

Arrangements for Public Communication in Preparedness and Response for a Nuclear or Radiological Emergency

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1. INTRODUCTION

BACKGROUND

1.1. Under Article 5(a) (ii) of the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (the ‘Assistance Convention’) [1], one function of the IAEA is to collect and disseminate to States Parties and Member States information concerning methodologies, techniques and available results of research relating to response to such accidents or emergencies.

1.2. In March 2015, the IAEA’s Board of Governors approved a Safety Requirements publication, Preparedness and Response for a Nuclear or Radiological Emergency, issued in the IAEA Safety Standards Series as Part 7 of the General Safety Requirements (hereinafter referred to as GSR Part 7) [2], which was jointly sponsored by thirteen international organizations. GSR Part 7 establishes requirements for an adequate level of preparedness and response for a nuclear or radiological emergency irrespective of the initiator of the emergency.

1.3. Effective communication with the public, which is transparent, timely, clear, factually correct, objective, consistent and easily understandable, is paramount to mitigating the adverse consequences to human life, health, property and the environment from a nuclear or radiological emergency. Requirement 13 of GSR Part 7 [2] addresses the arrangements for communication with the public throughout a nuclear or radiological emergency. Para. 5.70 of Requirement 13 requires that information provided to the public by response organizations, operating organizations, the regulatory body, international organizations and others in a nuclear or radiological emergency is coordinated and consistent, with due recognition of the evolutionary nature of an emergency. Para. 5.72 requires that a system for putting radiological health hazards in perspective in a nuclear or radiological emergency is developed and implemented with the following aim:

- To support informed decision making concerning protective actions and other response actions to be taken;
- To help in ensuring that actions taken do more good than harm;
- To address public concerns regarding potential health effects.

Furthermore it is required that in the development of such a system, due consideration shall be given to pregnant women and children as the individuals who are most vulnerable with regard to radiation exposure. Para. 5.73 of Requirement 13 of GSR Part 7 [2] requires arrangements to be made to explain any changes in protective actions and other response actions. To further clarify information released to the public, para. 5.74 of Requirement 13 requires arrangements to be made to identify and address misconception, rumours and incorrect and misleading information.

1.4. Effective public communication is contingent on the level of preparedness of the States and organizations involved. This includes planning, training, exercising and continuously developing the programme for public communication in emergency response. Experience has demonstrated the importance of, and challenges involved in, communicating with the public during a nuclear or radiological emergency. Past emergencies have had local, national, regional and international consequences and have raised public awareness and concern and placed greater emphasis on effective public communication within overall emergency preparedness and response to a nuclear or radiological emergency.

1.5. Requirement 10 of GSR Part 7 [2] requires governments to ensure that arrangements are in place to provide the public who are affected or are potentially affected by a nuclear or radiological emergency with information that is necessary for their protection, to warn them promptly and to instruct them on actions to be taken. For facilities within emergency planning zones and distances, para. 5.45 of Requirement 10 [2] requires governments to provide the permanent population, transient population groups and special population groups or those responsible for them and special facilities within the emergency planning zones and emergency planning distances, before operation and throughout the lifetime of the facility, with information on the response to a nuclear or radiological emergency. This information shall include information on the potential for a nuclear or radiological emergency, on the nature of the hazards, on how people would be warned or notified, and on the actions to be taken in such an emergency. For facilities in emergency preparedness category III and IV, para. 5.47 of Requirement 10 [2] requires to provide the public with information and instructions in order to identify and locate people who may have been affected by a nuclear or radiological emergency and who may need response actions such as decontamination, medical examination or health screening. These arrangements shall include arrangements for issuing a warning to the public and providing information in the event that a dangerous source could be in the public domain as a consequence of its loss or unauthorized removal.¹

1.6. In meeting Requirements 10 and 13 of GSR Part 7 [2] as mentioned above, States will contribute to fulfilling, in part, Requirement 16 of GSR Part 7, which addresses the arrangements necessary for the mitigation of non-radiological consequences of a nuclear or radiological emergency and of an emergency response. Such consequences include, for example, fear and other long-term psychological effects. These can be mitigated through adequate public communication of any health hazards and clear instructions on any protective actions to take.

¹ The five emergency preparedness categories defined in GSR Part 7 [2] establish the basis for a graded approach to the application of the requirements in GSR Part 7 and for developing generically justified and optimized arrangements for preparedness and response for a nuclear or radiological emergency. For a description of the emergency preparedness categories see Table 1 of GSR Part 7 [2].

1.7. Requirement 16 of GSR Part 7 provides for arrangements for psychological and social support. To support this requirement, this Safety Guide addresses the arrangements to be in place, as part of overall emergency preparedness, for effective public communication in any response to a nuclear or radiological emergency, regardless of whether or not there is a declared emergency from a technological standpoint. This Safety Guide therefore also considers unnecessary public fear and the taking of protective actions that have not been advised by an authority, as situations warranting prompt action from a public communication point of view.

1.8. At the international level, the Joint Radiation Emergency Management Plan of the International Organizations [3], managed by the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE), provides for the release of consistent, complementary and coordinated public information by international intergovernmental organizations based on their roles and responsibilities, in case of a nuclear or radiological emergency.

OBJECTIVE

1.9. This Safety Guide provides guidance for meeting Requirements 10 and 13 of GSR Part 7 [2] as described earlier, and Requirement 43 of Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, IAEA Safety Standards Series No. GSR Part 3 (hereinafter referred to as GSR Part 3) [7] on providing reliable communication, including public information as part of an emergency management system.

1.10. The primary objectives of this Safety Guide are:

- To provide guidance and recommendations to States on developing arrangements, at the preparedness stage, for communicating with the public and media and for coordinating with all sources of official information in the preparedness and response to a nuclear or radiological emergency; and
- To provide guidance on those selected elements of the Requirements [2] for which guidance has been requested by States and for which there is an international consensus on the means to meet these requirements.

1.11. This guide provides specific guidance for:

- A communication programme for ensuring transparent, timely, clear, factually correct, objective, and easily understandable information for communicating with the public;
- Coordination, to the extent practicable, of different sources of information; and

— Consistent and effective messaging.

1.12. This Safety Guide should be used in conjunction with GSR Part 7 [2], with due account to be taken of the recommendations provided in Arrangements for Preparedness for a Nuclear or Radiological Emergency, IAEA Safety Standards Series No. GS-G-2.1 [4] (hereinafter referred to as GS-G-2.1), Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency, IAEA Safety Standards Series No. GSG-2 [5] (hereinafter referred to as GSG-2) and Arrangements for the Termination of a Nuclear or Radiological Emergency, IAEA Safety Standard Series No. GSG-X (DS474) [6].

SCOPE

1.13. The guidance and recommendations provided in this Safety Guide are applicable to any nuclear or radiological emergency, irrespective of its cause which includes those due to a perceived hazard. It is applicable for all facilities and activities that can give rise to a nuclear or radiological emergency that warrants emergency response actions.

1.14. Considering the full range of potential nuclear or radiological emergencies they cover, these recommendations necessitate the application of a graded approach² in their implementation. For specific guidance on a graded approach for arrangements for public communication in preparedness and response for a nuclear or radiological emergency see para. 3.8.

1.15. This Safety Guide is also applicable for events of heightened public or media attention based on rumours or misinformation without or prior to an underlying emergency

1.16. The guidance is applicable for all organizations with a role and responsibility in the preparedness for and response to a nuclear or radiological emergency. It is applicable for all those responsible for communicating with the public and the media in a nuclear or radiological emergency, including those who do not have a day-to-day public communication function.

1.17. The guidance and recommendations provided in this Safety Guide recognize the influence of social, linguistic, economic and political attributes on how information is received, believed and trusted.

² (1) For a system of control, such as a regulatory system or a safety system, a process or method in which the stringency of the control measures and conditions to be applied is commensurate, to the extent practicable, with the likelihood and possible consequences of, and the level of risk associated with, a loss of control. (2) An application of safety requirements that is commensurate with the characteristics of the facilities and activities or the source and with the magnitude and likelihood of the exposures.

1.18. This Safety Guide is intended to ensure that due attention is paid to public communication in the preparedness for and response to a nuclear or radiological emergency and to support the decisions made on protective actions. It intends to give guidance on how to communicate technical aspects to the public in order to mitigate loss of life and other physical and mental health consequences. The implementation of protective actions and public trust is contingent on effective public communication. This Safety Guide therefore recommends roles and responsibilities in public communication for those who may not have an obvious communication function.

1.19. The guidance and recommendations provided in this Safety Guide are not applied to:

- Interested parties involvement activities for the planning of new nuclear power plants or other facilities or for ongoing interested parties involvement activities for existing facilities such as: visitor centres, routine background and informational materials unrelated to nuclear safety and security such as those on nuclear energy or nuclear applications, and public campaigns related to the nuclear industry.
- Arrangements for communicating after the termination of the nuclear or radiological emergency, when the situation has transited to a planned or existing exposure situation and in the long-term remediation phase. However, the guidance is applicable for public communication in an existing exposure situation after the emergency is declared ended.

1.20. Terms are used in this Safety Guide as defined in the GSR Part 7 [2] and the IAEA Safety Glossary, 2017 Edition [8].

1.21. The term ‘public communication’ in the context of this safety guide refers to any organizational element of the emergency response that is dedicated to communicating information on or related to a nuclear or radiological emergency to:

- The general public;
- The media;
- The population potentially or actually affected by the emergency;
- Other interested parties.

STRUCTURE

1.22. This Safety Guide is comprised of five sections. Section 2 describes basic considerations with a focus on the principles and challenges of public communication. Section 3 provides guidance and recommendations on the preparedness arrangements for public communication with a public

communication programme, including a strategy and plan to adequately prepare to communicate in case of a nuclear or radiological emergency. Additional guidance is provided on, *inter alia*, infrastructure, resources, budgeting, tools, training and exercising. This section also provides recommendations on how to place health hazards into perspective. Section 4 provides response arrangements in public communication with emphasis on activating a public communication response and coordinating at different levels. In this section, the handling of rumours and misinformation is addressed. Section 5 provides guidance for public communication necessary in particular circumstances for which additional guidance is needed. The Appendix provides a system to put health hazards into perspective, in support of Section 3. The Annexes provide supporting and additional background information on public communication, including a number of examples and templates to facilitate the choice of communication tools and draft messages.

2. BASIC CONSIDERATIONS

OBJECTIVES OF PUBLIC COMMUNICATION

2.1. As part of the overall emergency preparedness and response, the goal of public communication should be to support the overarching goals of the emergency response as outlined in para. 3.2 of GSR Part 7 [2]. To achieve this goal, the key objectives of effective public communication regarding nuclear or radiological emergencies, should be to:

- Inform the public, both at the preparedness stage and during the response, about the nature of hazards, protective actions and other response actions and to increase compliance with these actions;
- Maintain public trust in the emergency response;
- Address public concerns regarding potential health effects;
- Prevent panic and help ensure that actions taken do more good than harm;
- Minimize rumour and respond to misinformation; and
- Enable interested parties to make informed decisions.

PRINCIPLES OF PUBLIC COMMUNICATION

2.2. An effective public communication programme for nuclear or radiological emergencies should ensure that all public communication will be transparent, timely, factually correct, objective, in plain language for a general audience and coordinated among official sources of information.

Transparency

2.3. All public communication in a nuclear or radiological emergency should be as transparent as possible. Transparency in communication should be based on openness and accountability and should be part of a process of long-term communication activities contributing to building public trust. Having public trust will strengthen the likelihood that the public will comply with protective actions in case of a nuclear or radiological emergency. Organizations should also be open about when information cannot be released because, for example, it may be sensitive for security or legal reasons or unconfirmed and would not be helpful to release.

Timeliness

2.4. Delayed information is a major cause of anxiety, fear and speculation among the public. Effective communication, especially during a nuclear or radiological emergency, should be proactive to weigh different concerns, needs and viewpoints of interested parties, and address them in a timely manner. There is often a delay in the flow of information from the facility, the affected area or the authorities during emergencies. The public and the media may be faster in communicating at the onset, especially with the availability of social networks with the capacity for immediate broadcasting on a global level. Therefore, organizations should make every effort to communicate in a timely manner and continuously, while remaining objective, clear and factually correct.

2.5. A target lead time should be defined for an initial communication with the public after the emergency response's public communication component has been activated. The lead time for the initial message being issued should not exceed one hour. This can be facilitated by using a holding statement developed at the preparedness stage (see para. 4.6).

Factual communication

2.6. Information released to the public in a nuclear or radiological emergency should be based on facts and verified information and should not give way to any speculation or inappropriate reassurances to appease public opinion. All information from official sources should be provided to the public to build or retain trust and ensure that protective actions are correctly followed.

2.7. Information provided to the public should place public health and safety first and should not be influenced by reputation management. Information should therefore be objective even if it places the source of information in a negative light. Showing this level of objectivity can, conversely, help increase public trust.

Plain language

2.8. In a nuclear or radiological emergency, the role of the public communication function is to convey complex technical information in an accurate and understandable way to a usually non-expert audience. Such information should be provided in clear and plain language. The use of technical or scientific language should be reduced to an essential minimum. If used for a specific reason, the technical expression should be explained in plain language. Otherwise, essential information may not be understood, remembered or recalled. In an emergency, comprehension levels tend to decrease to due stress. The level of plain language chosen should not exceed a level understandable to older adolescents.

2.9. In a nuclear or radiological emergency, priority should be given to information on the basic protective actions and immediate information related to public health and safety over technical information needing numerical data and units. If any possible, plain language explanation to put potential health hazards into perspective should be given without the use of numerical data and units. See para. 3.123 for a system to put health hazards into perspective as required in Requirement 13 of GSR Part 7, para. 5.72 [2].

2.10. In case the use of numerical data and units is deemed to be necessary, e.g. to describe limits and regulations laid down in national legislation, relevant organizations should consider that using different units and orders of magnitude can cause confusion. Internationally, radiation protection experts use various units and terms when describing radiation and its effects. These include Curie (Ci) and Becquerel (Bq), Rad and Gray (Gy), Rem and Sievert (Sv). Additionally, these units might have prefixes to indicate the order of magnitude such as micro and milli, as well as a time component such as per year or per hour to express a dose rate. Experience from past emergencies shows that using various orders of magnitude expressed in unit prefixes, such as milli (m) and micro (μ) interchangeably, contributes to confusion and misinterpretation and may subsequently lead to a faulty perception that the risk might be higher than it actually is. The expression of effective dose used in units of mSv and μ Sv interchangeably is confusing for the public. Thus, where the unit Sv is used to express doses and dose rates, the unit-prefix "milli" (i.e. mSv) should be used consistently in communicating to the public to help minimize confusion and misinterpretations.

2.11. An effective and easily understandable technique for reaching the public and delivering relevant information is to use tables, schematics, pictures and graphs. Development of such material requires time and expertise and should be prepared, to the extent possible, at the preparedness stage. See also the paragraphs 3.111 and 4.58 on background information. This should also be considered when providing information on the effects from the exposure to ionizing radiation to facilitate a better understanding of the magnitude of the effects. Radiation dosage charts should be used as a basis for

dose comparison for background information when communicating doses or risks during an emergency.

2.12. Organizations should refrain comparing any potential health hazards and risks related to a nuclear or radiological emergency with non-radiation-related risks when these are voluntarily taken like those arising from driving a car, smoking or similar.

2.13. Comparisons used to put radiation doses into perspective should be simple, easy to understand and scientifically correct. Comparisons should use references the addressed audiences could understand. Experience from past emergencies shows that the comparison with natural background levels or radiation received from nuclear applications can alleviate public anxiety [9].

Coordination

2.14. Requirement 2 of GSR Part 7 [2] requires that roles and responsibilities in Emergency Preparedness and Response are clearly specified and clearly assigned. Para. 4.10 of GSR Part 7 [2] requires that the government establishes a national coordinating mechanism to be functional at the preparedness stage, consistent with its emergency management system. Furthermore it requires that one of the functions of this national coordination mechanism is to coordinate effective communication with the public in preparedness for a nuclear or radiological emergency. Organizations should make all efforts to ensure consistency in messaging as conflicting messages create confusion, misinformation and rumours. Therefore, public communication should be coordinated with all official sources of public information involved to ensure consistent messaging. Inconsistencies in information released to the public also have the potential to cause a loss of trust in the response.

2.15. 'One message, many voices' describes an approach for sending coordinated and consistent messages from different levels and organizations using various communication channels and tools. All organizations responsible for responding to an emergency should convey a consistent message throughout the emergency.

2.16. All relevant involved organizations should only communicate information to the public reflecting their own areas of responsibility and authority (i.e. health, the environment, law enforcement, etc.).

2.17. Para. 5.70 of GSR Part 7 [2] requires arrangements to be in place to ensure that all information provided to the public by response organizations, operating organizations, the regulatory body, international organizations and others is coordinated and consistent. The primary source of information in a nuclear or radiological emergency will be the designated Lead Public Information Officer within the command and control system established. A coordination mechanism should be implemented to ensure message consistency. Procedures should be drafted, agreed upon and exercised

amongst the different sources of information. This should include information sharing procedures in an emergency amongst Public Information Officers (PIOs)³.

CHALLENGES OF PUBLIC COMMUNICATION

Risk perception

2.18. It should be considered that the public's perception of risk during a nuclear or radiological emergency may be different from assessments provided by experts. Risk perception is the result of individual beliefs, attitudes and norms as well as wider social and national aspects. Experts define risk in terms of cause and effect relationships and attempt to quantify the amount of harm that can result from taking part in a given activity, whereas members of the public take account of qualitative factors in deciding whether or not they consider a risk to be acceptable. Organizations should be aware of the fact that this may cause low probability 'real risks' to be converted into 'perceived high risks.' Detailed guidance on and examples of qualitative factors that influence risk perception are provided in the EPR-Series publication Communication with the Public in a Nuclear or Radiological Emergency Section 4, PC-IS.5 of Ref [10].

2.19. To address this perception, a process that includes regular outreach activities and/or regular dialogue with the public should be implemented at the preparedness phase and in coordination with routine activities for the involvement of interested parties. (Further guidance on routine stakeholder involvement can be found in IAEA Safety Standard Series No. GSG-X (DS460), Communication and Consultation with Interested Parties by the Regulatory Body [13])

2.20. Communication efforts can also be impeded by the public's perceptions of risks for the reasons described above, and the use of scientific terms or variations in scientific units without plain language explanations during the emergency that also place radiological health hazards in perspective. This can lead to misunderstanding or confusion in the public's risk perception and thus, communication with the public during preparedness and the emergency should be through the use of consistent plain language information and messages. Further information on developing messages for the public based on the principles of public communication and taking into account aspects of risk perception is provided in Section 3, PC-AG.6 of Ref. [10].

³ The term Public Information Officer (PIO) in this Safety Guide describes staff members of an organization whose primary responsibility it is to provide information to and communicate with the public and the media..

Rumour control

2.21. Para 5.74 of GSR Part 7 [2] requires that arrangements to be made at the preparedness to identify and address, to the extent practicable, misconceptions, rumours and incorrect and misleading information.

2.22. Rumours will arise from various sources during a response. Ref. [10] provides detailed information on rumours and rumour control. Social media has intensified this challenge, facilitating the almost instant spreading of rumours and misinformation. Rumour control should be applied as it is essential to ensure that misinformation does not lead to decision making based on false information and consequently to actions being taken beyond those emergency response actions that are warranted and could do more harm than good (see para. 5.74 of GSR Part 7 [2]).

2.23. The arrangements made for rumour control should enable the identification of misinformation and rumours through media monitoring (see para. 3.78) and the correction of this information via the various public communication tools (see para. 3.94).

Maintaining trust

2.24. All reasonable efforts should be made to gain and maintain the public's trust and these efforts should already be taking place in the preparedness phase. It can take time to gain public trust. Public trust is also not ubiquitous for all people: some people will place their trust in different authorities, organizations or individuals. In an emergency, the higher the level of trust, the more likely the public will be willing to comply with protective and other response actions reducing the risk that actions will be taken beyond those emergency response actions that are warranted. Background information on the importance of trust in public communication is provided in Section 4, PC-IS.6 of Ref [10].

2.25. Para. 5.45 of GSR Part 7 Requirement 10 [2] stipulates that arrangements shall be in place for facilities in category I and II and areas of category V to provide the population with information on the response to a nuclear or radiological emergency, including on the potential for such emergencies, the nature of the hazards, how people would be warned or notified and on the actions to be taken. Such public communication activities in the preparedness phase will help to familiarize the public with the facility and associated emergency arrangements.

2.26. Experience shows that trust can be easily lost when not following the principles of effective public communication during nuclear or radiological emergencies (see para. 2.2).

Timeliness and accuracy

2.27. The early hours of the response to a nuclear or radiological emergency are crucial for public communication activities. Social media, for example, has increased the pressure for timely communication. Not providing an early statement also allows other unofficial sources of information to spread information. While the public and specific groups of interested parties demand immediate and comprehensive information, the emergency response organization might not have details confirmed early on. Arrangements should be made to immediately communicate to the public even when detailed specific information is not available.

2.28. Holding statements should be used at this time to communicate to the public to make it aware of a situation and, as appropriate, of the activation of the emergency response. A pre-approved holding statement should be prepared for immediate distribution either actively (e.g. via press release, on the website or via social media) and/or reactively (to answer specific requests by the media, the public or other interested parties) as deemed necessary. A template of a holding statement can be found in Annex V. Timely communication facilitates public confidence in the emergency response. Lack of communication undermines public confidence and facilitates the spread of rumours and misinformation.

2.29. Accuracy should not, however, be sacrificed for timeliness. A single piece of inaccurate information can damage the public's trust in the response and jeopardize all communication objectives. This might consequently lead to actions being taken beyond those emergency response actions that are warranted. Unconfirmed or speculated information should not be released to the public.

Recognizing social context

2.30. Public communication programmes should take into account that the way communication is conducted and perceived may differ depending on the social context.

2.31. Understanding these differences is key to effectively communicating with interested parties. For example, younger participants might not speak out during public meetings as long as more senior members of the community are present. This should be considered when organizing such events and arrangements should be made to ensure that all members of interested parties can participate in communication efforts.

Two-way communication

2.32. A nuclear or radiological emergency will give rise to increased demand for two-way communication. Arrangements should be in place for official information to be disseminated quickly

and directly to the public. Simultaneously, the lines of communication to the official sources of information should remain open and capable to address questions and concerns.

2.33. Arrangements should be in place to communicate through a variety of channels in order to support and encourage two-way communication. These arrangements will help ensure that all members of the public have a mechanism through which to reach the official source of information in a nuclear or radiological emergency.

2.34. The increased demand for two-way communication during a nuclear or radiological emergency is also challenged by the changing media landscape and the rise of social media. Official information can now be disseminated quickly and directly to the public. Two-way communication demands resources, faster paced information dissemination and continuous engagement around the clock, depending on the emergency.

2.35. Lack of or slow communication on social media will rapidly lead to a loss of trust and foster and accelerate the spread of rumours and misinformation.

2.36. Clear guidelines should be in place on how to communicate on various social media platforms, as appropriate in the State's context. This should also include a code of conduct to also address the private use of social media by members of the response organizations as their messaging could be mistaken as official. Codes of conduct should be drafted to inform staff members on the rules for the use of social media, what the dangers are and how to avert them.

2.37. Traditional two-way communication channels such as hotlines for the media and the public, town-hall meetings, and other meetings with interested parties should also be set up

3. PUBLIC COMMUNICATION ARRANGEMENTS IN EMERGENCY PREPAREDNESS

BACKGROUND

3.1. In para. 4.1 Requirement 1 of GSR Part 7 [2] requires governments to ensure that an emergency management system is established and maintained for the purposes of emergency response to protect human life, health, property and the environment in the event of a nuclear or radiological emergency. This section of the Safety Guide elaborates on the arrangements that should be put in place at the preparedness stage in order to achieve an effective public communication in response to a nuclear or radiological emergency. An effective emergency management system requires effective public communication at all stages: preparedness, response and the transition to an existing or planned

exposure situation. By setting up the arrangements at the preparedness stage, communication in the later stages should be facilitated.

PUBLIC COMMUNICATION PROGRAMME

3.2. A public communication programme is an overarching structure for organizing public communication during an emergency. It should specify (a) the principal communication objectives and approach in the public communication strategy, (b) a public communication plan and (c) necessary infrastructure and resources, all based on (d) a specific budget.

3.3. Para. 4.7 of GSR Part 7 [2] requires the government to ensure that all roles and responsibilities for preparedness and response for a nuclear or radiological emergency are clearly allocated in advance among operating organizations, the regulatory body and response organizations. Thus, the public communication programme should be prepared in advance in accordance with this allocation of roles and responsibilities by and in coordination with all responsible operating organizations, the regulatory body and response organizations within the unified command and control system, and evaluated and updated at regular intervals.

3.4. The public communication programme, including resources, should be approved by the responsible response organization or organizations. Appropriate resources - financial and human - should be allocated on a continuing basis to ensure preparedness and to maintain a high level of readiness to respond to an emergency.

3.5. The public communication programme should identify all practical arrangements and logistics necessary to implement a public communication strategy and plan in the preparedness stage. These arrangements will support public communication activities during the response to a nuclear or radiological emergency.

3.6. A public communication programme should be developed in every State, with or without a nuclear power programme

PUBLIC COMMUNICATION STRATEGY

3.7. A public communication strategy should be developed at the preparedness stage in order to identify key issues, target audiences, appropriate messages and communication activities.

3.8. The public communication strategy, and the public communication plan that is formulated from the strategy, should be based on a graded approach. Related to public communication during a nuclear or radiological emergency a graded approach describes the principle to scale the response to the actual or expected impact of a nuclear or radiological emergency on the need for and the extend of public

communication activities, based on its characteristics and magnitude. The elements of a public communication strategy should include, but not be limited to:

- A description of all relevant hazard assessment scenarios;
- Strategic considerations identifying the main challenges for the public communication specifically for each scenario;
- Specific objectives for the public communication response for each scenario, taking into account the strategic considerations, to support the overarching objectives as laid out in para. 2.1.
- An identification of the key target audiences for each scenario;
- Specific key messages for each scenario, that can be pre-developed at the preparedness stage, to support the objectives for the scenario;
- Recommended tactics for the most effective implementation of the public communication tasks (see para. 3.73) and use of the public communication tools (see para. 3.94)

Guidance for strategizing is also provided in the EPR-Series publication Method for Developing a Communication Strategy and Plan for a Nuclear or Radiological Emergency [12].

3.9. The public environment within which the public communication strategy will be implemented should be considered. Surveys should therefore be made to understand the public risk perception on a national level and among the potentially affected population around nuclear facilities or in areas with regular activities using ionizing radiation.

3.10. The arrangements that enable the public communication response outlined in the public communication strategy should be described and defined in the public communication plan.

PUBLIC COMMUNICATION PLAN

3.11. Requirement 23 of GSR Part 7 [2] requires that plans and procedures necessary for the effective response to a nuclear or radiological emergency are established. Thus, arrangements should be made to develop a public communication plan for nuclear or radiological emergencies. A methodology for planning is provided in Ref. [12].

3.12. A public communication plan for a nuclear or radiological emergency should:

- Be tailored to the strategy and relevant potential emergencies derived on the basis of hazard assessments scenarios, that are needed in order to achieve successful communication with the public and other interested parties during a nuclear or radiological emergency;
- Set out a clear framework for communication activities and allocate responsibilities and organizational structure, tasks and goals to members of the public communication team;

3.13. The exact nature of any emergency cannot be foreseen. Therefore, a public communication plan should be considered as operational guidelines for an appropriate response. A Public Information Officer (PIO) should be responsible for the strategic planning to complement the response as necessary, based on the public communication strategy and plan, to the specific situation (see para. 4.11). The elements of a public communication plan should include, but not be limited to:

- A description of the responsibilities and organizational structure of the public communication response;
- A description of the available infrastructure and resources;
- A list of potential spokespersons and technical briefers as identified at the preparedness stage;
- A description of the public communication tasks and a plan for allocating staff to these tasks;
- An operational manual that defines actions, based on the public communication strategy, that should be implemented and at what stage during an emergency using the public communication tools.

3.14. A communication plan should be continually updated and revised during the preparedness phase using lessons learned from exercises and response.

Responsibilities and organizational structure

3.15. There may be numerous organizations involved in public communication during a nuclear or radiological emergency at a facility, local, national, regional and international level. Arrangements should be made to ensure that the responsibilities for (see paras 3.73 to 3.86) public communication tasks are specified and understood at all levels of the emergency response

3.16. Tasks, responsibilities and coordination of the various organizations who will be involved in public communication during a nuclear or radiological emergency should be planned and defined in advance, reflected in all organizational, local and national response plans.

Public communication in a unified command and control system

3.17. Para. 5.7 of Requirement 6 of GSR Part 7 [2] requires arrangements to be made for the establishment and use of a clearly specified and unified command and control system. The public communication function should operate as part of the emergency management system, as described in Section 2.1 of Ref [10]. Within the unified command and control system, the lead PIO⁴ is in direct contact and reports to the overall emergency response commander.

3.18. The emergency management system uses a unified command and control approach whereby all decision making during emergency response is consolidated into pre-identified decision making entities at the operational, strategic and policy levels. This includes preparing a system or methods for coordination and harmonization of all emergency-related information to the public or media. The emergency management system defines roles and responsibilities and a command and control system, which provides for a system to ensure a unified command and control approach with one message, many voices.

3.19. A PIO should be on the initial activation list on all levels of the unified command and control system when the emergency organization is activated. This will ensure that an immediate or timely channel of communication to the public is initiated.

3.20. The command and control system should enable scaling a response to be commensurate with an evolving situation. The public communication function should also be scalable, as described in Section 2.2 of Ref [10] so that the organizational structure can be increased or decreased according to the severity of the emergency and the information needs of the public. This means preparing for additional staff needed around the clock fulfilling all necessary skillsets (writing press releases, acting as spokesperson, monitoring social media, etc.), workspace, and resources for information dissemination. The information needs of the public are not necessarily proportional to the hazard or threat involved and therefore, a high level of public concern should be anticipated for any situation involving radiation.

3.21. Arrangements should be made for an emergency for which public communication tasks exceed the capacity of a single lead PIO. In this case, arrangements should be made to establish a PIO section within the command and control system with the lead PIO leading the PIO section.

3.22. The lead PIO should:

⁴ For the purpose of better readability of the document, the term “lead PIO” will be used in subsequent paragraphs even when the response does not warrant the establishment of a PIO section. The lead PIO is the PIO within the command and control system who leads the public communication response.

- Be responsible for the strategic planning of the public communication response based on the arrangements made at the preparedness stage.
- Consult and liaise with the emergency response commander and other relevant PIO contacts within the unified command and control system.
- Initiate the activation of additional staff for the PIO section as needed.

3.23. Arrangement should be in place so that the lead PIO has direct access to the decision makers within the unified command and control system.

3.24. Arrangements for a clearly defined approval process of official public information and messages should be made. The approval process should focus on providing both timely and accurate information. Templates, e.g. for holding statements, press releases or an initial statement should be pre-approved to the extent possible at the preparedness stage to ensure a timely communication.

3.25. The public communication tasks that should be carried out by the lead PIO and as necessary supported by a PIO section are described in detail starting from para. 3.73. The various public communication tasks should be set out and assigned in a clearly defined organizational chart. An example can be found in Annex I. All tasks should be addressed. These tasks may be fulfilled by staff from one organization or from several, depending on the size and nature of the emergency.

3.26. To support the implementation of paras. 3.27-3.44 below, the roles in communication with the public at national, local and international levels are described in Section 2.3 of Ref [10].

National authorities

3.27. Usually, several government authorities are involved in a response to a nuclear or radiological emergency. To avoid contradictory messages and miscommunication between national organizations involved in the response, public communication should be coordinated at the national level. The national authorities involved in public communication may include the competent authority under the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (the 'Assistance Convention') and under the Convention on Early Notification of a Nuclear Accident (the 'Notification Convention') [1], national coordinating authority, disaster management authority, national health and welfare authority, regulators, corporate office of the operators, and other ministries.

3.28. In case multiple government authorities are involved in a response, public communication should be limited to their respective areas of responsibility and expertise. Additionally, any statements providing advice to the public should be coordinated through the unified command and control system

with all other response authorities. This coordination should be established and tested through regular training and exercises.

3.29. A public communication point of contact at each national organization should be established and communicated among all the response organizations.

3.30. Where possible, appropriate technology for communicating between these points should be prepared, tested, exercised and maintained.

3.31. These inter-organizational arrangements should be documented in the public communication plan and should be consistent with arrangements for response to non-nuclear and non-radiological emergencies, including natural disasters.

3.32. National authorities should have prior arrangements in place to provide information to the public outside the affected area in general, and specifically to those who may be concerned for relatives in the affected zone or the possibility of contaminated goods and food products.

3.33. To support and facilitate the work of the PIOs in answering related questions and communicating with the public, the PIOs should be familiar with the national emergency response plan, including the roles and responsibilities of various agencies and officials, as well as relevant national legislation and regulations.

3.34. To the extent possible, bilateral and multi-lateral agreements should be established at the preparedness stage to ensure public communication will be coordinated with neighbouring countries. This could be accomplished through regional networks that are prepared and exercised in advance by the communication organization in each State with the main responsibility for the communication programme during an emergency.

3.35. PIOs from neighbouring States should be involved as observers in the national emergency exercises of other States.

Local authorities

3.36. Local and, as applicable, national authorities should have arrangements in place for the warning of the affected population as required by Requirement 10 of GSR Part 7 [2]. The preparations should include availability of reliable communication channels (sirens, mobile/fixed loud speakers, local radio/TV), pre-defined and possibly recorded announcements in the local languages, and designated individuals who will make announcements.

3.37. Arrangements should be made to ensure that during an emergency, the public will be promptly informed about protective actions and other response actions ordered and other facts and activities

related to public health and safety. Intensive communication efforts should be undertaken if there is an evacuation or where long-term measures may be required for the affected community.

3.38. Arrangements should be made for coordination of the local authorities with the national level authorities within the unified command and control system to avoid any contradiction in statements at the different levels. It will be imperative that local authorities' spokespersons are aware of what is being said about response actions taken and risk assessments performed at the national level.

3.39. A public awareness programme should be established for providing information in plain language at the preparedness stage on how a response to a nuclear or radiological emergency would be conducted and what can be done to protect health.

3.40. This information should be distributed to all population groups within the emergency zones, to support them in making informed decisions to comply with protective actions or other response actions.

3.41. Para. 5.45 of GSR Part 7 [2] requires that the effectiveness of arrangements for public information shall be periodically assessed. This assessment should include conducting public feedback surveys on a regular basis, discussion groups or evaluation of public understating during exercises.

International Organizations

3.42. Under the Joint Radiation Emergency Management Plan of the International Organizations (the 'Joint Plan') [3], the IAEA as the lead for coordinating the international response to a nuclear or radiological emergency, should make all efforts to ensure that international organizations participate in the response to emergencies of international significance as lined out in the Joint Plan, including public communication efforts.

3.43. International public communication activities should be:

- Communicated among the co-sponsoring international organizations of the Joint Plan [3];
- Factual and based on the role and responsibilities of actions taken by the IAEA. This includes media releases, interviews, social media communication and situation reports, issued by participating organizations;
- Consulted with each other: if the subject matter of the media release, interviews, social media or reports involves the competence of more than one organization, the organizations should coordinate to ensure the "one message, many voices" approach..

3.44. If a joint message is to be released, the goal of international coordination should be to achieve agreement on the content in a timely manner and to the extent possible ensure that respective media releases contain consistent messaging and information. If this is not possible, the organizations should limit their public information to their own area of competence. In case an organization receives a request for assistance to respond to a radiation incident or emergency, the organization should make every effort to obtain the requesting State's clearance before releasing related information to the media and the public.

INFRASTRUCTURE AND RESOURCES

3.45. In accordance with the results of the hazards assessment and the identified potential consequences of a nuclear or radiological emergency irrespective of the cause, an appropriate infrastructure for communication purposes should be developed and described in the public communication plan.

3.46. Appropriate and sufficient public communication infrastructure capabilities, both on-site and off-site, including resources (both human and financial), should be allocated to ensure effective and efficient communication activities required during an emergency and during the transition phase.

3.47. Public needs for information are different during the transition phase than during the emergency phase, and all resources needed to address the emergency and transition phases should, where practicable, be identified, established and evaluated at the preparedness stage. This includes the potential for long-term needs of personnel, communication infrastructure and equipment, and facilities.

3.48. Resources should be designated for the development and continued maintenance of the infrastructure.

3.49. The infrastructure should be robust and redundant (see para. 3.60.).

3.50. The components of the infrastructure should be maintained and, as necessary, upgraded to ensure continued development and modernization.

Personnel

3.51. Sufficient personnel, including a reasonable number of PIOs that will be sufficient to cover media and public relations, internal communication, social media, online communication and media monitoring, as well as trained technical briefers, such as health physics or radiation protection experts, are essential to conduct public communication activities in a timely manner and provide factually correct information to the public during a nuclear or radiological emergency. Sufficient personnel are

also needed to timely address any incorrect information and rumours, and to respond to requests for information from the public and the media.

3.52. A PIO should be part of the emergency response on-call roster and on stand-by 24/7 in case an emergency or a situation with increased media interest occurs.

3.53. A rotation plan should be prepared for the PIOs and other communication personnel. Depending on the severity and the progression of the emergency, the PIOs may have to respond to the media around the clock and hold regular press conferences and media updates.

3.54. A rotation staffing plan for other communication personnel who may be needed continuously should also be prepared, for example, using three eight-hour shifts or two twelve-hour shifts that provide 24 hours/7days coverage.

3.55. During an emergency, extra staff may be needed to respond to inquiries from the public. The number of extra staff needed to cover telephone inquiry hotlines and social media activities should be estimated and a plan for how to assemble them should be prepared and exercised.

3.56. All communication activities including establishment and staffing of telephone inquiry hotlines, should be regularly trained and exercised.

Infrastructure

3.57. Public communication should always have the necessary infrastructure available to facilitate its work. This includes all technical installations to both receive and distribute information, to coordinate and communicate with other elements of the emergency response and to monitor and communicate with/on traditional, online and social media and emerging media platforms.

Unified off-site public communication centres

3.58. Off-site centres, both fixed and mobile, provide a means for effective coordination of all information and activities associated with any emergency. Unified public communication centres can be integrated within existing fixed or mobile units or be set up separately for public communication operations.

3.59. These centres should:

- Be established and kept ready for use at the preparedness stage;
- Be made known to the media in advance;

- Provide for effective coordination and control of all official public information and activities within the unified command and control system;
- Provide sufficient space and facilities for necessary public communication staff and, if appropriate, for media representatives to interact and work from; and
- Provide systems to exchange PIO information and data throughout the command and control system.

Concept of redundancy

3.60. The concept of redundancy should be applied to all infrastructure and resource planning. This includes but is not limited to back-up equipment and systems, multiple staff trained for the same responsibilities and tasks, and the use of different communication channels and providers.

3.61. As stipulated in para. 5.69 of Requirement 13 of GSR Part 7 [2], specific consideration should be given to arrangements that ensure redundant infrastructure in case of emergencies caused by, during or following natural disasters such as earthquakes, floodings or heavy storms as, for example, mobile communication channels might be more affected by these events than radio broadcasting.

Budget

3.62. In order to maintain a high level of readiness, the public communication programme should receive adequate and dedicated funding.

3.63. The budget should be sufficient enough to ensure effective and efficient implementation of the communication plan during routine day-to-day activities, as well as response activities, and includes but is not limited to funding for:

- Training and exercises;
- Communication equipment and facilities; and
- Identification of, and as necessary contracts for, call centres, additional personnel and other necessary PIO emergency communication equipment.

3.64. Financial resources should also enable funding for analyses to verify objectives, goals and actions defined in the public communication plan are being met and the plan is effective.

3.65. Contracted services should be considered for activities that do not require regular staff members to carry them out but are necessary to ensure an effective public communication response.

3.66. Contracted services that could be required for delivery of certain communication activities during a response (such as translation, website hosting, printing, rental of equipment, temporary help

services or establishing a telephone inquiry centre) should be assessed and exercised in advance to determine that the requested service can be delivered in a timely manner, if and when needed. Assessments and exercises should also take into account whether and how such services would be delivered in the event of an emergency that affects electricity supply or other infrastructure.

SPOKESPERSONS AND TECHNICAL BRIEFERS

3.67. Potential spokespersons and technical briefers assisting the spokesperson should be identified at the preparedness stage. Detailed operational guidance on selecting and preparing a spokesperson is provided in Section 3, PC-AG.5 of Ref [10].

3.68. As the Spokesperson is the “face” of the organizations’ public communication and therefore of the response, the spokesperson should be a key element to gain and maintain the public’s trust in the response and the organizations involved.

3.69. The selection of the spokesperson should be based primarily on the level of authority and communication skills.

3.70. The selection of technical briefers should be based primarily on relevant technical expertise and communication skills.

3.71. The more severe an emergency, the more senior the spokesperson should be. For a worst case scenario, this should be as a minimum the head of the leading response organization. For less severe emergencies, less senior managers or a PIO can act as a spokesperson. This also applies to recurrent briefings after the initial stages of an event.

3.72. Technical briefers should be senior subject matter experts, for instance radiation protection experts or first responders. Technical briefers should support the spokesperson, for example during media briefings, as required to address topics and questions related to his or her subject matter expertise.

PUBLIC COMMUNICATION TASKS

Core public communication tasks

Production/writing

3.73. For efficient communication, various materials should be pre-produced to the extent possible at the preparedness stage. These materials should include, but are not limited to, templates for press

releases and statements, presentations for press briefings, background information and questions and answers (Q&As).

Traditional and online news media relations

3.74. Traditional and online news media relations should enable interactions, communication and liaison with journalists representing traditional media outlets like newspapers, news magazines, TV and radio stations. Key journalists and media should be, to the extent possible, identified at the preparedness stage. Routine communication and relationships with the identified journalists should be established.

Social media relations

3.75. Arrangements should be made for an ongoing social media presence in an emergency in order to disseminate information, address misinformation and rumours, and respond to enquiries as needed and as possible. Such arrangements will allow for a timely response to questions raised, discussed or flagged on relevant social media channels.

3.76. Relevant social media channels should be identified, to the extent possible, at the preparedness stage. The selection of which social media channels to use should be based on their popularity and outreach capabilities.

3.77. Organizations should have clear guidelines in place regarding the official use of social media by members of the response organizations. Also, Organizations should have a clear code of conduct in place regarding the private use of social media by members of the response organization, as, in a private capacity, messages could be mistaken as official when commenting on an emergency.

Media monitoring

3.78. In a nuclear or radiological emergency, media monitoring is the process of reading, watching or listening to a variety of media sources and looking for specific keywords or topics of interest related to the emergency. Media monitoring should be conducted by using appropriate resources and technical arrangements to monitor traditional, online and social media.

3.79. Media monitoring should provide necessary data for strategic planning, and traditional and social media relations. Media monitoring data should enable communication officers to know what concerns the public, what information is getting through and how it is being interpreted. Media monitoring should provide access to potentially valuable information for the response as real-time information e.g. from eyewitnesses or live coverage might help to improve the situation awareness and identify potential risks and problems in the field.

Internal communication

3.80. Internal communication should inform members of the response organizations about the emergency and the response. The information should address their information needs. Internal communication in this context does not comprise operational communication to organize the response. It is therefore also part of public communication and should not contain confidential or propriety information. Members of the response organizations will be multipliers of the official messaging. Arrangements should be made and communicated via internal communication to ensure that members of the response organizations contacted by journalists are knowledgeable to refer these requests to the PIO section.

Public relations

3.81. Public relations activities are activities other than those conducted by traditional, online and social media relations. Public relations should coordinate and organize interested party engagement, as appropriate, to provide consistent and, as needed, additional information to the public. This should comprise two-way communication formats including newsletter services, telephone inquiry hotlines and public meetings. More guidance on the communication with interested parties in general can be found in Ref. [13].

3.82. The PIO(s) responsible for public relations should conduct all efforts following the one message, many voices principle and coordinating closely with those responsible for other communication tasks, especially with social media relations as another tool for two-way communication.

3.83. The focus of public relations should be set on providing background information, both generic and specific to the relevant interested parties.

Online communication

3.84. The online communication team or team member should be responsible for disseminating the messages of the response organization via its website. The maintenance of the emergency website when activated is also a responsibility of the online communication function.

Auxiliary public communication tasks

Logistics and technical support

3.85. The logistics and technical support for the PIO section should be provided either by the logistics section within the command and control system or by the PIO section's own logistics organization. Logistics and technical support includes the set-up and maintenance of a media centre,

hotlines and operations facilities of the PIO section including telecommunication and IT infrastructure as well as the technical and administrative arrangements for press briefings.

Translation services

3.86. Para. 5.45 of Requirement 10 of GSR Part 7 [2] requires information to be provided in the languages mainly spoken by the population residing within the emergency planning zones and emergency planning distances, for facilities in category I and II and areas in category V. For those and to be prepared for emergencies in other categories, translation services capabilities should be arranged at the preparedness stage. They should be able to provide translations in languages that could be relevant for public communication during the response. This should at least comprise capabilities to translate any information to and from all local languages and from local languages to English and vice versa. Consideration should be given to translation services comprising languages spoken in neighboring States.

INTERESTED PARTY DIALOGUE AND ENGAGEMENT

3.87. An interested party is a person or company with a concern or interest in the activities and performance of an organization.⁵ The public communication programme and plan should include interaction with interested parties during emergency preparedness and response.

3.88. Key interested parties should be identified to the extent possible at the preparedness stage prior to an emergency.

3.89. Regular dialogue with identified interested parties should be established at the preparedness stage to support a better understanding of protective or other response actions, and thus facilitate acceptance of decisions taken during a nuclear or radiological emergency. This dialogue should follow the principles of effective public communication in emergencies (see para. 2.2) to amplify trust and credibility.

⁵ The IAEA Safety Glossary [8] defines interested parties as follows: A person, company, etc., with a concern or interest in the activities and performance of an organization, business, system, etc.

The term interested party is used in a broad sense to mean a person or group having an interest in the performance of an organization.

Those who can influence events may effectively become interested parties – whether their ‘interest’ is regarded as ‘genuine’ or not — in the sense that their views need to be considered.

Interested parties would need to be specified as relevant.

Interested parties have typically included the following: customers, owners, operators, employees, suppliers, partners, trade unions; the regulated industry or professionals; scientific bodies; governmental agencies or regulatory bodies (national, regional and local) whose responsibilities may cover nuclear energy; the media; the public (individuals, community groups and interest groups); and other States, especially neighbouring States that have entered into agreements providing for an exchange of information concerning possible transboundary impacts, or States involved in the export or import of certain technologies or materials.

3.90. An analysis and identification should be carried out on the different interested parties' perceptions on radiation and radiation related risks, the communication channels that they use and their needs and priorities. This should include opinion surveys, face-to-face discussions and public meetings. The results of this evaluation should be incorporated in the respective public communication strategy.

3.91. Based on this evaluation the most effective public communication tools to reach the various interested parties and their specific needs for background information should be identified.

3.92. This evaluation should be conducted regularly as perceptions and priorities of interested parties might change over time. Arrangements should be adapted accordingly.

3.93. Dialogue with interested parties should be tested regularly during exercises.

PUBLIC COMMUNICATION TOOLS

3.94. The following communication tools should be used as appropriate to disseminate the public communication messages effectively. An example list of advantages and disadvantages of these and other communication tools can be found in Annex III. Example templates for press releases adapted to different emergencies are provided in Appendix I of Ref [10].

Press releases

3.95. Templates for press releases should be prepared at the preparedness stage to ensure a quick start of the initial response.

3.96. Templates for press releases on emergencies should be based on the organization's standard templates for press releases. Apart from room for the actual news, the template should contain:

- The issuing organization's name and logo
- A clear indicator that it is a press release on an emergency
- Date and time (both local and UTC)
- Contact details for further inquiries

3.97. Based on the communication strategy, various templates should be prepared for initial press releases covering likely scenarios identified in the strategy e.g. an accident at a nuclear power plant, a lost source or a nuclear or radiological emergency initiated by a nuclear security event. These generic templates should be used for initial press releases only to shorten the response time. The templates should foresee the possibility to enter situation specific details.

3.98. The approval process of the initial press release should be designed in a way that the target time for the release of one hour can be met after PIO-activation.

Holding statement

3.99. A template of a generic holding statement should be prepared and pre-approved at the preparedness stage for immediate release, if deemed necessary by the lead PIO, during the response to a nuclear or radiological emergency (see para. 2.28). The availability and use of such a pre-produced holding statement enables immediate communication, including on social media, without having event specific information available yet. This can contribute to limiting rumours and to fostering trust into the organization's response abilities. Example templates of a holding statement can be found in Annex V.

Statements

3.100. A spokesperson should give a first statement for TV and radio stations simultaneously with or as soon as possible after issuing a first press release

- When there is considerable demand expressed for such a statement by the media or on social media; and/or
- When lead PIO considers such a statement beneficial to explain the specific circumstances of the emergency to the public and to maintain the public's trust.

3.101. Arrangements should be made to identify, to the extent possible, locations to give such statements. These locations should not be located within areas that might be subject to safety or security restrictions. These locations should be easily accessible by the media.

3.102. It is preferable to give the media the opportunity to record or broadcast live such a statement themselves. However, such a statement can also be recorded by the organization and subsequently be provided to the media, on web site and via social media in case the lead PIO deems this appropriate e.g. due to time or organizational constraints.

Media briefings

3.103. Media briefings should be conducted when there is significant information on or high media attention regarding the emergency. More guidance on media briefings can also be found in Section 4, PC-IS.13 of Ref. [10].

3.104. Arrangements should be made to identify, to the extent possible, locations for media briefings. These locations should not be located within areas that might be subject to safety or security

restrictions. These locations should be easily accessible by the media. Arrangements should be made to ensure that the following necessary infrastructure for media briefings is available at these locations to ensure that the attending media can understand, process and further communicate the received information:

- An audio system
- The possibility to present slides, charts, photos, videos etc.
- Power supply for the media
- Internet access

3.105. The capacity of the location should be commensurate with the magnitude of the emergency, to ensure that all media representatives can be accommodated.

Social media postings and dialogue

3.106. A social media strategy should be implemented at the preparedness stage including setting-up own accounts on the most relevant social media platforms to reach a maximum number of users and to gain the experience necessary. Communication on the chosen platforms should be practiced routinely by engaging followers when there is no emergency. This will help to increase the number of followers and to ensure that posting in an emergency will not be new or confusing for the communication team.

3.107. Social media postings and dialogue should be used to relieve other communication tools, especially hotlines. Answers to questions raised on social media will be read by other users, too, resulting in a decreased need for individual inquiries by members of the public via social media or hotlines.

Telephone inquiry hotlines

3.108. Arrangements should be made to ensure the availability of telephone inquiry hotlines. These arrangements should be scalable to meet the needs caused by emergencies of various severities.

3.109. Arrangements should be made for the use of pre-recorded messages that should additionally be used to provide the latest media release as well as information on the most up-to-date protective actions and other response actions, to help alleviate telephone congestion.

3.110. Arrangements should be made to ensure that telephone inquiries can be answered in all relevant languages spoken within a State.

Background information material

3.111. Background information material that could be useful to support the public communication efforts during the response should, to the extent possible, be developed at the preparedness stage.

3.112. It should be designed in a way that it can be published via the organization's website, at public meetings, via social media, via traditional and online news media and on request. This should also include a catalogue of most frequently asked questions and respective answers (FAQs).

3.113. Such background information should further include but not be limited to maps, information about the basics of radiation, protective actions and other response actions, roles and responsibilities of the response organizations and plain language explanations about the type of emergency. See Annex IV for an example list of useful background information materials. These materials should be regularly reviewed and revised as appropriate.

3.114. Requirement 10 of GSR Part 7 [2] requires in para. 5.45 that for facilities in category I or II and areas in category V, arrangements shall be made to provide the permanent population, transient population groups and special population groups or those responsible for them and special facilities within the emergency planning zones and emergency planning distances before operation and throughout the lifetime of the facility, with information on the response to a nuclear or radiological emergency. Para. 5.45 of GSR Part 7 [2] furthermore requires that this information shall include information on the potential for a nuclear or radiological emergency, on the nature of the hazards, on how people would be warned or notified, and on the actions to be taken in such an emergency. This information should be based on guidance given above on background information material and should be incorporated, as appropriate, in the interested parties dialogue and engagement (see para. 3.87).

Emergency webpage

3.115. Arrangements should be made for all officially published information and contact details for the media and the public to be made available on the organization's website.

3.116. Following a graded approach, for more severe emergencies with significantly increased media and public interest, a specific emergency webpage should be made available to ease the updating process for the PIOs and the availability of the information for the media and the public and to reduce the website traffic as relevant information can be found more easily. The latter ensures the stability of the website and therefore its availability. The emergency webpage should be prepared at the preparedness stage.

3.117. The design of and arrangements for the use and activation of the emergency webpage should allow the PIO section, especially those PIOs responsible for online communication, to easily upload

press releases, video statements, background information and other relevant official information without specific IT support and in a predefined format.

3.118. Arrangements should be made to facilitate the incorporation of a specific section dedicated to rumour control on the emergency webpage.

3.119. Due to the nature of a severe emergency, the emergency webpage should have a very clear and lean design. The use of colours and other design elements should be considered carefully to clearly differentiate it from any promotional content.

3.120. The emergency webpage should be designed in a way that it is only displaying officially published information on the emergency. It should not contain promotional content or content that could be considered inappropriate in light of the ongoing emergency. This webpage should not be accessible when there is no emergency that warrants the activation of the emergency webpage. It should be kept as a “dark” webpage, i.e. not visible for and accessible to the public during non-emergency times.

3.121. The organization’s website, including the emergency webpage, should be hosted in a way that the server capacity is sufficient to manage the intense traffic to be expected in such situations. The breakdown of the emergency webpage, making it unreachable for a longer period, may harm the organization’s credibility and the public’s trust in the emergency response as a whole.

3.122. The activation of the emergency webpage should be part of relevant trainings. The server capacities should undergo regular and realistic stress tests.

PUTTING RADIOLOGICAL HEALTH HAZARDS INTO PERSPECTIVE

3.123. Para. 5.72 in GSR Part 7 [2] is requiring that governments ensure that a system for putting radiological health hazards in perspective in a nuclear or radiological emergency is developed and implemented with the following aim:

- To support informed decision making concerning protective actions and other response actions to be taken;
- To help in ensuring that actions taken do more good than harm;
- To address public concerns regarding potential health effects.

3.124. In a nuclear or radiological emergency, response organizations are likely to receive questions from the media and the public on the potentially harmful effects to people and the environment. This has been demonstrated by the experience from the response to past emergencies including the Fukushima Daiichi accident when it was observed that the “factual information on radiation effects

needs to be communicated in an understandable and timely manner to individuals in affected areas in order to enhance their understanding of protection strategies, to alleviate their concerns and support their own protection initiatives.” [11]. Thus, arrangements should be in place to address these concerns in a timely, understandable and effective way.

3.125. As part of the arrangements referred to in para 3.124, the system to put radiological health hazards in perspective in line with GSR Part 7 [2] should be developed and implemented to ensure that the public is informed on the manner in which they are protected when complying with recommended protective actions and other response actions (or in absence of any such recommendation) and to address their primary concerns. In addition, maintaining regular dialogue and other forms of information sharing with the public and other interested parties should also be considered. This information-sharing should also aim at explaining the rationale for protective actions and other response actions in order to facilitate better understanding, acceptance and implementation of the recommended actions.

3.126. Taking into account lessons learned from experience⁶, the development of a system for putting radiological health hazard in perspective should consider:

- The rationale for implementing protective actions and other response actions in a nuclear or radiological emergency, including the national criteria used for this purpose;
- The retrospective attribution of radiation induced health effects [18] on the basis of an indicator such as estimated doses or measured quantities;
- The need for public concerns to be addressed in a plain and understandable language;
- The differences in the perception of the radiological health hazards among the public in comparison to that of EPR experts and other technical experts.

3.127. A system for putting radiological health hazards in perspective should be based on the retrospective attribution of radiation induced health effects and not on the prospective inference of radiation risks⁷. However, the prospective inference of radiation risks should continue forming a basis for measures to be applied to allow for protection and safety of the affected population even in the longer term after a nuclear or radiological emergency, as appropriate. However, consideration should be given to the ICRP recommendation that “it is not appropriate, for the purposes of public health

⁶ For example, the lesson learned in the response to the Fukushima Daiichi accident stating that “The risks of radiation exposure and the attribution of health effects to radiation need to be clearly presented to stakeholders, making it unambiguous that any increases in the occurrence of health effects in populations are not attributable to exposure to radiation if levels of exposure are similar to the global average background levels of radiation.” [11]

⁷ For retrospective attribution of radiation induced health effects and the prospective inference of radiation risks see: UNITED NATIONS, Sources, effects and risks of ionizing radiation (Report to the General Assembly with Scientific Annexes) [18].

planning, to calculate the hypothetical number of cases of cancer or heritable disease that might be associated with very small radiation doses received by large numbers of people over very long periods of time.” [19]

3.128. Any system developed taking into account para. 3.125 for the purpose of effective public communications should not substitute individualized assessments, medical screenings, or examinations needed to ensure an accurate attribution of radiation induced health effects after a nuclear or radiological emergency. Instead it is intended to facilitate an effective communication when detailed assessments are yet not available.

3.129. The system for putting radiological health hazards in perspective should be developed with involvement of technical experts as well as experts in public communications. The public and other interested parties should also be consulted throughout the development process. The system should be tested with selected audience for its appropriateness and adequateness prior to adoption.

3.130. An example system for putting radiological health hazards in perspective developed taking into account the recommendation given in para. 3.126 is provided in Appendix 1. This example system is based on the generic criteria for taking protective actions and other response actions in a nuclear or radiological emergency provided in IAEA Safety Standards (GSR Part 7 [2] and GSG-2 [5]). Based on the scientific evidence, for doses below these generic criteria there will not be any severe deterministic effects or an observable increase in the incidence of cancer, even in a very large exposed group.

3.131. The graphic system given in Annex II should be considered for use to explain the information contained in the example system in a simple graphical form using a plain language.

TRAINING AND EXERCISES

Training

3.132. All PIOs and others involved in public communication aspects of the emergency response such as senior managers, spokespersons and technical briefers, and emergency response personnel should be prepared for situations when members of the public or the media address questions to them, including on social media. Respective media training simulating these situations and providing strategies to properly respond to such situations should be conducted.

3.133. Personnel, who are part of or could be part of the command and control system, including first responders, should be provided with at least basic public communication training to ensure that they

understand the complexity and problems that could arise from discussions with the media, the public, interested parties and others who seek information regarding the emergency.

3.134. PIOs should be trained on the factors that support risk and crisis communication strategies, the construction of risk perception, social amplification of risks, the importance of interested party dialogues and interested party involvement, as well as on understanding terminology (e.g. risk vs. hazard).

3.135. In accordance with their respective roles and responsibilities, PIOs need to be particularly trained in:

- TV/video and audio statements and interviews;
- Preparation of transparent, timely, clear, factually correct, and plain language public messaging;
- Coordination of all official public information;
- Consistent messaging; and
- The use and specifics of communication channels, platforms and tools.

3.136. Additionally, PIO training should be integrated into overall emergency preparedness and response training programmes to ensure appropriate training of all emergency personnel. Specific training should include:

- Basic knowledge of the emergency management system;
- Basic knowledge of the subject matter;
- Training of technical briefers and other first responders on public communication procedures relevant to their role. Such training will not only improve their effectiveness, but will also provide such experts with a better understanding of the demands and challenges for public communication, in particular the need to distill complex, scientific concepts down into easy to understand plain language information, usually within very short timeframes;
- Training in order to convey in plain language such things as an explanation of the basics of radiation, risk, protective actions and other complex technical information that is understandable to non-technical audiences; and
- Training on bi- and multilateral liaison with other States to ensure transboundary implications and concerns are identified, known and addressed.

3.137. Spokespersons and technical briefers, once identified, should be trained in dealing with the media, preparing for and giving interviews and on-camera statements, how to show empathy and to

deal with strong emotions, and in responding to aggressive questions. The training should comprise lectures on risk and crisis communication, working sessions and exercises.

3.138. Spokesperson training should also include training on what “not to say” and how to avoid responding in ways that jeopardize confidential or classified information, or information that is subject to other legal restrictions. This training should be provided by a communication expert with hands-on experience in media relations.

3.139. Training programmes should be:

- Institutionalized as part of the organization’s emergency preparedness and response training programme;
- Continuously reviewed and updated to ensure lessons are current and consistent with a changing environment;
- Mandatory for all identified response functions, e.g.; PIO, senior managers, technical experts, and emergency response personnel, and commensurate with identified emergency response duties; and
- Scheduled on a recurring basis.

Exercises

3.140. Exercises, including drills, should test and validate public communication programme effectiveness for continuous improvement and necessary adjustments to plans, procedures and response protocols. Drills and exercises should be as realistic as possible. Therefore:

- Public communication should be integrated within existing emergency preparedness and response programmes as a routine component of the overall drill and exercise programme;
- Regular drills and exercises should be conducted to test the knowledge and expertise of PIOs, spokespersons, and other senior managers, technical experts and emergency response personnel responsible for public and media interactions. Periodic exercises should include all relevant national organizations involved in emergency response;
- The use of contracted services should be periodically tested in drills and exercises;
- Drills focusing on public communication only should also be carryout out;
- The spokesperson’s skills should be routinely tested in drills and exercises, with performance assessed with mock media interactions;

- Other identified emergency communicators, i.e.; technical briefers, emergency response personnel, etc.; should also be routinely tested in drills and exercises; and
- Inter-governmental organizations should, as part of their drill and exercise programmes, exercise public messaging to enable a consistent messaging process as described in the Joint Radiation Emergency Management Plan of the International Organizations [3].

3.141. The public communication component of drills and exercises should include, to the extent possible, tests of the communication strategy to include processes and procedures for:

- Providing transparent, timely, clear, factually correct, and plain language public messaging;
- Collecting and assessing information;
- Coordination of all sources of information;
- Development of messages;
- Necessary message coordination and approval;
- Dissemination of information;
- Media monitoring; and
- Consistent messaging.

3.142. Arrangements should be made for an evaluation, review and after action report following the conclusion of each drill and exercise to determine gaps, lessons and other necessary improvements for an effective public communication component within the emergency management system.

3.143. Arrangements should be made regarding the frequency of drill and exercise programmes to ensure that the skill level of the public information officers, spokespersons and other identified emergency communicators remains sufficient to respond to an emergency event.

4. PUBLIC COMMUNICATION ARRANGEMENTS IN EMERGENCY RESPONSE

4.1. This section provides guidance for public communication activities in the response to a nuclear or radiological emergency. Effective public communication in an emergency is contingent on the level of adequate preparedness, as elaborated in Section 3.

4.2. Public communication is part of any emergency management system and is a critical means for ensuring an effective and efficient response. Thus, the public communication group should be

involved at the onset of any actual emergency, potential emergency or initiation of a response. Information on situations at facilities and activities involving nuclear or radiological material, even before an emergency has been declared, should be shared immediately with those responsible for public communication to ensure timely and consistent messaging.

ACTIVATING A PUBLIC COMMUNICATION RESPONSE

4.3. The public, media and interested parties demand immediate and comprehensive information from the emergency response organization. However, in most instances all necessary information and data regarding the emergency is not available at the onset. Arrangements should be made to communicate with the public at the earliest possible stage of a response. Demonstrating, from the onset, an appropriate response, will support efforts to build and maintain public trust. Lack of communication undermines public confidence and facilitates the spread of rumours and misinformation.

4.4. Therefore, an organization's public communication response should be activated as soon as there is an indication of an emergency. Public communication should be listed in an organization's priority internal notification and alarming system and the lead PIO should have immediate and continued access to senior decision-makers responding as part of the command and control system to an emergency. This helps ensure the PIOs' earliest possible participation in responding and ensures communicators have access to the most relevant, up-to-date information.

4.5. As detailed in the public communication plan (see para. 3.11) appropriate resources should be available and scalable anytime to address the situation.

Holding statement

4.6. The lead PIO should have the authority to release the pre-approved generic holding statement (see para. 3.99) as he/she deems appropriate when there are already requests for information by the media or the emergency is discussed on social media, before specific information on the emergency is available.

Spokespersons and technical briefers

4.7. The spokesperson should address the media in a timely manner and at a reasonable frequency via camera and/or audio statements, recorded video, or during media briefings. The Spokesperson should provide the media with statements and quotes for print, audio and visual communication.

4.8. Technical briefers should assist the Spokesperson to provide more detailed information on their subject matter as deemed necessary considering the specific kind of the emergency.

4.9. Spokespersons and technical briefers should be appointed from among those identified and trained at the preparedness stage (see para. 3.11) taking into account the specific kind of the emergency.

PUBLIC COMMUNICATION TASKS

4.10. Public communication tasks should be conducted by the PIO section and coordinated by the lead PIO (see Annex I). As cited above, the PIO's response to the emergency will be based on a graded approach and this determines if the lead PIO responds to the event alone or with a PIO section of relevant size. The actions described below might therefore be conducted by an individual or by a team.

Core public communication tasks

Strategic planning

4.11. Based on the strategy and communication plan developed at the preparedness stage, the lead PIO should develop a situation-specific strategic approach to address the actual and ongoing emergency and set priorities. This should include an assessment of the communication situation based on media monitoring data, the definition of key messages, the identification of key channels and key audiences, and the decision on public communication actions to be taken in line with the decisions of the unified command and control system.

Production/writing

4.12. In addition to materials developed at the preparedness stage, information material should be produced addressing the specific situation and be disseminated using the various communication tools identified. This should include, but not to be limited to, press releases, statements, presentations for press briefings, background information that hasn't been pre-produced, Q&As and video statements which should be used as appropriate by those responsible for traditional, online and social media relations.

Traditional and online news media relations

4.13. Using the pre-established traditional and online news media relations, as per the arrangements in para. 3.74, information via press briefings, camera statements, recorded video statements, quotes, interview partners should be provided. Maintaining traditional and online news media relations in an emergency means remaining constantly available for journalist requests throughout the emergency via telephone and email.

Social media relations

4.14. Social media relations should ensure that all published information on the emergency is being made available via social media and that a dialogue with social media users is established and maintained as appropriate.

4.15. Social media relations should inform social media users about newly information available as soon as this is published. A link to the relevant information on the website or emergency website should be provided.

Media monitoring

4.16. Media monitoring should be established or extended as soon as reasonably possible for reading, watching or listening to traditional, online and social media sources. Keywords predefined at the preparedness stage to narrow the search should be reviewed and complemented as necessary with targeted keywords reflecting the situation, e.g. the name of the location or facility.

4.17. Specific consideration should be given to hashtags or similar markers used by the public, the media or the response organizations to identify messages covering the emergency.

4.18. Media monitoring data should be used to identify rumours and other misinformation, topics of special interest to the public and the need for additional information.

4.19. Media monitoring data should be made available continuously to the whole public communication response organization throughout the command and control system.

Internal communication

4.20. Internal communication should provide information to be published to all members of the response organizations, also those not directly involved in the response, about the emergency and the response at least simultaneously with informing external audiences.

4.21. However, if new information is communicated internally significantly earlier than to the public or the media, this information might be leaked by members of the organization intentionally or unintentionally. Thus, the delay between internal communication and publishing new information should not exceed 30 minutes.

Public relations

4.22. Public relations necessary to coordinate and organize interested party engagement, as appropriate, and provide consistent and, as needed, additional information to the public should be established.

Online communication

4.23. All published information should be made available on the organization's website immediately.

4.24. The emergency web site should be activated in case of an emergency whose magnitude is likely to create high public and media interest. It can also be activated in case of events that cause high media attention but are based on misinformation or rumours. In this case the emergency webpage will be primarily used for rumour control.

4.25. The emergency web site should be monitored permanently by technical staff to be able to take action in case increased server traffic might jeopardize the website's availability.

Auxiliary public communication tasks

4.26. Auxiliary public communication tasks, such as logistics and technical support and translation services, should be activated as necessary to support an emergency response.

4.27. If deemed necessary by the lead PIO and following the public communication plan, hotlines, media centres, operations facilities and facilities necessary for the coordination of the public communication response should be activated as soon as possible. This includes telecommunication and IT infrastructure as well as the technical and administrative arrangements for press briefings.

4.28. All published information should be drafted in or translated as soon as possible to all relevant local languages. In case the lead PIO deems the emergency to create significant international media interest, capacities should be available to translate relevant published information in English. However, translation should not delay the first release of information in any language.

INTERESTED PARTIES

4.29. Interested parties identified at the preparedness stage or during the response should be provided with relevant information regarding the emergency. Experience from past emergencies shows that this includes but is not limited to:

- The affected population (directly or indirectly);
- The first responders and members of the response organization;
- Those working for the response organization but not directly involved in the response;
- The media;
- Community and business leaders as well as the scientific community, which help disseminate correct information;

- International and non-governmental organizations;
- Affected farmers, business owners;
- Operators and manufacturers of nuclear power plants or other nuclear facilities, and
- The interested public (local, national, regional and international).

4.30. Based on the topics of interest identified at the preparedness stage and on media monitoring data or other information, the concerns and information needs of the various interest groups should be addressed in a timely manner as outlined in the public communication plan developed at the preparedness stage and following the strategic planning of the lead PIO.

PUBLIC COMMUNICATION COORDINATION

National coordination

4.31. All public communication of organizations involved in the response, to include facility or activity, local and national levels should be operational under the unified command and control system to ensure a consistent message according to the “one message, many voices” principle.

4.32. The coordination should ensure that all organizations adhere to their respective area of responsibility.

4.33. Regular briefings for all PIOs and related staff should be conducted in person, via video conference or by comparable means. These briefings should aim at providing an overview of the current situation and actions planned and should provide a platform to flag issues and challenges.

International coordination

4.34. Under Article 1 of the Convention on Early Notification of a Nuclear Accident (the ‘Notification Convention’) [1] each State Party is required to notify the IAEA of any accident involving facilities or activities, from which a release of radioactive material occurs or is likely to occur and which has resulted or may result in an international transboundary release that could be of radiological significance for another State.

4.35. Para 5.48 of GSR Part 7 [2] requires the response organizations in a State to promptly provide information and advice to its nationals and to those people with interests in other States in the event of a nuclear or radiological emergency declared beyond national borders, with due account taken of the response actions recommended in the State in which the emergency occurs as well as in the State(s) affected by that emergency. This should be done by providing relevant public information and

instructions either directly or via the IAEA to all potentially affected States for further dissemination to its nationals.

4.36. Para. 5.36 of GSR Part 7 [2] requires that arrangements shall be made such that information on emergency conditions, assessments and protective actions and other response actions that have been recommended and have been taken is promptly made available, as appropriate, to all relevant response organizations and to the IAEA throughout the emergency. Furthermore, the IAEA should be also informed on significant public communication activities to facilitate the international coordination and provision of public communication.

4.37. The coordination of public communication among the participating international organizations should be following the Joint Radiation Emergency Management Plan of the International Organizations [3].

PUBLIC COMMUNICATION TOOLS

Press releases

4.38. If a press release is deemed to be necessary given the nature of the emergency, the target time for issuing the initial press release should be one hour and not exceed two hours after PIO-activation. The initial press release should not be too detailed, to avoid delaying publication.

4.39. Press releases should be written in plain and understandable language with information on the emergency and be issued to all relevant journalists and media outlets simultaneously. Press releases should also be made available on the organization's website and via social media.

4.40. Updates of press releases should be sent frequently as new information becomes available that can be shared with the public.

Statements

4.41. In case there is demand for video footage and audio material, a spokesperson should give a first statement for TV and radio stations simultaneously with or as soon as possible after issuing a first press release.

4.42. Spokespersons and technical briefers should refrain from speculating and issuing unconfirmed information at all times as this can harm the public's trust in the overall response and specifically in the public communication efforts.

4.43. All statements should be recorded and the video should be made available via the organization's website and social media channels, with a link to the video included in press releases to meet the needs of online and social media.

Media briefings

4.44. Media briefings or conferences should be conducted when there is significant information on the emergency or high media attention regarding the situation.

4.45. During unfolding emergencies, regular press briefings should be conducted to keep the media updated and to contribute to transparent and continuous public communication activities.

4.46. The procedures of the media briefing should be made clear to all spokespersons and technical briefers beforehand. Journalists should be briefed about the procedures, to the extent possible, prior to the media briefing. Specific consideration should be given to communicating the policy if questions will be taken and answered.

4.47. A time limit for the duration of the media briefing should be set and communicated to the journalists prior to or at the beginning of the briefing.

4.48. Live streaming or dial-in audio access should be arranged, if possible, for journalists who cannot attend the briefing in person, such as journalists in other States.

4.49. All briefings should be recorded by audio and/or video, if possible, and a summary of key points should be prepared, in the form of a press release, for issue after the briefing, as appropriate.

4.50. The media briefing should be moderated, if possible, by the lead PIO.

Social media postings and dialogue

4.51. All published information should be made available via relevant social media channels.

4.52. Social media should be used to communicate protective actions for those directly affected by the emergency and to address concerns and questions raised on the various online platforms.

4.53. Reasonable identifiers e.g. hashtags should be used when communicating an emergency via social media to facilitate messages being easily found by those interested in them. Social media platforms should be monitored by media monitoring officers to enable the social media relations team to react in a timely manner to concerns, questions and rumours. Specific attention should be given to those social media channels for which is an institutional account and on which the organization is active.

Interested party dialogue

4.54. The affected population and other interested parties will have specific concerns and questions that should be addressed. Arrangements should be established for dedicated telephone hotlines, organizing public meetings and answering inquiries via e-mail and social media.

4.55. Arrangements should ensure a continuous dialogue to the extent possible with all interested parties.

Telephone inquiry hotlines

4.56. Telephone inquiry hotlines should be established to handle questions by the public, the media and other interested parties. Telephone inquiry hotlines should be staffed sufficiently during a response to deal with the volume of calls.

4.57. Hotline pre-recorded messages should additionally be used to provide the latest media release as well as information on the most up-to-date protective actions and other response actions. This will help alleviate telephone congestion.

Background information material

4.58. Background information material should be disseminated as appropriate via the organizations' website, at public meetings, via social media, via traditional and online news media and on request.

4.59. Background information material should be used as deemed appropriate to communicate to the public also and especially when no or little information on the situation is available. However, care should be taken that background information is clearly marked as such and explained, so as not to be mistaken as current official information on a developing situation.

Emergency webpage

4.60. The emergency webpage should be activated as outlined in the communication plan or as deemed necessary by the lead PIO, when significantly increased media and public interest is expected.

4.61. The rumour control section on the webpage should be activated as deemed necessary.

4.62. The Emergency webpage should be updated immediately when new official public information is issued and should serve as a compilation of all official information on the emergency. It should contain the latest press release and an archive of all previous press releases, other statements and video statements, the relevant background information and contact details for further inquiries.

Maps and mapping products

4.63. When possible, maps should be used to convey information to the public and the media. However, care should be used to ensure that all maps and mapping products are clearly labeled to convey information as accurately as possible. Maps and mapping products, when used, should highlight the following:

- Known or potential areas affected by the release;
- Protective actions and other response action recommendations, to include urgent protective action planning zone (UPZ), precautionary action zone (PAZ), operational intervention levels (OILs), extended planning distances (EPD) and ingestion and commodities planning distances (ICPD);
- Radiation monitoring data, including aerial survey data;
- Actual plume pathways;
- Other pertinent data such as population affected, types of livestock and crops affected or possibly affected; and
- Organization and authority responsible for issuing the product.

4.64. Subsequent maps and mapping products should continue to include factual data as it becomes available. Such factual data could include radiation monitoring data as it becomes available. All products should be continuously issued as updated data becomes available.

4.65. All maps and mapping products should use plain language explanations that place health hazards into perspective (see para. 3.123).

The International Nuclear and Radiological Event Scale (INES)

4.66. States may decide to use the International Nuclear and Radiological Event Scale (INES) [16] for communicating to the public the safety significance of events related to the operation of nuclear facilities or the conduct of activities that give rise to radiation risks. However, it should be considered that experience from past emergencies shows that provisional ratings might change to a higher or lower rating. This can lead to a loss of credibility in the response, jeopardizing the objectives of effective public communication during nuclear or radiological emergencies. More guidance can be found in Ref. [17] The Use of the International Nuclear and Radiological Event Scale (INES) for Event Communication.

HANDLING RUMOURS AND MISINFORMATION

4.67. In the public domain, rumours and misinformation may be created either intentionally or unintentionally. Arrangements should be made to take action to immediately correct rumours and misinformation that could impact response operations. Arrangements should be in place to:

- Monitor traditional, online and social media and counteract misinformation swiftly, for instance by responding to incorrect social media postings with accurate information;
- Follow the development and spread of misinformation and respond accordingly;
- Note what the public and the media are interested in and provide respective information;
- Inform the media about existing misinformation and potential consequences to discredit the misinformation;
- Ensure that factually correct and updated information is continuously provided;
- Use the organizations websites or emergency webpages to provide corrections to the most prevalent and the most harmful rumours.

4.68. It might be the case that not all misinformation can be corrected as resources are limited. To avoid that all misinformation that has not been corrected in the way described above will be perceived by the public and the media as endorsed, disclaimers should be used along all correction of misinformation. These disclaimers should make clear that information that has not been flagged as misinformation and has not been corrected by the responsible organization must not automatically be considered to be correct.

POST EMERGENCY PUBLIC COMMUNICATION

4.69. Organizations should be aware that public communication on an emergency may not end with the termination of the emergency. Arrangements should be established to be prepared to respond to a shifted interest and questions that may include areas such as liability and compensation, safety arrangements and the benefits of nuclear or radiological applications, health issues and more. Arrangements should be made to continue, as appropriate, to inform about ongoing recovery efforts and lessons learned. Arrangements should also ensure that interested party engagement continues as long as there is considerable demand for dialogue.

5. ARRANGEMENTS FOR PUBLIC COMMUNICATION UNDER PARTICULAR CIRCUMSTANCES

BACKGROUND

5.1. Public communication related to a nuclear or radiological emergency can take place under particular circumstances that may arise from the specific cause of the emergency or the phase of the emergency in which public communication takes place. This section only recommends specific arrangements for particular circumstances that demand additional consideration to what has been recommended in the previous sections.

5.2. All Arrangements for public communication should be based on the principles of effective public communication and recognizing the challenges of public communication described in Section 2 irrespective of the particular circumstances.

NUCLEAR OR RADIOLOGICAL EMERGENCY INITIATED BY ACCIDENT, HUMAN OR TECHNICAL ERROR

5.3. In case a nuclear or radiological emergency is caused by an accident, human or technical error, organizations responsible for the public communication response should expect an increased demand by the public, the media and other interested parties on information on the root cause of the event, on responsibilities and liabilities.

5.4. Although, the provision of this information might be challenging, e.g. for legal reasons related to an investigation, the principles of public communication (see para. 2.2) should always be applied for information on the root cause of the event, on responsibilities and liabilities in order not to jeopardize the objectives of public communication (see para. 2.1), especially regarding maintaining the public trust in the emergency response.

NUCLEAR OR RADIOLOGICAL EMERGENCY INITIATED BY A NATURAL DISASTER

5.5. In case an emergency is caused by a natural disaster, organizations should consider that the occurrence of multiple events, i.e. the initial natural disaster and the nuclear or radiological emergency might increase the complexity of the public communication response. A special focus should be put on the coordination of public communication efforts within the unified command and control system (see para 2.14 and para. 4.31), as the overall public communication response should address all relevant aspects of both events according to the responsibilities defined in the unified command and control system.

5.6. As the effects of a natural disaster might affect the public communication infrastructure and some public communication tools might not be useable to the full extent (e.g. due to interrupted mobile communication services) the public communication strategy and plan should give guidance for the use of other communication tools to compensate these effects. The impact of a natural disaster on the public communication response should be prevented to the extent possible at the preparedness stage by applying the concept of redundancy as outlined in paras. 3.60 and 3.61.

NUCLEAR OR RADIOLOGICAL EMERGENCY INITIATED BY A NUCLEAR SECURITY EVENT

5.7. A nuclear security event is an event that has potential or actual implications for nuclear security that must be addressed [15]. Such an event typically involves a criminal or intentional unauthorized act involving (e.g. a radiological dispersal device) or directed at nuclear or other radioactive material (e.g. theft of material) or an associated facility or activity (e.g. sabotage). A nuclear security event may also initiate a nuclear or radiological emergency, in which case the response will include addressing safety and security aspects of the emergency.

5.8. Para 5.69 of Requirement 13 of GSR Part 7 [2] requires arrangements to be established to take into account the need to protect sensitive information in circumstances where a nuclear or radiological emergency is initiated by a nuclear security event. In accordance with the IAEA Nuclear Security Fundamentals No. 20 [14], the legislative and regulatory framework should provide for the establishment of regulations and requirements for protecting the confidentiality of sensitive information. In order to efficiently take into account the difference between accidents and deliberate acts that are intended to cause harm, such arrangements for communicating in an emergency triggered by a nuclear security event should be established at the preparedness stage. Guidance on protecting the confidentiality of information is provided in Ref. [15], Security of Nuclear Information, IAEA Nuclear Security Series No. 23-G.

5.9. PIOs should be made familiar at the preparedness stage with the nature of sensitive information in general and the rationale why this information cannot be published.

5.10. Requirements to protect sensitive information may be perceived by the public and other interested parties as compromising the principle of transparency. Therefore, the public communication response should explain to the extent possible and without compromising sensitive information, why some information cannot be provided or might be delayed. However this should not delay or prevent any non-sensitive information to be published that is essential to meet the goals of emergency response as outlined in para. 3.2 of GSR Part 7 [2].

TRANSITION PHASE

5.11. The need for public communications changes as the emergency evolves. During the emergency response phase⁸, the primary focus will be on means to communicate with the public on aspects that will support informed decisions on the onset of the emergency and effective implementation of necessary emergency response actions recommended by respective authorities.

5.12. As the source is being brought under control and the situation is being confirmed to be stable, the authorities will shift their emergency response efforts towards those aimed to enable the emergency to be terminated so that normal living conditions can be ensured for affected population as appropriate and the resumption of normal social and economic activity can be facilitated. During this period (referred to as transition phase, see DS474 [6]), various actions that were taken or restrictions imposed during the emergency response are to be adapted or lifted which, in turn, will impact affected populations and other interested parties and their information needs and priorities.

5.13. Requirement 18 of GSR Part 7 [2] requires the termination of a nuclear or radiological emergency to be based on a formal decision that is made public and to include prior consultation with interested parties, as appropriate. In addition, it specifies the need for, as appropriate, public communication arrangements to consider those for communicating with the public the “reasons for any adjustment of protective actions and other response actions and other arrangements aimed at enabling the termination of the emergency” as well as for monitoring of public opinion and the reaction in the news media “in order to ensure that any concerns can be promptly addressed” [2].

5.14. To address the needs for continued communication and consultation with the public and other interested parties during the transition phase in line with GSR Part 7, DS474 recommends that a mechanism and the means for continued communication and consultation with all interested parties, including local communities, are put in place for the purposes of smooth and orderly transitioning to an existing exposure situation as part of the prerequisites to enable the termination of the emergency.

Specifics in public communication arrangements for the transition phase

5.15. Emergency arrangements for public communications in a nuclear or radiological emergency should consider the shift in priorities and information needs during the emergency response phase and the transition phase. These should include those for communicating with the public on the decision made by respective authority to terminate the emergency and to transition to either an existing or a planned exposure situation.

⁸ “The period of time from the detection of conditions warranting an emergency response until the completion of all the actions taken in anticipation of or in response to the radiological conditions expected in the first few months of the emergency. This phase typically ends when the situation is under control, the off-site radiological conditions have been characterized sufficiently well to identify where food restrictions and temporary relocation are required, and all required food restrictions and temporary relocations have been implemented.” [8]

5.16. DS474 [6] recognizes that the transitioning to an existing exposure situation or a planned exposure situation and the subsequent termination of the emergency might occur at different times in different geographical areas/sites. Public communication arrangements should address possible concerns and information needs regarding the termination itself and the transition to an existing or planned exposure situation with account taken that the public concerns and information needs might be different in different geographical areas/sites at the same time.

5.17. Direct dialogue and personal communication should be applied in a transition phase since the decisions may affect the daily life of affected populations for a longer period. Such means for public communication should aim at helping affected population cope with the psychological stress and providing for public reassurance and should be supported by establishment of public support centers as recommended in DS474 [6]. The knowledge and perception gap between experts and the public should be taken into account.

5.18. Para. 3.8 of DS474 [6] recommends that prior to the termination of a nuclear or radiological emergency the following information is also provided to the public and other interested parties, as appropriate:

- The basis for the termination of the emergency which includes rationale on why it is safe to end the emergency and an overview of the actions taken and restrictions imposed;
- The need for adjusting imposed restrictions, for continuing protective actions or for introducing new ones as well as the expected duration of these actions and restrictions to remain in place;
- Any necessary modification in people's personal behaviours and habits;
- Possible options for the implementation of self-help actions⁹;
- The need for continued environmental and source monitoring following the termination of the emergency;
- The need for continued efforts to restore services and workplaces;
- Radiological health hazards associated with the new exposure situation.

5.19. During the transition phase, the necessary transfer of responsibilities to different jurisdictions or different authorities (or to different units within an organization) in various areas is expected to happen to allow for long term management of the situation under different exposure situation [6]. In this context, any transfer of authority and responsibilities for public communication during the transition phase should be considered at the preparedness stage and unambiguously addressed in the respective plan and programme for public communication.

⁹ See DS474 [6] for examples of self-help actions.

5.20. Engagement with interested parties in the transition phase should be increased in comparison to the emergency response phase as required in GSR Part 7 [2] and recommended in DS474. The affected local community should actively participate and be involved in the transition phase, as enabled by emergency management organization. This participation and involvement will contribute to the public's trust in adapting and lifting protective actions, for instance where food restrictions are lifted.

5.21. DS474 [6] recommends that consultation with relevant interested parties to be based on effective communication mechanisms which are founded on transparency, inclusiveness, shared accountability and measures of effectiveness, and to allow for feedback to be accommodated in a timely fashion.

5.22. Past experience has shown that late or low-level involvement of interested parties will likely have long term consequences on relations and communication with interested parties in the long term recovery phase. The following are major points that should be addressed in the public communication plan to enable effective communication in the transition phase of a nuclear or radiological emergency:

- The public and interested parties should be continually informed about on-going actions to protect public health, safety and the environment;
- Educational programmes on the health effects of radiation along with the concept of risk should be implemented and continued after termination of the emergency in cooperation with educational institutions to improve the knowledge and understanding of the actions applied during the transition phase; and
- Organizations should consider that concerns regarding other aspects such as waste management and disposal as related to the emergency may intensify as the transition phase progresses.

APPENDIX I:

EXAMPLE SYSTEM TO PUT RADIOLOGICAL HEALTH HAZARDS IN PERSPECTIVE IN A NUCLEAR OR RADIOLOGICAL EMERGENCY

I.1. The following system for putting radiological health hazards in perspective has been derived on the basis of generic criteria established in GSR Part 7 [2] and GSG-2 [5] for taking protective and other response actions in a nuclear or radiological emergency:

- a) 'Dangerous to your health': There is a possibility of severe deterministic effects (i.e. radiation induced health effects that are life threatening or could result in a permanent injury that reduces the quality of life) and a small possibility of an observable increase in the incidence of radiation induced cancers (if the number of exposed people is more than a few hundred) if doses are received exceeding the generic criteria in Table II. 1 of Appendix II of GSR Pat 7 [2]. Hence, should these levels for dose be projected, protective actions and other response actions need to be taken under any circumstance to protect individuals from incurring such doses. If doses are received at these levels, medical examination and treatment might be warranted.
- b) 'Possible radiation induced health effects': There is a very small possibility of an observable increase in the incidence of radiation induced cancers for some members of the public (i.e. pregnant women and children) if the number of exposed people is very large and if doses are received exceeding the generic criteria in Table II. 2 of Appendix II of GSR Part 7 [2]. Hence, should these levels for dose be projected, protective actions and other response actions need to be taken as a precaution to protect individuals from incurring such doses. If doses are received at these levels, long term medical follow up to detect radiation induced health effects early and to treat them effectively may be warranted.
- c) 'No observable radiation induced health effects': No radiation induced health effects have been observed (i.e. no severe deterministic effects and discernable increase in the incidence of cancers have been observed), even in a very large exposed group composed of the most sensitive members of the public when doses have been received below the generic criteria provided in Table II.1 and Table II.2 of Appendix II of GSR Part 7 [2]. Hence, should these levels for dose be projected, protective actions and other response actions are not warranted based on the radiological health hazards to further reduce doses although such actions may be considered to further reduce doses as low as reasonable achievable as long as they are justified. If doses are received below these levels, no medical attention in relation to radiation induced health effects is warranted.

I.2. The example system in para. I.1 should be considered by respective authorities when developing their national system for putting radiological health hazards in perspective in line with GSR Part 7 [2].

I.3. Only for doses above the generic criteria given in Table II.2 of Appendix II of GSR Part 7 [2], radiation induced health effects have been observed in epidemiological studies or otherwise scientifically confirmed. Doses above these generic criteria may therefore not be considered safe. This does not contradict the cautious principles of radiation protection which aim to reduce the exposure to radiation in a population to as low as reasonably achievable even below these generic criteria, based on the prospective inference of radiation risks (see para. 3.127) as long as this is justified to do more good than harm.

I.4. Due to the conservatism built into the generic criteria (given in Tables II.1 and II.2 of Appendix II, GSR Part 7 [2]), receiving a dose above the generic criteria does not mean that a radiation induced health effect will definitely take place in an individual, but that there is only a small chance of the particular radiation induced health effect to take place.

I.5. Para. I.3 and I.4 should be taken into account in the public communication arrangements applying the example system proposed in para I.1 so that they can be clearly explained to decision-makers and the public.

I.6. It has to be recognized that in a nuclear or radiological emergency, the public perception of safety of the situation may be associated not only with the radiological but also non-radiological aspects (such as the fear and stress present and their impact on the individual mental health). Thus, the relevant authorities should differentiate between radiological and non-radiological factors in addressing the question of the public “Am I safe?”. If radiological situation allows, the relevant authorities may consider answering this question positively by applying the third level of the proposed example system (‘no observable radiation induced health effects’). Non-radiological considerations of an answer to such question raised by the public should be addressed separately and should not lead to overestimation of radiological consequences.

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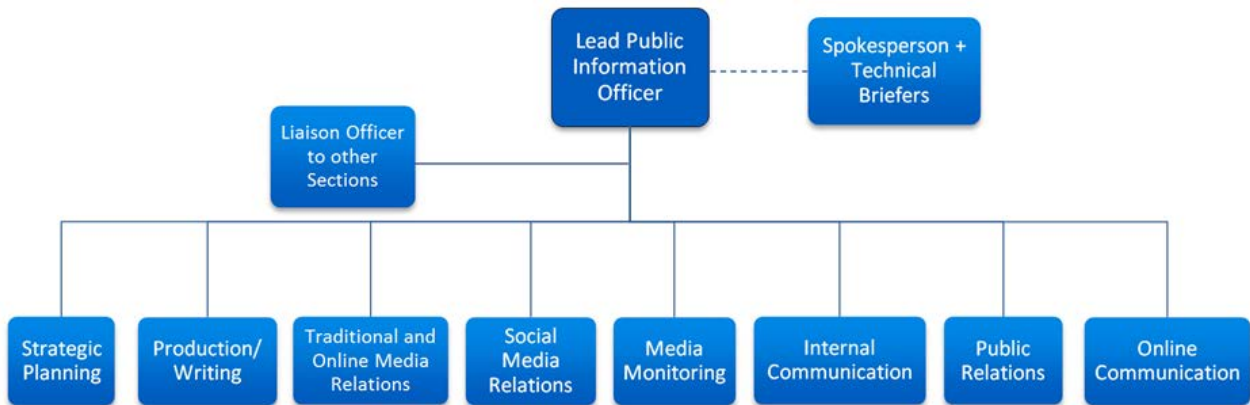
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ANNEX I:

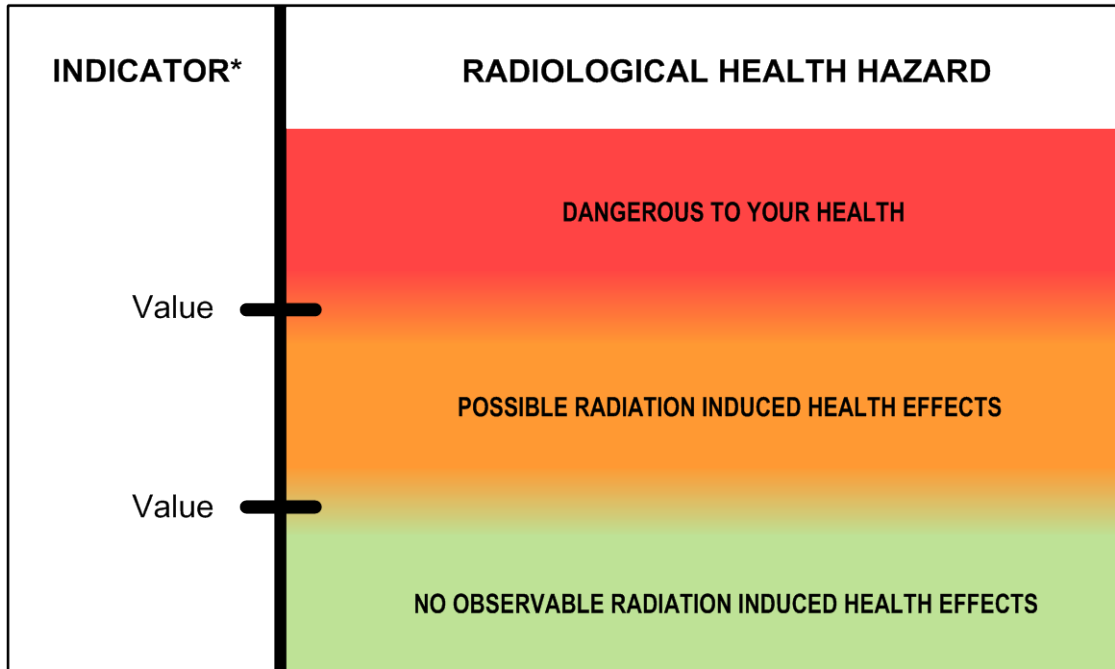
EXAMPLE OF A PIO SECTION WITHIN A COMMAND AND CONTROL SYSTEM



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ANNEX II:

EXAMPLE DISPLAY OF THE SYSTEM TO PUT RADIOLOGICAL HEALTH HAZARDS IN PERSPECTIVE



* E.g. dose, dose rate or another indicator such as the emergency class.

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ANNEX III:

EXAMPLE LIST OF ADVANTAGES AND DISADVANTAGES OF SELECTED COMMUNICATION TOOLS

Channel type	Examples	Pros	Cons
One way	Press release; Website or dark site update; Interested party Newsletter; Intranet update; Q / A lists on websites; Text messages, and mobile other messaging apps; Warning apps; Radio and television announcements; Printed information products; Digitally distributed information products, e.g. photographs, infographics, podcasts; Warning sirens and loudspeakers; Press conference; Live streaming; Spokesperson interview in e.g. press, TV State or radio; Media briefings; Public meetings; An internal meeting;	Scalable; May reach a large group at the same time; A highly credible source of information; Gives the possibility to answer questions, and clarify subjects; A way to address also difficult issues;	Limited or no opportunity at all to clarify and have a dialogue. Might be time sensitive. Time sensitive; Requires trained spokespersons who have good communication skills;

Two way	<p>Online chats; Public information centre; Answering service to inquiries; via telephone, email and social media;</p>	<p>A highly credible source of information; Creating a dialogue with the interested parties; Gives a possibility to make communication more human and empathetic; A way to address also difficult issues; Possibility to check what information is getting through and how it is being interpreted; Assist gathering of real-time information from eyewitnesses that might help to improve the situation awareness and identify potential risks and problems in the field;</p>	<p>Social media platforms should be adapted before the crises occur; Might need a lot of staff resources e.g. answering services; Good communication and interaction skills are needed;</p>
	<p>Microblogs-Platforms where people share short posts (i.e. Twitter, Weibo); Content communities - Platforms that work around specific content type which people create and comment . Forums - Online discussion platforms; Wikis - Webpages where people create and edit content together; Blogs - Online journals;</p>	<p>Creating a dialogue with the interested parties; Gives a possibility to make communication more human an empathetic; Gives an opportunity to connect people with questions to people with answers;</p>	<p>Social media platforms should be adapted before the crises occur The platform is dictating the pace of communication Might need a lot of staff resources e.g. answering to questions that has been presented</p>

Social Networks - Individual websites in which people share content and communicate

Assist gathering of real-time information from eyewitnesses that might help to improve the situation awareness and identify potential risks and problems in the field;
Possibility to check what information is getting through and how it is being interpreted;

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ANNEX IV:

EXAMPLE LIST OF USEFUL BACKGROUND INFORMATION MATERIALS

The Basics of Radioactivity

- Types of radiation;
- Radiation dose, dose rate and units;
- Putting radiation in perspective (Radiation Dosage Chart);
- Monitoring Radiation (Sampling, Hot Spots, Types of detection – networks, air-borne, mobile, Safecast); and
- Descriptions and explanations of most common isotopes like: Am-241, Ir-192, Cf-252, Pu-238, Cs-137, Po-210, Co-60, Ra-226, Sr-90, Se-75, I-131.

Applications and Usage of Ionizing Radiation

- Nuclear Power Uses;
- Industrial Uses;
- Medical Uses;
- Irradiation Facilities and Activities;
- Research Reactors; and
- Accelerators.

Nuclear Power Plants

- “How does a nuclear reactor work?”
- “How does fission work?”
- Reactor types / designs;
 - Pressurized Water Reactor;
 - Boiling Water Reactor;
 - Pressurized Heavy Water Reactor;

- Light Water Graphite Reactor;
 - Fast Breeder Reactor;
 - Gas Cooled Reactor;
 - Nuclear Marine Propulsion Reactors;
- Information on key safety systems (cooling);
 - Concept of redundancy & diversity (defence in depth);
 - Different accident scenarios and fundamentals of accident progression;
 - Beyond design accidents;
 - Hydrogen ignition event;
 - Meltdown;
 - Loss of Coolant Accident;

Nuclear Fuel Cycle

- Uranium milling and conversion (chemical hazards);
- Fuel enrichment;
- Fuel fabrication;
- Spent fuel;
- Storage;
- Dry storage;
- Different types of wet storage;
- Reprocessing; and
- Transport.

Phases of Decommissioning

Past Accidents

- Chernobyl;
- Three Mile Island;
- Fukushima;
- Windscale;
- Goiânia; and
- Tokaimura.

Nuclear Security

- Definition of a nuclear security event;
- International guidance;
- Physical protection at facilities;
- Radiological dispersion
- Radiation exposure device;
- Nuclear explosive devices;

Emergency Management

- Roles and qualifications of first responders and decision makers;
- Emergency classification;
- International standards and national law; and
- Where to find correct information.

How can you protect yourself from radiation?

- How to act during an emergency;
- Time, distance, shielding;
- Exposure pathways;

- National radiation protection system, and mitigation steps;
- How to recognize a radiation source;
- Stochastic effects;
- Deterministic effects;
- Iodine thyroid blocking;
- How to protect food and life stock; and
- Actions beyond those that are warranted.

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ANNEX V:

EXAMPLE TEMPLATES OF A HOLDING STATEMENT AND AN INITIAL PRESS RELEASE

EXAMPLE 1 IN CASE OF MEDIA REPORTS AND/OR RUMOURS ABOUT A SITUATION WITH NO CONFIRMED INFORMATION AVAILABLE YET

“[Organization] is aware of [media reports; rumours on social media etc.] regarding [a situation; an emergency/incident etc.] at [location]. At the moment [organization] can neither confirm nor deny these reports. [Organization] has [activated/contacted] [resources/counterpart] to look into the matter. [Organization] will provide details as confirmed information becomes available.”

EXAMPLE 2 IN CASE THE ORGANIZATION HAS BEEN INFORMED ABOUT AN EMERGENCY, INCIDENT OR EVENT BUT HAS NOT RECEIVED ANY DETAILS YET

“[Organization] is has been informed that [a situation; an emergency/incident etc.] occurred at [location]. [Organization] has [activated] [resources] and remains in close contact with [operator; point of contact at location etc.]. [Organization] will provide more public communication as it becomes available.”

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