FANR
الهيئة الاتحادية للرقابة النووية
Federal Authority for Nuclear Regulation

FANR Safety, Security, and Safeguards Glossary

2024 Edition

FANR SAFETY, SECURITY, AND SAFEGUARDS GLOSSARY

2024 EDITION

FEDERAL AUTHORITY FOR NUCLEAR REGULATION

UAE, 2024

FOREWORD

Pursuant to its mandate established in the Federal Law by Decree No. 6 of 2009 Concerning the Peaceful Uses of Nuclear Energy (Nuclear Law), the Federal Authority for Nuclear Regulation (FANR) develops, issues and implements regulations that cover the various areas of the Nuclear Law and are related to nuclear safety, radiation safety, nuclear security, safeguards and import and export controls.

Regulations are developed based on the requirements of the Nuclear Law and take into account the guidance of the International Atomic Energy Agency (IAEA) Safety Standards and Nuclear Security Guidance documents. Furthermore, FANR also develops and issues regulatory guides with a view to providing applicants for a FANR licence, existing licensees and other stakeholders in the United Arab Emirates with guidelines on how to meet the legally binding requirements set out in the Nuclear Law and FANR regulations.

FANR Safety, Security, and Safeguards Glossary provides a comprehensive compilation of all the terms included in the Nuclear Law, the Federal Law by Decree No.4 of 2012 Concerning Civil Liability for Nuclear Damage, FANR regulations and FANR regulatory guides and their respective definitions. The source of each term is provided after the symbol ⊙.

Words within square brackets in the definitions indicate minor variations from one definition to another that do not have an impact on the overall meaning of the term. When only the first letter of a word is enclosed in square brackets, it indicates discrepancies in capitalisation between different regulations and/or regulatory guides.

The 2024 edition of the FANR Glossary reflects the updates in the legislative and regulatory framework of FANR up to December 2024.

This document is developed for information purposes only; the official definitions are those contained in the laws, FANR regulations and regulatory guides available on the FANR website.

Users can provide comments on the FANR Glossary by contacting the FANR Regulations & Guides Team at regulation@fanr.gov.ae.

List of Legislation, FANR Regulations and Regulatory Guides used in the Glossary

Laws

- Federal Law by Decree No. 6 of 2009 Concerning the Peaceful Uses of Nuclear Energy (Nuclear Law)
- Federal Law by Decree No. 4 of 2012 Concerning Civil Liability for Nuclear Damage (Nuclear Liability Law)

Regulations

- FANR Regulation for Leadership and Management for Safety in Nuclear Facilities, Version 1, 2022, FANR-REG-01-V1;
- FANR Regulation for the Siting of Nuclear Facilities, Version 0, 2013, FANR-REG-02-V0;
- FANR Regulation for the Design of Nuclear Power Plants, Version 0, 2013, FANR-REG-03-V0;
- FANR Regulation for Radiation Dose Limits and Optimisation of Radiation Protection for Nuclear Facilities, Version 1, 2018, FANR-REG-04-V1;
- FANR Regulation for the Application of Probabilistic Risk Assessment (PRA) at Nuclear Facilities, Version 0, 2010, FANR-REG-05-V0;
- FANR Regulation for an Application for a Licence to Construct a Nuclear Facility, Version 0, 2011, FANR-REG-06-V0;
- FANR Regulation on Physical Protection of Nuclear Material and Nuclear Facilities and on Cyber Security, Version 2, 2024, FANR-REG-08-V2;
- FANR Regulation on the Export and Import Control of Nuclear Material, Nuclear Related Items and Nuclear Related Dual-Use Items, Version 1, 2021, FANR-REG-09-V1;
- FANR Regulation for the System of Accounting for and Control of Nuclear Material and Application of Additional Protocol, Version 0, 2012, FANR-REG-10-V0;
- FANR Regulation for Radiation Protection and Predisposal Radioactive Waste Management in Nuclear Facilities, Version 0, 2012, FANR-REG-11-V0;
- FANR Regulation for Emergency Preparedness and Response for Nuclear Facilities, Version 1, 2020, FANR-REG-12-V1;
- FANR Regulation for the Safe Transport of Radioactive Material, Version 1, 2021, FANR-REG-13-V1;
- FANR Regulation for an Application for a Licence to Operate a Nuclear Facility, Version 0, 2014, FANR-REG-14-V0;
- FANR Regulation on the Requirements for Off-site Emergency Plans for Nuclear Facilities, Version 0, 2014, FANR-REG-15-V0;
- FANR Regulation on the Operational Safety including Commissioning, Version 0, 2014, FANR-REG-16-V0;
- FANR Regulation for the Certification of Operating Personnel at Nuclear Facilities, Version 1, 2023, FANR-REG-17-V1;
- FANR Regulation for Existing Exposure Situations, Version 0, 2015, FANR-REG-19;
- FANR Regulation on the Decommissioning of Facilities, Version 0, 2015, FANR-REG-21-V0;

- FANR Regulation for Security of Radioactive Sources, Version 1, 2020, FANR-REG-23-V1;
- FANR Regulation on Basic Safety Standards for Facilities and Activities involving Ionising Radiation other than in Nuclear Facilities, Version 1, 2014, FANR-REG-24-V1;
- FANR Regulation for Pre-disposal Management of Radioactive Waste, Version 0, 2014, FANR-REG-26-V0;
- FANR Regulation on Disposal of Spent Fuel and Radioactive Waste, Version 0, 2019, FANR-REG-27-V0;
- FANR Regulation on the Registration and Licensing of Radiation Sources, Version 0, 2020, FANR-REG-29-V0.
- FANR Regulation on Technical Services Related to Radiation Safety, Version 0, 2022, FANR-REG-30 V0

Regulatory Guides

- FANR Regulatory Guide on the Content of Nuclear Facility Construction and Operating Licence Applications, Version 1, 2015, FANR-RG-001-V1;
- FANR Regulatory Guide on Application of Leadership and Management for Safety in Nuclear Facilities, Version 1, 2024, FANR-RG-002-V1;
- FANR Regulatory Guide on Probabilistic Risk Assessment: Scope, Quality and Applications, Version 0, 2011, FANR-RG-003-V0;
- FANR Regulatory Guide on Evaluation Criteria for Probabilistic Safety Targets and Design Requirements, Version 0, 2011, FANR-RG-004-V0;
- FANR Regulatory Guide on Transportation Safety, Version 0, 2011, FANR-RG-006-V0;
- FANR Regulatory Guide on Radiation Safety, Version 1, 2021, FANR-RG-007-V1;
- FANR Regulatory Guide on Development and Review of Target Sets and of Vulnerability Assessment, Version 1, 2020, FANR-RG-010-V1;
- FANR Regulatory Guide on Cyber Security at Nuclear Facilities, Version 0, 2013, FANR-RG-011-V0;
- FANR Regulatory Guide on the Implementation of the Obligations and Requirements of the Additional Protocol to the UAE Comprehensive Safeguards Agreement, Version 0, 2015, FANR-RG-015-V0;
- FANR Regulatory Guide on the Certification of Reactor Operators and Senior Reactor Operators at Nuclear Facilities, Version 2, 2022, FANR-RG-017-V2;
- FANR Regulatory Guide on Pre-disposal Management of Radioactive Waste, Version 0, 2015, FANR-RG-018-V0;
- FANR Regulatory Guide on Radiation Safety in Industrial Radiography, Version 0, 2013, FANR-RG-019-V0;
- FANR Regulatory Guide on the Content of the Security Plan for Use, Handling or Storage of Radioactive Sources, Version 0, 2024, FANR-RG-020-V0;
- FANR Regulatory Guide on Transport Security for Radioactive Sources, Version 0, 2024, FANR-RG-021-V0;
- FANR Regulatory Guide on Safety Significance Evaluations for Modifications for Nuclear Facilities during Construction, Version 0, 2015, FANR-RG-023-V0;
- FANR Regulatory Guide on the Physical Protection for Transportation of Nuclear Material, Version 0, 2015, FANR-RG-025-V0;

- FANR Regulatory Guide on Response and Contingency Plans of Nuclear Facilities, Version 0, 2016, FANR-RG-026-V0;
- FANR Regulatory Guide on Near Surface Disposal of Radioactive Waste, Version 0, 2019, FANR-RG-027-V0;
- FANR Regulatory Guide on Screenings and Evaluations for Modifications to Operating Nuclear Facilities, Version 0, 2020, FANR-RG-029-V0;
- FANR Regulatory Guide for Operational Safety for Nuclear Facilities, Version 0, 2020, FANR-RG-030-V0;
- FANR Regulatory Guide on the Development and Modifications of Physical Protection Plan for Nuclear Power Plant, Version 0, 2018, FANR-RG-032-V0;
- FANR Regulatory Guide on Radiation Protection for Nuclear Power Plants, Version 0, 2020, FANR-RG-033-V0;
- FANR Regulatory Guide for Preparation, Conduct, and Evaluation of Drills and Exercises for Nuclear Facilities, Version 0, 2021, FANR-RG-034-V0;
- FANR Regulatory Guide for Emergency Preparedness for Nuclear Facilities, Version 0, 2021, FANR-RG-035-V0.

FANR SAFETY, SECURITY, AND SAFEGUARDS GLOSSARY

A

A1

The activity value of special form radioactive material which is listed in Table 2 or derived in Section IV of [the IAEA Safety Standards] TS-R-1 and is used to determine the activity limits for the requirements of [FANR-RG-006].

⊙ FANR-RG-006, VERSION 0

A2

The activity value of radioactive material, other than special form radioactive material, which is listed in Table 2 or derived in Section IV of [the IAEA Safety Standards] TS-R-1 and is used to determine the activity limits for the requirements of [FANR-RG-006].

⊙ FANR-RG-006, VERSION 0

Absorbed Dose

The fundamental dosimetric quantity D, defined as $D = \frac{d\bar{E}}{dm}$
Where $d\bar{E}$ is the mean energy imparted by [I]onizing [R]adiation to matter in a volume element and dm is the mass of matter in the volume element.

⊙ FANR-REG-04, VERSION 1; FANR-REG-19, VERSION 0; FANR-REG-24, VERSION 1

AC

Alternating Current.

⊙ FANR-RG-004, VERSION 0

Acceptance Criteria

Criteria that a system, structure or component must meet in order to be accepted by a user or by the established authority.

⊙ FANR-RG-001, VERSION 1

Access Control

The element of a physical protection system designed to increase adversary penetration time for entry into and/or exit from the Nuclear Facility or transport or limiting entry to a computer network Access Control/delay can be accomplished by physical barriers, activated delays, and/or personnel Authentication of identity.

⊙ FANR-RG-011, VERSION 0

Accident

Any intended or unintended event, including operating errors, equipment failures, initiating events, accident precursors, near misses or other mishaps, or unauthorized act, malicious or non-malicious, the consequences or potential consequences of which are not negligible from the point of view of protection or Safety.

⊙ Nuclear Law

Accident Conditions

Deviations from Normal Operation more severe than Anticipated Operational Occurrences, including Design Basis Accidents and Severe Accidents.

⊙ FANR-REG-03, VERSION 0; FANR-REG-04, VERSION 1; FANR-REG-14, VERSION 0; FANR-REG-16, VERSION 0; FANR-RG-030, VERSION 0

Accident Management

The taking of a set of actions during the evolution of a beyond DBA [Design Basis Accident]:

- to prevent the escalation of the event into a Severe Accident;
- to mitigate the consequences of a Severe Accident; and
- to achieve a safe stable state in the long term.

⊙ FANR-REG-03, VERSION 0; FANR-REG-16, VERSION 0

Accident Management. A set of actions taken during a Beyond Design Basis Accident:

- to prevent the escalation of the Event into a Severe Accident;
- to mitigate the consequences of a Severe Accident; and
- to achieve a safe and stable state in the long-term.

⊙ FANR-RG-030, VERSION 0

Accounting Records

A set of data kept at each Facility or Location Outside Facility showing the quantity of each type of Nuclear Material present, its distribution within the Facility or Location Outside Facility and any changes affecting it.

⊙ FANR-REG-10, VERSION 0

Accreditation

Third-party attestation issued by an authoritative body that performs Accreditation (for example Emirates National Accreditation System (ENAS) in the UAE), related to a conformity assessment body (e.g. laboratories), conveying formal demonstration of its competence to carry out specific conformity assessment tasks.

⊙ FANR-RG-033, VERSION 0

Active Component

A component whose functioning depends on an external input such as actuation, mechanical movement or supply of power.

⊙ FANR-REG-03, VERSION 0

Active RO/SRO

A Reactor Operator or Senior Reactor Operator with a valid Certificate onto whom the Nuclear Facility Licensee has assigned the duties of a Reactor Operator or Senior Reactor Operator.

⊙ FANR-RG-017, VERSION 2

Activity

The production, use, import and export of Radiation Sources for industrial, research and medical purposes; the transport of Radioactive Material; the Decommissioning of Facilities; and Radioactive Waste Management activities.

⊙ Nuclear Law

Activity Concentration

The activity per unit mass of a material in which the radionuclides are essentially uniformly distributed.

⊙ FANR-REG-11, VERSION 0; FANR-REG-19, VERSION 0

Activity Concentration. The radioactivity per unit mass of a material in which the radionuclides are essentially uniformly distributed.

⊙ FANR-REG-24, VERSION 1; FANR-REG-29, VERSION 0; FANR-RG-007, VERSION 1

Additional Protocol (AP)

The Protocol Additional to the Agreement between the United Arab Emirates (UAE) and the International Atomic Energy Agency (IAEA) for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). The Additional Protocol was ratified by Federal Decree No. 63 of 2010 and entered into force on 20 December 2010 and reproduced in IAEA Information Circular INFCIRC/622/Add.1.

⊙ FANR-REG-10, VERSION 0; FANR-RG-029, VERSION 0;

Additional Protocol (AP). The 2009 Protocol Additional to the Agreement between the UAE and the IAEA for the application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons (2003).

⊙ FANR-RG-001, VERSION 1

Advanced Nuclear Technologies (ANTs)

ANTs encompass a wide range of innovative nuclear technologies, including Small Modular Reactors (SMRs) and Advanced Modular Reactors (AMRs), which may vary depending on their size, scalability, location, modularity, application, fuel types, cooling medium, remote operability, enhanced Nuclear Safety features and centralised monitoring capabilities.

⊙ FANR-REG-08, VERSION 2

ALARA

As Low As Reasonably Achievable

⊙ FANR-REG-03, VERSION 0; FANR-RG-007, VERSION 1; FANR-RG-023, VERSION 0

Alert

An event that warrants taking actions to assess and to mitigate the potential nuclear, radiological and non-radiological consequences at a Nuclear Facility. Upon declaration of this Emergency class, actions shall be taken promptly to assess and to mitigate the potential consequences of the event and to increase the readiness of the On-site Response Organisations. When an Alert is declared, the state of readiness of the Off-site Response Organisations is also increased.

⊙ FANR-REG-12, VERSION 1

Amended Report

A report submitted to the Authority which amends the information in an Initial Report or an Annual Update Report.

⊙ FANR-RG-015, VERSION 0

Annual Update Report

A report submitted annually to the Authority by the Licensee concerning Reportable Activities of the Site or Location.

⊙ FANR-RG-015, VERSION 0

Anticipated Operational Occurrence (AOO)

An operational process deviating from [N]ormal Operation [that] is expected to occur at least once during the operating lifetime of a Nuclear Facility but [which], in view of appropriate [D]esign provisions, does not cause any significant damage to Items Important to Safety or lead to Accident Conditions.

⊙ FANR-REG-03, VERSION 0; FANR-REG-04, VERSION 1; FANR-REG-14, VERSION 0; FANR-REG-16, VERSION 0; FANR-RG-004, VERSION 0; FANR-RG-030, VERSION 0; FANR-RG-033, VERSION 0

Anticipated Transient without Scram (ATWS)

An anticipated operational occurrence followed by the failure of the reactor protection system.

⊙ FANR-RG-004, VERSION 0

As Low As Reasonably Achievable (ALARA)

This term is frequently referred to by its acronym ALARA and stands for the International Commission on Radiological Protection (ICRP) recommendation on the optimisation of Radiation Protection, namely that radiation Doses be kept as low as reasonably achievable, social and economic considerations being taken into account.

⊙ FANR-REG-21, VERSION 0

Assessment

The process and the result of a systematic analysis and the evaluation of the extent of hazards associated with Regulated Activities and Regulated

materials and associated protection and Safety measures for the purpose of meeting requirements, achieving efficiency of the process, and encouraging improvements including safety improvements.

⊙ Nuclear Law

Assessment Activities

Includes reviewing, checking, inspecting, testing, surveillance, auditing, peer evaluation and technical review activities, which can be carried out either through independent assessment or self-assessment.

⊙ Nuclear Law

Asset

Anything that has value to the organization, including:

a. People and their qualification and skills
b. Information
c. Software
d. Services
e. Equipment, such as computers
f. Intangibles, such as reputation

⊙ FANR-RG-011, VERSION 0

Authentication

Provision of assurance that a claimed characteristic of an entity is correct.

⊙ FANR-RG-011, VERSION 0

Authority

The Federal Authority for Nuclear Regulation

⊙ Nuclear Law; Nuclear Liability Law; FANR-RG-025, VERSION 0

B

Barrier(s)

Two or more natural or engineered barriers used to isolate Radioactive Waste and prevent radionuclide migration from a Radioactive Waste Repository.

⊙ FANR-REG-27, VERSION 0

Basic Event (BE)

An event in a fault tree model that requires no further development because the appropriate limit of resolution has been reached. This event typically represents the failure likelihood (unreliability or unavailability) of a System, Structure or Component (SSC) function or human action.

⊙ FANR-RG-003, VERSION 0

Batch

A portion of Nuclear Material handled as a unit for accounting purposes at a Key Measurement Point and for which the composition and quantity are defined by a single set of specifications or measurements. The Nuclear Material may be in bulk form or contained in a number of separate items (e.g. a fuel assembly). Items included in the same Batch are items containing Nuclear Material of the same element concentration and Enrichment.

⊙ FANR-REG-10, VERSION 0

Beyond Design Basis Accidents (BDBA)

Accident conditions more severe than a Design Basis Accident.

⊙ FANR-RG-004, VERSION 0

Beyond Design Basis Accidents (BDBA). A postulated Accident with Accident Conditions more severe than those of a Design Basis Accident. A Severe Accident is a subset of Beyond Design Basic Accidents that involve significant core degradation.

⊙ FANR-RG-030, VERSION 0

Beyond Design Basis Threats (BDBT)

A threat, identified in the Assessment that, while not included in the Design Basis Threat, remains credible. Threats beyond the DBT need to be taken into account to ensure the Physical Protection of Nuclear Facilities.

⊙ FANR-REG-03, VERSION 0

Biosphere

The part of the environment normally inhabited by living organisms and generally taken to include the atmosphere and the earth's surface including the soil, surface water bodies, seas and oceans and their sediments at the depth affected by basic human actions particularly farming. Biosphere is normally distinguished from the Geosphere.

⊙ FANR-REG-27, VERSION 0

Board

The board of management of the Authority.

⊙ Nuclear Law

Book Inventory

The algebraic sum of the most recent Physical Inventory of a Material Balance Area and of all Inventory Changes that have occurred since that Physical Inventory was taken.

⊙ FANR-REG-10, VERSION 0

Buffer Zone

A Buffer Zone is a section of the Disposal Site that is controlled by the Licensee and that lies under the Disposal Site and between the inner boundary of the Disposal Site and any Disposal Unit.

⊙ FANR-REG-27, VERSION 0

C

Candidate

An individual who the Nuclear Facility Licensee has determined that s/he meets the conditions for Certification as a Reactor Operator or a Senior Reactor Operator at a Nuclear Facility and is being proposed by the Nuclear Facility Licensee to be Certified by the Authority.

⊙ FANR-RG-017, VERSION 2

Carrier

A[ny] person, organization or government undertaking the carriage of [R]adioactive [M]aterial by any means of transport.

⊙FANR-RG-006, VERSION 0; FANR-RG-021, VERSION 0

Carrier. Any person, organization or government undertaking the carriage of nuclear material by any means of transport.

⊙ FANR-RG-025, VERSION 0

Category 1 Source

Radioactive Sources and aggregations of Radioactive Sources that are listed in Schedule A of [FANR-REG-23] as a Category 1 Source.

⊙ FANR-REG-23, VERSION 1

Category 2 Source

Radioactive Sources and aggregations of Radioactive Sources that are listed in Schedule A of [FANR-REG-23] as a Category 2 Source.

⊙ FANR-REG-23, VERSION 1

Category 3 Source

Radioactive Sources and aggregations of Radioactive Sources that are listed in Schedule A of [FANR-REG-23] as a Category 3 Source.

⊙ FANR-REG-23, VERSION 1

Central Alarm Station

An installation that provides for the complete and continuous monitoring and assessment of alarms and communication with Guards, facility management and Security Response Forces.

⊙ FANR-REG-08, VERSION 2

Central Alarm Station. An installation, located inside the Protected Area, which provides for the complete and continuous alarm monitoring, assessment and communication with Guards, Facility management and Security Response Forces.

⊙ FANR-RG-026, VERSION 0

Central Alarm Station. An installation which provides for the complete and continuous alarm monitoring, assessment and communication with Guards, Facility management and Security Response Forces.

⊙ FANR-RG-032, VERSION 0

Certification/Certified	The approval by the Authority of an individual to perform the functions of a Reactor Operator or a Senior Reactor Operator. ⊙ FANR-RG-017, VERSION 2
Certification/ Recertification/ Certificate/Certified	An approval by the Authority of an Individual to perform the duties of a Reactor Operator or a Senior Reactor Operator. ⊙ FANR-REG-17, VERSION 1
Chairman	The chairman of the Board. ⊙ Nuclear Law
Channel	An arrangement of interconnected components within a system that initiates a single output. A Channel loses its identity where single output signals are combined with signals from other Channels (e.g. from a monitoring Channel or a Safety actuation Channel). ⊙ FANR-REG-03, VERSION 0
Chelating Agent	A chelating agent is a chemical compound that reacts with metal ions to form stable, water-soluble metal complexes. The agent rearranges the metal's chemical composition and improves the metal's general stability and likelihood to bond with other substances. ⊙ FANR-RG-027, VERSION 0
Clearance	Removal of Radioactive Material or radioactive objects [within authorised practices] from any further Regulatory Control by the Authority.

⊙ FANR-REG-11, VERSION 0; FANR-REG-24, VERSION 1; FANR-REG-26, VERSION 0

Closure

Administrative and technical actions directed at a repository at the end of its operating lifetime – such as covering of the disposed waste (for a near surface repository) or backfilling and/or sealing (for a geological repository and the passages leading to it) – and the termination and completion of activities in any associated structures.

⊙ Nuclear Law

Commissioning

The process by means of which systems and components of Facilities and Activities, having been constructed, are made operational and verified to be in accordance with the Design and to have met the required performance criteria. Commissioning may include both non-nuclear and/or non-radioactive and nuclear and/or radioactive testing.

⊙ Nuclear Law

Common Cause Failure

Failure of two or more SSCs due to a single specific event or cause.

⊙ FANR-REG-03, VERSION 0

Competent Authority

A Federal or local government entity with legally defined responsibilities in the areas described in Article (3.2) of [FANR-REG-15].

⊙ FANR-REG-15, VERSION 0

Competent Authorities

The government entities that are responsible for security measures in the State and in each Emirate of the State.

⊙ FANR-REG-08, VERSION 2

Competent Authorities. All local and federal government authorities in the State that have some responsibilities, inter alia, in Radiation Protection, Emergency, crisis, and disaster management.

⊙ FANR-REG-12, VERSION 1

Competent Health Authority

A Physician competent in the use of a specific standard (e.g., ANSI/ANS-3.4-1996) to evaluate medical fitness suitability of the Operating Personnel.

⊙ FANR-RG-017, VERSION 2

Complementary Access

Access provided by the State to IAEA inspectors in accordance with the provisions of the Additional Protocol. The purpose of Complementary Access is to verify correctness and completeness of State Declarations. A detailed description of Complementary Access can be found in Articles 4 to 10 of the Additional Protocol.

⊙ FANR-RG-015, VERSION 0

Compliance Period

The time from the completion of Disposal Site Closure to one thousand years or longer after Disposal Site Closure based on the Near Surface Radioactive Waste Disposal Facility plan to accept significant quantities of long-lived radionuclides.

⊙ FANR-RG-027, VERSION 0

Concept of Operations

A brief description of an optimal Emergency Response to a postulated nuclear or radiological Emergency, which is used to ensure that all those personnel and organisations involved in the development of a capability for Emergency

Response share a common understanding of the said optimal Emergency Response.

⊙ FANR-REG-12, VERSION 1

Conditioning

The [O]perations that produce a [W]aste [P]ackage suitable for handling, transport, [S]torage and/or Disposal. Conditioning may include the conversion of the Radioactive Waste to a solid form, enclosure of the Radioactive Waste in containers and, if necessary, provision of an [O]verpack.

⊙ FANR-REG-11, VERSION 0; FANR-REG-26, VERSION 0

Consignee

Defined in [IAEA Safety Standard] TS-R-1 as any person, organization or government which is entitled to take delivery of a consignment. The same as a Receiver in [FANR-RG-006].

⊙ FANR-RG-006, VERSION 0

Consignee. Any person, organisation or government which is entitled to take delivery of a Consignment.

⊙ FANR-RG-021, VERSION 0

Consignment

[Consignment shall mean] [a]ny package or packages, or load of [R]adioactive [M]aterial, presented by a [C]onsignor for transport.

⊙ FANR-RG-006, VERSION 0; FANR-RG-021, VERSION 0

Consignor

Defined in [IAEA Safety Standards] TS-R-1 as a person or organization that prepares a consignment for transport. The same as a Shipper in [FANR-RG-006].

⊙ FANR-RG-006, VERSION 0

Consignor. Any person, organisation or government which prepares a Consignment for transport.

⊙ FANR-RG-021, VERSION 0

Construction

The process of manufacturing and assembling the components of a Facility, the carrying out of civil works, the installation of components and equipment and the performance of associated tests.

⊙ Nuclear Law

Containment

Methods or physical structures designed to prevent or control the release and the dispersion of radioactive substances.

⊙ FANR-REG-05, VERSION 0

Containment.

- the structural features of a Facility;
- containers or equipment which are used to establish the physical integrity of an area; or
- items (including Nuclear Safeguards Equipment or Records) to maintain the continuity of knowledge of the area or items by preventing undetected access to, or movement of, Nuclear Material or other material, or interference with such items.
- The continuing integrity of the Containment itself is usually assured by Seals or surveillance measures and by periodic examination of the Containment during Inspection.

⊙ FANR-REG-10, VERSION 0

Contingency Plan

Predefined sets of actions for effective response to unauthorised acts indicative of attempted Malicious

Acts, up to and including the Design Basis Threat, as well as threats thereof.

⊙ FANR-REG-08, VERSION 2

Contingency Plan. Predefined sets of actions for response to unauthorized acts indicative of attempted theft or radiological sabotage, including threats thereof, designed to effectively counter such acts.

⊙ FANR-RG-025, VERSION 0

Contingency Plan. Predefined sets of actions for response to unauthorized acts indicative of attempted [U]nauthorized [R]emoval of nuclear material or Radiological Sabotage, including threats thereof, designed to effectively counter such acts.

⊙ FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

Contraband

Unauthorised firearms, explosives, incendiaries, dangerous items, materials and/or vehicles that could be used to commit a Malicious Act, including threat thereof.

⊙ FANR-REG-08, VERSION 2

Control Systems

Instrumentation, hardware and software used to monitor, maintain or change the Operating State of the plant systems or components. Control Systems are functionally independent of the Protection Systems required Safety Systems actuation (although some components, such as sensors, may be shared).

⊙ FANR-REG-03, VERSION 0

Controlled Area

A defined area in a Nuclear Facility in which specific Radiation Protection measures and Safety provisions are or could be required for: (a) controlling normal Exposures; (b) preventing the spread of contamination in normal working conditions; or (c) preventing or limiting the extent of potential Exposures.

⊙ FANR-REG-04, VERSION 1

Controlled Area. A defined area in which specific protective measures or Safety provisions are or could be required for a) controlling normal exposures; b) preventing the spread of contamination during normal working conditions; or c) preventing or limiting the extent of potential exposures.

⊙ FANR-RG-007, VERSION 1

Controller

An individual who is responsible for managing the scenario, providing simulated data to the participants, and responding to participant requests. The Controller ensures the continuity of the scenario and is the only person allowed to change events.

⊙ FANR-RG-034, VERSION 0

Controls

The apparatus and mechanisms that, when manipulated, directly affect the reactivity or power level of the reactor.

⊙ FANR-RG-017, VERSION 2

Conveyance

For transport (a) by road or rail: any vehicle used for carriage of nuclear material cargo; (b) by water: any seagoing ship or inland waterway craft, or any hold, compartment, or defined deck area of a seagoing ship or inland waterway craft used for carriage of

nuclear material cargo; and (c) by air: any aircraft used for carriage of nuclear material cargo.

⊙ FANR-RG-025, VERSION 0

Coolable Core Geometry

Fuel assembly rod bundles retain a geometry with adequate coolant channels to permit removal of residual heat.

⊙ FANR-RG-004, VERSION 0

Core Damage Frequency (CDF)

The likelihood of Accidents that would cause damage to a reactor core; the sum of the frequencies of those Accidents that result in uncovery and heat-up of the reactor core to the point at which prolonged oxidation and severe [F]uel [D]amage are anticipated and involving enough of the core, resulting into fission products release from the fuel that if released to the environment would result in offsite public health effects.

⊙ FANR-RG-003, VERSION 0; FANR-RG-004, VERSION 0

Corrective Maintenance

Actions that restore, by repair, overhaul or replacement, the capability of a failed SSC to function within acceptance criteria.

⊙ FANR-REG-16, VERSION 0

Counterfeit Item(s)

Products that are intentionally manufactured, refurbished or altered to imitate original Products without authorization of Product designer in order to pass themselves off as genuine.

⊙ FANR-REG-01, VERSION 1

Country-of-Origin (CoO)

The country whose regulatory body approved the nuclear power plant Design being proposed for the State.

⊙ FANR-RG-003, VERSION 0

Covered Activities

Any Regulated Activity specified or encompassed within those described in Article 2(1) of FANR-REG-24.

⊙ FANR-REG-24, VERSION 1

Critical Digital Assets (CDAs)

A digital device or system that plays a role in the Operation or Maintenance of a Critical Digital System and can impact the proper functioning of a Critical Digital System.

⊙ FANR-RG-010, VERSION 1; FANR-RG-011, VERSION 0

Critical Digital System

A system and a network associated with Items Important to Safety; security; safeguards; or Emergency Preparedness functions; including onsite and offsite communications; and support systems and equipment.

⊙ FANR-RG-010, VERSION 1; FANR-RG-011, VERSION 0

Cutset (CS)

A representation of the combination of Basic Events that can lead to a fault trees top event. The fault tree top event can represent a subsystem, system, plant function or an overall risk metric.

⊙ FANR-RG-003, VERSION 0

Cyber Attack

The manifestation of either physical or logical (i.e., electronic or digital) threats against computers, communication systems, or networks, that may:

1) originate from either inside or outside the applicant/Licensee's Nuclear Facility;

2) have internal and external components;
3) involve physical or logical threats;
4) be directed or not-directed in nature;
5) be conducted by threat agents having either malicious or no malicious intent; and
6) have the potential to result in direct or indirect adverse effect or consequence to CDAs or CDSs.

These attacks may occur individually or in any combination.

⊙ FANR-RG-011, VERSION 0

Cyber Security

The protection of equipment, systems and networks against attacks by individuals or organisations that would seek to cause harm, damage or adversely affect the confidentiality, integrity or availability of an information system or that seek to use an information control system for an unauthorized purpose that will affect the functions performed by such equipment, systems and networks. Cyber Security provides [is meant to provide] a high assurance that digital computer, network and communication systems are adequately protected against cyber-attacks [up to and including the DBT].

⊙ FANR-REG-03, VERSION 0; FANR-RG-011, VERSION 0; FANR-RG-032, VERSION 0

Cyber Security. Protection from cyber attacks of digital computer and communications systems and networks associated with certain categories of functions and support systems and equipment, which if compromised, would adversely impact the Safety, security, safeguards and Emergency Preparedness functions (including off-site communications) of a Nuclear Facility.

⊙ FANR-REG-08, VERSION 2

Cyber Security Culture

The product of individual and group values, attitudes, perceptions, competencies and patterns of

behaviour that determine the commitment to Nuclear Facility's Cyber Security policies, procedures and practices.

⊙ FANR-RG-011, VERSION 0

Cyber Security Incident

An event that actually or potentially jeopardizes the functional or performance characteristics of a digital Asset;
or
a violation of security policies or procedures.

⊙ FANR-RG-011, VERSION 0

Cyber Security Plan

A plan that describes Cyber Security measures and the governance for their implementation by the Licensee.

⊙ FANR-REG-08, VERSION 2

Cyber Security Plan. A plan that describes Cyber Security as part of the Physical Protection Plan. The Cyber Security Plan shall include Cyber Security assessment team, critical digital assets identification for Safety, security, safeguards and Emergency Preparedness functions, Defence-in-depth strategy, management control, control of Operation and technical control.

⊙ FANR-RG-032, VERSION 0

D

Declaration

Information submitted to the IAEA by a State about its nuclear programme and related activities

⊙ FANR-RG-015, VERSION 0

Decommissioning

Administrative and technical actions taken to allow the removal of some or all of the Regulatory Controls from a Nuclear Facility (except for a Radioactive Waste Repository or for certain Nuclear Facilities used for the Disposal of residues from the mining and processing of Radioactive Material, which are closed and not decommissioned).

⊙ Nuclear Law

Defence-in-Depth

A hierarchical deployment of different levels of diverse equipment and procedures to prevent the escalation of [A]nticipated [O]perational [O]ccurrences and to maintain the effectiveness of physical barriers placed between a Radiation Source or Radioactive Material and [W]orkers, members of the public or the environment, in [O]perational [S]tates and, for some barriers, in [A]ccident [C]onditions.

⊙ FANR-REG-03, VERSION 0; FANR-REG-16, VERSION 0; FANR-RG-003, VERSION 0; FANR-RG-004, VERSION 0; FANR-RG-007, VERSION 1; FANR-RG-023, VERSION 0; FANR-RG-029, VERSION 0

Defence-in-Depth. The combination of multiple layers of systems and measures that have to be overcome or circumvented before Physical Protection or Cyber Security is compromised.

⊙ FANR-REG-08, VERSION 2

Defence-in-Depth. The combination of multiple layers of systems and measures that have to be overcome or circumvented before nuclear security is compromised.

⊙ FANR-RG-011, VERSION 0

Defence-in-Depth. Defence-in-depth in a Radioactive Waste Repository means the use of multiple independent and (where possible) redundant layers of defence such that no single layer, no matter how robust, is exclusively relied upon. Defence-in-depth for a Radioactive Waste Repository includes (but is not limited to) the use of Siting, Waste Forms and radionuclide content, engineered features, and natural geologic features of the Disposal Site to strengthen the resilience of the Radioactive Waste Repository structure and components.

⊙ FANR-REG-27, VERSION 0

Deferred Dismantling

After removal of the Nuclear Fuel from the Facility (for nuclear installations), all or part of a Facility containing Radioactive Material is either processed or placed in such a state that it can be put in safe Storage and the Facility maintained until it is subsequently decontaminated and/or dismantled. Deferred Dismantling may involve early dismantling of some parts of the Facility and early processing of some Radioactive Material and its removal from the Facility, as preparatory steps for safe Storage of the remaining parts of the Facility.

⊙ FANR-REG-21, VERSION 0

Design

The process of developing a concept, detailed plans, supporting calculations and specifications for a Facility or one of its parts.

⊙ Nuclear Law

Design Basis

The range of conditions and events taken explicitly into account in the Design of a Facility (according to established Design criteria) such that the Facility can

withstand them without exceeding authorised limits by the planned Operation of Safety systems.

⊙ FANR-RG-027, VERSION 0

Design Basis Accident (DBA)

Accident Conditions against which a Nuclear Facility is designed according to established [D]esign criteria, and for which the damage to the [Nuclear] [F]uel and the release of Radioactive Material are kept within authorized limits.

⊙ FANR-REG-03, VERSION 0; FANR-REG-04, VERSION 1; FANR-REG-14, VERSION 0; FANR-REG-16, VERSION 0; FANR-RG-004, VERSION 0; FANR-RG-023, VERSION 0; FANR-RG-029, VERSION 0; FANR-RG-030, VERSION 0

Design Basis Threat (DBT)

The attributes and characteristics of potential insiders and/or external adversaries who might attempt unauthorised removal of Nuclear Material or sabotage, against which a Physical Protection System is designed and evaluated.

⊙ FANR-REG-03, VERSION 0

Design Basis Threat (DBT). The attributes and characteristics of a potential Insider and/or external adversaries, who might attempt a Malicious Act, against which a Physical Protection System is designed and evaluated.

⊙ FANR-REG-08, VERSION 2

Design Basis Threat (DBT). The largest reasonable threat against which the licensee shall be expected to defend. It describes the attributes and characteristics of potential insider and/or external adversaries, who might attempt [unauthorized] removal of Nuclear Material or [radiological] sabotage, against which a Physical Protection system is designed and evaluated.

⊙ FANR-REG-14, VERSION 0; FANR-RG-011, VERSION 0

Design Basis Threat (DBT). The attributes and characteristics of potential insider and/or external adversaries, who might attempt Unauthorized Removal of nuclear material or Radiological Sabotage, against which a Physical Protection System is designed and evaluated.

⊙ FANR-RG-010, VERSION 1; FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

Design Information Questionnaire

A questionnaire used to submit Design information about the Nuclear Facility to the IAEA by the UAE.

⊙ FANR-RG-029, VERSION 0

Detection

A process in a Physical Protection System, which begins with sensing a potentially Malicious Act or otherwise unauthorised act with an alarm and which is completed with the assessment of the cause of the alarm.

⊙ FANR-REG-08, VERSION 2

Deterministic Effect

A health effect of radiation for which generally a threshold level of dose exists above which the severity of the effect is greater for a higher dose. Such an effect is described as a severe deterministic effect if it is fatal or life threatening or results in a permanent injury that reduces quality of life.

⊙ FANR-REG-15, VERSION 0

Deviation

A departure from specified requirements.

⊙ FANR-RG-030, VERSION 0

Diagnostic Reference Level(s)

A level used in medical imaging to indicate whether, in routine conditions, the [D]ose to the patient or the quantity of Radioactive Material administered in a specified radiological procedure is unusually high or low [for that procedure].
Diagnostic Reference Levels are established following consultation with health competent authorities and relevant professional bodies, and are based upon surveys or published values appropriate to the circumstances in the State.

⊙ FANR-REG-24, VERSION 1; FANR-RG-007, VERSION 1

Discharge

Planned and controlled release of (whether gaseous, liquid or otherwise) Radioactive Material to the environment.

⊙ Nuclear Law

Disposal

Emplacement of waste in an appropriate Facility without the intention of retrieval.

⊙ Nuclear Law

Disposal Site

The section of the Radioactive Waste Repository that is used for the Disposal of Radioactive Waste and consists of Disposal Units and a Buffer Zone.

⊙ FANR-REG-27, VERSION 0

Disposal System

The system of properties of the site for a Radioactive Waste Repository, Design of the Radioactive Waste Repository, items and physical structures, procedures for control, characteristics of Radioactive Waste, and other elements that contribute in different ways and over different timescales to the fulfilment of Safety functions for Disposal.

⊙ FANR-REG-27, VERSION 0

Disposal Unit

The discrete section of the Disposal Site into which Radioactive Waste is placed for Disposal.

⊙ FANR-REG-27, VERSION 0

Diversity

The presence of two or more redundant systems or components to perform an identified function, where the different systems or components have different attributes so as to reduce the possibility of Common Cause Failure.

⊙ FANR-REG-03, VERSION 0

Dose(s)

A measure of the energy deposited by radiation in a target.

⊙ Nuclear Law

Dose Constraint

A prospective and source of radiation related restriction on the individual Dose from a source of radiation, which provides a basic level of Radiation Protection for the most highly exposed individuals to Ionizing Radiation from a source of radiation, and serves as an upper bound on the Dose in Optimisation of Radiation Protection for that source of radiation. For Occupational Exposures, the Dose Constraint is a value of individual Dose used to limit the range of options considered in the process of Optimisation. For Public Exposure, the Dose Constraint is an upper bound on the annual Doses that members of the public may receive from the planned Operation of any controlled source of radiation.

⊙ FANR-REG-04, VERSION 1; FANR-REG-27, VERSION 0

Dose Constraint. A prospective and source-related restriction on the individual Dose from a Radiation

Source, which provides a basic level of protection for the most highly exposed individuals from a Radiation Source, and serves as an upper bound on the Dose in Optimisation of protection for that Radiation Source. For Occupational Exposures, the Dose Constraint is a value of individual Dose used to limit the range of options considered in the process of Optimisation. For Public Exposure, the Dose Constraint is an upper bound on the annual Doses that members of the public should receive from the planned Operation of any controlled Radiation Source.

⊙ FANR-REG-21, VERSION 0; FANR-REG-24, VERSION 1; FANR-RG-007, VERSION 1

Dose Limit

The value of the Effective Dose or the Equivalent Dose to individuals from Planned Exposure Situations that shall not be exceeded.

⊙ FANR-REG-04, VERSION 1

Drill

An activity that develops a skill or capability or tests a single Emergency procedure or task. The drill may test an individual's skill, the proficiency of a team, or the adequacy of procedures, equipment or facilities.

⊙ FANR-RG-034, VERSION 0

Dust Storm

Particles of dust energetically lifted by a strong and turbulent wind. Dust Storms are usually associated with hot, dry, and windy conditions. Dust particles typically have a diameter less than 0.08 mm and consequently can be lifted to far greater heights than sand.

⊙ FANR-REG-03, VERSION 0

E

ECCS

Emergency Core Cooling System

⊙ FANR-RG-004, VERSION 0; FANR-RG-023, VERSION 0

Effective Dose [E]

The quantity E defined as a summation of the tissue Equivalent Doses, which is each multiplied by the appropriate [T]issue [W]eighting [F]actor where H_T is the Equivalent Dose in tissue T and w_T is the [T]issue [W]eighting [F]actor for tissue T.

$$E = \sum_T w_T . H_T$$

From the definition of Equivalent Dose, it follows that where w_R is the [R]adiation [W]eighting [F]actor for radiation type R and $D_{T,R}$ is the average Absorbed Dose in the organ or tissue.

$$E = \sum_T w_T \sum_R w_R . D_{T,R}$$

⊙ FANR-REG-04, VERSION 1; FANR-REG-11, VERSION 0; FANR-REG-19, VERSION 0; FANR-REG-21, VERSION 0; FANR-REG-24, VERSION 1; FANR-RG-007, VERSION 1

Effective Kilogram

A special unit used in the safeguarding of Nuclear Material. The quantity of Nuclear Material in an Effective Kilogram is obtained by taking:

- for plutonium, its weight in kilograms;
- for uranium with an Enrichment of 0.01 (1%) and above, its weight in kilograms multiplied by the square of its Enrichment;
- for uranium with an Enrichment below 0.01 (1%) and above 0.005 (0.5%), its weight in kilograms multiplied by 0.0001; and

- for depleted uranium with an Enrichment of 0.005 (0.5%) or below, and for thorium, its weight in kilograms multiplied by 0.00005.

⊙ FANR-REG-10, VERSION 0

Emergency/ies

A non-routine situation that necessitates prompt action, primarily to mitigate a hazard or adverse consequences for human health and Safety, quality of life, property, or the environment. This includes nuclear and radiological emergencies and conventional emergencies such as fire, release of hazardous chemicals, storms or earthquakes. It includes situations for which prompt action is warranted to mitigate the effects of a perceived hazard.

⊙ Nuclear Law

Emergency Action

An action performed to mitigate the impact of an Emergency.

⊙ Nuclear Law

Emergency Action Level (EAL)

A specific, pre-determined criterion for observable conditions used to detect, recognise and determine the classification of an Emergency.

⊙ FANR-REG-12, VERSION 1

Emergency Action Level. A specific, predetermined, observable criterion used to detect, recognise and determine the classification of an Emergency.

⊙ FANR-REG-15, VERSION 0

Emergency Classification

The process whereby a Licensee classifies an Emergency in order to declare an applicable Emergency class.

⊙ FANR-REG-12, VERSION 1

Emergency Exposure Situation

A situation of [E]xposure that arises as a result of an Accident, and requires a prompt action in order to avoid or to reduce adverse consequences.

⊙ FANR-REG-12, VERSION 1; FANR-RG-035, VERSION 0

Emergency Measures

Plans, procedures, checklists and any other measures prepared and implemented to prevent or minimise the occurrence or impact of an Emergency, including an Emergency Plan.

⊙ FANR-REG-02, VERSION 0

Emergency Operations Facility

The Licensee's facility that is responsible for commanding and controlling the On-site Emergency Response and for coordinating with the Off-site Authorities the Emergency Response during a Site Area Emergency or General Emergency.

⊙ FANR-REG-12, VERSION 1

Emergency Operations Facility. The facility that coordinates the onsite and off-site response to an Emergency which warrants off-site Protective Action.

⊙ FANR-REG-15, VERSION 0

Emergency Plan

A description of the concept, policy and objectives of operations for the response to an Emergency and of the structure, authorities and responsibilities for a systematic, coordinated and effective response. The Emergency Plan serves as the basis for the

development of other plans, procedures and checklists.

- Nuclear Law; FANR-RG-29, VERSION 0

Emergency Preparedness

The capability to take actions that will effectively mitigate the consequences of an Emergency.

- Nuclear Law; FANR-RG-011, VERSION 0

Emergency Preparedness Functions

Identified task, or set of tasks, performed by systems, equipment and individuals to provide reasonable assurance that adequate protection and mitigation measures can be taken in the event of a radiological emergency at the Nuclear Facility.

- FANR-RG-011, VERSION 0

Emergency Response

The performance of actions to mitigate the consequences of an Emergency. It may also provide a basis for the resumption of normal social and economic activity.

- Nuclear Law

Emergency Response Facilities

Facilities that can be used to improve Emergency Response to Accidents such as the Technical Support Centre, Operational Support Centre, and Emergency Operations Facility.

- FANR-RG-035, VERSION 0

Emergency Services

The local Off-site Emergency Response Organisations that are available and perform Emergency Response functions. Such services may include police, firefighters and rescue brigades, ambulance services and control teams for hazardous material.

⊙ FANR-REG-12, VERSION 1

Emergency Worker

A person who has specific duties as a worker in response to an Emergency.

⊙FANR-REG-12, VERSION 1

Emergency Zone

The precautionary action zone and/or the urgent protective action planning zone.

⊙ Nuclear Law

End-user Declaration

A written undertaking from the end-user of Nuclear Related Dual-use Items stating that the said end-user will not use the said Nuclear Related Dual-use Items in any nuclear explosive activity or unsafeguarded nuclear activity.

⊙ FANR-REG-09, VERSION 1

Enforcement Action

Actions taken by the Authority for the purpose of ensuring operator's compliance with [the Nuclear Law], regulation and requirements specified by the Authority, including corrective actions, written warnings, revoking of a license and any other administrative penalties or fines the Authority may impose according to [the Nuclear Law] and regulations in force. The Authority shall, when taking Enforcement Action, take into consideration the suitability of the action with the Enforcement Action to be adopted.

⊙ Nuclear Law

Enrichment

A process or operation the purpose of which is to produce uranium containing a greater mass percentage of uranium-235 than 0.72%.

⊙ Nuclear Law

Environmental Sampling

Collection of samples from the environment with a view to analysing them for traces of materials that can reveal information about Nuclear Material handled or activities conducted.

⊙ FANR-REG-10, VERSION 0

Equipment Operator (EO)

An Operator who works in a Nuclear Facility, normally outside the control room, under the direction of Reactor Operators and Senior Reactor Operators.

⊙ FANR-REG-16, VERSION 0; FANR-RG-017, VERSION 1; FANR-RG-030, VERSION 0

Equivalent Dose

The quantity $H_{T,R}$, defined as where $D_{T,R}$ is the Absorbed Dose delivered by radiation type R averaged over a tissue or organ T and w_R is the Radiation Weighting Factor for radiation type R:

$$H_{T,R} = w_R . D_{T,R}$$

When the radiation field is composed of different radiation types with different values of w_R the Equivalent Dose is:

$$H_T = \sum_R w_R . D_{T,R}$$

⊙ FANR-REG-04, VERSION 1; FANR-REG-19, VERSION 0; FANR-REG-21, VERSION 0; FANR-REG-24, VERSION 1

Event

In the context of reporting and analysing an Event, an Event is any unintended occurrence by the Operator, such as operating error, equipment failure or other mishap, deliberate action on the part of others, and unplanned occurrences, the consequences or potential consequences of which are not negligible from the point of view of protection or Safety, or that result in implications for Nuclear

Safety and radiation Safety, Nuclear Security, and safeguards.

- FANR-RG-030, VERSION 0

Exemption

The determination by the Authority that a Source or practice is exempted from some or all aspects of Regulatory Control on the basis that the exposure (including potential exposure) due to the Source or practice is too small to warrant the application of those regulatory aspects or that this is the optimum option for prevention irrespective of the actual level of the Doses or risks.

- Nuclear Law

Exemption from Safeguards

Under the Safeguards Agreement, the State may request that a limited amount of Nuclear Material be exempted from IAEA safeguards (i.e., reporting to the IAEA) on account of its use or quantity. De-exemption is reapplication of IAEA safeguards on Nuclear Material previously exempted from safeguards.

- FANR-REG-10, VERSION 0

Exercise

An event conducted jointly with the Licensee and the Off-site organisation to evaluate major portions of Emergency response capabilities.

- FANR-RG-034, VERSION 0

Exercise Management Committee

A group of individuals responsible for all aspects of an exercise, including exercise planning, conduct and evaluation. The committee determines exercise capabilities, tasks and objectives. It tailors the scenario to the entity’s needs, and develops documents used in exercise simulation, control and evaluation.

⊙ FANR-RG-034, VERSION 0

Existing Exposure Responsible Entity

Person that is to undertake management of existing Exposure situation based on the decision taken by the Authority and relevant governmental entities.

⊙ FANR-REG-19, VERSION 0

Existing Exposure Situation

A situation of Exposure which already exists when a decision needs to be taken on the need for control of the said Exposure.

⊙ FANR-REG-12, VERSION 1

Export

The action of taking, transmitting, or otherwise transferring out of the State and its free zones and/ or special zones through air, land or sea any Nuclear Material and/or Regulated Items originating in the State including those originating in the State's free zones and/or special zones.

⊙ FANR-REG-09, VERSION 1

Exposure

Occupational Exposure(s) and/or Public Exposure(s).

⊙ FANR-REG-04, VERSION 1

Exposure. The state or condition of being subject to irradiation.

⊙ FANR-REG-12, VERSION 1; FANR-REG-19, VERSION 0

Exposure Pathway

A route by which radiation or radionuclides can reach humans and cause exposure.

⊙ FANR-REG-11, VERSION 0

Extended Planning Distance

The area around a facility for which Emergency arrangements are made to conduct monitoring following the declaration of a General Emergency and to identify areas warranting Emergency Response actions to be taken off-site within a period following a significant radioactive release that would allow the risk of stochastic effects among members of the public to be effectively reduced.

⊙ FANR-RG-034, VERSION 0

Extent of Play Agreement

A document that customises the default performance expectations found in the assessment area demonstration criteria. The Extent of Play Agreement may include identification of the demonstration criteria that will or will not be evaluated during the Exercise, entities responsible for demonstrating specific criteria, equipment, personnel to be deployed, facilities to be activated, etc.

⊙ FANR-RG-034, VERSION 0

External Events

Events unconnected with the Operation of a Facility or the conduct of an [Covered] Activity which could have an effect on the Safety of the Facility or [Covered] Activity.

⊙ FANR-REG-02, VERSION 0; FANR-RG-007, VERSION 1

External Zone

The area immediately surrounding a proposed Site Area in which population distribution and density, and land and water uses, are considered with respect to their effects on the possible implementation of Emergency Measures.

⊙ FANR-REG-02, VERSION 0

F

Facility

Includes Nuclear Facilities, irradiation installations, some mining and raw material processing facilities such as uranium mines; Radioactive Waste Management Facilities, and any other places where Radioactive Material is produced, processed, used, handled, stored or disposed of, or where radiation generators are installed, on such a scale that consideration of protection and Safety is required.

⊙ Nuclear Law

Facility. A reactor, critical Facility, conversion plant, fabrication plant, Reprocessing plant, isotope separation plant or a separate storage installation or any location where Nuclear Material in amounts greater than one Effective Kilogram is customarily used.

⊙ FANR-REG-10, VERSION 0

Facility Safeguards Plan (FSP)

A plan that describes all tasks that must be completed to fully address the Facility's safeguards and import/export obligations. The plan must include the associated timelines to complete those tasks and detail the current progress on those tasks.

⊙ FANR-REG-14, VERSION 0

Fault Tree

A deductive logic diagram that depicts how a particular undesired event can occur as a logical combination of other undesired events.

⊙ FANR-RG-003, VERSION 0

Final Safety Analysis Report (FSAR)

A document required by FANR Regulation for an Application for a Licence to operate a Nuclear Facility (FANR REG-14) to support an application for a Licence to Operate a Nuclear Facility.

⊙ FANR-RG-029, VERSION 0

Fraudulent Item(s)

Products that are intentionally misrepresented with the intent to deceive. Fraudulent Items include Products provided with incorrect identification, falsified or inaccurate certification.

⊙ FANR-REG-01, VERSION 1

Free Zone

A portion of clearly defined and isolated land or setting, with a special tax, customs, import and export regime.

⊙ FANR-REG-10, VERSION 0

Fuel Damage

Any fuel relocation, fuel-clad interaction or clad degradation that limits the fuel lifetime, power level or compromises assumptions in the Safety analysis.

⊙ FANR-RG-004, VERSION 0

Full Scope Representative Simulator

A simulator incorporating detailed modelling of the Licensee's Nuclear Reactor under normal Operation, transient, and Accident conditions with which the Individual interfaces in the actual control room environment.

⊙ FANR-REG-17, VERSION 1

Functional Event Sequence(s) (FS)

A group of similar Accident sequences into an event class. Similar Accident sequences are those that have similar initiating events and display similar Accident behaviour in terms of system failures and/or

phenomena and lead to similar end states. Similar Accident sequences are likely to have the same systems, structures and components credited for Accident prevention and/or mitigation.

⊙ FANR-RG-003, VERSION 0; FANR-RG-004, VERSION 0

Functional Isolation

Prevention of influences from the mode of Operation or failure of one circuit or system on another.

⊙ FANR-REG-03, VERSION 0

Fundamental Safety Objective

The objective to protect people and the environment from the harmful effects of Ionising Radiation, as described in the International Atomic Energy Agency (IAEA) Safety Standard 'Fundamental Safety Principles' (Safety Fundamentals (No. SF-1), 2006 edition).

⊙ FANR-REG-01, VERSION 1

Fussell-Vesely (FV) Importance Measure

For a specified Basic Event, Fussell-Vesely importance is the fractional contribution to the total of a selected figure of merit for all Accident sequences containing that Basic Event. For PRA quantification methods that include non-minimal Cutsets and success probabilities, the Fussell Vesely importance measure is calculated by determining the fractional reduction in the total figure of merit brought about by setting the probability of the Basic Event to zero.

⊙ FANR-RG-003, VERSION 0

G

General Design Criteria

This criteria establishes the minimum design requirements for water-cooled nuclear power plants similar in Design and location to nuclear power plants for which a Construction Licence has been issued by the Authority.

⊙ FANR-RG-029, VERSION 0

General Emergency

An event resulting in an actual release or the substantial probability of a release of Radioactive Material requiring the implementation of Urgent Protective Actions Off-site. This includes: (1) actual or projected damage to the reactor core or large amounts of Spent Nuclear Fuel; or (2) releases of Radioactive Material Off-site resulting in Doses exceeding intervention levels for Urgent Protective Actions. When a General Emergency is declared, Urgent Protective Actions and other Emergency Response actions are recommended immediately and shall be taken promptly.

⊙ FANR-REG-12, VERSION 1

Generic Criteria

Levels for the projected Dose, or the Dose that has been received at which Protective Actions and other Emergency Response actions are to be taken.

⊙ FANR-REG-12, VERSION 1

Geological Radioactive Waste Disposal Facility

A Radioactive Waste Repository for Radioactive Waste Disposal located in the Geosphere (usually several hundred meters or more below the surface) in a stable geological formation to provide long-term isolation of radionuclides from the Biosphere.

⊙ FANR-REG-27, VERSION 0

Geosphere

Those parts of the lithosphere not considered to be part of the Biosphere and consisting of the subsoil

and rock from the soil that are not part of the Biosphere.

⊙ FANR-REG-27, VERSION 0

Government

The Government of the State

⊙ Nuclear Law

Government-to-Government Assurance

A written document prepared by a competent authority of the state of the recipient of Nuclear Material and/ or Nuclear Related Items and formally submitted to a competent authority of the state of the supplier of Nuclear Material and/ or Nuclear Related Items including an undertaking of the government of the recipient that the Nuclear Material and/ or Nuclear Related Items subject to a Transfer will meet the Nuclear Suppliers Group's conditions of supply and will be used exclusively for peaceful purposes.

⊙ FANR-REG-09, VERSION 1

Graded Approach

The application of physical protection measures proportional to the potential consequences of a theft of nuclear material or radiological sabotage.

⊙ FANR-RG-025, VERSION 0

Guards

Persons who are entrusted by the Licensee with responsibility for patrolling, monitoring, assessing, and escorting individuals or Transport, controlling access, reporting Nuclear Security Events and/or providing initial response in coordination with the Security Response Forces.

⊙ FANR-REG-08, VERSION 2

Guards. Persons who are entrusted with responsibility for patrolling, monitoring, assessing, escorting individuals or controlling access and/or providing initial response.

⊙ FANR-RG-010, VERSION 1; FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

H

Harmonised System Codes

Nomenclature for the classification of products by codes. It allows participating countries to classify traded goods on a common basis for customs and other purposes.

⊙ FANR-REG-09, VERSION 1

Hazard Assessment

Assessment of hazards associated with facilities and activities within or beyond the State borders in order to identify events and the associated areas for which Protective Actions and other response actions may be required within the State, and actions that would be effective in mitigating the consequences of such events.

⊙ FANR-REG-12, VERSION 1

High-LET Radiation

Radiation with high Linear Energy Transfer, normally assumed to comprise protons, neutrons and alpha particles (or other particles of similar or greater mass).

⊙ FANR-REG-04, VERSION 1

Hostile Event

An act directed toward a Facility or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the Licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force.

⊙ FANR-REG-14, VERSION 0; FANR-REG-15, VERSION 0

Human Force

Any force that can be exerted by a natural person, which could involve the use of non-power assisted instruments and tools.

⊙ FANR-REG-23, VERSION 1

Hydrogeologic Unit

Any soil or rock unit or zone, which by virtue of its porosity or permeability or lack thereof has a distinct influence on the Storage or movement of groundwater.

⊙ FANR-RG-027, VERSION 0

I

IAEA

International Atomic Energy Agency.

⊙ Nuclear Law; Nuclear Liability Law

IAEA Safety Standards

Standards of safety provided for in the Statute of the IAEA.

⊙ Nuclear Law

ICRP

International Commission on Radiological Protection.

⊙ FANR-REG-04, VERSION 1

Immediate Dismantling

Decommissioning actions begin shortly after the permanent shut-down. Equipment, Structures, Systems and Components of a Facility containing Radioactive Material are removed and/ or decontaminated to a level that permits the Facility to be released from Regulatory Control for unrestricted use, or released with restrictions on its future use.

⊙ FANR-REG-21, VERSION 0

Import

The action of bringing, transmitting, or otherwise transferring into the State including its free zones and/or special zones by air, land or sea any Nuclear Material and/or Regulated Items for use within the State including its free zones and/ or special zones.

⊙ FANR-REG-09, VERSION 1

Impure Source Material

Source Material that has not reached the composition and purity suitable for fuel fabrication or for being isotopically enriched, as per Article 2.a.(vi) of the Additional Protocol.

⊙ FANR-RG-015, VERSION 0

Inadvertent Intruder

A person who might occupy a Radioactive Waste Repository Disposal Site for Radioactive Waste after its Closure and engage in normal activities such as agriculture, dwelling, and construction or other pursuits in which the person might be unknowingly exposed to Ionising Radiation from Radioactive Waste.

⊙ FANR-RG-027, VERSION 0

Inadvertent Intrusion

Human activities on a Radioactive Waste Repository Disposal Site after its Closure such as agriculture dwelling, and construction or other pursuits during which exposure to Ionising Radiation from Radioactive Waste in the Radioactive Waste Repository Disposal Site may occur.

⊙ FANR-RG-027, VERSION 0

Incident(s)

Any unintended event, including operating errors, equipment failures, initiating events, Accident precursors, near-misses, or other mishaps, or an unauthorised act, malicious or non-malicious; the consequences or potential consequences of which are not negligible from the point of view of protection or Safety.

⊙ FANR-RG-007, VERSION 1

Independent Safety Verification (ISV)

A written verification performed by [suitably/adequately] qualified and experienced individuals, who did not participate in the original Safety Assessment, to determine whether the approach taken in conducting such Safety Assessment was reasonable and in accordance with international best practice.

⊙ FANR-REG-03, VERSION 0; FANR-REG-06, VERSION 0; FANR-REG-14, VERSION 0; FANR-RG-001, VERSION 1

Individual(s)

Employee(s) of the applicant for a Licence to conduct a Regulated Activity relating to a Nuclear Facility or of the Licensee as well as employee(s) of the consultants, agents or contractors providing services to the applicant for a Licence or for the Licensee.

⊙ FANR-REG-01, VERSION 1

Individual(s). The employee(s) of:
(1) the applicant for a Licence to conduct a Regulated Activity relating to a Nuclear Facility, or
(2) the Licensee.

⊙ FANR-REG-17, VERSION 1

INFCIRC/254/Part 1

The International Atomic Energy Agency's (IAEA's) information circular reproducing the Nuclear Suppliers Group's guidelines for the Export of Nuclear Material, equipment and Technology, as amended.

⊙ FANR-REG-09, VERSION 1

INFCIRC/254/Part 2

The IAEA's information circular reproducing the Nuclear Suppliers Group's guidelines for Transfers of Nuclear-related Dual-use Equipment, materials, Software and related Technology, as amended.

⊙ FANR-REG-09, VERSION 1

Information Protection Program Operating Manual (IPPOM)

The manual which provides the guidance for managing the program used by the civil nuclear energy program for the protection of classified information whether in verbal, written or electronic form.

⊙ FANR-RG-026, VERSION 0

Ingestion and Commodities Planning Distance

An area around a Nuclear Facility for which Emergency arrangements are made to take effective Emergency Response actions following the declaration of a General Emergency in order to reduce the risk of stochastic effects among members of the public and to mitigate non-radiological consequences as a result of the distribution, sale and consumption of food, milk, and drinking water and the use of commodities other than food that may have contamination from a significant radioactive release.

⊙ FANR-RG-034, VERSION 0

Initial Report

A report, based on the information required under Article 3.a of the Additional Protocol, submitted to the Authority describing Reportable Activities and specifying the Site or Location where the said activities are conducted.

⊙ FANR-RG-015, VERSION 0

Initial Test Programme (ITP)

A programme consisting of pre-operational and initial start-up tests. Pre-operational testing consists of those tests conducted following completion of Construction and Construction-related Inspections and tests, but prior to fuel-loading, to demonstrate to the extent practical the capability of SSCs to meet the performance requirements to satisfy the design criteria.
Initial start-up testing consists of those test activities that are scheduled to be performed during and following fuel-loading. These activities include fuel loading, pre-critical tests, initial criticality, low-power tests, and power-ascension tests that confirm the design bases and demonstrate to the extent practical that the nuclear power plant will operate in accordance with the Design and is capable of responding as designed to anticipated transients and postulated Accidents as specified in the Safety Analysis Report (SAR).

⊙ FANR-RG-001, VERSION 1

Insider

One or more individuals with authorised access to a Nuclear Facility or Nuclear Material in Transport who could attempt or carry out a Malicious Act, or who could aid an external adversary to do so.

⊙ FANR-REG-08, VERSION 2

Insider. One or more individuals with authorized access to Nuclear Facilities or nuclear material in transport who could attempt Unauthorized Removal of nuclear material or Radiological Sabotage, or who could aid an external adversary to do so.

⊙ FANR-RG-032, VERSION 0

Inspection

An examination, observation, measurement or test undertaken to assess structures, systems and components and materials as well as operational activities, technical processes, organizational processes, procedures and personnel competence.

⊙ Nuclear Law

Inspection, Tests, and Analysis

Activities that are conducted under specified conditions and/or assumptions to verify that a given system, structure or component meets its acceptance criteria.

⊙ FANR-RG-001, VERSION 1

Institutional Control

Control of a Radioactive Waste site by an Authority or institution designated under the laws of the State. This control may be active or passive and may be a factor in the Design of a Nuclear Facility. Most commonly used to describe controls over a repository after Closure or a Facility undergoing Decommissioning. Also refers to the controls placed on a site that has been released from Regulatory Control under the condition of observing specified restrictions on its future use to ensure that these restrictions are met.

⊙ FANR-REG-21, VERSION 0

Institutional Control. Control of a Disposal Site after its Closure by the Licensee or by an authority or institution designated under the laws of the State.

This control may be active (e.g. monitoring, surveillance, remedial work) or passive (e.g. land use control) and may be a factor in the Design of a Disposal Site.
For the purposes of [FANR-REG-27], the active Institutional Control period is referred to as a post-Closure control period. Institutional Control hereafter refers only to passive Institutional Control.

⊙ FANR-REG-27, VERSION 0

Integrated Management System

A system that cohesively brings together the requirements for managing and monitoring a business in a planned and systematic manner.

⊙ FANR-REG-27, VERSION 0

Interested Parties

Public or private organisations (with the exception of the Authority), entities or individuals indicated by the Licensee as such that have a stake or interest in a particular Regulated Activity.

⊙ FANR-REG-01, VERSION 1

Internal Exposure

Exposure to Ionizing Radiation from a source of radiation within the body of an individual.

⊙ FANR-REG-04, VERSION 1

International Nuclear Transport

The carriage of a consignment of nuclear material by any means of transportation intended to go beyond the territory of the State where the shipment originates beginning with the departure from a facility of the shipper in that State and ending with the arrival at a facility of the receiver within the State of ultimate destination.

⊙ FANR-RG-025, VERSION 0

Intrusion Detection System

A system that gathers and analyses information from various areas to identify possible security breaches, which include, among others, intrusions into the Protected Area.

⊙ FANR-REG-08, VERSION 2

Inventory Change

An increase or decrease, in terms of Batches, of Nuclear Material in a Material Balance Area. Such a change shall involve one of the following:

Increases: import, domestic receipt, nuclear production, accidental gain, retransfers from retained waste or receipt at the starting point of safeguards and de-exemption of Nuclear Material from IAEA safeguards.

Decreases: export, domestic shipment, nuclear loss, other loss, measured discard, transfer to retained waste, Exemption of Nuclear Material from IAEA safeguards, and termination of IAEA safeguards on Nuclear Material transferred to non-nuclear use.

⊙ FANR-REG-10, VERSION 0

Inventory Change Report (ICR)

Inventory Change Report has the meaning given to it in Article 11 (1) of [FANR-REG-10].

⊙ FANR-REG-10, VERSION 0

Investigation Level

The value of a quantity such as the Effective Dose, intake or contamination per unit area or volume at or above which an investigation should be conducted.

⊙ FANR-RG-033, VERSION 0

Involved Parties

All Persons, including shipping and clearing agents, under the jurisdiction of the State involved in the Transfer of Nuclear Material and/ or Regulated Items who are not Licensees.

⊙ FANR-REG-09, VERSION 1

Ionizing Radiation
(also **Ionising Radiation)**

Radiation capable of producing ion pairs in biological materials.

⊙ Nuclear Law

Items Important to Safety

An item that is part of a Safety Group and/or whose malfunction or failure could lead to radiation exposure of the site personnel or members of the public, including:

- Those SSCs whose malfunction or failure could lead to undue radiation exposure of site personnel or members of the public;
- Those SSCs that prevent [A]nticipated [O]perational [O]ccurrences from leading to Accident Conditions;
- Those features that are provided to mitigate the consequences of malfunction or failure of SSCs.

⊙ FANR-REG-03, VERSION 0; FANR-REG-14, VERSION 0, FANR-REG-16, VERSION 0; FANR-RG-003, VERSION 0; FANR-RG-010, VERSION 1; FANR-RG-011, VERSION 0; FANR-RG-029, VERSION 0; FANR-RG-030, VERSION 0

J

Justification

The process of determining whether the conduct or a set of related conducts of a Regulated Activity using Regulated Material is, overall, beneficial; that is [i.e.], whether the benefits to individuals and to the society from introducing or continuing the conduct or conducts outweigh the resulting harm (including radiation detriment).

⊙ FANR-REG-24, VERSION 1; FANR-RG-007, VERSION 1

K

Key Measurement Point (KMP)

A location where Nuclear Material appears in such a form that it may be measured to determine material flow or inventory. Key Measurement Points thus include, but are not limited to, the inputs and outputs (including measured discards) and storages in Material Balance Areas.

⊙ FANR-REG-10, VERSION 0

L

Large Release Frequency (LRF)

The sum of the frequencies of those Accidents leading to unmitigated release of airborne fission products from the Containment to the environment such that there is the potential for health effects (such Accidents generally include releases associated with Containment failure, Containment bypass events, or loss of Containment isolation).

⊙ FANR-RG-003, VERSION 0; FANR-RG-004, VERSION 0

Leadership

The use of a person's capabilities and competences to give direction to Individuals and groups of Individuals, and influence their commitment to achieving the Fundamental Safety Objective and to applying the 'fundamental safety principles' by means of shared goals, values and behaviour.

⊙ FANR-REG-01, VERSION 1

License (also **Licence**)

The approval issued by the Authority granting authorization to the Licensee to perform one or more specific Regulated Activities related to a Facility or Activity. Or any other authorization granted by the Authority to the applicant to have the responsibility for the Siting, Design, Construction, Commissioning, Operation or Decommissioning of a nuclear installation or granted to carry out any Activity related to management of nuclear spent fuel or of Radioactive Waste.

⊙ Nuclear Law

Licence Condition

A binding requirement in a Licence issued by the Authority.

⊙ FANR-RG-030, VERSION 0

Licensee

A Person holding a valid License.

⊙ Nuclear Law

Limited Access Area

A designated area containing a Nuclear Facility and Nuclear Material to which access is limited and controlled for physical protection purposes.

⊙ FANR-RG-011, VERSION 0

Limited Construction Licence

The Limited Licence for Parts and Stages of Construction of a Nuclear Facility issued by the Authority granting authorisation to carry out different parts and stages of Construction of a Nuclear Facility prior to the issuance of a Construction Licence.

⊙ FANR-REG-06, VERSION 0; FANR-RG-001, VERSION 1

Limited Scope Representative Simulator

A simulator incorporating detailed modelling of the Licensee's Nuclear Reactor under normal Operation, transient, and Accident conditions with which the Individual interfaces in an environment that is different from the actual control room.

⊙ FANR-REG-17, VERSION 1

Linear Energy Transfer (LET)

The average linear rate of energy loss of charged particle radiation in a medium, i.e., the radiation energy lost per unit length of path through a material. That is, the quotient of dE by dl where dE is the mean energy lost by a charged particle owing to collisions with electrons in traversing a distance dl in matter.

$$L = \frac{dE}{dl}$$

The unit of LET is J.m-1 often given in keV.µm-1

⊙ FANR-REG-04, VERSION 1

Local Operator (LO)

An Individual, qualified by the Licensee, who manipulates structures, systems, and components, normally outside the control room, under the direction of Reactor Operators and Senior Reactor Operators.

⊙ FANR-REG-17, VERSION 1

Location

In the context of the Additional Protocol, "Location" usually means any geographical point or area which has been declared by the Authority as being subject to the reporting and access requirements of the IAEA or designated as a "Location" by the IAEA.

⊙ FANR-RG-015, VERSION 0

Location Outside Facility (LOF)

Any installation or location, which is not a Facility, where Nuclear Material is customarily used in amounts of one Effective Kilogram or less.

⊙ FANR-REG-10, VERSION 0

Low-LET Radiation

Radiation with low Linear Energy Transfer, normally assumed to comprise photons (including X rays and gamma radiation), electrons, positrons and muons.

⊙ FANR-REG-04, VERSION 1

M

Maintenance

The organized activity, both administrative and technical, of keeping structures, systems and components in good operating condition, including both preventive and corrective (or repair) aspects.

⊙ Nuclear Law

Malicious Act

An attempt or act of Unauthorised Removal, Radiological Sabotage or cyber attack, which may result in a Nuclear Security Event.

⊙ FANR-REG-08, VERSION 2

Malicious Act. An act or attempt of Unauthorized Removal of Nuclear Material, or Radiological Sabotage.

⊙ FANR-REG-12, VERSION 1

Management System

A set of interrelated or interacting elements (system) for establishing policies and objectives and enabling the objectives to be achieved in an efficient and effective manner.

⊙ Nuclear Law

Management System. A set of interrelated or interacting roles and elements for establishing policies, goals, strategies, plans and objectives of the Licensee's organisation, and enabling them to be achieved in an efficient manner. It includes the Licensee's organisational structure, resources and organisational processes. The Management System supports the Licensee's achievement of the Fundamental Safety Objective.

⊙ FANR-REG-01, VERSION 1

Management System Review

A regular and systematic evaluation by the Senior Management of the suitability, adequacy, effectiveness and efficiency of the Licensee's Management System in executing the policies and achieving the goals, strategies, plans and objectives of the organisation.

⊙ FANR-REG-01, VERSION 1

Master Scenario Events List

A chronological timeline of expected actions and scripted events that Controllers inject into Exercise play to generate or prompt player activities.

⊙ FANR-RG-034, VERSION 0

Material Balance Area (MBA)

An area in or outside a Facility such that:
the quantity of Nuclear Material in each transfer into or out of each Material Balance Area can be determined; and the Physical Inventory of Nuclear Material in each Material Balance Area can be determined when necessary, in accordance with specified procedures, in order that the material balance can be established for IAEA safeguards purposes.

⊙ FANR-REG-10, VERSION 0

Material Balance Reports

Material Balance Report has the meaning given to it in Article 11 (2) of [FANR-REG-10].

⊙ FANR-REG-10, VERSION 0

Material Unaccounted For

The difference between Book Inventory and Physical Inventory. The difference can be either positive (apparent gain of material) or negative (apparent loss of material). Material Unaccounted For should be zero. A non-zero Material Unaccounted For is an indication of a problem (e.g. accounting mistakes) which must be investigated.

⊙ FANR-REG-10, VERSION 0

Medical Exposure

Exposure incurred by patients for the purpose of medical or dental diagnosis or treatment; by carers and comforters; and by volunteers in a programme of biomedical research involving their exposure.

⊙ FANR-REG-24, VERSION 1; FANR-RG-007, VERSION 1

Medical Physicist

A health professional (an individual licensed by the competent authorities of the State to practise a profession related to health), with education and specialist training in the concepts and techniques of applying physics in medicine, competent to practise independently in one or more of the subfields (specialities) of medical physics.

⊙ FANR-REG-24, VERSION 1

Medical Radiation Technologist

A health professional (an individual licensed by the competent authorities of the State to practise a profession related to health), with specialist education and training in medical radiation technology, competent to carry out radiological procedures, on delegation from the Radiological

Medical Practitioner, in one or more of the specialities of medical radiation technology.

⊙ FANR-REG-24, VERSION 1

Medical Treatment Facility

A facility located On-site where Emergency medical treatment is provided to persons with conventional injuries, to persons exposed to radiation and to persons contaminated with radionuclides.

⊙ FANR-REG-12, VERSION 1

N

Naturally Occurring Radioactive Material (NORM)

[Radioactive] Material containing no significant amounts of radionuclides other than naturally occurring radionuclides.

⊙ FANR-REG-21, VERSION 0; FANR-REG-27, VERSION 0

Near Surface Radioactive Waste Disposal Facility

A Radioactive Waste Repository for Radioactive Waste Disposal located at or within tens of meters of the Earth's surface.

⊙ FANR-REG-27, VERSION 0

Normal Operation

Operation within specified [O]perational [L]imits and [C]onditions. For a Nuclear Facility this includes start-up, power operation (including low power), shutting down and shutdown, [M]aintenance, testing and re-fuelling.

⊙ FANR-REG-03, VERSION 0; FANR-REG-14, VERSION 0; FANR-REG-16, VERSION 0; FANR-RG-030, VERSION 0

Normal Operation. Operation within specified operational limits and conditions. For a Nuclear Facility this includes start-up, Operation, shutting down, Maintenance, testing and refuelling.

⊙ FANR-REG-04, VERSION 1

Normal Operation. Operation within specified operational limits and conditions. For a Nuclear Power Plant this includes start-up, power Operation (including low power), shutting down and shutdown, Maintenance, testing and re-fuelling.

⊙ FANR-RG-033, VERSION 0

Nuclear Damage

1. Loss of life or any personal injury;
2. Loss of or damage to property;
3. Economic loss arising from loss or damage not referred to in paragraphs (1) or (2) above, incurred by a person entitled to claim for compensation in respect of such loss or damage;
4. The costs of measures of reinstatement of impaired environment, unless such impairment is insignificant, if such measures are actually taken or to be taken, and insofar as not included in paragraph (2) above;
5. Loss of income deriving from an economic interest in use or enjoyment of the environment, incurred as a result of a significant impairment of that environment, and insofar as not included in paragraph (2) above;
6. The costs of preventive measures, and further loss or damage caused by such measures;
7. Any other economic loss, other than loss caused by the impairment of the environment,

to the extent that the loss or damages referred to in paragraphs 1-5 and 7 above have emerged from or resulted from ionizing radiation emitted from any radiation source within a Nuclear Installation, or emitted from Nuclear Fuel, Radioactive Products or

Waste in a Nuclear Installation, or of Nuclear Material coming from, originating in or sent to a Nuclear Installation, whether arising from the radioactive properties of such material or from a combination of radioactive properties with , toxic, explosive or other hazardous properties of such material.
The Cabinet may issue instructions related to the implementation of the provisions of paragraphs 1-7.

⊙ Nuclear Liability Law

Nuclear Facility

A Facility including associated buildings and equipment in which Nuclear Material is produced, processed, used, handled, stored or disposed of including Radioactive Waste Repository.

⊙ Nuclear Law

Nuclear Fuel

Fissionable nuclear material in the form of fabricated elements for loading into the reactor core of a civil nuclear power plant or research reactor.

⊙ Nuclear Law

Nuclear Fuel. Any material which is capable of producing energy by a self-sustaining chain process of nuclear fission.

⊙ Nuclear Liability Law

Nuclear Fuel Cycle-Related R&D Activities

Nuclear Fuel Cycle-Related R&D Activities has the meaning given to it in Article 21 (1) of [FANR-REG-10].

⊙ FANR-REG-10, VERSION 0

Nuclear Incident

Any occurrence or series of occurrences having the same origin which causes Nuclear Damage or

creates a grave and imminent threat of causing such damage only with respect to preventive measures.

⊙ Nuclear Liability Law

Nuclear Installation

1. Any Nuclear Reactor other than one with which a means of sea or air transport is equipped for use as a source of power, whether for propulsion thereof or for any other purpose.
2. Any factory using Nuclear Fuel for the production of Nuclear Material, or any factory for the processing of Nuclear Material, including any factory for the re-processing of irradiated nuclear Fuel.
3. Any facility where Nuclear Material is stored, other than those storehouses used to store Nuclear Material during carriage.
4. Other facilities in which there are Nuclear Fuel or Radioactive Products or Waste as the Board of Governors of the IAEA shall from time to time determine.

Several Nuclear Installations of one Operator which are located at the same site shall be considered as a single Nuclear Installation.

⊙ Nuclear Liability Law

Nuclear Material

Plutonium except that with isotopic concentration exceeding 80% in plutonium-238; uranium-233; uranium enriched in the isotope 235 or 233; thorium or uranium containing the mixture of isotopes as occurring in nature other than in the form of ore or ore residue; any material containing one or more of the foregoing.

⊙ Nuclear Law

Nuclear Material. 1. Any Nuclear Fuel, other than natural uranium and depleted uranium, capable of producing energy by a self-sustaining chain process

of nuclear fission outside a Nuclear Reactor either alone or in combination with other material.
2. Radioactive Products or Waste.

⊙ Nuclear Liability Law

Nuclear Material. Source Material or Special Fissionable Material.

⊙ FANR-REG-09, VERSION 1; FANR-REG-10, VERSION 0

Nuclear Material. The term covers the categories of nuclear material specified in Annex 1 of [FANR-REG-08].

⊙ FANR-REG-08, VERSION 2

Nuclear Material Accountancy

System for accounting for and control of Nuclear Material that shall be established and maintained by Licensees at Facility and LOF level to enable measurement and verification of flow and Physical Inventory of Nuclear Material by the Operator, Authority and the IAEA.

⊙ FANR-REG-10, VERSION 0

Nuclear Material Accountancy and Control

The practice of Nuclear Material accountancy and the control of Nuclear Material pursuant to [FANR-REG-10].

⊙ FANR-REG-10, VERSION 0

Nuclear Power Plant (NPP)

An electricity generating facility using a Nuclear Reactor as its heat source to provide steam to a turbine generator.

⊙ FANR-RG-033, VERSION 0

Nuclear Reactor

A device in which nuclear fuel is used in to control nuclear fission reactions, and to sustain the required environment for controlled fission reactions without causing an explosion during chain reactions. It includes research and power reactors.

⊙ Nuclear Law

Nuclear Reactor. Any structure containing Nuclear Fuel in such an arrangement that a self-sustaining chain process of nuclear fission can occur therein without an additional source of neutrons.

⊙ Nuclear Liability Law

Nuclear Related Dual-Use Items

Equipment, materials, Software and related Technology specified in INFCIRC/ 254/ Part 2, including components thereof, which can be used for both civil and military purposes.

⊙ FANR-REG-09, VERSION 1

Nuclear Related Items

Equipment, non-Nuclear Material, Software and Technology specified in INFCIRC/254/Part 1 including components thereof, which have been especially designed or prepared for the processing, use or production of Special Fissionable Material and are also known as ‘trigger list items’ in the Nuclear Suppliers Group’s guidelines.

⊙ FANR-REG-09, VERSION 1

Nuclear Safeguards Equipment

Any equipment mandated by, or installed by, the Authority or IAEA for the Containment and surveillance of Nuclear Material.

⊙ FANR-REG-10, VERSION 0

Nuclear Safety

The achievement of proper operating conditions, prevention of Accidents or mitigation of Accident consequences, resulting in protection of workers, the public and the environment from undue radiation hazards.

⊙ Nuclear Law

Nuclear Sector

The Sector related to the Regulated Activities.

⊙ Nuclear Law

Nuclear Security

The prevention and detection of, and response to, theft, sabotage, unauthorized access, illegal transfer or other malicious acts involving Nuclear Material, other radioactive substances or their associated facilities.

⊙ Nuclear Law

Nuclear Security Culture

The assembly of characteristics, attitudes and behaviours of individuals, organisations and institutions, which serve as means to support, enhance and sustain Nuclear Security.

⊙ FANR-REG-08, VERSION 2

Nuclear Security Event

An event that is assessed as having implications for Physical Protection or Cyber Security.

⊙ FANR-REG-08, VERSION 2

Nuclear Security Event. An event that is assessed as having implications for [P]hysical [P]rotection.

⊙ FANR-RG-025, VERSION 0; FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

O

Occupational Exposures(s)

Exposure of workers incurred in the course of their work, with the exception of excluded exposures and exposures from exempt practices or exempt Sources according to specifications set by the Authority.

⊙ Nuclear Law

Off-site

Outside the site.

⊙ FANR-REG-12, VERSION 1

Off-site Authority

A Response Organisation responsible for leading or coordinating the Off-site Emergency Response actions.

⊙ FANR-REG-12, VERSION 1

Off-site Emergency Plan

An Emergency Plan that defines the Emergency Zones and determines the actions to be taken by the Competent Authorities to protect the population, property and environment in case of an Accident. The said Emergency Plan is to be prepared and maintained by the Competent Authorities and coordinated by the Competent Authorities and the Licensee.

⊙ FANR-REG-12, VERSION 1

Off-site Emergency Plan. The Emergency Plan required by Article (50) of the Law to be prepared, maintained and coordinated by the Competent Authorities and the Licensee in order to provide civil

protection and protection of the public against disasters, accidents and catastrophes.

⊙ FANR-REG-15, VERSION 0

Off-site Response Organisation

An organisation responsible for protecting the health and safety of the public Off-site.

⊙ FANR-RG-034, VERSION 0

On-site

Within the site.

⊙ FANR-REG-12, VERSION 1

On-site Emergency Plan

An Emergency Plan for a Nuclear Facility that determines the actions to be taken by the Licensee for Accident mitigation and remediation of its consequences in coordination with the Off-site Response Organisations as per the Off-site Emergency Plan. The said Emergency Plan defines the responsibilities, arrangements the Licensee shall have and the actions the Licensee shall carry out both On-site and Off-site, and within the Urgent Protective Action Zone as preparation for an Emergency and during an Emergency.

⊙ FANR-REG-12, VERSION 1

Operating Licence

The Licence issued by the Authority granting the Licensee permission to operate a Nuclear Facility.

⊙ FANR-RG-030, VERSION 0

Operating Personnel

The Senior Reactor Operators, the Reactor Operators, or the Equipment Operators at a Nuclear Facility.

⊙ FANR-REG-16, VERSION 0; FANR-RG-017, VERSION 2; FANR-RG-030, VERSION 0

Operating Personnel. The Senior Reactor Operators, the Reactor Operators, and the Local Operators at a Nuclear Facility.

⊙ FANR-REG-17, VERSION 1

Operating Records

Records kept at each Facility or Location Outside Facility on the operation of such Facility or Location Outside Facility regarding the use or handling of Nuclear Material, including calibration related equipment and activities taken for accounting purposes.

⊙ FANR-REG-10, VERSION 0

Operation

All activities performed to achieve the purpose for which an authorized Facility, by the Authority, was constructed.

⊙ Nuclear Law

Operational Limits and Conditions (OLC)

A set of rules setting forth parameter limits, the functional capability and the performance levels of equipment and personnel approved by the [Authority/regulatory body] for safe [O]peration of an authorized [Nuclear] Facility.

⊙ FANR-REG-16, VERSION 0; FANR-RG-001, VERSION 1; FANR-RG-030, VERSION 0

Operational States

States defined under [N]ormal [O]peration and [A]nticipated [O]perational [O]ccurrences.

⊙ FANR-REG-03, VERSION 0, FANR-REG-16, VERSION 0; FANR-RG-030, VERSION 0; FANR-RG-007, VERSION 1

Operational Support Centre

An On-site facility for the On-site assembly and operational control of Emergency Workers performing tasks such as environmental monitoring, health physics, damage control, and providing support for firefighting. This facility also provides health physics support for Emergency Workers from Off-site Emergency Services.

⊙ FANR-REG-12, VERSION 1

Operator

Any person authorized and/or responsible for nuclear safety, radiation safety, Radioactive Waste or transport Safety when undertaking activities or in relation to any Nuclear Facilities or Sources of Ionizing Radiation. This includes, inter alia, individuals in their personal capacity, governmental bodies, consignors or carriers, Licensees, hospitals, self-employed persons, etc.

⊙ Nuclear Law

Operator. The person licensed by the Authority to operate a Nuclear Installation pursuant to Federal Law by Decree No. (6) of 2009 and designated as the Operator in such license.

⊙ Nuclear Liability Law

Optimisation

The process of determining levels of [Radiation] Protection and Safety [that] make Exposures [to Ionising Radiation] and the probability and magnitude of potential Exposures “as low as reasonably achievable (ALARA) economic and social factors being taken into account” as required by the International Commission on Radiological Protection System of Radiological Protection.
[Optimise, Optimised and Optimising shall be construed accordingly.]

⊙ FANR-REG-04, VERSION 1; FANR-REG-24, VERSION 1; FANR-REG-27, VERSION 0

Optimisation. The process of determining what level of Protection and Safety makes exposures, and the probability and magnitude of potential exposures "as low as reasonably achievable" with economic and social factors being taken into account (ALARA), as required by the International Commission on Radiological Protection System of Radiological Protection. Optimise, Optimised and Optimising shall be construed accordingly.

⊙ FANR-RG-007, VERSION 1; FANR-REG-19, VERSION 0

Optimisation of Protection and Safety

The process of determining what level of protection and Safety makes exposures, and the probability and magnitude of potential exposures are “as low as reasonably achievable” (ALARA), economic and social factors being taken into account, as required by the International Commission on Radiological Protection System of Radiological Protection. Optimise, Optimised and Optimising shall be construed accordingly.

⊙ FANR-REG-21, VERSION 0

Organisational Arrangements

A term encompassing the Licensee’s Management System, Quality Assurance programme and organisational structure; as described in the application documents for the Operating Licence.

⊙ FANR-RG-029, VERSION 0

Orphan Sources

A Radioactive Source which is not under the Regulatory Control, either because it has never been under such Regulatory Control or because it has been abandoned, lost, misplaced, stolen or whose possession or ownership has otherwise been transferred in the absence of an appropriate License.

⊙ Nuclear Law

Out-of-sequence Activities

Activities not conducted in conjunction with the Exercise scenario timeline.

⊙ FANR-RG-034, VERSION 0

Overpack

A secondary (or additional) outer container for one or more Waste Package(s) used for handling, transport, Storage and/or Disposal.

⊙ FANR-REG-26, VERSION 0

Owner Controlled Area

A designated area containing a Nuclear Facility and [N]uclear [M]aterial to which access is limited and controlled for Physical Protection purposes.

⊙ FANR-REG-08, VERSION 2; FANR-RG-010, VERSION 1; FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

Owner Controlled Area. An area outside of the Protected Area but inside the site boundary.

⊙ FANR-RG-011, VERSION 0

P

Passive Component

A component whose functioning does not depend on an external input such as actuation, mechanical movement or supply of power.

⊙ FANR-REG-03, VERSION 0

Periodic Safety Review

A systematic reassessment of the Safety of an existing Facility (or Activity) carried out at regular intervals to deal with the cumulative effects of ageing, modifications, operating experience, technical developments and siting aspects, and aimed at ensuring a high level of Safety throughout the service life of the Facility (or Activity).

⊙ Nuclear Law

Performance Indicator

The characteristic of a process that can be observed, measured, or has a tendency to infer or directly indicate the current and future performance of the process, with particular emphasis on the adequate performance for Safety.

⊙ FANR-RG-030, VERSION 0

Person

Natural or juridical persons whether in the public or private sector.

⊙ Nuclear Law

Physical Inventory

The sum of all the measured or derived estimates of Batch quantities of Nuclear Material on hand at a given time within a MBA, obtained in accordance with specified procedures. Such sum is determined as a result of a Physical Inventory Taking (PIT) and is reported in a Physical Inventory Listing.

⊙ FANR-REG-10, VERSION 0

Physical Inventory Listing

A report provided by the Licensee to the Authority pursuant to Article 11(3) of [FANR-REG-10] in connection with a Physical Inventory Taking.

⊙ FANR-REG-10, VERSION 0

Physical Inventory Taking

A process to produce a complete list of the Nuclear Material for a Material Balance Area as a basis for allowing verification of the Physical Inventory.

⊙ FANR-REG-10, VERSION 0

Physical Protection

Measures for the protection of Nuclear Material or authorized Facilities, designed to prevent unauthorized access or removal of fissile material or sabotage with regard to safeguards, as, for example, in the Convention on the Physical Protection of Nuclear Material or other related international agreements, to which the State is a party.

⊙ Nuclear Law

Physical Protection Measures

The personnel, procedures, and equipment that constitute a Physical Protection System.

⊙ FANR-REG-08, VERSION 2; FANR-RG-032, VERSION 0

Physical Protection Plan

A plan that describes the duties and responsibilities of members of the security organisation. The [P]lan shall address: organisation and staffing; Physical Protection including the designation of [P]rotected [A]reas and [V]ital Areas; guard training and qualification; information security; [C]yber [S]ecurity; and responses to security contingencies including consideration of concurrent Nuclear Safety related Emergencies and security threats.

⊙ FANR-REG-14, VERSION 0

Physical Protection Plan. A plan that shall be developed by an applicant as part of its application for a Licence, and which shall be implemented and maintained by a Licensee.

⊙ FANR-REG-08, VERSION 2

Physical Protection Plan. A plan that has to be prepared by an applicant as part of its application to obtain a licence, and to be implemented as well as maintained by a Licensee. The plan shall be based on the DBT and shall include sections dealing with design, evaluation, implementation and maintenance of the Physical Protection system, and Contingency Plan as well as cyber security plan.

⊙ FANR-RG-026, VERSION 0

Physical Protection Plan. A plan that has to be prepared by an applicant as part of its application to obtain a Licence, and to be implemented as well as maintained by a Licensee.

⊙ FANR-RG-032, VERSION 0

Physical Protection System

An integrated set of Physical Protection Measures intended to prevent the completion of a Malicious Act.

⊙ FANR-REG-08, VERSION 2; FANR-RG-032, VERSION 0

Physical Separation

Separation by geometry (distance, orientation, etc.), by appropriate barriers, or by a combination thereof.

⊙ FANR-REG-03, VERSION 0

Physician

An individual licensed by the State Authority or an Authority of the Emirate of Abu Dhabi to practice medicine.

⊙ FANR-RG-017, VERSION 2

Planned Exposure Situation

A situation of Exposure to Ionizing Radiation that arises from the planned Operation of sources of radiation or from planned activity of Nuclear Facility including rehabilitation of the previously occupied land. Practices in Operation are Planned Exposure Situations.

⊙ FANR-REG-04, VERSION 1

Planned Exposure Situation. A situation of Exposure that arises from the planned use of any source of Ionising Radiation or from a planned activity that results in an Exposure.

⊙ FANR-REG-12, VERSION 1

Planned Exposure Situation. A situation of exposure to Ionizing Radiation that arises from the planned Operation of a Radiation Source or from a planned Activity that results in an exposure from a Radiation Source.

⊙ FANR-REG-24, VERSION 1

Plant Operator

Any member of the [N]uclear [F]acility staff who is qualified by virtue of training and experience to assess the indications on plant instrumentation or to assess reports from other plant personnel for validity and to compare the indications and reports to the Emergency Action Levels in the Licensee's Emergency Classification scheme.

⊙ FANR-REG-12, VERSION 1; FANR-RG-035, VERSION 0

Plant States

Includes Operational States and accident states. Operational [S]tates consist of Normal Operation and Anticipated Operational Occurrences. Accident Conditions consist of DBAs and beyond DBAs.

⊙ FANR-REG-03, VERSION 0

Postulated Initiating Event (PIE)

An event identified in Design as leading to [A]nticipated Operational [O]ccurrences or [A]ccident [C]onditions. [This means that] [A] PIE is not an accident itself; it is the event that initiates a sequence and that leads to an [O]perational [O]ccurrence, a [D]esign [b]asis [A]ccident/DBA] or a Severe Accident depending on the additional failures that occur. Typical examples are equipment failures (including pipe breaks), human errors, human induced events and natural events.

⊙ FANR-REG-03, VERSION 0; FANR-REG-06, VERSION 0; FANR-REG-14, VERSION 0; FANR-REG-16, VERSION 0; FANR-RG-001, VERSION 1

PRA Peer Review

A process used to demonstrate conformance with [FANR-REG-05]. The process uses a documented procedure to direct the peer review team when evaluating the adequacy of a PRA.

⊙ FANR-REG-05, VERSION 0

PRA Peer Review. An examination or review of commercial, professional or academic efficiency, competence, etc., by others in the same occupation.

⊙ FANR-RG-003, VERSION 0

PRA Peer Review Team

A group of individuals assembled by the applicant or licensee to provide a review of the scope and quality of the PRA against a defined standard. The peer review team members shall be independent of the personnel who developed the PRA, familiar with the areas of the plant design modelled in the PRA and have expertise in the technical areas and methods used in developing the PRA.

⊙ FANR-REG-05, VERSION 0

Precautionary Action Zone

An area around a Nuclear Facility for which Emergency arrangements have been made to take Urgent Protective Actions in the event of a nuclear or radiological Emergency in order to avoid or to reduce or mitigate the risk of severe deterministic effects Off-site.

⊙ FANR-REG-12, VERSION 1

Predisposal

Any waste management steps carried out prior to Disposal such as [Pre-treatment], Treatment, Conditioning, Storage and transport activities.

⊙ FANR-REG-11, VERSION 0; FANR-REG-26, VERSION 0

Pre-treatment

Any or all operations prior to waste Treatment such as collection, segregation, chemical adjustment and decontamination.

⊙ FANR-REG-26, VERSION 0

Probabilistic Risk Assessment (PRA)

A comprehensive, structured approach to identifying failure scenarios constituting a conceptual and mathematical tool for deriving numerical estimates of risk.
Level 1 comprises the [A]ssessment of failures leading to the determination of the frequency of core damage.
Level 2 constitutes the [A]ssessment of [C]ontainment response and leads to the determination of frequency of [C]ontainment failure resulting in release to the environment of a given percentage of the reactor core's inventory of radionuclides.

⊙FANR-REG-03, VERSION 0; FANR-REG-05, VERSION 0, FANR-REG-06, VERSION 0; FANR-REG-14, VERSION 0; FANR-REG-16, VERSION 0; FANR-RG-001, VERSION 1; FANR-RG-003, VERSION 0; FANR-RG-004, VERSION 0; FANR-RG-023, VERSION 0; FANR-RG-029, VERSION 0

Probabilistic Risk Assessment (PRA). A comprehensive, structured approach to identifying failure scenarios constituting a conceptual and mathematical tool for deriving numerical estimates of risk.
Level 1 comprises the Assessment of failures leading to the determination of the frequency of core damage.

⊙ FANR-RG-010, VERSION 1

Processing

Any operation that changes the characteristics of waste, including pre-treatment, treatment and conditioning.

⊙ Nuclear Law

Processing of Radioactive Waste

Any operation that changes the characteristics of Radioactive Waste including [P]re-treatment, Treatment and Conditioning.

⊙ FANR-REG-11, VERSION 0; FANR-REG-26, VERSION 0

Product

The term used in place of any of the following: assembly, component, equipment, module, sub-assembly, subsystem, system or element of an item or equipment related to a Nuclear Facility and that may influence Safety.

⊙ FANR-REG-01, VERSION 1

Protected Area

An area inside an Owner [C]ontrolled [A]rea containing [C]ategory I or II [N]uclear [M]aterial and/or [Radiological] Sabotage Target [Sets] surrounded by a physical barrier with additional Physical Protection Measures.

⊙ FANR-REG-08, VERSION 2; FANR-RG-010, VERSION 1; FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

Protected Area. An area encompassed by physical barriers and to which access is controlled; the outermost of two barriers to provide protection against unauthorized access to the Nuclear Facility.

⊙ FANR-RG-011, VERSION 0

Protection and Safety

The protection of people against [E]xposure to Ionising Radiation or [exposure due to] Radioactive Material, and the Safety of [Radiation] Sources, including the means for achieving this, and the means for preventing Accidents and for mitigating the consequences of Accidents should they occur.

⊙ FANR-REG-16, VERSION 0; FANR-REG-19, VERSION 0; FANR-REG-24, VERSION 1; FANR-REG-29, VERSION 0; FANR-RG-007, VERSION 1; FANR-RG-030, VERSION 0

Protection System

System which monitors the Operation of a reactor and which, on sensing an abnormal condition, automatically initiates actions to prevent an unsafe or potentially unsafe condition.

⊙ FANR-REG-03, VERSION 0

Protective Action

An action for the purpose[s] of avoiding or reducing Doses that might otherwise be received in an Emergency Exposure [S]ituation or in an [e]xisting Exposure [s]ituation.

⊙ FANR-REG-19, VERSION 0; FANR-REG-12, VERSION 1

Protective Action. An action, other than a remedial action, for the purposes of avoiding or reducing doses that might otherwise be received in an Emergency exposure situation.

⊙ FANR-REG-15, VERSION 0

PSAR

Preliminary Safety Analysis Report.

- FANR-REG-06, VERSION 0; FANR-RG-023, VERSION 0

PTS

Pressurised Thermal Shock.

- FANR-RG-004, VERSION 0

Public Exposure(s)

Exposure incurred by members of the public from Radiation sources, excluding any occupational or medical exposure and the normal local natural background radiation but including exposure from authorized sources and practices and from intervention situations.

- Nuclear Law

Q

Qualified Expert

An individual who, by virtue of certification by appropriate boards or societies, professional licences or academic qualifications and experience, is duly recognised as having expertise in a relevant field of specialisation.

- FANR-REG-11, VERSION 0; FANR-REG-24, VERSION 1; FANR-RG-007, VERSION 1

Qualified Trainee

A trainee who may manipulate Nuclear Facility Controls under the direct supervision of an Active RO/SRO

- FANR-RG-017, VERSION 2

Quality Assurance

The function of a Management System that provides confidence that specified requirements will be fulfilled.

⊙ Nuclear Law

R

Radiation Generator

A device capable of generating [Ionizing] Radiation, such as X-rays, neutrons, electrons or other charged particles, that may be used for scientific, industrial or medical purposes.

⊙ FANR-REG-24, VERSION 1; FANR-REG-29, VERSION 0; FANR-RG-033, VERSION 0

Radiation Protection

The protection of people from the effects of exposure to Ionizing Radiation, and the means for achieving this.

⊙ Nuclear Law

Radiation Protection Officer (RPO)

A person technically competent in Radiation Protection matters [relevant] for a given type of Regulated Activity with Regulated Material who is designated by the Licensee to oversee the application of relevant requirements established in [FANR-REG-24].

⊙ FANR-REG-24, VERSION 1; FANR-RG-007, VERSION 1

Radiation Source

A radiation generator, or a Radioactive Source or other Radioactive Material outside the nuclear fuel cycles of research and power reactors.

⊙ Nuclear Law

Radiation Weighting Factor

A dimensionless factor by which the organ or tissue Absorbed Dose is multiplied to reflect the higher biological effectiveness of high-LET radiations compared with low-LET radiations. It is used to derive the Equivalent Dose from the Absorbed Dose averaged over a tissue or organ.

⊙ FANR-REG-04, VERSION 1

Radiation Weighting Factor. The number by which the Absorbed Dose in a tissue is multiplied to reflect the relative biological effectiveness of the radiation in inducing stochastic effects at low Doses, the result being the Equivalent Dose.
The Radiation Weighting Factors published in “The 1990 Recommendations of the International Commission on Radiological Protection (ICRP 60)” shall be applied until the Authority determines that the revised Radiation Weighting Factors published in “The 2007 Recommendations of the International Commission on Radiological Protection (ICRP 103)” shall be applied.

⊙ FANR-REG-19, VERSION 0; FANR-REG-21, VERSION 0; FANR-REG-24, VERSION 1

Radioactive Material

Material designated by the Authority as being subject to Regulatory Control because of its radioactivity.

⊙ Nuclear Law

Radioactive Products or Waste

Any radioactive material produced in, or any material made radioactive by exposure to the radiation incidental to, the production or utilization of Nuclear Fuel, but does not include radioisotopes which have reached the final stage of fabrication so as to be usable for any scientific, medical, agricultural, commercial or industrial purpose.

- Nuclear Liability Law

Radioactive Source

Radioactive Material that is permanently sealed in a capsule or closely bonded and in a solid form and which is not exempt from Regulatory Control. This also includes any Radioactive Material released if the Radioactive Source is leaking or broken, but does not include material encapsulated for Disposal, or Nuclear Material within the nuclear fuel cycles of research and power reactors.

- Nuclear Law

Radioactive Waste

Waste that contains, or is contaminated with, radionuclides at concentrations or activities greater than levels as established by the Authority.

- Nuclear Law

Radioactive Waste Management

All administrative and operational activities involved in the handling, pretreatment, treatment, conditioning, transport, Storage and Disposal of Radioactive Waste.

- Nuclear Law

Radioactive Waste Management Facilities

Facility specifically designated to handle, treat, condition, temporarily store or permanently dispose of Radioactive Waste.

- Nuclear Law

Radioactive Waste Repository

A repository to deposit Radioactive Waste for disposal purposes.

- Nuclear Law

Radiological Medical Practitioner

A health professional (an individual licensed by the competent authorities of the State to practise a profession related to health), with education and specialist training in the medical uses of radiation, who is competent to independently perform or oversee procedures involving Medical Exposure in a given category.

⊙ FANR-REG-24, VERSION 1

Radiological Sabotage

Any deliberate act directed against a [N]uclear [F]acility or against [N]uclear [M]aterial in use, storage or [T]ransport, which could directly or indirectly endanger the health and [S]afety of [the nuclear facility's] personnel and the public [or the environment] by exposure to [Ionising] [R]adiation or the release of Radioactive Material.

⊙ FANR-REG-08, VERSION 2; FANR-RG-010, VERSION 1; FANR-REG-12, VERSION 1; FANR-RG-025, VERSION 0; FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

Radiopharmacist

A health professional (an individual licensed by the competent authorities of the State to practise a profession related to health), with education and specialist training in radiopharmacy, who is competent to prepare and dispense radiopharmaceuticals used for the purposes of medical diagnosis and therapy.

⊙ FANR-REG-24, VERSION 1

RCS

Reactor Coolant System

⊙ FANR-RG-004, VERSION 0

Reactor Operator (RO)

A control room [O]perator who normally manipulates the Nuclear Facility controls, particularly the [C]ontrols affecting reactor reactivity.

⊙ FANR-REG-16, VERSION 0; FANR-RG-017, VERSION 2

Reactor Operator (RO). An Individual who manipulates the controls at the Nuclear Reactor, particularly the controls affecting the reactivity of the Nuclear Reactor in the control room, and holds a valid Certificate.

⊙ FANR-REG-17, VERSION 1

Reactor Operator (RO). A control room operator who normally manipulates the Nuclear Facility controls, particularly the controls affecting reactor reactivity, under the supervision of the Senior Reactor Operator.

⊙ FANR-RG-030, VERSION 0

Receiver

A person, organization or government which is entitled to take delivery of a consignment. In IAEA Safety Standard TR-S-1 a Receiver is called a Consignee.

⊙ FANR-RG-006, VERSION 0

Receiver. Any person, organization or government which is entitled to take delivery of a consignment (i.e. the Consignee).

⊙ FANR-RG-025, VERSION 0

Records

Accounting Records, Operating Records, all Reports and clarifications thereof, source documents related to Nuclear Material Accountancy and Control, notifications to the Authority, requested reports, studies and experiments, and any other selected items that the Authority identifies to the Licensee in connection with [FANR-REG-10].

⊙ FANR-REG-10, VERSION 0

Recovery

Steps taken to restore a system or device to its original state of operation following a catastrophic or partial loss of functionality or when an original state of operation is challenged by either an event (such as a Cyber Attack) or anomaly (behaviour not expected from Normal Operation).

⊙ FANR-RG-011, VERSION 0

Redundancy

Provision of alternative (identical or diverse) SSCs, so that any one can perform the required function regardless of the state of operation or failure of any other.

⊙ FANR-REG-03, VERSION 0

Re-export

The action of exporting Nuclear Material and/ or Regulated Items previously imported through the State's customs ports and/or the State's free zones and/or special zones.

⊙ FANR-REG-09, VERSION 1

Reference Level

A level of Dose, risk or Activity Concentration above which it is not appropriate to plan to allow Exposures to occur and below which Optimisation of Protection and Safety continues to be implemented.

⊙ FANR-REG-19, VERSION 0

Referring Medical Practitioner

A health professional (an individual licensed by the competent authorities of the State to practise a profession related to health) who, in accordance with the requirements of the State, may refer individuals to a Radiological Medical Practitioner for Medical Exposure.

⊙ FANR-REG-24, VERSION 1

Registrant

Any juridical person that is exempted by the Authority from the licensing requirements of [FANR-REG-30].

⊙ FANR-REG-30, VERSION 0

Regulated Activities

The Activities identified in Article 25 of [the Nuclear Law].

⊙ Nuclear Law

Regulated Items

Nuclear Related Items and Nuclear Related Dual-use Items.

⊙ FANR-REG-09, VERSION 1

Regulated Material

(a) Any Radioactive Material, special materials and equipment, Radioactive Waste, nuclear spent fuel and any other material, product, service or asset whether tangible or intangible, which, in the opinion of the Authority, is or may in the future be related to or connected with the Nuclear Sector and designated as such from time to time by implementing regulations; and
(b) Any other Radioactive Material and Sources of Ionizing Radiation as designated by the Authority from time to time as requiring its direct oversight.

⊙ Nuclear Law

Regulatory Control

Any form of control or regulation applied to Facilities or Activities by the Authority for reasons relating to Radiation Protection or to the Safety or security of Radioactive Sources.

⊙ Nuclear Law

Regulatory Inspection

Inspection undertaken by or on behalf of the Authority to ensure the Licensee's compliance with the provisions of [the Nuclear Law], the implementing regulation, regulation in force and the terms of the License.

⊙ Nuclear Law

Remedial Action

The removal of a source or the reduction of its magnitude (in terms of activity or amount) for the purposes of preventing or reducing Exposures that might otherwise occur.

⊙ FANR-REG-19, VERSION 0

Remediation

Any measures that may be carried out to reduce the radiation Exposure from existing contamination of land areas through actions applied to the contamination itself (the source) or to the Exposure Pathways to humans.

⊙ FANR-REG-19, VERSION 0

Remote Access

The ability to access a Critical Digital Asset, computer, node, or network resource located within an identified defensive level from a Critical Digital Asset, computer, or node that is physically located in a less secure defensive level.

⊙ FANR-RG-011, VERSION 0

Reportable Activities

Those activities that should be reported to the Authority in accordance with FANR-REG-10 and the requirements of the Additional Protocol.

⊙ FANR-RG-015, VERSION 0

Reports

Special Reports, Physical Inventory Listings, Material Balance Reports, Inventory Change Reports and any other report drafted by the Licensee for any reason.

⊙ FANR-REG-10, VERSION 0

Representative Person

An individual receiving a Dose that represents the Doses of the more highly-exposed individuals in the public.

⊙ FANR-REG-04, VERSION 1; FANR-REG-27, VERSION 0

Representative Person. An individual receiving a Dose that is representative of the more highly exposed individuals in the population.

⊙ FANR-REG-11, VERSION 0; FANR-REG-19, VERSION 0; FANR-REG-21, VERSION 0; FANR-REG-24, VERSION 1; ; FANR-RG-018, VERSION 0

Representative Simulator

A full-scale replica training simulator whose behaviour corresponds well to the plant's behaviour under normal operational, transient, and accident conditions.

⊙ FANR-REG-16, VERSION 0; FANR-RG-017, VERSION 2

Reprocessing

A process or operation, the purpose of which is to extract radioactive isotopes from nuclear spent fuel for further use.

⊙ Nuclear Law

Residual Dose

The Dose expected to be received after Protective Actions have been terminated (or after a decision has been taken not to take Protective Actions).

⊙ FANR-REG-12, VERSION 1

Response Organisation

An organisation designated in a relevant Emergency Plan as being responsible for managing or implementing any aspect of an Emergency Response and taking Emergency Response actions in accordance with the relevant Emergency Plan.

⊙ FANR-REG-12, VERSION 1

Response Organisation. An organisation responsible for managing or implementing any aspect of an Emergency Response.

⊙ FANR-REG-15, VERSION 0

Responsible Person

An individual designated by the Licensee to interact with the Authority on all matters relating to the security of Radioactive Sources and the implementation of FANR-REG-23.

⊙ FANR-RG-020, VERSION 0; FANR-RG-021, VERSION 0

RHR

Residual Heat Removal system.

⊙ FANR-RG-004, VERSION 0

Risk (cyber risk)

A combination of the likelihood of a Critical Digital Asset being potentially impaired due to a Cyber Security Incident and the consequences to the Nuclear Facility from that impairment.

⊙ FANR-RG-011, VERSION 0

Risk Achievement Worth (RAW) Importance Measure

For a specified Basic Event, Risk Achievement Worth importance reflects the increase in a selected figure of merit when an SSC is assumed to be unable to perform its function due to testing, Maintenance, or

failure. It is the ratio or interval of the figure of merit, evaluated with the SSC's Basic Event probability set to one, to the base case figure of merit.

⊙ FANR-RG-003, VERSION 0

Risk Constraint

A prospective and source of radiation related value of individual risk that is applied in a planned exposure situation to Ionizing Radiation as a parameter for the Optimisation of Radiation Protection and Safety, and that serves as a reference limit in defining the range of options in Optimisation. The Risk Constraint is a source of radiation related value that provides a basic level of Radiation Protection for the individuals most at risk of exposure to Ionizing Radiation. This risk is a probability of an unintended event that results in exposure to Ionizing Radiation and the probability of the detriment due to the Dose received as a result of such exposure. Risk Constraints apply to the potential exposure to Ionizing Radiation.

⊙ FANR-REG-27, VERSION 0

RPS

Reactor Protection System.

⊙ FANR-RG-004, VERSION 0

Root Cause

The fundamental cause of an initiating [E]vent, [the] correction of which will prevent recurrence of the initiating [E]vent (i.e., the root cause is the failure to detect and correct the relevant latent weakness(es) and the reasons for that failure).

⊙ FANR-REG-16, VERSION 0; FANR-RG-030, VERSION 0

S

Sabotage

Any deliberate act directed against a Radioactive Source or any Facility in which a Radioactive Source is located, used, handled or stored, or during transport, that could directly or indirectly endanger the health and safety of Licensee's staff, the public or the environment by exposure to Ionising Radiation or the release of radioactive substances.

⊙ FANR-REG-23, VERSION 1

Safeguards Agreement

The Agreement between the State and IAEA for the application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons (2003) and the Protocol Additional to that Agreement (2009).

⊙ Nuclear Law

Safety

The protection of people and environment from exposure to Radiation risks, the safety of facilities including safety of nuclear facilities and radiation safety and safety of management of radioactive materials and the safety [of the] transport of radioactive materials, and the means for preventing Accidents and for mitigating the consequences of Accidents, and does not include safety aspects not related to radiation field.

⊙ Nuclear Law

Safety Analysis

Evaluation of the potential hazards associated with the Operation of a Nuclear Facility or the conduct of an activity.

⊙ FANR-RG-029, VERSION 0

Safety Analysis Report

The detailed demonstration of the Safety, security and safeguards of a Nuclear Facility presented in the

(SAR)

form of an integrated report [that] presents the necessary and sufficient [required] information in support of the [L]icence application for authorisation of the Regulated Activity requested.

⊙ FANR-REG-14, VERSION 0; FANR-REG-16, VERSION 0; FANR-REG-21, VERSION 0; FANR-RG-001, VERSION 1; FANR-RG-010, VERSION 1; FANR-RG-029, VERSION 0; FANR-RG-030, VERSION 0

Safety Assessment

(a) Assessment of all aspects of a practice that are relevant to protection and Safety; for an authorized Facility, this includes siting, Design and Operation of the Facility.
(b) Analysis to predict the performance of an overall system and its impact, where the performance measure is the radiological impact or some other global measure of the impact on Safety.
(c) The systematic process that is carried out throughout the design process to ensure that all the relevant Safety requirements are met by the proposed (or actual) design. Safety assessment includes, but is not limited to, the formal Safety analysis required by the Authority.

⊙ Nuclear Law

Safety Assessment. Assessment of all aspects of a practice that are relevant to Protection and Safety; for an authorised Facility this includes siting, Design and Operation of the Facility.

⊙ FANR-REG-19, VERSION 0

Safety Case

A collection of arguments and evidence in support of the Safety of a Facility or Activity including the findings of a Safety Assessment and a statement of confidence in these findings.

⊙ FANR-REG-11, VERSION 0; FANR-REG-26, VERSION 0;

Safety Case. A collection of arguments and evidence in support of the Safety of a Facility or Activity including the findings of a Safety Assessment and a confirmation of the validity of these findings.

⊙ FANR-REG-27, VERSION 0

Safety Culture

The assembly of characteristics in a Licensee's organisation and the attitude of Individuals, which establishes that protection and [S]afety issues as an overriding priority receive the attention warranted by their significance.

⊙ FANR-REG-01, VERSION 1; FANR-REG-17, VERSION 1

Safety Culture. The assembly of characteristics and attitudes in organisations and individuals which establishes that, as an overriding priority, [P]rotection and [S]afety issues receive the attention warranted by their significance.

⊙ FANR-REG-16, VERSION 0; FANR-REG-24, VERSION 1; FANR-RG-007, VERSION 1; FANR-RG-030, VERSION 0

Safety Evaluation Report (SER)

The regulatory review and assessment of the Construction Licence application and the [o]perating Licence application, which is presented in the form of an integrated report that summarises the review and assessment performed by or for the [regulatory body/Authority] and provides a clear conclusion about the Safety of the authorised [Regulated] [a]ctivity.

⊙ FANR-RG-001, VERSION 1; FANR-RG-029, VERSION 0

Safety Function

A specific purpose that must be accomplished for Safety.

⊙ FANR-REG-03, VERSION 0

Safety Group

The assembly of equipment designated to perform all actions required for a particular PIE [Postulated Initiating Event] to ensure that the limits specified in the design basis for Anticipated Operational Occurrences and DBAs [Design Basis Accidents] are not exceeded.

⊙ FANR-REG-03, VERSION 0; FANR-REG-14, VERSION 0; FANR-REG-16, VERSION 0; FANR-RG-030, VERSION 0

Safety Limit

A restriction or range placed upon important process variables that are necessary to reasonably protect the integrity of the physical barriers (other than containment) that guard against the uncontrolled release of radioactivity.

⊙ FANR-RG-030, VERSION 0

Safety Significance/ Safety Significant

Any System, Structure, Component or human action whose failure can cause a change in PRA results that exceed predefined risk criteria.

⊙ FANR-RG-003, VERSION 0

Safety System

A system important to Safety, provided to ensure the safe shutdown of the reactor or the residual heat removal from the core, or to limit the consequences of Anticipated Operational Occurrences and DBAs.

⊙ FANR-REG-03, VERSION 0; FANR-REG-16, VERSION 0

Safety System Settings

The levels at which protective devices are automatically actuated in the event of Anticipated Operational Occurrences or Accident Conditions, to prevent Safety limits being exceeded.

⊙ FANR-REG-03, VERSION 0

Sandstorm

An ensemble of particles of sand energetically lifted by a strong and turbulent wind. The forward portion of the sandstorm may have the appearance of a wide and high wall. The height to which sand is raised will increase with increasing wind speed and instability.

⊙ FANR-REG-03, VERSION 0

Sanitation

The process of removing data from storage media, such that there is reasonable assurance that the data may not be easily retrieved and reconstructed.

⊙ FANR-RG-011, VERSION 0

Seal

A Tamper-indicating Device used by the Authority or IAEA to join movable segments of Containment in a manner such that access to its contents without opening the Seal or breaking of the Containment is difficult.

⊙ FANR-REG-10, VERSION 0

Secondary Alarm Station

An installation, which provides for [the] redundant functionality of the Central Alarm Station.

⊙ FANR-REG-08, VERSION 2; FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

Security Breach

Unauthorized acts involving or directed at Category 1 Sources, Category 2 Sources or Category 3 Sources, the associated Facilities, or associated activities, including unauthorised access thereto, theft, loss, unauthorised use, removal or transfer thereof or Sabotage.

⊙ FANR-REG-23, VERSION 1

Security Controls

Countermeasures employed to avoid, counteract, or minimise security risks. Management, technical and operational controls collectively referred as Security Controls.

⊙ FANR-RG-011, VERSION 0

Security Culture

The characteristics in a Licensee's organisation and attitude of [I]ndividuals, which establish that Nuclear Security issues receive the attention warranted by their significance.

⊙ FANR-REG-01, VERSION 1; FANR-REG-17, VERSION 1; FANR-RG-020, VERSION 0; FANR-RG-021, VERSION 0

Security Mechanisms

A broad range of physical, logical, procedural, and technological methods with which to provide a secure physical or logical environment for devices (e.g., computing or controls hardware) or processes (e.g., firmware or software).

⊙ FANR-RG-011, VERSION 0

Security Plan

An integrated set of measures designed to deter, detect, delay and respond to any Security Breach together with management measures addressing access control, trustworthiness, information protection, training and qualification, accounting and record-keeping of the Licensee. Each Security Plan shall be developed and submitted to the Authority as part of a Licence application for approval in accordance with the requirements set forth in [FANR-REG-23].

⊙ FANR-REG-23, VERSION 1

Security Response Forces

Individuals assigned by the Competent Authorities and stationed on-site or off-site who are armed and appropriately equipped and trained to counter an attempted Unauthorised Removal or Radiological Sabotage.

⊙ FANR-REG-08, VERSION 2

Security Response Forces. Persons, on-site or off-site, who are armed and appropriately equipped to counter an attempted [U]nauthorized [R]emoval of nuclear material or an act of Radiological Sabotage.

⊙ FANR-RG-010, VERSION 1; FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

Segregation

An Activity where types of Radioactive Waste are separated or are kept separate on the basis of radiological, chemical and/or physical properties, to facilitate the handling and/or Processing of Radioactive Waste.

⊙ FANR-REG-11, VERSION 0

Senior Management

The person who, or group of people which within the organisation, directs, controls and assesses the Licensee's organisation at the highest technical level, including the chief executive officer and chief nuclear officer.

⊙ FANR-REG-01, VERSION 1

Senior Reactor Operator (SRO)

A senior control room Operator who oversees and directs the activities of [the] Reactor Operator[s] and Equipment Operator[s].

⊙ FANR-REG-16, VERSION 0; FANR-RG-017, VERSION 2; FANR-RG-030, VERSION 0

Senior Reactor Operator (SRO). An Individual who oversees and directs the activities of ROs and LOs in the control room of a Licensee's Nuclear Facility. The SRO may manipulate the controls at the Nuclear Reactor, particularly the controls that affect the

reactivity of the Nuclear Reactor, and holds a valid Certificate.

⊙ FANR-REG-17, VERSION 1

SRO Qualified Instructor

A training programme instructor who has successfully completed an SRO training and qualification programme, participates in the continuing training programme of the Operating Personnel of the Licensee and satisfactorily completes biennial requalification examination requirements to maintain SRO-level knowledge.

⊙ FANR-REG-17, VERSION 1

Sensitive Nuclear Information

Information in verbal, written or electronic form, which is classified either for national security or Nuclear Security reasons.

⊙ FANR-REG-08, VERSION 2

Sensitive Nuclear Information. Classified information, which may be classified for national or Nuclear Security reasons whether verbal, written or in electronic form.

⊙ FANR-RG-032, VERSION 0

Severe Accidents

Accident Conditions more severe than a Design Basis Accident [DBA] and involving significant core degradation.

⊙ FANR-REG-03, VERSION 0; FANR-REG-04, VERSION 1; FANR-REG-14, VERSION 0; FANR-REG-16, VERSION 0; FANR-RG-004, VERSION 0; FANR-RG-030, VERSION 0

Severe Accident Mitigation

Termination of or reduction in consequences of core melt Accidents.

⊙ FANR-RG-003, VERSION 0

Severe Accident Prevention

Prevention of reactor core from melt. Correction measures to any imbalance and disorder that may lead to melt the nuclear reactor core.

⊙ FANR-RG-003, VERSION 0

Shipper

A person, organization or government that prepares a consignment for transport. In IAEA Safety Standard TR-S-1 a Shipper is called a Consignor.

⊙ FANR-RG-006, VERSION 0

Shipper. Any person, organization or government that prepares or offers a consignment of nuclear material for transport (i.e. the Consignor)

⊙ FANR-RG-025, VERSION 0

Single Failure

A failure which results in the loss of capability of a component to perform its intended Safety Function(s), and any consequential failure(s) which result from it.

⊙ FANR-REG-03, VERSION 0

Single Failure Criterion

A criterion (or requirement) applied to a system such that it must be capable of performing its task in the presence of any Single Failure.

⊙ FANR-REG-03, VERSION 0

Single Source

A complex or multiple installation situated at one location or site.

⊙ FANR-REG-27, VERSION 0

Site

An area delimited by the State in the relevant design information for a Facility, including a closed-down Facility, and in the relevant information on a Location Outside Facility where Nuclear Material is customarily used, including a closed-down Location Outside Facility where Nuclear Material was customarily used. It shall also include all installations, collocated with the Facility or Location Outside Facility, for the provision or use of essential services.

⊙ FANR-REG-10, VERSION 0

Site. As defined in Article 18.b of the Additional Protocol.

⊙ FANR-RG-015, VERSION 0

Site Area

A geographical area that contains an authorised Facility, authorised Activity or source and within which the management of the authorised Facility or authorised Activity may directly initiate Emergency Actions.

⊙ FANR-REG-02, VERSION 0

Site Area Emergency

An event resulting in a major decrease in the level of protection for the public or On-site personnel of the Licensee and Response Organisations due to: (1) a major decrease in the level of protection of the reactor core or of large amounts of Spent Nuclear Fuel; or (2) conditions where any additional failures could result in damage to the reactor core or Spent Nuclear Fuel; or (3) high Doses On-site. When a Site Area Emergency is declared, preparations shall be made to take Protective Actions Off-site and to control the Doses of the persons On-site.

⊙ FANR-REG-12, VERSION 1

Siting

The process of selecting a suitable site for a Facility, including appropriate [A]ssessment and definition of the related [d]esign basis.

⊙ FANR-REG-02, VERSION 0; FANR-REG-27, VERSION 0

Software

A collection of one or more “programs” or “microprograms” fixed in any tangible medium of expression”.

⊙ FANR-REG-09, VERSION 1

Source Material

Uranium containing the mixture of isotopes occurring in nature; uranium depleted in the isotope 235; thorium; any of the foregoing in the form of metal, alloy, chemical compound, or concentrate; any other material containing one or more of the foregoing in such concentration as the Authority shall from time to time determine, based on the decision of the IAEA Board of Governors; and such other material as the Authority shall from time to time determine based on the decision of the IAEA Board of Governors.

The term Source Material shall not be interpreted as applying to ore or ore residue.

⊙ FANR-REG-09, VERSION 1

Source Material. Uranium containing the mixture of isotopes occurring in nature, uranium depleted in isotope 235 and thorium, each either in the form of metal, alloy, chemical compound, or concentrate, or any other material containing one or more of the foregoing in such concentration as the Authority shall from time to time determine, based on the decision of the IAEA Board of Governors; and such other material as the Authority shall from time to time determine based on the decision of the IAEA Board of Governors. The term Source Material shall not be interpreted as applying to ore or ore residue.

⊙ FANR-REG-10, VERSION 0

Source Monitoring

The measurement of activity in Radioactive Material being released to the environment or of external Dose rates due to sources within a Nuclear Facility.

⊙ FANR-REG-11, VERSION 0

Special Drawing Right (SDR)

The unit of account as defined by the International Monetary Fund and used by it for its own operations and transactions.

⊙ Nuclear Liability Law

Special Fissionable Material

Plutonium-239; uranium-233; uranium enriched in the isotopes 235 or 233; any material containing one or more of the foregoing; and such other fissionable material as the Authority shall from time to time determine based on the decision of the IAEA Board of Governors; but the term 'Special Fissionable Material' does not include Source Material.

⊙ FANR-REG-09, VERSION 1; FANR-REG-10, VERSION 0

Special Reports

Reports given to the Authority by the Licensee pursuant to Article 12 of [FANR-REG-10].

⊙ FANR-REG-10, VERSION 0

Spent Nuclear Fuel

Nuclear fuel removed from a reactor following irradiation that is no longer usable in its present form.

⊙ Nuclear Law

Stand-off Attack

An attack, executed at a distance from the target Nuclear Facility, which does not require adversary

hands-on access to the target or require the adversary to overcome the physical protection system.

⊙ FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

State

[The] United Arab Emirates.

⊙ Nuclear Law; Nuclear Liability Law

State System of Accounting for and Control of Nuclear Material

A system of accounting for and control of all Nuclear Material subject to safeguards under the Safeguards Agreement, which is established and maintained by the Authority at the State level.

⊙ FANR-REG-10, VERSION 0; FANR-REG-16, VERSION 0

Storage

The holding of Radioactive sources, nuclear spent fuel or Radioactive Waste in a Facility that provides for their/its containment, with the intention of retrieval.

⊙ Nuclear Law

Structures, Systems and Components (SSCs)

A general term encompassing all the elements of a [Nuclear] Facility [or Activity] which contribute to [P]rotection and [Nuclear] [S]afety, except human factors. Structures are the passive elements such as building vessels and shielding. A System comprises several components assembled in such a way as to perform a specific active function and a Component is a discrete element of a system.

⊙ FANR-REG-02, VERSION 0; FANR-REG-03, VERSION 0; FANR-REG-05, VERSION 0, FANR-REG-06, VERSION 0; FANR-REG-08, VERSION 2; FANR-REG-14, VERSION 0; FANR-REG-16, VERSION 0; FANR-REG-21, VERSION 0 FANR-RG-001, VERSION 1; FANR-RG-004, VERSION 0; FANR-RG-010, VERSION 1; FANR-RG-023, VERSION 0; FANR-RG-030, VERSION 0

Structures, Systems and Components (SSCs). A general term encompassing all the elements of a Facility or Activity except for human factors, which contribute to protection and Safety. Structures are the passive elements such as building vessels and shielding. A system within a Structure, System and Component comprises several components assembled in such a way as to perform a specific active function, and a component within a Structure, System and Component is a discrete element of the Structures, Systems and Components system.

⊙ FANR-REG-27, VERSION 0

Structures, Systems and Components (SSCs). A general term encompassing all the elements of a Facility or Activity, which contributes to protection and Safety except Organisational Arrangements. ‘Structures’ are the passive elements such as building vessels and shielding. A ‘system’ comprises several components assembled in such a way as to perform a specific active function, and a ‘component’ is a discrete element of a ‘system’.

⊙ FANR-RG-029, VERSION 0

Subsidiary Arrangements

The document containing the technical and administrative procedures for specifying how the provisions laid down in the Safeguards Agreement are to be applied. Subsidiary Arrangements to the Safeguards Agreement consist of a ‘general part’, which is applicable to all common nuclear activities of the UAE, and of a facility attachment prepared for each Facility in the UAE and describing arrangements specific to that Facility.

⊙ FANR-RG-029, VERSION 0

Supervised Area

A defined area not already designated as a Controlled Area but where [O]ccupational [E]xposure conditions need to be kept under review even though specific protective measures and [S]afety provisions are not normally needed.

⊙ FANR-RG-007, VERSION 1; FANR-RG-033, VERSION 0

Supplier

Any legal Person to whom a Licensee delegates duties, totally or partially, in relation to the Design, manufacture, production or Construction of a Radiation Source. An importer of a Radiation Source is considered a Supplier of a Radiation Source.

⊙ FANR-REG-24, VERSION 1

Supply Chain

Processes and Persons involved in the production, procurement and the distribution of Products or services with respect to the applicant for a Licence or Licensee.

⊙ FANR-REG-01, VERSION 1

Supporting Function

A function that directly or indirectly supports the operation and functionality of systems that perform safety, security, safeguards and Emergency Preparedness Functions. Examples of supporting functions include heating, ventilation, air conditioning, communications, fire suppression, or any function which, if compromised, could have an adverse impact on safety, security, safeguards, or Emergency Preparedness.

⊙ FANR-RG-011, VERSION 0

Suspect Item(s)

Products assessments and/or performance which leads to indication or suspicion that they may not be genuine.

⊙ FANR-REG-01, VERSION 1

T

Tamper-indicating Device

A device used on a container or Containment in a manner that will provide an indication of any violation of the integrity of the container contents.

⊙ FANR-REG-10, VERSION 0

Target Elements

Structures, Systems or Components of a Nuclear Facility, as well as any personnel performing actions or functions to prevent core damage or Spent Nuclear Fuel damage.

⊙ FANR-REG-08, VERSION 2

Target Elements. Structures, systems, or components of a Nuclear Facility or Operating Personnel actions that perform a function to prevent core damage or Spent Nuclear Fuel damage.

⊙ FANR-RG-010, VERSION 1; FANR-RG-032, VERSION 0

Target Elements. Structures, systems, or components of a Nuclear Facility or operator actions that perform a function to prevent core damage or spent fuel damage.

⊙ FANR-RG-026, VERSION 0

Target Set

The minimum combination of Target Elements, which if all are prevented from performing their intended function or prevented from being accomplished, would cause core damage or Spent

Nuclear Fuel damage and result in a release of Radioactive Material.

⊙ FANR-REG-08, VERSION 2

Target Set. The minimum combination of Target Elements which if all are prevented from performing their intended function or prevented from being accomplished, would likely result in core damage or [S]pent [Nuclear] [F]uel damage.

⊙ FANR-RG-010, VERSION 1; FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

Technical Support Centre (TSC)

An On-site facility that provides technical support to the control room personnel of the Licensee during Emergency Response whilst regaining control of the Emergency On-site.

⊙ FANR-REG-12, VERSION 1

Technology

Specific information required for the development, production, or use of Nuclear Material and/ or Regulated Items. This information may take the form of technical data, or technical assistance.

⊙ FANR-REG-09, VERSION 1

Threat Assessment

An evaluation of the threats – based on available intelligence, law enforcement and open source information – that describes the motivations, intentions, and capabilities of these threats.

⊙ FANR-RG-025, VERSION 0

Tissue Weighting Factor

The multiplier of the Equivalent Dose to a tissue or organ used for Radiation Protection purposes to account for the different sensitivities of different

organs and tissues to the induction of the stochastic effects of Ionizing Radiation.

⊙ FANR-REG-04, VERSION 1

Tissue Weighting Factor. The multiplier of the Equivalent Dose to a tissue or organ used for Radiation Protection purposes to account for the different sensitivities of different organs and tissues to the induction of stochastic effects of radiation.
The Tissue Weighting Factors published in The 1990 Recommendations of the International Commission on Radiological Protection (ICRP 60) shall be applied until the Federal Authority for Nuclear Regulation (FANR) determines that the revised Tissue Weighting Factors published in The 2007 Recommendations of the 5 International Commission on Radiological Protection (ICRP 103) shall be applied.

⊙ FANR-REG-21, VERSION 0; FANR-REG-24, VERSION 1

Transfer

The Import, Export, Re-export, Transit or Trans-shipment of Nuclear Material and Regulated Items.

⊙ FANR-REG-09, VERSION 1

Transit

The crossing through the State including its free zones and/or special zones of Nuclear Material and/or Regulated Items that are loaded onto a means of transport before entering the State and then taken out of the State without unloading the said material and/or items from the means of transport, whilst being monitored by the customs and/ or the security officials of the State as the case may require.

⊙ FANR-REG-09, VERSION 1

Transport

An international or domestic shipment of Nuclear Material by any means of transport, beginning with

the departure of the Nuclear Material from a Nuclear Facility of a supplier and ending with the arrival of the Nuclear Material at the site of a Nuclear Facility of the recipient.

⊙ FANR-REG-08, VERSION 2

Transport. International or domestic carriage of [N]uclear [M]aterial by any means of transportation beginning with the departure from a [N]uclear [F]acility of the shipper and ending with the arrival at a [N]uclear [Facility] of the receiver.

⊙ FANR-RG-025, VERSION 0; FANR-RG-032, VERSION 0

Transport Control Centre

A facility which provides for the continuous monitoring of a transport conveyance location and security status and for communication with the transport conveyance, shipper/receiver, carrier and, when appropriate, its escort and the response forces.

⊙ FANR-RG-025, VERSION 0

Transport Index

A number assigned to a package, overpack or freight container, or to unpackaged LSA-I or SCO-I, which is used to provide control over radiation exposure.

⊙ FANR-RG-006, VERSION 0

Transport Security Plan

A plan specifying security requirements relating to any transport within the State of a Category 1 Source, Category 2 Source, or Category 3 Source, which is prepared and submitted to the Authority for approval in accordance with the requirements set forth in [FANR-REG-23].

⊙ FANR-REG-23, VERSION 1

Trans-shipment

The unloading of Nuclear Material and/or Regulated Items from the means of transport that brought the said material and/or items into the State including its free zones and/or special zones, and their re-loading onto the same or another means of transport with the purpose of taking the said material and/or items out of the State, and where Nuclear Material and Regulated Items do not leave airside or portside.

⊙ FANR-REG-09, VERSION 1

Treatment

Operations intended to benefit Safety by changing the characteristics of the Radioactive Waste. Three basic Treatment objectives are: (a) volume reduction; (b) removal of radionuclides from the Radioactive Waste; (c) change of composition.

⊙ FANR-REG-11, VERSION 0; FANR-REG-26, VERSION 0

U

Ultimate Heat Sink

A medium into which the residual heat can always be transferred, even if all other means of removing the heat have been lost or are insufficient.

⊙ FANR-REG-03, VERSION 0

Unauthorized Removal (also **Unauthorised Removal)**

The theft or other unlawful taking of [N]uclear [M]aterial.

⊙ FANR-REG-08, VERSION 2; FANR-RG-010, VERSION 1; FANR-RG-032, VERSION 0

Unsealed Radioactive Source

Radioactive Material that is not a permanently sealed in a capsule or closely bonded and in a solid form.

⊙ FANR-REG-23, VERSION 1

Unusual Event

An event in progress or an event that has occurred, which leads to a potential deterioration of the Safety of the Nuclear Facility or poses a security threat to the Nuclear Facility. In case of such event, no releases of Radioactive Material requiring an Off-site Emergency Response or monitoring are expected unless there is further deterioration of the safety systems of the Nuclear Facility.

⊙ FANR-REG-12, VERSION 1

Urgent Protective Action

A Protective Action in the event of an Emergency that must be taken promptly (normally within hours of detecting the Emergency conditions) in order to be effective, and the effectiveness of which will be markedly reduced if the Urgent Protective Action is delayed.

⊙ FANR-REG-12, VERSION 1

Urgent Protective Action. A Protective Action in the event of an Emergency which must be taken promptly (normally within hours) in order to be effective, and the effectiveness of which will be markedly reduced if it is delayed.

⊙ FANR-REG-15, VERSION 0

Urgent Protective Action Planning Zone

An area around a Nuclear Facility for which Emergency arrangements have been made to take Urgent Protective Actions in the event of an Emergency to avert Doses Off-site in accordance with international safety standards. The Urgent Protective Actions within this area are to be taken on

the basis of environmental monitoring or prevailing conditions at the Nuclear Facility, as appropriate.

⊙ FANR-REG-12, VERSION 1

User of Digital Assets

Licensee's staff, contractors, and vendors that have access to any digital system in the Nuclear Facility.

⊙ FANR-RG-011, VERSION 0

V

Vital Area

An area inside a Protected Area containing equipment, systems or devices, or Nuclear Material, a Radiological Sabotage of which could directly or indirectly result in a release of Radioactive Material.

⊙ FANR-REG-08, VERSION 2

Vital Area. An area inside a Protected Area containing equipment, systems or devices or [N]uclear [M]aterial, the [Radiological] [S]abotage of which could directly or indirectly lead to [high/unacceptable] radiological consequences.

⊙ FANR-RG-010, VERSION 1; FANR-RG-026, VERSION 0; FANR-RG-032, VERSION 0

Vulnerability

A weakness in the physical or electronic configuration of a Critical Digital Asset or connected digital Asset that could allow an action that compromises the functionality of the Asset.

⊙ FANR-RG-011, VERSION 0

Vulnerability Assessment

A process for evaluating and documenting the features and effectiveness of the overall Physical Protection System.

⊙ FANR-REG-08, VERSION 2

Vulnerability Assessment. A process which evaluates and documents the features and effectiveness of the overall [P]hysical [P]rotection [S]ystem at a particular target.

⊙ FANR-RG-010, VERSION 1; FANR-RG-032, VERSION 0

W

Waste Form

Radioactive Waste in its physical and chemical form after treatment and/ or conditioning prior to packaging. The Waste Form is a component of the Waste Package.

⊙ FANR-REG-27, VERSION 0

Waste Package

The product of Conditioning that includes the [W]aste [F]orm and any container(s) and internal barriers [(e.g. absorbing materials and liner)] as prepared in accordance with requirements for handling, transport, Storage and/or Disposal.

⊙ FANR-REG-26, VERSION 0; FANR-REG-27, VERSION 0

Worker(s)

Any Person who works full-time, part-time or on a temporary basis in a Nuclear Facility and who has recognised rights and duties in relation to occupational Radiation Protection.

⊙ FANR-REG-11, VERSION 0

Worker(s). Any person who works full-time, part-time or on a temporary basis for a Licensee and who has [recognised] rights and duties in relation to occupational Radiation Protection.

⊙ FANR-REG-04, VERSION 1; FANR-REG-24, VERSION 1; FANR-REG-30, VERSION 0; FANR-RG-007, VERSION 1; FANR-RG-027, VERSION 0

Workplace Monitoring

The measurement of radiation Dose or contamination in the workplace for reasons related to the assessment or control of exposure to radiation or Radioactive Material and the interpretation of the results.

⊙ FANR-REG-11, VERSION 0