

SECTION III: CAPABILITY SUMMARIES

Capability Summary Template

Capability Description

The capability description is a statement of the principal action or activity that must be performed. Capabilities are combinations of resources that provide the means to achieve a measurable outcome resulting from performance of one or more tasks, under specified conditions and to national standards.

Outcome

Statement of the expected outcome resulting from the performance of one or more critical tasks, under specified conditions and to national standards.

Relationship to National Response Plan (NRP) ESF/Annex

Maps the capability to the National Response Plan (NRP) Emergency Support Functions (ESFs) and Annexes that are most closely associated with the capability description and outcome statement.

Activities Performed with the Capability

Key activities that would be conducted with the capability are identified. This list provides additional information to support the description and ensures that the list of critical tasks address all appropriate activities under this capability.

Critical Tasks

Lists the tasks that need to be performed to achieve the desired outcome. Critical tasks are defined as those tasks that must be performed during a major event to prevent occurrence, reduce loss of life or serious injuries, mitigate significant property damage, or are essential to the success of a homeland security mission. The first column includes the task number found in the UTL. The number incorporates a reference to the Mission and Function in the taxonomy and a sequence number. The second column identifies the task. The critical task list may include new tasks identified by the stakeholder working group or tasks that were revised. These tasks will be added to the UTL and will be assigned a UTL number.

Performance Measures and Objectives

The Performance Measures define how the demonstration of the capability through the performance of critical tasks would be measured. The Performance Objective defines how well and how quickly the task should be performed. Some measures may be outcomes while others may be outputs that serve as surrogates or indicators for outcomes.

Capability Elements

Capability Elements are the resource required to perform the critical tasks, under the conditions defined by the National Planning Scenarios, to the performance standards. They include: personnel, planning, organization & leadership, equipment & systems, training, and exercises, evaluation, and corrective actions. Any combination of properly planned, organized, equipped, trained, and exercised personnel resources can be utilized to achieve the outcome. The capability elements are not an exhaustive list of requirements, but provide a guide to the type of resources that are generally required to perform the critical tasks.

Linked Capabilities

Linked capabilities are those capabilities that are directly related to the subject capability and must be in place to perform tasks that feed into the capability, directly follow the capability, or that must be performed concurrently with the capability to achieve desired outcome.

References

Key documents used to develop the Target Capability.

Capability Planning Factors and Target Levels

Capability planning factors are the result of analysis of capability requirement by stakeholder working groups over a two month period and represent an initial effort to define national targets to develop a national network of capabilities. The appendix also includes the planning of assumptions and planning factors used to develop the national targets. The planning factors for each capability can be found in Appendix A.

Environmental Health and Vector Control

Capability Description

The capability to provide ground and aerial vector control and environmental health services in support of public health protection. Vector control includes elimination of organisms, such as fleas, mosquitoes, and rodents that can spread disease to humans. Provide subject matter experts to: advise, provide rapid needs assessment, identify health capabilities, deploy/institute a victim exposure registry, disseminate physician education for treatment of victims, coordinate specialized medical care, provide liaison and communications support to regional ESF8 groups, appropriate sample collection, advise on protective action guidelines, analyze and communicate results, and provide occupational safety and health.

Outcome

Improvised Nuclear Device:

Classical environmental health services (safe water, sewage disposal, and vector control) will be gravely disrupted in an Improvised Nuclear Device (IND) scenario therefore a spike in new cases of communicable diseases can be anticipated within the initial weeks following the event.

Cases of radiation sickness will increase for the first 30 days as cases of Acute Radiation Syndrome (ARS) are recognized by the public health reporting system. Additional cases will continue to occur due to added radiation exposure to external radiation and internalized fallout.

- Minimizing new cases due to preventable exposure to disease and contamination will pose significant challenges in the post disaster environment.
- Victim registries will need to be started immediately and linked to centralized coordination of limited clinical (radiation injury management) expertise to direct local health care providers.
- Minimizing exposures experienced the by at risk population and emergency responders will require coordinated efforts to provide clean water, sewage disposal, and guidance to minimize radiation exposures.

Nerve Agent:

Local Emergency Medical Service (EMS) and Hazardous Materials (HAZMAT) teams rapidly identify the class of chemical agent in use, and immediately inform receiving hospitals and local incident command, ensuring that appropriate medical countermeasures are employed without delay.

Survivors are triaged and decontaminated in the field before transport to hospitals. There is no loss of life to field responders or people receiving casualties for decontamination,

transport, emergency stabilization, and definitive medical care. Epidemiologists are brought in to establish an emergency registry of victims and other exposed/ potentially exposed persons such as decontamination and sampling teams, and medical “first receivers”.

Food Contamination:

After the first event, a marked reduction in new cases due to preventable exposure to disease or contamination will occur. The at-risk population receives the appropriate protection in a timely manner.

New cases are prevented through intervention methods listed below:

- Public Health Education – Fact Sheets, Guidelines, Public Service Announcements (PSA)
- Contaminated Product Removal
- Contaminated Facilities and Equipment Cleaned or Removed
- Proper Disposal of Contaminated Items
- Eliminating spread of disease by vectors
- Coordinated effort with public health, law enforcement at local, state and federal levels

Relationship to National Response Plan ESF/Annex

ESF #1: Transportation

ESF #8: Public Health and Medical Services

ESF #11: Agriculture and Natural Resources

Activities Performed with the Capability

Activity	Description
Improvised Nuclear Device	
Assessments	<ul style="list-style-type: none"> ▪ Advise on and direct environmental sampling, analyses, and interpretation of results (including mapping/ Geographic Information System (GIS) support) based on appropriate modeling (fate and transport). ▪ Conduct rapid epidemiological needs assessment. ▪ Provide environmental public health assessment (environmental pathways of exposure – air, soil, water, ingestion).
Expert Support	<ul style="list-style-type: none"> ▪ Provide environmental health/health physicist liaison and communication support. ▪ Provide access to health physics and radiation injury Subject Matter Experts (SMEs). ▪ Provide physician education, media/public messages.
Planning	<ul style="list-style-type: none"> ▪ Planning for 24,48,72 hour needs, weekly thereafter.

Activity	Description
Health And Safety	<ul style="list-style-type: none"> ▪ Coordinate public health support functions for federal and state agencies, including team management for environment, food and health safety. ▪ Interpret Protective Action Guides (PAGs) and develop PAGs where none exist. ▪ Provide victim exposure registry, IND (investigational new drug) and other treatment registries. ▪ Advise on safety of food, water, and other sources of exposure. ▪ Advise on worker health and safety including workforce management.
Contamination	<ul style="list-style-type: none"> ▪ Advise on treatment of contaminated patients. ▪ Provide advice on handling of contaminated pets. ▪ Advise on disposal of contaminated human bodies, livestock, crops, and other debris. ▪ Provide personal protective equipment (PPE), if have access to and recommend disposal/decontamination as appropriate.
Nerve Agent	
Assessments	<ul style="list-style-type: none"> ▪ National Center for Environmental Health (NCEH) Laboratory will perform analysis of clinical samples for exposure assessment.
Expert Support	<ul style="list-style-type: none"> ▪ Provide SME input on evaluation of clinical samples. ▪ Consult with Department of Defense (DOD) for environmental sampling of the affected area.
Planning	<ul style="list-style-type: none"> ▪ Participate in pre-hospital emergency planning.
Health And Safety	<ul style="list-style-type: none"> ▪ Emergency medical care and countermeasures. ▪ Provide assessment of and recommendations regarding immediate and long-term health and environmental consequences. ▪ Registration of victims for documentation purposes and possible long-term follow-up studies or medical management of health effects.
Contamination	<ul style="list-style-type: none"> ▪
Food Contamination	
Assessments	<ul style="list-style-type: none"> ▪ Environmental Sampling. ▪ Surfaces. ▪ Food products. ▪ Vectors – insects, rodents.
Expert Support	<ul style="list-style-type: none"> ▪ Food Safety Specialist. ▪ Tracking food distribution. ▪ Investigation of food handling methods before and after packaging.
Health And Safety	<ul style="list-style-type: none"> ▪ Vector Control. ▪ Recommended methods to control vectors. ▪ Address worker safety concerns. ▪ Evaluation of controls effectiveness. ▪ Environmental Cleanup.

Activity	Description
	<ul style="list-style-type: none"> ▪ Guidelines for handling contaminated food products. ▪ Guidelines for cleaning and disinfection of surfaces i.e., food processing equipment, counters/floors, etc. ▪ Evaluation of effectiveness. ▪ Communications and Health Education. ▪ Develop public health information - fact sheets, PSA, guidance documents. Target audiences - Industry, Public, Health Care and decision makers.
Contamination	<ul style="list-style-type: none"> ▪ Waste Disposal. ▪ Guidelines for disposal of contaminated food products and cleanup materials (both solid and liquid waste) decontamination water, contaminated equipment. ▪ Oversight of disposal process.

Critical Tasks

UTL#	Task
Pro.C.1.2.2.1.4	Conduct product tracing to determine source, destination, and disposition of adulterated/contaminated products.
Pro.C.1.2.3.3	Provide vector control.
New Task*	Provide safe drinking water to at risk.
New Task	Provide short-term sewage disposal alternatives (portable latrines, etc.) until infrastructure is restored.
New Task	Provide advisory services regarding practical and effective decontamination of persons and vehicles leaving contaminated zone.
New Task	Provide guidance regarding practical and effective decontamination of essential routes (highways and secondary road surfaces) through contaminated zone.
New Task	Assist police to establish a “cordon sanitaire” identifying hot zone for access restriction.
New Task	Immediately (1st day/ 1st week) identify and register all victims and rescue workers exposed to radiation hazards during the emergency response phase.
New Task	Coordinate with Strategic National Stockpile to assure adequate supplies of cytokines/ bone marrow stimulants and broad-spectrum antibiotics and antifungal medications for prophylaxis and treatment of hematologic stage of acute radiation sickness.
New Task	Coordinate with blood banks, etc., to plan for necessary surge capacity to meet increased demand for supplies of blood products, clotting factors, bone marrow, and stem cells for radiation scenarios.

UTL#	Task
New Task	Provide health care personnel with health physics advice.
New Task	Coordinate health care provider access to medical SMEs for management of radiation injury cases.
New Task	Pre-arrange memorandum of understanding (MOU) with Department of Defense (DOD) / Department of Veterans Affairs (VA) for access to DOD/VA medical resources and hospital beds.
New Task	Provide guidance on processing of contaminated bodies.
New Task	Provide public health representation on the national (radiation) Advisory Team for Environment, Food, and Health.
New Task	Clearly identify and communicate risk issues to the ambulatory population not in immediate need of medical services.
New Task	Implement crisis and emergency risk communications plan and disseminate info to media, public, partners and stakeholders.
New Task	Public health officials (National Institute for Occupational Safety and Health [NIOSH]) help assess whether primary response personnel have adequate PPE for the conditions and provide advice.
New Task	Perform ambient and worker exposure monitoring and inform workers of relevant risks.
New Task	Provide review of Occupation Safety and Health Administration (OSHA) requirements to assure they allow operations during a disaster.
New Task	Issue PAGs for worker health and safety.
New Task	Implement real time monitoring program for exposure (e.g., personal dosimeters for radiation exposures).
New Task	Assist in assessing the threat of vector-borne diseases and conduct related activities.
New Task	Assist in assessing environmental health issues and related activities.
New Task	Conduct outbreak investigations.
New Task	Assist epidemiologists in preparation of guidance for isolation/quarantine.
New Task	Issue health alerts as appropriate
New Task	Exchange/post data as necessary for appropriate treatment.

UTL#	Task
New Task	Provide advice through response partners (USDA, State Agriculture Depts., etc) to farmers on protecting their animals regarding internal contamination.
New Task	Provide guidance on entry of meat, milk, eggs, and produce into commerce.
New Task	Provide advice to law enforcement authorities regarding re-entry for personal/business needs and care of livestock, pets, and crops.
New Task	Strict monitoring of all response workers.
New Task	Provision of psychosocial support via psycho-social teams with appropriate training within 24 hours of event, coordinating with medical surge.
New Task	Forecasting and planning needs days, weeks, and/or months beyond event. Public health needs to add input to the planning aspect of incident command.

*New tasks will be added to the UTL

Performance Measures and Objectives

Performance Measure	Performance Objective
Percentage of preventable exposure rates due to environmental public health plans being successfully implemented.	Less than 40% (less than 40% of population was exposed that should not have been exposed or had an exposure higher than they should have had).
Amount of safe drinking water provided to affected populations.	1.5 liters/persons/day
Amount of sewage disposal alternatives were provided to the affected populations.	1 portable toilet/20 persons or access to pit latrines provided to all personnel.
Time for vector control plans to be successfully implemented.	Vector surveillance initiated within one week of event in impacted areas and population relocation centers. Vector control programs initiated and maintained as necessary. No more than 40% of population impacted by spread of disease.
Percentage of at-risk population that was protected against additional injury or illness.	60% of at risk population protected through screening, implementation of appropriate preventive measures, and/or access to medical countermeasures.
Time allowed before public health education was provided to the general public via media and internet.	Existing information was immediately available on Center for Disease Control (CDC) website. Initial situation updates are provided to the media within 4 hours. Periodic media updates every 12-24 hours.

Performance Measure	Performance Objective
<p>Percentage of population screened due to environmental health testing and monitoring provided.</p> <ul style="list-style-type: none"> – Federal whole body radiation portal monitors used to detect internal/external contamination. – Hand held contamination survey meters should be available for additional or alternative monitoring. 	<p>100% of persons who enter areas in which screening may be conducted are screened.</p> <p>100% of responders and health care personnel are screened at appropriate intervals.</p> <p>100% of pets and belongings, as applicable, are screened when the opportunity to screen is available and it does not result in increasing potential harm to humans.</p>
<p>Percentage of both ground and aerial vector control provided.</p>	<p>Ground and aerial control provided if appropriate and no more than 40% of population impacted by spread of disease.</p>
<p>Time for public health guidance to be provided via media channels to the population in eminent danger.</p>	<p>Within 1 hour</p>
<p>Time for public health guidance to be provided to relocated victims through first responder partners.</p>	<p>Within 24-48 hours</p>
<p>Time for Rapid Registry Response (RRR) technical consultants to be on scene and in place with incident command to rapidly identify and register all victims, exposed civilians and responders.</p>	<p>Within 12 hours.</p>
<p>Time for initiation of data collection and training of field data collection team to rapidly identify and register all victims, exposed civilians and responders.</p>	<p>Within 24 hours.</p>
<p>Time for incident command to provide situational briefings on registered victims, exposed civilians and responders.</p>	<p>Within 36 hours</p>
<p>Time allocated for healthcare providers to provide access to SMEs for management of injury cases.</p>	<p>Medical experts with experience treating illnesses/injuries presented are available 24/7 and injuries are used to provide overall guidance via mass (professional) communication channels.</p>
<p>Time allowed for guidance to be provided to morticians, pathologists, etc., on processing of contaminated bodies.</p>	<p>Within 24 hours of event; work with local experts on details.</p>
<p>Relevant agencies provide public health representation on various advisory teams [e.g., the (Rad/Nuc) Advisory team for Environment, Food, and Health.]</p>	<p>Advisory teams have the appropriate personnel necessary to provide best practices/best advice to responding personnel.</p>

Performance Measure	Performance Objective
Time for clear communications to be provided to the ambulatory population, not in immediate need of medical services.	Radio, television, web-based, and printed media provide necessary risk information in a calm and objective format within 24 hours.
Time for public health officials to have provided assessment of PPE needs for workers.	Begin within 24 hours.
Time for advice to be provided through response partners regarding safety of food supply.	Begin within 24 hours.
Time for forecasting and planning provided for Public Health needs anticipated days to months post-event.	Begin within 24 hours; increasing emphasis by 7 days.
Time allowed for advice to be provided to federal and state agencies regarding their concern for public health matters.	Begin within 24 hours.

Capability Elements

Personnel

- Health physicists to advise on a wide range of nuclear medical and radiation exposure issues
- Nuclear medicine technicians to monitor the exposed population for radiation contamination and assist with patient decontamination
- Nuclear medicine clinicians familiar with medical effects of localized radiation in moderately high doses
- SME Clinicians w/ experience in management of radiation injuries
- Community Resilience Task Force to identify and address issues of concern to the impacted populations
- Commercial clinical laboratories (hematology) for surge capacity in processing blood samples
- Public Health Planning and Forecasting Team to plan for long-term public health needs
- Environmental Epidemiologists to provide public health assessments of a hazardous area
- Environmental Health Scientists – Sampling Advisory Workgroup to determine appropriate strategy for radiation sampling
- Environmental health scientists (specifically sanitarians and engineers) to assess extent of damage to water and sewer infrastructure outside impact zone
- Victim Exposure Monitoring Task Force

- Advisory Team for Environment, Food, and Health to develop the Federal Protective Action Recommendations
- Environmental Health Scientists to assess sampling results and establish consensus health guidance values for human and animal exposures
- Sampling Teams to collect environmental samples in food, water, soil, air
- Decontamination Teams for exit points and at entrance to reception stations
- Environmental Health Technicians for screening/monitoring of victims and responders

Equipment and Systems

- Rapid Response Registry (RRR): strike team under a public health task force

Training

- DOE Radiation Emergency Assessment Capability/ Training Site (REAC/TS) team to provide expertise in assessment of, response to, and management of acute radiation injuries

Capability Planning Factors and Target Levels

Please proceed to the capability appendix to review the draft national target levels and assignment of responsibility for building and maintaining the capability. They are the result of analysis of capability requirements by stakeholder working groups over a two-month period and represent an initial effort to define national targets to develop a national network of capabilities. The appendix also includes the planning assumptions and planning factors used to develop the national targets. The targets will be refined through broad stakeholder review and other validation efforts.

Linked Capabilities

- Animal Health Emergency Support
- CBRNE Detection
- Citizen Preparedness and Participation
- Emergency Operations Center Management
- Emergency Public Information and Warning
- Food and Agriculture Safety and Defense
- Interoperable Communications
- Isolation and Quarantine
- Mass Care
- Mass Prophylaxis
- Planning
- Public Health Epidemiological Investigation and Laboratory Testing
- Responder Safety and Health
- Restoration of Lifelines
- Risk Management
- Structural Damage Assessment and Mitigation
- WMD/Hazardous Materials Response and Decontamination

References

1. Homeland Security Presidential Directive/HSPD-8, "National Preparedness". December 2003. <http://www.whitehouse.gov/news/releases/2003/12/20031217-6.html>
2. National Response Plan (NRP). Department of Homeland Security. December 2004.
3. National Incident Management System (NIMS). Department of Homeland Security. March 2004. <http://www.dhs.gov/interweb/assetlibrary/NIMS-90-web.pdf>
4. National Mutual Aid and Resource Management Initiative, Resource Typing Definitions - I, Federal Emergency Management Agency. January 2004.
5. Hazardous Waste Operations and Emergency Response, 29 CFR 1910.120. Occupational Safety and Health Administration. November 2002.
6. Medical Personnel Exposed to Patients Contaminated with Hazardous Waste. Occupational Safety and Health Administration standard interpretation. March 1992.