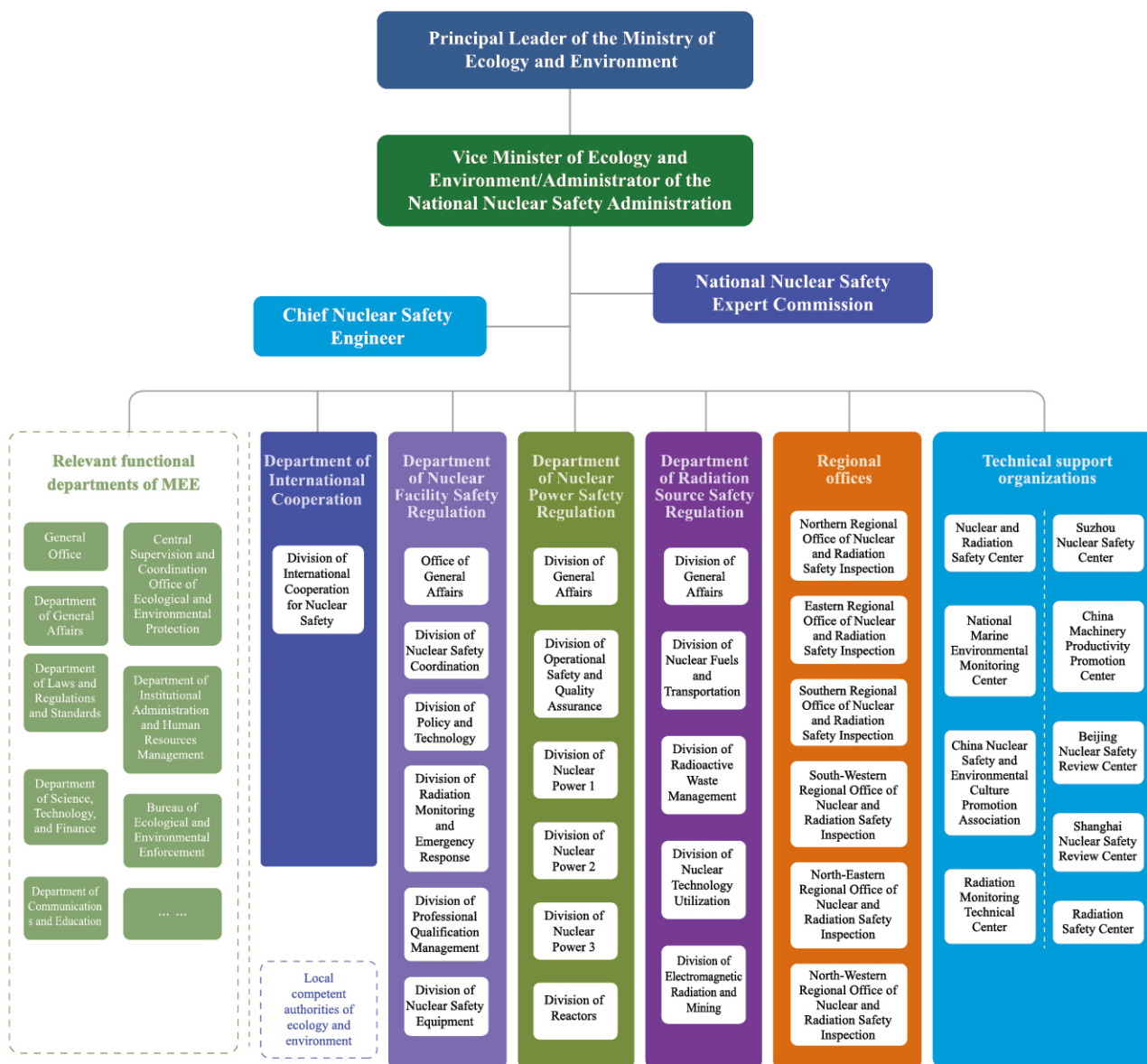
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No. 40, 2025).

On December 30, *External Human Induced Events in Site Evaluation for Nuclear Power Plants* (NNSA [2025] No. 244) and *Evaluation of Seismic Hazards for the Sites of Nuclear Power Plants* (NNSA [2025] No. 245) were issued as Safety Guides.

On December 30, the radioactive waste processing and storage license was issued to the Nuclear Power Institute of China.

MEE/NNSA Organizational Structure



Statement of Management System Policy

https://nnsa.mee.gov.cn/ywdt/gzdt/202003/t20200319_769600.html



Scan the QR code for more details.



National Nuclear Safety Administration

<https://nnsa.mee.gov.cn/>

Address: No. 12, East Chang'an Street, Dongcheng District, Beijing

Telephone: (010)65646114

Postcode: 100006

Fax: (010)65646901

Northern Regional Office of Nuclear and Radiation Safety Inspection

<https://nro.mee.gov.cn/>

Eastern Regional Office of Nuclear and Radiation Safety Inspection

<https://ecro.mee.gov.cn/>

Southern Regional Office of Nuclear and Radiation Safety Inspection

<https://scro.mee.gov.cn/>

South-Western Regional Office of Nuclear and Radiation Safety Inspection

<https://swnro.mee.gov.cn/>

North-Eastern Regional Office of Nuclear and Radiation Safety Inspection

<https://nero.mee.gov.cn/>

North-Western Regional Office of Nuclear and Radiation Safety Inspection

<https://nwro.mee.gov.cn/>

Nuclear and Radiation Safety Center

<https://www.chinansc.cn/>

National Marine Environmental Monitoring Center

<https://www.nmemc.org.cn/>

China Nuclear Safety and Environmental Culture Promotion Association

<http://www.chinansecpa.cn/>

Radiation Monitoring Technical Center

<https://www.rmtc.org.cn/>

Address: No. 54, South Honglian Village, Haidian District, Beijing

Address: Building 6, No. 103, Caobao Road, Xuhui District, Shanghai

Address: Floor 9, North Building, CGN Headquarters Building,
No. 2002, Shennan Blvd, Futian District, Shenzhen

Address: No. 1308, Section 1, Chenglong Avenue, Jinjiang District, Chengdu

Address: No. 127, Nanshan Road, Zhongshan District, Dalian

Address: Floor 5, Environmental Protection Technology Building,
No. 225, Yan'er Bay, Chengguan District, Lanzhou

Address: No. 9, East Zhixing Road, Changyang Town,
Fangshan District, Beijing

Address: No. 42, Linghe Street, Shahekou District, Dalian

Address: No. 54, South Honglian Village, Haidian District, Beijing

Address: No. 306, Wenyi Road, Hangzhou

Telephone: (010)82212600

Telephone: (021)60740666

Telephone: (0755)83521248

Telephone: (028)82337600

Telephone: (0411)82697501

Telephone: (0931)8682816

Telephone: (010)82205555

Telephone: (0411)84783268

Telephone: (010)82206559

Telephone: (0571)28869209