

IAEA ANNUAL REPORT 2021

Additional Annex Information



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

Table A30. Coordinated research projects initiated in 2021

Nuclear Fuel Cycle and Waste Management

- SFERA – Spent Fuel Research and Assessment

Food and Agriculture

- Isotopic Techniques to Assess the Fate of Antimicrobials and Implications for Antimicrobial Resistance in Agricultural Systems
- Development of Integrated Techniques for Induced Genetic Diversity and Improvement of Vegetatively Propagated and Horticultural Tree Crops
- Improving efficiency of animal breeding programs using nuclear related genomic information – practical applications in developing countries
- Improving rearing, handling, and field components for fruit fly SIT application
- Nuclear Techniques to Support Risk Assessment of Biotoxins and Pathogen Detection in Food and Related Matrices
- Innovating Radiation Processing of Food with Low Energy Beams from Machine Sources

Human Health

- FDG PET/CT in Ovarian Cancer (POCA)
- Diagnostic Accuracy of 68Ga-PSMA-11 PET/CT and Conventional Imaging for Initial Staging of Intermediate and High-risk Prostate Cancer Patients (the PROCA Study)
- IAEA Transthyretin Amyloid Cardiomyopathy Study – The I-TAC study
- Development of Methodology for Dosimetry Audits in Brachytherapy
- Evaluation of the Dosimetry Needs and Practices for the Update of the Code of Practice for Dosimetry in Diagnostic Radiology (TRS-457)
- Advanced Tools for Quality and Dosimetry of Digital Imaging in Radiology
- Optimising nuclear techniques to assess vitamin A status in population surveys – from deficiency to excess (Phase II)
- The Efficacy of Amino Acid Supplementation in Treating Environmental Enteric Dysfunction Among Children at Risk of Malnutrition

Water Resources

- Development and application of isotope techniques for efficient water resources management in mining areas

Environment

- Transfer of Radionuclides in Arid and Semi-Arid Environments for Radiological Environmental Impact Assessment

Radioisotope Production and Radiation Technology

- Development of Radiometric Methods and modelling for measurement of sediment transport in coastal systems and rivers
- Radiation Effect on Polymer Materials Commonly Used in Medical Devices
- Recycling of polymer waste for structural and non-structural materials by using ionizing radiation

Table A31. Coordinated research projects completed in 2021

Nuclear Power

- Radioactive Release from the Prototype Fast Breeder Reactor under Severe Accident Conditions

Nuclear Science

- Enhancing Nuclear Analytical Techniques to Meet the Needs of Forensic Science

Food and Agriculture

- Nuclear Techniques for a Better Understanding of the Impact of Climate Change on Soil Erosion in Upland Agro-ecosystems
- Efficient Screening Techniques to Identify Mutants with Disease Resistance for Coffee and Banana
- Improved Field Performance of Sterile Male Lepidoptera to Ensure Success in SIT Programmes
- Mosquito Handling, Transport, Release and Male Trapping Methods
- Mutation Breeding for Resistance to Striga Parasitic Weeds in Cereals for Food Security

Human Health

- Use of PET-CT with Gallium-68 Labelled Prostate Specific Membrane Antigen in the Diagnosis and Follow-up of Patients with Prostate Cancer
- Doctoral CRP on Longitudinal Measures of Body Composition of Healthy Infants and Young Children up to 2 Years of Age Using Stable Isotope Techniques
- Bioavailability of Proteins from Plant Based Diets

Table A32. Publications issued in 2021

Nuclear Power

- Asset Management for Sustainable Nuclear Power Plant Operation — IAEA Nuclear Energy Series
- Benefits and Challenges of Small Modular Fast Reactors — IAEA TECDOC
- Decontamination Approaches During Outage in Nuclear Power Plants — Experiences and Lessons Learned — IAEA TECDOC
- Developing Roadmaps to Enhance Nuclear Energy Sustainability: Final Report of the INPRO Collaborative Project ROADMAPS — IAEA Nuclear Energy Series
- Development, Use and Maintenance of Nuclear Power Plant Simulators for the Training and Authorization of Personnel — IAEA TECDOC
- Experiences of Member States in Building a Regulatory Framework for the Oversight of New Nuclear Power Plants: Country Case Studies — IAEA TECDOC
- Financing Nuclear Power Plants — IAEA TECDOC
- Fire Protection in Nuclear Power Plants — IAEA TECDOC
- Foreign Material Management in Nuclear Power Plants and Projects — IAEA TECDOC
- Human Factors Engineering Aspects of Instrumentation and Control System Design — IAEA Nuclear Energy Series
- Hydrogen Phenomena During Severe Accidents in Water Cooled Reactors — Training Course Series
- INPRO Collaborative Project: Proliferation Resistance and Safeguardability Assessment Tools (PROSA) — IAEA TECDOC
- Integrated Nuclear Infrastructure Review (INIR): Ten Years of Lessons Learned — IAEA TECDOC
- Limited Scope Sustainability Assessment of Planned Nuclear Energy Systems Based on BN-1200 Fast Reactors — IAEA TECDOC
- Milestones in the Development of a National Infrastructure for Nuclear Power — IAEA Nuclear Energy Series (Chinese)
- Milestones in the Development of a National Infrastructure for Nuclear Power — IAEA Nuclear Energy Series (Spanish)
- Nuclear Power Human Resources Modelling Tool — Training Course Series
- Nuclear Power Plant Life Management — IAEA Proceedings Series
- Nuclear Power Reactors in the World — Reference Data Series
- Operating Experience with Nuclear Power Stations in Member States — Operating Experience with Nuclear Power Stations in Member States
- Phenomenology, Simulation and Modelling of Accidents in Spent Fuel Pools — IAEA TECDOC
- Planning Enhanced Nuclear Energy Sustainability — IAEA Nuclear Energy Series
- Stakeholder Engagement in Nuclear Programmes — IAEA Nuclear Energy Series
- Structural Materials for Heavy Liquid Metal Cooled Fast Reactors — IAEA TECDOC
- Systematic Approach to Training for Nuclear Facility Personnel: Processes, Methodology and Practices — IAEA Nuclear Energy Series
- Technical Insights from Benchmarking Different Methods for Predicting Pipe Failure Rates in Water Cooled Reactors — IAEA TECDOC
- Technology Roadmap for Small Modular Reactor Deployment — IAEA Nuclear Energy Series
- Thermal Performance Monitoring and Optimization in Nuclear Power Plants: Experience and Lessons Learned — IAEA TECDOC

Nuclear Fuel Cycle and Materials Technology

- A Preliminary Inventory and Assessment of Uranium Resources in Mine Wastes — IAEA TECDOC
- Behaviour of Spent Power Reactor Fuel During Storage — IAEA TECDOC (Arabic)
- Behaviour of Spent Power Reactor Fuel During Storage — IAEA TECDOC (Chinese)
- Coolant Chemistry Control and Effects on Fuel Reliability in Pressurized Heavy Water Reactors — IAEA TECDOC

- Data Analysis and Collection for Costing of Research Reactor Decommissioning: Final Report of the DACCORD Collaborative Project — IAEA Nuclear Energy Series
- Digital Instrumentation and Control Systems for New and Existing Research Reactors — IAEA Nuclear Energy Series
- Environmental Impact Assessment of the Drawdown of the Chernobyl NPP Cooling Pond as a Basis for Its Decommissioning and Remediation — IAEA TECDOC (Russian)
- Impact of Fuel Density on Performance and Economy of Research Reactors — IAEA Nuclear Energy Series
- Management of Disused Sealed Radioactive Sources— IAEA Nuclear Energy Series (Arabic)
- Managing the Decommissioning and Remediation of Damaged Nuclear Facilities — IAEA TECDOC
- Modular Design of Processing and Storage Facilities for Small Volumes of Low and Intermediate Level Radioactive Waste Including Disused Sealed Sources — IAEA Nuclear Energy Series (Russian)
- Progress on Pellet–Cladding Interaction and Stress Corrosion Cracking — IAEA TECDOC
- Research Reactor Spent Fuel Management: Options and Support to Decision Making — IAEA Nuclear Energy Series
- Review of Fuel Failures in Water Cooled Reactors (2006–2015) — IAEA Nuclear Energy Series (Chinese)
- Specific Considerations in the Assessment of the Status of the National Nuclear Infrastructure for a New Research Reactor Programme — IAEA Nuclear Energy Series
- Spent Fuel Performance Assessment and Research — IAEA TECDOC
- Status and Trends in Pyroprocessing of Spent Nuclear Fuels — IAEA TECDOC
- Storing Spent Fuel Until Transport to Reprocessing or Disposal — IAEA Nuclear Energy Series (Arabic)
- Storing Spent Fuel Until Transport to Reprocessing or Disposal — IAEA Nuclear Energy Series (Chinese)
- Storing Spent Fuel Until Transport to Reprocessing or Disposal — IAEA Nuclear Energy Series (Russian)
- World Distribution of Thorium Deposits — Non-serial Publications
- World Distribution of Uranium Provinces — Non-serial Publications

Capacity Building and Nuclear Knowledge for Sustainable Energy Development

- Assessing National Economic Effects of Nuclear Programmes — IAEA TECDOC
- Energy, Electricity and Nuclear Power Estimates for the Period up to 2050 — Reference Data Series
- Exploring Semantic Technologies and Their Application to Nuclear Knowledge Management — IAEA Nuclear Energy Series
- The Potential Role of Nuclear Energy in National Climate Change Mitigation Strategies — IAEA TECDOC

Nuclear Science

- Compact Accelerator Based Neutron Sources — IAEA TECDOC
- Neutron Scattering with Low and Medium Flux Neutron Sources — IAEA TECDOC
- Nuclear Data Newsletter Issue No. 70, January 2021
- Nuclear Data Newsletter Issue No. 71, August 2021
- Nuclear Science and Instrumentation Newsletter No. 1, February 2021
- Nuclear Science and Instrumentation Newsletter No. 2, August 2021
- Production and Quality Control of Fluorine-18 Labelled Radiopharmaceuticals — IAEA TECDOC
- Production of Emerging Radionuclides Towards Theranostic Applications: Copper-61, Scandium-43 and -44, and Yttrium-86 — IAEA TECDOC
- Sustainability and Self-reliance of National Nuclear Institutions — IAEA TECDOC
- Therapeutic Radiopharmaceuticals Labelled with Copper-67, Rhenium-186 and Scandium-47— IAEA TECDOC

Food and Agriculture

- Animal Production and Health Newsletter No. 74, July 2021
- Development of Tolerant Crop Cultivars for Abiotic Stresses to Increase Food Security — IAEA TECDOC
- Food and Environmental Protection Newsletter Vol. 24, No. 2, July 2021
- Food and Environmental Protection Newsletter Vol. 25, No. 1, January 2022 (published in 2021)
- Insect Pest Control Newsletter No. 97, July 2021
- Insect Pest Control Newsletter No. 98, January 2022 (published in 2021)
- Plant Breeding and Genetics Newsletter, No. 47, July 2021
- Plant Breeding and Genetics Newsletter, No. 48, January 2022 (published in 2021)
- Soils Newsletter Vol. 43, No. 2, January 2021
- Soils Newsletter Vol. 44, No. 1, July 2021

Human Health

- Atlas of Non-FDG PET–CT in Diagnostic Oncology — IAEA Human Health Series
- Guidelines for the Certification of Clinically Qualified Medical Physicists — Training Course Series
- Implementation of a Remote and Automated Quality Control Programme for Radiography and Mammography Equipment — IAEA Human Health Series
- Integrated Non-Invasive Cardiovascular Imaging: A Guide for the Practitioner — Non-serial Publications
- Nutritional & Health Related Environmental Studies Newsletter No. 13, January 2021
- Nutritional & Health Related Environmental Studies Newsletter No. 14, August 2021
- Postgraduate Medical Physics Academic Programmes — Training Course Series
- QUANUM 3.0: An Updated Tool for Nuclear Medicine Audits — IAEA Human Health Series
- SSDL Newsletter Issue No. 73, February 2021
- SSDL Newsletter Issue No. 74, December 2021
- The Transition from 2-D Brachytherapy to 3-D High Dose Rate Brachytherapy — IAEA Human Health Reports (Russian)

Environment

- Approaches for Modelling of Radioecological Data to Identify Key Radionuclides and Associated Parameter Values for Human and Wildlife Exposure Assessments — IAEA TECDOC
- Certification of Activity Concentration of Radionuclides in IAEA-465 Baltic Sea Sediment — IAEA Analytical Quality in Nuclear Applications Series
- Certification Report on Value Assignment for the $\delta^{2}\text{H}$ and $\delta^{18}\text{O}$ Stable Isotopic Composition in the Water Reference Material GRESP (Greenland Summit Precipitation) — IAEA Analytical Quality in Nuclear Applications Series
- Guía Para el Uso de Sedimentos en la Reconstrucción Histórica de la Contaminación en Zonas Costeras — IAEA TECDOC (Spanish)
- Soil–Plant Transfer of Radionuclides in Non-temperate Environments — IAEA TECDOC
- Worldwide Proficiency Test on the Determination of Trace Elements and Uranium Isotopes in Drinking Water — IAEA Analytical Quality in Nuclear Applications Series

Radioisotope Production and Radiation Technology

- Alternative Radionuclide Production with a Cyclotron IAEA Radioisotopes and Radiopharmaceuticals Reports
- Production, Quality Control and Clinical Applications of Radiosynovectomy Agents — IAEA Radioisotopes and Radiopharmaceuticals Reports

Incident and Emergency Preparedness and Response

- Considerations in the Development of a Protection Strategy for a Nuclear or Radiological Emergency — Emergency Preparedness and Response

Safety of Nuclear Installations

- Ageing Management for Nuclear Power Plants — IAEA Safety Standards Series (Spanish)
- Ageing Management of Nuclear Power Plants During Delayed Construction Periods, Extended Shutdown and Permanent Shutdown Prior to Decommissioning — IAEA TECDOC
- An Introduction to Probabilistic Fault Displacement Hazard Analysis in Site Evaluation for Existing Nuclear Installations — IAEA TECDOC
- Application of a Graded Approach in Regulating Nuclear Installations — IAEA TECDOC
- Considerations of Safety and Utilization of Subcritical Assemblies — IAEA TECDOC
- Current Approaches to the Analysis of Design Extension Conditions with Core Melting for New Nuclear Power Plants — IAEA TECDOC
- Design of Nuclear Installations Against External Events Excluding Earthquakes — IAEA Safety Standards Series
- Equipment Qualification for Nuclear Installations — IAEA Safety Standards Series
- Establishing the Safety Infrastructure for a Nuclear Power Programme — IAEA Nuclear Security Series (French)
- Format and Content of the Safety Analysis Report for Nuclear Power Plants — IAEA Safety Standards Series
- Integrated Safety Assessment of Nuclear Installations by the Regulatory Body — IAEA TECDOC
- Level 1 Probabilistic Safety Assessment Practices for Nuclear Power Plants with CANDU-Type Reactors — IAEA TECDOC
- Protection Against Internal Hazards in the Design of Nuclear Power Plants — IAEA Safety Standards Series
- Risk Aggregation for Nuclear Installations — IAEA TECDOC
- SALTO Peer Review Guidelines — IAEA Services Series
- Seismic Design for Nuclear Installations — IAEA Safety Standards Series
- Seismic Instrumentation System and Its Use in Post-earthquake Decision Making at Nuclear Power Plants — IAEA TECDOC
- Site Evaluation for Nuclear Installations — IAEA Safety Standards Series (Spanish)
- Technical Safety Review (TSR) Service Guidelines — IAEA Services Series (French)

Radiation and Transport Safety

- IAEA Safety Glossary: 2018 Edition — Non-serial Publications (French)
- IAEA Safety Glossary: 2018 Edition — Non-serial Publications (Spanish)
- Managing Nuclear Safety Knowledge: National Approaches and Experience — Safety Reports Series
- Protection Against Exposure Due to Radon Indoors and Gamma Radiation from Construction Materials — Methods of Prevention and Mitigation — IAEA TECDOC
- Technical and Scientific Support Organizations Providing Support to Regulatory Functions — IAEA TECDOC (French)
- The Nuclear Safety and Nuclear Security Interface: Approaches and National Experiences — Technical Reports Series

Management of Radioactive Waste

- Application of a Graded Approach in Regulating the Safety of Radiation Sources — IAEA TECDOC
- Assessment of Aircraft Accident Conditions in the Context of Test Requirements for Type C Packages Containing Radioactive Material — IAEA TECDOC
- Assessment of Prospective Cancer Risks from Occupational Exposure to Ionizing Radiation — IAEA TECDOC

- Assessment of Radioactive Contamination in Urban Areas — IAEA TECDOC
- Management of Residues Containing Naturally Occurring Radioactive Material from Uranium Production and Other Activities — IAEA Safety Standards Series
- Occupational Radiation Protection — IAEA Safety Standards Series (Russian)
- Occupational Radiation Protection During the Decommissioning of Nuclear Installations — IAEA TECDOC
- Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources — Training Course Series (Arabic)
- Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources — Training Course Series (Russian)
- Protocolos de Control de Calidad para Radiodiagnóstico en América Latina y el Caribe — IAEA TECDOC (Spanish)
- Radiation Protection and Safety in Veterinary Medicine — Safety Reports Series
- Radiation Protection of Wildlife: Modelling the Exposure and Effects — IAEA TECDOC
- Radiation Safety of X Ray Generators and Other Radiation Sources Used for Inspection Purposes and for Non-medical Human Imaging — IAEA Safety Standards Series (Russian)
- Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material (2018 Edition) — IAEA Safety Standards Series

Nuclear Security

- Challenges Faced by Technical and Scientific Support Organizations (TSOs) in Enhancing Nuclear Safety and Security — IAEA Proceedings Series
- Computer Security for Nuclear Security — IAEA Nuclear Security Series
- Computer Security Techniques for Nuclear Facilities — IAEA Nuclear Security Series
- Developing a National Framework for Managing the Response to Nuclear Security Events — IAEA Nuclear Security Series (French)
- Developing Regulations and Associated Administrative Measures for Nuclear Security — IAEA Nuclear Security Series (French)
- Enhancing Nuclear Security Culture in Organizations Associated with Nuclear and Other Radioactive Material — IAEA Nuclear Security Series
- Handbook on the Design of Physical Protection Systems for Nuclear Material and Nuclear Facilities — IAEA Nuclear Security Series
- Managing the Interface between Safety and Security for Normal Commercial Shipments of Radioactive Material — Technical Reports Series
- Model Academic Curriculum in Nuclear Security — IAEA Nuclear Security Series
- National Nuclear Security Threat Assessment, Design Basis Threats and Representative Threat Statements — IAEA Nuclear Security Series
- Preventive and Protective Measures Against Insider Threats — IAEA Nuclear Security Series (French)
- Preventive Measures for Nuclear and Other Radioactive Material out of Regulatory Control — IAEA Nuclear Security Series (French)
- Safety Classification of Structures, Systems and Components in Nuclear Power Plants — IAEA Safety Standards Series (Spanish)
- Security During the Lifetime of a Nuclear Facility — IAEA Nuclear Security Series (French)
- Security of Nuclear Material in Transport — IAEA Nuclear Security Series (Spanish)
- Self-assessment of Nuclear Security Culture in Facilities and Activities — IAEA Nuclear Security Series (Arabic)
- Sustaining a Nuclear Security Regime — IAEA Nuclear Security Series (Arabic)

Nuclear Verification

- IAEA Safeguards and SSAC Advisory Service (ISSAS) Guidelines — IAEA Services Series

Table A33. Technical cooperation training courses held in 2021

Energy

- Virtual Regional Training Course on Energy Technology Assessments for Energy & Climate Strategies
Austria
- Virtual TC Training on energy supply analysis using IAEA MESSAGE tool (Phase 1: Self-Training)
Austria
- Virtual TC Training on energy supply analysis using IAEA MESSAGE tool (Phase2)
Austria
- Virtual Event - Training Course on Advancements and Innovations in Water Cooled Reactor
Technologies with Hands-On Learning Tools
Austria
- Virtual Interregional Training Course on Environmental Remediation Site Characterization
Austria
- Virtual Event - INT2022 Training Course on General strategy and Approach for Management of
NORM
Austria
- Virtual Event - Interregional Training Course on Project Planning and Management for
Decommissioning and Environmental Remediation Projects
Austria

Food and Agriculture

- Virtual Regional Training Course on Stable Isotope Systematics in the Environment (SISE)
Austria
- Virtual Regional Training Course on SIT components: “Mosquito monitoring and data collection and
data management” (Module II)
Austria
- Virtual Regional Training Course on SIT components: Methods for Mass-Rearing and Irradiation of
Aedes mosquitoes (Module I)
Austria
- Virtual Regional Training Course on the Establishment of Pest Free Areas (PFA) and Areas of Low
Pest Prevalence (ALPP) in the Framework of International Standards and Trade
Austria
- Virtual Regional Training Course on the Use of the Model to Establish Fruit Fly Trapping Networks
Based on Risk Factors
Austria
- Virtual Training Course on Management and Statistical Analysis of Data Collected from Mark-Release-
Recapture Studies for Aedes Mosquitoes in Preparation of SIT Pilot Trials
Austria
- IAEA/RCA Regional Virtual Training Course on Electron Beam/X-Ray Technology and the Future of
Food Irradiation in the RCA Region
Austria
- Virtual Event - Regional Training on the Advanced Molecular Techniques for Characterization and
Phylogenetic Analysis of Bacterial Pathogens
Austria
- Virtual Regional Training Course on Risk Maps Elaboration
Austria
- Virtual Regional Training Course on SIT components: “Mosquito monitoring and data collection and
data management” (Module II)
Austria
- Virtual Event - Regional (AFRA) Training Course to Enhance the Food Safety Regulatory Framework
Austria

- Virtual Event - Regional (AFRA) Training Course on Best Soil, Nutrient and Water Management Practices to Increase Production of Cassava
Austria
- Virtual Regional Training Course on SIT components: Methods for Mass-Rearing and Irradiation of Aedes mosquitoes (Module I)
Austria
- Virtual Training course on Evapotranspiration estimation and partitioning
Austria
- Virtual Event - Regional Training Course on Plant Mutation Breeding and Efficiency Enhancing Techniques to Increase Resilience to Climate Change
Austria
- Virtual Regional Training Course on Digital Breeding Management Systems and Field Experimental Data Analysis
Austria
- Virtual Event - Regional (AFRA) Training Course on Plant Mutation Breeding and Efficiency Enhancing Techniques to Increase Resilience to Climate Change
Austria
- Virtual Event Regional Training Course on Nutrient and Water Management in Crops
Austria
- Virtual Regional Training Course on Cost/Benefit Analysis for the Selection of Optimum Agriculture Practices that Improve Water and Nitrogen Use Efficiency
Austria
- Virtual Regional Training Course on Data Processing and Interpretation of Results from ¹⁵N Stable Isotope Analysis from Field and Greenhouse Experiments (Group 1)
Mexico
- Virtual Regional Training Course on Remote Sensing for Water Use Efficiency
Austria
- Virtual Regional Training Course on the Advanced Use of Aqua Crop Model to Improve Water Use Efficiency and Crop Productivity
Austria
- Virtual Event- Regional Training Course on Plant Mutation Breeding and Associated Biotechnologies
Austria

Health and Nutrition

- Virtual Regional Training Course on Set-up of Cyclotron Facility for Radiopharmaceutical Production
Austria
- Virtual Regional Training Course on the Implementation of the Code of Practice
Argentina
- Virtual - Regional Training Course on Quality Management in Radiotherapy
United States of America
- Virtual-Regional Training Course on Hybrid Imaging and Theranostics for Paediatric Patients
Austria
- Virtual Regional Training Course on Protocols in Hybrid Imaging for Technologists for the Acquisition and Processing of Hybrid Imaging for Nuclear Medicine Technologists
Austria
- Virtual Interregional Training Course on Targeted Radionuclide Therapies
United States of America
- Virtual Regional Training Course on Transition from 3D Conformal Radiation Therapy to Intensity Modulated Radiation Therapy
Russian Federation
- Virtual Regional Training Course on Scaffolds, Irradiated tissue and Biomaterial (theoretical)
Argentina

- Virtual Regional Training Course on Risk Management, Radiation Safety and Quality Assurance in Radiotherapy
Austria
- Virtual Regional Training Course on Radiobiology for Medical Physicist and Radiotherapists
Russian Federation
- Virtual Regional Training Course on Radiation Protection and Safety, and Accident Prevention in Radiation Therapy
Russian Federation
- IAEA/RCA Virtual Training Course on Multidisciplinary Approach to Palliative Radiotherapy in Cancer Management
Austria
- Virtual - Regional Training Course on Quality Management in Radiotherapy
United States of America
- Virtual Regional Train-the-Trainers Course in Radiopharmacy
Uruguay
- Virtual Regional Training Course on Brachytherapy Physics
Russian Federation
- Virtual-Regional Training Course on Hybrid Imaging in Oncology
Austria

Industrial Applications/Radiation Technology

- Virtual Regional training course on Nuclear Analytical Techniques for forensic analysis, including methods validation and quality assurance
Austria
- Virtual Training Course on Mathematical Modelling for Radiation Processing
Austria
- Virtual Training Course on Mathematical Modelling for Radiation Processing
Austria
- Virtual Regional Training Course on Magnetic Particles
Argentina
- Virtual Regional Training Course on Preservation of Cultural Heritage Objects and Archived Materials using Ionizing Radiation
Brazil
- Virtual Regional Training Course on Applied Radiation Technology as a Tool for Recycling of Polymer Waste
Austria
- RTC on Computed Tomography (CT) in Associated with 3D Image Analysis for Industrial Components
Austria

Nuclear knowledge development and management

- Regional (AFRA) Training Course - Postgraduate Educational Course (PGEC) in Radiation Protection and the Safety of Radiation Sources in French Language
Algeria
- Virtual Regional Training Course for Supervisors of Clinical Training Programmes in Medical Physics
Austria
- Virtual Regional Training Course on NST Specialized Programme in the Field of Radiation Protection
Austria
- Virtual Event - Second Training Course on Strategic Planning/Management for young leaders
Austria
- Virtual Event - Second IAEA Virtual Training Course on Supporting Women for Nuclear Science Education and Communications: A Continuing Education Program for Female University Science

Teachers and Science Communication Professionals

Austria

- Virtual - TC Virtual Regional Training Course on Isotope Hydrology for IAEA Caribbean Member States
Austria
- Remote On-line Training Course on Financial Analysis of Investment Project Scenarios with application of COMFAR software for NNIs
Austria
- Regional (AFRA) Training Course - Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources (PGEC) in English Language
Ghana
- Virtual Event - Training Course on Strategic Planning/Management for young leaders
Austria
- PGEC Course (French)
Morocco
- Postgraduate Educational Course on Radiation Protection and Safety of Radiation Sources for English-speaking Countries (PGEC)
Ghana

Safety and Security

- Virtual Event - Training Course on Good Laboratory Practice in the Measurement of Radon and Proficiency Testing Exercise for Passive Radon Detectors
Germany
- Virtual Event - Interregional Training Course on Licensing and Construction Preparation and Oversight for New and Expanding Nuclear Power Programme
Austria
- Virtual Event - Interregional Training Course on Leadership and Management for Safety
Austria
- Virtual Event - Interregional Training Course on Industrial Involvement in a Nuclear Power Programme
Austria
- Virtual Event - Interregional Training Course on Implementing the Systematic Approach to Training in New Nuclear Power Programmes
Austria
- Virtual Event - Interregional Training Course on Human Resource Development and Workforce Planning for New and Expanding Nuclear Power Programmes
Austria
- Virtual Event - Interregional Training Course on Establishing Arrangements and Capabilities for Emergency Preparedness and Response
Austria
- Virtual Event- Regional Training Course for Implementation of Protocols and Procedures of Radon Measurement in Dwelling, Workplaces and Water
Austria
- Virtual Event – Interregional Training Course on External Support and TSOs for a New Nuclear Power Programme
Austria
- Virtual Event - Regional (AFRA) Training Course on EPR Response to Transport Incidents and Emergencies
Austria
- Virtual Event - Regional (AFRA) Training Course on Safe Transport of Radioactive Material
Austria
- Virtual Event - Regional (AFRA) Training Course on Safe Transport of Radioactive Material in French
Austria

- Regional Training Course on First Response to Nuclear or Radiological Emergencies
Austria
- Regional Training Course on Preparedness and Response for a Nuclear or Radiological Emergency Combined with Other Incidents or Emergencies
Türkiye
- Virtual Event - Interregional Training Course on Radiation Monitoring and Data Sharing through IRMIS in Nuclear and Radiological Emergencies
Austria
- Virtual Event - INT2022 Training Course on Regulation NORM Residues in a Graded Approach
Austria
- Virtual Event -TC Training Course on Awareness and Identification of NORM Residues
Austria
- Virtual - Interregional Training Course on Nuclear Energy Leadership
Austria
- Virtual Event - Interregional Training Course on Safety Assessment and Safety Cases for the Predisposal Management of Radioactive Waste
Austria
- Postgraduate Educational Course on Radiation Protection and Safety of Radiation Sources (PGEC) 2021 - Part I Virtual
Argentina
- Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources in Arabic
Jordan
- Postgraduate Educational Course on Radiation Protection and the Safety of Radiation Sources
Belarus
- Virtual Regional TC Training on Developing a Protection Strategy for a Nuclear or Radiological Emergency (in Arabic)
Austria
- Virtual Regional training Course on Advanced Radiation Protection in Interventional Radiology
Austria
- Virtual Interregional Training Course on Stakeholder Involvement for New Nuclear Power Programmes
Austria
- Regional Virtual Training Course for First Responders to Radiological Emergencies
Austria
- Virtual Regional Training Course for First Responders to a Radiological Emergency for IAEA Caribbean Member States
Austria
- Virtual Basic Training Course on Radiological Protection (CBPR)
Argentina
- Virtual Event - Regional Training Course on Regulatory Body Integrated Management System and Human Resources Planning
Austria
- Interregional Training Course on Leadership and Management for Safety
Russian Federation
- Virtual TC Training on Responding to a medical event, the role of the regulatory authority
United States of America
- Virtual Train-the-Trainers Regional Training Course for Radiation Protection Officers
Austria
- Interregional Training Course on Strategies Related to the Nuclear Fuel Cycle and Radioactive Waste Management
Russian Federation
- Interregional Training Course on Industry Involvement in a Nuclear Power Programme
Russian Federation

- Interregional Training Course on Human Resource Development for New or Expanding Nuclear Power Programmes
Russian Federation
- Interregional Training Course on Establishing Arrangements and Capabilities for Emergency Preparedness and Response
Russian Federation
- Interregional Training Course on Economic Aspects and Funding of a New Nuclear Power Programme
France
- Interregional Training Course on Design Safety and Safety Assessment for Nuclear Power Plants
Russian Federation
- Virtual-TC Training Course on National Strategies in Education and Training in Radiation Safety
Austria
- Virtual - Interregional Training Course on Electrical Grid Considerations and Interactions with the Nuclear Power Plant
Austria
- National Training Course on BSS
Cameroon

Water and the Environment

- Virtual Regional Training Course on the Use of Remote Sensing Analysis for Air Pollution Source Identification
Austria
- Virtual Regional Training Course on Nitrate Isotopes
Austria
- Virtual Regional Training Course on Design and Implementation of Wetland Isotope Programs
Austria
- TC Virtual Regional Training Course on Tritium in the Marine Environment
Austria
- Virtual Regional Training Course on the Interpretation of Stable Water Isotopes in the Evaluation of Groundwater Resources in the Dry Corridor of Central America under Scenarios of Variability and Climate Change
Costa Rica
- Virtual Regional Training Course on the Analysis of Stable Isotopes in Water using Laser Spectrometry
Austria
- Virtual Regional Training Course on Isotope Techniques in the Investigation of Groundwater Resources
Austria
- Virtual Regional Training Course on Isotope Hydrology Part I
Austria
- Virtual Regional Training Course on Isotope Hydrology Part II
Austria
- Virtual Event - Regional Training Course on Introduction to Laser Spectrometry Methods for the Analysis of Deuterium and Oxygen-18 in Water Samples (French)
Austria
- Virtual Regional Training Course on Sample preparation and analyses of stables isotopes in wetland samples Prospectus
Austria
- Virtual Regional Training Course on Knowledge Discovery on Handling Large Datasets
Austria
- TC Virtual Regional Advanced Training Course on the Use of Isotope Techniques for the Investigation of Groundwater Pollution
Austria

- Virtual Regional Training Course on Energy Technology Assessments for Energy & Climate Strategies Austria
- Virtual TC Training on energy supply analysis using IAEA MESSAGE tool (Phase 1:Self-Training) Austria
- Virtual TC Training on energy supply analysis using IAEA MESSAGE tool (Phase2) Austria
- Virtual Event - Training Course on Advancements and Innovations in Water Cooled Reactor Technologies with Hands-On Learning Tools Austria
- Virtual Interregional Training Course on Environmental Remediation Site Characterization Austria
- Virtual Event - INT2022 Training Course on General strategy and Approach for Management of NORM Austria
- Virtual Event - Interregional Training Course on Project Planning and Management for Decommissioning and Environmental Remediation Projects Austria

Food and Agriculture

- Virtual Regional Training Course on Stable Isotope Systematics in the Environment (SISE) Austria
- Virtual Regional Training Course on SIT components: “Mosquito monitoring and data collection and data management” (Module II) Austria
- Virtual Regional Training Course on SIT components: Methods for Mass-Rearing and Irradiation of Aedes mosquitoes (Module I) Austria
- Virtual Regional Training Course on the Establishment of Pest Free Areas (PFA) and Areas of Low Pest Prevalence (ALPP) in the Framework of International Standards and Trade Austria
- Virtual Regional Training Course on the Use of the Model to Establish Fruit Fly Trapping Networks Based on Risk Factors Austria
- Virtual Training Course on Management and Statistical Analysis of Data Collected from Mark-Release-Recapture Studies for Aedes Mosquitoes in Preparation of SIT Pilot Trials Austria
- IAEA/RCA Regional Virtual Training Course on Electron Beam/X-Ray Technology and the Future of Food Irradiation in the RCA Region Austria
- Virtual Event - Regional Training on the Advanced Molecular Techniques for Characterization and Phylogenetic Analysis of Bacterial Pathogens Austria
- Virtual Regional Training Course on Risk Maps Elaboration Austria
- Virtual Regional Training Course on SIT components: “Mosquito monitoring and data collection and data management” (Module II) Austria
- Virtual Event - Regional (AFRA) Training Course to Enhance the Food Safety Regulatory Framework Austria
- Virtual Event - Regional (AFRA) Training Course on Best Soil, Nutrient and Water Management Practices to Increase Production of Cassava Austria

- Virtual Regional Training Course on SIT components: Methods for Mass-Rearing and Irradiation of *Aedes* mosquitoes (Module I)
Austria
- Virtual Training course on Evapotranspiration estimation and partitioning
Austria
- Virtual Event - Regional Training Course on Plant Mutation Breeding and Efficiency Enhancing Techniques to Increase Resilience to Climate Change
Austria
- Virtual Regional Training Course on Digital Breeding Management Systems and Field Experimental Data Analysis
Austria
- Virtual Event - Regional (AFRA) Training Course on Plant Mutation Breeding and Efficiency Enhancing Techniques to Increase Resilience to Climate Change
Austria
- Virtual Event Regional Training Course on Nutrient and Water Management in Crops
Austria
- Virtual Regional Training Course on Cost/Benefit Analysis for the Selection of Optimum Agriculture Practices that Improve Water and Nitrogen Use Efficiency
Austria
- Virtual Regional Training Course on Data Processing and Interpretation of Results from ¹⁵N Stable Isotope Analysis from Field and Greenhouse Experiments (Group 1)
Mexico
- Virtual Regional Training Course on Remote Sensing for Water Use Efficiency
Austria
- Virtual Regional Training Course on the Advanced Use of Aqua Crop Model to Improve Water Use Efficiency and Crop Productivity
Austria
- Virtual Event- Regional Training Course on Plant Mutation Breeding and Associated Biotechnologies
Austria

Health and Nutrition

- Virtual Regional Training Course on Set-up of Cyclotron Facility for Radiopharmaceutical Production
Austria
- Virtual Regional Training Course on the Implementation of the Code of Practice
Argentina
- Virtual Regional Training Course on Quality Management in Radiotherapy
United States of America
- Virtual-Regional Training Course on Hybrid Imaging and Theranostics for Paediatric Patients
Austria
- Virtual Regional Training Course on Protocols in Hybrid Imaging for Technologists for the Acquisition and Processing of Hybrid Imaging for Nuclear Medicine Technologists
Austria
- Virtual Interregional Training Course on Targeted Radionuclide Therapies
United States of America
- Virtual Regional Training Course on Transition from 3D Conformal Radiation Therapy to Intensity Modulated Radiation Therapy
Russian Federation
- Virtual Regional Training Course on Scaffolds, Irradiated tissue and Biomaterial (theoretical)
Argentina
- Virtual Regional Training Course on Risk Management, Radiation Safety and Quality Assurance in Radiotherapy
Austria

- Virtual Regional Training Course on Radiobiology for Medical Physicist and Radiotherapists
Russian Federation
- Virtual Regional Training Course on Radiation Protection and Safety, and Accident Prevention in
Radiation Therapy
Russian Federation
- IAEA/RCA Virtual Training Course on Multidisciplinary Approach to Palliative Radiotherapy in
Cancer Management
Austria
- Virtual - Regional Training Course on Quality Management in Radiotherapy
United States of America
- Virtual Regional Train-the-Trainers Course in Radiopharmacy
Uruguay
- Virtual Regional Training Course on Brachytherapy Physics
Russian Federation
- Virtual-Regional Training Course on Hybrid Imaging in Oncology
Austria

Industrial Applications/Radiation Technology

- Virtual Regional training course on Nuclear Analytical Techniques for forensic analysis, including
methods validation and quality assurance
Austria
- Virtual Training Course on Mathematical Modelling for Radiation Processing
Austria
- Virtual Training Course on Mathematical Modelling for Radiation Processing
Austria
- Virtual Regional Training Course on Magnetic Particles
Argentina
- Virtual Regional Training Course on Preservation of Cultural Heritage Objects and Archived Materials
using Ionizing Radiation
Brazil
- Virtual Regional Training Course on Applied Radiation Technology as a Tool for Recycling of Polymer
Waste
Austria
- RTC on Computed Tomography (CT) in Associated with 3D Image Analysis for Industrial Components
Austria
- Nuclear Knowledge Development and Management
- Regional (AFRA) Training Course - Postgraduate Educational Course (PGEC) in Radiation Protection
and the Safety of Radiation Sources in French Language
Algeria
- Virtual Regional Training Course for Supervisors of Clinical Training Programmes in Medical Physics
Austria
- Virtual Regional Training Course on NST Specialized Programme in the Field of Radiation Protection
Austria
- Virtual Event - Second Training Course on Strategic Planning/Management for young leaders
Austria
- Virtual Event - Second IAEA Virtual Training Course on Supporting Women for Nuclear Science
Education and Communications: A Continuing Education Program for Female University Science
Teachers and Science Communication Professionals
Austria
- Virtual - TC Virtual Regional Training Course on Isotope Hydrology for IAEA Caribbean Member
States
Austria

- Remote On-line Training Course on Financial Analysis of Investment Project Scenarios with application of COMFAR software for NNIs
Austria
- Regional (AFRA) Training Course - Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources (PGEC) in English Language
Ghana
- Virtual Event - Training Course on Strategic Planning/Management for young leaders
Austria
- PGEC Course (French)
Morocco
- Postgraduate Educational Course on Radiation Protection and Safety of Radiation Sources for English-speaking Countries (PGEC)
Ghana

Safety and Security

- Virtual Event - Training Course on Good Laboratory Practice in the Measurement of Radon and Proficiency Testing Exercise for Passive Radon Detectors
Germany
- Virtual Event - Interregional Training Course on Licensing and Construction Preparation and Oversight for New and Expanding Nuclear Power Programme
Austria
- Virtual Event - Interregional Training Course on Leadership and Management for Safety
Austria
- Virtual Event - Interregional Training Course on Industrial Involvement in a Nuclear Power Programme
Austria
- Virtual Event - Interregional Training Course on Implementing the Systematic Approach to Training in New Nuclear Power Programmes
Austria
- Virtual Event - Interregional Training Course on Human Resource Development and Workforce Planning for New and Expanding Nuclear Power Programmes
Austria
- Virtual Event - Interregional Training Course on Establishing Arrangements and Capabilities for Emergency Preparedness and Response
Austria
- Virtual Event- Regional Training Course for Implementation of Protocols and Procedures of Radon Measurement in Dwelling, Workplaces and Water
Austria
- Virtual Event – Interregional Training Course on External Support and TSOs for a New Nuclear Power Programme
Austria
- Virtual Event - Regional (AFRA) Training Course on EPR Response to Transport Incidents and Emergencies
Austria
- Virtual Event - Regional (AFRA) Training Course on Safe Transport of Radioactive Material
Austria
- Virtual Event - Regional (AFRA) Training Course on Safe Transport of Radioactive Material in French
Austria
- Regional Training Course on First Response to Nuclear or Radiological Emergencies
Austria
- Regional Training Course on Preparedness and Response for a Nuclear or Radiological Emergency Combined with Other Incidents or Emergencies
Türkiye

- Virtual Event - Interregional Training Course on Radiation Monitoring and Data Sharing through IRMIS in Nuclear and Radiological Emergencies
Austria
- Virtual Event - INT2022 Training Course on Regulation NORM Residues in a Graded Approach
Austria
- Virtual Event -TC Training Course on Awareness and Identification of NORM Residues
Austria
- Virtual - Interregional Training Course on Nuclear Energy Leadership
Austria
- Virtual Event - Interregional Training Course on Safety Assessment and Safety Cases for the Predisposal Management of Radioactive Waste
Austria
- Postgraduate Educational Course on Radiation Protection and Safety of Radiation Sources (PGEC) 2021 - Part I Virtual
Argentina
- Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources in Arabic
Jordan
- Postgraduate Educational Course on Radiation Protection and the Safety of Radiation Sources
Belarus
- Virtual Regional TC Training on Developing a Protection Strategy for a Nuclear or Radiological Emergency (in Arabic)
Austria
- Virtual Event - Interregional Training Course on Design Safety and Safety Assessment for Nuclear Power Plants
Austria
- Virtual Regional training Course on Advanced Radiation Protection in Interventional Radiology
Austria
- Virtual - Interregional Training Course on Stakeholder Involvement for New Nuclear Power Programmes
Austria
- Regional Virtual Training Course for First Responders to Radiological Emergencies
Austria
- Virtual Virtual Regional Training Course for First Responders to a Radiological Emergency for IAEA Caribbean Member States
Austria
- Virtual Basic Training Course on Radiological Protection (CBPR)
Argentina
- Virtual Event - Regional Training Course on Regulatory Body Integrated Management System and Human Resources Planning
Austria
- Interregional Training Course on Leadership and Management for Safety
Russian Federation
- Virtual TC Training on Responding to a medical event, the role of the regulatory authority
United States of America
- Virtual Train-the-Trainers Regional Training Course for Radiation Protection Officers
Austria
- Interregional Training Course on Strategies Related to the Nuclear Fuel Cycle and Radioactive Waste Management
Russian Federation
- Interregional Training Course on Industry Involvement in a Nuclear Power Programme
Russian Federation

- Interregional Training Course on Human Resource Development for New or Expanding Nuclear Power Programmes
Russian Federation
- Interregional Training Course on Establishing Arrangements and Capabilities for Emergency Preparedness and Response
Russian Federation
- Interregional Training Course on Economic Aspects and Funding of a New Nuclear Power Programme
France
- Interregional Training Course on Design Safety and Safety Assessment for Nuclear Power Plants
Russian Federation
- Virtual-TC Training Course on National Strategies in Education and Training in Radiation Safety
Austria
- Virtual - Interregional Training Course on Electrical Grid Considerations and Interactions with the Nuclear Power Plant
Austria

Water and the Environment

- Virtual Regional Training Course on the Use of Remote Sensing Analysis for Air Pollution Source Identification
Austria
- Virtual Regional Training Course on Nitrate Isotopes
Austria
- Virtual Regional Training Course on Design and Implementation of Wetland Isotope Programs
Austria
- TC Virtual Regional Training Course on Tritium in the Marine Environment
Austria
- Virtual Regional Training Course on the Interpretation of Stable Water Isotopes in the Evaluation of Groundwater Resources in the Dry Corridor of Central America under Scenarios of Variability and Climate Change
Costa Rica
- Virtual Regional Training Course on the Analysis of Stable Isotopes in Water using Laser Spectrometry
Austria
- Virtual Regional Training Course on Isotope Techniques in the Investigation of Groundwater Resources
Austria
- Virtual Regional Training Course on Isotope Hydrology
Austria
- Virtual Regional Training Course on Isotope Hydrology
Austria
- Virtual Event - Regional Training Course on Introduction to Laser Spectrometry Methods for the Analysis of Deuterium and Oxygen-18 in Water Samples (French)
Austria
- Virtual Regional Training Course on Sample preparation and analyses of stable isotopes in wetland samples
Prospectus
Austria
- Virtual Regional Training Course on Knowledge Discovery on Handling Large Datasets
Austria
- TC Virtual Regional Advanced Training Course on the Use of Isotope Techniques for the Investigation of Groundwater Pollution
Austria

Table A34. Agency corporate social media accounts

Facebook

Arabic

www.facebook.com/IAEAarabic

English

www.facebook.com/iaeaorg

French

www.facebook.com/aieaorg

Russian

www.facebook.com/magateorg

Spanish

www.facebook.com/oieaorg

Instagram

instagram.com/iaeaorg

LinkedIn

www.linkedin.com/company/iaea

Twitter

twitter.com/iaeaorg

Weibo

Chinese

<http://weibo.com/iaeaorg>

Youtube

www.youtube.com/user/IAEAvideo

Table A35(a). Number and types of facilities under Agency safeguards by State during 2021

State ^a	Power reactors	Research reactors and critical assemblies	Conversion plants	Fuel fabrication plants	Reprocessing plants	Enrichment plants	Separate storage facilities	Other facilities	Total
Algeria		2	1	1					4
Argentina	4	6	4	3		3	6	7	33
Armenia	2						1		3
Australia		2					1	2	5
Austria		1							1
Bangladesh	1	1							2
Belarus	2	1					2		5
Belgium	6	3		1	1		7	5	23
Brazil	3	6	1	1		5	2	5	23
Bulgaria	3	1					2		6
Canada	6	8	2	5			12		33
Chile		2	1	1					4
China	1	1				1			3
Colombia		1							1
Czech Republic	3	3					4	2	12
Democratic Republic of the Congo		1							1
Denmark		1					2	1	4
Egypt	1	2	1	2				3	9
Estonia		1							1
Finland	5	1					2	1	9
France				1	1	1			3
Georgia		1						1	2
Germany	21	13		1	1	1	23	6	66
Ghana		1							1
Greece		1							1
Hungary	3	2					2		7
India	10			3			2		15
Indonesia		3		2			1	1	7
Iran, Islamic Republic of	4	6	2	2		3	1	3	21
Iraq							1		1
Israel		1							1
Italy	5	6			2		5	1	19
Jamaica		1							1
Japan	64	19	2	8	6	3	8	15	125
Jordan		1							1
Kazakhstan	1	4		2			6		13
Korea, Republic of	32	3		1			3	7	46

Latvia		1						1
Libya		1					1	2
Lithuania	1					2		3
Malaysia		1						1
Mexico	2	1		1		1		5
Morocco		1						1
Netherlands	2	2			1	2	1	8
Nigeria		1						1
Norway		2					1	3
Pakistan	7	2						9
Peru		2						2
Philippines	1	1						2
Poland		2				1		3
Portugal		1				1		2
Romania	4	2	1	1		1		9
Russian Federation						1		1
Serbia		1						1
Slovakia	5					3		8
Slovenia	1	1				1		3
South Africa	2	1	2	2		8	3	18
Spain	8			1		7	1	17
Sweden	12	1		1		2		16
Switzerland	5	2				2	3	12
Syrian Arab Republic		1						1
Tajikistan		1						1
Thailand		3						3
Türkiye	4	2		1		2		9
Ukraine	19	2				8	6	35
United Arab Emirates	4							4
United Kingdom					1	2		3
United States of America						1		1
Uzbekistan		1						2
Venezuela, Bolivarian Republic of		1						1
Viet Nam		1						1

^a An entry in this column does not imply the expression of any opinion whatsoever on the part of the Agency concerning the legal status of any country or territory or of its authorities, or concerning the delimitation of its frontiers.

Note: 1. The numbers indicated here include projected and operational facilities, and facilities at the decommissioning stage.
2. The Agency was also applying safeguards at 15 facilities in Taiwan, China.

Table A35(b). Facilities under Agency safeguards or containing safeguarded nuclear material during 2021

State ^a	Name of facility	Location
Power reactors		
Argentina	Atucha I Nuclear Power Plant	Lima
	Atucha II Nuclear Power Plant	Lima
	Carem	Lima
	Embalse Nuclear Power Plant	Embalse
Armenia	Armenian NPP	Metsamor
	Armenian NPP 3	Metsamor
Bangladesh	Rooppur NPP	Ishwardi, Pabna District
Belarus, Republic of	Belarus 1	Ostrovets
	Belarus 2	Ostrovets
Belgium	Doel 1 & 2 NPP	Doel
	Doel 3 NPP	Doel
	Doel 4 NPP	Doel
	Tihange 1 NPP	Tihange
	Tihange 2 NPP	Tihange
	Tihange 3 NPP	Tihange
Brazil	Angra 1	Angra dos Reis
	Angra 2	Angra dos Reis
	Angra 3	Angra dos Reis
Bulgaria	NPP Kozloduy 1 & 2	Kozloduy
	NPP Kozloduy 3 & 4	Kozloduy
	NPP Kozloduy 5 & 6	Kozloduy
Canada	Bruce 'A' N.G.S.	Tiverton, Ontario
	Bruce 'B' N.G.S.	Tiverton, Ontario
	Darlington NGS	Bowmanville, Ontario
	Gentilly II	Gentilly, Quebec
	Pickering N.G.S.	Pickering, Ontario
	Point Lepreau	Pt. Lepreau, New Brunswick
China	HTR-PM	Rongcheng, Shandong Province
Czech Republic	NPP Dukovany (Edu-1)	Dukovany
	NPP Dukovany (Edu-2)	Dukovany
	NPP Temelin	Temelin
Egypt	El Dabaa NPP	El Dabaa
Finland	Hanhikivi-I	Pyhaejoki

State ^a	Name of facility	Location
	Loviisa NPP	Loviisa
	TVO I	Olkiluoto
	TVO II	Olkiluoto
	TVO III	Olkiluoto
Germany	HKG-THTR 300	Hamm
	KKW Brokdorf	Brokdorf
	KKW Brunsbuettel	Brunsbuettel
	KKW Emsland	Lingen (Ems)
	KKW Grafenrheinfeld	Grafenrheinfeld
	KKW Grohnde	Emmerthal
	KKW Gundremmingen, Block B	Gundremmingen
	KKW Gundremmingen, Block C	Gundremmingen
	KKW Isar 1	Essenbach
	KKW Isar 2	Essenbach
	KKW Kruemmel	Geesthacht
	KKW Neckarwestheim 1	Neckarwestheim
	KKW Neckarwestheim 2	Neckarwestheim
	KKW Obrigheim	Obrigheim
	KKW Philippsburg 1	Philippsburg
	KKW Philippsburg 2	Philippsburg
	KKW Unterweser	Unterweser
	KW Biblis A	Biblis
	KW Biblis B	Biblis
	KWL Lingen	Lingen
	KWW Muelheim-Kaerlich	Muelheim-Kaerlich
Hungary	MVM Paks NPP Ltd. I	Paks
	MVM Paks NPP Ltd. II	Paks
	Paks II Nuclear Power Plant	Paks
India	KAPS 1 & 2	Surat, Gujrat
	KAPS 3 & 4	Surat, Gujrat
	KKNPP 1 & 2	Kudankulam, Tamil Nadu
	KKNPP 3 & 4	Kudankulam, Tamil Nadu
	NAPS 1 & 2	Bulandshahar, Uttar Pradesh
	RAPS 1 & 2	Rawatbhata, Rajasthan
	RAPS 3 & 4	Rawatbhata, Rajasthan

State ^a	Name of facility	Location
	RAPS 5 & 6	Rawatbhata, Rajasthan
	RAPS 7 & 8	Rawatbhata, Rajasthan
	TAPS	Tarapur, Maharashtra
Iran, Islamic Republic of	Bushehr NPP	Bushehr
	Bushehr NPP	Bushehr
	Bushehr NPP	Bushehr
	IR360 NPP	Darkhovein
Italy	Area Disattivazione Caorso	Caorso
	Centrale Latina	Borgo Sabotino
	Centrale Nucleare di Trino	Trino Vercellese
	Cirene (On Load)	Borgo Sabotino
	So.G.I.N. CN del Garigliano	Sessa Aurunca (CE)
Japan	Fugen	Tsuruga-Shi, Fukui-Ken
	Fuku-I-1	Futaba-Gun, Fukushima-Ken
	Fuku-I-2	Futaba-Gun, Fukushima-Ken
	Fuku-I-3	Futaba-Gun, Fukushima-Ken
	Fuku-I-4	Futaba-Gun, Fukushima-Ken
	Fuku-I-5	Futaba-Gun, Fukushima-Ken
	Fuku-I-6	Futaba-Gun, Fukushima-Ken
	Fuku-N-1	Futaba-Gun, Fukushima-Ken
	Fuku-N-2	Futaba-Gun, Fukushima-Ken
	Fuku-N-3	Futaba-Gun, Fukushima-Ken
	Fuku-N-4	Futaba-Gun, Fukushima-Ken
	Genkai-1	Higashimatsuura-Gun, Saga-Ken
	Genkai-2	Higashimatsuura-Gun, Saga-Ken
	Genkai-3	Higashimatsuura-Gun, Saga-Ken
	Genkai-4	Higashimatsuura-Gun, Saga-Ken
	Hamaoka-1	Ogasa-Gun, Shizuoka-Ken
	Hamaoka-2	Ogasa-Gun, Shizuoka-Ken
	Hamaoka-3	Ogasa-Gun, Shizuoka-Ken
	Hamaoka-4	Ogasa-Gun, Shizuoka-Ken
	Hamaoka-5	Ogasa-Gun, Shizuoka-Ken
	Higashidoori-1	Shimokita-Gun, Aomori-Ken
	Higashidoori-1	Shimokita-Gun, Aomori-Ken
	Ikata-1	Nishiuwa-Gun, Ehime-Ken

State ^a	Name of facility	Location
	Ikata-2	Nishiuwa-Gun, Ehime-Ken
	Ikata-3	Nishiuwa-Gun, Ehime-Ken
	Joyo	Higashi, Ibaraki-Ken
	Kaminoseki-1	Kumage-Gun, Yamaguchi-Ken
	Kashiwazaki-1	Kashiwazaki-Shi, Niigata-Ken
	Kashiwazaki-2	Kashiwazaki-Shi, Niigata-Ken
	Kashiwazaki-3	Kashiwazaki-Shi, Niigata-Ken
	Kashiwazaki-4	Kashiwazaki-Shi, Niigata-Ken
	Kashiwazaki-5	Kashiwazaki-Shi, Niigata-Ken
	Kashiwazaki-6	Kashiwazaki-Shi, Niigata-Ken
	Kashiwazaki-7	Kashiwazaki-Shi, Niigata-Ken
	Mihama-1	Mikata-Gun, Fukui-Ken
	Mihama-2	Mikata-Gun, Fukui-Ken
	Mihama-3	Mikata-Gun, Fukui-Ken
	Monju	Tsuruga-Shi, Fukui-Ken
	Ohi 1 & 2	Ohi-Gun, Fukui-Ken
	Ohi 3	Ohi-Gun, Fukui-Ken
	Ohi 4	Ohi-Gun, Fukui-Ken
	Ohma	Shimokita-Gun, Aomori-Ken
	Onagawa-1	Oshika-Gun, Miyagi-Ken
	Onagawa-2	Oshika-Gun, Miyagi-Ken
	Onagawa-3	Oshika-Gun, Miyagi-Ken
	Sendai-1	Sendai-Shi, Kagoshima-Ken
	Sendai-2	Sendai-Shi, Kagoshima-Ken
	Sendai-3	Satumasendai-Shi
	Shika-1	Hakui-Gun, Ishikawa-Ken
	Shika-2	Hakui-Gun, Ishikawa-Ken
	Shimane-1	Yatsuka-Gun, Shimane-Ken
	Shimane-2	Yatsuka-Gun, Shimane-Ken
	Shimane-3	Yatsuka-Gun, Shimane-Ken
	Takahama-1	Ohi-Gun, Fukui-Ken
	Takahama-2	Ohi-Gun, Fukui-Ken
	Takahama-3	Ohi-Gun, Fukui-Ken
	Takahama-4	Ohi-Gun, Fukui-Ken
	Tokai	Tokai-Mura, Ibaraki-Ken

State ^a	Name of facility	Location
	Tokai-2	Tokai-Mura, Ibaraki-Ken
	Tomari-1	Fururu-Gun, Hokkaido
	Tomari-2	Fururu-Gun, Hokkaido
	Tomari-3	Fururu-Gun, Hokkaido
	Tsuruga-1	Tsuruga-Shi, Fukui-Ken
	Tsuruga-2	Tsuruga-Shi, Fukui-Ken
Kazakhstan	BN-350	Aktau
Korea, Republic of	Hanbit-1	Yeonggwang
	Hanbit-2	Yeonggwang
	Hanbit-3	Yeonggwang
	Hanbit-4	Yeonggwang
	Hanbit-5	Yeonggwang
	Hanbit-6	Yeonggwang
	Hanul-1	Ulchin
	Hanul-2	Ulchin
	Hanul-3	Ulchin
	Hanul-4	Ulchin
	Hanul-5	Ulchin
	Hanul-6	Ulchin
	Kori-1	Pusan
	Kori-2	Pusan
	Kori-3	Pusan
	Kori-4	Pusan
	Shin Hanul-1	Ulchin
	Shin Hanul-2	Ulchin
	Shin Hanul-3	Ulchin
	Shin Hanul-4	Ulchin
	Shin Kori-1	Pusan
	Shin Kori-2	Pusan
	Shin Kori-3	Pusan
	Shin Kori-4	Pusan
	Shin Kori-5	Pusan
	Shin Kori-6	Pusan
	Shin Wolsong-1	Kyongju
	Shin Wolsong-2	Kyongju

State ^a	Name of facility	Location
	Wolsong-1	Kyongju
	Wolsong-2	Kyongju
	Wolsong-3	Kyongju
	Wolsong-4	Kyongju
Lithuania	Ignalina NPP	Visaginas
Mexico	Central Laguna Verde Unit I	Muni. Al. Luc. Veracruz
	Central Laguna Verde Unit II	Muni. Al. Luc. Veracruz
Netherlands	Epz. Borssele	Borssele
	N. V. GKN-Dodewaard	Dodewaard
Pakistan	Chasnupp-1	Kundian, District Mianwali
	Chasnupp-2	Kundian, District Mianwali
	Chasnupp-3	Kundian, District Mianwali
	Chasnupp-4	Kundian, District Mianwali
	Kanupp	Karachi
	Kanupp-2	Karachi
	Kanupp-3	Karachi
Philippines	BNPP	Morong, Bataan
Romania	Cernavoda 3	Cernavoda
	Cernavoda 4	Cernavoda
	CNE Cernavoda 1	Cernavoda
	CNE Cernavoda 2	Cernavoda
Slovakia	JAVYS NPP A-1	Jaslovske Bohunice
	JAVYS NPP V-1	Jaslovske Bohunice
	NPP Mochovce Units 1 & 2	Mochovce
	NPP Mochovce Units 3 & 4	Mochovce
	V-2 NPP	Jaslovske Bohunice
Slovenia	Krško (NEK)	Krško
South Africa	Koeberg Unit I	Cape Town
	Koeberg Unit II	Cape Town
Spain	Asco 1	Asco
	Asco 2	Asco
	C.N. Almaraz 1	Almaraz
	C.N. Almaraz 2	Almaraz
	C.N. Cofrentes	Cofrentes
	C.N. de Sta. Maria de Garona	Santa Maria de Garona

State ^a	Name of facility	Location
	CN Trillo-1	Trillo
	CN Vandellos-2	Vandellos
Sweden	Barsebaeck Unit 1	Loeddekoepinge
	Barsebaeck Unit 2	Loeddekoepinge
	Forsmark Unit 1	Oesthammar
	Forsmark Unit 2	Oesthammar
	Forsmark Unit 3	Oesthammar
	Oskarshamn Unit 1	Oskarshamn
	Oskarshamn Unit 2	Oskarshamn
	Oskarshamn Unit 3	Oskarshamn
	Ringhals 1	Ringhals
	Ringhals 2	Ringhals
	Ringhals 3	Ringhals
	Ringhals 4	Ringhals
Switzerland	KKB Beznau-I	Beznau Doettingen
	KKB Beznau-II	Beznau Doettingen
	KKG Goesgen	Goesgen Daeniken
	KKL Leibstadt	Leibstadt
	KKM Muehleberg	Muehleberg
Türkiye	Akkuyu Unit 1	Büyükeceli
	Akkuyu Unit 2	Büyükeceli
	Akkuyu Unit 3	Büyükeceli
	Akkuyu Unit 4	Büyükeceli
Ukraine	Chernobyl NPP, Unit 1	Chornobyl
	Chernobyl NPP, Unit 2	Chornobyl
	Chernobyl NPP, Unit 3	Chornobyl
	Khmelnitski 1	Netishyn
	Khmelnitski 2	Netishyn
	Khmelnitski 3	Netishyn
	Khmelnitski 4	Netishyn
	Rovno 1 & 2	Varash
	Rovno 3	Varash
	Rovno 4	Varash
	South Ukraine 1	Yuzhnoukrayinsk
	South Ukraine 2	Yuzhnoukrayinsk

State ^a	Name of facility	Location
	South Ukraine 3	Yuzhnoukrayinsk
	Zaporozhe 1	Enerhodar
	Zaporozhe 2	Enerhodar
	Zaporozhe 3	Enerhodar
	Zaporozhe 4	Enerhodar
	Zaporozhe 5	Enerhodar
	Zaporozhe 6	Enerhodar
United Arab Emirates	BNPP-1	Barakah
	BNPP-2	Barakah
	BNPP-3	Barakah
	BNPP-4	Barakah
Uzbekistan	Unit 1	tbd
	Unit 2	tbd
Research reactors and critical assemblies		
Algeria	Es Salam Reactor	Ain Oussera
	Nur Reactor	Draria-Bp29 Wilaya de Tipaza
Argentina	Argentine Reactor 0 (RA-0)	Cordoba
	Argentine Reactor 1 (RA-1)	Buenos Aires
	Argentine Reactor 3 (RA-3)	Centro Atomico Ezeiza
	Argentine Reactor 4 (RA-4)	Rosario
	Argentine Reactor 6 (RA-6)	Centro Atomico Bariloche
	Argentine Reactor 10 (RA-10)	Centro Atomico Ezeiza
Australia	HIFAR	Lucas Heights, New South Wales
	OPAL	Lucas Heights, New South Wales
Austria	TRIGA Mark II Reactor	Vienna
Bangladesh	Atomic Energ. Res. Estab.	Dhaka
Belarus	Sosny	Minsk
Belgium	BR1-CEN	Mol
	BR2-CEN	Mol
	Venus-CEN	Mol
Brazil	Brazilian Multipurpose Reactor	Iperó, São Paulo
	CDTN/IRP-R1 Reactor	Belo Horizonte
	IEN/Argonauta Reactor	Rio de Janeiro
	IPEN/IEA-R1	São Paulo
	IPEN/MB01 Critical Assembly	São Paulo

State ^a	Name of facility	Location
	LABGENE	Iperó
Bulgaria	IRT-2000	Sofia
Canada	Biology, Chemistry, Physics	Chalk River, Ontario
	DIF	Chalk River, Ontario
	Ecole Polytechnique	Montreal, Quebec
	McMaster Nuclear Reactor	Hamilton, Ontario
	NRU Reactor	Chalk River, Ontario
	NRX Reactor	Chalk River, Ontario
	Slowpoke Kingston	Kingston, Ontario
	Slowpoke Saskatchewan	Saskatoon, Saskatchewan
Chile	RECH-1	Santiago
	RECH-2	Santiago
China	HTR-10	Nankou, Beijing
Colombia	Ian-R1 R. Reactor	Bogotá
Czech Republic	LR-0	Řež
	LVR-15	Řež
	VR-1	Prague
Democratic Republic of the Congo	TRIGA II Reactor	Kinshasa
Denmark	Danish Decommissioning-DR3	Roskilde
Egypt	ET RR-1	Inshas
	ET RR-2	Inshas
Estonia	A.L.A.R.A.	Paldiski
Finland	FiR 1	Espoo
Georgia	Decom. IRT-M	Tbilisi
Germany	AKR-2	Dresden
	BER-II	Berlin
	FH-Furtwangen	Furtwangen
	FRM	Garching
	FRM II	Garching
	Helmholtz-Zentrum Geesthacht	Geesthacht
	KFA-FRJ2	Juelich
	Labor-ST	Zittau
	SUR-100 FHU	Ulm
	SUR-100 Hannover	Hannover
	SUR-100 Stuttgart	Stuttgart

State ^a	Name of facility	Location
	SUR100-RWTH	Aachen
	TRIGA Mainz	Mainz
Ghana	GHARR-1 Ghana Research React. 1	Legon-Accra
Greece	GRR-1	Attikis
Hungary	Budapest Research Reactor	Budapest
	Training Reactor	Budapest
Indonesia	ChTkN	Bandung
	PPNY	Yogyakarta
	RSG-GAS	Serpong
Iran, Islamic Republic of	Esfahan MNSR	Esfahan
	FARS Research Reactor FRR	Shiraz
	HWZPR	Esfahan
	KHRR	Arak
	LWCR	Tehran
	Tehran Research Reactor (TRR)	Tehran
Israel	Israel Res. Reactor (IRR1)	Soreq
Italy	AGN-201	Palermo
	CEC-Complexe-Essor	Ispra
	CISAM-RTS-1	San Piero a Grado
	Lena	Pavia
	TAPIRO- Casaccia	Santa Maria di Galeria
	TRIGA RC1 Mark II	Santa Maria di Galeria
Jamaica	CNS	Kingston
Japan	DCA	Oarai-Machi, Ibaraki-Ken
	FCA	Tokai-Mura, Ibaraki-Ken
	HTR	Kawasaki-Shi, Kanagawa-Ken
	HTTR	Higashi, Ibaraki-Ken
	JMTR	Higashi, Ibaraki-Ken
	JMTRC	Higashi-Gun, Ibaraki-Ken
	JRR-2	Tokai-Mura, Ibaraki-Ken
	JRR-3	Tokai-Mura, Ibaraki-Ken
	JRR-4	Tokai-Mura, Ibaraki-Ken
	KINKI	Higashiosaka-Shi, Osaka-Fu
	KUCA	Osaka
	KUR	Sennan-Gun, Osaka

State ^a	Name of facility	Location
	Musashi Reactor	Kawasaki-Shi, Kanagawa-Ken
	NCA	Kawasaki-Shi, Kanagawa-Ken
	NSRR	Tokai-Mura, Ibaraki-Ken
	Rikkyo	Nagasaka, Kanagawa-Ken
	TCA	Tokai-Mura, Ibaraki-Ken
	TODAI	Tokai-Mura, Ibaraki-Ken
	TTR	Kawasaki-Shi, Kanagawa-Ken
Jordan	JRTR	Jordan Univ. Science & Tech.
Kazakhstan	IGR Reactor	Kurchatov
	IVG.1M Reactor	Kurchatov
	RA Reactor	Kurchatov
	WWR-K	Almaty
Korea, Republic of	Gijang Research Reactor	Gijang, Busan Metropol. City
	Hanaro	Taejeon
	Kyung Hee	Suwoon
Latvia	IRT	Salaspils
Libya	IRT-Tajura	Tajura
Malaysia	Puspati	Bangi, Selangor
Mexico	TRIGA Mark III	Ocoyoacac
Morocco	MA-R1	Rabat, Agdal
Netherlands	HFR-Petten	Petten
	IRI HOR	Delft
Nigeria	NIRR-1	Ahmadu Bello University, Zaria
Norway	HBWR	Halden
	JEEP-II	Kjeller
Pakistan	PARR-1	Rawalpindi
	PARR-2	Rawalpindi
Peru	CNIP RP-10 R. Reactor	Lima
	RP-0 R. Reactor	Lima
Philippines	PRR-1	Quezon City, Diliman
Poland	Anna & Agata	Otwock-Świerk
	Maria	Otwock-Świerk
Portugal	IST (CTN) RPI	Sacavem
Romania	IFIN-HH	Magurele
	TRIGA Research & MTR	Pitești-Mioveni

State ^a	Name of facility	Location
Serbia	RA-RB	Vinča
Slovenia	TRIGA II	Ljubljana
South Africa	Safari-I Research Reactor	Pelindaba
Sweden	Studsvik AB and AB Svafo	Studsvik
Switzerland	Crocus	Lausanne
	Proteus	Villigen
Syrian Arab Republic	MNSR	Damascus
Tajikistan	Argus Research Reactor	Dushanbe
Thailand	MNSR	Nakhon Ratchasima Province
	ONRC	Ongkharak
	TRR-1	Bangkok
Türkiye	Çekmece Nuc. Res. & Tr. Centre	Istanbul
	ITU-TRR- TRIGA Mark II	Istanbul
Ukraine	IR-100 Research Reactor	Sevastopol
	WWR-M Research Reactor	Kyiv
Uzbekistan	WWR-SM Reactor	Ulugbek
Venezuela, Bolivarian Republic of	RV-1 Ivic R. Reactor	Altos de Pipe
Viet Nam	Da Lat Research Reactor	Da Lat, Lam Dong
Conversion plants		
Algeria	Pilot Uranium Conversion Plant	Draria Nuclear Research Center
Argentina	Experimental Dry Conversion	Pilcaniyeu
	UF ₆ Conversion Plant	Pilcaniyeu
	UO ₂ Conversion Plant	Cordoba
	Uranium Powder Production Fac.	Polo Cientifico, Tecnologico y Inn.
Brazil	USEXA	Iperó, São Paulo
Canada	Blind River	Blind River, Ontario
	Port Hope	Port Hope, Ontario
Chile	Lab. Experiment de Conversion	Santiago
Egypt	Uranium Products Semi-pilot Plant	Inshas
Iran, Islamic Republic of	EUPP	Esfahan
	UCF	Esfahan
Japan	JCO	Tokai-Mura, Ibaraki-Ken
	PCDF	Tokai-Mura, Ibaraki-Ken
Romania	National Uranium Company	Feldioara

State ^a	Name of facility	Location
South Africa	Conversion Plant (U Plant)	Pelindaba
	HEU/LEU Conversion Plant	Pelindaba
Fuel fabrication plants		
Algeria	UDECI	Draria Nuclear Research Center
Argentina	ECRI	Buenos Aires
	FECN	Ezeiza
	R. Reactor Fuel Fab. Plant	Ezeiza
Belgium	FBFC DNU Fab.	Dessel
Brazil	Fuel Fabrication Plant	Resende
Canada	Cameco, Port Hope	Port Hope, Ontario
	Fuel Eng. Met. Che. Op.	Chalk River, Ontario
	Fuel Fabrication Facility	Chalk River, Ontario
	BWXT, Peterborough	Peterborough, Ontario
	BWXT, Toronto	Toronto, Ontario
Chile	United de Metalur, Fisica (UMF)	Santiago, Chile
Egypt	FMPP (Fuel Manuf. Pilot Plant)	Inshas
	R&D-NFL	Inshas
France	Melox de Marcoule	Chusclan
Germany	Advanced Nuclear Fuels	Lingen
India	NFC	Hyderabad
	NFC-NU	Hyderabad
	PFFF	Kota, Rjasthan
Indonesia	IEBE	Serpong
	IPEBRR	Serpong
Iran, Islamic Republic of	FMP	Esfahan
	FPFP	Esfahan
Japan	GNF-J	Yokosuka-Shi, Kanagawa-Ken
	J-MOX	Oaza Obuchi, Rokkasho-Mura
	MNF	Tokai-Mura, Ibaraki-Ken
	NFI Kumatori-1	Sennan-Gun, Osaka
	NFI Tokai-1	Tokai-Mura, Ibaraki-Ken
	NFI Tokai-2	Tokai-Mura, Ibaraki-Ken
	PPPF	Tokai-Mura, Ibaraki-Ken
	PPPF	Tokai-Mura, Ibaraki-Ken
Kazakhstan	Fuel Assembly Fabrication Plant	Ust-Kamenogorsk

State ^a	Name of facility	Location
	UMP	Ust-Kamenogorsk
Korea, Republic of	KNFFP	Taejeon
Mexico	Fuel Fabrication Pilot Plant	Salazar
Romania	SN NFP Subsidiary	Mioveni
South Africa	MTR Fuel Fabrication Plant	Pelindaba
	LEU Fuel Fabrication Plant	Pelindaba
Spain	ENUSA Fab. Juzbado	Juzbado
Sweden	Westinghouse Electric	Vaesteras/Finnslaetten
Türkiye	Nuclear Fuel Pilot Plant	Istanbul
Reprocessing plants		
Belgium	RECUMO	Mol
France	AREVA NC-UP2 & UP3	La Hague
Germany	KTE GmbH	Eggenstein-Leopoldshafen
Italy	So. G.I.N. SpA-Impianto EUREX	Saluggia
	So. G.I.N. SpA-Trisaia	Rotondella
Japan	CPF	Tokai-Mura, Ibaraki-Ken
	RETF	Tokai-Mura, Ibaraki-Ken
	RRF	Ibaraki-Ken
	RRP	Kamikita-Gun, Aomori-Ken
	SCF	Tokai-Mura, Ibaraki-Ken
	TRP	Tokai-Mura, Ibaraki-Ken
Enrichment plants		
Argentina	Lasie	Bariloche
	Pilcaniyeu Mock-up Laboratory	Pilcaniyeu
	Uranium Enrichment Pilot Plant	Pilcaniyeu
Brazil	CTMSP/Ladesi-Copesp	São Paulo
	CTMSP/LEI	Iperó
	CTMSP/USIDE	Iperó
	FCN-Enrichment Plant	Resende
	IAEV/AR/LAS	São Jose dos Campos
China	Shaanxi	Han Zhang, Shaanxi Province
France	Georges Besse II	Bollene
Germany	UTA 1 and UTA 2	Gronau
Iran, Islamic Republic of	FEP	Natanz
	FFEP	20 km North-East of Qom City

State ^a	Name of facility	Location
	PFEP	Natanz
Japan	CTF	Kitakami-Gun, Aomori-Ken
	NEP	Tomata-Gun, Okayama-Ken
	REP	Kamikita-Gun, Aomori-Ken
Netherlands	Urenco Nederland	Almelo
United Kingdom	Urenco Capenhurst E22, E23, A3	Capenhurst
Separate storage facilities		
Argentina	Cent. St. Irr. Sp. Fiss. M. (DCMFEL)	Centro Atomico Ezeiza
	Centr. Store Sp. Fiss. Mat. (DCMFE)	Buenos Aires
	DUE	Centro Atomico Ezeiza
	FACIRI	Ezeiza
	Nuclear Material Storage	Buenos Aires
	Storage Bunker	Centro Atomico Ezeiza
Armenia	SSFS	Metsamor
Australia	Bulk Storage Facility	Lucas Heights, Sutherland
Belarus	Belarus NPP FF storage	Ostrovets
	Sosny 2	Minsk
Belgium	Belgoprocess	Dessel
	Belgoprocess Dry Storage	Dessel
	Belgoprocess UF ₆	Dessel
	Doel Spent Fuel Storage Facility	Doel
	Elbel Doel Dry Storage	Beveren
	Tihange Dry Storage	Tihange
	Tihange Wet Storage	Tihange
Brazil	Angra Dry Storage	Angra dos Reis
	Planned Fuel Storage Facility	Ilha Da Madeira, Itaguaí
Bulgaria	DSFSF KNPP 2	Kozloduy
	SFSF Kozloduy 1	Kozloduy
Canada	ACEL Research	Pinawa, Manitoba
	CRL Waste Storage Facility	Chalk River, Ontario
	DP Dry Storage	Tiverton, Ontario
	DWMF	Darlington, Ontario
	FPSF	Chalk River, Ontario
	Gentilly I	Gentilly, Quebec
	LTWMF	Port Hope, Ontario

State ^a	Name of facility	Location
	NMSF	Chalk River, Ontario
	PWMF	Pickering, Ontario
	Spent Fuel Canister Storage	Chalk River, Ontario
	Waste Storage Facility	Chalk River, Ontario
	WUFGSF	Tiverton, Ontario
Czech Republic	ISFS Dukovany	Dukovany
	ISFS Temelin	Temelin
	Radioactive Waste Rep. Richard	Litoměřice
	Vao, HLWS	Řež
Denmark	DD Storage	Roskilde
	DD Waste	Roskilde
Finland	Geological Repository	Olkiluoto
	TVO-KPA-Store	Olkiluoto
Germany	AVR-BL	Juelich
	BZA Ahaus	Ahaus
	Daher Nuclear Technologies GmbH	Hanau
	EWN Zwischenlager Nord GmbH	Lubmin
	HDB	Eggenstein - Leopoldshafen
	Kernmateriallager 87	Rosendorf
	KFK-FR-2	Eggenstein-Leopoldshafen
	PTB-Spaltstofflager	Lubmin
	SZK Krümmel	Geesthacht
	SZL Biblis	Bibilis
	SZL Brokdorf	Brokdorf
	SZL Brunsbüttel	Brunsbüttel
	SZL Emsland	Lingen (Ems)
	SZL Grafenrheinfeld	Grafenrheinfeld
	SZL Grohnde	Emmerthal
	SZL Gundremmingen	Gundremmingen
	SZL Isar	Essenbach
	SZL Neckarwestheim	Neckarwestheim
	SZL Philippsburg	Philippsburg
	SZL Unterweser	Stadland
	TBH (B) 87.2	Rosendorf
	TBL-G	Gorleben

State ^a	Name of facility	Location
	Uranoxid-Lager UAG	Gronau
Hungary	Central Isotope Storage	Budapest
	MVDS	Paks
India	PREFRE	Tarapur
	TAPS AFR	Tarapur
Indonesia	Ria-Nd ISFSF	Serpong
Iran, Islamic Republic of	KWS	Karaj
Iraq	Former Location C	Tuwaitha
Italy	Centro Comune di Ricerca	Ispra
	Dep. Avogadro Elementi Irragg	Torino
	Essor Storage	Ispra
	Lab. Misure Nucleari Perla	Ispra
	Nucleco S.p.A.	Rome
Japan	Fuku-I-CSFS	Futaba-Gun, Fukushima-Ken
	Hamaoka (Storage-UC)	Omaezaki-Shi, Shizuoka-Ken
	JAERI Mutsu	Mutsu-Shi, Aomori-Ken
	KUFFS	Sennan-Gun, Osaka
	NFI Kumatori-2	Sennan-Gun, Osaka
	Ningyo R&D	Tomata-Gun, Okayama-Ken
	RFSC	Mutsu-Shi, Aomori-Ken
	VHTRC	Tokai-Mura, Ibaraki-Ken
Kazakhstan	Baikal-1 DSFS	Kurchatov
	BN-350 Temporary Storage	Aktau
	DU & PU Source Storage	Kurchatov
	IAEA LEU Storage Facility	Ust-Kamenogorsk
	Thorium Storage Facility	Kurchatov
	Ulba Thorium Storage	Ust-Kamenogorsk
Korea, Republic of	NMSF	Kaeri-Taejeon
	Uranium Residue Storage Fac.	Kaeri-Taejeon
	WLDC	Kyongju
Lithuania	SNFS-1	Visaginas
	SNFS-2	Visaginas
Mexico	ISFSI	Estado de Veracruz
Netherlands	COVRA	Vlissingen
	HABOG	Vlissingen

State ^a	Name of facility	Location
Poland	ZUOP	Otwock-Świerk
Portugal	IST (CTN) Instalacao Piloto	Sacavem
Romania	CNE Cernavoda IDSFS	Cernavoda
Russian Federation	IUEC Storage Facility	Angarsk
Slovakia	JAVYS Nuclear Store	Jaslovske Bohunice
	JAVYS ISFS	Jaslovske Bohunice
	Bohunice Dry SNF Storage	Jaslovske Bohunice
Slovenia	Spent Fuel Dry Storage	Krško
South Africa	E-Building Storage Facility	Pelindaba
	HEU Storage Vault	Pelindaba
	Koeberg Castor Storage Fac.	Cape Town
	Thabana Pipe Store	Pelindaba
	Vaalputs	Springbok
	Waste Storage Facility	Pelindaba
	Y-Plant Storage Facility	Pelindaba
	Z-Plant Storage Facility	Pelindaba
Spain	Almaraz Dry Storage	Almaraz
	Asco Dry Storage	Asco
	ATC Centralized Storage	Madrid
	Cofrentes Dry Storage	Cofrentes
	Nuclenor, S.A. Storage	Santa Maria de Garona
	Trillo Dry Storage	Trillo
	Zorita Dry Storage	Almonacid de Zorita
Sweden	SFK	Oesthammar
	SKB Clab Store	Oskarshamn
Switzerland	Zwibez Kernkraftwerk Beznau	Doettingen
	Zwilag	Wuerenlingen Aargau
Türkiye	Akkuyu Fresh Fuel Storage	Büyükeceli
	Akkuyu Spent Fuel Storage	Büyükeceli
Ukraine	Chernobyl NPP-SFS	Chornobyl
	Chernobyl SNFSF-2	Chornobyl
	Khmelnitski FF Storage	Netishyn
	Rovno FF Storage	Varash
	South Ukraine FF Storage	Yuzhnoukrayinsk
	Ukraine Centralized Dry Store	Chornobyl

State ^a	Name of facility	Location
	Zaporozhe FF Storage	Enerhodar
	Zaporozhe SFS	Enerhodar
United Kingdom	SNM Store 9	Sellafield
	Thorp Product Store	Sellafield
United States of America	KAMS Storage	Savannah River Site
Uzbekistan	Fresh Fuel Storage	tbd
Other facilities		
Argentina	Alpha Laboratory	Buenos Aires
	PPRF	Centro Atomico Ezeiza
	Lapep	Centro Atomico Ezeiza
	Tripple Altura Laboratory (LTA)	Centro Atomico Ezeiza
	Enriched Uranium Recovery Lab (LUE)	Centro Atomico Ezeiza
	Uranium Power Fab. Plant (PFPU)	Buenos Aires
	PPCA	Buenos Aires
Australia	R&D Labs	Lucas Heights, Sutherland
	SYNROC	Lucas Heights, Sutherland
Belgium	Belgoprocess Waste Treatment	Mol
	I.R.E.	Fleurus
	IRMM. Geel	Geel
	SCK•CEN Lab.	Mol
	SCK•CEN Pu Laboratories	Mol
Brazil	Aramar Store	Iperó
	CTMSP/Labmat	Iperó
	IPEN-Nuclear Fuel Centre	São Paulo
	IPEN-Reprocessing Project	São Paulo
	LADICON	São Paulo
Czech Republic	Lab. & Stores, Centr. Anal. Lab.	Řež
	UJP	Prague
Denmark	Danish Decommiss. - Hotcell	Roskilde
Egypt	Hydrometallurgy Unit	Inshas
	Molybdenum Production Unit	Inshas
	NCB	Inshas
Finland	Encapsulation Plant	Olkiluoto
Georgia	Sukhumi Institute	Sukhumi

State ^a	Name of facility	Location
Germany	Inst. Kernchemie	Mainz
	JRC-ITU	Eggenstein-Leopoldshafen
	Betriebsstätten der JEN	Juelich
	Lab. Juelich	Juelich
	PKA Gorleben	Gorleben
	WAK-Heisse Zellen der HVT	Eggenstein-Leopoldshafen
Indonesia	RMI	Serpong
Iran, Islamic Republic of	JHL	Tehran
	LWSCR	Esfahan
	MIX Separation Facility	Tehran
Italy	Impianto Plutonio	Santa Maria di Galeria
Japan	JNC Tokai R&D	Tokai-Mura, Ibaraki-Ken
	FMF	Higashi, Ibaraki-Ken
	IRAF	Higashi-Gun, Ibaraki-Ken
	JAERI Oarai R&D	Higashi, Ibaraki-Ken
	JAERI Tokai	Tokai-Mura, Ibaraki-Ken
	JNC Oarai R&D	Higashi, Ibaraki-Ken
	Kumatori	Sennan-Gun, Osaka
	Mitsui Iwakuni-Ohtake	Kuga-Gun, Yamaguchi-Ken
	Mitsui Osaka	Takai-Shi, Osaka-Fu
	NDC Fuel Hot Lab	Tokai-Mura, Ibaraki-Ken
	NERL	Tokai-Mura, Ibaraki-Ken
	NFD	Higashi, Ibaraki-Ken
	Showa	Kawasaki-Shi, Kanagawa-Ken
Sumitomo-Chiba	Sodegaura-Shi, Chiba-Ken	
UML	Higashi, Ibaraki-Ken	
Korea, Republic of	ACPF	Taejeon
	DFDF	Taejeon
	HFFL	Taejeon
	IMEF	Taejeon
	KAERI R&D Facility	Taejeon
	PIEF	Taejeon
	PRIDE	Kaeri Site, Taejeon
Libya	Tajura Uranium R&D Facility	Tajura
Netherlands	GCO/ECN Lab.	Petten

State ^a	Name of facility	Location
Norway	Research Laboratories	Kjeller
South Africa	Decontam. and Waste Recovery Pl.	Pelindaba
	Hot Cell Complex	Pelindaba
	Nu and Du Metals Plant	Pelindaba
Spain	C.A. El Cabril	El Cabril
Switzerland	AERA	Villigen
	CERN	Meyrin-Geneva
	Hot Labor	Villigen
Ukraine	Chernobyl Conditioning	Chornobyl
	Chernobyl Unit 4 Shelter	Chornobyl
	Izotop Enterprise	Kyiv
	KHFTI	Kharkiv
	KHFTI	Kharkiv
	Sevastopol Subcritical Assembly	Sevastopol

^a An entry in this column does not imply the expression of any opinion whatsoever on the part of the Agency concerning the legal status of any country or territory or of its authorities, or concerning the delimitation of its frontiers.

- Note:**
1. The Agency was also applying safeguards at 15 facilities in Taiwan, China.
 2. Additionally under Agency safeguards there were 616 material balance areas outside facilities in 151 States and in Taiwan, China. These include 72 material balance areas established for States with a small quantities protocol based on revised standard text.
 3. The list includes projected and operational facilities and facilities at the decommissioning stage.

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