IAEA
International Atomic Energy Agency

Emergency Preparedness Review (EPREV) Guidelines

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IAEA Services Series 36

IAEA SAFETY STANDARDS AND RELATED PUBLICATIONS

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EMERGENCY PREPAREDNESS REVIEW (EPREV) GUIDELINES

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EMERGENCY PREPAREDNESS REVIEW (EPREV) GUIDELINES

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FOREWORD

Through the IAEA's Emergency Preparedness Review (EPREV) service, experts conduct peer reviews of Host State arrangements and capabilities to respond to nuclear and radiological emergencies, regardless of the cause, against the IAEA safety standards on emergency preparedness and response (EPR). IAEA Safety Standards Series No. GSR Part 7, Preparedness and Response for a Nuclear or Radiological Emergency (2015), requires Member States to "include periodic and independent appraisals,including participation in international appraisals", as part of their quality management programme for EPR. Such appraisals are one way, along with training, drills and exercises, to ensure that Member States have sustainable EPR capabilities in place.

EPREV is the only peer review or advisory service to comprehensively address national EPR arrangements for nuclear or radiological emergencies. Other services focus on more specific elements such as regulatory infrastructure, on-site EPR arrangements and interfaces with relevant stakeholders.

The EPREV peer review service is designed to facilitate maximum interaction between experts on the review team and experts in the Host State. The missions are designed to be flexible and scalable to meet the needs of the Host State. The reports are intended to be used by the Host State in the development or revision of its EPR arrangements and for sharing best practices among Member States.

As one of the peer review and advisory services offered by the IAEA, EPREV has been developed to have an approach and terminology consistent with other services, where applicable, and to minimize the costs to host a mission. The service is managed in such a way to reduce overlap with other peer review and advisory services.

EPREV allows for a peer review across all levels of government and response organizations in the Host State, including the government, regulatory body, response organizations and operating organizations. The emphasis of the EPREV service is on ensuring compatibility of arrangements among all response organizations, based on the nuclear or radiological hazards identified in the State.

These guidelines are being published in the IAEA Services Series for the first time, presenting 19 years of experience in conducting EPREV missions. The guidelines were compiled based on a number of consultancy meetings and inputs from Member States and experts who have served on previous EPREV missions.

The IAEA officer responsible for this publication was M. Breitinger of the Incident and Emergency Centre.

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1. INTRODUCTION

1.1. BACKGROUND

The International Atomic Energy Agency (IAEA) provides several types of peer review and advisory services to assist Member States in reviewing their arrangements for nuclear safety and security.

The IAEA has conducted Emergency Preparedness Review (EPREV) missions since 1999 in order to provide an independent peer review of arrangements for preparedness for and response to nuclear or radiological emergencies in Member States. Any IAEA Member State may request an EPREV mission be conducted to review its emergency arrangements. The EPREV service is performed with the assistance of international experts who are selected on the basis of their knowledge and experience in the field and their familiarity with other, similar reviews. The peer review provides the Host State[1] with recommendations[2] and suggestions[3] that are intended to enhance its emergency preparedness and response (EPR) capabilities and arrangements. It also highlights good practices[4] that can be used by other Member States to improve their own EPR arrangements.

In order to ensure consistency between the various peer review and advisory services and avoid overlap between them, EPREV does not address the detailed governmental, legal, and regulatory infrastructure for EPR. Nor will EPREVs deal with arrangements at nuclear power plants (addressed through Operational Safety Review Team service), except for the interface between on-site and off-site authorities with respect to EPR.

Hosting an EPREV mission is one way for a Member State to apply Requirement 26 for a quality management programme for emergency preparedness and response, as defined in IAEA Safety Standards Series No. GSR Part 7 (hereafter: GSR Part 7) [1].

1.2. OBJECTIVE

The purpose of these guidelines is to provide a systematic and consistent methodology for conducting all activities associated with the EPREV service. The intended audience consists of:

— Prospective and actual Review Team members, for the preparation and conduct of the missions;

— Prospective and actual Host States, to clarify expectations and allow a smooth preparation and conduct of an EPREV mission and follow-up actions;

— Member States interested in IAEA's peer review and advisory services in the area of EPR.

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[1] The Host State is a Member State hosting a EPREV mission.

[2] Recommendations are findings which address aspects of the EPR arrangements that are not consistent with the IAEA Safety Requirements on EPR.

[3] Suggestions are findings which address aspects of the EPR arrangements which are not fully consistent with the IAEA Safety Standards on EPR.

[4] Good practices recognize an outstanding organization, arrangement, programme or performance superior to those generally observed elsewhere.

1.3. SCOPE

These guidelines cover activities during all phases of an EPREV, including actions of the Secretariat and all actions necessary by a Member State, from initial request to hosting of the Follow-Up Mission.

1.4. STRUCTURE

This publication is structured to present information in a sequential way. Section 2 provides overview information on the EPREV service. Sections 3–9 provide specific guidance on each phase of an individual EPREV mission. The Appendices provide examples and templates of documents which are used in the EPREV missions, including sample Terms of Reference, a sample schedule for a mission, a sample agenda for the preparatory meeting, entrance meeting, and exit meeting, and a matrix of the requirements of GSR Part 7 [1] with typical response organizations.

2. THE IAEA EPREV SERVICE

2.1. OBJECTIVES AND BENEFITS OF EPREV MISSIONS

EPREV missions are intended to review the Host State's arrangements and capabilities to respond to nuclear and radiological emergencies, regardless of the cause, against the IAEA safety standards on emergency preparedness and response (EPR). The review is based on the relevant IAEA safety standards and takes into account the Host State's specific situation in terms of its particular practices and its legal framework.

The objectives of an EPREV mission are to:

- Provide an assessment of the Host State's capability to respond to nuclear or radiological emergencies, regardless of its origin, including those initiated by nuclear security events;
- Providing a basis upon which the Host State will develop an Action Plan to enhance in the midterm its ability to respond to nuclear or radiological emergencies;
- Identification and sharing of good practices on preparedness and response to nuclear or radiological emergencies.

The benefits of an EPREV mission include:

- A credible, independent, objective international peer review of the state of emergency preparedness in the Host State;
- Promoting continuous improvement and to target specific aspects of the EPR system as part of a continuous improvement program by the Host State;
- Reviewing of interfaces, cooperation and arrangements between the multitude of organizations involved in nuclear and radiological emergencies;
- Raising the profile of EPR in the Host State and to promote the engagement of senior officials in the nuclear and radiological emergencies planning process;
- Promoting the sharing of experience and lessons learned among key EPR organizations in the Host State and with Review Team members;
- Providing an opportunity for the Host State to discuss specific EPR issues and seek expert opinion and guidance from IAEA staff members and international experts;
- Providing other Member States with information regarding good practices identified in the course of the review;
- Providing feedback on the use and application of IAEA safety standards;
- Promoting a greater global harmonization of EPR arrangements.

The IAEA has developed a set of performance indicators to evaluate the effectiveness of each EPREV mission and ensure that updates to the EPREV service are included as appropriate. The EPREV performance indicators are included in Appendix VIII.

2.2. SCOPE OF EPREV MISSIONS

An EPREV examines EPR arrangements and capabilities, not the response to emergencies. It is not a means for implementing Requirement 19 of IAEA Safety Standards Series No. GSR Part 7, Preparedness and Response for a Nuclear or Radiological Emergency, [1] (hereinafter referred to as GSR Part 7): Analyzing the nuclear or radiological emergency and the emergency response.

The purpose of an EPREV is not to review the entire all-hazards emergency management framework of a Host State. Specifically, the scope of an EPREV does not include:

- Arrangements for responding to conventional emergencies, except where those arrangements apply to coincident nuclear or radiological emergencies;
- Arrangements for responding to non-radiological hazards (e.g. chemical hazards), except where those arrangements also apply to nuclear or radiological emergencies;
- Arrangements for responding to nuclear security events, except nuclear or radiological emergencies initiated by a nuclear security event.

The scope of an EPREV mission is scalable and flexible. This means that a mission can target the Host State's overall EPR framework for facilities and activities or it can focus on specific emergency preparedness categories. Regardless of the scope of an EPREV mission, the entire EPR framework for the selected facilities and activities needs to be included in the review, from local to national organizations.

2.3. BASIS FOR THE EPREV EVALUATION

The EPREV is conducted on the basis of 25 of the 26 requirements[5] established in GSR Part 7 [1]. These requirements are reproduced in Appendix VII. Four of these requirements are of a general nature that must be met before effective preparations can be started; fourteen requirements address the functions that are critical for performing an effective emergency response; and seven requirements refer to the infrastructure necessary to develop and maintain adequate arrangements for preparedness and response. These requirements are set forth in GSR Part 7 and explained in further detail in relevant IAEA Safety Standards publications, such as General Safety Guide No. GSG-2 (Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency) [2], General Safety Guide No. GS-G-2.1 (Arrangements for Preparedness for a Nuclear or Radiological Emergency) [3], and General Safety Guide No. GSG-11 (Arrangements for the Termination of a Nuclear or Radiological Emergency) [3]. Other Safety Guides addressing EPR will also be used as a basis after their publication.

The EPREV also takes into account the self-assessment and Advance Reference Material (ARM) provided by the Host State. There is more than one way to meet IAEA safety standards. Reviewers will therefore be cognizant of the strategic and operational situation within the Host State and will apply their good judgement in assessing the application of the IAEA safety standards, taking into account the respective national context.

International experts also bring with them experiential background that may affect the way in which they interpret the IAEA safety standards. To avoid a discrepancy between EPREV

[5] Requirement 3 of GSR Part 7 is not relevant in the context of an EPREV, as it refers to the EPR responsibilities of international organizations and not to those of Member States.

missions, it is important that those standards be interpreted in a consistent manner, and that the observations about the Host State's EPR arrangements are based on a consistent understanding of the IAEA safety standards. It is the role of the IAEA Coordinator[6] to ensure that consistency in this respect is maintained between all EPREV missions.

[6] The IAEA Coordinator is an IAEA staff member responsible for coordinating a specific EPREV mission.

3. OVERVIEW OF THE EPREV PROCESS

The EPREV process is illustrated in FIG. 1 and explained below. A detailed description of the main sub-processes is given in the following sections.

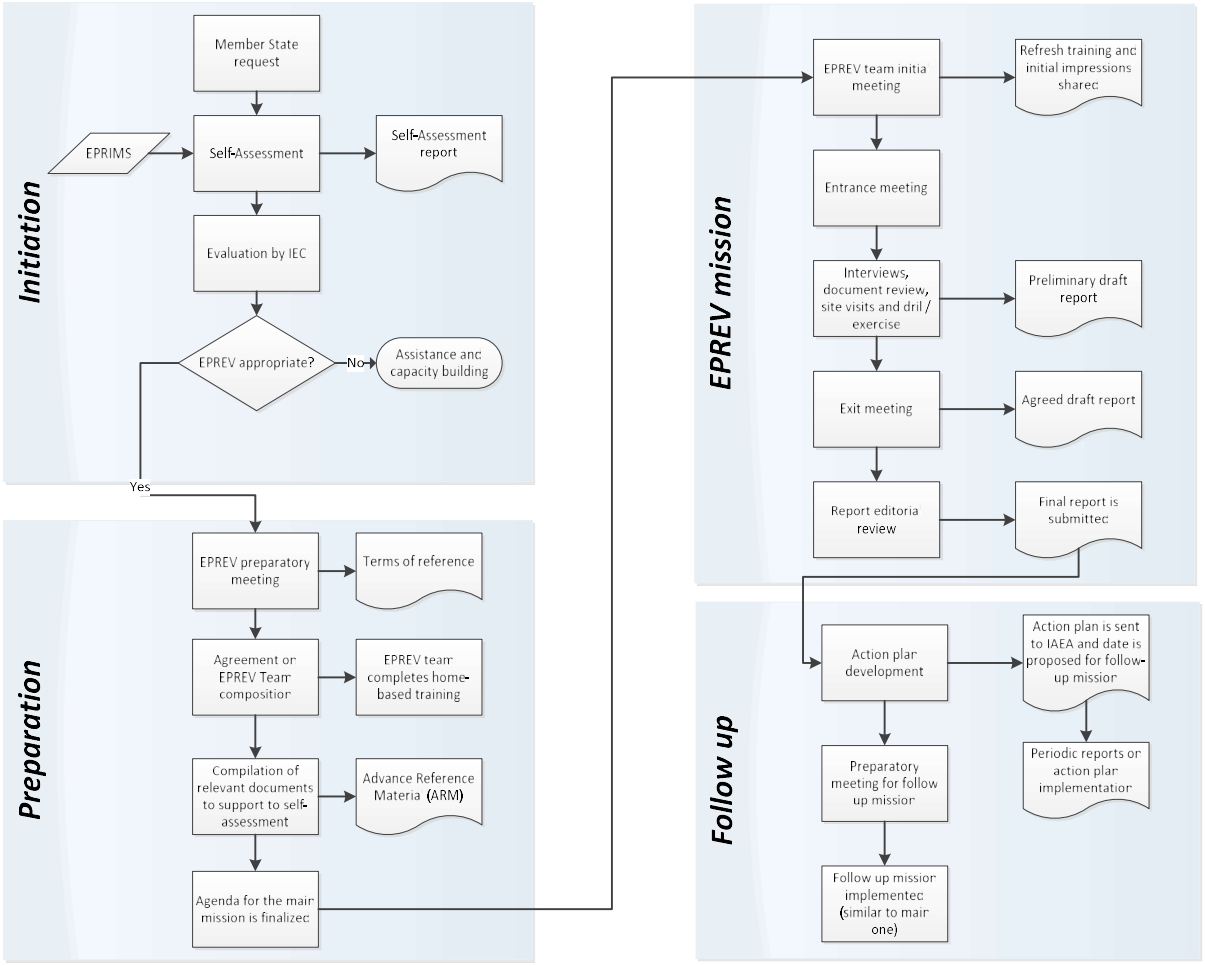

FIG. 1. The EPREV process.

An EPREV is initiated through a formal request by a Member State to the IAEA Secretariat, normally via its Permanent Mission, expressing its interest in hosting an EPREV mission. Subject to scheduling and funding arrangements, the request from the potential Host State will normally be acknowledged through a formal letter from the IAEA Deputy Director General, Head of the Department of Nuclear Safety and Security, to the Permanent Mission, which will identify an IAEA Coordinator for further action.

Discussions will then be initiated between the Host State EPREV Coordinator[7] and the IAEA Coordinator. Prior to the agreement to conduct an EPREV mission, the Host State will develop or review and update its EPR self-assessment by reviewing and submitting modules in the IAEA's Emergency Preparedness and Response Information Management System (EPRIMS).

[7] The Host State EPREV Coordinator is a senior representative of the Host State designated to coordinate the EPREV mission. Some responsibilities may be delegated to a deputy, but the authority of the Host State EPREV Coordinator remains with this official.

The results of the self-assessment will be reviewed by the IAEA's Incident and Emergency Centre (IEC) in consultation with the Host State EPREV Coordinator. If the provision of capacity building by the IAEA is considered to be a more effective way to enhance the EPR capacities of the Host State, the EPREV mission may be postponed to allow the implementation of capacity building activities, normally through the IAEA's Department of Technical Cooperation. Otherwise, detailed planning for the EPREV mission begins at this point.

A preparatory meeting is held at least six months before the EPREV mission. The goal of this meeting is to agree on the Terms of Reference (TOR) for the EPREV. The TOR are referred to in Section 5, and an example is given in Appendix 1. Normally, the preparatory meeting is conducted in the Host State by the EPREV Team Leader[8] and the IAEA Coordinator with the Host State Coordinator and other stakeholders.

Experts are recruited in consultation with the Host State. Their expertise and experience must cover the entire scope of the mission. The composition of the team is normally agreed upon at least three to four months before the mission to allow adequate time for implementation purposes (e.g. security clearances and visas).

No later than two months before the mission, the Host State provides a complete set of ARM, as agreed during the preparatory meeting. The ARM includes as one of its key references the most updated version of the self-assessment. The experts review the ARM and provide their first impressions report to the IAEA Coordinator no later than two weeks before the mission.

The EPREV mission is then conducted. It normally lasts 6 to 12 days, including the initial team meeting, depending on the scope and level of complexity of the review. At the end of the mission, an agreed draft report is provided to the Host State. A final draft report is submitted within 4 weeks of the conclusion of the mission. The Host State has 4 weeks to comment on the final draft report, and then the IAEA submits the final report within 4 weeks of receiving the comments, through the Permanent Mission.

After submission of the final report, typically 12 weeks after the conclusion of the mission, the Host State develops an Action Plan and provides it to the IEC for information. At that point, a tentative date is set for the follow-up mission. The Host State EPREV Coordinator and the IAEA Coordinator normally also agree on the intervals for the periodic information of the IEC by the Host State on the progress achieved on the Action Plan. This update is submitted at least once a year to the IAEA Coordinator or other designated IAEA representative.

A follow-up mission is conducted two to four years after the completion of the EPREV mission to review the progress in implementing the improvements resulting from the recommendations and/or suggestions of the EPREV mission. The follow-up mission is scheduled by the Host State and the IAEA at a minimum of six months before the actual mission would take place. The timing depends on the progress achieved in implementing the Action Plan.

[8] The EPREV Team Leader is a senior international expert on the Review Team responsible for final decisions regarding the outcome of the mission.

The TOR for the follow-up mission (the format and structure of which are similar to the TOR provided in Appendix 1) are drafted and agreed with the Host State in an EPREV follow-up preparatory meeting. Normally, the follow-up preparatory meeting is conducted by video conference. However, depending on the scope of the follow-up mission, the follow-up preparatory meeting could be held in person. As a minimum, the follow-up preparatory meeting involves the Host State's Coordinator for the follow-up mission, the IAEA Coordinator for the follow-up mission and the EPREV Team Leader for the follow-up mission.

Following the completion of the follow-up mission, a final follow-up report is issued.

A typical timeline for the EPREV process is shown in FIG. 2.

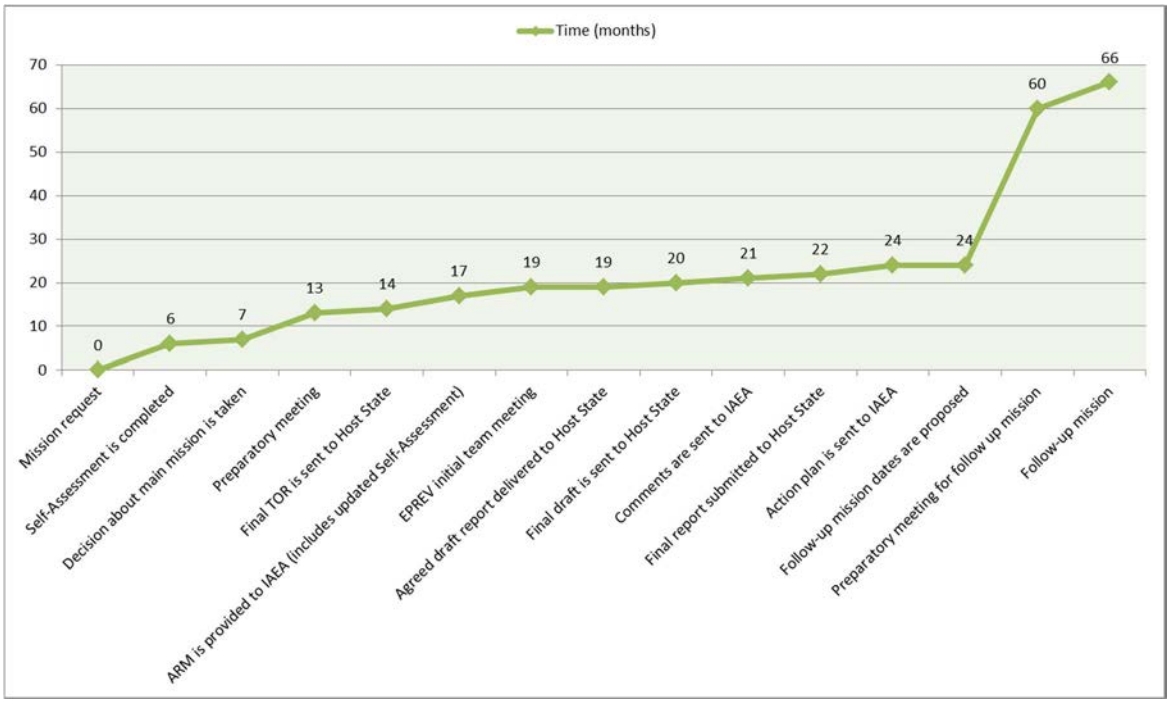

FIG.2. Typical timeline of the EPREV process.

4. INITIATION PHASE

4.1. REQUEST

The request to conduct an EPREV is sent to the IAEA by the requesting State via its Permanent Mission. The request includes a desired time frame for the EPREV mission, an indication of the proposed scope and information on the proposed funding mechanism. Finally, the request includes the name and contact information of the proposed Host State EPREV Coordinator as well as all organizations that would be involved in the EPREV mission.

The IAEA will acknowledge receipt of the request, designate an IAEA Coordinator, and review the status of the current self-assessment in EPRIMS. If additional information is needed, the IAEA Coordinator will work with the State to update the self-assessment. Once sufficient information is available, the mission will either be accepted or deferred until the completion of additional capacity building activities.

4.2. SELF-ASSESSMENT

The self-assessment is performed by the Host State before a final agreement on the mission is made. It is to be completed thoroughly through a process involving all stakeholders in the Host State. The self-assessment includes the key references supporting the assessment.

The self-assessment will normally be completed for all emergency preparedness categories that are applicable to the Host State, regardless of the proposed scope of the EPREV, unless otherwise agreed upon with the IAEA Coordinator. EPRIMS is the tool for provision of the Host State's national EPR self-assessment. EPRIMS provides a detailed and systematic approach for conducting the self-assessment, and it has the functionality to involve all stakeholders[9].

Once the self-assessment has been completed within a country, the results are provided to the IAEA Coordinator for review. This review may involve other experts and consultations with the Host State's national EPREV Coordinator. The self-assessment will be available to the IAEA Coordinator on line through EPRIMS, and the only action needed from the national EPREV Coordinator would be to submit the profile on the system with the preferred confidentiality option.

Should the IAEA Coordinator, in consultation with the National EPREV Coordinator, deem that additional capacity building activities would be advisable prior to the conduct of an EPREV mission, the actual mission may be postponed and a course of action may be defined, normally in coordination with the IAEA's Department of Technical Cooperation, prior to scheduling the EPREV mission.

[9] Additional information about access and functions of this system can be obtained through EPRIMS.Contact-Point@iaea.org.

4.2.1. Performance indicators

Performance indicators for the self-assessment are included in EPRIMS and intended to be a tool for the Host State to identify the areas of improvement in the EPR arrangements and to develop the draft Action Plan.

The performance indicators are used by the IAEA Coordinator during the Preparatory Phase to identify areas which require detailed review during the EPREV mission, for example in identifying specific expertise of the Review Team. The specific performance indicators are not evaluated during the EPREV mission by the Review Team.

The six levels of performance indicators for the arrangements in the Host State relating to the requirements in GSR Part 7 are the following:

- The requirement is fully met;
- The requirement is almost fully met;
- The requirement is partially met but the gap is not so significant. There is an Action Plan to address the gap;
- The requirement is partially met and the gap is somewhat significant, but there is an Action Plan to address the gap;
- The requirement is partially met and the gap is very significant;
- There is no arrangement in place and no initiative to meet the requirement.

5. PREPARATORY PHASE

5.1. TERMS OF REFERENCE

The TOR are developed jointly by the IAEA and the Host State. It specifies the objectives, scope, schedule and logistics of an individual EPREV mission. An example of the TOR is provided in Appendix 1. The sample TOR is normally presented to the Host State for review at least one month prior to the preparatory meeting. The TOR are developed upon during the preparatory meeting, and the final TOR are submitted to the Host State EPREV Coordinator by the IAEA Coordinator within one month of the completion of the preparatory meeting.

5.2. PREPARATORY MEETING

The purpose of the preparatory meeting is to agree on the TOR and on all the tasks required before the mission. It is normally conducted at least six months prior to the main EPREV mission. It involves the IAEA Coordinator and the Team Leader. As needed, it may also include a Deputy Team Coordinator and Deputy Team Leader. On the Host State's side, the Host State EPREV Coordinator and senior representatives of all the main stakeholder organizations that will participate in the review.

The preparatory meeting normally lasts two working days. A sample agenda is included in Appendix VI.

5.3. ADVANCE REFERENCE MATERIAL

The ARM is provided by the Host State in preparation for the main mission. It includes, within the mission scope:

- Most updated results of the self-assessment;
- Draft Action Plan based on the self-assessment;
- Laws and statutes related to EPR, including adherence to international conventions and bilateral agreements;
- Regulations related to EPR;
- National hazard assessment, including list of facilities and activities, practices and conventional hazards for which the national EPR plan is designed;
- National framework/plans for preparedness and response to nuclear or radiological emergencies;
- Emergency plans of all facilities and organizations involved in the EPREV mission;
- A list of emergency procedures for all facilities and activities involved in the EPREV mission (selected procedures are requested as needed during site visits);
- National EPR exercise programme;
- National and local training programme for response organizations;
- National public communication strategy;
- Exercise evaluation reports;
- After-action reports from previous nuclear or radiological emergencies and any applicable large scale conventional emergencies;

— Others as required;

— A guide to the contents of the ARM.

Information that must remain restricted or confidential should be clearly indicated as such, and the IAEA Coordinator and Host State EPREV Coordinator need to agree on handling and distribution procedures.

During the preparatory meeting, an agreement is reached on which document, or which parts of each document, are to be provided in English. Not all documents need to be fully translated. There are three options: full translation, summary translation or translation of specific sections. During the mission, the experts identify which information they need to have explained in detail, based on the ARM. Furthermore, an effort is made to include members in the review team who can understand the official language(s) of the Host State.

The Review Team members review the ARM prior to the main mission. The complete ARM is received by the IAEA Coordinator at least two months in advance of the main mission to allow adequate time for a thorough review of the material by the team members. The ARM is preferably included in EPRIMS or uploaded to a shared workspace accessible to all reviewers.

Experience has shown that high quality ARM, provided in a well-structured manner, greatly improves the effectiveness and efficiency of EPREV missions. The Host State is therefore encouraged to exercise care and diligence in the compilation of the ARM.

5.4. SELECTION OF THE REVIEW TEAM

The Review Team normally includes one Team Leader, one IAEA Coordinator and up to six reviewers, depending on the scope of the mission. Observers may also be added to the team, in agreement with Host State EPREV Coordinato. The duration of the mission and the team composition are agreed upon during the preparatory meeting and documented in the TOR.

Depending on the complexity of the EPREV, a Deputy IAEA Coordinator from the Secretariat and/or Deputy Team Leader may be added to the team. This is more likely when there are large distances between the national command centres (usually in the capital of the Host State) and the emergency preparedness category I/II facilities that the team will visit.

The Team Leader and, if applicable, the Deputy Team Leader are experienced managers with at least seven years of EPR experience within the scope of the EPREV mission they are leading. They should have a thorough knowledge of IAEA safety standards, have performed several peer reviews and are well recognized by their peers.

Team members should meet the following criteria:

— Have an excellent knowledge of IAEA safety standards in EPR;

— Have practical experience related to the mission objectives and scope, including the type of facilities and activities to be reviewed;

— Have demonstrated communication and English report writing skills;

— Have previous experience with similar reviews, preferably by participating as an expert or observer in previous EPREV missions;

— Represent various regions;

— Represent a diverse group of experts, with experience in operational, technical and regulatory aspects, with emphasis on experience in the actual implementation of EPR arrangements;

In addition, the following team characteristics should be fulfilled:

— Some team members have experience related to the management of complex emergencies, beyond nuclear or radiological emergencies; and

— At least one team member speaks the language of the Host State;

— At least one team member has previous EPREV experience;

— At least one team member is a newcomer to EPREV missions;

— One team member comes from the region of the Host State.

The roles and responsibilities of the members of the Review Team are described in detail in Appendix II.

5.5. TRAINING

All experts must complete a home based training on EPREV within 12 months of participating in an EPREV mission. This training, developed and administered by the IEC, covers the basic EPREV process, the conduct of the review and the documentation of observations, recommendations, suggestions and best practices. No less than two weeks prior to an EPREV mission, the reviewer must submit the results of the training to the IAEA Coordinator. Failure to do so may prevent an expert from taking part in an EPREV mission.

In addition, on the first day of the mission (day 0 on the typical mission agenda), a refresher training is conducted. This is important to ensure consistency between missions.

5.6. PREPARATION BY EPREV REVIEW TEAM MEMBERS

The IAEA Coordinator provides the following references to the Review Team, as required, based on the scope of the mission:

— The EPREV guidelines;

— Host State ARM;

— Previous IAEA reports relevant to the EPREV (e.g., IRRS, INSARR, OSART, SEDO, etc.), subject to confidentiality provisions;

— IAEA Safety Standards No. GSR Part 7 [1];

— IAEA Safety Guides on EPR [2], [3], [4];

— Terms of Reference;

— A recent, relevant EPREV final report, subject to confidentiality;

— Proposed focus areas of review for each team member;

— EPREV Reviewers' checklist, which is periodically updated based on implementation of EPREV;

— EPREV home-based training (if not already completed);

— Relevant EPR series publications, as appropriate (Refs [5]–[18]);
— Others, as required.

Prior to the mission, EPREV reviewers are expected to:

— Familiarize themselves with the EPREV guidelines;
— Review the relevant IAEA safety standards in line with the Terms of Reference;
— Review the ARM against the relevant IAEA safety standards;
— Prepare a First Impressions Report that identifies priority issues for review during the EPREV mission and provide it to the IAEA Coordinator at least two weeks before the EPREV mission;
— Complete the EPREV home based training (if the reviewer has not participated in an EPREV in the past 12 months);
— Obtain the necessary visa, if required;
— Complete the necessary procedure for security clearances;
— Ensure the availability of a laptop computer with Microsoft Word, or inform the IAEA Coordinator if this is not possible so that alternative arrangements may be made;
— Arrange to receive any required immunizations in due time;
— Familiarize themselves with the cultural values and overall situation in the Host State;
— Make or confirm travel arrangements and provide travel details to the Host State EPREV Coordinator and IAEA Coordinator.

5.7. LOGISTICS

The Host State EPREV Coordinator is responsible for coordinating all Host State logistics arrangements for the preparatory meeting and the EPREV mission. Arrangements for the EPREV mission will be agreed upon during the preparatory meeting. Logistics arrangements to be considered are included in Appendix 1.

5.8. FINANCE

The IAEA Coordinator and the Host State EPREV Coordinator, are responsible for making appropriate financial arrangements for conduct of EPREV, in accordance with the IAEA policy for funding Peer Review Missions.

6. CONDUCT OF THE EPREV MISSION

6.1. MISSION SCHEDULE

While the example of the TOR given in the Appendix 1 includes a typical mission schedule, the final schedule needs to take into account such specificities as the scope of the mission, organizations to be visited, travel to be conducted and any other elements that are particular to the Host State. The draft mission schedule is agreed on during the preparatory meeting and finalized by the Host State prior to the mission. This final version of the schedule is sent to the IAEA Coordinator by the Host State EPREV Coordinator at least two weeks before the main mission.

6.2. INITIAL REVIEW TEAM MEETING

The initial team meeting is conducted on the day prior to the Entrance Meeting and after Review Team members have arrived in the Host State as defined in the TOR. This meeting is chaired by the Team Leader and conducted by the IAEA Coordinator. It covers the following subjects:

- Introduction of all team members;
- Refresher presentation on EPREV;
- Presentation by each reviewer of his/her first impressions report based on a review of the ARM;
- Discussion of first impression reports;
- Review of mission schedule;
- Allocation of review areas and report writing assignments;
- Special rules or arrangements and last minute announcements;
- Greetings and additional instructions by Host State representative.

The Host State EPREV Coordinator is normally invited to observe the initial team meeting and to provide additional information and instructions regarding the mission and the logistics arrangements.

6.3. ENTRANCE MEETING

The entrance meeting takes place on the morning of the next day of the EPREV mission. Its purpose is to ensure a common understanding among all key mission stakeholders of the current situation, the objective of the EPREV mission and the process that will be followed. The entrance meeting is attended by the entire Review Team, the Host State EPREV Coordinator and senior representatives from key organizations that will be involved in the mission. A sample of the topics to be covered during the entrance meeting is included in Appendix V.

The entrance meeting is an opportunity for the team to meet all Host State senior officials at one venue and for Host State senior officials to demonstrate their support and engagement in the EPREV process.

6.4. REVIEW TEAM ORGANIZATION

The EPREV Team Leader and the IAEA Coordinator, in consultation with the Host State EPREV Coordinator, will determine whether to subdivide the team, if appropriate, for interviews and site visits. If the team needs to be split, they will take into consideration the expertise needed when determining team composition.

Typically during an EPREV mission, there are four levels of target audiences to interact with, as indicated in Table 1. Reviewers are assigned to one or more of these audiences (this is only an example and will need to be adapted based on the specifics of the mission):

TABLE 1. TYPICAL TARGET AUDIENCES AND FOCUS AREAS OF AN EPREV MISSION

Target audience	Focus area
Government	Legislative framework, coordination, integration into the all-hazards national emergency management system
Regulatory body	Regulations and guidance for licensees (Note: the regulatory body is also a response organization, described below)
Response organizations	Local, regional and national arrangements, plans, and procedures
Operating organizations	On-site arrangements (except when addressed through other peer review services) and coordination mechanism with off-site organizations

The EPREV Review Team is typically small, which introduces constraints on the division of responsibilities. Furthermore, EPR is a cross-cutting topic, making it difficult to allocate distinct responsibilities to separate individuals. In other words, all reviewers inevitably look at some of the same areas, but from different perspectives.

For example, it is not possible to ask one reviewer to look only at emergency management system aspects, or coordination mechanisms, as these aspects address all organizations involved in EPR.

However, due to the cross functional nature of EPR, each reviewer must take into account all applicable EPR requirements contained in GSR Part 7 [1] in his/her discussion with the counterparts. In several cases, a requirement may not be applicable for a particular organization. Information on the applicability of requirements can be found in Appendix VII.

6.5. REVIEW METHOD

The review is carried out through:

— A review of the ARM, prior to the mission;

— Consultation of other IAEA peer review reports for the Host State, subject to confidentiality provisions, prior to the mission;

— A review of additional documents that will be requested by the reviewers during the mission;

— Interviews with counterparts and other personnel as required;

— Site visits;

— Direct observation of EPR activities, mainly drills and exercises;

— Consolidation of observations by all reviewers during daily team meetings.

The review is performed on the basis of the IAEA safety standards. Observations must be properly recorded. The review and the discussions with counterparts must be conducted in a frank and open atmosphere**.** The review must be conducted with due regard to the principle of protection of sensitive information as described in Section 7.3.

6.5.1. Document review

Based on the review of the ARM and previous mission reports, and as a result of points raised during interviews, the reviewers may request to see additional documents during the mission. The counterparts will promptly provide the documents requested. Should the documents not be available in English or in a language that is understood by the reviewers, the counterpart provides a verbal explanation of the contents of the document if requested by the reviewer.

6.5.2. Interviews

The purpose of interviews is to gather information to clarify, confirm or deepen the understanding of the reviewer of specific issues. Where possible, interviews are conducted in a central location with stakeholders, thereby minimizing the team travel.

Interviews are not interrogations; they are discussions, and they promote a two-way exchange of information relevant to EPR. Each reviewer is responsible for promoting an atmosphere of openness and cooperation. Interviews are facilitated by the reviewers, who are responsible for ensuring that all relevant information is gathered. The use of prescribed presentations and overview materials during interviews is discouraged.

The 25 relevant requirements contained in GSR Part 7 [1] provide the basic structure for the interviews. Not all 25 requirements apply to all interviews. However, due to the cross-cutting nature of EPR, it may be necessary to systematically go through many of the requirements to ensure that important responsibilities are not missed. The Review Team prepares for the interview in advance by identifying the requirements that most likely apply and the questions that will be addressed.

The reviewer encourages this by offering examples of the way in which IAEA safety standards have been implemented in other countries; or he/she may point out common issues and challenges, for example. However, it is important that the reviewer exercise care to ensure that his/her opinion does not become the dominant focus of the discussion. During the interview, the reviewer takes detailed notes. Notes have to be factual and not opinionated. The reviewer needs to be able to share those notes with other reviewers. Recording interviews

is not a preferred method for keeping notes; such a formal setting can make the counterpart uncomfortable and hinder the free exchange of information.

The reviewer should discuss possible suggestions and recommendations during the interview to obtain feedback from the counterparts. While they may change over the mission, it is better to have early agreement from counterparts as the mission progresses.

6.5.3. Site visits

During an EPREV mission, a site visit refers to a visit of a facility, activity or organization that has a designated role for EPR, such as an emergency operations centre, a training facility, a contamination control point or a nuclear facility. In that sense, a visit to the administrative offices of a counterpart is not considered a site visit.

Prior to the site visit, the counterpart needs to have a clear understanding of the purpose and expectation of the reviewer. The reviewer is responsible for ensuring that this is clearly understood to ensure a successful site visit. The purpose of the visit may include, for example:

— Observing equipment and facilities;

— Observing EPR activities, such as training, or monitoring;

— Interviewing staff from those facilities.

Site visits can provide valuable insight into the arrangements and capabilities at a particular facility, activity or response organization. However, considering that the travel time that sometimes required for site visits can significantly reduce the time available for the review, the sites to be visited and the duration of the visits have to be judiciously chosen based on the self-assessment of the Host State and the scope of the mission, agreed upon during the preparatory meeting, to minimize travel time during the mission.

6.5.4. Observation of exercises

Although an emergency exercise may offer a very effective way to observe emergency organizations in action, holding such an exercise should be carefully considered in light of the facts that:

— Exercises take considerable efforts to organize and conduct, at a time when resources may already be considerably stretched due to the EPREV mission;

— Properly observing the exercise so that useful comments can be made by reviewers may require more than one reviewer for a considerable part of a day, thereby significantly reducing the review time available to the Review Team.

The benefit of observing the exercise must be weighed against the cost in terms of lost time, and the value of the observations made during an exercise must be compared to the value of conducting additional interviews and site visits. The conduct of exercises is therefore discouraged, unless it has been included in the scope of the mission during the preparatory meeting.

6.5.5. Daily team meetings

At the end of each day, the Review Team meets to discuss daily observations and establish the priorities for the next day. The Host State EPREV Coordinator or a delegate may attend the meeting as an observer. The daily team meetings must be conducted in an efficient manner to allow reviewers sufficient time afterwards to draft the report. The Team Leader heads this meeting and sets the tone by ensuring that all reports focus on facts and issues. The key points to be discussed in the meeting are:

- Key observations in each review area, particularly significant concerns or positive features that may form the basis for recommendations, suggestions or good practices;
- Agreement on the suggestions, recommendations and good practices in concept;
- Cross-cutting issues that need to be brought to the attention of other reviewers;
- Gaps and questions where the information obtained thus far is not clear or inconsistent;
- Priorities for the next day;
- Agreement on the primary writing responsibilities for that evening;
- Review of necessary clarifications or questions concerning each reviewer's written input from the previous day (see next section on report writing).

If part of the Review Team is at a different location, the meeting is conducted through video conferencing (preferred) or telephone conferencing. The Host State EPREV Coordinator needs to make the appropriate arrangements.

The daily meeting lasts no longer than one hour.

6.6. EXIT MEETING

The EPREV mission concludes with an exit meeting. The exit meeting is normally attended by a group to similar the one that participated in the entrance meeting. The EPREV Team Leader presents the detailed observations of the Review Team and delivers the draft report to the Host State, explaining that this version includes the proposed good practices, suggestions and recommendations agreed upon by the Review Team. Although the report will be edited after the mission, the findings will not be added or removed once they are presented at the Exit Meeting.

The exit meeting typically lasts from two to four hours, depending on the scope of the mission. An example of an agenda of an exit meeting can be found in Appendix V.

6.7. MEDIA COMMUNICATIONS STRATEGY

The Host State, in conjunction with the IAEA Coordinator, develops and agrees on a media communications strategy during the preparatory meeting. The Review Team will, as much as possible, comply with this strategy, while respecting the rules and practices of the IAEA in this regard.

The Host State and the IAEA will designate respective spokespersons. Should a member of the Review Team be approached directly by the media during or after the mission, inquiries must be referred to those spokespersons. The reviewer may, however, acknowledge the fact

that the EPREV mission is taking place but will refrain from mentioning any of the observations or findings, or make any comment on the EPR arrangements in place.

6.8. PRESS RELEASE AND PRESS CONFERENCE

The IAEA will issue a press release after the mission. This will be coordinated with the Host State so they have an opportunity to comment on the draft press release, although the IAEA maintains sole authorship of the press release.

Depending on the Host State's media communications strategy, a joint press conference may be organized after the exit meeting. Normally, the joint press conference involves the Host State EPREV Coordinator, the EPREV Team Leader and a senior representative of the IAEA's Department of Nuclear Safety and Security. The latter may attend via video conference. The decision whether or not to hold a joint press conference is normally made during the preparatory meeting.

7. REPORT WRITING

7.1. REPORT WRITING PROCESS

For maximum efficiency, and considering the relatively short duration of the mission, the report is written on an ongoing basis, starting on the first day of the mission. This requires careful and efficient coordination by the EPREV Team Leader and the IAEA Coordinator and discipline from the reviewers.

The precise manner in which the report is compiled may vary from mission to mission, depending on the schedule, the size of the Review Team and the English writing proficiency of the reviewers.

Each reviewer is given responsibility for the content of individual sections of the report. This requires that each reviewer incorporate the notes of the other reviewers that are relevant into his/her section. The procedure to be adhered to for this methodology is as follows:

1. After the daily team meeting, if a reviewer has specific inputs or observations on a requirement for which he/she is not the primary author, the first priority is to send this input to the primary author as agreed during the team meeting.

2. Each reviewer collects all the notes relevant to the sections for which he/she is responsible and drafts those sections. Notes and questions can be inserted in the text, which will need to be resolved prior to final drafting.

3. Each reviewer sends his/her daily draft of the report to the IAEA Coordinator at the end of each day.

4. On the following day, the IAEA Coordinator consolidates the individual inputs into a single, harmonized and consistent draft report and sends it back to the team. The draft report may contain questions and comments to be addressed by the reviewers.

5. At the following daily team meeting, the IAEA Coordinator presents comments and issues on the report, to be addressed by the reviewers.

6. After the daily team meeting, each reviewer modifies the relevant section of the report in the latest version sent to them by the IAEA Coordinator and the cycle continues.

The EPREV Team Leader reviews the draft every day, paying attention to the broad interpretations of the requirements, the soundness of the observations and justifications provided, and the appropriateness of the proposed recommendations, suggestions, and good practices.

Near the end of the initial interviews and site visits, the members of the Review Team provide comments on the entire report individually. During a subsequent meeting, the whole team goes through the report, and specific comments and amendments are made. A strict discipline needs to be followed by all Review Team members and enforced by the EPREV Team Leader. To facilitate this task, the following report writing guidelines need to be adhered to:

— The report has to be factual;

— The report includes an executive summary providing a high level summary of recommendations, suggestions and good practices;

— Only information that is relevant to, and supportive of, the suggestions, recommendations and good practices may be included;

— There is no need to repeat general information that is known to the counterparts unless it is critical to contextualize the observations;

— It is essential that the review by the entire team focus on content, not on editorial aspects, since the draft will be edited by the IEC after the completion of the mission and before finalization of the EPREV Report;

— In case of disagreement among reviewers, the EPREV Team Leader decides on the best course of action for resolving the difference;

The reviewers are encouraged to discuss the proposed observations with the counterparts throughout interviews and site visits, to ensure that they are sound and that the counterparts agree with the justifications. In case of a fundamental disagreement between the reviewers and the counterpart, the EPREV Team Leader must be promptly informed. The EPREV Team Leader will then decide how to proceed.

Two to four days before the end of the mission, a preliminary draft report is given to the Host State EPREV Coordinator for review by the counterparts. Since the EPREV Review Team members have discussed the key observations with the counterparts as the mission has progressed, a major disagreement is by then very unlikely.

After the Host State review of the preliminary draft report, a working meeting between the Review Team and the counterparts is organized, facilitated by the EPREV Team Leader, in cooperation with the Host State EPREV Coordinator. The purpose of this meeting is to discuss and clarify all observations, and to correct any misunderstandings or errors. Once agreed, there should be no further changes to the suggestions, recommendations and good practices, except minor editorial revisions.

The final draft report is submitted to the Host State EPREV Coordinator within four weeks following the completion of the mission. Comments are provided by the Host State to the IAEA Coordinator within four weeks of submission of the final draft report. As stated above, there should be no substantial changes to the suggestions, recommendations and good practices. The final report is submitted to the Permanent Mission of the Host State, with a copy to the Host State EPREV Coordinator, within four weeks of receipt of the comments. If the EPREV mission is coordinated through the IAEA's Department of Technical Cooperation (TC), the TC Project Management Officer also receives a copy of the final report. This timeline is summarized in Table 2 below.

TABLE 2. TIMELINE FOR SUBMISSION OF EPREV REPORT

EPREV report status	Time
Team finalizes the draft	Two to four days prior to the end of mission
Submission of the agreed draft report to Host State	End of mission
Final Draft Report provided to Host State	Four weeks after the end of mission
Comments received by IAEA Coordinator	Four weeks after submission of final draft report
Final report submitted by IAEA to Host State through official channels (normally via Permanent Mission)	Four weeks after receipt of comments on the Final Draft Report
Action Plan submitted to IAEA by Host State	2 months after Final report submitted

A report template containing guidance for the reviewers will be provided by the IAEA Coordinator prior to an EPREV mission. It is not included in the current guidelines as it may change from time to time.

7.2. OBSERVATIONS

Based on the ARM review, interviews, site visits and drills/exercises the Review Team will have observations that will be the basis for the EPREV report. The observations will be reflected in the body of the report and when applicable included in suggestions, recommendations or good practices.

The following guidelines need to be strictly adhered to, in part to ensure consistency between missions:

— Findings must not describe a proposed solution or a process to address the recommendation or suggestion, as it is up to the Host State to determine the best method for achieving the desired outcome.

— The basis for the recommendation or suggestion must be clearly documented in the mission report.

The relationship of observations with good practices, suggestions and recommendations are described in FIG. 3.

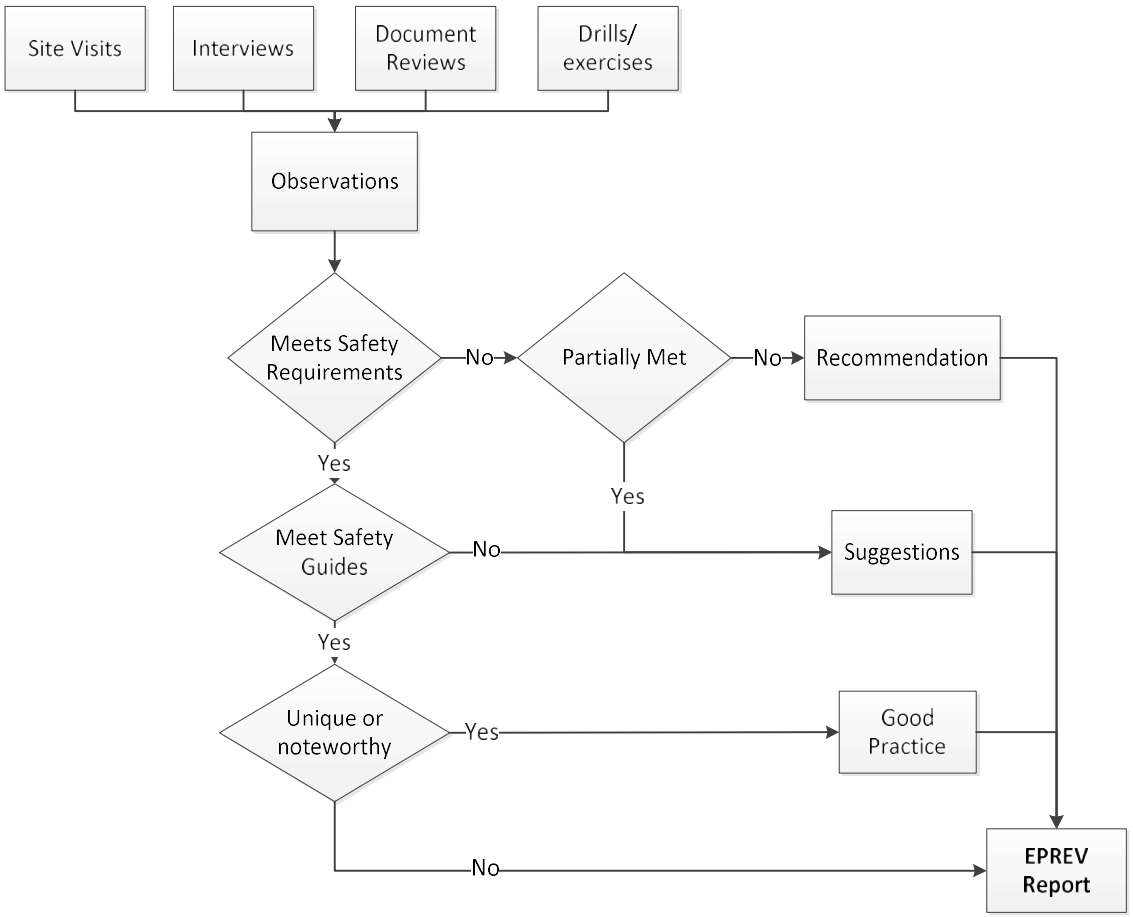

FIG. 3. Relationship of observations with good practices, suggestions and recommendations.

7.2.1. Recommendations

Recommendations address aspects of the Host State's EPR arrangements that are not consistent with GSR Part 7 [1]. Recommendations are required to be specific, realistic and designed to result in tangible improvements to emergency arrangements. A recommendation identifies a gap or inconsistency with the IAEA Safety Requirements.

The basis for a recommendation must be clearly documented in the report. Recommendations need to be formulated in a succinct and self-explanatory manner and be expressed in 'should' language. They must be practicable and implementable, and have to clearly specify the party responsible for their implementation.

Inconsistency in this context is defined as a gap in meeting the intent of a requirement. Due to differences in national contexts and legal frameworks, it is essential that reviewers be sufficiently open to understand that there may be different methods of meeting safety requirements.

7.2.2. Suggestions

Suggestions address two types of observations:

— The requirement is partially met but the arrangements are not entirely consistent with the IAEA safety guides on EPR;

— The requirement is met but it is deemed that tangible improvements could be made to the manner in which the arrangements implement the requirements.

Suggestions contribute to improvements in emergency preparedness arrangements and capabilities. They are primarily intended to make the arrangements more effective or efficient. A suggestion may be proposed in conjunction with a recommendation or it may stand on its own.

The basis for a suggestion is clearly documented in the report. Suggestions are formulated such that they are succinct and self-explanatory. They clearly specify the party responsible for its implementation and are expressed by using the phrase ‘should consider’.

7.2.3. Good practices

A good practice goes beyond the fulfilment of current requirements or expectations. It is unique or noteworthy and worth being brought to the attention to other Member States as a model in the general drive for excellence. A good practice is identified in recognition of a specific organization, arrangement, programme or performance superior to those generally observed elsewhere. The basis for good practices can be any of the requirements or guidelines contained in the IAEA Safety Standards on EPR.

7.3. CONFIDENTIALITY

During the mission, the Host State counterparts need to clearly indicate the level of confidentiality of information provided. Reviewers must respect the confidentiality requirements before, during and after the mission.

The report’s initial distribution is restricted to the authorities concerned, the contributors to the report and the responsible IAEA staff. In the interest of openness, however, the Host State is encouraged to make the report publicly available on its website (possibly excluding sensitive information).

Unless otherwise requested in writing by the Host State, after 90 days from the submission of the final report, the IAEA Secretariat will place the full report on the IAEA public website. Should the Host State require that parts of the report remain restricted, the Host State shall make such a request in writing before the end of the 90 day period.

8. ACTION PLAN

Within two months of receipt of the final report from the IAEA, the Host State submits an update of the Action Plan to the IEC in final form addressing all the recommendations and suggestion contained in the EPREV Report.

The Action Plan typically contains the following fields:

- EPREV mission recommendation or suggestion;
- Actions to be taken to close the recommendation or suggestion;
- Target date;
- Organizations responsible for implementing an action;
- Status (such as ‘not started’, ‘in progress' or ‘completed on [date]’);
- Evidence and means of verification or results from the action (e.g. revised plan, equipment procured, exercise conducted and evaluated).

Discussions may follow between the Host State and the IAEA Coordinator on activities that could be undertaken by the IAEA Secretariat to assist the Host State in implementing the Action Plan. The Host State is expected to inform the IAEA Coordinator on the progress of the Action Plan on a regular basis. It is suggested that a brief report on the implementation of the Action Plan be submitted for information to the IEC annually in the period leading up to the follow-up mission.

The Host State’s self-assessment performed for the main mission needs to be updated on EPRIMS throughout the implementation of the Action Plan.

Assistance from the IAEA may also be requested at this point to address some actions of the Action Plan, although this is not a mandatory part of the EPREV process.

9. EPREV FOLLOW-UP MISSION

9.1. OBJECTIVES OF THE EPREV FOLLOW-UP MISSION

The purpose of an EPREV follow-up mission is to review the progress in implementing the EPREV mission recommendations and suggestions. The appropriate period for the follow-up mission is determined by the progress against the Action Plan and an updated Host State self-assessment. The EPREV follow-up mission is usually conducted within two to four years following the main mission, based on implementation status of the Host State's Action Plan.

The scope of the follow-up mission is limited to the scope of the main mission. The suggestions and recommendations contained in the EPREV report constitute the basis for the follow-up mission. However, while it is not the goal of the follow-up mission, new observations may be identified within the scope of the EPREV mission.

9.2. PREPARATORY PHASE OF AN EPREV FOLLOW-UP MISSION

The preparatory phase of a follow-up mission is the same as for the EPREV mission, with the following exceptions:

— The Host State's self-assessment needs to be updated to reflect the improvements made to its EPR arrangements. The update of the self-assessment is made on an ongoing basis throughout the period following the EPREV mission, rather than just before the follow-up mission;

— The decision to conduct the follow-up mission is made on the basis of progress achieved;

— The preparatory meeting may be held via video conference and is limited to about four hours;

— The size of the team is smaller, and its composition depends on the nature of the suggestions and recommendations;

— The ARM needs to include documents that support the status of the suggestions and recommendations.

The Review Team consists of people who were present at the main mission as much as possible.

9.3. CONDUCT OF AN EPREV FOLLOW-UP MISSION

The conduct of a follow-up mission follows the same general concept as that for the EPREV mission, with the following differences:

— The focus is on the suggestions and recommendations of the EPREV mission;

— Site visits do not need to be included unless they are essential to verify the adequacy of the improvements made;

— The entrance meeting may be shortened. The EPREV presentation is a refresher, and the presentations by counterparts focus on the improvement areas only.

The observations of the follow-up mission are formulated as follows:

— Recommendation/Suggestion remains open: The reviewers deem that insufficient progress has been achieved in meeting the IAEA safety standards.

Recommendation/Suggestion closed: The IAEA requirement has been met or the gap with respect to the IAEA safety guides has been closed.

— Recommendation/Suggestions closed on the basis of completed actions. The IAEA safety standards are now met.
— Recommendation/Suggestion closed on the basis of progress made and confidence in effective completion: Although the issue is not totally closed, the team is satisfied that the IAEA safety standards will be met in the near future provided the action in progress is maintained.
— Recommendation/suggestion closed on the basis that it is no longer relevant: This may happen if, for example, the context in the Host State has changed and the suggestion or recommendation no longer applies, or the safety standards have changed.

The duration of the EPREV follow-up mission must be sufficient to allow a thorough review of the areas related to the suggestions and recommendations, plus sufficient time to compile the report. Normally, a minimum of five days is required.

APPENDIX I:
EXAMPLE OF THE TERMS OF REFERENCE FOR THE MAIN EPREV MISSION

TERMS OF REFERENCE
of an IAEA Emergency Preparedness and Response Review (EPREV) Mission to
<add State>

I.1. BACKGROUND

The Government of *<add State>,* hereafter referred to as the Host State, requested an IAEA Emergency Preparedness Review (EPREV) on *<add date of official request>* to *<add reference to the content of the mission or the agreed scope>.* The IAEA responded positively to the request.

The EPREV mission is financed through a combination of support from the Government of *<add State>* and the *<add details of other funding mechanism, e.g. TC project>.*

These Terms of Reference for the EPREV mission were agreed upon at an EPREV Preparatory meeting hosted by *<add organization hosting the preparatory meeting, e.g. TC project>* from *<add dates of preparatory meeting>*.

I.2. DATES

The EPREV mission will be conducted during *<add agreed period>*.

I.3. EPREV OBJECTIVES

The objectives of the EPREV are:

- To conduct a peer review of the Host State's arrangements and capabilities to respond to nuclear and radiological emergencies, regardless of the cause, against the IAEA safety standards on emergency preparedness and response (EPR);
- To provide Recommendations, Suggestions and Good Practices to the Host State regarding emergency preparedness and response to nuclear and radiological emergencies, to be used in the Action Plan to address areas for further improvement.

I.4. SCOPE

This EPREV mission is *<full scope or limited scope>*. It consists of verifying EPR arrangements against the requirements of IAEA Safety Standards Series No. GSR Part 7, Preparedness and Response for a Nuclear or Radiological Emergency, for the following areas:

- *<Add emergency preparedness categories>.*

The EPREV does not include EPR aspects related to the management of the on-site response for the protection of the on-site personnel or to the emergency operating procedures for the reactor. Those aspects are covered by an Operational Safety Review Team (OSART) mission.

All areas covered by GSR Part 7 will be included in the EPREV.

I.5. REVIEW TEAM

The Review Team will consist, tentatively, of the following experts:

— *<Add IAEA coordinator>;*

— *<Add team leader and nationality>;*

— *<Add team members and nationalities>.*

General criteria:

— *<Add as needed based on EPREV guidelines>.*

I.6. HOST STATE EPREV COORDINATOR

The Host State EPREV Coordinator will be:

— *<Add contact details of the Coordinator. Include at least name, position affiliation, address, mobile phone number and email>.*

Completing this role, the main contact points for all formal arrangements in the Host State are:

— *<Add additional names if needed>.*

A sample table for the listing of organizations and sites to be covered by the mission is included in Appendix III.

I.7. CONDUCT OF MAIN MISSION

I.7.1. Self-Assessment

The Host State shall complete and update a self-assessment via EPRIMS and provide the report to the IAEA Coordinator as part of the submission of the ARM *<add specific date if possible>*.

I.7.2. EPREV Mission

The review is based primarily on the international requirements detailed in GSR Part 7, and the supporting IAEA Safety Guides GSG-2, GS-G-2.1 and GSG-11. In addition, specific reference documents published in the IAEA's EPR series or the IAEA TECDOC series may also be used as a basis for Good Practices only.

The Review Team provides suggestions and recommendations based on IAEA safety standards, while also taking into account the reviewers' experience and knowledge of good international practices. The review considers:

— The self-assessment provided by the Host State;

— An initial overview briefing of the current situation (to include responsibilities, criteria, etc.) for response to a nuclear or radiological emergency, including national plans for response to any emergency;

— Presentations by key organizations on the state of their EPR capabilities, including a clearly stated list of what are perceived as good practices, issues affecting the

implementation or effectiveness of the capabilities and other areas requiring improvements;

— Discussions with representatives from key organizations;

— Review of the documents and records related to EPR, a list of which is to be finalized in agreement between the Host State EPREV Coordinator and the IAEA Coordinator;

— Visits of facilities and equipment associated with EPR.

I.7.3. Output

The main output from the EPREV mission is a formal report to the Host State with Recommendations, Suggestions and Good Practices, with factual information supporting each observation and considering the following scope:

— Recommendations address aspects of the Host State's EPR arrangements that are not consistent with GSR Part 7;

— Suggestions address two types of observations:

  - The requirement is partially met but the arrangements are not entirely consistent with the IAEA safety guides on EPR.

  - The requirement is met but it is deemed that tangible improvements could be made to the manner in which the arrangements implement the requirements; or

— A good practice goes beyond the fulfilment of current requirements or expectations. It is unique or noteworthy and worth being brought to the attention to other Member States as a model in the general drive for excellence. A good practice is identified in recognition of a specific organization, arrangement, programme or performance superior to those generally observed elsewhere.

The anticipated schedule for the completion of the EPREV Report is shown in Table I.1:

TABLE I.1. SCHEDULE FOR COMPLETION OF EPREV REPORT

EPREV report status	**Time**
Team finalizes the draft report	Two to four days prior to the end of mission
Submission of the agreed draft report to Host State	End of mission
Final Draft Report provided to Host State	Four weeks after the end of the mission
Host State comments received by IAEA Coordinator	Four weeks after submission of final draft report
Final report submitted by IAEA to Host State through official channels (normally via the Permanent Mission)	Four weeks after receipt of comments on the Final Draft Report

I.7.4. Media and Press Conference

The Host State, in conjunction with the IAEA Coordinator, develops and agrees on a media communications strategy during the preparatory meeting. The Review Team complies as much as possible with this strategy, while respecting the rules and practices of the IAEA in this regard.

Following the exit meeting at the end of the mission, the Host State and the IAEA prepare a joint press release and hold a joint press conference. The spokesperson for the IAEA is <*add name, function*>. For the Host State, the spokesperson is <*add name, function*>.

I.7.5. Action Plan

Within two months following receipt of the final report, the Host State develops an Action Plan addressing the recommendations and suggestions contained in the final report, including the identification of areas in which IAEA assistance may be sought. The Host State provides, for information only, the Action Plan to the IAEA Coordinator and periodically informs the latter of the progress achieved in its implementation.

I.8. FOLLOW-UP MISSION

A follow-up mission aimed at reviewing the progress achieved in addressing the recommendations and suggestions of the main mission is held no less than two years and no more than four years after the main mission. The Host State agrees to request this follow-up mission at a suitable point within this time frame. Prior to the follow-up mission, the self-assessment needs to be revised and provided to the IAEA.

The follow-up mission is completed in a manner similar to the main mission, but is reduced in length and team size. Details of the follow-up mission are documented in the follow-up mission's Terms of Reference, which are to be agreed upon between the Host State and the IAEA prior to the mission.

I.9. LOGISTICS

The Host State provides or arranges for the following:

- Assistance in the issuance of entry visa for all review team members;
- Security clearance for access to facilities included in the visits at least six weeks prior to the mission;
- All internal transportation;
- A workroom during the mission for review team discussions and preparation of technical notes;
- Access to a projector, internet for all team participants, printing and photocopying facilities as well as shredder;
- Video conferencing or other means for daily meetings between the sub-teams (if applicable);
- Assistance in making hotel arrangements;
- Arrangements for lunch at or near the mission site;

— Daily travel to and from the work place;

— <*Add additional items if needed*>.

I.10. FINANCE

The IAEA Coordinator, in consultation with the Host State EPREV Coordinator, is responsible for ensuring that appropriate arrangements are in place to finance all missions. The costs of travel to and from the Host State, as well as accommodation and meals for the experts participating in the mission, will be covered by <*add details as needed*>.

Domestic travel will be arranged and paid by the Host State <*change if this is not the case*>.

I.11. SCHEDULE

A tentative mission schedule is shown in Appendix IV. This schedule may be modified prior to and during the mission by mutual agreement between the Host State EPREV Coordinator and the IAEA Coordinator.

I.12. ADVANCE REFERENCE MATERIAL (ARM)

The Host State makes available to the IAEA EPREV Coordinator not less than two months prior to the mission a briefing package which includes at a minimum the items listed in Table I.2:

TABLE I.2. LIST OF ADVANCE REFERENCE MATERIAL

Document	**Language requirement**
Laws and statutes related to EPR, including adherence to international conventions and bilateral agreements	English
National hazard assessment, including list of facilities, practices and outside hazards for which the national EPR plan is designed	English
National framework/plans for preparedness and response to nuclear and radiological emergencies	English
Emergency plans of all facilities and organizations involved in the EPREV mission	Table of contents in English; sections related to assessment and onsite-offsite interface in English
A list of emergency procedures for all facilities and organizations involved in the EPREV mission (selected procedures will be requested as needed on location)	List in English
Emergency preparedness organization chart	English
Results of the **s**elf-**a**ssessment and Draft Action Plan	English

Exercise and training programmes	English
Guid**ance** document in relation to the self-assessment and reference support document	English
<Add and modify the table as needed>	

Additional documents may be requested by the review Team during the mission. The advance information package will be provided by the Host State onto a web-based platform, access to which will be provided by the IAEA.

I.13. REPORT CONFIDENTIALITY

The report's initial distribution is restricted to the authorities concerned, the contributors to the report and responsible IAEA staff. In the interest of openness, however, the Host State is encouraged to make the report public. Unless otherwise requested in writing by the Host State, after 90 days from the submission of the final report, the IAEA Secretariat will place the full report on the IAEA public website. Should the Host State require that parts of the report remain restricted, the Host State shall make such a request in writing before the end of the 90 day period.

APPENDIX II:
ROLES AND RESPONSIBILITIES OF EPREV TEAM MEMBERS

The EPREV Team Leader is responsible for:

- Attending the preparatory meeting;
- Serving as EPREV liaison, in conjunction with the IAEA Coordinator, with senior representatives of the government and external stakeholders during the mission;
- Assisting the IAEA Coordinator in identifying appropriate Review Team members;
- Allocating responsibilities to and organizing the Review Team;
- Determining, in conjunction with the IAEA Coordinator, the approach for completion of the report;
- Leading the mission, including supervising the review, ensuring that schedules are met and providing leadership in the resolution of issues that may arise;
- Leading the initial team meeting and the entrance, daily and exit meetings;
- Ensuring that the Review Team works in a consistent and cohesive manner;
- Communicating with Review Team members on a regular basis during the mission to ensure that team members are adequately prepared and informed;
- Ensuring that the objectives of the mission are met;
- Coordinating with the Host State EPREV Coordinator and the IAEA Coordinator to prepare public information needed during the mission;
- Ensuring that the agreed and final draft of the report is of high quality and takes into account the opinion of the reviewers and the comments of the counterparts;
- Acting as spokesperson for the Review Team during the mission.

The IAEA Coordinator is responsible for:

- Ensuring liaison with the Host State EPREV Coordinator before, during and after the mission;
- Recruiting the experts;
- Coordinating arrangements for and attending the preparatory meeting;
- Ensuring that all team members have the required information prior to the mission;
- Ensuring that all team members receive adequate training on EPREV prior to the mission;
- Ensuring IAEA representation at meetings on EPREV with government officials;
- Preparing a briefing for the Host State on the EPREV process, including providing a copy of this document;
- Identifying appropriate review team members in conjunction with the EPREV Team Leader;

— Managing resources, such as the financial arrangements for the Review Team, coordinating travel for the Review Team members and ensuring the provision of special equipment and logistics, as required;

— Providing guidance to the EPREV Team Leader to help ensure that the objectives of the mission are met;

— Assisting the EPREV Team Leader and the Host State EPREV Coordinator to prepare public information relating to the mission;

— Liaising with the IAEA's Office of Public Information and Communications (OPIC) on all matters related to public information, including the press release and the press conference, as applicable;

— Consolidating the notes from the experts during the mission and producing the draft report;

— Producing the final report after the mission;

— Liaising with the Host State EPREV Coordinator during the follow-up phase and in preparation for the follow-up mission.

The Review Team Members are responsible for:

— Making necessary preparations for the mission, on the basis of information provided by the IAEA Coordinator;

— Reviewing the ARM and preparing a first impression report;

— Conducting the mission as directed by the EPREV Team Leader;

— Providing comprehensive and high quality daily input to the report, as directed by the EPREV Team Leader;

— Reviewing the completed preliminary draft report;

— Maintaining appropriate confidentiality of sensitive information in accordance with the applicable confidentiality agreement;

— Providing comments to the IAEA on the EPREV process after completion of the mission;

— Sharing the sense of responsibility for the mission as a whole;

— Working as team members;

— Maintaining a spirit of openness, transparency and cooperation with the Host State counterparts during the mission;

— Demonstrating and maintaining an open attitude towards systems and approaches that vary from those with which they are familiar.

The Host State EPREV Coordinator is responsible for:

— Arranging logistics, administration, scheduling and documentation;

— Acting as the main contact and focal point with the EPREV Team Leader and IAEA Coordinator in the preparatory phase and during the EPREV mission;

— Ensuring the smooth execution of the EPREV mission;

— Attending daily team meetings throughout the mission;

— Being available throughout the EPREV mission.

The Host State EPREV Coordinator may delegate some of these responsibilities to a deputy.

APPENDIX III:
SAMPLE TABLE OF ORGANIZATIONS AND LOCATIONS TO BE VISITED DURING THE EPREV MISSION

No.	Organization	Location
1	*<Add organisation as needed>*	*<Add location>*
2		
3		
4		
5		
6		
7		
8		
9		
10		
Etc.		

APPENDIX IV:
SAMPLE SCHEDULE FOR AN EPREV MISSION

Day		Activity
0		Review Team internal meeting: briefing, refresher training, review of mission plan, review of preliminary observations and assignment of priorities
1	a.m.	Entrance meeting Presentation by Host State of overall national framework for EPR Presentation by Host State of self-assessment Presentation by IAEA of EPREV objectives and process
	p.m.	Site visits and interviews
2	a.m.	
	p.m.	
3	a.m.	
	p.m.	
4	a.m.	
	p.m.	
5	a.m.	
	p.m.	

6		Report writing by Review Team
7	am	Report writing by Review Team
	16:00	Preliminary draft report submitted to Host State EPREV Coordinator
8	am	Host State reviews report and prepares written comments Review Team drafts executive summary and presentation for the exit meeting
	12:00	Host State EPREV Coordinator submits written comments to the Review Team
	pm	Meeting with Host State representatives to discuss comments
9	am	Review Team finalizes draft report
	pm	Meeting of Review Team Leader and IAEA Coordinator with Host State representatives to agree on executive summary and press release Deputy Director General or senior IAEA representative arrives, if applicable
10	am	Exit meeting and delivery of agreed draft report Press conference

APPENDIX V:
SAMPLE AGENDAS FOR ENTRANCE AND EXIT MEETINGS

ENTRANCE MEETING		
10 mins	Opening remarks and introductions	Host State EPREV Coordinator
10 mins	Opening remarks and introductions	EPREV Team Leader
30 mins	Brief overview of the EPREV process Process Output Expectations	IAEA Coordinator
80 mins	Host States presentations: All-hazards emergency management system Preparedness and response arrangements for nuclear or radiological emergencies	Host State counterparts
30 mins	Review of arrangements for the mission: Schedule Counterparts Locations Administrative arrangements Issues	Host State EPREV Coordinator and counterparts
EXIT MEETING		
10 mins	Introduction	Host State EPREV Coordinator
45 mins	Presentation of the main observations	EPREV Team Leader
15 mins	Next steps	IAEA Coordinator
15 mins	Questions	All

APPENDIX VI:
SAMPLE AGENDA FOR PREPARATORY MEETING

Emergency Preparedness Review (EPREV) - <*Host State*>

Preparatory Meeting

<*Date*>

Agenda

DAY 1		
0900-0915	Opening remarks and introductions	Host State Coordinator IAEA Coordinator
0915-0930	Preparatory meeting objectives	EPREV Team Leader
0930-1030	Overview of EPREV Objectives and Process	EPREV Team Leader
1030-1100	Coffee break	
1100-1200	National radiation EPR arrangements as part of all hazards approach	Host State
1200-1300	Lunch	
1300-1400	Results from self-assessment	Host State
1400-1430	Coffee break	
1430-1530	Related activities and achievements in EPR *With an emphasis on recent developments* - National and regional activities - Previous Technical Cooperation projects - Previous and upcoming IAEA (or other international organization) peer review missions - Any activities expected to take place between the Preparatory Mission and the EPREV Mission	Host State

1530-1630	Agreement on EPREV Mission Dates and Scope Discussion on EPR arrangements, possible review team composition, and key site visits / interviews	EPREV Team Leader and Host State Coordinator
1630	Adjourn	

DAY 2		
0900-1500 (Break as needed)	EPREV Arrangements and Logistics *Using the draft Terms of Reference to guide the discussion* ▪ Experts ▪ Roles and responsibilities ▪ Organisations to be visited and interviewed ▪ Schedule and locations ▪ Travel arrangement in country ▪ Hotel ▪ Meeting rooms and team office logistics (space, printing/scanning, secretarial support) ▪ Security clearances and visas ▪ Communications prior to mission ▪ Communication during mission ▪ Daily schedule during mission ▪ Liaison officer from host country ▪ Liaison officer participation in daily wrap up meetings ▪ Entrance meeting and attendance ▪ Exit meeting and attendance ▪ Public information during the mission and press conference ▪ Exercise ▪ Draft mission report ▪ Communication following the mission ▪ Process and schedule for mission report ▪ Remaining actions before mission	EPREV Team Leader and Host State Coordinator
1500-1600	Summary of agreements and closing	

APPENDIX VII:
MATRIX REQUIREMENTS / RESPONSIBLE PARTIES

This appendix provides a summary of the allocation of responsibilities for EPR arrangements in a country and can be used as a basis for determining the mission schedule, interview topics, and sites to be visited. The exact allocation of responsibilities may vary by country. This appendix should not be confused with, nor applied to, a self-assessment.

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7									
Requirements		**Responsible Parties**							
		Government	**National Response Organization(s)**	**Local Response Organization(s)**	**Regulatory Body**	**Operating Organization EP Category I**	**Operating Organization EP Category II**	**Operating Organization EP Category III**	**Operating Organization EP Category IV**
Section 4: General Requirements Section 4 of GSR Part 7 establishes the general requirements that must be met. This section defines the hazard assessment and emergency preparedness categories for which requirements are to be established.									
Requirement 1: The emergency management system The government shall ensure that an integrated and coordinated emergency management system for preparedness and response for a nuclear or radiological emergency is established and maintained.									
4.1	The government shall ensure that an emergency management system is established and maintained on the territories of and within the jurisdiction of the State for the purposes of emergency response to protect human life, health, property and the environment in the event of a nuclear or radiological emergency.	X	X						
4.2	The emergency management system shall be designed to be commensurate with the results of the hazard assessment (see paras 4.18–4.26) and shall enable an effective emergency response to reasonably foreseeable events (including very low probability events).	X	X						
4.3	The emergency management system shall be integrated, to the extent practicable, into an all-hazards emergency management system (see paras 5.6 and 5.7).	X	X						
4.4	The government shall ensure the coordination of and consistency of national emergency arrangements with the relevant international emergency arrangements.	X							
Requirement 2: Roles and responsibilities in emergency preparedness and response The government shall make provisions to ensure that roles and responsibilities for preparedness and response for a nuclear or radiological emergency are clearly specified and clearly assigned.									
	General								
4.5	The government shall make adequate preparations to anticipate, prepare for, respond to and recover from a nuclear or radiological emergency at the operating organization, local, regional and	X							

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7										
Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	national levels, and also, as appropriate, at the international level. These preparations shall include adopting legislation and establishing regulations for effectively governing the preparedness and response for a nuclear or radiological emergency at all levels (see para. 1.12 in GSR Part 7).								
4.6	The government shall ensure that arrangements are in place for effectively governing the provision of prompt and adequate compensation of victims for damage due to a nuclear or radiological emergency.	X							
4.7	The government shall 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.	X							
4.8	The government shall ensure that response organizations, operating organizations and the regulatory body have the necessary human, financial and other resources, in view of their expected roles and responsibilities and the assessed hazards, to prepare for and to deal with both radiological and non-radiological consequences of a nuclear or radiological emergency, whether the emergency occurs within or beyond national borders.	X	X	X	X	X	X	X	X
4.9	The government shall ensure that operating organizations, response organizations and the regulatory body establish, maintain and demonstrate leadership in relation to preparedness and response for a nuclear or radiological emergency	X	X	X	X	X	X	X	X
	Coordinating Mechanism								
4.10	The government shall establish a national coordinating mechanism to be functional at the preparedness stage, consistent with its emergency management system, with the functions described in points (a)–(i) in requirement 4.10 of GSR Part 7.	X	X	X	X	X	X	X	X
	Regulatory Body								
4.11	The government shall ensure that arrangements for preparedness and response to a nuclear or radiological emergency for facilities and activities under the responsibility of the operating organization are dealt with through the regulatory process.	X			X	X	X	X	X
4.12	The regulatory body is required to establish or adopt regulations and guides to specify the principles, requirements and associated criteria for safety upon which its regulatory judgements, decisions and actions are based. These regulations and guides shall include principles, requirements and associated criteria for emergency preparedness and response for the operating organization (see also paras 1.12 of GSR Part 7 and 4.5 above).				X				

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7

Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
4.13	The regulatory body shall require that arrangements for preparedness and response for a nuclear or radiological emergency be in place for the on-site area for any regulated facility or activity that could necessitate emergency response actions. Appropriate emergency arrangements shall be established by the time the source is brought to the site, and complete emergency arrangements shall be in place before the commencement of operation of the facility or commencement of the activity. The regulatory body shall verify compliance with the requirements for such arrangements.				X	X	X	X	X
4.14	Before commencement of operation of the facility or commencement of the activity, the regulatory body shall ensure, for all facilities and activities under regulatory control that could necessitate emergency response actions, that the on-site emergency arrangements: (a) are integrated with those of other response organizations, as appropriate; (b) are integrated with contingency plans and with security plans; (c) provide, to the extent practicable, assurance of an effective response to a nuclear or radiological emergency.				X	X	X	X	X
4.15	The regulatory body shall ensure that the operating organization is given sufficient authority to promptly take necessary protective actions on the site in response to a nuclear or radiological emergency that could result in off-site consequences.				X	X	X	X	X
	Operating Organization								
4.16	The operating organization shall establish and maintain arrangements for on-site preparedness and response for a nuclear or radiological emergency for facilities or activities under its responsibility, in accordance with the applicable requirements (see paras 1.12 of GSR Part 7 and 4.5 and 4.12 above).					X	X	X	X
4.17	The operating organization shall demonstrate that, and shall provide the regulatory body with an assurance that, emergency arrangements are in place for an effective response on the site to a nuclear or radiological emergency in relation to a facility or an activity under its responsibility.					X	X	X	X
Requirement 3: Responsibility of international organizations in emergency preparedness and response Relevant international organizations shall coordinate their arrangements in preparedness for a nuclear or radiological emergency and their emergency response actions.									
	This requirement is not relevant to EPREV.								
Requirement 4: Hazard assessment									

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7

Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
The government shall ensure that a hazard assessment is performed to provide a basis for a graded approach in preparedness and response for a nuclear or radiological emergency.									
4.18	Hazards shall be identified and potential consequences of an emergency shall be assessed to provide a basis for establishing arrangements for preparedness and response for a nuclear or radiological emergency. These arrangements shall be commensurate with the hazards identified and the potential consequences of an emergency.	X	X	X	X	X	X	X	X
4.19	For the purposes of these safety requirements, assessed hazards are grouped in accordance with the emergency preparedness categories shown in Table 1 of GSR Part 7. The five emergency preparedness categories (hereinafter referred to as 'categories') in Table 1 establish the basis for a graded approach to the application of these requirements and for developing generically justified and optimized arrangements for preparedness and response for a nuclear or radiological emergency.	X	X	X	X	X	X	X	X
4.20	The government shall ensure that for facilities and activities, a hazard assessment on the basis of a graded approach is performed. The hazard assessment shall include consideration of: (a) events that could affect the facility or activity, including events of very low probability and events not considered in the design; (b) events involving a combination of a nuclear or radiological emergency with a conventional emergency such as an emergency following an earthquake, a volcanic eruption, a tropical cyclone, severe weather, a tsunami, an aircraft crash or civil disturbances that could affect wide areas and/or could impair capabilities to provide support in the emergency response; (c) events that could affect several facilities and activities concurrently, as well as consideration of the interactions between the facilities and activities affected; (d) events at facilities in other States or events involving activities in other States.	X	X	X	X	X	X	X	X
4.21	The government shall ensure that the hazard assessment identifies those facilities and locations at which there is a significant likelihood of encountering a dangerous source that is not under control.	X	X						
4.22	The government shall ensure that the hazard assessment includes consideration of the results of threat assessments made for nuclear security purposes	X	X	X	X	X	X	X	X
4.23	In the hazard assessment, facilities and activities, on-site areas, off-site areas and locations shall be identified for which a nuclear or radiological emergency could — with account taken of the uncertainties in and limitations of the information available — warrant any of the following: Precautionary urgent protective actions to avoid or to minimize severe deterministic effects by keeping doses below levels approaching the generic criteria at which urgent protective actions and other response actions are	X	X	X	X	X	X	X	X

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7										
Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	required to be undertaken under any circumstances, with account taken of Appendix II of GSR Part 7; (b) urgent protective actions and other response actions to avoid or to minimize severe deterministic effects and to reduce the risk of stochastic effects, with account taken of Appendix II of GSR Part 7; (c) early protective actions and other response actions, with account taken of Appendix II of GSR Part 7; (d) other emergency response actions such as longer term medical actions, with account taken of Appendix II of GSR Part 7, and emergency response actions aimed at enabling the termination of the emergency (see Requirement 18); or (e) protection of emergency workers in accordance with Requirement 11 and with account taken of Appendix I of GSR Part 7.								
4.24	The government shall ensure that the hazard assessment also identifies non-radiation-related hazards to people on the site and off the site that are associated with the facility or activity and that may impair the effectiveness of the response actions to be taken.	X	X	X	X	X	X	X	X
4.25	The government shall ensure that a review of the hazard assessment is performed periodically with the aims of: (a) ensuring that all facilities and activities, on-site areas, off-site areas and locations where events could occur that would necessitate protective actions and other response actions are identified, and (b) taking into account any changes in the hazards within the State and beyond its borders, any changes in assessments of threats for nuclear security purposes, the experience and lessons from research, operation and emergency exercises, and technological developments (see paras 6.30, 6.36 and 6.38). The results of this review shall be used to revise the emergency arrangements as necessary.	X	X	X	X	X	X	X	X
4.26	The government through the regulatory body shall ensure that operating organizations review appropriately and, as necessary, revise the emergency arrangements (a) prior to any changes in the facility or activity that affect the existing hazard assessment and (b) when new information becomes available that provides insights into the adequacy of the existing arrangements.				X	X	X	X	X
Requirement 5: Protection strategy for a nuclear or radiological emergency The government shall ensure that protection strategies are developed, justified and optimized at preparedness stage for taking effective protective actions and other response actions in a nuclear or radiological emergency.									
4.28	Development of a protection strategy shall include, but shall not be limited to the following: (1) Consideration shall be given to actions to be taken to avoid or to minimize severe deterministic effects and to reduce the risk of stochastic effects. Deterministic effects shall be evaluated on the basis of relative biological effectiveness (RBE) weighted absorbed dose to a tissue or organ. Stochastic effects in a tissue or organ shall be evaluated on the	X	X	X	X				

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7										
Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	basis of equivalent dose to the tissue or organ. The detriment associated with the occurrence of stochastic effects in individuals in an exposed population shall be evaluated on the basis of the effective dose. (2) A reference level expressed in terms of residual dose shall be set, typically as an effective dose in the range 20–100 mSv, acute or annual, that includes dose contributions via all exposure pathways. This reference level shall be used in conjunction with the goals of emergency response (see para. 3.2 of GSR Part 7) and the specific time frame in which particular goals are to be achieved. (3) On the basis of the outcome of the justification and the optimization of the protection strategy, national generic criteria for taking protective actions and other response actions, expressed in terms of projected dose or of dose that has been received, shall be developed with account taken of the generic criteria in Appendix II. If the national generic criteria for projected dose or received dose are exceeded, protective actions and other response actions, either individually or in combination, shall be implemented. (4) Once the protection strategy has been justified and optimized and a set of national generic criteria has been developed, pre-established operational criteria (conditions on the site, emergency action levels (EALs) and operational intervention levels (OILs)) for initiating the different parts of an emergency plan and for taking protective actions and other response actions shall be derived from the generic criteria. Arrangements shall be established in advance to revise these operational criteria, as appropriate, in the course of a nuclear or radiological emergency, with account taken of the prevailing conditions as they evolve.								
4.29	Each protective action, in the context of the protection strategy, and the protection strategy itself shall be demonstrated to be justified (i.e. to do more good than harm), with account taken not only of those detriments that are associated with radiation exposure but also of those detriments associated with impacts of the actions taken on public health, the economy, society and the environment.	X	X	X	X				
4.30	The government shall ensure that interested parties are involved and are consulted, as appropriate, in the development of the protection strategy.	X	X	X	X				
4.31	The government shall ensure that the protection strategy is implemented safely and effectively in an emergency response through the implementation of emergency arrangements, including but not limited to: (a) promptly taking urgent protective actions and other response actions with account taken of Appendix II of GSR Part 7 to avoid or to minimize severe deterministic effects, if possible, on the basis of observed conditions and before any exposure occurs; (b) taking early protective actions and other response actions to reduce the risk of stochastic effects with	X	X	X	X	X	X	X	X

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7

Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	account taken of Appendix II of GSR Part 7; (c) providing for registration, health screening and longer term medical follow-up, as appropriate, with account taken of Appendix II of GSR Part 7; (d) taking actions to protect emergency workers, with account taken of guidance values provided in Appendix I; (e) taking actions to mitigate non-radiological consequences, with account taken of Appendix II of GSR Part 7; (f) assessing the effectiveness of the actions taken and adjusting them as appropriate on the basis of prevailing conditions and available information as well as the reference level expressed in terms of residual dose; (g) revising the protection strategy as necessary and its further implementation; (h) discontinuing protective actions and other response actions when they are no longer justified.								
Section 5: Functional Requirements Section 5 of GSR Part 7 establishes the requirements for the functions critical to be implemented in a nuclear or radiological emergency for the response to be effective and for the goals of emergency response to be met.									
Requirement 6: Managing emergency response operations The government shall ensure that arrangements are in place for the emergency response operations to be appropriately managed.									
5.2	For facilities in categories I, II and III, arrangements shall be made for the on-site emergency response to be promptly executed and managed without impairing the performance of the continuing operational safety and security functions both at the facility and at any other facilities on the same site. The transition from normal operations to operations under emergency conditions on the site shall be clearly specified and shall be effectively made. The responsibilities of all personnel who would be on the site in an emergency shall be designated as part of the arrangements for this transition. It shall be ensured that the transition to the emergency response and the performance of initial response actions do not impair the ability of operating personnel (such as operating personnel in the control room) to ensure safe and secure operation while taking mitigatory actions.					X	X	X	
5.3	For facilities in categories I, II and III, and, where appropriate, for activities in category IV, arrangements shall be made for an off-site emergency response to be promptly executed, effectively managed and coordinated with an on-site emergency response.		X	X		X	X	X	X
5.4	For a site where several facilities in categories I and II are collocated, adequate arrangements shall be made to manage the emergency response at all the facilities if each of them is under emergency conditions simultaneously. This shall include arrangements to manage the deployment of and the protection of personnel responding on and off the site (see Requirement 11).		X	X		X	X		

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
5.5	For facilities and activities in categories I, II, III and IV, arrangements have to be made, as far as practicable, so that the facility or activity has a nuclear security system or systems that would be functional in a nuclear or radiological emergency.					X	X	X	X
5.6	Arrangements for response to a nuclear or radiological emergency shall be coordinated and integrated with arrangements at the local, regional and national levels for response to a conventional emergency and to a nuclear security event. These arrangements shall take into consideration the fact that the initiator of the nuclear or radiological emergency may not be known early in the response.	X	X	X					
5.7	Arrangements shall be made for the establishment and use of a clearly specified and unified command and control system for emergency response under the all-hazards approach as part of the emergency management system (see paras 4.1–4.3). The command and control system shall provide sufficient assurance for effective coordination of the on-site and off-site response. The authority and responsibility for directing the emergency response and for making decisions on emergency response actions to be taken shall be clearly assigned. The responsibility for directing the emergency response and for decision making on emergency response actions to be taken shall be promptly discharged following a notification of an emergency.	X	X	X	X	X	X	X	X
5.8	Arrangements shall be made for obtaining and assessing the information necessary for making decisions on the allocation of resources for all response organizations throughout a nuclear or radiological emergency.	X	X	X	X	X	X	X	X
5.9	For facilities in category I or II and areas in category V, arrangements shall be made for coordinating the emergency response between response organizations (including those of other States) within the emergency planning zones and emergency planning distances (see para. 5.38) and for providing mutual support.	X	X	X	X	X	X		
5.10	Arrangements shall be made with other States, as appropriate, for coordinated response to a radiological emergency.	X	X	X	X				
Requirement 7: Identifying and notifying a nuclear or radiological emergency and activating an emergency response The government shall ensure that arrangements are in place for the prompt identification and notification of a nuclear or radiological emergency and for the activation of an emergency response.									
5.11	An off-site notification point, or more than one, shall be established to receive notification of an actual or potential nuclear or radiological emergency. The notification point(s) shall be	X	X	X					

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	maintained in a state of continuous availability to receive any notification or request for support and to respond promptly, or to initiate a preplanned and coordinated off-site emergency response appropriate to the emergency class or the level of emergency response. The notification point(s) shall be able to initiate immediate communication by suitable, reliable and diverse means with the response organizations that are providing support.								
5.12	For facilities in categories I and II and for areas in category V, the notification point shall be able to initiate immediate communication with the authority that has been assigned the responsibility to decide on and to initiate precautionary urgent protective actions and urgent protective actions off the site (see also para. 5.7).	X	X	X	X	X	X		
5.13	For facilities and locations at which there is a significant likelihood of encountering a dangerous source that is not under control (see para. 4.21), arrangements shall be made to ensure that the on-site managers of operations and other personnel are aware of the indicators of a potential radiological emergency, the appropriate notification, and protective actions and other response actions that are immediately warranted in an emergency. For facilities and locations for which there is a significant likelihood of encountering a dangerous source that is not under control and for an emergency at an unforeseen location, arrangements shall be made to ensure that the local officials responsible for the response and first responders are aware of the indicators of a potential radiological emergency, the appropriate notification, and protective actions and other response actions that are warranted to be taken immediately in an emergency.		X	X	X				
5.14	The operating organization of a facility or activity in category I, II, III or IV shall make arrangements for promptly classifying, on the basis of the hazard assessment, a nuclear or radiological emergency warranting protective actions and other response actions to protect workers, emergency workers, members of the public and, as relevant, patients and helpers in an emergency, in accordance with the protection strategy (see Requirement 5). This shall include a system for classifying all types of nuclear or radiological emergency as follows: (a) *General emergency* at facilities in category I or II for an emergency that warrants taking precautionary urgent protective actions, urgent protective actions, and early protective actions and other response actions on the site and off the site. Upon declaration of this emergency class, appropriate actions shall promptly be taken, on the basis of the available information relating to the emergency, to mitigate the consequences of the emergency on the site and to protect people on the site and off the site. (b) *Site area emergency* at facilities in category I or II for an emergency that warrants taking protective actions and other response actions on the site and in the vicinity of the site. Upon declaration of this emergency class, actions shall promptly be					X	X	X	X

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Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	taken: (i) to mitigate the consequences of the emergency on the site and to protect people on the site; (ii) to increase the readiness to take protective actions and other response actions off the site if this becomes necessary on the basis of observable conditions, reliable assessments and/or results of monitoring; and (iii) to conduct off-site monitoring, sampling and analysis. (c) *Facility emergency* at facilities in category I, II or III for an emergency that warrants taking protective actions and other response actions at the facility and on the site but does not warrant taking protective actions off the site. Upon declaration of this emergency class, actions shall promptly be taken to mitigate the consequences of the emergency and to protect people at the facility and on the site. Emergencies in this class do not present an off-site hazard. (d) *Alert* at facilities in category I, II or III for an event that warrants taking actions to assess and to mitigate the potential consequences at the facility. Upon declaration of this emergency class, actions shall promptly be taken to assess and to mitigate the potential consequences of the event and to increase the readiness of the on-site response organizations. (e) *Other nuclear or radiological emergency* for an emergency in category IV that warrants taking protective actions and other response actions at any location. Upon declaration of this emergency class and the level of emergency response, actions shall promptly be taken to mitigate the consequences of the emergency on the site, to protect those in the vicinity (e.g. workers and emergency workers and the public) and to determine where and for whom protective actions and other response actions are warranted.								
5.15	For facilities in category I, II or III and for category IV, arrangements shall be made to review the declared emergency class in the light of any new information and, as appropriate, to revise it.					X	X	X	X
5.16	The emergency classification system for facilities and activities in categories I, II, III and IV shall take into account all postulated emergencies, including those arising from events of very low probability. The operational criteria for classification shall include emergency action levels and other observable conditions (i.e. 'observables') and indicators of the conditions at the facility and/or on the site or off the site. The emergency classification system shall be established with the aim of allowing for the prompt initiation of an effective response in recognition of the uncertainty of the available information. It shall be ensured that any process for rating an event on the International Nuclear and Radiological Event Scale (INES) does not delay the emergency classification or emergency response actions.					X	X	X	X
5.17	For facilities and activities in categories I, II and III, and for category IV, arrangements shall be made: (1) to promptly recognize and classify a nuclear or radiological emergency; (2)		X	X		X	X	X	X

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	upon classification, to promptly declare the emergency class and to initiate a coordinated and pre-planned on-site response; (3) to notify the appropriate notification point (see para. 5.11) and to provide sufficient information for an effective off-site response; and (4) upon notification, to initiate a coordinated and pre-planned off-site response, as appropriate, in accordance with the protection strategy. These arrangements shall include suitable, reliable and diverse means of warning persons on the site, of notifying the notification point (see paras 5.39, 5.40, 6.22 and 6.34) and of communication between response organizations.								
5.18	In the event of a transnational emergency, the notifying State shall promptly notify the IAEA and, either directly or through the IAEA, those States that could be affected by the emergency. The notifying State shall provide information on the nature of the emergency and on any potential transnational consequences and shall respond to requests from other States and from the IAEA for information for the purposes of minimizing any consequences.	X	X		X				
5.19	The State shall make known to the IAEA and to other States, directly or through the IAEA, its single warning point responsible for receiving emergency notifications and information from other States and information from the IAEA. This warning point shall be maintained to be continuously available to receive any notification, request for assistance or request for verification and to initiate promptly a response or verification. The State shall promptly inform the IAEA and, directly or through the IAEA, inform other States of any changes that occur in respect of the warning point. The State shall make arrangements for promptly notifying and for providing relevant information, directly or through the IAEA, to those States that could be affected by a transnational emergency.	X	X		X				
5.20	The notifying State shall have arrangements in place for promptly responding to requests from other States or from the IAEA for information in respect of a transnational emergency, in particular with regard to minimizing any consequences. These arrangements shall include making known to the IAEA and to other States, directly or through the IAEA, its designated organization(s) for so doing.	X	X	X	X				
5.21	Arrangements shall be made for promptly and directly notifying any State within the emergency planning zones and distances (see para. 5.36) within which urgent and early protective actions and other response actions could be required to be taken.	X			X	X			
5.22	Appropriate emergency response actions shall be initiated in a timely manner upon the receipt of a notification from another State or of information from the IAEA on a notification relating to an actual or potential transnational emergency that could have	X	X	X	X				

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Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	impacts on the State or its nationals.								
Requirement 8: Taking mitigatory actions The government shall ensure that arrangements are in place for taking mitigatory actions in a nuclear or radiological emergency.										
5.23	The operating organization of a facility or activity in category I, II, III or IV shall promptly decide on and take actions on-site that are necessary to mitigate the consequences of a nuclear or radiological emergency involving a facility or an activity under its responsibility.					X	X	X	X
5.24	Off-site emergency services shall be made available for, and shall be capable of, supporting the on-site response at facilities and activities in category I, II, III or IV.		X	X		X	X	X	X
5.25	For facilities in category I, II or III, arrangements shall be made for mitigatory actions to be taken by the operating personnel, in particular: (a) to prevent escalation of an emergency; (b) to return the facility to a safe and stable state; (c) to reduce the potential for, and to mitigate the consequences of, radioactive releases or exposures. These arrangements shall take into account the full range of possible conditions affecting the emergency response, including those resulting from conditions in the facility and those resulting from impacts of postulated natural, human induced or other events and affecting regional infrastructure or affecting several facilities simultaneously. Arrangements shall include emergency operating procedures and guidance for operating personnel on mitigatory actions for severe conditions (for a nuclear power plant, as part of the accident management programme) and for the full range of postulated emergencies, including accidents that are not considered in the design and associated conditions. As far as practicable, the continued functionality of nuclear security system(s) needs to be considered in these arrangements.					X	X	X	
5.26	The operating organization of a facility or activity in category I, II, III or IV shall assess and determine, at the preparedness stage, when and under what conditions assistance from off-site emergency services may need to be provided on the site, consistent with the hazard assessment and the protection strategy.					X	X	X	X
5.27	For facilities in category I, II or III, arrangements shall be made, in particular by the operating organization, to provide technical assistance to the operating personnel. On-site teams for mitigating the consequences of an emergency (e.g. damage control, firefighting) shall be available and shall be prepared to perform actions at the facility. Paragraph 5.15 of Safety of Nuclear Power Plants: Design (SSR-2/1) states that: “Any equipment that is necessary for actions to be taken in manual response and recovery		X	X		X	X	X	

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Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	processes shall be placed at the most suitable location to ensure its availability at the time of need and to allow safe access to it under the environmental conditions anticipated." The operating personnel directing mitigatory actions shall be provided with information and technical assistance to allow them to take actions effectively to mitigate the consequences of the emergency. Arrangements shall be made to obtain support promptly from the emergency services (e.g. law enforcement agencies, medical services and firefighting services) off the site. Off-site emergency services shall be afforded prompt access to the facility, and shall be informed of on-site conditions and provided with instructions and with means for protecting themselves as emergency workers.								
5.29	Arrangements shall be made to provide expertise and services in radiation protection promptly to local officials, first responders in an emergency at an unforeseen location and specialized services (e.g. law enforcement agencies) responding to emergencies involving activities in category IV, and to those personnel at locations where there is a significant likelihood of encountering a dangerous source that is not under control (see para. 4.21). This shall include arrangements for on-call advice or other appropriate mechanisms and arrangements to dispatch to the site an emergency team capable of assessing the radiation hazards, mitigating the radiological consequences and managing the exposure of emergency workers. In addition, arrangements shall be made to determine whether and when additional assistance is necessary and how to obtain such assistance (see paras 5.24 and 5.91).	X	X	X	X				X
5.30	Arrangements shall be made to initiate a prompt search in the event that a dangerous source could possibly be in the public domain as a result of its loss or unauthorized removal (see para. 5.44).		X	X	X				X
Requirement 9: Taking urgent protective actions and other response actions The government shall ensure that arrangements are in place to assess emergency conditions and to take urgent protective actions and other response actions effectively in a nuclear or radiological emergency.										
5.31	Arrangements shall be made so that the magnitude of hazards and the possible development of hazardous conditions are assessed initially and throughout a nuclear or radiological emergency in order to promptly identify, characterize or anticipate, as appropriate, new hazards or the extent of hazards and to revise the protection strategy.		X	X	X	X	X	X	X
5.32	The operating organization of a facility in category I, II or III shall make arrangements to promptly assess and anticipate: (a) abnormal conditions at the facility; (b) exposures and radioactive releases and releases of other hazardous material; (c) radiological					X	X	X	

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Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	conditions on the site and, as appropriate, off the site; (d) any exposures or potential exposures of workers and emergency workers, the public and, as relevant, patients and helpers in an emergency.								
5.33	These assessments as stated in para. 5.32 shall be used: (a) for deciding on mitigatory actions to be taken by the operating personnel; (b) as a basis for emergency classification (see para. 5.14); (c) for deciding on protective actions and other response actions to be taken on the site, including those for the protection of workers and emergency workers; (d) for deciding on protective actions and other response actions to be taken off the site; (e) where appropriate, to identify those individuals who could potentially have been exposed on the site at levels requiring appropriate medical attention in accordance with Appendix II of GSR Part 7.					X	X	X	
5.34	These arrangements as stated in para. 5.32 shall include the use of pre-established operational criteria in accordance with the protection strategy (see para. 4.28(4)) and provision for access to instruments displaying or measuring those parameters that can readily be measured or observed in a nuclear or radiological emergency. In these arrangements, the expected response of instrumentation and structures, systems and components at the facility under emergency conditions shall be taken into account.					X	X	X	
5.35	The operating organization for activities in category IV shall make arrangements to assess promptly the extent and/or the significance of any abnormal conditions on the site, any exposures or any contamination. These assessments shall be used: (a) for initiating the mitigatory actions; (b) as a basis for protective actions and other response actions to be taken on the site; (c) for determining the level for emergency response and for communicating the extent of the hazards to the appropriate off-site response organizations. These arrangements shall include the use of pre-established operational criteria in accordance with the protection strategy (see para. 4.28(4)).								X
5.36	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.	X	X	X	X	X	X	X	X
5.37	Arrangements shall be made for actions to save human life or to prevent serious injury to be taken without delay on the grounds of the possible presence of radioactive material (see paras 5.39 and 5.64). These arrangements shall include providing first responders in an emergency at an unforeseen location with information on the precautions to take in giving first aid or in transporting an individual with possible contamination.		X	X		X	X	X	X

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
5.38	For facilities in category I or II, arrangements shall be made for effectively making decisions on and taking urgent protective actions, early protective actions and other response actions off the site in order to achieve the goals of emergency response on the basis of a graded approach and in accordance with the protection strategy. The arrangements shall be made with account taken of the uncertainties in and limitations of the information available when protective actions and other response actions have to be taken to be effective, and shall include the following: (a) the specification of off-site emergency planning zones and emergency planning distances for which arrangements shall be made at the preparedness stage for taking protective actions and other response actions effectively. These emergency planning zones and emergency planning distances shall be contiguous across national borders, where appropriate, and shall include: (i) A precautionary action zone (PAZ), for facilities in category I, for which arrangements shall be made for taking urgent protective actions and other response actions, before any significant release of radioactive material occurs, on the basis of conditions at the facility (i.e. conditions leading to the declaration of a general emergency; see para. 5.14), in order to avoid or to minimize severe deterministic effects. (ii) An urgent protective action planning zone (UPZ), for facilities in category I or II, for which arrangements shall be made to initiate urgent protective actions and other response actions, if possible before any significant release of radioactive material occurs, on the basis of conditions at the facility (i.e. conditions leading to the declaration of a general emergency; see para. 5.14), and after a release occurs, on the basis of monitoring and assessment of the radiological situation off the site, in order to reduce the risk of stochastic effects. Any such actions shall be taken in such a way as not to delay the implementation of precautionary urgent protective actions and other response actions within the precautionary action zone. (iii) An extended planning distance (EPD) from the facility, for facilities in category I or II (beyond the urgent protective action planning zone), for which arrangements shall be made to conduct monitoring and assessment of the radiological situation off the site in order to identify areas, within a period of time that would allow the risk of stochastic effects in the areas to be effectively reduced by taking protective actions and other response actions within a day to a week or to a few weeks following a significant radioactive release. (iv) An ingestion and commodities planning distance (ICPD) from the facility, for facilities in category I or II (beyond the extended planning distance), for which arrangements shall be made to take response actions (1) for protecting the food chain and water supply as well as for protecting commodities other than food from contamination following a significant radioactive release and (2) for protecting the public from the ingestion of		X	X		X	X		

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	food, milk and drinking water and from the use of commodities other than food with possible contamination following a significant radioactive release. (b) Criteria, based on the emergency classification and conditions at the facility and off the site (see paras 4.28(3), 4.28(4), 5.14 and 5.15), for initiating and adjusting urgent protective actions and other response actions within the emergency planning zones and distances, in accordance with the protection strategy. (c) Authority and responsibility to provide sufficient and updated information to the notification point at any time to allow for an effective off-site emergency response.								
5.39	Within the emergency planning zones and emergency planning distances, arrangements shall be made for taking appropriate protective and other response actions effectively, as necessary, promptly upon the notification of a nuclear or radiological emergency. These arrangements shall include: (a) prompt execution of authority and discharge of responsibility for making decisions to initiate protective actions and other response actions upon the notification of an emergency (see para. 5.12); (b) warning permanent population, transient population groups and special population groups or those responsible for them and warning special facilities; (c) taking urgent protective actions and other response actions such as evacuation, restrictions on the food chain and on water supply, prevention of inadvertent ingestion, restrictions on the consumption of food, milk and drinking water and on the use of commodities, decontamination of evacuees, control of access and traffic restrictions; (d) protection of emergency workers and helpers in an emergency. The arrangements shall be coordinated with all jurisdictions (including, to the extent practicable, jurisdictions beyond national borders, where relevant) within any emergency planning zone or distance. These arrangements shall ensure that services necessary for ensuring public safety (e.g. rescue services and health services for the care of critically ill patients) are provided continuously throughout the emergency, including during the period when protective actions and other response actions are being taken.	X	X	X	X	X	X		
5.40	Within emergency planning zones and emergency planning distances, arrangements shall be made for the timely monitoring and assessment of contamination, radioactive releases and exposures for the purpose of deciding on or adjusting the protective actions and other response actions that have to be taken or that are being taken. These arrangements shall include the use of pre-established operational criteria in accordance with the protection strategy (see para. 4.28(4)).		X	X		X	X		
5.41	The operating organization of a facility in category I, II or III shall make arrangements to ensure protection and safety of all persons					X	X	X	

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	on the site in a nuclear or radiological emergency. These shall include arrangements to do the following: (a) to notify all persons on the site of an emergency on the site; (b) for all persons on the site to take appropriate actions immediately upon notification of an emergency; (c) to account for those persons on the site and to locate and recover those persons unaccounted for; (d) to provide immediate first aid; (e) to take urgent protective actions.								
5.42	Arrangements as stated in para. 5.41 shall also include ensuring the provision, for all persons present in the facility and on the site, of: (a) suitable assembly points, provided with continuous radiation monitoring; (b) a sufficient number of suitable escape routes; (c) suitable and reliable alarm systems and means for warning and instructing all persons present under the full range of emergency conditions.					X	X	X	
5.43	The operating organization of a facility in category I, II or III shall ensure that suitable, reliable and diverse means of communication are available at all times, under the full range of emergency conditions, for use in taking protective actions and other response actions on the site and for communication with off-site officials responsible for taking protective actions and other response actions off the site or within any emergency planning zones or emergency planning distances.					X	X	X	
5.44	Operating personnel of activities in category IV, first responders in an emergency at an unforeseen location and those personnel at locations where there is a significant likelihood of encountering a dangerous source that is not under control (see para. 4.21) shall be provided with guidance and training on taking urgent protective actions and other response actions. This shall include guidance and training on the approximate radius of the inner cordoned off area in which urgent protective actions and other response actions would initially be taken and on the adjustment of this area on the basis of observed or assessed conditions on the site.	X	X	X	X				X
Requirement 10: Providing instructions, warnings and relevant information to the public for emergency preparedness and response The government shall 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.									
5.45	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 distances (see para. 5.38), before operation and throughout the lifetime of the facility, with information on the		X	X	X	X	X		

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Requirements		**Responsible Parties**								
		Government	**National Response Organization(s)**	**Local Response Organization(s)**	**Regulatory Body**	**Operating Organization EP Category I**	**Operating Organization EP Category II**	**Operating Organization EP Category III**	**Operating Organization EP Category IV**
	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. The information shall be provided in the languages mainly spoken within the emergency planning zones and emergency planning distances. The effectiveness of these arrangements for public information shall be periodically assessed.								
5.46	For facilities in category I or II and in areas in category V, arrangements shall be made to register those members of the public in special population groups and, as appropriate, those responsible for them, and to promptly issue them and the permanent population and transient population groups, as well as special facilities in the emergency planning zones and emergency planning distances, with a warning and with instructions to be followed upon declaration of a general emergency (see para. 5.14). This shall include providing instructions on the actions to be taken in the languages mainly spoken by the population residing within these emergency planning zones and emergency planning distances (see para. 5.38).		X	X	X	X	X		
5.47	For facilities in category III and category IV, arrangements shall be made 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.		X	X	X			X	X
5.48	Arrangements shall be made by response organizations in a State to promptly provide information and advice to its nationals and to those 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 (see paras 5.73 and 6.14).	X	X		X				
Requirement 11: Protecting emergency workers and helpers in an emergency The government shall ensure that arrangements are in place to protect emergency workers and to protect helpers in a nuclear or radiological emergency.										
5.49	Arrangements shall be made to ensure that emergency workers are, to the extent practicable, designated in advance and are fit for the intended duty. These arrangements shall include health surveillance for emergency workers for the purpose of assessing their initial fitness and continuing fitness for their intended duties (see also IAEA Safety Standards Series No. GSR Part 3 [19];		X	X	X	X	X	X	X

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	hereinafter referred to as GSR Part 3).								
5.50	Arrangements shall be made to register and to integrate into the emergency response operations those emergency workers who were not designated as such in advance of a nuclear or radiological emergency and helpers in an emergency. This shall include designation of the response organization(s) responsible for ensuring protection of emergency workers and protection of helpers in an emergency.		X	X	X	X	X	X	X
5.51	The operating organization and response organizations shall determine the anticipated hazardous conditions, both on the site and off the site, in which emergency workers might have to perform response functions in a nuclear or radiological emergency in accordance with the hazard assessment and the protection strategy.		X	X		X	X	X	X
5.52	The operating organization and response organizations shall ensure that arrangements are in place for the protection of emergency workers and protection of helpers in an emergency for the range of anticipated hazardous conditions in which they might have to perform response functions. These arrangements, as a minimum, shall include: (a) training those emergency workers designated as such in advance; (b) providing emergency workers not designated in advance and helpers in an emergency immediately before the conduct of their specified duties with instructions on how to perform the duties under emergency conditions ('just in time' training); (c) managing, controlling and recording the doses received; (d) provision of appropriate specialized protective equipment and monitoring equipment; (e) provision of iodine thyroid blocking, as appropriate, if exposure due to radioactive iodine is possible; (f) obtaining informed consent to perform specified duties, when appropriate; (g) medical examination, longer term medical actions and psychological counselling, as appropriate.		X	X		X	X	X	X
5.53	The operating organization and response organizations shall ensure that all practicable means are used to minimize exposures of emergency workers and helpers in an emergency in the response to a nuclear or radiological emergency (see para. I.2 of Appendix I of GSR Part 7), and to optimize their protection.		X	X		X	X	X	X
5.54	In a nuclear or radiological emergency, the relevant requirements for occupational exposure in planned exposure situations established in GSR Part 3 [19] shall be applied, on the basis of a graded approach, for emergency workers, except as required in para. 5.55.		X	X		X	X	X	X
5.55	The operating organization and response organizations shall ensure that no emergency worker is subject to an exposure in an emergency that could give rise to an effective dose in excess of 50 mSv other than: (1) for the purposes of saving human life or		X	X		X	X	X	X

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	preventing serious injury; (2) when taking actions to prevent severe deterministic effects or actions to prevent the development of catastrophic conditions that could significantly affect people and the environment; (3) when taking actions to avert a large collective dose.								
5.56	For the exceptional circumstances of para. 5.55, national guidance values shall be established for restricting the exposures of emergency workers, in accordance with Appendix I of GSR Part 7.	X			X				
5.57	The operating organization and response organizations shall ensure that emergency workers who undertake emergency response actions in which doses received might exceed an effective dose of 50 mSv do so voluntarily; that they have been clearly and comprehensively informed in advance of the associated health risks as well as of available protective measures; and that they are, to the extent possible, trained in the actions that they may be required to take. Emergency workers not designated as such in advance shall not be the first emergency workers chosen for taking actions that could result in their doses exceeding the guidance values of dose for lifesaving actions, as given in Appendix I of GSR Part 7. Helpers in an emergency shall not be allowed to take actions that could result in their receiving doses in excess of an effective dose of 50 mSv.		X	X		X	X	X	X
5.58	Arrangements shall be made to assess as soon as practicable the individual doses received in a response to a nuclear or radiological emergency by emergency workers and helpers in an emergency and, as appropriate, to restrict further exposures in the response to the emergency (see Appendix I of GSR Part 7).		X	X		X	X	X	X
5.59	Emergency workers and helpers in an emergency shall be given appropriate medical attention for doses received in a response to a nuclear or radiological emergency (see Appendix II of GSR Part 7) or at their request.		X	X		X	X	X	X
5.60	Emergency workers who receive doses in a response to a nuclear or radiological emergency shall normally not be precluded from incurring further occupational exposure. However, qualified medical advice shall be obtained before any further occupational exposure occurs if an emergency worker has received an effective dose exceeding 200 mSv, or at the request of the emergency worker.		X	X		X	X	X	X
5.61	Information on the doses received in the response to a nuclear or radiological emergency and information on any consequent health risks shall be communicated, as soon as practicable, to emergency workers and to helpers in an emergency.		X	X		X	X	X	X
Requirement 12: Managing the medical response in a nuclear or radiological emergency The government shall ensure that arrangements are in place for the provision of appropriate medical screening and triage, medical treatment and longer term medical actions for those people who could be affected in a									

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
nuclear or radiological emergency.									
5.62	On the presentation by an individual of clinical symptoms of radiation exposure or other indications associated with a possible nuclear or radiological emergency, the medical personnel or other responsible parties who identify the clinical symptoms or other indications shall notify the appropriate local or national officials and shall take response actions as appropriate.		X	X		X	X	X	X
5.63	Arrangements shall be made for medical personnel, both general practitioners and emergency medical staff, to be made aware of the clinical symptoms of radiation exposure, and of the appropriate notification procedures and other emergency response actions to be taken if a nuclear or radiological emergency arises or is suspected.	X							
5.64	Arrangements shall be made so that, in a nuclear or radiological emergency, individuals with possible contaminations can promptly be given appropriate medical attention. These arrangements shall include ensuring that transport services are provided where needed and providing instructions to medical personnel on the precautions to take.		X	X		X	X	X	
5.65	For facilities in categories I, II and III, arrangements shall be made to manage an adequate number of individuals with contamination or of any individuals who have been overexposed to radiation, including arrangements for first aid, the estimation of doses, medical transport and initial medical treatment in predesignated medical facilities.					X	X	X	
5.66	For areas within emergency planning zones (see para. 5.38), arrangements shall be made for performing medical screening and triage and for assigning to a predesignated medical facility any individual exposed at levels exceeding the criteria in Table II.1 of Appendix II of GSR Part 7. These arrangements shall include the use of pre-established operational criteria in accordance with the protection strategy (see para. 4.28(4)).		X	X		X	X		
5.67	Arrangements shall be made to identify individuals with possible contamination and individuals who have possibly been sufficiently exposed for radiation induced health effects to result, and to provide them with appropriate medical attention, including longer term medical follow-up. These arrangements shall include: (a) guidelines for effective diagnosis and treatment; (b) designation of medical personnel trained in clinical management of radiation injuries; (c) designation of institutions for evaluating radiation exposure (external and internal), for providing specialized medical treatment and for longer term medical actions. These arrangements shall also include the use of pre-established operational criteria in	X	X	X					

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Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	accordance with the protection strategy (see para. 4.28(4)) and arrangements for medical consultation on treatment following any exposure that could result in severe deterministic effects (see Appendix II of GSR Part 7) with medical personnel experienced in dealing with such injuries.								
5.68	Arrangements shall be made for the identification of individuals who are in those population groups that are at risk of sustaining increases in the incidence of cancers as a result of radiation exposure in a nuclear or radiological emergency. Arrangements shall be made to take longer term medical actions to detect radiation induced health effects among such population groups in time to allow for their effective treatment. These arrangements shall include the use of pre-established operational criteria in accordance with the protection strategy (see para. 4.28(4)).	X	X	X					
Requirement 13: Communicating with the public throughout a nuclear or radiological emergency The government shall ensure that arrangements are in place for communicating with the public throughout a nuclear or radiological emergency.										
5.69	Arrangements shall be made for providing useful, timely, true, clear and appropriate information to the public in a nuclear or radiological emergency, with account taken of the possibility that the usual means for communication might be damaged in the emergency or by its initiating event (e.g. by an earthquake or by flooding) or overburdened by demand for its use. These arrangements shall also include arrangements for keeping the international community informed, as appropriate. These arrangements shall take into account the need to protect sensitive information in circumstances where a nuclear or radiological emergency is initiated by a nuclear security event. Communication with the public in a nuclear or radiological emergency shall be carried out on the basis of a strategy to be developed at the preparedness stage as part of the protection strategy. Arrangements shall be made to adjust this strategy in the emergency response on the basis of prevailing conditions.	X	X	X	X	X	X	X	X
5.70	Arrangements shall be made to ensure 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.	X	X	X	X	X	X	X	X
5.71	Arrangements shall be made so that in a nuclear or radiological emergency information is provided to the public in plain and understandable language.	X	X	X	X	X	X	X	X
5.72	The government shall ensure that a system for putting radiological health hazards in perspective in a nuclear or radiological	X	X		X				

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Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	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. 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.								
5.73	Arrangements shall be made to explain to the public any changes in the protective actions and other response actions recommended in the State and any differences from those recommended in other States (see paras 6.13–6.15).	X	X	X	X				
5.74	Arrangements shall be made to identify and address, to the extent practicable, misconceptions, rumours and incorrect and misleading information that might be circulating widely in a nuclear or radiological emergency, in particular those that might result in actions being taken beyond those emergency response actions that are warranted (see Requirement 16).	X	X	X	X	X	X	X	X
5.75	Arrangements shall be made to respond to enquiries from the public and from news media, both national and international, including enquiries received from or through the IAEA. These arrangements shall recognize the evolutionary nature of emergencies and the need to respond in a timely manner to enquiries even when the information requested is not yet available.	X	X	X	X	X	X	X	X
Requirement 14: Taking early protective actions and other response actions The government shall ensure that arrangements are in place to take early protective actions and other response actions effectively in a nuclear or radiological emergency.										
5.76	Within the extended planning distance (see para. 5.38), arrangements shall be made for effective relocation that may be required following a significant radioactive release and for the prevention of inadvertent ingestion, in accordance with the protection strategy (see Requirement 5). These arrangements shall include: (a) provision of instructions and advice to prevent inadvertent ingestion; (b) prompt monitoring and assessment; (c) use of pre-established operational criteria in accordance with the protection strategy (see para. 4.28(4)); (d) the means for accomplishing relocation and for assisting those persons who have been relocated; (e) provisions to extend monitoring and assessment and actions taken beyond the extended planning distance if necessary.	X	X	X	X	X	X		
5.77	For areas within the ingestion and commodities planning distance (see para. 5.38), arrangements shall be made for prompt protection in relation to, and for restriction of, non-essential local produce, forest products (e.g. wild berries, wild mushrooms), milk from	X	X	X	X	X	X		

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	grazing animals, drinking water supplies, animal feed and commodities with contamination or possibly with contamination following a significant radioactive release, in accordance with the protection strategy (see Requirement 5). These arrangements shall include: (a) provision of instructions and advice: (i) to protect the food chain, water supply and commodities from contamination; (ii) to prevent ingestion of food, milk and drinking water with contamination or possibly with contamination; (iii) to prevent use of commodities with contamination or possibly with contamination; (b) prompt monitoring, sampling and analysis; (c) use of pre-established operational criteria in accordance with the protection strategy (see para. 4.28(4)); (d) the means to enforce the restrictions; (e) provisions to expand monitoring and assessment and actions beyond this distance if necessary.								
5.78	Within the emergency planning zones and the inner cordoned off area, arrangements shall be made for monitoring the levels of contamination of people, vehicles and goods moving out of areas with contamination, in order to control the spread of contamination and, as applicable, for the purposes of decontamination in accordance with the protection strategy (see Requirement 5). These arrangements shall include the use of pre-established operational criteria in accordance with the protection strategy (see para. 4.28(4)) and shall take into consideration that some vehicles and items potentially with contamination, as well as members of the public and emergency workers, might have left these areas before the establishment of contamination control points and boundaries.		X	X	X	X	X	X	X
5.79	Arrangements shall be made for access control and enforcing of restrictions for areas in which evacuations and relocations would be carried out within emergency planning zones, the extended planning distance and the inner cordoned off area, in accordance with the protection strategy (see Requirement 5). Returns to these areas for short periods of time shall be permitted if justified (e.g. to feed animals left behind) and provided that those individuals entering the area are: (a) subject to controls and to dose assessment while in the area; (b) instructed on how to protect themselves; (c) briefed on the associated health hazards.		X	X	X	X	X	X	X
5.80	Arrangements shall be made to test methods of decontamination before their general use and to assess their effectiveness in terms of dose reduction.		X	X		X	X	X	X
5.81	For a transnational emergency in category IV, arrangements shall be made for taking early protective actions and other response actions as appropriate for areas beyond category V, including promptly conducting monitoring and assessment of contamination (a) of food, milk and drinking water and, as appropriate, of commodities other than food, and (b) of vehicles and cargoes that are likely to have contamination, with the aim of mitigating the	X	X	X	X				

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	consequences of a nuclear or radiological emergency and reassurance of the public. These arrangements shall include the use of pre-established operational criteria in accordance with the protection strategy (see para. 4.28(4)).								
5.82	Monitoring in response to a nuclear or radiological emergency shall be carried out on the basis of a strategy to be developed at the preparedness stage as part of the protection strategy. Arrangements shall be made to adjust the monitoring in the emergency response on the basis of prevailing conditions.		X	X		X	X	X	X
5.83	Arrangements shall be made to carry out retrospective assessment of exposure of members of the public in a nuclear or radiological emergency, and to make the results of these assessments publicly available. The assessments shall be based on the best available information, shall be put into perspective in terms of the associated health hazards (see para. 5.72) and shall be promptly updated in the light of information that would yield substantially more accurate results.	X	X						
Requirement 15: Managing radioactive waste in an emergency The government shall ensure that radioactive waste is managed safely and effectively in a nuclear or radiological emergency.									
5.84	The national policy and strategy for radioactive waste management shall apply for radioactive waste generated in a nuclear or radiological emergency, with account taken of paras 5.85 to 5.88.	X			X				
5.85	The protection strategy (see Requirement 5) shall take into account radioactive waste that might arise from protective actions and other response actions that are to be taken.	X	X	X	X	X	X	X	X
5.86	Radioactive waste arising in a nuclear or radiological emergency, including radioactive waste arising from associated protective actions and other response actions taken, shall be identified, characterized and categorized in due time and shall be managed in a manner that does not compromise the protection strategy, with account taken of prevailing conditions as these evolve.		X	X	X	X	X	X	X
5.87	Arrangements shall be made for radioactive waste to be managed safely and effectively. These arrangements shall include: (a) a plan to characterize waste, including in situ measurements and analysis of samples; (b) criteria for categorization of waste; (c) avoiding, to the extent possible, the mixing of waste of different categories; (d) minimizing the amount of material unduly declared as radioactive waste; (e) a method for determining appropriate options for predisposal management of radioactive waste (including processing, storage and transport), with account taken of the interdependences between all steps as well as impacts on the anticipated end points (clearance, authorized discharge, reuse, recycling, disposal); (f) a method of identifying appropriate		X	X	X	X	X	X	X

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	storage options and sites; (g) consideration of non-radiological aspects of waste (e.g. chemical properties such as toxicity, and biological properties).								
5.88	Consideration shall be given to the management of human remains and animal remains with contamination as a result of a nuclear or radiological emergency, with due account taken of religious practices and cultural practices.	X	X	X	X				
Requirement 16: Mitigating non-radiological consequences of a nuclear or radiological emergency and of an emergency response The government shall ensure that arrangements are in place for mitigation of non-radiological consequences of a nuclear or radiological emergency and of an emergency response.									
5.89	Non-radiological consequences of a nuclear or radiological emergency and of an emergency response shall be taken into consideration in deciding on the protective actions and other response actions to be taken in the context of the protection strategy (see Requirement 5).	X	X	X		X	X	X	X
5.90	Arrangements shall be made for mitigating the non-radiological consequences of an emergency and those of an emergency response and for responding to public concern in a nuclear or radiological emergency. These arrangements shall include providing the people affected with: (a) information on any associated health hazards and clear instructions on the actions to be taken (see Requirement 10 and Requirement 13); (b) medical and psychological counselling, as appropriate; (c) adequate social support, as appropriate.	X	X	X	X				
5.91	Arrangements shall be made to mitigate the impacts on international trade of a nuclear or radiological emergency and associated protective actions and other response actions, with account taken of the generic criteria in Appendix II of GSR Part 7. These arrangements shall provide for issuing information to the public and interested parties (such as importing States) on controls put in place in relation to traded commodities, including food, and on vehicles and cargoes being shipped, and on any revisions of the relevant national criteria.	X	X	X	X				
5.92	Arrangements shall be put in place for any actions taken, beyond those emergency response actions that are warranted, by members of the public and by commercial, industrial, infrastructural or other governmental or non-governmental bodies to be, to the extent practicable, promptly identified and appropriately addressed. This shall include the designation of organization(s) with the responsibility for monitoring for, identifying and addressing such actions.	X	X	X	X				
Requirement 17: Requesting, providing and receiving international assistance for emergency preparedness and response									

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
The government shall ensure that adequate arrangements are in place to benefit from, and to contribute to the provision of, international assistance for preparedness and response for a nuclear or radiological emergency.									
5.93	Governments and international organizations shall put in place and shall maintain arrangements to respond in a timely manner to a request made by a State, in accordance with established mechanisms and respective mandates, for assistance in preparedness and response for a nuclear or radiological emergency.	X	X		X				
5.94	Arrangements shall be put in place and maintained for requesting and obtaining international assistance from States or international organizations and for providing assistance to States (either directly or through the IAEA) in preparedness and response for a nuclear or radiological emergency, on the basis of international instruments (e.g. the Assistance Convention), bilateral agreements or other mechanisms. These arrangements shall take due account of compatibility requirements for the capabilities to be obtained from and to be rendered to different States so as to ensure the usefulness of these capabilities.	X	X		X				
Requirement 18: Terminating a nuclear or radiological emergency The government shall ensure that arrangements are in place and are implemented for the termination of a nuclear or radiological emergency, with account taken of the need for the resumption of social and economic activities.									
5.95	Adjustment of protective actions and other response actions and of other arrangements that are aimed at enabling the termination of an emergency shall be made by a formal process that includes consultation of interested parties.	X	X	X	X				
5.96	Arrangements for communication with the public in a nuclear or radiological emergency (see Requirement 13) shall include arrangements for communicating on the reasons for any adjustment of protective actions and other response actions and other arrangements aimed at enabling the termination of the emergency. This shall include providing the public with information on the need for any continuing protective actions following termination of the emergency and on any necessary modifications to their personal behaviour. Arrangements shall be made, during this period, to closely monitor public opinion and the reaction in the news media in order to ensure that any concerns can be promptly addressed. These arrangements shall ensure that any information provided to the public puts health hazards in perspective (see para. 5.72).	X	X	X	X				
5.97	The termination of a nuclear or radiological emergency shall be based on a formal decision that is made public and shall include prior consultation with interested parties, as appropriate.	X	X	X	X	X	X	X	X

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Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
5.98	Both radiological consequences and non-radiological consequences shall be considered in deciding on the termination of an emergency as well as in the justification and optimization of further protection strategies as necessary.	X	X	X	X				
5.99	The transition to an existing exposure situation or to a planned exposure situation shall be made in a coordinated and orderly manner, by making any necessary transfer of responsibilities and with the increased involvement of relevant authorities and interested parties.	X	X	X	X				
5.100	The government shall ensure that, as part of its emergency preparedness, arrangements are in place for the termination of a nuclear or radiological emergency. The arrangements shall take into account that the termination of an emergency might be at different times in different geographical areas. The planning process shall include as appropriate: (a) the roles and functions of organizations; (b) methods of transferring information; (c) means for assessing radiological consequences and non-radiological consequences; (d) conditions, criteria and objectives to be met for enabling the termination of a nuclear or radiological emergency (see Appendix II of GSR Part 7); (e) a review of the hazard assessment and of the emergency arrangements; (f) establishment of national guidelines for the termination of an emergency; (g) arrangements for continued communication with the public, and for monitoring of public opinion and the reaction in the news media; (h) arrangements for consultation of interested parties.	X	X	X	X				
5.101	Once the emergency is terminated, all workers undertaking relevant work shall be subject to the relevant requirements for occupational exposure in planned exposure situations, and individual monitoring, environmental monitoring and health surveillance shall be conducted subject to the requirements for planned exposure situations or existing exposure situations, as appropriate.		X	X	X	X	X	X	X
Requirement 19: Analysing the nuclear or radiological emergency and the emergency response The government shall ensure that the nuclear or radiological emergency and the emergency response are analysed in order to identify actions to be taken to avoid other emergencies and to improve emergency arrangements.									
5.102	Arrangements shall be made to document, protect and preserve, in an emergency response, to the extent practicable, data and information important for an analysis of the nuclear or radiological emergency and the emergency response. Arrangements shall be made to undertake a timely and comprehensive analysis of the nuclear or radiological emergency and the emergency response with the involvement of interested parties. These arrangements shall give due consideration to the need for making contributions	X	X	X	X	X	X	X	X

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Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	to relevant internationally coordinated analyses and for sharing the findings of the analysis with relevant response organizations. The analysis shall give due consideration to: (a) the reconstruction of the circumstances of the emergency; (b) the root causes of the emergency; (c) regulatory controls including regulations and regulatory oversight; (d) general implications for safety, including the possible involvement of other sources or devices (including those in other States); (e) general implications for nuclear security, as appropriate; (f) necessary improvements to emergency arrangements; (g) necessary improvements to regulatory control.								
5.103	Arrangements shall be made to enable comprehensive interviews on the circumstances of the nuclear or radiological emergency to be conducted with those involved.	X	X	X	X	X	X	X	X
5.104	Arrangements shall be made to acquire (e.g. from the IAEA, from another State or from the manufacturer of relevant equipment) the expertise necessary to perform an analysis of the circumstances of the nuclear or radiological emergency.	X	X		X	X	X	X	X
5.105	Arrangements shall be made to take actions promptly on the basis of an analysis to avoid other emergencies, including provision of information to other operating organizations, as relevant, or to other States, directly or through the IAEA.		X	X	X	X	X	X	X
Section 6: Requirements for Infrastructure Section 6 of GSR Part 7 establishes the requirements for infrastructural elements essential to providing the capability for fulfilling the requirements established in Section 5 in accordance with the hazard assessment and the protection strategy.										
Requirement 20: Authorities for emergency preparedness and response The government shall ensure that authorities for preparedness and response for a nuclear or radiological emergency are clearly established.										
6.2	The authorities for developing, maintaining and regulating arrangements, both on the site and off the site, for preparedness and response for a nuclear or radiological emergency shall be established by means of acts, legal codes or statutes.	X							
6.3	All of the functions specified in Section 5 shall be assigned to the appropriate operating organizations and to local, regional and national organizations. The involvement of all these organizations in the performance of these functions, or in support of their performance, shall be documented. The documentation shall specify their roles, functions, authorities and responsibilities in emergency preparedness and response and shall assent to the authorities, roles and responsibilities of other response organizations. Conflicting or	X	X	X	X	X	X	X	X

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Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	potentially conflicting and overlapping roles and responsibilities shall be identified and conflicts shall be resolved at the preparedness stage through the national coordinating mechanism (see para. 4.10).								
6.5	The emergency arrangements shall include clear assignment of responsibilities and authorities, and shall provide for coordination and for communication in all phases of the response. These arrangements shall include: ensuring that for each response organization a position in the response hierarchy has the authority and responsibility to direct and to coordinate its response actions; clearly assigning the authority and responsibility for the direction and coordination of the entire response (see para. 5.7) and for the prevention and resolution of conflicts between response organizations; assigning to an on-site position the authority and responsibility for notifying the appropriate organization(s) of an emergency and for taking immediate on-site actions; assigning to an on-site position the responsibility for directing the entire on-site emergency response (see paras 5.2 and 5.7). These arrangements shall be such as to ensure that those personnel with authority and responsibility to perform critical response functions in an emergency response are not assigned any other responsibilities in an emergency that would interfere with the prompt performance of the specified functions.	X	X	X	X	X	X	X	X
6.6	The arrangements for delegation and/or transfer of authority shall be specified in the relevant emergency plans, together with arrangements for notifying all appropriate parties of the transfer.		X	X	X	X	X	X	X
Requirement 21: Organization and staffing for emergency preparedness and response The government shall ensure that overall organization for preparedness and response for a nuclear or radiological emergency is clearly specified and staffed with sufficient personnel who are qualified and are assessed for their fitness for their intended duties.										
6.7	The organizational relationships for emergency preparedness and response for a nuclear or radiological emergency and interfaces between all the response organizations shall be established.	X	X	X	X	X	X	X	X
6.8	The positions responsible within each operating organization and response organization for performance of the response functions specified in Section 5 shall be assigned in the emergency plans and procedures. The positions responsible in each operating organization, in each response organization and in the regulatory body for the performance of activities at the preparedness stage, in accordance with these requirements, shall be assigned as part of the routine organizational structures and shall be specified, as appropriate, in the emergency plans and procedures.	X	X	X	X	X	X	X	X
6.9	Personnel who are assigned to positions in all operating		X	X	X	X	X	X	X

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		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	organizations and response organizations to perform the functions necessary to meet the requirements established in Section 5 shall be qualified and shall be assessed for their initial fitness for their intended duties.								
6.10	Appropriate numbers of suitably qualified personnel shall be available at all times (including during 24 hour a day operations) so that appropriate positions can be promptly staffed as necessary following the declaration and notification of a nuclear or radiological emergency. Appropriate numbers of suitably qualified personnel shall be available for the long term to staff the various positions necessary to take mitigatory actions, protective actions and other response actions.		X	X	X	X	X	X	X
6.11	For a site where multiple facilities in category I or II are collocated, an appropriate number of suitably qualified personnel shall be available to manage an emergency response at all facilities if each of the facilities is under emergency conditions simultaneously (see para. 5.4).		X	X		X	X		
Requirement 22: Coordination of emergency preparedness and response The government shall ensure that arrangements are in place for the coordination of emergency preparedness and response for a nuclear or radiological emergency between the operating organization and authorities at the local, regional and national levels, and, where appropriate, at the international level.									
6.12	Arrangements shall be developed, as appropriate, for the coordination of emergency preparedness and response and of protocols for operational interfaces between operating organizations and authorities at the local, regional and national levels, including those organizations and authorities responsible for the response to conventional emergencies and to nuclear security events (see paras 4.3, 4.10, 6.3 and Requirement 6). The arrangements shall be clearly documented and the documentation shall be made available to all relevant parties. Arrangements shall be put in place to ensure effective working relationships among these organizations, both at the preparedness stage and in an emergency.	X	X	X	X	X	X	X	X
6.13	When several different organizations of the State or of other States are expected to have or to develop tools, procedures or criteria for use in the response to an emergency, arrangements for coordination shall be put in place to improve consistency of the assessments of the situation, including assessments of contamination, doses and radiation induced health effects and any other relevant assessments made in a nuclear or radiological emergency, so as not to give rise to confusion.	X	X	X	X	X	X	X	X
6.14	Arrangements shall be made to coordinate with other States in the event of a transnational emergency any protective actions and	X	X	X	X				

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7									
Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	other response actions that are recommended to their citizens and to their embassies in order either to ensure that they are consistent with those recommended in other States, or to provide an opportunity for them to explain to the public the basis for any differences (see para. 5.73).								
6.15	Arrangements shall be made to ensure that States with areas in category V are provided with appropriate information for developing their own preparedness to respond to a trans-boundary emergency and that appropriate coordination across national borders is in place. These arrangements shall include: (a) agreements and protocols to provide information necessary to develop a coordinated means for notification, classification schemes and criteria for taking and for adjusting protective actions and other response actions; (b) arrangements for communication with the public; (c) arrangements for the exchange of information between decision making authorities.	X	X	X		X	X		
Requirement 23: Plans and procedures for emergency response The government shall ensure that plans and procedures necessary for effective response to a nuclear or radiological emergency are established.									
6.16	Plans, procedures and other arrangements for effective emergency response, including coordinating mechanisms, letters of agreement or legal instruments, shall be made for coordinating a national emergency response. The arrangements for a coordinated national emergency response: shall specify the organization responsible for the development and maintenance of the arrangements; shall describe the responsibilities of operating organizations and other response organizations; shall describe the coordination effected between these arrangements and the arrangements for response to a conventional emergency and to a nuclear security event. Consideration shall be given in these plans, procedures and other arrangements to the need to protect information that might be confidential.	X	X	X	X	X	X	X	X
6.17	Each response organization shall prepare an emergency plan or plans for coordinating and performing their assigned functions as specified in Section 5 and in accordance with the hazard assessment and the protection strategy. An emergency response plan shall be developed at the national level that integrates all relevant plans for emergency response in a coordinated manner and consistently with an all-hazards approach. Emergency plans shall specify how responsibilities for managing operations in an emergency response are to be discharged on the site, off the site and across national borders, as appropriate. The emergency plans shall be coordinated with other plans and procedures that may be implemented in a nuclear or radiological emergency, to ensure that		X	X	X	X	X	X	X

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7

Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	the simultaneous implementation of the plans would not reduce their effectiveness or cause conflicts. Such other plans and procedures include: (a) emergency plans for facilities in category I and for areas in category V; (b) security plans and contingency plans; (c) procedures for the investigation of a nuclear security event, including identification, collection, packaging and transport of evidence contaminated with radionuclides; nuclear forensics and related activities; (d) evacuation plans; (e) plans for firefighting.								
6.18	The appropriate responsible authorities shall ensure that: (a) a 'concept of operations' for emergency response is developed at the beginning of the preparedness stage; (b) emergency plans and procedures are prepared and, as appropriate, approved for any facility or activity, area and location that could give rise to an emergency warranting protective actions and other response actions; (c) response organizations and operating organizations, as appropriate, are involved in the preparation of emergency plans and procedures, as appropriate; (d) account is taken in the content, features and extent of emergency plans of the results of any hazard assessment and any lessons from operating experience and from emergencies, including conventional emergencies (see paras 4.18–4.26); (e) emergency plans and procedures are periodically reviewed and updated (see paras 6.36 and 6.38).		X	X	X				
6.19	The operating organization of a facility or for an activity in category I, II, III or IV shall prepare an emergency plan. This emergency plan shall be coordinated with those of all other bodies that have responsibilities in a nuclear or radiological emergency, including public authorities, and shall be submitted to the regulatory body for approval.					X	X	X	X
6.20	The operating organization and response organizations shall develop the necessary procedures and analytical tools to be able to perform the functions specified in Section 5 for the goals of emergency response to be achieved and for the emergency response to be effective.		X	X	X	X	X	X	X
6.21	Procedures and analytical tools shall be tested under simulated emergency conditions and shall be validated prior to initial use. Any arrangements for use of analytical tools early in the emergency response for supporting decision making on protective actions and other response actions shall be made in due recognition of the limitations of such analytical tools and in a way that would not reduce the effectiveness of response actions. These limitations shall be made clear to, and shall be recognized by, those responsible for decision making.		X	X	X	X	X	X	X
Requirement 24: Logistical support and facilities for emergency response The government shall ensure that adequate logistical support and facilities are provided to enable emergency									

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7										
Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
response functions to be performed effectively in a nuclear or radiological emergency.									
6.22	Adequate tools, instruments, supplies, equipment, communication systems, facilities and documentation (such as documentation of procedures, checklists, manuals, telephone numbers and email addresses) shall be provided for performing the functions specified in Section 5. These items and facilities shall be selected or designed to be operational under the conditions (such as radiological conditions, working conditions and environmental conditions) that could be encountered in the emergency response, and to be compatible with other procedures and equipment for the response (e.g. compatible with the communication frequencies used by other response organizations), as appropriate. These support items shall be located or provided in a manner that allows their effective use under the emergency conditions postulated.		X	X	X	X	X	X	X
6.23	For facilities in categories I and II, as contingency measures, alternative supplies for taking on-site mitigatory actions, such as an alternative supply of water and an alternative electrical power supply, including any necessary equipment, shall be ensured. This equipment shall be located and maintained so that it can be functional and readily accessible when needed.					X	X		
6.24	Emergency response facilities or locations to support an emergency response under the full range of postulated hazardous conditions shall be designated and shall be assigned the following functions, as appropriate: (a) receiving notifications and initiating the response; (b) coordination and direction of on-site response actions; (c) providing technical and operational support to those personnel performing tasks at a facility and those personnel responding off the site; (d) direction of off-site response actions and coordination with on-site response actions; (e) coordination of national response actions; (f) coordination of communication with the public; (g) coordination of monitoring, sampling and analysis; (h) managing those people who have been evacuated (including reception, registration, monitoring and decontamination, as well as provision for meeting their personal needs, including for housing, food and sanitation); (i) managing the storage of necessary resources; (j) providing individuals who have undergone exposure or contamination with appropriate medical attention including medical treatment.		X	X		X	X	X	X
6.25	For facilities in category I, emergency response facilities separate from the control room and supplementary control room shall be provided so that: (a) technical support can be provided to the operating personnel in the control room in an emergency (from a technical support centre); (b) operational control by personnel performing tasks at or near the facility can be maintained (from an operational support centre); (c) the on-site emergency response is					X			

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7

Requirements		Responsible Parties							
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	managed (from an emergency centre). These emergency response facilities shall operate as an integrated system in support of the emergency response, without conflicting with one another's functions, and shall provide reasonable assurance of being operable and habitable under a range of postulated hazardous conditions, including conditions not considered in the design.								
6.26	Arrangements shall be made for performing appropriate and reliable analyses of samples and measurements of internal contamination for the purposes of emergency response and of health screening, as appropriate. Such arrangements shall include the designation of laboratories that would be operational under postulated emergency conditions.	X	X	X		X	X	X	X
6.27	Arrangements shall be made to obtain appropriate support from organizations responsible for providing support in conventional emergencies for logistics and communication, for social welfare and in other areas.	X	X	X		X	X	X	X
Requirement 25: Training, drills and exercises for emergency preparedness and response The government shall ensure that personnel relevant for emergency response shall take part in regular training, drills and exercises to ensure that they are able to perform their assigned response functions effectively in a nuclear or radiological emergency.									
6.28	The operating organization and response organizations shall identify the knowledge, skills and abilities necessary to perform the functions specified in Section 5. The operating organization and response organizations shall make arrangements for the selection of personnel and for training to ensure that the personnel selected have the requisite knowledge, skills and abilities to perform their assigned response functions. The arrangements shall include arrangements for continuing refresher training on an appropriate schedule and arrangements for ensuring that personnel assigned to positions with responsibilities in an emergency response undergo the specified training.		X	X	X	X	X	X	X
6.29	For facilities in category I, II or III, all personnel and all other persons on the site shall be instructed in the arrangements for them to be notified of an emergency and of their actions if notified of an emergency.					X	X	X	
6.30	Exercise programmes shall be developed and implemented to ensure that all specified functions required to be performed for emergency response, all organizational interfaces for facilities in category I, II or III, and the national level programmes for category IV or V are tested at suitable intervals. These programmes shall include the participation in some exercises of, as appropriate and feasible, all the organizations concerned, people who are potentially affected, and representatives of news media. The exercises shall be systematically evaluated (see para. 4.10(h) of GSR Part 7) and some exercises shall be evaluated by the		X	X	X	X	X	X	X

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7										
Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	regulatory body. Programmes shall be subject to review and revision in the light of experience gained (see paras 6.36 and 6.38).								
6.31	The personnel responsible for critical response functions shall participate in drills and exercises on a regular basis so as to ensure their ability to take their actions effectively.		X	X	X	X	X	X	X
6.32	Officials off the site who are responsible for making decisions on protective actions and other response actions shall be trained and shall regularly participate in exercises. Officials off the site who are responsible for communication with the public in a nuclear or radiological emergency shall regularly participate in exercises.	X	X	X					
6.33	The conduct of exercises shall be evaluated against pre-established objectives of emergency response to demonstrate that identification, notification, activation and response actions can be performed effectively to achieve the goals of emergency response (see para. 3.2 of GSR Part 7).		X	X	X	X	X	X	X
Requirement 26: Quality management programme for emergency preparedness and response The government shall ensure that a programme is established within an integrated management system to ensure the availability and reliability of all supplies, equipment, communication systems and facilities, plans, procedures and other arrangements necessary for effective response in a nuclear or radiological emergency.										
6.34	The operating organization, as part of its management system, and response organizations, as part of their emergency management system, shall establish a programme to ensure the availability and reliability of all supplies, equipment, communication systems and facilities, plans, procedures and other arrangements necessary to perform functions in a nuclear or radiological emergency as specified in Section 5 (see para. 6.22). The programme shall include arrangements for inventories, resupply, tests and calibrations, to ensure that these are continuously available and are functional for use in a nuclear or radiological emergency.		X	X	X	X	X	X	X
6.35	The programme shall also include periodic and independent appraisals against functions as specified in Section 5, including participation in international appraisals.		X	X	X	X	X	X	X
6.36	Arrangements shall be made to maintain, review and update emergency plans, procedures and other arrangements and to incorporate lessons from research, operating experience (such as in the response to emergencies) and emergency exercises.		X	X	X	X	X	X	X
6.37	The operating organization and response organizations shall establish and maintain adequate records in relation to both emergency arrangements and the response to a nuclear or		X	X	X	X	X	X	X

Allocation of Responsibilities for Implementing the Requirements of GSR Part 7										
Requirements		Responsible Parties								
		Government	National Response Organization(s)	Local Response Organization(s)	Regulatory Body	Operating Organization EP Category I	Operating Organization EP Category II	Operating Organization EP Category III	Operating Organization EP Category IV
	radiological emergency, to include dose assessments, results of monitoring and inventory of radioactive waste managed, in order to allow for their review and evaluation. These records shall also provide for the identification of those persons requiring longer term medical actions, as necessary, and shall provide for the long term management of radioactive waste.								
6.38	The operating organization and response organizations shall make arrangements to review and evaluate responses in actual events and in exercises, in order to record the areas in which improvements are necessary and to ensure that the necessary improvements are made (see Requirement 19).		X	X	X	X	X	X	X

APPENDIX VIII:
PERFORMANCE INDICATORS TO ASSESS EPREV MISSION EFFECTIVENESS AND EFFICIENCY

The importance, relevance and impact of EPREV missions is assessed by the measurement of their effectiveness and efficiency. Performance measurement for EPREV includes EPREV outputs and inputs from the Host State and IAEA Review Team in all process steps:

Preparatory phase

1. Quality of ARM;
2. Consistency of Host self-assessment report with EPREV report;
3. Consistency of first impression report with EPREV report;
4. ARM review time;

EPREV mission phase

5. EPREV team composition;
6. Host feedback on the mission;
7. Team feedback on the mission;
8. Completion time for the final report;

Follow-up phase

9. Time to develop Action Plan;
10. Implementation of Action Plan;
11. Number of repeated recommendations and suggestions.

1. *Quality of ARM* is based on Team feedback on ARM and also considers completeness of the ARM received from the Host State compared to the List of Advanced Reference Material in EPREV Guidelines. It is assessed during the preparation stage of EPREV.

   To receive Team feedback on ARM, IAEA coordinator shares following questionnaire with the Review Team after they have reviewed ARM:

   Please, offer your opinion on ARM and answer the questions below by giving marks 1 to 5. Description of marks is provided in Table VIII.1.

   - How complete do you consider the ARM?
   - What is your evaluation of Host State self-assessment?
   - What is your evaluation of Host State additional documentation?
   - What is your overall evaluation on the quality of the ARM?

   Table 1. Description of marks for Team feedback on ARM

Mark	Description
1	Material is inadequate, major information is missing.
2	Information provided in the document(s) were not sufficient for general overview of Host State's arrangements.
3	Quality of the document(s) is satisfactory, information provided is sufficient for general overview of Host State's EPR arrangements and assessment against international safety requirements.
4	Documents are complete, contain sufficient information for assessment against international safety requirements and guides.
5	Documents are complete and comprehensive, contain all information for assessment against international safety requirements and guides.

Table VIII.1. Description of performance indicator marks.

Questionnaire is ideally distributed to Review Team during EPREV preparatory meeting.

To assess completeness of ARM, documents provided by the Host State are compared to the list of ARM given in Table I.2 List of Advance Reference Material.

Source of data: Review Team members' response to the questionnaire, ARM received from the Host State

Target value is that ARM is complete as listed in Table I.2 and providing main information for assessment against international safety requirements and guides.

2. *Consistency of Host self-assessment report with EPREV report* is assessed by comparing Host self-assessment with the final EPREV report and it measures efficiency of preparatory phase. Consistency of Host self-assessment report with EPREV report shows number of mission observations leading to recommendations in EPREV report which are also identified in Host self-assessment. It is evaluated after EPREV report is finalized.

   Source of data: Host self-assessment report, EPREV report

   Target value is that 75% of EPREV findings leading to recommendations are identified in Host self-assessment.

3. *Consistency of first impression report with EPREV report* measures efficiency of preparatory phase. It is assessed by comparing first impression report with the final EPREV report and it shows number of observations in EPREV report which are also identified in first impression. Comparison is done by IAEA coordinator after EPREV report is finalized.

   Source of data: First impression report, EPREV report

Target value is that 50% of priority issues are identified in first impression reports.

4. *ARM review time* is time available for the experts' review of advance reference material. Sufficient time for ARM review is one of the pre-requisites for experts to be adequately prepared for the mission which contributes to increased effectiveness and efficiency of EPREV mission. ARM review time starts when ARM is made available to the experts and ends when experts send their first impression reports to IAEA coordinator. It is assessed by the IAEA coordinator in a preparatory phase.

   Source of data: EPRIMS

   Target value is 45 days.

5. *EPREV team composition* takes into account audit and evaluation experience of Review Team members and experience related to the mission objectives and scope. More experienced team members mean more efficient and effective mission. EPREV team composition also shows if new experts are trained to maintain the pool of experts with EPREV experience. It is assessed by the IAEA coordinator in preparatory phase, during the process of selection of Review Team members.

   Source of data: IAEA-IEC Expert Management Database

   Target value is that:

   - At least one member has experience in EPREV mission;
   - 50% of Review Team members have audit or evaluation experience;
   - Team Leader and Deputy Team Leader have at least 7-10 years of experience in emergency preparedness and response;
   - EPREV Team has one member without EPREV experience.

6. *Host feedback on the mission* measures both effectiveness and efficiency of EPREV mission. IAEA coordinator should distribute following questionnaire to the Host participants in the exit meeting:

   Please, offer your opinion on EPREV mission and answer the questions below by giving marks 1 to 5, where mark 5 reflects the highest satisfaction:

How effective do you consider the mission in assisting the continuous improvement of arrangements to promptly respond to a nuclear or radiological

emergency in your country?		
EPREV mission failed to assist the continuous improvement of EPR arrangements in my country.	1 2 3 4 5	EPREV mission managed to target specific aspects of the EPR system and was very effective in assisting the continuous improvement of EPR arrangements in my country.

How objective was the peer review?		
EPREV was not objective in assessment of EPR arrangements in my country.	1 2 3 4 5	EPREV was objective in assessment of all EPR arrangements within the scope of the review.

How consistent was the use of the IAEA safety requirements and guides in the mission?		
EPREV Review Team members failed to demonstrate consistent understanding of the IAEA safety standards.	1 2 3 4 5	All EPREV Review Team members were consistent in use of all applicable IAEA safety requirements and guides.

How justified are the findings of the peer review?		
Justification for most of the findings is vague.	1 2 3 4 5	All findings are justified and consistent with the IAEA safety requirements and guides.

How competent were the reviewers in their reviews and findings?		
Reviewers' expertise and experience was not sufficient for the objective review of arrangements for preparedness and response to nuclear or radiological emergencies.	1 2 3 4 5	Reviewers were knowledgeable, experienced and cognizant of the strategic and operational situation within the Host State and applied their good judgement in assessing the application of the IAEA safety standards.

—

Source of data: Response to the questionnaire

Target value is that all Host participants find that effective and objective mission, with consistent use of IAEA Safety Standards and guides, lead to justified findings.

7. *Team feedback on the mission* measures effectiveness and efficiency of the mission. IAEA coordinator should offer following questionnaire to the Review Team members in the exit meeting:

   Please evaluate as Excellent, Very Effective, Effective, Not Effective Enough or Poor the following:

   1. Working space used to share files (NUCLEUS[10]);
   2. Host State arrangements for the mission;
   3. IAEA arrangements for the mission;
   4. Interviews;
   5. Information received during the mission;
   6. Activity of the Team Leader;
   7. Activity of the Deputy Team Leader;
   8. Activity of the IAEA coordinator;
   9. Activity of the Deputy IAEA coordinator;
   10. Activity of the Review Team members; and
   11. Team work.

   Source of data: Response to the questionnaire

   Target value is that all team members give positive feedback i.e. to evaluate mission arrangements, activities of all team members and team work as effective, very effective or excellent.

8. *Completion time for the final report* is the time between the last day of mission and the day of delivery of final EPREV report to Host State. Completion time is measured after the delivery of the report.

   Source of data: Information which can confirm the date of submission of EPREV report to Host State.

   Target value is 12 weeks.

9. *Time to develop Action Plan* is time period in which Host State develops the Action Plan addressing all the recommendations and suggestions contained in the EPREV Report. It starts when final EPREV report is submitted to Host State and ends when Host State submits the Action Plan to the IAEA in final form.

[10] NUCLEUS is the common access point to the IAEA's scientific, technical and regulatory information resources (https://nucleus.iaea.org).

Source of data: Information which can confirm the date of submission EPREV report to Host State and submission of Action Plan to the IAEA

Target value is 2 months.

10. *Implementation of Action Plan* is percentage of actions taken to close recommendations and suggestions before the EPREV follow-up mission.

    Source of data: Host State report submitted to the IAEA, EPRIMS

    Target value is 100%

11. *Number of repeated recommendations and suggestions.* Repeated recommendations and suggestions are recommendations and suggestions addressing the observations same as or similar to observations in previous EPREV missions.

    Source of data: Subsequent mission report

    Target value is 0.

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ABBREVIATIONS

ARM	Advance Reference Material
EPR	Emergency Preparedness and Response
EPREV	Emergency Preparedness Review
EPRIMS	Emergency Preparedness and Response Information Management System
IAEA	International Atomic Energy Agency
IEC	Incident and Emergency Centre of the IAEA
INSARR	Integrated Safety Assessment of Research Reactors
IRRS	Integrated Regulatory Review Services
OSART	Operational Safety Review Team
SEDO	Safety Evaluation During Operation of Fuel Cycle Facilities
TC	IAEA's Department of Technical Cooperation
TOR	Terms of Reference

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