



IAEA ANNUAL REPORT 2018

Additional Annex Information

Table A33. Coordinated research projects initiated in 2018

Nuclear Power

- Benchmark Analysis of Fast Flux Test Facility (FFTF) Loss of Flow Without Scram Tests
- Assessing Technical and Economic Aspects of Nuclear Hydrogen Production for Near-term Deployment
- Neutronics Benchmark of China Experimental Fast Reactor (CEFR) Start-up Tests
- Probabilistic Safety Assessment (PSA) Benchmark for Multiunit/Multireactor Sites
- Development of Approaches, Methodologies and Criteria for Determining the Technical Basis for an Emergency Planning Zone for Small Modular Reactor Deployment
- Methodology for Assessing Pipe Failure Rates in Advanced Water Cooled Reactors (WCRs)

Nuclear Science

- Ion Beam Irradiation for High Level Nuclear Wasteform Development (INWARD)
- Development of Compact Steady State Fusion Neutron Sources
- Network of Small and Medium Size Magnetic Confinement Fusion Devices for Fusion Research

Food and Agriculture

- Disease Resistance in Rice and Wheat for Better Adaptation to Climate Change
- Multiple Isotope Fingerprints to Identify Sources and Transport of Agro-contaminants
- Improvement of Colony Management in Insect Mass-rearing for SIT Applications

Human Health

- E-learning for Teaching and Assessing Competency in Radiotherapy Contouring for Multidisciplinary Teams in Low and Middle Income Countries
- Positron Emission Tomography–Computed Tomography (PET–CT) in the Evaluation of Locally Advanced Breast Cancer

Water Resources

- Isotope Techniques for the Evaluation of Water Sources in Irrigation Systems
- Isotope-enabled Models for Improved Estimates of Water Balance in Catchments
- Global Monitoring of Nitrogen Isotopes in Atmospheric Waters
- Isotope Techniques for the Evaluation of Water Sources for Domestic Supply in Urban Areas

Radioisotope Production and Radiation Technology

- Radiation Inactivation of Bio-hazards Using High Powered Electron Beam Accelerators

Table A34. Coordinated research projects completed in 2018

Nuclear Power

- Prediction of Axial and Radial Creep in Pressure Tubes
- Sodium Properties and Safe Operation of Experimental Facilities in Support of the Development and Deployment of Sodium Cooled Fast Reactors (NAPRO)
- Application of Wireless Technologies in Nuclear Power Plant Instrumentation and Control Systems

Nuclear Fuel Cycle and Waste Management

- Financing Nuclear Investments
- Fuel Modelling in Accident Conditions (FUMAC)
- Reliability of High Power, Extended Burnup and Advanced Pressurized Heavy Water Reactor (PHWR) Fuels
- Assessing the National and Regional Economic and Social Effects of Nuclear Programmes

Nuclear Science

- Data for Erosion and Tritium Retention in Beryllium Plasma Facing Materials
- Nuclear Data for Charged Particle Monitor Reactions and Medical Isotope Production
- Testing and Improving the IAEA International Reactor Dosimetry and Fusion File (IRDF)
- Reference Database for Beta Delayed Neutron Emission Evaluation
- Primary Radiation Damage Cross Sections
- Options and Technologies for Managing the Back End of the Research Reactor Nuclear Fuel Cycle
- Condition Monitoring and Incipient Failure Detection of Rotating Equipment in Research Reactors

Food and Agriculture

- Implementation of Nuclear Techniques to Improve Food Traceability
- Soil Quality and Nutrient Management for Sustainable Food Production in Mulch-based Cropping Systems in Sub-Saharan Africa
- Use of Symbiotic Bacteria to Reduce Mass-rearing Costs and Increase Mating Success in Selected Fruit Pests in Support of SIT Application
- Integrated Utilization of Cereal Mutant Varieties in Crop/Livestock Production Systems for Climate Smart Agriculture
- Enhancing Vector Refractoriness to Trypanosome Infection

Human Health

- Enhancing Capacity for Early Detection and Diagnosis of Breast Cancer Through Imaging
- To Investigate the Relationship Between End to End Accuracy and Quality Assurance Extent and Depth in Radiotherapy
- Standardizing Interpretation Criteria for Early Response Evaluation with ^{18}F -FDG Positron Emission Tomography–Computed Tomography (PET/CT) in Paediatric Lymphoma
- Doctoral Coordinated Research Project on Advances in Medical Imaging Techniques
- Nuclear Cardiology in Congestion Heart Failure
- Use of ^{18}F -FDG Positron Emission Tomography–Computed Tomography (PET/CT) for Imaging Tuberculosis Patients and Related Conditions (HIV/AIDS): Focus on Drug Resistant Extrapulmonary Tuberculosis

Water Resources

- Application and Development of Isotope Techniques to Evaluate Human Impacts on Water Balance and Nutrient Dynamics of Large River Basins

Environment

- Environmental Behaviour and Potential Biological Impact of Radioactive Particles

Nuclear Security

- Development of Nuclear Security Assessment Methodologies (NUSAM) for Regulated Facilities
- Development of Nuclear Security Culture Enhancement Solutions

Table A35. Publications issued in 2018

Nuclear Power

- Approaches for Overall Instrumentation and Control Architectures of Nuclear Power Plants — IAEA Nuclear Energy Series
- Buried and Underground Piping and Tank Ageing Management for Nuclear Power Plants — IAEA Nuclear Energy Series
- Climate Change and Nuclear Power 2018 — Non-serial
- Commissioning Guidelines for Nuclear Power Plants — IAEA Nuclear Energy Series
- Country Nuclear Power Profiles — Non-serial
- Dependability Assessment of Software for Safety Instrumentation and Control Systems at Nuclear Power Plants — IAEA Nuclear Energy Series
- Deployment Indicators for Small Modular Reactors — IAEA TECDOC
- Design of Instrumentation and Control Systems for Nuclear Power Plants — IAEA Safety Standards Series (Russian)
- Developing a Systematic Education and Training Approach Using Personal Computer Based Simulators for Nuclear Power Programmes — IAEA TECDOC
- Development of Instructors for Nuclear Power Plant Personnel Training — IAEA TECDOC
- Dissimilar Metal Weld Inspection, Monitoring and Repair Approaches — IAEA TECDOC
- Energy, Electricity and Nuclear Power Estimates for the Period up to 2050 — Reference Data Series
- Enhancing Benefits of Nuclear Energy Technology Innovation through Cooperation among Countries: Final Report of the INPRO Collaborative Project SYNERGIES — IAEA Nuclear Energy Series
- Examining the Technoeconomics of Nuclear Hydrogen Production and Benchmark Analysis of the IAEA HEEP Software — IAEA TECDOC
- Experience in Modelling Nuclear Energy Systems with MESSAGE: Country Case Studies — IAEA TECDOC
- Experimental Facilities in Support of Liquid Metal Cooled Fast Neutron Systems — IAEA Nuclear Energy Series
- Fast Reactors and Related Fuel Cycles: Next Generation Nuclear Systems for Sustainable Development (FR17) — IAEA Proceedings Series
- Feasibility Study Preparation for New Research Reactor Programmes — IAEA Nuclear Energy Series
- Human Resource Development for Nuclear Power Programmes: Building and Sustaining Capacity — IAEA Proceedings Series
- Improvement of Effectiveness of In-Service Inspection in Nuclear Power Plants — IAEA TECDOC
- Leadership, Human Performance and Internal Communication in Nuclear Emergencies — IAEA Nuclear Energy Series
- Maintenance Optimization Programme for Nuclear Power Plants — IAEA Nuclear Energy Series
- Non-baseload Operation in Nuclear Power Plants: Load Following and Frequency Control Modes of Flexible Operation — IAEA Nuclear Energy Series
- Nuclear Power Plant Operating Experience — Non-serial
- Nuclear Power Reactors in the World — Reference Data Series
- Operating Experience Feedback for Nuclear Installations — IAEA Safety Standards Series
- Operating Experience with Nuclear Power Stations in Member States — Operating Experience with Nuclear Power Stations in Member States (CD-ROM)
- Options for Management of Spent Fuel and Radioactive Waste for Countries Developing New Nuclear Power Programmes — IAEA Nuclear Energy Series
- Technical Support to Nuclear Power Plants and Programmes — IAEA Nuclear Energy Series

Nuclear Fuel Cycle and Waste Management

- Accelerator Simulation and Theoretical Modelling of Radiation Effects in Structural Materials — IAEA Nuclear Energy Series
- Ageing Management and Development of a Programme for Long Term Operation of Nuclear Power Plants — IAEA Safety Standards Series

- Analyses Supporting Conversion of Research Reactors from High Enriched Uranium Fuel to Low Enriched Uranium Fuel — IAEA TECDOC
- Decommissioning of Nuclear Power Plants, Research Reactors and Other Nuclear Fuel Cycle Facilities — IAEA Safety Standards Series
- Geological Classification of Uranium Deposits and Description of Selected Examples — IAEA TECDOC
- Lessons Learned from the Deferred Dismantling of Nuclear Facilities — IAEA Nuclear Energy Series
- Quantitative and Spatial Evaluations of Undiscovered Uranium Resources — IAEA TECDOC
- Status and Trends in Spent Fuel and Radioactive Waste Management — IAEA Nuclear Energy Series
- Unconformity-related Uranium Deposits — IAEA TECDOC
- Uranium Resources as Co- and By-products of Polymetallic, Base, Rare Earth and Precious Metal Ore Deposits — IAEA TECDOC
- World Distribution of Uranium Deposits — Non-serial
- World Distribution of Uranium Deposits (UDEPO) — IAEA TECDOC

Capacity Building and Nuclear Knowledge for Sustainable Energy Development

- Economic Assessment of the Long Term Operation of Nuclear Power Plants: Approaches and Experience — IAEA Nuclear Energy Series
- Nuclear Knowledge Management Challenges and Approaches — IAEA Proceedings Series

Nuclear Science

- Advances in Neutron Activation Analysis of Large Objects with Emphasis on Archaeological Examples — IAEA TECDOC
- Development of an Integrated Approach to Routine Automation of Neutron Activation Analysis — IAEA TECDOC
- IAEA Technical Cooperation Programme: Sixty Years and Beyond — Contributing to Development — IAEA Proceedings Series
- Integrated Approach to Safety Classification of Mechanical Components for Fusion Applications — IAEA TECDOC
- Nuclear Data Newsletter Issue No. 64, January 2018
- Nuclear Data Newsletter Issue No. 65, August 2018
- Training Guidelines in Non-destructive Testing Techniques — Training Course Series

Food and Agriculture

- Animal Production and Health Newsletter No. 68, July 2018
- Cassava Production Guidelines for Food Security and Adaptation to Climate Change in Asia and Africa — IAEA TECDOC
- Challenges and Opportunities for Crop Production in Dry and Saline Environments in ARASIA Member States — IAEA TECDOC
- Food and Environmental Protection Newsletter Vol. 21, No. 1, January 2018
- Food and Environmental Protection Newsletter Vol. 21, No. 2, July 2018
- Insect Pest Control Newsletter No. 91, July 2018
- Nutritional & Health Related Environmental Studies Newsletter No. 7, January 2018
- Nutritional & Health Related Environmental Studies Newsletter No. 8, August 2018
- Plant Breeding and Genetics Newsletter No. 40, January 2018
- Plant Breeding and Genetics Newsletter No. 41, July 2018
- Rice Production Guidelines: Best Farm Management Practices and the Role of Isotopic Techniques — IAEA TECDOC
- Sampling and Isotope Analysis of Agricultural Pollutants in Water — IAEA TECDOC
- Soil Moisture Mapping with a Portable Cosmic Ray Neutron Sensor — IAEA TECDOC
- Soil Quality and Nutrient Management for Sustainable Food Production in Mulch Based Cropping Systems in Sub-Saharan Africa — IAEA TECDOC
- Soils Newsletter Vol. 41, No. 1, July 2018

Human Health

- Assessment of Zinc Metabolism in Humans Using Stable Zinc Isotope Techniques — IAEA Human Health Series
- Medical Physics Staffing Needs in Diagnostic Imaging and Radionuclide Therapy: An Activity Based Approach — IAEA Human Health Reports
- SSDL Newsletter Issue No. 68, October 2018

Environment

- Certification of Massic Activities of Radionuclides in IAEA-410 Bikini Atoll Sediment — IAEA Analytical Quality in Nuclear Applications Series
- Certification of Massic Activities of Radionuclides in IAEA-412 Pacific Ocean Sediment — IAEA Analytical Quality in Nuclear Applications Series
- Certification of Trace Elements and Methylmercury Mass Fractions in Fish Homogenate IAEA-476 — IAEA Analytical Quality in Nuclear Applications Series
- Environment Laboratories Newsletter Vol. 4, No. 2, July–December 2017
- Environment Laboratories Newsletter Vol. 5, No. 1, January–June 2018
- Prospective Radiological Environmental Impact Assessment for Facilities and Activities — IAEA Safety Standards Series
- Protection of the Public against Exposure Indoors due to Radon and Other Natural Sources of Radiation — IAEA Safety Standards Series (Spanish)
- Radiation Protection of the Public and the Environment — IAEA Safety Standards Series
- Radiation Treatment of Wastewater for Reuse with Particular Focus on Wastewaters Containing Organic Pollutants — IAEA TECDOC
- Regulatory Control of Radioactive Discharges to the Environment — IAEA Safety Standards Series
- Strategic Environmental Assessment for Nuclear Power Programmes: Guidelines — IAEA Nuclear Energy Series
- Water and Environment News Issue No. 34, March 2018
- Worldwide Interlaboratory Comparison on the Determination of Trace Elements in a Fish Sample — IAEA Analytical Quality in Nuclear Applications Series
- Worldwide Interlaboratory Comparison on the Determination of Trace Elements in Oyster Biota Sample IAEA-470 — IAEA Analytical Quality in Nuclear Applications Series

Radioisotope Production and Radiation Technology

- Quality Control in the Production of Radiopharmaceuticals — IAEA TECDOC

Incident and Emergency Preparedness and Response

- Emergency Preparedness Review (EPREV) Guidelines — IAEA Services Series
- IAEA Response and Assistance Network — Emergency Preparedness and Response
- Medical Management of Persons Internally Contaminated with Radionuclides in a Nuclear or Radiological Emergency — Emergency Preparedness and Response

Safety of Nuclear Installations

- Best Practices in Physics Based Fault Rupture Models for Seismic Hazard Assessment of Nuclear Installations — IAEA TECDOC (CD-ROM)
- Consideration of External Hazards in Probabilistic Safety Assessment for Single Unit and Multi-unit Nuclear Power Plants — Safety Reports Series
- Criteria for Diverse Actuation Systems for Nuclear Power Plants — IAEA TECDOC
- Establishing the Infrastructure for Radiation Safety — IAEA Safety Standards Series
- Functions and Processes of the Regulatory Body for Safety — IAEA Safety Standards Series
- Guidelines for Self-assessment of Research Reactor Safety — IAEA Services Series
- Industrial Safety Guidelines for Nuclear Facilities — IAEA Nuclear Energy Series
- Integrated Regulatory Review Service Guidelines — IAEA Services Series
- International Conference on Operational Safety — IAEA Proceedings Series

- Organization, Management and Staffing of the Regulatory Body for Safety — IAEA Safety Standards Series
- Physical Protection of Nuclear Material and Nuclear Facilities (Implementation of INFCIRC/225/Revision 5) — IAEA Nuclear Security Series (Arabic)
- Regulatory Oversight of Human and Organizational Factors for Safety of Nuclear Installations — IAEA TECDOC
- Safety Aspects of Nuclear Power Plants in Human Induced External Events: Assessment of Structures — Safety Reports Series
- Safety Assessment for Facilities and Activities — IAEA Safety Standards Series (Spanish)
- Safety of Nuclear Fuel Cycle Facilities — IAEA Safety Standards Series (Arabic)
- Safety of Nuclear Fuel Cycle Facilities — IAEA Safety Standards Series (Chinese)
- Safety of Nuclear Fuel Cycle Facilities — IAEA Safety Standards Series (Russian)
- Safety of Nuclear Power Plants: Commissioning and Operation — IAEA Safety Standards Series (Spanish)
- Safety of Research Reactors — IAEA Safety Standards Series (Arabic)
- Topical Issues in Nuclear Installation Safety — IAEA Proceedings Series

Radiation and Transport Safety

- A Methodology for Establishing a National Strategy for Education and Training in Radiation, Transport and Waste Safety — Safety Reports Series
- Arrangements for the Termination of a Nuclear or Radiological Emergency — IAEA Safety Standards Series
- International Conference on Physical Protection of Nuclear Material and Nuclear Facilities — IAEA Proceedings Series
- Justification of Practices, Including Non-Medical Human Imaging — IAEA Safety Standards Series (Spanish)
- Naturally Occurring Radioactive Material (NORM VIII) — IAEA Proceedings Series
- Occupational Radiation Protection — IAEA Safety Standards Series
- Preparedness and Response for a Nuclear or Radiological Emergency — IAEA Safety Standards Series (Spanish)
- Radiation Protection and Safety in Medical Uses of Ionizing Radiation — IAEA Safety Standards Series
- Regulations for the Safe Transport of Radioactive Material — IAEA Safety Standards Series
- The Management System for the Safe Transport of Radioactive Material — IAEA Safety Standards Series (Spanish)
- The Radiological Accident in Chilca — Non-serial

Radioactive Waste Management and Environmental Safety

- Guidance on the Management of Disused Radioactive Sources — Non-serial

Nuclear Security

- Building Capacity for Nuclear Security — IAEA Nuclear Security Series
- Challenges Faced by Technical and Scientific Support Organizations (TSOs) in Enhancing Nuclear Safety and Security — IAEA Proceedings Series
- Computer Security Incident Response Planning at Nuclear Facilities — Non-serial (Spanish)
- Computer Security of Instrumentation and Control Systems at Nuclear Facilities — IAEA Nuclear Security Series
- Conducting Computer Security Assessments at Nuclear Facilities — Non-serial (French)
- Conducting Computer Security Assessments at Nuclear Facilities — Non-serial (Russian)
- Conducting Computer Security Assessments at Nuclear Facilities — Non-serial (Spanish)
- Developing Regulations and Associated Administrative Measures for Nuclear Security — IAEA Nuclear Security Series
- Development of a National Nuclear Forensics Library: A System for the Identification of Nuclear or Other Radioactive Material out of Regulatory Control — Non-serial

- Establishing the Nuclear Security Infrastructure for a Nuclear Power Programme — IAEA Nuclear Security Series (French)
- Establishing the Nuclear Security Infrastructure for a Nuclear Power Programme — IAEA Nuclear Security Series (Spanish)
- Nuclear Security Systems and Measures for Major Public Events — IAEA Nuclear Security Series (Spanish)
- Physical Protection of Nuclear Material and Nuclear Facilities (Implementation of INFCIRC/225/Revision 5) — IAEA Nuclear Security Series
- Preparation, Conduct and Evaluation of Exercises for Security of Nuclear and Other Radioactive Material in Transport — Non-serial
- Preparation, Conduct and Evaluation of Exercises to Test Security Contingency Plans at Nuclear Facilities — Non-serial
- Security of Nuclear Material in Transport — IAEA Nuclear Security Series (Arabic)
- Sustaining a Nuclear Security Regime — IAEA Nuclear Security Series
- Technical and Scientific Support Organizations Providing Support to Regulatory Functions — IAEA TECDOC
- Use of Nuclear Material Accounting and Control for Nuclear Security Purposes at Facilities — IAEA Nuclear Security Series (Arabic)
- Use of Nuclear Material Accounting and Control for Nuclear Security Purposes at Facilities — IAEA Nuclear Security Series (French)

Nuclear Verification

- International Safeguards in the Design of Facilities for Long Term Spent Fuel Management — IAEA Nuclear Energy Series
- Regulatory Inspection of Research Reactors — Training Material — Training Course Series (CD-ROM)

Table A36. Technical cooperation training courses held in 2018

Energy

- IAEA Training Course on Nuclear Power Infrastructure Development
Austria
- Interregional Training Course on Human Resource Development and Workforce Planning for New or Expanding Nuclear Power Programmes
Russian Federation
- Interregional Training Course on Integrated Management System and Developing of the Safety Culture
United States of America
- Interregional Training Course on Licensing and Construction Preparation and Oversight for New and Expanding Nuclear Power Programmes
Republic of Korea
- Interregional Training Course on Licensing and Inspection of Uranium Production Project
Kazakhstan
- Interregional Training Course on Licensing Process for Nuclear Power Plants
Russian Federation
- Interregional Training Course on Preparation of Emergency Preparedness and Response Plans
Russian Federation
- Interregional Training Course on Safety Review and Assessment by the Regulatory Body
Russian Federation
- Interregional Training Course on the Implementation of National Requirements for Nuclear Power Programmes
Finland
- Interregional Training Course to Develop Member State Programmes on the Competencies Needed for a Nuclear Power Programme
United States of America
- National Training Course on Energy Demand Modelling Using the IAEA Tool MAED
Eswatini^a
- Regional Training Workshop on Phenomenology and Numerical Simulations of Severe Accidents in Advanced Water Cooled Reactors (WRCs)
India
- Regional (AFRA) Training Course on Energy Demand Analysis for Sustainable Development
Zambia
- Regional (AFRA) Training Course on the IAEA's Tool MAED for Energy Demand Analysis
Democratic Republic of the Congo
- RTC on Advanced National Studies of Energy Supply Analysis Using the IAEA Model "MESSAGE"
Guatemala
- RTC on Review of Operations and Environmental Performance
Egypt
- RTC on the Advanced On-line Monitoring Methodology to Predict the Residual Life Time of Critical Structures, Systems and Components through Experimental Approach
Germany
- TC Interregional Training Course on Stakeholder Involvement for Nuclear Power Programmes
Austria
- TC Training Course on EBS for Setting Up Energy and Water Supply–Demand Data
Austria
- TC Training on Nuclear Power Plant Contract Specifications and Reactor Technology Assessment
Austria
- Training Course on Nuclear Power Infrastructure Development
Japan

- Training Course on Pressurized Water Reactor (PWR) Technology Using PC Based Basic Principle and Glass Top Nuclear Power Plant Simulators
United Arab Emirates
- Training Course on Successful Launching and Mentoring of Nuclear Power Programme
Republic of Korea

Food and Agriculture

- AFRA TC Training Course on Advanced Tissue Culture Techniques Combined with Mutagenesis for Crop Improvement
Ghana
- First RTC on Integration of FRNs, CSSI and Stable Isotopes
Peru
- Follow-up Interregional Training on Radionuclide Analysis in Food and Associated Matrices
Tunisia
- Interregional Training Course on Analysis of Toxic Metals and Related Contaminants in Foods with Trade Implications
Ecuador
- Interregional Training Course on Competence of Food Safety Testing Laboratories According to ISO 17025:2017/2018
Botswana
- Interregional Training in Veterinary Drug Residue Analysis and Data Collection with Focus on Honey, Aquaculture Products and Associated Foods
Turkey
- Regional (AFRA) Training Course on Modelling of Irrigation Water for the Highest net Income and E and T Separation Using Oxygen-18 Isotopic Techniques
Sudan
- Regional (AFRA) Training Course on Mutation Induction and Molecular Marker Applications for Crop Improvement
United Republic of Tanzania
- Regional (AFRA) Training Course on NCD and Avian Influenza
Ghana
- Regional (AFRA) Training Course on Residues of Pharmacologically Active Veterinary Substances in Animal Offal
United Republic of Tanzania
- Regional (AFRA) Training Course on Analytical Method on Development/Validation of National Residue Monitoring of Food Contaminants
Burkina Faso
- Regional (AFRA) Training Course on Analytical Methods for Agrochemicals in Animal Products
Uganda
- RTC on Advanced Techniques for Detection and Differentiation of Priority Vector Borne Diseases in Animals and Animal Vectors
Bosnia and Herzegovina
- RTC on Advanced Tissue Culture Techniques combined with Mutagenesis for Crop Improvement
Viet Nam
- RTC on Animal Nutrition and Feed Management
Brazil
- RTC on Detection and Diagnose of New World Screwworm
Panama
- RTC on Development and Validation of Analytical Method for Veterinary Drugs and Pesticide Residues in Animal Products
Philippines
- RTC on Genetics of Parasite Resistance in Sheep and Goats: Application of Genomics and DNA Marker Information to Improve Small Ruminant Breeding
Austria

- RTC on Interpreting N-15 Results under Flooded Rice Conditions
Philippines
- RTC on Management of Biofertilizers for Enhanced Nutrient Efficiency and Crop Productivity under Field Conditions
Mexico
- RTC on Methodologies and Mechanisms for Screening against Abiotic Stresses
Indonesia
- RTC on Molecular Biology and Bioinformatics for the Genetic Improvement of Agricultural Crops Obtained by Induction of Mutations
Mexico
- RTC on Molecular Tools in Tsetse Intervention Programmes
Burkina Faso
- RTC on N-15 Techniques for Enhanced Nutrient Efficiency and Crop Productivity under Field Conditions — Basic
Mexico
- RTC on Nuclear Techniques in Soil, Water and Nutrient Management under Marginal Land
Pakistan
- RTC on the Advanced Application of Fallout Radionuclides for Soil and Water Quality Investigations
Australia
- RTC on the Application of FRNs and Stable Isotopes for Soil Quality and Soil Erosion Investigation
Viet Nam
- RTC on the Fundamentals of Using Nuclear Techniques for Verifying Food Authenticity
New Zealand
- RTC on the Use of Advanced Nuclear Techniques for Verifying Food Authenticity (Train the Trainer Course)
Malaysia
- RTC on the Use of Georeferenced Fly Rounds for Cost Effective Entomological Surveillance of Savannah Tsetse Species
United Republic of Tanzania
- RTC on the Use of GIS and International Standards for Phytosanitary Measures (ISPMs) for Fruit Fly Activities in Africa
Botswana
- RTC on the Use of Relational Databases, GIS and Modelling to Optimize Mosquito Control Including a SIT Component
France
- RTC on the Use of Stable Isotopes (^{18}O and ^2H) to Assess Water Use Efficiency
Chile
- RTC on Validation of Methods for the Analysis of Persistent Organic Pollutants in Human and Cow Milk
Chile
- TC RTC on Cutting-edge Technologies for the Integrated Management of Fruit Flies of Economic Importance
Mexico
- TC Statistical Training under Regional Project
Panama
- TC Training Course on Epidemiological Surveillance and Emergency Plan for the Eradication of GBG Outbreaks
Panama
- TC Training Course on Methods for Assessing Impacts of Climate Change on Soil and Water Resources in Polar and Mountainous Regions
Austria
- TC Training for Capacity Building on N-15 Application, Sampling, Collection and Data Interpretation
Jordan

- TC Training on Genetic Improvement Focused on Tolerance to Various Types of Abiotic Stress by Agricultural Crops Obtained by Mutation Induction
Mexico
- TC Training on Molecular Techniques Applied in Plant Mutation Breeding
Austria
- Training Course on Analysis of Mycotoxins in Foods of Significant Consumer Health and Trade Concern
Chile

Health and Nutrition

- IAEA/RCA RTC on Clinical Applications of Stereotactic Body Radiotherapy (SBRT) in Lung, Liver and Spine Cancer with Emphasis on QA and QC
Australia
- IAEA/RCA RTC on Image Guided Brachytherapy
Indonesia
- Joint ICTP-IAEA Advanced School on IAEA/AAPM Code of Practice for the Dosimetry of Small Static Photon Fields Used in External Beam Radiotherapy
Italy
- Master's in Advanced Radiotherapy Techniques
Chile
- Regional (AFRA) Training Course on Paediatrics for Oncologists
Tunisia
- Regional (AFRA) Training Course on Train the Trainer for clinical training of Medical Physicists
Nigeria
- Regional (AFRA) Training Course for Nuclear Medicine Technologist
Algeria
- Regional (AFRA) Training Course for Nuclear Medicine Physicians
Senegal
- Regional (AFRA) Training Course for Nuclear Medicine Technologists
Namibia
- Regional (AFRA) Training Course on Nuclear Cardiology for Nuclear Medicine Physicians
Mauritius
- Regional (AFRA) Training Course on Preparation and Quality Control of Tc-99m Radiopharmaceuticals with GMP Aspects
Indonesia
- Regional (AFRA) Training Course on QA for Non-imaging Equipment and Radiation Monitoring Instrumentation in Nuclear Medicine
South Africa
- Regional (AFRA) Training Course TRS 483, IAEA/AAPM Code of Practice on Small Field Dosimetry
Morocco
- RTC (hands-on) on Image Guided Radiation Therapy (IGRT)
Netherlands
- RTC on Brachytherapy Physics
Russian Federation
- RTC on Calculation and Design of Shielding
Mexico
- RTC on Commissioning and Quality Assurance for Radiotherapy Treatment Planning Systems
Russian Federation
- Regional (AFRA) Training Course on Comprehensive Audits of Radiotherapy Practices based on QUATRO Methodology
Kenya
- RTC on Data Management
Latvia
- RTC on High Accuracy Radiotherapy: Technical and Physical Requirements
Russian Federation

- RTC on Initiation of Postgraduate Medical Physics Academic Programmes
Malaysia
- RTC on Production and Application of Selective Internal Radiation Therapy Agents
Thailand
- RTC on Production and/or Quality Control of Radiopharmaceuticals and Radioisotopes and Good Manufacturing Practices
Peru
- RTC on Quality Assurance and Quality Management Systems for Diagnostic Radiology
Bosnia and Herzegovina
- RTC on Quality Assurance and Quality Management Systems for Diagnostic Radiology
Romania
- RTC on Radiation Protection and Safety and Accident Prevention in Radiotherapy
Russian Federation
- RTC on Radiobiology for Radiation Oncologists and Medical Physicists
Russian Federation
- RTC on Regulatory Aspects of the Production of Radiopharmaceuticals
Colombia
- RTC on Stable Isotope Methodologies, Anthropometric Techniques and Data Base
Guatemala
- RTC on the Implementation of IAEA TRS 430: Commissioning and Quality Assurance of Computerized Planning Systems for Radiation Treatment of Cancer
Egypt
- RTC on the Preparation and Quality Control of Therapeutic Radiolabelled Antibodies
Republic of Korea
- RTC on the Use of Metabolic Images in Radiotherapy for Physicians and Medical Physicists
Argentina
- RTC on Train the Trainers in the Area of Calibration of Radiation Therapy Dosimeters using Secondary Standards Dosimetry Laboratories
United Kingdom
- RTC on X Ray Calibration in Secondary Standards Dosimetry Laboratories
Mexico
- Sub-regional Training Course for Caribbean Islands on Introduction to Nuclear Nutrition
Jamaica
- Sub-regional Training Course on Intensity Modulated Radiotherapy and Image Guided Radiotherapy for Technologists
Costa Rica
- TC RTC on IMRT and IGRT Planning for Physicians and Medical Physicists
Brazil
- TC Training for Radiologists on Applying Justification and Referral Guidelines for Imaging
Poland
- TC Training on Strengthening Nuclear Medicine in Africa with Incorporated Training on Establishing Fully Functional Nuclear Medicine Quality Assurance Management System
United States of America
- Training on Enhancing Capacity Building of Medical Physicists to Improve Safety and Effectiveness of Medical Imaging (AFRA)
Zimbabwe
- Training on Nuclear Cardiology and other Diagnostic Modalities
Colombia

Industrial Applications/Radiation Technology

- Regional (AFRA) Training Course on Operation and Use of Detectors in Radiation Technologies and Measurement Applications
Egypt

- RTC for Safe and Efficient Management of Radiation Processing Facilities
Brazil
- RTC in NDT for Civil Structures
Ecuador
- RTC on Applying Radiation Technologies in Diagnosing Industrial and Environmental Processes
France
- RTC on Applying Radiation Technologies in Diagnosing Industrial and Environmental Processes
France
- RTC on Capacity Building for Industrial Tomography Applications
Brazil
- RTC on Development, Validation and Routine Control of Industrial Radiation Processes
Mexico
- RTC on Digital Radiography
Argentina
- RTC on Fundamentals of Management Systems in Irradiation Facilities
Ecuador
- RTC on Operation and Maintenance of Research Reactors Based upon the “Research Reactors” Module from the IAEA Training Material on Reactor Theory, Research Reactors and Operation and Safety of Research Reactors
Chile
- Training on Radiotracers Industrial Applications
Austria

Nuclear Knowledge Development and Management

- Nuclear Law Institute 2018
Austria
- Regional Train the Trainers Course on Non-destructive Testing Applications
Japan
- Regional Workshop on Curriculum Development and Launching of Nuclear Science and Technology for Secondary Schools
Philippines
- RTC (Introductory) on the Use e-learning Tools as Support for Nuclear Education and Training
Uruguay
- RTC for First Responders to a Radiological Emergency
Barbados
- RTC for Teachers to Introduce Nuclear Sciences in Secondary Schools through Innovative Approaches
Indonesia
- RTC for Teachers to Introduce Nuclear Sciences in Secondary Schools through Innovative Approaches
United States of America
- RTC on Nuclear Knowledge Management
Costa Rica
- RTC on the Use of the IAEA Genetic Sequencing Services for Member States
Argentina
- TC PGEC RTC on Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources
Ghana
- TC Training Course IAEA Nuclear Energy Management School
South Africa
- TC Training for Beginners in Basic Non-destructive Testing Methods and Radiation Technologies
Malaysia
- TC Training for Recently Appointed National Liaison Officers and National Liaison Assistants: Induction Workshop: Operations and Processes of the Technical Cooperation
Austria

- TC Training on International School of Nuclear Law
France
- Train the Trainers Course for Radiation Protection Officers (English and French)
Morocco
- Training Course on Synchrotron-based Techniques and Complementary Techniques under the SESAME
School on Cultural Heritage
Jordan

Safety and Security

- IAEA School of Radiation Emergency Management for the Caribbean Community (CARICOM)
United States of America
- Interregional Training Course on Cat 3–5 Sources
Cuba
- Interregional Training Course on Environmental Remediation Project Implementation (16–27 July) with a
Combined Consultation Meeting (24–26 July)
United States of America
- Interregional Training Course on Planning and Implementation of Nuclear Facility Decommissioning and
Remediation of Radioactively Contaminated Sites
United States of America
- Interregional Training Course on Regulatory and Operational Aspects for the Management of Disused
Sealed Radioactive Sources (Basics for New Staff)
Austria
- Interregional Training Course on Siting Methodology for Pre-disposal and Disposal Facilities
Bulgaria
- Interregional Training Course on Targeted Radionuclide Therapies
United States of America
- Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources
Greece
- Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources
Malaysia
- Regional Postgraduate Specialization Course of Studies on Nuclear Safety
Argentina
- Regional School of Radiation Emergency Management
Morocco
- Regional Train the Trainers Course for Radiation Protection Officers of Medical and Industrial Facilities
Viet Nam
- Regional (AFRA) Training Course on Demonstration Operation on Conditioning and Storage of Neutron
and Low Activity Sources
Senegal
- Regional (AFRA) Training Course on the Integrated Management System for a Regulatory Body
Austria
- RTC on Decommissioning and Management of Radioactive Waste at Multifacility Non-power Site
Czech Republic
- RTC on Development and Use of Operational Intervention Levels (OILs) for Severe Emergencies at
LWRs
Austria
- RTC on Inter-comparison of Active Radon Monitors
Czech Republic
- RTC on Internal Dose Assessment and Bioassay Methods in Assessing Occupational Intakes of
Radionuclides
Republic of Korea
- RTC on Management Options in Response to Nuclear and Radiological Emergencies in Animal
Production Systems
North Macedonia^b

- RTC on Mosquito Handling, Marking, Transport and Release
Brazil
- RTC on Nuclear and Radiological Leadership for Safety
Mexico
- RTC on Optimization of Occupational Radiation Protection for Radiation Protection Officers
Peru
- RTC on Radiation Protection in X Ray Imaging and Nuclear Medicine for Regulatory Bodies
Albania
- RTC on Radiation Protection Optimization in Industrial Radiography
Tunisia
- RTC on Safety Assessment of Radiation Facilities and Activities involving Radiation Sources
Mauritius
- RTC on the Fundamentals for Developing a Radioactive Waste Disposal Facility
Austria
- RTC on Transport Safety
Paraguay
- RTC on Wildlife (Bats) Capture and Sampling for Surveying Emerging Zoonotic Diseases
Sierra Leone
- TC Postgraduate Specialisation Training Course on Radiation Protection and Safety of Radiation Sources
Argentina
- TC Practical Hands on Training on the Management of Category 3–5 Disused Sealed Radioactive Sources
Morocco
- TC RTC on Management Options for Disused Sealed Radioactive Sources of Category 3–5
China
- TC RTC on Radiation Emergency Management
Austria
- TC RTC on Radiation Protection and Safety of Patients and Workers in Interventional Fluoroscopic Procedures
Namibia
- TC Training in San Antonio, Texas, on Orphan Sources Search and Recovery: Train the Trainers
United States of America
- TC Training on Characterization of Radioactive Waste during Predisposal Operations
Russian Federation
- TC Training on Regulatory Enforcement
Kuwait
- Train the Trainers Course for Radiation Protection Officers of Medical and Industrial Facilities
Tajikistan
- Train the Trainers Course for Radiation Protection Officers of Medical and Industrial Facilities
Albania
- Training Course on Assessment of Internal Exposure due to Intake of Radionuclides with a Primary Focus on Sample Preparation and Analysis
Jordan
- Training Course on Planning and Costing of Decommissioning
Slovakia
- Training Course on Technical Options for Predisposal of Radioactive Waste (Processing and Implementation)
Uruguay
- Workshop on Train the Trainers Course for Radiation Protection Officers of Medical and Industrial Facilities
Uruguay

Water and the Environment

- IAEA/RCA RTC on Analysis of Strontium-90 and Tritium in Seawater
India
- IAEA/RCA RTC on Rapid Assessment of Radionuclides in the Marine Environment
United States of America
- Regional (AFRA) Training Course on the Use of Isotope and Related Techniques to Assess
Hydrogeological Problems
Ghana
- RTC on Determination of Uranium Isotopes in Environmental Samples by Alpha-particle Spectrometry
South Africa
- RTC on Determination of Uranium Isotopes in Environmental Samples by Alpha-particle Spectrometry
South Africa
- RTC on Method Validation and Quality Assurance of Airborne Particulate Matter Analysis Using NATs
Costa Rica
- RTC on Microplastic Analysis by Using MIRS Technique
Brazil
- RTC on Quality Assurance in Sampling Protocols of Airborne Particulate Matter
Costa Rica
- RTC on Quality Assurance in Using Nuclear Techniques for Elemental Analysis of APM
Austria
- RTC on Radiochemical Analysis of Marine Environmental Samples
Australia
- RTC on Radiotracers Applications and Column Scanning
Austria
- RTC on Source Receptor Modelling, and Basic and Advanced Statistical Analyses Applied to Air
Pollution Studies
Egypt
- RTC on the Risk of Chemical, Radiological and Microbial Coastal Pollution Caused by Waste Water
Discharges
Tunisia
- RTC on the Use of Isotope Techniques in Assessing Groundwater Quality
Indonesia
- RTC on The Use of Natural Radioactivity for Assessing Sediment Transport through Lithological Studies-
Egypt
- RTC on Uncertainty Estimation in Radio-analytical Techniques
Morocco
- RTC on Use of Nucleonic Control Systems for Measurement of Fine Sediment Deposits in Harbour
Basins and Navigation Channel
Morocco
- TC RTC on Measurement of Naturally Occurring Radionuclides in Environmental and NORM Samples
by Gamma-ray Spectrometry
Germany
- TC RTC on Scientific Communication
El Salvador
- TC Training on Assessment of Water Resources Based on Environmental Isotopes and other Related
Techniques
Jordan
- TC Training on General Principles and Fundamentals of Isotope Hydrology
Costa Rica

^a The name 'Eswatini' replaces the former name 'Swaziland' as of 29 June 2018.

^b The name 'North Macedonia' replaces the former name 'The former Yugoslav Republic of Macedonia' as of 15 February 2019.

Table A37. 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

Youtube

www.youtube.com/user/IAEAvideo

Table A38(a). Number and types of facilities under Agency safeguards by State during 2018

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				1	5
Argentina	4	7	4	3		3	6	7	34
Armenia	2						1		3
Australia		2					1	2	5
Austria		1							1
Bangladesh		1							1
Belarus	2	1					2		5
Belgium	6	3		3	1		6	5	24
Brazil	3	6	1	1		5	2	5	23
Bulgaria	3	1					2		6
Canada	6	9	2	5			12		34
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	24	6	67
Ghana		1							1
Greece		1							1
Hungary	2	2					2		6
India	9			2			2		13
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		6	2	21
Jamaica		1							1
Japan	63	20	2	8	6	3	8	15	125
Jordan		1						1	2
Kazakhstan	1	4		2			6		13
Korea, Republic of	32	3		1			3	7	46

Latvia		1						1
Libya		1					1	2
Lithuania	1					3		4
Malaysia		1						1
Mexico	2	1		1			1	5
Morocco		1						1
Netherlands	2	2			1		2	1
Nigeria		1						1
Norway		2						1
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						2	7
Slovenia	1	1					1	3
South Africa	2	1	2	2			8	3
Spain	8			1			7	1
Sweden	12	1	1	1			2	17
Switzerland	5	3					2	3
Syrian Arab Republic		1						1
Tajikistan		1						1
Thailand		3						3
Turkey	1	2		1			2	6
Ukraine	21	2		1			8	6
United Arab Emirates	4							4
United Kingdom					1		2	3
United States of America							1	1
Uzbekistan		1						1
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 A38(b). Facilities under Agency safeguards or containing safeguarded nuclear material during 2018

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
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 NGD	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
	Loviisa NPP	Loviisa

State ^a	Name of facility	Location
	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
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
	RAPS 5 & 6	Rawatbhata, Rajasthan
	TAPS	Tarapur, Maharashtra

State ^a	Name of facility	Location
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	Fuku-I-1
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
Ikata-2		Nishiuwa-Gun, Ehime-Ken
Ikata-3		Nishiuwa-Gun, Ehime-Ken
Joyo		Higashi, Ibaraki-Ken
Kaminoseki-1		Kumage-Gun, Yamaguchi-Ken

State ^a	Name of facility	Location
	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	Satsumasendai-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
	Tokai-2	Tokai-Mura, Ibaraki-Ken
	Tomari-1	Furui-Gun, Hokkaido
	Tomari-2	Furui-Gun, Hokkaido
	Tomari-3	Furui-Gun, Hokkaido

State ^a	Name of facility	Location
	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
	Wolsong-1	Kyongju
	Wolsong-2	Kyongju
	Wolsong-3	Kyongju
	Wolsong-4	Kyongju

State ^a	Name of facility	Location
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
	CN Trillo-1	Trillo
	CN Vandellos-2	Vandellos
Sweden	Barsebaeck Unit 1	Loeddekoepinge
	Barsebaeck Unit 2	Loeddekoepinge

State ^a	Name of facility	Location
	Forsmark Unit 1	Oesthammar
	Forsmark Unit 2	Oesthammar
	Forsmark Unit 3	Oesthammar
	Oskarshamn Unit 1	Oskarshamn
	Oskarshamn Unit 2	Oskarshamn
	Oskershamn 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
Turkey	Akkuyu 1	Büyükeceli
Ukraine	Chernobyl NPP, Unit 1	Chornobyl
	Chernobyl NPP, Unit 2	Chornobyl
	Chernobyl NPP, Unit 3	Chornobyl
	Chernobyl NPP, Unit 5	Chornobyl
	Chernobyl NPP, Unit 6	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
	South Ukraine 3	Yuzhnoukrayinsk
	Zaporozhe 1	Enerhodar
	Zaporozhe 2	Enerhodar
	Zaporozhe 3	Enerhodar
	Zaporozhe 4	Enerhodar

State ^a	Name of facility	Location
	Zaporozhe 5	Enerhodar
	Zaporozhe 6	Enerhodar
United Arab Emirates	BNPP-1	Barakah
	BNPP-2	Barakah
	BNPP-3	Barakah
	BNPP-4	Barakah
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 8 (RA-8)	Pilcaniyeu
	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
	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

State ^a	Name of facility	Location
	NRU Reactor	Chalk River, Ontario
	NRX Reactor	Chalk River, Ontario
	Slowpoke Alberta	Uni. of Alberta, Edmonton
	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
	SUR100-RWTH	Aachen
	TRIGA Mainz	Mainz
Ghana	GHARR-1 Ghana Research React. 1	Legon-Accra
Greece	GRR-1	Attikis
Hungary	Budapest Research Reactor	Budapest

State ^a	Name of facility	Location
	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	Ispira
	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
	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

State ^a	Name of facility	Location
	TODAI	Tokai-Mura, Ibaraki-Ken
	TTR	Kawasaki-Shi, Kanagawa-Ken
	VHTRC	Tokai-Mura, Ibaraki-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
Serbia	RA-RB	Vinča
Slovenia	TRIGA II	Ljubljana
South Africa	Safari-I Research Reactor	Pelindaba
Sweden	Studsvik AB and AB Svafo	Studsvik

State ^a	Name of facility	Location
Switzerland	AGN 211-P	Basel
	Crocus	Lausanne
	Proteus	Villigen
Syrian Arab Republic	MNSR	Damascus
Tajikistan	Argus Research Reactor	Dushande
Thailand	MNSR	Nakhon Ratchasima Province
	ONRC	Ongkharak
	TRR-1	Bangkok
Turkey	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
South Africa	Conversion Plant (U Plant)	Pelindaba
	HEU/LEU Conversion Plant	Pelindaba
Sweden	RMA	Stenstorp

State ^a	Name of facility	Location
Fuel fabrication plants		
Algeria	UDEEC	Draria Nuclear Research Center
Argentina	ECRI	Buenos Aires
	FECN	Ezeiza
	R. Reactor Fuel Fab. Plant	Ezeiza
Belgium	FBFC DNU Fab.	Dessel
	FBFC PU Fab.	Dessel
	N.V. BN	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
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
	PFPP	Tokai-Mura, Ibaraki-Ken
	PPFF	Tokai-Mura, Ibaraki-Ken
Kazakhstan	Fuel Assembly Fabrication Plant	Ust-Kamenogorsk
	UMP	Ust-Kamenogorsk

State ^a	Name of facility	Location
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
Turkey	Nuclear Fuel Pilot Plant	Istanbul
Ukraine	NFFP	Smoline village, Kirovohradska Oblast
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
	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
	NMSF	Chalk River, Ontario

State ^a	Name of facility	Location
	PWMF	Pickering, Ontario
	Spent Fuel Canister Storage	Chalk River, Ontario
	Waste Storage Facility	Chalk River, Ontario
	WUFDSF	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	Rossendorf
	KFA-AVR	Juelich
	KFK-FR-2	Eggenstein-Leopoldshafen
	PTB-Spaltstofflager	Hanau
	SZK Kruemmel	Geesthacht
	SZL Biblis	Biblis
	SZL Brokdorf	Brokdorf
	SZL Brunsbuettel	Brunsbuettel
	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	Rossendorf
	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	Tuwaitaha
Italy	CCRM Ispra Central Store	Ispra
	Centro Comune di Ricerca	Ispra
	Dep. Avogadro Elementi Irragg	Torino
	Essor Storage	Ispra
	Lab. Misure Nucleari Perla	Ispra
	Nucleco S.p.A.	Rome
Japan	Fugen	Tsuruga-Shi, Fukui-Ken
	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
Kazakhstan	Baikal-1 DSFS	Kurchatov
	BN-350 Temporary Storage	Aktau
	DU & Used Sources 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	Radioactive Waste Management	Vilnius
	SNFS-1	Visaginas
	SNFS-2	Visaginas
Mexico	IFSI	Estado de Veracruz

State ^a	Name of facility	Location
Netherlands	COVRA	Vlissingen
	HABOG	Vlissingen
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
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
SKB Clab Store		Oskarshamn
Switzerland	Zwibez Kernkraftwerk Beznau	Doettingen
	Zwilag	Wuerenlingen Aargau
Turkey	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

State ^a	Name of facility	Location
	Ukraine Centralized Dry Store	Chornobyl
	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
Other facilities		
Algeria	AURES I	Birine Nucl. Site (Ain Oussera)
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/Lambat	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

State ^a	Name of facility	Location
Georgia	Sukhumi Institute	Sukhumi
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
	OPEC 2-CAS	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
Jordan	Jordan Sub-critical Assembly	Jordan Univ. Science & Tech.
Korea, Republic of	ACPF	Taejeon
	DFDF	Taejeon
	HFFL	Taejeon
	IMEF	Taejeon
	KAERI R&D Facility	Taejeon
	PIEF	Taejeon

State ^a	Name of facility	Location
	PRIDE	Kaeri Site, Taejeon
Libya	Tajura Uranium R&D Facility	Tajura
Netherlands	GCO/ECN Lab.	Petten
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 593 material balance areas outside facilities in 137 States and in Taiwan, China. These include 59 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.