



Documentation of the work of the
International Atomic Energy Agency (IAEA) NMUN
simulation*



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International Atomic Energy Agency (IAEA)

Committee Staff

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Agenda

1. Maintaining and Strengthening Emergency Preparedness and Response
2. Improving the Safe and Secure Transport of Radioactive Material

Resolutions adopted by the Committee

Code	Topic	Vote (For-Against-Abstain)
IAEA/1/1	Maintaining and Strengthening Emergency Preparedness and Response	111 in favor, 13 against, 30 abstentions
IAEA/1/2	Maintaining and Strengthening Emergency Preparedness and Response	69 in favor, 15 against, 69 abstentions
IAEA/1/3	Maintaining and Strengthening Emergency Preparedness and Response	105 in favor, 17 against, 42 abstentions
IAEA/1/4	Maintaining and Strengthening Emergency Preparedness and Response	84 in favor, 39 against, 39 abstentions
IAEA/1/5	Maintaining and Strengthening Emergency Preparedness and Response	111 in favor, 14 against, 37 abstentions
IAEA/1/6	Maintaining and Strengthening Emergency Preparedness and Response	90 in favor, 17 against, 44 abstentions

IAEA/1/7	Maintaining and Strengthening Emergency Preparedness and Response	97 in favor, 14 against, 46 abstentions
IAEA/1/8	Maintaining and Strengthening Emergency Preparedness and Response	87 in favor, 24 against, 44 abstentions
IAEA/1/9	Maintaining and Strengthening Emergency Preparedness and Response	83 in favor, 25 against, 54 abstentions
IAEA/1/10	Maintaining and Strengthening Emergency Preparedness and Response	89 in favor, 12 against, 50 abstentions
IAEA/1/11	Maintaining and Strengthening Emergency Preparedness and Response	83 in favor, 22 against, 49 abstentions
IAEA/1/12	Maintaining and Strengthening Emergency Preparedness and Response	100 in favor, 12 against, 39 abstentions

Summary Report

The International Atomic Energy Agency held its annual session to consider the following agenda items:

1. Maintaining and Strengthening Emergency Preparedness and Response
2. Improving the Safe and Secure Transport of Radioactive Material

The session was attended by representatives of 140 Member States and 1 Observer;

On Sunday, the committee adopted the agenda of 1, 2, beginning the discussion on the topic of "Maintaining and Strengthening Emergency Preparedness and Response." All working groups strongly collaborated with all their respective members, ensuring inclusion within the committee. By Tuesday, the Dais received 13 proposals. These proposals covered important sub-topics such as defining nuclear waste under the IAEA's nuclear materials definition, increasing awareness of best practices in the case of a nuclear emergency, and the expansion of the International Radiation Monitoring Information System. The atmosphere in the committee was very positive as delegates were keen to collaborate. The collaborative atmosphere led to delegates working groups combining into similar themes and subtopics.

On Wednesday, 12 draft resolutions had been approved by the Dais, two of which had amendments. The committee adopted 12 resolutions following the voting procedure. The resolutions represented a wide range of issues, including the expansion of nuclear accident early warning systems. The committee showed a high level of cooperation and negotiation, which proved their dedication to finding common and suitable solutions to the issue of Maintaining and Strengthening Emergency Preparedness and Response.



Code: IAEA/1/1

Committee: International Atomic Energy Agency

Topic: Maintaining and Strengthening Emergency Preparedness and Response

The International Atomic Energy Agency,

Recognizing the central role of the International Atomic Energy Agency (IAEA) in coordinating international efforts to maintain and strengthen emergency preparedness and response (EPR) frameworks, in providing expertise and advice in this field and in promoting nuclear safety,

Guided by Sustainable Development Goals (SDGs) 3 (good health and well-being), SDG 7 (affordable and clean energy), and SDG 13.1 (Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries) to ensure healthy lives and promote well-being for people of all ages, to ensure access to affordable, reliable, sustainable, and modern energy for all and to strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all Member States,

Keeping in mind the 2008 Safeguards-by-Design (SBD) 3C Concept of safety, security, and safeguards,

Reiterating the need for training, public awareness, and the existence of the IAEA Collaborating Center Agreement,

Aware of the existence of tools such as the Unified System for Information Exchange in Incidents and Emergencies and the Incident and Emergency System,

Acknowledging the work and achievements of the IAEA's Integrated Nuclear Security Support Plans, the Response and Assistance Network (RANET), the Operational Safety Review Team (OSART), International Centres based on Research Reactors (ICERRs), the Peaceful Use Initiative (PUI), the Integrated Radiation Monitoring and Information Systems (IRMIS), the Nuclear E-Learning programs, the IAEA Safety Standards Series on Preparedness and Response for a Nuclear or Radiological Emergency and Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency, Arrangements for Public Communication in Preparedness and Response for a Nuclear or Radiological Emergency, and the Nuclear Energy Agency (NEA),

Calling attention to developing Member States' lack of access to expertise and infrastructure necessary to perform radiological assessments and respond to radiological and nuclear accidents,

Emphasizing the contribution of an efficient and timely response to the development of emergencies,

Acknowledging already existing national and international regulations on packaging and transport of nuclear substances and their interconnectedness and importance to EPR frameworks in accordance with IAEA standards,

Further acknowledging the importance of maintaining and strengthening EPR mechanisms and the role of the IAEA in this endeavor,

Noting the solutions created by all regional bodies and Member States which aim to establish standards involving the preparation against nuclear disasters,

Emphasizing the *Convention on Early Notification of a Nuclear Accident* (1986) and the *Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency* (1986) constituting the basis of the EPR,

Confirming that the Integrated Regulatory Review Service (IRRS) has the responsibility of furthering the universal application of regulatory standards, especially through Project Progress Action Reports,

Acknowledging the External Events Notification System (EENS), a web-based tool launched by the IAEA in 2022 providing real-time information on external events and hazards, currently consisting of modules on earthquakes and cyclones,

Further recalling the work of the Secretariat of the Antarctic Treaty and the commitment to the Antarctic Treaty to protect this vulnerable environmental area,

Recalling on the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) (1968),

Applauding the Arctic Radiation Exercise in High North 2023, called Arctic Reihn, for adapting EPR frameworks to the delicate environment of the Arctic region and the work of the Arctic Council on EPR issues,

1. *Recommends* adapting EPR frameworks to extreme climate regions, such as desert or tropical regions, and especially the Antarctic region by:
 - a. Undertaking investigation at the research stations in Antarctica and report on the current status of nuclear debris in the Antarctic region initiated by the IAEA's Division of Programme Support and Coordination along with the Secretariat of the Antarctic Treaty;
 - b. Forming a collaboration among IAEA, the Secretariat of the Antarctic Treaty, and the Arctic Council, facilitated by the IAEA's Division of Programme Support and Coordination, to develop an EPR framework for the Antarctic region drawing on the existing Arctic EPR framework by the Arctic Council and knowledge gained by the Arctic Reihn exercise;
 - c. Drawing on the IAEA's Technical Cooperation Fund and the Central Emergency Response Fund as well as voluntary contributions from IAEA Member States;
2. *Urges* the importance of improving proactive measures through regular drills and simulations in nuclear plants by:
 - a. Including different stakeholders such as government agencies and civil society to improve response mechanisms, identify upcoming challenges, and improve the overall efficiency of emergency management apparatuses;
 - b. Facilitating the collaboration with existing UN Agencies, such as the IAEA School of Nuclear Radiological Leadership for Safety, and promoting the importance of nuclear safety leadership and proactivity;
 - c. Expanding on the enhancement of nuclear and radiological incident simulations in order to better understand the operational conditions behind nuclear reactors and events that initiate their failure;

- d. Strengthening collaboration to develop strategies concerning drills and simulations between Member States and experts in both public and private sectors such as but not limited to:
 - i. The Incident and Emergency Centre (IEC), which can help Member States implement international standards by offering training, education and providing Emergency Preparedness Reviews (EPREV);
 - ii. The supportive efforts of the IAEA including the INSserv mission for instances of emergencies;
 - e. Financing by funding programs of the IAEA like the Technical Cooperation Programme and Extrabudgetary Programme Funds on a voluntary basis by government agencies, international organizations, private companies in the nuclear industry, research foundations, and philanthropic organizations to ensure accessibility for all individuals involved;
3. *Suggests* Member States and regional bodies bring their standardized practices to international attention and utilize the IRRS for regulation, especially through the additions of comprehensive risk assessments, war and disaster scenarios, escalation plans, and other proven preemptive measures;
 4. *Reiterates* the necessity of adapting the existing EPR mechanisms due to the increasing frequency, extent, and severity of natural disasters and climate change events by completing the EENS, through means including but not limited to:
 - a. Further enhancing the modules on earthquakes and cyclones;
 - b. Realizing the remaining modules on river floods, tsunamis, volcano eruptions, and wildfires, to be financed by the Member States supporting the initial two modules of the EENS and voluntary contributions of IAEA Member States;
 5. *Suggests* expanding regional training initiatives as exemplified by the NEA through means including but not limited to:
 - a. Implementing Integrated Nuclear Security Support Plans, conducting workshops on threat assessments and Design Basis Threat, and establishing national oversight bodies to execute the safety standards of the IAEA;
 - b. Inviting scientific experts to speak on region-specific issues caused by nuclear materials and climate change including but not limited to thyroid cancer associated with radiation leaks, loss of biodiversity, natural disasters, and radioactive waste;
 6. *Encourages* Member States to work together internationally to assist in creating or joining unified regional alert systems for Member States without early alert systems by enhancing regional EPR frameworks with data collected by the IEC;
 7. *Calls upon* all Member States to actively participate in international systems including:
 - a. The RANET to register the capacity to respond to nuclear accidents and emergencies;

- b. The IRRS and OSART to promote a peer review EPR Management System to register capacity to respond to emergency accidents;
 - c. Research institutions, universities and think tanks;
 - d. An expansion of the ICERRs as they enable scientists globally to closely work together and exchange with minimized bureaucratic delays to develop new technology that is crucial to strengthening emergency preparedness and response;
8. *Encourage* IAEA and Member States to hold a technical working group on risk communication, which aims to:
- a. Revise IAEA Safety Standards Series on Preparedness and Response for a Nuclear or Radiological Emergency and Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency;
 - b. Promote all Member States to use public communication tools in the Arrangements for Public Communication in Preparedness and Response for a Nuclear or Radiological Emergency, especially social media, to gain the capacity to spread accurate information;
 - c. Recommend to each Member State to execute training on risk communication;
9. *Advise* the increased use of the PUI by financing mechanisms for:
- a. Developing Member States to increase their national expertise in radiological assessments;
 - b. Developing Member States to expand critical infrastructure needed to respond to radiological and nuclear accidents;
 - c. Organizing a collective fund through voluntary, progressively increasing contributions dependent on financial capacity of individual Member States;
10. *Encourages* the development of a new collaborative database between Member States covering areas such as but not limited to:
- a. Consolidating Member States' nuclear power plants' information with goals such as, but not limited to accelerating and facilitating response measures from neighboring countries affected with the objective of avoiding delays in official channel communication and the inconvenience of international relations in communications;
 - b. Supporting regional hubs promoting neighboring nations' communication and information sharing, confirming Member States that can be affected in case of a nuclear accident will have the available tools to coordinate and collectively respond;
 - c. Strongly encouraging investments among Member States in cutting-edge technology that leverages real-time data, satellite imagery and meteorological information to provide timely alerts and react quickly to upcoming emergencies;
11. *Encourages* that an online curriculum on safety procedures be established by:

- a. Building upon the IAEA's Nuclear E-Learning programs, annually updating and teaching this curriculum to United Nations missions, and giving the responsibility to each Member State to inform their civilians, nuclear power plant employees, and whomever they see fit;
 - b. Ensuring personnel involved in transportation of nuclear materials have the necessary skills and knowledge to handle the materials securely and effectively on a global scale by using the funding for the training program;
12. *Further encourages* Member States to implement radiation monitoring on a national level while:
- a. Incorporating IRMIS standards;
 - b. Investing in modern technologies to accelerate data analysis, especially in developing countries;
 - c. Welcoming voluntary participation in international stress tests;
13. *Invites* Member States who are not yet a part of the NPT to join, adopt, and abide by the terms of the treaty for the collaboration towards peace, including the banning of non-peaceful uses of atomic energy;
14. *Further invites* Member States to consider diversifying EPR by preparing separate plans for different agents of nuclear emergency such as:
- a. Nuclear power plant operators responsible for ceasing the progression of a nuclear emergency and minimizing its impacts on local communities through provision of information updates and technical support;
 - b. Existing national nuclear safety institutions overseeing the process of the nuclear power plant's crisis response and providing recommendations on effective emergency strategies based on IAEA standards;
 - c. Local governments, including district authorities and municipal governments, that have access to public alert systems, and can evacuate the population and monitor radiation levels outside facilities.



Code: IAEA/1/2

Committee: International Atomic Energy Agency

Topic: Maintaining and Strengthening Emergency Preparedness and Response

The International Atomic Energy Agency,

Concerned that nuclear waste is excluded from the International Atomic Energy Agency (IAEA)'s definition of nuclear materials,

Recognizing the existence of several monitoring International Centers Based on Research Reactors (ICERRs), namely the Belgian Nuclear Research Centre, the French Alternative Energies and Atomic Energy Commission - Centres of Saclay and Cadarache, the Institute for Nuclear Research Pitesti (Raten ICN), the Korea Atomic Energy Research Institute, the National Centre for Nuclear Energy, Science and Technology in Morocco, the Russian Research Institute of Atomic Reactors State Scientific Centre and the United States of Americas Department of Education (US DOE) Idaho National Laboratory,

Convinced of the need for centralized monitoring of nuclear materials and emergencies and calling upon the Statute of the IAEA, specifically the Agency's mandate to ensure that assistance provided by it is not used in such a way as to further any military purpose,

Acknowledging that centralized efforts of monitoring radioactive material also have applications for the safe and secure transport of nuclear materials,

Applauding the inter-agency agreements that have been created in the healthcare sector with organizations such as the World Health Organization (WHO) and International Committee of the Red Cross (ICRC),

Highly appreciating the success of the IAEA School on Nuclear and Radiological Leadership for Safety in training personnel in diverse fields on IAEA nuclear safety standards, aiming to prevent accidents and ensure the safe use of fissile material, especially in medical applications,

Considering the efficacy of educational training materials such as those present in the IAEA Safety Standards Series and in General Assembly resolution 71/57 (2016) on "United Nations study on disarmament and non-proliferation education", as well as the potential extrapolation of these frameworks to hospitals and healthcare spaces,

Recognizing that the right to access existing international monitoring systems, namely the International Radiation Monitoring System (IRMIS), large quantities of environmental radiation monitoring data is now only open to authorized users and data providers,

Bearing in mind the different natures of nuclear accidents such as natural, criminal, technological, and biological activity, and therefore the need to improve international collaborations that focus on promoting, developing, and investments in cutting-edge technology, especially early warning systems,

Noting prior work within the healthcare system and Emergency Preparedness and Response (EPR), such as World Health Assembly resolution WHA58.1 and the importance of the roles these documents hold in nuclear accidents,

Taking note with satisfaction of the prior work done by IAEA and WHO in regard to EPR within the healthcare setting and the importance that civilian roles play in helping with clean up and protection of the community post-nuclear accidents,

Alarmed and concerned about the existential threat a potential nuclear incident would pose to the environment,

Reaffirming the importance of nuclear preparation through education, monitoring, and healthcare sectors in EPR,

Recalling further the need for open access to information-sharing systems and early warning systems to ensure proper preventive measures are employed in emergency situations,

Emphasizing the importance of providing training for all employees who work with radioactive material, so they are fully equipped to safely handle radioactive material and effectively respond to any emergencies regarding radioactive material,

Mindful of the fact that most Member States are using or plan on using nuclear and radioactive materials for different sectors, such as healthcare,

Recognizing that individual Member States may suffer from a lack of funding or staffing due to various factors, despite each Member States' risk of destruction related to nuclear disasters,

Observing that the transportation, storage, and usage of these materials are interconnected with a risk factor of an outbreak or a disaster,

Fully aware that since these materials are used in healthcare and in hospitals, there is a risk of an outbreak or a disaster near the human population, and that such disaster could lead to health-related problems for the people near the affected zones, which requires hospital staff and personnel to be trained for such emergencies,

Commending the success of the IAEA INSserv missions, where IAEA experts travel to Member States to give advice and assistance in improving nuclear safety capabilities,

Reaffirming the goal of General Conference (GC) (59)/RES/9, that all Member States that have not already done so to implement and sustain an independent national regulatory body,

1. *Amends* the universal definition of nuclear materials within the IAEA's Statute to explicitly include low-level waste, defining it as items contaminated with radioactive material or rendered radioactive through exposure to neutron radiation, recognizing that low-level waste may possess levels of radioactivity detrimental to human health and the environment, thereby expanding the scope beyond materials traditionally excluded from consideration as "radioactive waste" or "nuclear materials";
2. *Encourages* current inter-agency agreements to continue their efforts as well as future agreements and collaborations between additional bodies in the healthcare sector such as the WHO, ICRC, Red Crescent, and Emergency Medical Teams established by regional and domestic bodies, and others in the global healthcare industry;

3. *Encourages* all Member States to share information on nuclear materials in order to form a voluntary centralized database of information called the Uniform Nuclear Conditions Liability Examination (UNCLE) to enable real-time updates on information in regard to local and regional conditions which concern nuclear materials and facilities through measures such as, but not limited to, by:
 - a. Informing and collaborating with International Centers Based on Research Reactors (ICERRs) via bilateral arrangements, to further promote and develop new technologies and connect scientists around the world to exchange with minimized delays;
 - b. Sharing and identifying the EPR arrangement using EPR Information Management System (EPRIMS), to self-assess, and provide inclusive analysis on EPR on web-based tools open to all Member States;
 - c. Registering and providing data for the International Radiation Monitoring Information system (IRMIS), which collects a large amount of environmental radiation monitoring data in order to take protective actions during radiological emergencies;
 - d. Compiling information from multiple pre-existing sources such as but not limited to the American National Nuclear Safety Administration, the United Kingdom's Office for Nuclear Regulation, the Russian Federation's Gosatomnadzor (GAN);
 - e. Gathering various information which facilitates a multitude of fields dedicated to the UNCLE Database to strengthen knowledge on areas such as but not limited to:
 - i. Locations of available nuclear facilities and materials;
 - ii. Sustaining conditions of the materials;
 - iii. Detailing energy output and consumption;
 - iv. Detailing Meteorological and Geological changes which address climate aspects of local conditions;
 - v. *Acknowledging* that such a facilitation of a database system this complex will require expertise in a multitude of fields, funding, and labor that will be dedicated to the creation of the UNCLE Database;
4. *Strongly Encourages* Member States to cooperate in the funding of IAEA's training and safety response initiatives through means such as but not limited to:
 - a. Encouraging the IAEA School of Nuclear Safety to promote contribution from Member States in funding the Centralized Center for Nuclear Development for reasons of:
 - i. Encouraging standardized nuclear safety training;
 - ii. Enabling the year-long availability of the center;

- iii. Employing the assistance of regional leaders among Member States to facilitate in the education of radiation safety within their population;
 - iv. Furthering the initiatives made in increasing accessibility of personal protective equipment when interacting with radioactive material among the populous of less developed Member States;
 - b. Better ensuring that the INSserv mission funding is used to support necessary safeguards in workforce training in fields of healthcare and monitoring;
 - c. Collaborating with the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) to encourage funding that facilitates the training of interested parties to functionally learn the indicative effects and symptoms of radiation poisoning among individuals in real-world scenarios, further facilitating more accessible and effective healthcare for Member States;
 - d. Seeking the increase of voluntary contribution to the IAEA's Technical Cooperation Fund in order to support initiatives that concern nuclear safety monitoring and the gathering of a collaborative database;
- 5. *Recommends* the creation of a response plan for regional and/or sub-regional areas proportional to the number of resources each area can contribute in the various emergency scenarios, emphasizing incidents that have heightened cases of ecological and societal disruption including but not limited to Reactor Meltdowns and criticalities, Reactor Cooling System Failures, Waste Spills, Radiation Leaks, and Contamination of Densely Populated Urban Areas;
- 6. *Recommends* implementation of more widespread programs for hospital and healthcare staff in preparation for nuclear disaster that:
 - a. *Provide* proper personal protective equipment for staff members following IAEA radiation specifications;
 - b. *Improve* training programs and protocols following the IAEA Systematic Approach to Training that prepare hospital and healthcare staff for proactive action before the occurrence of nuclear accidents;
- 7. *Recommends* Member States that have an extant capacity for nuclear energy generation pursue capacity-building efforts related to the development of nuclear reactors in developing nations via:
 - a. Compiling a comprehensive list of the related physics, mechanics, blueprints, nuclear risks, and their abatements;
 - b. Ensuring the distribution of information pertaining to the establishment of a nuclear reactor and required for construction and upkeep to be released alongside EPR;
- 8. *Encourages* Member States to implement a two-fold training program for medical personnel in collaboration with the World Health Organization (WHO) by:

- a. Providing medical personnel with radioactive material training for everyday interactions with radioactive material;
 - b. Training medical personnel for radioactive and nuclear emergency response situations on the ground and in medical facilities;
 - c. Collaborating with current IAEA projects such as the Human Health Program in the employment of nuclear technology in the treatment of cancerous and cardiovascular diseases;
9. *Further requests* for the IAEA and WHO to work with Member States to expand the scope of the Emergency Medical Teams Initiative in order to allow for more civilians to be properly trained on the response to nuclear accidents, both in and outside of hospitals;
10. *Encourages* facilitating partnerships with international organizations and donor countries by further expanding the Incident and Emergency Centre's work through means such as:
 - a. Developing protocols for requesting and coordinating international assistance in times of crisis;
 - b. Expanding partnerships with relevant stakeholders, such as civil defense agencies and first responders;
11. *Recommends* Member States be equipped with necessary medical materials and infrastructure for treatment and protection through funding in cases of both direct and indirect accidents abiding by the IAEA Safety Standards and medical exposure such as but not limited to Personal Protective Equipment (PPE) and Decontamination kits;
12. *Encourages* Member States to utilize the Occupational Radiation Protection Appraisal Service (ORPAS) of IAEA to self-assess their medical establishments and regulations, further training medical staff and aspiring students in handling radiation exposure;
13. *Urges* the creation of a training program for the handling and effective answering times by hospital personnel for nuclear and radioactive materials affected people, in case of a disaster, that is to be implemented into the WHO's EMT (Emergency Medical Team) training centers training;
14. *Recommends* that the aforementioned training program for healthcare personnel has policies on:
 - a. How to handle affected areas and how to extract affected people from those areas;
 - b. A secure way of restraining access to those areas in case of a disaster;
 - c. Safety measures for healthcare personnel through the usage and distribution of appropriate equipment;
 - d. Adequate training for any equipment used by the Member State's healthcare personnel;

- e. Communication protocols between healthcare personnel and authorities to lessen the risk of additional people getting affected by the disaster;
 - f. Safety measures inside healthcare buildings and establishments to lessen contact with affected areas and materials and any human beings in said building or establishments;
15. *Strongly encourages* the establishment of a permanent Centralised Center for Nuclear Development (CCND) with a mandate to:
- a. Compose technical and training experts nominated by the IAEA to function in ways such as but not limited to forming a strengthened consensus on standardized training measures that can address the safety of working facilities, and encouraging Member States to support the expert workforce by allocating local experts to support the facilitation of training;
 - b. Enable consistent accessibility to necessary support throughout the year regardless of annual conferences for Member States wishing to train national human capital, and Member States hoping for information exchange between national experts of diverse levels;
 - c. Coordinate international action undertaken regionally and facilitate international cooperation creating multilateral consensus on training methods and fields in need of training;
16. *Urges* the organization of an annual centralized conference by the Centralised Center for Nuclear Development (CCND) for experts nominated by the individual Member States with the objective such as but not limited to:
- a. Sharing and acquiring knowledge between Member States;
 - b. Standardizing global emergency response procedures through consistent training sessions on nuclear standards and nuclear emergency responses;
 - c. Fostering international cooperation and creating a harmonious relationship between Member States;
 - d. International Nuclear Emergency Response Drills (INERDs) by creating high-fidelity simulations to improve protocols while respecting the specific needs of all Member States;
17. *Proposes* the expansion of current INSserv mission initiatives to include:
- a. Implementing nuclear training initiatives with and within individual Member States, including but not limited to general safety training for experts in the field (incorporating current INSserv missions), employees in positions sensitive to nuclear safety procedures, and medical professionals with relevant specializations;
 - b. Facilitating regional coordination between Member States in the implementation of these training initiatives, suggesting a strict international hiring system for all Member States to

individually implement, that applies to every interested professional willing to work in any nuclear reactor facility, having as requirements stress testing, several years of onsite training and excellency various courses or programs provided by IAEA;

18. *Promotes* public awareness of Member States in EPR initiatives through assistance from a task force through:
 - a. Equipping local administrative bodies in at-risk zones with proper emergency response plans, as well as the proper ways to communicate them to the population;
 - b. Providing educational resources to update populations of participating Member States on their respective governments' developments in the nuclear sector;
19. *Strongly advises* Member States to issue mandatory training for employees who work with radioactive material in tandem with IAEA decree No. 77/2018, or the regulation on the transport of radioactive materials, with a specific focus on packaging radioactive material, transporting radioactive material, emergency preparedness and proper response if radioactive material is lost;
20. *Establishes* a comprehensive Framework for the Management and Mitigation of Smaller Scale Nuclear Events (FMMSSNE), aimed at incidents classified at lower levels on the International Nuclear and Radiological Event Scale (INES), which:
 - a. Identifies specific protocols for the rapid assessment, reporting, and response to smaller-scale nuclear events to ensure timely mitigation and minimize environmental, health, and safety impacts;
 - b. Encourages Member States to develop national capacities for the early detection and management of such events through the provision of technical and financial support, training, and the exchange of best practices;
21. *Establishes* a global registry for small radiating materials to enhance traceability and accountability, reduce the risk of radiological exposure and contamination, and further standardize international guidelines for safety measures.



Code: IAEA/1/3

Committee: International Atomic Energy Agency

Topic: Maintaining and strengthening Emergency Preparedness and Response.

The International Atomic Energy Agency,

Recognizing, Article 3 of the International Atomic Energy Agency (IAEA) Statute (1956) that calls for the implementation of international standards and the need to cooperate for the pursuit of Sustainable Development Goal (SDGs) 7 (affordable and clean energy), SDG 9 (industry, innovation, and infrastructure), SDG 14 (life below water), SDG 15 (life on land), and SDG 16 (peace, justice and strong institutions),

Reiterating, IAEA resolution 2024/18, detailing the safe and proper handling of the situation with the Zaporizhzhia Nuclear Power Plant,

Emphasizing, the Director General's seven pillars for nuclear security in armed conflict and five principles recommended to the Security Council created to limit the possibility of a disaster in nuclear facilities situated in conflict zones,

Realizing, the importance of *The Convention on Nuclear Safety* (1994), which commits Member States to a high level of safety by establishing fundamental safety standards,

Solidifying, the General Conference (67)/RES/16 which cements the sensitivity of the matters at hand regarding the Zaporizhzhya nuclear facility,

Considering, that safety is identified as a crucial requisite for wellness and protection of all people and the environment according to the *Charter of the United Nations* (1945),

Conscious of Article 2 of the IAEA Statute (1956) that establishes the necessity of the contribution of atomic energy to peace health and prosperity around the globe,

Confirming, the importance of the *Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency* (1987),

Guided by the solutions of all regional groups and Member States, which can address conflict resolution universally such as the work of the European Nuclear Regulators Group (ENSREG) with their implementation of comprehensive risk assessments;

1. *Suggests* the establishment of a joint IAEA-Security Council Immediate Conflict Response Team with the purpose of maintaining the security of civilians around nuclear facilities in case of nearby conflict by implementing the use of relevant modern technologies;
2. *Establishes* an international training conference for Member States' active military members, organized by the IAEA and held yearly, this conference shall be funded by attending Member States and expertise be provided by the IAEA, in order to educate active military forces to gain an advanced understanding of EPR strategies, also advise any willing Member State to implement their own specialized military force for EPR practices furthermore urge all high-ranking military officials to gain knowledge in dealing with nuclear emergencies, all these information shall be provided by independent experts;

3. *Endorses* establishing an international nuclear and radiological emergency awareness day on the 1st of March in remembrance of the discovery of radioactivity;
4. *Reiterates* the importance of awareness campaigns in willing Member States focusing on spreading awareness to populations living in close proximity to nuclear facilities on safe practices in case of an emergency, this campaign should focus on water purification, safe consumption practices, safe use of radiation mitigation such as potassium iodide, and making radiological monitoring tools available to the general public;
5. *Proposes* the internationalization of compound risk assessment programs like the ENSREG's European Union Stress Tests in accordance with the IAEA Action Plan on Nuclear Safety to be authorized by the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE) to:
 - a. Facilitate and coordinate inter-agency cooperation in association with the Integrated Regulatory Review Service as a preparatory measure to any nuclear or radiological incident;
 - b. Evaluate political and geographical factors through inter-agency project progress assessment reports to assess conflict situations and risk level for nuclear and radiological facilities;
 - c. Promote the undergoing of appropriate communication tests, escalation plans, and disaster scenarios for each facility;
6. *Strongly Encourages* the continuation of upholding rigorously detailed and thorough reporting on current nuclear activity within facilities and developing nuclear technologies in conflict affected and occupied zones by:
 - a. Affirming that regular work is continued diligently to maintain the nominal status of the reactor(s) as the utmost importance of the facility by assuring that critical operations and utilities maintain functionality up to standard operation for the prevention hazardous conditions;
 - b. Calls for occupying forces not to prevent or impede existing domestic or professional reporting mechanisms and other nuclear safety infrastructure from being received by relevant receptive bodies for proper analysis and timely reactionary measures;
 - c. Urging all parties to maintain transparency and communication channels with relevant international bodies for the prompt sharing of information related to nuclear activities and safety measures;
 - d. Stressing the importance of providing adequate resources and support to the personnel working in nuclear facilities in conflict zones to ensure their safety and the security of the facilities;
 - e. Encouraging the development of regional cooperation mechanisms for the exchange of best practices and expertise in nuclear safety and security;
 - f. Condemning any dissemination of false or misleading information regarding nuclear reactors in conflict zones and calls for the promotion of accurate, science-based reporting to ensure public awareness and understanding of nuclear safety and security measures;

7. *Recommends* to the United Nations Security Council and other relevant bodies the establishment of humanitarian corridors from nuclear high-risk areas in the event of a conflict-related disaster with the intention to:
 - a. Urge parties engaged in conflict to allow the IAEA to conduct emergency communication to the public regarding nuclear safety in case of a conflict-related nuclear incident;
 - b. Endorse the distribution of life saving EPR resources by non-governmental organizations including, but not limited to, Geiger counters and iodine pills;
8. *Supports* the termination of conflict in and around nuclear power facilities, specifically following military activity causing damage to said nuclear power facilities, allowing for IAEA experts to assess damages and provide relief efforts while:
 - a. Promoting the implementation of enhanced security measures, such as increased patrols, surveillance, and access controls, to protect nuclear facilities from sabotage and unauthorized access during conflicts;
 - b. Encouraging Nuclear Member States in proximity or engagement in contact to coordinate closely with international partners, including the IAEA, relevant United Nations agencies, and regional organizations, to ensure effective response and coordination in the event of conflict-related incidents at nuclear facilities;
 - c. Urging Member States to develop and maintain contingency plans for the safe shutdown and management of nuclear facilities in the event of swift conflict-related incidents, including the evacuation of personnel and the surrounding population if necessary;
 - d. Calling for the practice of foresight in conflict engagement, including the implementation of cautionary prevention measures and the evaluation of safety considerations for continuing to run nuclear facilities during conflict situations, through thorough risk assessments, scenario planning, and regular review of emergency response plans and protocols;
 - e. Recommending the cooperation of nuclear facilities with the surrounding military forces to facilitate quick response and assistance in the event of conflict-related incidents, ensuring the safety and security of the facilities and the surrounding population;
 - f. Emphasizing the importance of protecting nuclear material and facilities from theft, sabotage, and other malicious acts during conflicts, and calls for the implementation of measures to enhance their security;
 - g. Recommending the integration of nuclear safety and security considerations into broader peacebuilding efforts in conflict-affected areas, to prevent the recurrence of conflicts and ensure the long-term stability and safety of nuclear facilities;
9. *Calls* for the implementation of a nuclear reactor conflict zone research center for encouraging the creation of an evaluative compound risk assessment for associated states engaged and in relative geographical proximity to impacted conflict zone nuclear facilities by considering factors including, but not limited to, proximity to the ocean and radial distance in respect to the productional magnitude of nuclear material;

10. *Supports* research and development efforts to develop new technologies and methodologies for enhancing the safety and security of nuclear facilities in conflict zones, including risk assessment tools, emergency response systems, and precise real-time monitoring technologies;
11. *Calls for* focused real time monitoring of high-risk parameters of measurable physical quantities such as working and restorative cooling temperatures, and all types of ionizing radiation propagating from active facilities;
12. *Encourages* collaboration between IAEA and the Security Council to implement immediate response security measures on nuclear facilities in case of escalation in contemporary conflict.



Code: IAEA/1/4

Committee: International Atomic Energy Agency

Topic: Maintaining and Strengthening Emergency Preparedness and Response

The International Atomic Energy Agency,

Observing the status and vulnerability of non-nuclear Member States to the risk of a release of nuclear or radioactive material in neighboring Member States,

Stressing the fragility of economies and environments in the Global South,

Cognizant that only 32 of the International Atomic Energy Agency's (IAEA) Member States possess nuclear power plants and aware that nonetheless, all Member States can be affected by radiological emergencies,

Recognizing the United Nations General Assembly resolution 78/44 (2023), which states that nuclear technology can cause consequences threatening humankind and reducing risks and preparing for accidents is therefore crucial, and the IAEA General Conference resolution GC(67)/RES/8 of 2023, underscoring the consequent need for IAEA support regarding nuclear emergency response, and resolution GC(67)/RES/7 of 2023, highlighting the importance of inter-agency contact and information exchange,

Guided by the United Nations Sustainable Development Goals (SDG) promise of leaving no one behind,

Guided by the SDGs promise of leaving no one behind established by General Assembly resolution 70/1 (2015) advocating for a world that includes every country regardless of its financial resources,

Recognizing the work of the IAEA's International Nuclear Security Education Network (INSEN),

Recognizing the efforts of the Joint Radiation Emergency Management Plan of the International Organizations,

Recognizing the IAEA's International School on Nuclear and Radiological Leadership for Safety which supports Member States' governments in training mid-career professionals regarding normal and emergency situations,

Recalling regional standards such as the European Nuclear Safety Regulators Group, especially their comprehensive risk assessments, which aim to identify vulnerable locations and possibly affected Member States,

Encouraged by the increased partnership of IAEA into the African and Arab region to help ensure that the nuclear material may be used safely,

Emphasizing the Technical Meeting on Artificial Intelligence (AI) for Nuclear Technology and Applications hosted by IAEA in 2021,

Observing the efforts of the IAEA's School of Radiation Emergency Management in strengthening regional and international capacity in responding to nuclear and radiological incidents and emergencies,

Recalling the efforts made by the IAEA to enhance the existing Emergency Preparedness and Response (EPR) systems by conducting exercises, such as the one undertaken in collaboration with the United Arab Emirates through the last level 3 Convention Exercise (Convex-3) in 2021, simulating a severe accident at one of the Member State's nuclear plants,

Recognizing that nuclear emergencies also arise from nuclear waste,

Emphasizing the importance of research and development of technologies that reduce and contain nuclear waste output, like Fast Neutron Reactors and other breeder reactor technologies, and collaboration between Member states with existing nuclear capacity and Member States in the Global South looking to expand their nuclear capacity in implementing these technologies,

Stressing the need for backup power generation in new nuclear power plants in the Global South, and further redundancies to prevent the risk of a meltdown in the event of a loss of power,

Stressing the importance of radiation reporting databases such as the IAEA's International Radiation Monitoring Information System and Marine Radioactivity Information System, both of which utilize data provided by scientists and Member States as well as collection from IAEA monitoring stations,

Emphasizes the importance of using AI early warning systems to ensure disaster preparedness in safe transport of nuclear and radioactive material,

Noting with concern the lack of resources available to the everyday citizens in the Global South during an atomic emergency,

Noting with regret that nuclear waste is excluded from the IAEA's definition of nuclear materials and risks seeping into the maritime borders of Member States in the Global South,

Alarmed by the fact that in 2022 the first nuclear power plant became the first of its kind ever to be targeted in a warring conflict,

Concerned with the threats posed by contemporary conflicts around nuclear facilities, the dangers of their mismanagement by hostile forces, and the need to ensure the plant can still provide power,

Alarmed by the 2009 cyber-attack with the use of the first known cyberweapon, Stuxnet, which was able to significantly cripple a nation's nuclear program through a targeted attack,

Alarmed by the incident in 2023 where a highly radioactive capsule was lost during transportation across Western Australia, highlighting vulnerabilities in the transportation and handling of nuclear and radiological materials, and underscoring the critical need for stringent safety protocols, enhanced tracking mechanisms, and immediate response strategies to prevent similar occurrences and ensure public safety and environmental protection,

Concerned with the hazards of dumping nuclear waste in the ocean, Member States with maritime borders are extremely vulnerable to radiological fallout that can be carried over through oceanic currents,

Noting with regret the 1999 Yanango Nuclear Accident that showcased the complex and atrocious health consequences that occur in the Global South,

Commending the Community of Portuguese Language Countries (CPLP) for modeling interstate communication frameworks for political, economic, and cultural relations between the Global North and South in the field of nuclear and radiological safeguarding frameworks,

Highlighting the achievements in fostering international cooperation through mechanisms such as Emergency Preparedness Review missions, Integrated Nuclear Infrastructure Review, and collaboration with the IAEA's Accident and Emergency Center,

Viewing with appreciation the 2022 note of the Africa Multi-Hazard Early Warning and Early Action System stating that it shall prospectively also cover the nuclear material dimension,

Recalling the European Union Council Directive 2014/87 (2014) European Atomic Energy Community (Euratom) Establishing a Community Framework for the Nuclear Safety of Nuclear Installations which established a European instrument for international nuclear safety cooperation complementing the Neighbourhood, Development, and International Cooperation Instrument on the basis of the Euratom Treaty,

1. *Recommends* amending the IAEA's Statute's universal definition of nuclear materials to include:
 - a. Special fissionable material to mean plutonium-239, uranium-238, uranium enriched in the isotopes 235 or 233, any material containing one or more of the foregoing, and such other fissionable material as the Board of Governors shall from time to time determine;
 - b. Uranium enriched in the isotopes 235 or 233, to mean uranium with nuclei count 235 or 233 or both in an amount such that the abundance ratio of the sum of these isotopes to the isotope 238 is greater than the ratio of the isotope 235 to the isotope 238 occurring in nature;
 - c. Source material to mean 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 Board of Governors shall from time to time determine;
 - d. Radioactive waste to mean uranium fuel once utilized in a nuclear power reactor, now spent and devoid of efficiency in electricity production encased within metal rods, it contains ceramic pellets of uranium-235, and low-level waste encompasses items contaminated with radioactive material or rendered radioactive through exposure to neutron radiation, despite being termed low-level, such waste may still harbor levels of radioactivity posing risks to both people and the environment;
2. *Encourages* incorporating the amended definition of nuclear materials to enhance proficiency in handling and safeguarding nuclear waste effectively;

3. *Establishes* a comprehensive Framework for the Management and Mitigation of Smaller Scale Nuclear Events, aimed at incidents classified at lower levels on the International Nuclear and Radiological Event Scale, which:
 - a. *Identifies* specific protocols for the rapid assessment, reporting, and response to smaller-scale nuclear events to ensure timely mitigation and minimize environmental, health, and safety impacts;
 - b. *Encourages* Member States to develop national capacities for the early detection and management of such events through the provision of technical and financial support, training, and the exchange of best practices;
4. *Advocates* for the sharing and provision of Small Modular Reactors (SMRs) among Member States, focusing on:
 - a. *Supporting* research, development, and deployment of SMRs as a sustainable and safe nuclear energy solution, emphasizing their benefits for electricity generation, desalination, and district heating in underserved regions;
 - b. *Establishing* a multilateral framework under the auspices of the IAEA for the sharing of technology, regulatory experience, safety standards, and operational practices related to SMRs;
 - c. *Promoting* international cooperation in the development of regulatory frameworks that facilitate the licensing, construction, and operation of SMRs, ensuring the highest standards of nuclear safety and security;
5. *Promotes* the research and development of AI for peaceful nuclear applications, by focusing on:
 - a. *Encouraging* the use of AI for assessment and analysis of different types of collected data:
 - i. Which data comes from a transparent flow of national and international databases facilitated by the organs of the IAEA;
 - ii. Including the following additions: weather reports, ideal reactor core temperatures, comprehensive risk assessments, war and disaster scenarios, and escalation plans;
 - iii. To be shared between the national institutions of the Global South and the organs of the IAEA so that the prognosis made by AI, based on the data collected, can be used as early warning systems in case of nuclear calamities;
 - b. *Encouraging* the use of AI for assessment and analysis of data collected from a transparent flow of national and international databases facilitated by the IAEA including weather reports, ideal reactor core temperatures, comprehensive risk assessments, conflict and disaster scenarios, and escalation plan, all of which is to be shared between the national institutions of the Global South and the IAEA so that the prognosis made by AI can be used as early warning systems in case of nuclear incidents;

- c. *Recommending* the bolstering of cybersecurity through the integrated use of AI, by:
 - i. *Proposing* integration of AI-based safety and cybersecurity standardized courses for nuclear facilities' staff and personnel on countering and protecting said facilities from cyberattacks in the Global South;
 - ii. *Suggesting* providing governmental and civic institutions with a government-created atomic energy-specific AI website to give civilians the opportunity to ask how to prepare and be responsive during a nuclear reaction;
 - iii. *Suggesting* that developing Member States seeking nuclear power production can request volunteer personnel from capable Member States through IAEA's level 3 Convention Exercises, which, led by cybersecurity personnel, would simulate a cyberattack where cybersecurity personnel would utilize AI to enhance security measures through notifications of potential unauthorized access threats to internal data;
 - d. *Urging* the IAEA to implement a globally available and accessible AI-based warning system that sends a signal to all Member States neighboring a country facing a nuclear event, especially at critical radioactivity levels in order to make collaboration and help more efficient through:
 - i. Creating globally available and accessible resources that incorporate AI to enhance established early warning systems of nuclear energy facilities;
 - ii. Applying the global databases and internet secure spaces of International Organizations, in order to be reached by any State and monitored in real-time, strengthening the collaboration with the Emergency Communications;
 - iii. Recommending the implementation of AI water detection sensors that can identify and analyze patterns in water to determine toxicity levels;
6. *Encouraging* Member States to establish alliances between the Global North and South, such as the CPLP in order to alleviate issues of nuclear power and waste management, and the reinforcement of EPR measures through:
- a. Establishing alliances through the identification of similar cultural, linguistic, historical, and economic interests;
 - b. Implementing forums over regional and national EPR frameworks within these groups for multilateral discussion among all Member States involved;
 - c. Organizing regular conferences concerning the implementation of such EPR frameworks to ensure the maintenance of collaborative efforts;
7. *Proposes* integrating AI safety and cybersecurity standardized courses for nuclear facilities' staff and personnel on countering and protecting said facilities from cyberattacks in the Global South;

8. *Encourages* the advancement of cybersecurity capabilities by placing an emphasis on mitigating the risk of plant workers unknowingly using electronics infected with malware by bad actors;
9. *Strongly Encourages* the use of AI, applying the global databases and internet secure spaces of International Organizations, in order to be reached by any State and monitored in real-time, strengthening the collaboration with the Emergency Communications;
10. *Emphasizes* the need for IAEA-led regional training programs, tailored to each region's needs which incorporate practical simulations to ensure emergency response team readiness;
11. *Urges* the need to establish a Nuclear Safety Training Center to serve as a hub for enhancing emergency preparedness and transport surveillance in south-developing Member States through international collaboration through:
 - a. Emphasizing the need for technical guidance tools powered by AI-based Data and exchanged information to strengthen nuclear safety;
 - b. Supporting the development of international reporting mechanisms and the creation of independent monitoring systems;
 - c. Establishing regional independent regulators to address potential emergencies;
12. *Recommends* establishing a Leadership for Development Ring implemented as part of the already existing IAEA School on Nuclear and Radiological Leadership for Safety, supported by the IAEA INSEN, that shall accumulate national knowledge, scientific findings and experts from different least developed countries (LDCs) and United Nations Member States to share and exchange the newest research results to work out solutions matching LDCs' needs;
13. *Further Recommends* the implementation of regional capacity-building programs modelled after successful initiatives by the African Commission on Nuclear Energy or the African Regional Cooperative Agreement for Research, Development, and Training related to Nuclear Science and Technology;
14. *Suggests* the expansion of the International School of Nuclear and Radiological Leadership for Safety by implementing joint international digital simulations titled "Atomic Danger EPR" for nuclear emergencies to promote best practices for the implementation of the IAEA's safety standards in the Global South, and training on supervising secure transport and monitoring nuclear waste storage;
15. *Encourages* information sharing via innovations and technology to the Global South, as well as transparency, concerning the exchange of knowledge, resources, and funds to secure the safe operation of nuclear facilities, especially in developing Member States;
16. *Recommends* that Member States explore the utilization of nuclear power and establish a pervasive and comprehensive regulatory state agency, accountable for overseeing all operations involving nuclear and radioactive material responsible for;

17. *Proposes* that Member States increase the implementation of aircraft-mounted Aerial Radiation Detection Systems around areas experiencing or at risk of a release of radioactive material to give local authorities and the IAEA advance notice of developments;
18. *Recognizes* the threat posed by nuclear waste to human health and the goal of the IAEA to accelerate and enlarge the contribution of atomic energy to peace, health, and prosperity throughout the world;
19. *Expresses readiness* to establish a program to formulate international standards that ensure a consensual and environmentally friendly system for the transportation and storage of nuclear waste;
20. *Suggests* the creation of special routes away from highly populated cities to avoid nuclear emergencies on a global level;
21. *Recommends* identifying weaknesses of a Member State's nuclear power plant and its surroundings, potentially implementing a 24/7 rapid response if an emergency strikes through:
 - a. Having quarterly inspections that could be recorded and kept by the IAEA,
 - b. Having research conducted on the power's location and drafting emergency response plans effective enough to respond to an emergency of a power plant and seeking the appropriate solution towards it;
 - c. Researching potential challenges like the geographic barriers and learning how could affect the response time;
 - d. Having a 24/7 rapid response team concentrated in countries that would desperately need an urgent response;
22. *Strongly Recommends* the promotion of systems protection to scrutinize vulnerabilities of developing nuclear energy prospects for Member States pursuing nuclear power, by maintaining a national inventory system with domestic jurisdiction over material within the state borders, operating a centralized response center to maintain continuous communications with both operators and transporters and monitor real-time performance conditions, and maintaining a quick response force for when an incident arise.



Code: IAEA/1/5

Committee: International Atomic Energy Agency

Topic: Maintaining and Strengthening Emergency Preparedness and Response

The International Atomic Energy Agency,

Paying Tribute to the victims of the 1986 Chernobyl reactor meltdown and the 2011 Fukushima nuclear incident as representing the deadly outcome of flawed emergency preparedness and response programs,

Recognizing the lack of nuclear and energy education and technology in developing and developed states and the necessity to provide access to information to develop safe and sustainable infrastructure in those areas,

Recalling that the International Atomic Energy Agency (IAEA) regularly holds exercises and training courses, known as Convention Exercises (ConvEx), to evaluate and enhance response arrangements and capabilities regarding nuclear and radiological emergencies,

Acknowledging the 2011 IAEA Action Plan on Nuclear Safety for not only strengthening Emergency Preparedness and Response (EPR), but also enhancing assessments of nuclear power plants' vulnerability to extreme external events,

Reaffirming the importance of using nuclear technology sustainably in developing healthcare research for all Member States through reiterating the importance of emergency preparedness and response in radiological healthcare in accordance with EPR standards,

Recognizing the importance of the Sustainable Development Goals (SDGs), especially SDG 3 (good health and well-being), and SDG 16 (peace, justice, and strong institutions) to promote supporting research and the incorporation of nuclear technologies, vaccines, and medicines for less developed Member States to ensure equal access to equitable healthcare research for all in accordance with the Doha Declaration,

Acknowledging that the Incident and Emergency System (IES) within the IAEA has organized roles for Member States in establishing official information exchanges, informing the public about nuclear accidents, coordinating inter-agency responses, and providing assistance to Member States in need,

Affirming Article II of the IAEA Statute for establishing the existential importance of EPR programs,

Recognizing previous actions to establish international standards for building Nuclear Power Plants (NPPs), such as No. SSR-2/1 (Rev. 1) that addresses the Safety of NPPs,

Referring to the exemplary efforts that the IAEA has encouraged through IAEA's Integrated Nuclear Security Support Plan (INSSP), which combines awareness of EPR through individual National Action Plans,

Emphasizing the guidelines of the Convention on Early Notification of a Nuclear Accident (Early Notification Convention), which promptly notifies the IAEA and other states that could be affected when any nuclear or radiation accident occurs by establishing a notification system to prevent transboundary release,

Emphasizing the foundations of risk assessment frameworks as seen by the European Nuclear Safety Regulators Group's (ENSREG) European Union (EU) "Stress Test" specifications,

Bearing in mind that generative Artificial Intelligence (AI) is highly versatile and is potentially able to aid with developing and strengthening new and better tools, and existing developments towards AI are underway to allow for the use of AI in operating in Nuclear Power Plants,

Appreciating the work of the Incident and Emergency Centre (IEC) in developing emergency preparedness, communication, and response to nuclear and radiological incidents and emergencies,

Recognizing the Inter-Agency Committee on Radiological and Nuclear Emergencies' (IACRNE) Joint Radiation Emergency Management Plan of the International Organizations for describing a common understanding of organizational action for response and preparedness arrangements,

1. *Suggests the* IAEA spread energy education and nuclear energy awareness through collaboration with the Energy Coalition (TEC), which strives to empower nonprofits to help all Member States promote energy efficiency in rural and urban areas:
 - a. With IAEA funding to provide financial and technical support to TEC to conduct study, research, and promotion in the field of energy efficiency in rural and urban areas of developing states;
 - b. By promoting awareness of Public Awareness Campaigns to ensure that every household is made aware of energy-efficient appliances through various media campaigns such as radio and satellite TV, most prominent in rural areas, due to the fact that by 2030, every rural Member State will be made aware of EPR;
2. *Calls upon* all able and willing Member States to promote educational improvement in the nuclear field through all available and applicable organizations, bodies, and programs, such as the IAEA School on Nuclear and Radiological Leadership, to create new professionals to achieve the best results in contamination and mitigation in case of nuclear emergencies;
3. *Suggests* increasing the number of ConvEx exercises available to Member States through ConvEx-1, ConvEx-2, and ConvEx-3 to improve the reaction time to nuclear and radiological emergencies;
4. *Directs attention* toward the goal of quality and assured service to those affected by radiation poisoning through reinvigorated and easily accessible radiotherapy programs in collaboration with the United Nations Scientific Committee on the Effects of Atomic Radiation to more accurately study the effects of radiation poisoning and the formulation of solutions towards addressing this issue;
5. *Affirms* the effectiveness of the practical application of radiation in medicine in the treatment of cancers and other such illnesses, including the formulation and strengthening of an accessible means for any citizen of all Member States to receive access to resources such as radiopharmaceuticals and radiotherapy, implementing SDG 3 (good health and well-being), ensuring equal opportunity to adequate healthcare for all in the instance of a nuclear incident;
6. *Calls for* increased collaboration among Member States to further support the implementation of SDG 3 (good health and well-being), in regards to supporting the research and incorporation of

medicinal nuclear technologies per the *Doha Declaration* on Public Health, reminded of SDG 16 (peace, justice, and strong institutions), ensuring universal access to ionizing radiation in healthcare per national legislation and international agreements, aiding in IAEA goals towards more robust use of infrastructure towards the goal of enhanced EPR;

7. *Invites* all able and willing Member States to adhere to a standardized set of data sharing when reporting nuclear accidents or radiation leakages, including specific data on the infrastructure and environment in which the accident took place, and to provide this standardized information to the IES to ensure assistance is deployed efficiently and accurately;
8. *Encourages* the creation of a task force by the IAEA to oversee IAEA standards in developing a National Weapons of Mass Destruction Response Unit that furthers EPR and accountability measures for Member States to adhere to;
9. *Recommends that* Member States implement, through the United Nations Office for Disaster Risk Reduction, current international standards for how NPPs are built to ensure conformity with the IAEA's EPR standards by 2035;
10. Recommends that every Member State with willingness and capabilities adopts an international standard for the construction of nuclear power plants in accordance with IAEA's policies through an international forum mandated by the United Nations Office for Disaster Risk Reduction by the year 2035;
11. *Encourages* Member States to analyze energy output based on real-time data through the usage of digital filters that categorize and optimize data, therefore strengthening EPR and preventing any kind of nuclear accidents;
12. *Urges* Member States to focus on the population and environment analysis when researching and implementing stress test assessments to minimize the impact of natural disaster-caused nuclear accidents, especially in least-developed countries and smaller Member States;
13. *Directs* the IACRNE to foster collaboration and cooperation among IAEA Member States, and to create an assessment and scoring system for nuclear emergencies;
14. *Suggests* the IACRNE develops a globally uniform numeric rubric, the Scale for Evaluating the Implementation of Nuclear Feedback (SEINF), through IACRNE to quantify Member States' nuclear EPR infrastructures, including evaluating risk assessment, training of employees, maintenance and innovation of nuclear facilities, and educational programs, allowing the identification of areas of improvement and the quantification of IAEA recommendations which would;
15. *Proposes* the IACRNE creates an accessible visual map by publishing the SEINF as the IAEA-based Assessment and Prognosis Tools where a score of 1-2 on the scale would be red, scores of 3-4 would be yellow, and a score of 5 would be green;
16. *Designates* IACRNE to create IAEA Stress Test frameworks modeled after ENSREG's EU "Stress Tests," to:
 - a. Coordinate inter-agency cooperation with the further integration of the International Regulatory Review Service to encompass technical assessments addressing climate

disasters, loss of electrical power including station blackout or ultimate heat sink failure, and severe management issues such as loss of cooling function and containment integrity;

- b. Utilize Progress Project Assessment Reports to determine a facility's response efficiency with communication tests, escalation plans, and disaster scenarios;
17. *Further exploring* the idea for Member States and the Nuclear Energy Agency to create a specialized IAEA Task Force through the IEC under the Response and Assistance Network which could be deployed within twenty-four hours in times of such crises to mitigate any delays in communication and response;
18. *Suggests* the establishment of IAEA Nuclear Activity Information Centers that will use cybersecurity Internet of Things algorithms to autonomously collect information monthly on Member States' nuclear programs and activity to improve the quality and effectiveness of receiving and collecting information;
19. *Calls Upon* Member States to evaluate the usage of AI to streamline its implementation through combining digital twins with AI methods to support the entire analysis system; which includes virtual representations of objects or systems that reflect physical objects, funded by the United Nations Office for Project Services, to simulate the capacity of nuclear facilities before their construction to confirm its conformity with the IAEA's emergency preparedness and response standard by 2035.



Code: IAEA/1/6

Committee: International Atomic Energy Agency

Topic: Strengthening and Maintaining Emergency Preparedness and Response

The International Atomic Energy Agency,

Considering the purpose of the International Radiation Monitoring Information System (IRMIS) to serve as a reporting body which allows for shared access among nuclear Member States relating to nuclear emergencies,

Acknowledging that in cases of nuclear incidents, future nuclear facilities could be rendered unusable and require containment and abandonment, facilitating the establishment of new nuclear facilities,

Recognizing that certain groups are particularly vulnerable to the effects of nuclear incidents, such as pregnant women, the elderly, those already afflicted with illness, and those without proper access to medicine (as defined by the Radiation Protection of Patients),

Taking into consideration the few methods of countering radiation sickness in even moderate dosages, with only Potassium Iodide, Prussian Blue, and Diethylenetriamine Pentaacetic Acid being viable treatments, although their efficacy can vary at higher doses of radiation,

Alarmed that the International Atomic Energy Agency (IAEA) has previously stated that 88% of radioactive material theft goes undetected,

Referencing the International Criminal Police Organization (INTERPOL) in the context of international protections and collaboration,

Considering previously developed systems such as the Power Reactor Information System (PRIS) and Radiation Safety Information Management System to monitor nuclear facilities and radiation distribution,

Realizing evacuation of an area without the knowledge of radiation and its dangers can be difficult and require extra measures,

Emphasizing the importance of global cooperation and harmonization on the subject of Emergency Preparedness and Response (EPR) guidelines in order to mitigate the harmful effects of a nuclear incident,

Noting In cases of extreme nuclear incidents (i.e. Chernobyl, Fukushima, Three Mile Island), evacuation can be extremely difficult, if not outright impossible due to lingering and permeating radiation,

Aware of radiation, which can propagate into groundwater, dirt, and other bodies, making habitation impossible for years, and in extremes, up to hundreds of thousands of years,

Alarmed by the lack of prospects for education on radiation and nuclear energy in areas where nuclear reactors are planned and education,

Acknowledges the *Convention on Nuclear Safety* (1996), especially Article 1, which enumerates the pursued objectives of the Convention,

Acknowledging the basis of the School of Radiation Emergency Management organized by the IAEA and Member States,

Determined to create a strong network between Member States and foster regional and international cooperation,

Pointing out that nuclear accidents can fastly grow into international problems, showing that all involved Member States should be supported in such cases, however the most vulnerable Member States should be able to access adequate support from the international community, as well as the needed financial resources to react to nuclear disasters not being available to all Member States and the lack thereof would leave Member States suffering the full blunt of a nuclear fallout,

Seeking to strengthen IAEA's monitoring framework to have a better supervision of nuclear facilities and countries nuclear security legal framework,

Recognizing the existing Country Programme Frameworks signed by individual countries to benefit citizen health,

Determined to create a strong network between Member States and foster regional and international cooperation,

Noting that hospital emergency departments in many Member States face challenges including lack of funding and infrastructure, leaving them unprepared for disaster or treating radiation poisoning,

Conscious of hospitals that might be considered inhospitable after a nuclear disaster if close enough to the site of the nuclear incident, requiring those affected to travel further and those already admitted to be transferred,

Keeping in mind the importance of utilizing information databases such as the Power Reactor Information System to keep track of both operating, and decommissioned power reactors,

Acknowledging the commendable work of the IAEA's Response and Assistance Network (RANET) in offering relevant advice and response actions for Member States afflicted by atomic disasters,

1. *Emphasizes* the need for inclusive access for Member States via a robust expansion of the IRMIS database that prioritizes transparency whilst maintaining security:
 - a. Expanding the IRMIS data access to include non-nuclear Member States in order to increase preparedness on a regional scale;
 - b. Desiring further data collection by creating a cache system in order to maintain a consistent and encompassing view of the state of nuclear reactors and plants;
 - c. Improving cybersecurity measures of the IRMIS by caching which Members States access data in order to allow for efficient tracking of how the IRMIS data is shared and implemented;
2. *Suggests* the integration of existing information systems such as the PRIS to monitor the operating situation and their functions for predicting nuclear emergencies, as well as the RASIMS to record information during the transportation of radioactive materials;

3. *Calls for* Member States to swiftly evacuate citizens in the affected area, with help from the international community through the establishment of an Emergency Evacuation Committee:
 - a. Declares accordingly that Member States in close proximity to the nation of the incident's origin and Member States willing to contribute to relief efforts can be assigned to this committee;
 - b. Notes that the affected area will be defined as a 50 kilometer radius around the initial site of the nuclear incident, with the potential to be expanded or decreased based on the committee's discretion;
4. *Aims for* the collaborative expansion and standardization of EPR standards on a regional level through the consideration of a region's specific needs and qualities by the IAEA;
5. *Recommends* Member States to collaborate with INTERPOL and regional law enforcement specializing in responding to unauthorized use of radioactive material;
6. *Encourages* the exploration into radiation sickness prevention and curing by all Member States, as well as the widespread adoption of radiation detection devices;
7. *Urges* all Member States to increase the capability to react to nuclear disasters of developing Member States by:
 - a. Increasing the funding for the IES to strengthening their capability to react on international nuclear disasters;
 - b. Redirecting resources from the IAEA's Technical Cooperation Fund to the IES if those are needed cases of international nuclear disaster;
8. *Supports* strengthening of IAEA's monitoring framework to have a better supervision of nuclear facilities and countries nuclear security legal framework;
9. *Proposes* the establishment of a permanent teaching and research body specializing in nuclear technology that would:
 - a. Focus on the development of technologies and research directed to peaceful uses of nuclear energy;
 - b. Foster collaboration at a national, regional and international level through regional branches;
 - c. Seek to cooperate with existing bodies such as the European Union Chemical Biological Radiological and Nuclear Risk Mitigation Centres of Excellence Initiative, the Association of Southeast Asian Nations Centre for Energy, the IAEA Nuclear Security Training and Demonstration Centre for terrorism response, and regional Nuclear Security Support Centres;
10. *Expresses* support for the development of regional and national incentive-based research and initiatives aimed at the expansion and development of existing training programs in collaboration with the IAEA School of Radiation Emergency Management, by inviting Physicists and Engineers to countries' High Schools and Universities to give seminars on contemporary nuclear technologies for the peaceful use of nuclear energy;

11. *Further encourages* the IAEA-funded atomic energy and radiation training programs to be more active within developing Member States:
 - a. Invites developed Member States to provide willing financial support towards the developing Member States in order to facilitate IAEA-funded atomic energy and radiation training programs;
 - b. Encourages developed Member States to solicit funding opportunities from their neighboring developed States;
12. *Recommends* strengthening existing IAEA frameworks and national programs for hospital and healthcare staff in preparation for nuclear disaster that:
 - a. Include support of radiation departments for key hospital locations to ensure preparedness in the face of radiation poisoning;
 - b. Provide proper personal protective equipment for staff members following IAEA radiation specifications outlined in the IAEA Safety Standards Series No. GSR Part 3;
 - c. Improve existing national training programs and protocols following the IAEA Systematic Approach to Training that prepare hospital and healthcare staff for proactive action before the occurrence of nuclear accidents;
13. *Welcomes* utilizing funding program subsidies, such as RANET, to upgrade and expand pre-existing, short-term IAEA support networks to support long-term assistance for Member States devastated by nuclear disasters through:
 - a. increasing expert and stakeholder involvement in rebuilding processes;
 - b. furthering comprehensive medical care;
 - c. leveraging existing nuclear task forces that are trained to handle radioactive contamination and nuclear cleanup.



Code: IAEA/1/7

Committee: International Atomic Energy Agency

Topic: Strengthening and Maintaining Emergency Preparedness and Response

The International Atomic Energy Agency,

Noting with concern that the aims of the *2030 Agenda for Sustainable Development* (2015) will not be realized on time if swift actions are not taken as a collective United Nations body,

Commending the Member States working towards Pact Zero of the September 2024 Summit of the Future conference to address the time-sensitive nature of our current progress in realizing the 17 Sustainable Development Goals (SDGs),

Recalling the Report of the United Nations Scientific Committee on the Effects of Atomic Radiation 78/24 (2023) that explores the potentially harmful effects on present and future generations resulting from the levels of radiation to which humankind and the environment are exposed,

Taking note of its resolution GC(66)/RES/7 (2022) that considers the nature of nuclear security, including physical security, according to the objectives of the Code of Conduct on the Safety and Security of Radioactive Materials to emphasize the management of nuclear facilities and their materials to prevent the risk of all radiation exposure,

Noting the importance of implementing emergency preparedness and response mechanisms and developing mitigation measures at a national level, following the Agency's recommendations, for increasing communication in an emergency and harmonizing responses by all actors, including the general public, following its resolution GC(55)/RES/9 (2011),

Noting the benefits of GC(66)/RES/9 (2022) and GC(59)/RES/9 (2015) in embracing the development and proliferation of new technologies for both information sharing and nuclear safety applications to emerging powers,

Reminding fellow Member States of the importance of existing universal IAEA standards of communication outlined by Incident and Emergency Centers (IEC) Operating Groups to ensure cooperation in case of a nuclear incident, considering their rapid escalation and unbounded nature,

Recognizing the effective existing frameworks of nuclear education that are sustainable and aligned with the needs of different regions involved, such as the AFRA-Network for Education of Nuclear Science and Technology and the Regional Network for Education and Training in Nuclear Technology,

Cognizant of the growing importance of nuclear power as a sustainable energy source to combat climate change and to ensure a stable energy supply, following SDG 7 (affordable and clean energy), as mentioned in the IAEA document "Nuclear Power for Sustainable Development," the benefits of nuclear energy are established by the report "Nuclear energy for a net zero world" from the IAEA, who calculated that the use of nuclear energy avoided 70 Gigatonnes of CO₂ in the past 5 decades,

Viewing with appreciation the structure of the Memorandum of Understanding between the IAEA and the European Atomic Energy Community as a substantial regional framework to react collectively towards emergencies via peer-reviewed prevention methods, implementation of the IAEA Nuclear Safety Action Plan, and establishing cooperation across its members,

Concerned by the lack of accessibility and infrastructure afforded to the Global South with regards to the IAEA Network of Analytical Laboratories for which all 24 laboratories exist outside of Africa and South America,

Aware that the development of new infrastructure requires comprehensive information sharing and education programs regarding prevention and preparedness in case of a nuclear disaster, capable of providing students with data,

Reiterating the importance of SDG 9 (industry, innovation, and infrastructure), which aims to develop resilient infrastructure and foster innovation,

Expressing its deep concern over the lack of emergency preparation and emergency procedure education for citizens, which leads to a large percentage of populations being uncertain of what to do during a radiological emergency as noted in *Knowing the unknowns: Uncertainties during radiological emergencies*, Citizens who are properly informed can be properly prepared, and work better with authorities during emergencies minimizing risk,

Keeping in mind how the current structure of the IAEA technical cooperation program is built upon bilateralism, missing the opportunity for multilateral exchange,

Concerned by the lack of regional frameworks for emergency preparedness and response relating to the development of a nuclear program, specific to developing nations in the Global South,

Recognizing the lack of infrastructure which developing Member States have to manage the precarious situation that is the release of radioactive material or radiation contamination,

Bearing in mind the development and emergence of Small Modular Reactor technology, which according to the IAEA, reduces build time, cost, and complexity of nuclear power generation,

Aware of the need for the consideration of efficient and regionally specialized transportation when establishing a nuclear program in order to best uphold existing safety standards and guidelines,

Alarmed that since 1993, there have been 344 reported incidents of theft of nuclear and radioactive materials that were likely to be intended for malicious use,

1. *Encourages* the enhancement of universal standards of communication and technology outlined by the IAEA Communication and Consultation with interested parties by Regulatory Bodies Safety Standards to ensure nuclear disasters can be minimized and prevent further damage in neighboring countries, which can be achieved through:
 - a. The expansion of the Incident and Trafficking Database to include all incidents related to radioactive infrastructure as well as information about the context and causes of such incidents;
 - b. The expansion of existing regional networking frameworks regarding knowledge sharing and the prevention of nuclear disasters, such as the International Radiation Monitoring Information System and Emergency Preparedness and Response of Information Management System;
2. *Calls for* the expansion of IAEA's Network of Analytical Laboratories (NWAL) within the Global South with the aim of increasing the capacity to analyze samples relevant to quality control and the verification of the correctness and completion of States' nuclear material declarations via:

- a. The allocation of laboratory resources for already existing nuclear laboratories within the Global South to assist such facilities in achieving NWAL certification to assess samples such as:
 - i. Solid, liquid, or gas samples derived from facilities subject to IAEA safeguard inspections;
 - ii. Environmental samples acquired during the verification process at such facilities;
 - b. Assistance in the creation of new laboratory facilities with the goal of achieving NWAL certification in order to account for future increases in demand for sample analysis of those types previously listed;
3. *Stresses the importance* of enhancing the IEC framework by implementing National Emergency Coordination Centers in every Member State in the local vicinity of nuclear plants delimited by World Nuclear Association experts who would:
- a. Enhance standardized reporting procedures for ConvEx-1, ConvEx-2, and ConvEx-3 aimed at assessing response capabilities, utilizing a voluntary three-level graded approach in which the results would be collected in the Assessment and Prognosis Tools Database to create a visual three-color map in which red would signify an immediate need for action; yellow would indicate areas requiring improvement and green would demonstrate satisfactory response capabilities;
 - b. Collaborate with IAEA to develop and maintain a comprehensive database accessible to all Member States, categorizing response capabilities and vulnerabilities across various spheres of danger such as but not limited to counterterrorism, cyber-security, climate crises/sustainability, physical protection of workers, physical protection of the equipment of the facilities whilst maintaining respect for state sovereignty;
4. *Further calls* for the implementation of standardized tests for the storage of nuclear waste to prevent involuntary leakage of potentially radioactive substances into the environment, with a focus on enhancing monitoring, inspection, and regulatory oversight to ensure compliance with international safety standards and mitigate the risks associated with nuclear waste management by:
- a. Establishing clear criteria for conducting standardized tests, including but not limited to:
 - i. Evaluation of structural integrity and containment measures of storage facilities;
 - ii. Assessment of operational procedures for handling and storing nuclear waste;
 - iii. Examination of emergency response plans and mitigation strategies for potential leaks or accidents;
 - b. Ensuring regular and systematic inspections of nuclear waste storage sites, employing advanced monitoring technologies and methodologies to detect any signs of degradation or leakage;
 - c. Strengthening regulatory frameworks and oversight mechanisms for nuclear waste management, incorporating international best practices and standards to ensure the safe and secure storage and disposal of radioactive materials;

- d. Mirroring the previously outlined initiative of compiling an online platform within the IAEA framework that shows the level of security of nuclear waste storage facilities, categorized in:
 - i. Red to Signify an immediate need for action;
 - ii. Yellow to Indicate areas requiring improvement;
 - iii. Green to Demonstrate satisfactory standards;
 - e. Providing technical assistance and capacity-building support to Member States, particularly those with limited resources and expertise, to enhance their capabilities in conducting standardized tests and implementing effective nuclear waste management practices;
5. *Proposes* a new task force of emergency mobile vehicles equipped with Radiation Detection Equipment posted in various outposts near transport of radioactive material routes and nuclear power plants to assess, control, and alarm efficiently, which would streamline coordinated responses in case of an accident;
6. *Emphasizes* the need for expanding the existing IAEA technical cooperation program by:
 - a. Strengthening technical cooperation between nuclear Member States and those planning to build nuclear reactors;
 - b. Prioritizing multilateral cooperation, allowing for a more efficient and diverse exchange;
 - c. Using the most up-to-date AI technology to predict possible danger on collected data, for example for faster weather reports;
 - d. Sharing resources such as financial aid and knowledge about information technology through an international platform to collect radiation data which allows a survey of the environmental impact of radioactive material;
 - e. Encouraging Member States with developed civilian nuclear programs to provide informational, technological, and general logistical support to Member States who express a willingness and ability to take on the responsibilities of housing their own civilian nuclear programs;
 - f. Urging Member States with fully developed civil nuclear programs to provide bilateral technical and financial support and guidance to countries that seek to start a nuclear civil program to ensure that the programs are developed in a safe manner that upholds all safety regulations;
7. *Recommends* implementing more stringent monitoring of nuclear reactors, in conflict zones, along the lines of GC(53)/DEC/13 (2009) and Article 56 Protocol 1 of the Geneva Convention, with the goal of establishing operational seismic-acoustic stations near nuclear reactors, for them to provide better and complete data analysis, either seismic or acoustic only, in order to elevate the performance of long-distance monitoring, and response and reaction;

8. *Recommends* Member States invest in research programs studying the most effective ways to ensure citizens are informed of how to prepare for and what procedures to follow during an emergency, and then implement those methods to inform and educate citizens;
9. *Supports* the research and development, jointly formulated through the collaboration of emerging and developed powers, of a new safety framework for emerging and more accessible civilian nuclear technologies such as Small Modular Reactors to ensure the future generation of reactors are a safe and viable option for all nations but most importantly emerging powers; we encourage Member States to follow the consulting from the non-governmental organization World Nuclear Association in order to coordinate common research programs about nuclear energy that:
 - a. Explore the reasonability of emerging civilian nuclear technologies in regions that are subject to extreme weather events as a result of the worsening climate crisis;
 - b. Examine the viability of installing extreme weather-adapted small modular reactors on floating barges or platforms, referred to as floating nuclear power plants;
10. *Encourages* financial partnerships between Member States and private energy sectors to:
 - a. Encourage investment incentives such as subsidies, and lower interest rates established by the IMF for Member States wishing to decarbonize their energy sectors through nuclear plants;
 - b. Expand on the IAEA TEC Doc series: “Mentor and Coaching for Knowledge Management in Nuclear Organizations” (1999) to develop education objectives for emerging powers oriented towards measuring the progress of training development for both mentors and mentored to:
 - i. Allow for the evaluation of accomplishments within EPR training, allowing for continual reviewing and improvement of EPR knowledge transfer and identification of key areas for improvement in the nuclear power initiatives of emerging powers;
 - ii. Streamline cooperation between international organizations such as but not limited to the CANDU Owners Group or the World Association of Nuclear Operators;
11. *Emboldens* the precedent set by frameworks such as the Bamako convention and Basel convention, which prohibits the unsafe use of nuclear and industrial wastes in the Global South via the creation of similar treaties by:
 - a. Prohibiting the exportation of nuclear waste to Member States in the Global South in order to prevent environmental and humanitarian disasters;
 - b. Recycling nuclear waste in order to combat the pressing issue of nuclear waste storage while promoting sustainable renewable fuel sources.



Code: IAEA/1/8

Committee: International Atomic Energy Agency

Topic: Maintaining and Strengthening Emergency Preparedness and Response

The International Atomic Energy Agency,

With great respect and appreciation for the Convention on the Physical Protection of Nuclear Material (1987) and its 2005 Amendment, the Convention on Nuclear Safety (1996), the Convention on Early Notification of a Nuclear Accident (1986), the Joint Convention on the Safety of Spent Fuel Management (2001), the Safety of Radioactive Waste Management, and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (1987) in paving the way to a safer nuclear future,

Recognizing the importance of collaborative efforts to improve regional association and bilateral information sharing regarding emergency preparedness, early warnings, and response, in accordance with Sustainable Development Goal (SDG) 17 (partnership for the goals), within the IAEA Emergency and Preparedness Response Information Management System,

Appreciating the advantages of regional associations and bilateral cooperative agreements to promote nuclear energy capacity building in Member States seeking to advance their utilization of nuclear energy in keeping with SDG 7 (affordable and clean energy),

Stressing the importance of SDG 11 (sustainable cities and communities) target 5 that strives to significantly reduce the number of deaths and people affected by natural disasters,

Calling to attention the global disparity between developed and developing Member States with regard to capacity in nuclear energy resources and infrastructure,

Noting with empathy the concerns and skepticism of Member States with limited or no nuclear capacity who have neighbors with established and/or nuclear energy capacity,

Emphasizing the importance of national sovereignty in energy infrastructure and the destabilizing potential of overregulation of the nuclear energy sector,

Acknowledging that there are major nuclear accidents such as the Fukushima Daiichi reactor in 2011 have been caused by natural disasters and that natural disasters pose a significant risk to nuclear power plants,

Bearing in mind the existing stress test assessments in response to Fukushima Daiichi and their importance to establishing future research methods for nuclear preparedness,

Alarmed by IAEA's estimate the more than 300 nuclear power plants currently under construction in Member States with insufficient safeguards or emergency plans implemented,

Recognizing the paramount importance of the modernization of operational nuclear facilities as a preventative measure to ensure emergency preparedness,

Affirming that regional associations are most appropriate for responding to potential nuclear catastrophes, as nuclear malfunctions may become catastrophic in mere hours,

Reaffirming the importance of inspections of nuclear energy facilities be conducted by the IAEA or an IAEA authorized body in the interest of emergency preparedness when called upon by Member States,

Reasserting that any site inspections, surveillance, or inventory reporting to IAEA or any other international body be conducted on a voluntary basis,

Noting with admiration the work of researchers on IAEA Coordinated Research Activities and Coordinated Research Projects, who are continually innovating on atomic energy safety worldwide,

1. *Encourages* Member States to uphold their commitments to or consider joining the Global Nuclear Safety and Security Network, *Convention on the Physical Protection of Nuclear Material* (1987) and its 2005 Amendment, the *Convention on Nuclear Safety* (1996), the *Convention on Early Notification of a Nuclear Accident* (1986), the *Joint Convention on the Safety of Spent Fuel Management* (2001), the *Safety of Radioactive Waste Management*, and the *Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency* (1987) to promote innovative and multilateral nuclear safety measures;
2. *Encourages* Member States to take ownership of the implementation of nuclear energy protocols that prioritize the economic, environmental, social, and physical safety of their communities in keeping with existing internal protocols, IAEA regulations, and best practices in collaboration with any private or public entities;
3. *Invites* Member States to provide monetary, material, and educational support of their choosing to willing international partners to promote the development of Emergency Preparedness and Response systems, disaster relief, and modern infrastructure to effectively withstand potential disasters with respect for national sovereignty and autonomy;
4. *Endorses* the creation of new regional information-sharing systems where current systems are insufficient or non-existent by creating mechanisms by which Member States may freely share information to promote and maintain emergency preparedness, in accordance with the IAEA mandate and with respect to national sovereignty and vital national security interests;
5. *Suggests* the implementation of regularly updated active registries in regard to radioactive materials, while consecutively maintaining the digital sovereignty and privacy of Member States;
6. *Recommends* the utilization of regional-focused conferences and training activities to allow for the sharing of research and development breakthroughs to promote the safety and efficiency of nuclear energy in collaboration with existing IAEA Coordinated Research Activities;
7. *Urges* Member States to develop and research stress test assessments for all nuclear facilities within their borders to minimize the risk of a nuclear accident if an extreme natural disaster such as an earthquake, tsunami, tornado, or flood or an internal incident such as loss of the grid power, leakage of cooling water, and criticality of the reactor core were to occur;
8. *Reaffirms* the importance of developing and further investing in technologies that expand on:
 - a. The investment in developing advanced seismic isolation and damping technologies to enhance the ability of nuclear plants to withstand earthquakes, using innovative materials, structural designs, and base isolation systems that absorb and dissipate seismic energy;
 - b. The development of advanced robotics, unmanned aerial vehicles, and remote sensing technologies made to withstand high doses of ionizing radiation by Member States with nuclear capacity for conducting rapid damage assessment, radiation monitoring, and emergency repairs in hazardous environments following natural disasters;
 - c. The utilization of modern environmental sensing techniques to monitor environmental conditions around nuclear plants, including changes in vegetation cover and water levels that may indicate increased flood or landslide risk and report concerning ecological conditions to the respective nuclear power plant emergency preparedness leadership;
 - d. The advancement of research of closed nuclear fuel cycle to enhance nuclear energy safety and efficiency;

- e. The advancement of research into alternative nuclear power solutions such as Small Modular Reactors (SMRs) to promote affordability and safety for Member States seeking to start or start or grow their nuclear energy capacity;
 - i. Through encouraging collaboration among Member States, international organizations, and relevant stakeholders to facilitate the voluntary sharing of knowledge, expertise, and best practices in the development and research of SMR safety systems;
 - ii. By promoting implementation of pilot projects and demonstration facilities to validate performance and safety of SMR safety systems under real world conditions;
 - iii. Via employment and operation of SMRs, including considerations for emergency preparedness, cybersecurity, physical infrastructure, and radioactive waste management;
 - iv. By promoting public awareness to increase understanding and acceptance of SMRs as a viable and sustainable addition to traditional nuclear power plants.



Code: IAEA/1/9

Committee: International Atomic Energy Agency

Topic: Maintaining and Strengthening Emergency Preparedness and Response

The International Atomic Energy Agency,

Recalling the 2030 Agenda for Sustainable Development (2015), particularly Sustainable Development Goal (SDG) 3 (good health and well-being), SDG 7 (improve affordable and clean energy), SDG 9 (promote industry, innovation, and infrastructure), SDG 11 (create sustainable cities and communities), SDG 14 (protect life below water), SDG 16 (promote peace, justice and strong institutions), and SDG 17 to create strong global partnerships for the goals,

Taking into consideration resolution General Conference (GC) (67)/RES/7 (2023) and previous GC resolutions on matters in relation to measures to strengthen international cooperation in emergency preparedness,

Fully aware that the objectives of the International Atomic Energy Agency (IAEA), as stated in Article II of the Statute and to ensure that the assistance provided by it is not used “to further any military purpose,”

Recognizing a Member State’s right, consistent with Chapter I, Article 2 of the Charter of the United Nations (1945), to determine their own course of action to fight climate change and that energy generation is a matter of state sovereignty, and that some Member States are currently utilizing nuclear energy,

Acknowledging the humanitarian suffering which occurred in the atomic incidents of Chernobyl, Three-mile Island, and Fukushima,

Underlining the vulnerability of nuclear power plants to political and armed conflict, as seen in Ukraine at the Zaporizhzhia power plant and other Nuclear Power Plants (NPP),

Considering the central role of the Agency in coordinating and supporting stakeholders in strengthening their efforts to enhance nuclear safety globally, in providing expertise and advice in this field and in promoting nuclear safety,

Noting that construction, operation and decommissioning of NPPs is complex to manage for less developed states due to resource and land requirements,

Recognizing the potential for mismanagement during decommissioning that could result in further environmental and humanitarian crisis and the value of IAEA guidelines such as Specific Safety Requirements Part 5 (SSR-5), Disposal of Radioactive Waste, and General Safety Requirements Part 6 (GSR-6), Decommissioning of Facilities as they relate to nuclear waste disposal, especially in the situations of decommissioning,

Emphasizing that the current system of notification in the case of an emergency is the vital infrastructure provided by the International Radiation Monitoring Information System (IRMIS),

Taking into consideration the substantive and intensive work of the Preparedness Group and the Incident and Emergency Center of the IAEA’s Incident and Emergency System (IES),

Highlighting the importance of the work done by the IAEA Marine Environmental Laboratories, specifically the development of the Marine Radioactive Information System (MARIS) and its positive impact towards the achievement SDG 14 (life below water) and the need for a world-wide, open-access availability of MARIS data as an important element in guaranteeing an effective emergency response,

Noting with concern that there were 189 instances of unauthorized nuclear and radioactive material activities as per IAEA's Incident and Trafficking Database 2021 Report,

Underlining SDG 7 (affordable and clean energy) by taking necessary actions to promote the safe and clean use of nuclear energy by expanding IAEA regulations surrounding Medium-term Strategy,

Contemplating the work done by the IAEA Emergency Response Preview (EPREV) program to help member state further their Emergency Preparedness and Response (EPR) through theoretical and practical formations,

Acknowledging the Economic and Social Council (ECOSOC) Committee of Experts on the Transport of Dangerous Goods that ensures standardized classification and labeling of nuclear material,

1. *Further recommends* adhering to the IAEA Safety Standards on Emergency Preparedness and Response to:
 - a. Prevent harmful effects of ionizing radiation in a crisis situation in the goal of protecting public life, health, and environment;
 - b. Collect and disseminate information to Member States concerning methodologies, techniques, and research results;
2. *Suggests* Member States to seek to employ nuclear energy and establish state-agencies accountable for all aspects of the nuclear and radiological life cycle by:
 - a. Creating a national inventory system to track material as it moves throughout a state;
 - b. Maintaining an emergency response center with line of sight on both nuclear operators and transporters focused on:
 - i. Sustaining a deployable quick reaction force to address emergent issues;
 - ii. Further sustaining both telecommunications and monitoring capabilities on nuclear operators and transporters;
 - c. Joining existing regional and global communication frameworks for the expedient dissemination of information to Include the European Union Urgent Radiological Information Exchange and those like it;
 - d. Implementing and influencing policy within the state through biannual reviews of accidents, inspection regimens, licensing Schemes, stress tests;
 - e. Being subject to the IAEA regulatory framework and its convention;
3. *Establishes* a working group under the supervision of the secretariat of the IAEA to assess the viability of exploiting nuclear energy as opposed to alternative energy means:
 - a. To include cost assessments with the purpose of arriving at the most economical option;

- b. To include predictive natural disaster risk assessments using data from the World Meteorological Association that consider climate change and the worsening crisis with a focus on:
 - i. Including environmental and seismic conditions;
 - ii. Risk from rising sea water due to climate change;
 - iii. Effect on the local environment and populace;
 - c. To Share best practices in regard to, cooling systems, public transparency, adequate education on emergency response;
4. *Requests* the expansion of guidelines on the safe decommissioning of NPPs and distribute them to all Member States;
5. *Recommends* educating Member States who may be decommissioning their nuclear power plants on how to do so safely and efficiently in accordance with GSR-6 guidelines for emergency response in cases of decommissioning;
6. *Considers* vulnerability and reliability during the transport and storage of nuclear waste from decommissioned NPPs in EPR planning;
7. *Calls upon* Member States to commit an agreeable percentage of their IAEA budget to fund the expansion of the essential IRMIS radiation detection infrastructures;
8. *Requests* the expansion of these IRMIS systems to a concentration of 1 per 100 square kilometers in participating Member States;
9. *Fully supports* Member States to participate in educational training programs provided by the IAEA to greatly increase efficiency in emergency response by:
 - a. Including training on how to read the data received from IRMIS;
 - b. Training on Installation and operation of IRMIS;
 - c. Training on how to upload, store, and share information with proper local authorities and other Member States;
 - d. Further including first response stratagems;
10. *Encourages* Member States to join relevant regional safety fora and networks, and to participate and work in cooperation with other members to:
 - a. Gain benefits of membership and international cooperation;
 - b. Establish and maintain the functioning of such fora and networks while the Member States continue requesting the assistance of the Secretariat;
11. *Further invites* the IES Preparedness Group in collaboration with regional and national nuclear safety organizations to develop a roadmap for regional cooperation in radiological and nuclear safety Emergency Preparedness and Response by:

- a. incorporating different regional specialties and landscapes;
 - b. promoting harmonization of arrangements and development of necessary infrastructure and capacities;
 - c. strengthening IAEA guidelines SSR-5 for the disposal of nuclear waste with different regional needs;
12. *Recommends* to the IAEA Preparedness Group in collaboration with regional and national nuclear safety organizations to develop a roadmap for regional corporations in radiological and nuclear safety EPR by:
- a. incorporating different regional specialties and landscapes;
 - b. promoting harmonization of arrangements and development of necessary infrastructure and capacities;
13. *Endorses the call* to enlarge the analytic tasks of the Incident and Emergency Centre of the IAEA's IES, consisting in IES Preparedness, its Operations, the IAEA's Member States preparedness and emergency communications and outreach, by providing:
- a. additional data on response times and effectiveness of operators through case studies and postoperative evaluations through IRMIS;
 - b. technical assistance as well as designating focal points to address specific types of emergencies to further the SDGs 16 (peace, justice and strong institutions) and 17 (partnerships for the goals);
14. *Calls upon* Member States to include climate change projections to improve emergency preparedness and responses:
- a. Incorporating environmental concerns in the drafting of EPR proposals such as weather patterns, seismic activity, and the behavior of the sea;
 - b. Recommends Member States to collaborate with the Commission on Sustainable Development to review their climate change projections embedded in their EPR measures;
15. *Fully supports* the expansion of the focus of MARIS open-access database established by the IAEA Marine Environmental Laboratories in Monaco in order to ensure that radioactive contamination in marine and inland waters, also caused by human activity does not go undetected, through:
- a. Expanding MARIS through a new research field named Artificial Radioactivity in Waters, focusing on water samples taken by IAEA scientist in water regions close to nuclear facilities in specific intervals to be determined by the IAEA;
 - b. Ensuring rapid detection and response time in cases of nuclear emergencies;
 - c. Providing financial means through the funds earmarked for SDG 14 (life below water) and voluntary contributions from Member States, highlighting the financial contributions and new facilities provided by Monaco for MARIS;

16. *Recommends* Member States to collaborate with the interregional agencies to create the Nuclear Reactors Emergency Team as an international contingency team that:
 - a. shall specialize in response to accidents that occur during the operation of nuclear reactors;
 - b. shall report to IAEA and the relevant stakeholders in cases of an emergency;
 - c. shall be funded by Member States' voluntary contributions;

17. *Recommends* enhancing IAEA's existing programs and request the participation of various United Nations bodies in order to monitor nuclear waste management facilities' in-site and off-site emergency plans, by:
 - a. Expanding the IAEA EPREV program to appraise Member States level of preparedness for emergency regarding nuclear waste management facilities;
 - b. Encouraging the Member States to work with the ECOSOC Committee of Experts on transport of dangerous goods to analyze their management of nuclear waste disposal, labeling and risk classification;

18. *Requests that* Member States introduce and expand modern technologies to monitor nuclear power production as well as ensure emergency preparedness by:
 - a. *Implementing* artificial intelligence-based information tracking based on factors such as weather and consumer demand;
 - b. *Utilizing* secure international communication such as encrypted channels, virtual private network-systems to protect sensible data from unauthorized access.



Code: IAEA/1/10

Committee: International Atomic Energy Agency

Topic: Maintaining and Strengthening Emergency Preparedness and Response

The International Atomic Energy Agency,

Underlining the International Atomic Energy Agency's (IAEA) Technical Cooperation Fund and Extra-Budgetary Funds, which are based on voluntary contributions and help develop IAEA programs,

Appreciating the work done by the Peaceful Uses Initiative (PUI), which supports the Technical Cooperation Fund to allow Member States to respond to their priorities regarding nuclear materials by funding peaceful projects,

Further noting the gap in information sharing between not only Member States but also government bodies and citizens within said Member States, and the need to educate and better facilitate cooperation between Member States in case or threat of a nuclear accident or emergency,

Concerned with misinformation and a lack of education on critical issues of nuclear power operation and disaster response, with respect to the growing number of Member States transitioning to nuclear energy away from less sustainable energy generation,

Affirming the definition of artificial intelligence (AI) under the Organization for Economic Cooperation and Development and the United Nations Conference on Trade and Development,

Seeking to encourage other Member States to pursue cybersecurity developments and initiatives for nuclear protection, especially regarding the prevention of a data security breach,

Highlighting the capacity of AI for 24/7 monitoring of essential networks for cyber threats, and streamlining methods of early detection and response,

Emphasizing the inclusion of AI into non-priority systems for better protection of nuclear power plant employees and infrastructure,

Contemplating the use of Post Quantum Encryption in addition to existing security measures to enhance the integrity of nuclear power plants,

Strongly emphasizes supporting the work of cybersecurity experts under the IAEA and other associations for the protection of nuclear plants through the hiring of these individuals for consultation on employing AI and cybersecurity systems and for training employees on preventing cyberattacks,

Bearing in mind the unified and secure information sharing databases such as Emergency Preparedness Information Management System (EPRIMS) and International Radiation Monitoring System (IRMIS) on which they provide self-assessments and other response actions during a nuclear incident,

Observing that joint reports on nuclear programs and accidents with IAEA programs is an effective method of nuclear disaster prevention,

Affirming that regional bodies like the European Union are constructive forums for collaborating on international nuclear safety issues,

Concerned that there may be discrepancies between individual Member States' domestic strategies on nuclear safety and IAEA guidelines,

Recognizing the effectiveness of international nuclear safety joint exercises in regions such as the Arctic,

1. *Emphasizes* that Member States expand upon the direction and segmented allocations of interest of groups, and encourage to promote education at various grade levels that align with the skills needed to operate nuclear reactors, ensure nuclear safety, maintain nuclear frameworks, and execute disaster-response operations by:
 - a. Implementing an educational campaign framework to better educate educators, themselves, as well as civilians globally;
 - b. Creating initiatives to promote these fields within marginalized groups to help promote equity within the field of nuclear energy and safety;
2. *Expands* the PUI to implement capacity-building programs within new Member States starting to utilize nuclear energy and provide expert training to nuclear facility employees and local first responders to prevent nuclear emergencies or accidents and improve resilience;
3. *Encourages* regional partnerships and best practice-sharing between Member States and non-governmental organizations (NGOs), such as the Nuclear Threat Initiative, prioritizing the security within nuclear facilities and enhancing the sustainability of nuclear infrastructure, especially in Member States vulnerable to climate disasters or other natural disasters;
4. *Reaffirms* the importance of individuals having instruction and a program about the clear facts and solutions regarding nuclear energy as a whole and, more specifically, implementing protocols regarding actions to take in the prevention of or recovering from nuclear emergencies;
5. *Reiterates* the importance of EPRIMS, IRMIS, and the general information sharing between Member States in order to enhance the accessibility and integrity of shared documents related to nuclear energy;
6. *Invites* Member States to implement a shared framework for efficient joint responses and alerts in order to cultivate global cooperation on issues of potential nuclear disasters;
7. *Recommends* Member States conclude joint report agreements between themselves and the IAEA to appropriately report on nuclear programs and accidents and to prevent misinformation and its propagation in conjunction with NGOs to aid Member States' governments;
8. *Strongly suggests* Member States create a regular shared platform for discussing threats and opportunities of using AI in modern warning and monitoring systems concerning nuclear power plants (NPPs);
9. *Requests* Member States, coordinating when possible, with regional nuclear safety bodies such as the European Nuclear Safety Regulators Group, strengthen other Member States who may need funding or staffing for nuclear energy maintenance and disaster response through assistance via funding and technical assistance within their capacities, as well as close coordination with relevant IAEA funds such as the Technical Cooperation Fund;

10. *Seeks* an increase in data-sharing prospects between Member States that would include sharing stress reports with other Member States and the IAEA, to maximize transparency;
11. *Strongly suggests* Member States, in coordination with the IAEA and in compliance with IAEA guidelines, cooperate with the various regional bodies as well as other Member States to conduct joint nuclear emergency preparedness field exercises using a shared global database, including information on the status of NPPs and potential threats thereof to test and maintain response effectiveness;
12. Advises all Member States to actively participate in the information collection performed by existing IAEA networks, including but not limited to the Unified System for Information Exchange in Incidents and Emergencies, Power Reactor Information System, EPRIMS, IRMIS, and Assessment and Prognosis Tools, and collaborate with NGOs and international and interregional organizations, thus creating a real-time framework that is regularly updated from a multifaceted information bank and emphasizes the necessity of a two-year checking system to monitor research progress and promote the cooperation of Member States in sharing information,
13. *Underscores* the importance of creating a special international group of experts for the exchange of information and experience to provide countries with peer reviews in emergency and ordinary conditions;
14. *Stresses the need* to implement an international transparent information warning system for informing the population in case of emergencies, by installing modern alarming systems, systems of early threat notification, and global mobile systems of notifications and instructions on how to proceed in the event of a nuclear accident or emergency;
15. *Requests* the implementation of radiation detection systems that would alert appropriate local, regional, and national authorities when certain radiation levels are reached, as well as meteorological systems to aid in the prediction of potentially affected areas in the case of a nuclear disaster;
16. *Encourages* Member States to work collaboratively on a comprehensive strategy, in coordination with NGOs, to combat misinformation about nuclear energy, and to increase education for governments and civilians alike;
17. *Recommends* the improvement of the current international database by creating a system that would make emergency and preparedness (EPR) research more accessible by:
 - a. Modernizing technology and expanding the information source bank for current EPR research, allowing for nuclear protocols to be regularly updated by connecting preexisting national EPR research frameworks to create a multifaceted research source, which will aid with maintaining national security while promoting international and interregional cooperation;
 - b. Addressing individual Member States' needs by creating an objective scale to categorize the level at which a Member State ought to prioritize EPR that would:

- i. Be based on 4 factors: current nuclear energy reliability, future nuclear energy goals, economic/environmental capacity for nuclear energy, and interregional relations;
 - ii. Categorize nations on a scale from 1-5, with 1 being the least preventative (for Member States moving away from nuclear) and 5 being the most preventative (for Member States that are pursuing or currently using nuclear technology as their primary energy source);
 - iii. Create individualized suggestions relative to a Member State's categorization regarding the enforcement of EPR, especially for developing Member States planning to increase nuclear energy expenditure;
18. *Advises* the establishment of a conference that invites NGOs such as CyberPeace Institute to create a Technical Working Group of experts that will:
 - a. Formalize an understanding of automated machine learning, opportunities, threats, and its application to secure nuclear facilities;
 - b. Provide training to employees regarding the prevention of cybersecurity attacks;
19. *Recommends* the development of cybersecurity initiatives as a collaborative effort between IAEA and the United Nations, Educational, Scientific, and Cultural Organization as a means of educational outreach;
20. *Further invites* Member States to create a cybersecurity team to share information on cybersecurity initiatives for nuclear protection, specifically focusing on the implications of AI usage by non-state actors to threaten nuclear facilities.



Code: IAEA/1/11

Committee: International Atomic Energy Agency

Topic: Maintaining and Strengthening Emergency Preparedness and Response

The International Atomic Energy Agency,

Acknowledging with deep gratitude the work done towards increasing protection, and its support toward the provision of research and education through the International Atomic Energy Agency (IAEA) and all multilateral actors,

Stressing the paramount importance of maintaining modern early warning systems to mitigate the devastating effects of nuclear fallout, to facilitate effective response,

Acknowledging that Project Progress Action Reports are an essential tool of the Integrated Regulatory Review Service's (IRRS) capabilities in assessing areas of risk,

Considering the importance in addressing future research of preemptive measures, taking from such systems already established in the European Union (EU),

Stressing the paramount need for expansion of research into this field of emergency preparedness and response, with emphasis on the developing world,

Acknowledging the IAEA's mission of striving towards the peaceful use of nuclear resources for the purposes of research and healthcare,

Emphasizing the importance of international cooperation to make use of nuclear and radiological technology in the health, industrial sector, and agriculture research areas for humanitarian purposes,

Underscoring the role of youth mobilization in building long-term resilience to nuclear emergencies and accidents,

Calling attention to the IAEA Safety Standards Series and General Assembly resolution 71/57 (2016) implementing educational frameworks for nuclear emergency preparedness,

Noting the efficacy of the IAEA's program STAR-NET in promoting and managing nuclear knowledge as well as its applicability to training within hospitals and healthcare facilities,

Understanding that in many Member States, hospital emergency departments are the first response in the case of nuclear disaster,

Acknowledging the essential role of educating and transparently communicating with the public in order to improve response to nuclear emergencies,

Firmly convinced about the importance of the already implemented networks for education like the Nuclear Security Training and Support Centre and the International School on Nuclear and Radiological Leadership for Safety,

1. *Calls for* iteration upon the IAEA Connect System which wholly consolidates access to pre-existing multilateral empirical databases and early warning systems through the development of a bespoke overarching system, with the aim of streamlining communication, knowledge-sharing and crisis alerts between international, regional, national, and sub-national actors, which:

- a. Expands monitoring systems already in use, such as the Emergency Preparedness and Response Information Management Systems, International Radiological Information Exchange Format, The Global Nuclear Safety and Security Network and similar data sources;
- b. Implements features such as forums, interactive encyclopedias, early-warning systems, and enhanced communication features between all relevant actors, emphasizing the voluntary contribution of data in service of domestic and regional security and sovereignty;
- c. Integrates a unified clearance system on the back end which grants all relevant actors access to the full breadth of data available on the system at varying degrees based on their clearance level, following assignment by an independent IAEA review;
- d. Fosters collaboration between Member States to strengthen the international response to nuclear incidents;
- e. Calls for a greater level of collaboration with multilateral organizations such as EU, North Atlantic Treaty Organization (NATO), Association for Southeast Asian Nations (ASEAN), Black Sea Economic Cooperation (BSEC), Association of Brazil, Russia, India, China and South Africa (BRICS) and The Organization for Islamic Cooperation (OIC), through such efforts as:
 - i. Adding regional and domestic solutions to already established universal standards;
 - ii. The inclusion of such data in the Project Progress Action Reports of the IRRS;

2. *Ensuring* that domestic early warning systems (DEWS) are equipped to satisfy the diverse needs of Member States through:

- a. Leaders in nuclear development assisting Member States in reaching technological standards aligned with The International Network for Multi-Hazard Early Warning Systems to combat economic and research discrepancies;
- b. Stressing that Member States consider priority 4 of the Sendai Framework for Disaster Risk Reduction to substantially increase the availability and robustness of DEWS;
- c. Enhanced investment into DEWS to promote a multi hazard approach as outlined in The United Nations Office for Disaster Risk Reduction framework to mitigate the immediate effects of nuclear fallout;
- d. Learning from the comprehensive risk and safety stress test assessments formulated and enforced under the European Nuclear safety Group, and working to expand article 9 of EU directive 2009/71/EURATOM;
- e. Further learning Rosatom's Automated Radiation Monitoring System engineered in cooperation with the Russian Academy of Sciences which monitors and reports radiation

exposure rates at nuclear facilities to ensure safety standards are maintained and early warnings are possible;

- f. Further learning from the African Union's Framework for Multi-Hazard Early Warning and Early Action System for Africa, designed to drastically increase the availability of and access to multi-hazard early warning and disaster risk information;

3. *Encourages* Member States to establish public evacuation routes, and strategies in order to improve recovery mechanisms, which entails:

- a. Identifying pathways that are safe and accessible for local populations affected by a nuclear accident;
- b. Recommending equipment and training to authorities near nuclear plants and research facilities as to mitigate the first effect of such disasters;

4. *Establishes* comprehensive guidelines for the Management and Mitigation of Smaller Scale Nuclear Events, as it identifies specific protocols for the rapid assessment, reporting, and response to smaller scale nuclear events to ensure timely mitigation and minimize environmental, health, and safety impacts;

5. *Advocates* for the sharing and provision of Small Modular Reactors (SMRs) among Member States, focusing on promoting the development of international regulatory frameworks that facilitate the licensing, construction, and operation of SMRs, ensuring the highest standards of nuclear safety and security;

6. *Implores* Member States to actively take the necessary steps needed in order to boost research in the field, including the collaboration between existing organizations, by:

- a. Expanding current literature on EPR and rapid response by allocating more national funds for research within educational institutions that engage in nuclear-safeguarding research;
- b. Fostering inter-connectivity in terms of information and research sharing with international organization including but not limited to the EU, NATO, OIC, BSEC, BRICS and European Atomic Energy Committee, ASEAN, and regional governments in order to promote the sharing of ideas and best practices;

7. *Implements* a machine learning tool to be known as the Radiation Risk Calculator (RRC) through the International Commission on Radiological Protection that leverages complex pattern recognition to calculate the likelihood of negative symptoms of radiation poisoning having adverse effects on a region, which will:

- a. Utilize medical reports relating to patient symptoms and treatment for radiation poisoning provided by medical professionals from the International Association of Health Care Professionals, the World Health Organization, and International Labour Organization to create a dataset that will be used to train the model;
- b. Inform relevant actors including healthcare professionals and government officials of the risks of radiation in a given region;

- c. Offer recommendations to these relevant actors based on the information outputted by the RRC that facilitates an efficient and effective response in the case of radiation contamination;

8. *Encourages* the establishment of national task forces specifically tailored for first response to fallout related disasters that:

- a. Includes professionals and experts in the composition of these task forces, ensuring diverse expertise and skill sets;
- b. Urges the standardization of equipment utilized for fallout disaster response across all relevant agencies and entities, equipment including but not limited to potassium iodide pills, radiation resistant clothing, EMP resistant radio transmitters, receivers, and other communication devices;
- c. Recommends enhanced collaboration and coordination among national disaster response bodies to extend and standardize existing disaster protocols;

9. *Advises* the establishment of regional training facilities under the IAEA integrated into frameworks of STAR-NET regional networks with the main mission of updating, training, and empowering healthcare personnel through the implementation of internal educational programs in the health system which will:

- a. Improve existing training programs and protocols following the IAEA Systematic Approach to Training supervised by STAR-NET personnel that prepare hospital and healthcare staff for proactive action before the occurrence of nuclear accidents;
- b. Urge the development of radiation departments for key hospital locations to ensure preparedness in the face of radiation poisoning;
- c. Provide proper personal protective equipment for healthcare personnel following radiation specifications outlined in the IAEA Safety Standards Series No. GSR Part 3;

10. *Urges for* expansion of awareness, education, and investment towards the peaceful and beneficial use of atomic energy through United Nations and IAEA conference initiatives that will take place in different countries every year, similar to the United Nations Climate Change Conferences, which will:

- a. Trust the yearly change of location for these conferences will be used to attract attention to states in need of developing their peaceful use of atomic energy to benefit their state in sustainability and healthcare;
- b. Draw the attention of those who attend the conference to the need in hospitals of host states to improve their use of nuclear energy either through investment or educational training, in order to strengthen and maintain EPR;

11. *Invites* all Member States to consider the establishment of the Youth Network for Emergency Preparedness and Response, a platform that aims to build long-term resilience by:

- a. Connecting young professionals, volunteers, and students from across the globe with the goal of facilitating better EPR, and promoting public awareness regarding nuclear disasters for future generations;
- b. Pursuing capacity-building initiatives among youth, in the form of training workshops, exchange programs, best-practice forums; addressing nuclear safety and security principles, preparation measures, emergency response mechanisms, and public awareness campaigns tailored to nuclear emergencies;

12. *Invites* all Member States to conduct public outreach surrounding the threat of exposure to radiation, as well as benefits, so as to avoid misinformation, using:

- a. Communication platforms such as radio, tv, newspapers and social media, in a way that is reliable, clear, and effective against fake news;
- b. Publicly funded campaigns to train local populations on best practices during and after emergencies;
- c. Developing forms of communication that make clear that nuclear energy could serve as both a reliable supplement and alternative to other forms of renewable energy;
- d. Host public readiness training programs lead by Operational Safety Review Team experts.



Code: IAEA/1/12

Committee: International Atomic Energy Agency

Topic: Maintaining and Strengthening Emergency Preparedness

The International Atomic Energy Agency,

Acknowledging the need for legal and regulatory frameworks to be strengthened to account for any significant gaps in international and regional nuclear security,

Recognizing the importance of Sustainable Development Goals (SDGs) specifically SDG 3 (good health and well-being),

Expressing the need for the public to be educated on how to properly act in the case of a nuclear emergency,

Reiterating the need for capacity-building for lesser developed nations in developing frameworks able to utilize and contribute to advanced technological infrastructure,

Highlighting the importance of global partnership in order to reach sustainable development, such as the spread of technological advances, while working toward the fundamental goals of partnership and cooperation as outlined by SDG 17 (partnerships for the goals),

Considering nuclear power as an important factor towards the fulfillment of SDG 7 (clean and affordable energy),

Reaffirming the importance of global information sharing in the case of nuclear emergencies,

Cognizant of the adverse effects that natural disasters have on island-nations and other vulnerable Member States' nuclear safety,

Underscoring the need for innovation and infrastructure in SDG 9 (industry, innovation, and infrastructure), particularly through the power and potential of artificial intelligence to create channels for furthering prevention and response of a nuclear accident,

Highlighting the importance of the work done by the International Atomic Energy Agency (IAEA) Marine Environmental Laboratories in Monaco, specifically the development of the Marine Radioactivity System (MARIS) and its positive impact towards the fulfillment of SDG 14 (life below water),

Concerned by the danger caused by climate change-related droughts and floods to nuclear reactors,

Recognizing the research done by the Global Commission on Adaptation, which states that early warning systems can reduce 30% of the possible damage, in terms of lives and land, if activated 24 hours prior to an emergency,

Deeply conscious of the need for the establishment of a region-wide network of monitoring stations and the planning of regional test exercises to assess radiation, seismic activity, and ocean-level threats,

Recalling IAEA General Conference resolution 67/7 (2023) on "Nuclear and Radiation Safety" stressing the need for international cooperation between Member States,

Noting the Stakeholder Engagement in Nuclear Programs report (2021) recognizing the need to engage with local communities to specify to their needs,

Recalling IAEA General Conference resolution 66/6 (2022) on “Nuclear and Radiation Safety” and IAEA General Conference resolution 66/7 (2022) on “Nuclear Security”, both pushing for setting up more ambitious international guidelines in case of an atomic emergency,

Stressing the local civilians’ need to be well-informed in case of a nuclear disaster as per the Education and Communication to Increase Public Understanding of Nuclear Technology Peaceful Uses IAEA report (2014),

Welcoming the substantial role of the Global Nuclear Safety and Security Network in inviting Member States and private stakeholders to share information so as to strengthen nuclear facilities security worldwide,

Emphasizing the need for a worldwide, open-access availability of MARIS data as an important element in guaranteeing an effective emergency response,

Acknowledging the importance of the IAEA Unattended Cylinder Verification Stations, which measures the amount of fissile material in reactors remotely,

Drawing attention to the Fukushima Daiichi disaster, caused by a tsunami and an earthquake,

Suspecting that unaided ventures into nuclear energy could result in disaster rooting from inexperience,

1. *Emphasizes* the importance of the need to update the legal and regulatory frameworks set by the *Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency* by:
 - a. Suggesting mandated comprehensive risk assessments to nuclear programs;
 - b. Suggesting regular updates on emergency protocols and regular tests to nuclear programs;
 - c. Upgrading pre-existing international safety-net frameworks, such as the IAEA’s Support and Assistance Network, to strengthen:
 - i. Immediate radiation containment efforts in the case of a significant nuclear mishap;
 - ii. Expansion of evacuation procedures with the assistance of more participating Member States;
 - iii. Improvement of medical assistance to account for a wider scope of patients and nuclear afflictions;
 - iv. Infrastructure rebuilding to build back and improve nuclear facilities to align with the most current international standards;
 - v. Environmental remediation to mitigate lasting damage to affected Member States;
2. *Recognizes* the need for advanced technology by encouraging Member States to:
 - a. Incorporate climate change projections into their early warning systems;

- b. Ensure monthly Investigations and updates through vitalizing radar technology and meteorology in order to incorporate climate change projections;
 - c. Enhance monitoring systems to be capable of sending rapid warnings to their local governments, public, and emergency services;
 - d. Develop resilient infrastructures capable of withstanding natural disasters;
3. *Endorses the call* for Member States to collaborate with local communities in order to:
- a. Ensure responses to emergencies are tailored to the needs of regions effectively and sustainably;
 - b. Incorporate local communities into the training and planning for emergency preparedness responses;
4. *Observing* SDG 7 (affordable and clean energy) towards the insurance of easily accessible, effective, and affordable access to sustainable and modern techniques of transitioning past nuclear sites into a more productive form of infrastructure:
- a. Noting future IAEA projects such as the decommissioning and modernization of inoperable nuclear facilities;
 - b. Focusing on the improvement of training materials regarding the construction and maintenance of nuclear sites;
 - c. Ensuring enhancement in areas such as regional cooperation among all Member States regarding the exchange of clean and renewable practices of decommissioning and construction of new nuclear facilities;
5. *Fully supports* education measures for the public on how to act when there is an emergency imminent by:
- a. Promoting the best methods to ensure safety using forms of media such as social media and television commercials;
 - b. Encouraging Member States to incorporate this within their public education;
 - c. Encouraging communities located near nuclear programs to incorporate this within their community centers;
6. *Recommends* the adoption of the Assess Initiate Mitigate Program under the IAEA to outline an international cooperation approach to preventing and responding to nuclear incidents using advanced technology systems by:
- a. Improving a secure international database exclusively shared amongst the willing Member States, to monitor various parameters such as any natural phenomena, especially seismic activity, rising tide levels, potential meteorological disasters on various nuclear centers, and other potential risks and to detect the ambient radioactive levels to identify possible air contamination;
 - b. Utilizing mechanisms that enable a reserve of IAEA-trained workers to establish camps surrounding any nuclear facility or even an identified area experiencing

nuclear fallout and monitor the direction of the spread of contamination, by implementing:

- i. Radars, satellite imagery, seismic wave detection, and voluntary database information sharing;
 - ii. Infrasound and seismic-acoustic stations actively monitoring the data given by the seismic waves emitted by said nuclear reactors, using a Power Density Spectral Misfit Detector and a long-distance Infrasound Microphone; whereby accurately receiving waveforms, it will keep the stations fully maintained with up-to-date data regarding health and performance, with a higher chance of efficiently predict, prepared, and respond to any further emergency;
 - c. Assessing potentially dangerous atomic scenarios using Artificial Intelligence-powered data analytics and active monitoring tools, which will treat all of the information in the shared database and based on real-time necessary data from willing Member States;
7. *Encourages the* prompt initiation of action once a potential threat is identified through advanced predictor tools by activating emergency response protocols, notifying relevant governmental authorities, informing the public, and initiating mitigation measures;
8. *Strongly encourages the* expansion of the focus of MARIS to ensure that radioactive contamination is more easily traceable at an early stage in marine and inland waters in order to strengthen regional-based EPRs, to radioactivity in waters caused by human activity, through:
- a. Establishing a new research initiative named Artificial Radioactivity in Water with an emphasis on regional intervals, with a focus on taking water samples near nuclear facilities in specific intervals determined by the IAEA;
 - b. Encouraging funding through the SDG 14 (life below water) fund to finance the expansion of the MARIS system;
 - c. Expanding the IAEA Marine Environmental Laboratories with new facilities for the MARIS mechanism;
9. *Endorses the* establishment of regular regional workshops, based off of the existing Latin American workshop models such as those held by IAEA in Brazil in December of 2023, tasked with the promulgation of training materials in order to address the different technical capacities of Member States through the employment of regional specialists, such as doctors, engineers, architects, teachers, and local officers through the use of theoretical and practical international resources;
10. *Supports further* funding from IAEA's budgetary bodies which would enhance each Member State that is willing to undertake ambitious innovations such as:
- a. Technical Cooperation Fund to launch strategic technological research in biometrics, cybersecurity, and geomatics;
 - b. Peaceful Uses Initiatives to fund extrabudgetary programs which aim to promote civil nuclear solutions as diverse as food security, developing nuclear infrastructure, and combating widespread diseases;

11. *Proposes* that Member States efficiently manage and store spent radioactive fuel to mitigate damages and contamination spread to the environment, including bodies of water and important natural reserves, by:
 - a. Disposing of or storing spent radioactive fuel within a reasonable distance from bodies of water, ensuring that maritime climates are protected from polluting materials;
 - b. Including local communities in discussions about where to plan fortified nuclear waste storage facilities to effectively identify areas where accidents would have the least consequential impact;
 - c. Developing and equally distributing technologies such as fast reactors, in an attempt to find methodologies that reduce total amounts of nuclear waste by reusing it to fuel further energy production;

12. *Encourages* Member States to work towards SDG 17 (partnerships for the goals) and enhance international collaboration by sharing resources, joint exercises and information about the safest and most efficient way to create sustainable nuclear programs and to maintain them, as well as providing aid to nations in need.