Radiological/nuclear incident concept of operations (ConOps)

Annex to DHHS Emergency Operations Plan

April 2025

Utah Department of Health & Human Services

Table of contents

Radiological/nuclear incident (ConOps) approval

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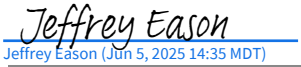

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Introduction

This concept of operations (ConOps) plan is an annex to the Utah Department of Health and Human Services (DHHS) Emergency Operations Plan, in support of the Utah Division of Emergency Management (DEM) emergency support function (ESF) #10 Hazardous Materials (HazMat), and the Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) state response standard operating guideline.

A ConOps plan is a conceptual overview of the processes and steps for a properly functioning system or properly executed operation. This overview includes roles, responsibilities, authorities, available resources, communications, and coordination.

This ConOps plan describes the DHHS specific concerns, capabilities, agencies, and resources that will be used to plan, prepare for, mitigate, respond to, and recover from a radiological/nuclear incident as defined in the DHHS risk assessment. Nuclear incidents involve detonation of a nuclear device. Radiological incidents produce radiation without detonation of a nuclear device. This ConOps is specifically directed to a radiological/nuclear incident as follows:

a. Radiological exposure: Isolated radiological exposure without contamination might occur if a radiological source material were present in a physical location which could irradiate nearby individuals. Thousands of individuals could be exposed with radiation dose dependent on the amount of time, dose rate of the isotope, and proximity to the radiological source material. More than 13,000 nuclear waste shipments cross the state each year via rail and highways and includes high level waste.
b. Radiological dispersion: Radiological dispersions could occur through the detonation of conventional explosives which scatter radiological material (dirty bomb) or through the unintended dispersion of radiological material. Contamination would come from a single isotope in most scenarios. External contamination and internal contamination would be expected with inhalation of radioactive dust from a radiological dispersion device and potentially ingestion. Removal of injured and exposed persons from the hot zone to hospitals followed by immediate treatment of life-threatening injuries caused by blast and thermal energies would take precedence over treatment of radiation exposure and/or decontamination.
c. Nuclear detonation: A nuclear detonation is the most serious radiological event which could potentially result in tens of thousands of deaths. A detonation involves an explosion of fissionable material with blast injuries, thermal injuries and radiological injury. Because of the creation and scatter of hundreds of radioisotopes into a cloud of fallout material, internal and external contamination are expected, requiring decontamination, treatment with multiple agents to decrease internal contamination, prophylaxis with potassium iodide, and population monitoring. Removal of injured and exposed persons from the hot zone to

hospitals followed by immediate treatment of life-threatening injuries caused by blast and thermal energies would take precedence over treatment of radiation exposure.

NOTE: Response to a terrorist act against the US falls under the jurisdiction of the US Department of Homeland Security (DHS) and the US Department of Justice, Federal Bureau of Investigation (FBI). DHHS response activities remain the same, and command and control will be coordinated through federal DHS and FBI through state DEM. DHHS may provide subject-matter experts (SMEs) for investigational purposes and as part of a joint threat assessment task force to help the FBI.

Purpose

The purpose of this ConOps plan is to facilitate a common understanding of DHHS response capabilities in support of local and state agencies during a radiological/nuclear incident response, including:

a. Implementation efforts to protect against and reduce the health impact on Utah residents and their property from a radiological/nuclear hazard.
b. Inform local, state, and federal governments, relevant agencies, organizations, and other stakeholders of the preparedness and response plans specific to a radiological/nuclear hazard.
c. Provide resources when county and local jurisdictional resources are overwhelmed and when public health and/or medical assistance is requested.

NOTE: DHHS recognizes disaster response is inherently local, and local jurisdictions will develop their own plans for response based on their role, responsibilities, needs, and capacities. Therefore, it is not the intent of this plan to instruct outside agencies on their response.

Regulations and authorities

Utah Fire Marshal's Office (FMO)
The FMO serves as the lead agency for emergency support function #10 and is the primary agency for CBRNE State incident support.

Reportable quantity limits
For reportable quantity releases, terrorist acts, or suspected terrorist acts, the FMO and affected local jurisdictions will coordinate to report to the National Response Center (NRC) and the FBI. Notification to the Utah Department of Environmental Quality (DEQ) is required when such incidents are reported to the NRC and FBI.

Reportable quantity limits are defined under the Comprehensive Environmental Response, Compensation and Liability Act.

Code of federal regulations (CFR)
Compliance with (29 CFR) section 1910.120, (29 CFR) section 1910.1096, 40 CFR Part 311, will be adhered to in any response or recovery operation involving state agencies or employees.

- Responders should be adequately informed of, and have an adequate understanding of, the risks they may experience during any missions they accept, including the risk of short-term and long-term health effects from exposure to ionizing radiation.
- Responders will have relevant training, personal protective equipment (PPE), and monitoring instruments so they can protect themselves and others (see above links).
- For a detailed list of PPE used in a radiation emergency, and procedures for donning and doffing, please visit the Radiation Emergency Medical Management (REMM) website at https://remm.hhs.gov/radiation_ppe.htm.
- All staff members who may be involved in a radiation disaster response (RDD) should receive radiation response training annually. RDD training is critical for these responders because specialized resources or hospital/radiological subject matter experts may not be immediately available to help them at the beginning of an emergency response.

Coordination

Key partners

a. Utah Fire Marshal's Office (FMO)
b. Division of Emergency Management (DEM)
c. Department of Environmental Quality (DEQ)
d. Federal Bureau of Investigation (FBI)
e. Utah Poison Control Center (UPCC)
f. Utah Occupational Safety and Health Administration (UOSH)
g. Utah National Guard
h. Utah National Guard 85th Civil Support Team
i. Local health departments
j. Tribal organizations
k. Regional healthcare coalitions
l. Utah Hospital Association
m. Emergency medical services agencies

Information sharing

DHHS will define essential elements of information to support situational awareness and public health and healthcare response objective development. This information will be shared with stakeholders to support a well informed and coordinated response.

Concept of operations

Situation

A radiological/nuclear incident may be the result of a deliberate terrorist act, an accident, or general mismanagement resulting in an accidental release. In conjunction with the DHHS 2024 Jurisdictional risk assessment, the following events are the most likely areas of concern:

a. Accidental release of radioactive material sources, including technologically enhanced or naturally-occurring radioactive materials
b. Transportation incidents involving radiological/nuclear materials
c. Domestic radiological/nuclear weapons accidents
d. Terrorism involving facilities or radiological/nuclear materials, including use of radiological dispersal devices or improvised nuclear devices

Assumptions

Planning assumptions represent information presumed to be true and are necessary in order to facilitate planning. Assumptions are a baseline set for planning purposes and do not take the place of specific activities or decision points that would occur during an incident. DHHS assumptions include:

a. Pre-incident preparedness for radiological/nuclear hazards will reduce the number of casualties
b. Preparedness, public education, awareness of radiological/nuclear risks, community organization and understanding protective actions are limited
c. Public anxiety will demand messaging and information sharing be quick and thorough
d. Behavioral health impacts may result in large numbers of concerned citizens seeking medical assistance, which may quickly overwhelm medical facilities' capacity and capability
e. The size, scope, and complexity of a major radiological/nuclear incident would overwhelm existing state and local capabilities and resources
f. An incident involving the potential release of radiological/nuclear hazards may require implementation of protective actions, such as evacuation or shelter-in-place, and administration of medical countermeasures

g. Radiological/nuclear incidents may require short-term recovery activities including lifesaving, life sustaining, property protection, and other measures intended to neutralize the immediate threat to life, environment, and property as well as to stabilize the community

Activation triggers

DHHS may be activated upon the following:

a. Notification of a reportable quantity release of an environmental public health hazard
b. If response capabilities exceed the capabilities of the affected local jurisdictions
c. State assistance is requested to supplement response efforts
d. Federal assistance is requested
e. Media reports a radiological/nuclear event

Notification procedures

DHHS internal notification procedures

Upon activation, DHHS Office of Preparedness and Response (OPR) will notify the following:

a. DHHS leadership, including division, and executive directors
b. DHHS Environmental Epidemiology Program (EEP) manager
c. DHHS Office of Communicable Disease (OCD) director
d. State epidemiologist
e. Representative from the DHHS Office of Public Affairs and Education (PAE)
f. Utah Public Health Laboratory (UPHL)
g. DHHS services call center
h. DHHS Office of Substance Use and Mental Health
i. DHHS Division of Population Health (DPH) Informatics program

Roles and responsibilities

DHHS will play an important role in any radiological/nuclear emergency to minimize the health effects on Utah residents. Key responsibilities for DHHS, in coordination with local health departments, include:

a. Initiate health surveillance and epidemiological investigations
b. Coordinate the distribution of medical resources, and provide guidance about the use of altered standards of care, and manage scarce medical resources
c. Address food and water safety
d. Provide public health guidance, protective action, and other key messages for the public and key audiences
e. Make sure shelter operations are safe

f. Support mass sheltering and feeding operations
g. Assess the risk to people and recommend interventions
h. Facilitate access to mental/behavioral health services to family members, responders and survivors of an incident
i. Provide health related technical information about the radiological/nuclear material released in the incident
j. Provide healthcare system guidance and subject matter expertise
k. Identify activities with the potential for a high level of exposure
l. Evaluate the long-term health consequences and recommend follow-up actions for environmental decontamination and medical evaluation
m. Fatality management
n. Identify access and functional needs for at risk populations
o. Provide logistical support for emergency medical services
p. Provide communication and information in the most used languages and use American Sign Language interpreters and captions for the deaf and hard-of-hearing

Specific responsibilities

DHHS executive director's office (EDO):
Sets priorities for the role DHHS staff will focus on, as directed by the governor and legislature.

DHHS Office of Preparedness and Response
The DHHS Office of Preparedness and Response (OPR) will:

- Conduct emergency operations coordination including preparedness, response, recovery, and mitigation
- Support activation of DHHS incident management with emergency management expertise, specifically planning and logistic section staffing
- Represent DHHS as emergency support function (ESF) #8 Public Health and Medical, and ESF #6 Mass Care at the state Emergency Operations Center
- Secure strategic national stockpile (SNS) materiel
- Manage and distribute medical countermeasures
- Coordinate medical surge
- Coordinate crisis standards of care (if necessary)
- Coordinate public health and healthcare volunteers
- Ensure safety and health of responders
- Consider access and functional needs for:
    - Homebound individuals
    - Institutionalized individuals

DHHS Utah Public Health Laboratory
The DHHS UPHL will:

- Provide analytical analyses of non-radioactive clinical, and environmental substances
- Provide analyses of unknown substances or facilitate access to an appropriate lab as necessary
- Provide assistance to the Utah DEQ and the DHHS OCD related to the assessment of health hazards and the protection of the general public
- Determine, through analytical analyses, whether illnesses, diseases, or complaints may be attributable to exposure to a hazardous substance

*****DHHS UPHL does not provide analysis of radioactive material. DHHS UPHL will help facilitate access to an appropriate lab if necessary.*****

DHHS Office of Communicable Diseases

The DHHS OCD will:

- Provide public health surveillance to determine public health risk and interventions
- Provide guidance for community and individual protective behaviors; self and property decontamination, personal hygiene, respiratory, and eye protection, etc.
- Administer programs related to the assessment of environmental health hazards
- Determine whether illnesses, diseases, or complaints may be attributable to exposure to a hazardous substance
- Conduct risk assessments with DEQ and DHHS UPHL to provide acceptable levels of toxic substances in water, air, or soil, and to anticipate the type and magnitude of adverse health effects associated with exposure to toxic substances

Environmental Epidemiology Program

The EEP will:

- Consult and coordinate messaging with DEQ through the Risk Assessment Coordination Committee (RACC), the Utah Poison Control Center (UPCC), and the DHHS PAE to establish consistent information for all stakeholders
- Identify the hazards of concern, routes of exposure, anticipated health impacts, and key public health concerns
- Identify and develop recommended actions the public can and should take to avoid or mitigate exposure to a radiological/nuclear hazard
- Notify and provide initial threat assessment information to:
    - The local incident commander
    - The health officer of the local health department that has jurisdiction
    - The UOSH division director and compliance manager
- Coordinate with the DHHS Office of Legislative Affairs to determine and respond to legislative and government officials' information needs
- Notify the RACC co-chairs by email
- Create an event registry when appropriate

DHHS Office of Public Affairs and Education (PAE)

The DHHS PAE will:

- Develop and distribute emergency information messages and warnings to the public
- Assess and target media campaigns to reach under-served or vulnerable communities
- Monitor, control, and respond to misinformation when necessary
- Coordinate with EEP for public messaging on risk
- For more information see the DHHS All Hazards Risk Communications plan.

DHHS Office of the Medical Examiner

The DHHS Office of the Medical Examiner (OME) will:

- Coordinate with other organizations (law enforcement, healthcare, emergency management, and medical examiner/coroner) for fatality management to make sure human remains and personal effects are properly recovered, handled, identified, transported, tracked, stored, and appropriately disposed
- Certify cause of death
- For more guidance reference appendix W of the OME Mass Fatality Plan

Office of Substance Use and Mental Health

The DHHS Office of Substance Use and Mental Health (SUMH) will:

- Facilitate access to mental/behavioral health services to family members, responders and survivors of an incident

Response

Activation

Recognition of a radiological event may occur when an explosion or material spill is assessed by emergency response individuals, or when a healthcare provider suspects the pattern of injury or signs and symptoms are compatible with radiation injury. Once a radiological event is recognized, DHHS will notify key partners including DEM, DEQ, and healthcare systems (hospitals, emergency medical services, FMO) and provide them with additional information about what is known, what to evaluate, and appropriate response. DHHS will then activate the EOP and department operation center, if necessary.

DHHS responder guidelines are based on cumulative dose constraint levels. These are based on an assumption that doses acquired in response to a radiological incident would be “once in a lifetime” doses and that future radiological exposures would be substantially lower.

Recommendations in the Environmental Protection Agency PAG Manual provide a guideline level of 5 rem (50 mSv) for worker protection and alternative emergency worker guidelines (see Table) for

certain activities where doses above 5 rem (50 mSv) cannot be avoided. For most radiological incidents, radiation control measures (minimizing time, maximizing distance, using shielding) will prevent doses from reaching the 5 rem (50 mSv) occupational exposure guideline while performing typical emergency response activities such as transportation, firefighting, and medical treatment of contaminated victims at hospitals. However, in those situations in which victims are injured or trapped in high radiation areas or can only be reached via high radiation areas, or for protection of critical infrastructure, exposure control options may be unavailable or insufficient and doses above 5 rem (50 mSv) may be unavoidable.

DHHS responder guidelines

Guideline	Activity	Condition
5 rem (50 mSv)	All occupational exposures	All reasonably achievable actions have been taken to minimize dose.
10 rem (100 mSv)[a]	Protecting critical infrastructure necessary for public welfare	Exceeding 5 rem (50 mSv) unavoidable and all appropriate actions taken to reduce dose. Monitoring available to project or measure dose.
25 rem (250 mSv)[b]	Lifesaving or protection of large populations	Exceeding 5 rem (50 mSv) unavoidable and all appropriate actions taken to reduce dose. Monitoring available to project or measure dose.
>25 rem (250 mSv)	Lifesaving or protection of large populations	All conditions above and only for people fully aware of the risks involved.

[a] For potential doses >5 rem (50 mSv), medical monitoring programs should be considered.
[b] In the case of a very large incident, such as an IND, incident commanders may need to consider raising the property and lifesaving emergency worker guidelines to prevent further loss of life and massive spread of destruction.

Any DHHS responder who has field duties will be provided a dosimeter and be instructed to wear it on the outside of all clothing layers and between the neck and waist. In addition, optically-stimulated luminescent dosimeters will be used simultaneously as a backup. Personnel should take action based on dosimeter readings. Incident specific dosing guidance will be provided by SMEs involved in the response.

Any DHHS responder who has direct patient care will be given additional PPE that meets or exceeds the recommended level for the incident.

Medical countermeasures (MCM)

For any substantial radiological event, DHHS would request immediate activation of SNS/MCM materiel for substantial casualties related to the event. Even in the absence of internal radioactive contamination requiring drug treatment to decrease total body load of radioactive elements, a patient might still need granulocyte-stimulating factor, and radiation related equipment may be indicated.

Prophylaxis following a radiological event is generally limited to provision of potassium iodide (KI) to prevent radioactive iodine from being bound in the thyroid gland. This only occurs when radioactive iodine is present and the potential for internal contamination is present. The potential for radioactive iodine contamination might occur in a release of radiological waste or following a nuclear explosion, but not likely after a dirty bomb and never in a point source exposure. The most likely cause nationally of a major radioiodine exposure event, is a nuclear plant accident, and would not apply to Utah. If radioiodine contamination is present, KI must be given quickly to be effective. Following the identification of a radiological event, DHHS will assess the need for prophylaxis of exposed populations and the potential to acquire KI fast enough to permit prophylaxis.

OPR cache

Potassium iodate	85 mg tablets, 200 tablets per bottle for radioactive iodine exposure	5,400 bottles
Prussian blue	Radiogardase, 180 per case/30 capsules per bottle Batch 017096 for cesium and thallium exposure	582 bottles
Prussian blue	Radiogardase, 150 per case/30 capsules per bottle Batch 016057 for cesium and thallium exposure	750 bottles
Additional DHHS resources can be found in the DHHS Quick Resource Guide		

SNS is a national repository of antibiotics, chemical antidotes, antitoxins, life-support medications, IV administration, airway maintenance supplies, and medical/surgical items that may be deployed to a state to augment their disaster response.

Oral and IV chelating agents for specific isotopes:		
Prussian blue	For cesium and thallium exposure	Administer as soon as possible after exposure to maximize effectiveness.
Calcium DTPA	For plutonium, americium, and curium exposure	Zinc DTPA is not available during the first 24 hours, so calcium DTPA can be given for continued treatment, along with vitamin or mineral supplements that

		contain zinc.
Zinc DTPA	For plutonium, americium, and curium exposure	After the first 24 hours when available, if calcium DTPA is not available, it can be used in the first 24 hours.
Anti neutropenics: treatments for mitigating neutropenia, a condition characterized by a low count of neutrophils, a type of white blood cell that helps fight infection.		
Leukine	Bone marrow stimulant—increases white blood cell production	Long term treatment
Neulasta	Bone marrow stimulant—increases white blood cell production	Long term treatment
Nplate	Bone marrow stimulant—increases platelet production	Long term treatment
Oral thyroid blocking agent:		
Potassium iodide	For radioactive iodine	Window of efficacy ~4 hours following exposure

Additional capabilities

Community preparedness

Making pre-event information about radiological/nuclear emergencies available to community partners and the public will enhance community preparedness. For example, all-hazards awareness training could incorporate protective action messages for radiological/nuclear emergencies, such as the “get inside, stay inside, and stay tuned” message.

Community recovery

Recovery from a radiological/nuclear emergency could take a long time. There may be ongoing environmental cleanup and a need to help those who may have been contaminated by or exposed to radiological/nuclear material. Addressing the psychological impact of radiological/nuclear disasters will also be a key part of recovery efforts.

Resources

Federal resources

US Nuclear Regulatory Commission.

- Nuclear Regulatory Commission's 24-hour incident response operations center (301) 816-5100.

US Department of Energy

- (202) 586-8403

US Food and Drug Administration: Center for Devices and Radiological Health

Centers for Disease Control and Prevention - radiation emergencies

US Health and Human Services or REMM

REAC/TS Oakridge Radiation Emergency Assistance Center/Training Site, a US Department of Energy asset and a leader in emergency medical response to radiological/nuclear incidents. REAC/TS provides emergency response and subject matter expertise on the medical management of radiation incidents for the National Nuclear Security Administration's Office of Counterterrorism and Counterproliferation.

Radiation injury treatment network is a national network of hospitals prepared to respond to a large-scale radiological incident that results in casualties with acute radiation syndrome. The radiation injury treatment network has training, triage, and treatment guidance for radiation injuries. Utah has three hospitals that participate in this network: University of Utah Healthcare, LDS Hospital, and Primary Children's Hospital.

Exercises

This plan will be exercised every three years or after any major updates. This can be done as a discussion based exercises like a tabletop or operations based exercise. Real-world responses count as exercising the plan.

Plan maintenance

DHHS plan review and revision involves three types of edits:

1. Minor technical revisions
2. Major technical revisions

3. Complete plan overhaul

In collaboration with partners, DHHS planning and preparedness takes the lead in reviewing and revising the plan to make sure:

1. The plan is evaluated using the Homeland Security Exercise and Evaluation Program guidelines and includes after action reporting and improvement planning following real-world responses, drills, and exercises. DHHS and partner participation will vary and is dependent on the scope of the exercise or event. Improvement planning will involve jurisdictional and community partner feedback and collaboration. The associated corrective actions, lessons-learned, and best practices will be integrated as appropriate.
2. All plans will be shared with leadership for review and approval. Plans that are classified as "confidential" will be shared with the planning team to allow for feedback before the plan is finalized.
3. Plan revision will occur through review by DHHS and partners at least every 3 years, or in conjunction with exercises or a real-world event.
4. Plan revision can be accomplished through email, virtual, or in-person meetings. Plan revision will include a new plan with an effective start date.

Change log

Document version	Location Of change	Description	Changes made by
March 2025	Entire document	Complete overhaul of plan	Evan Crook, Adam Smith, Andrea Baxter, Angie Gamarra, Courtney Pike, Pamela Moyer, Robert Herrera

Appendix A: Training and exercises

American College of Medical Toxicology

- Radiological emergency medical management July 2022 https://education.acmt.net/warfare-terrorism-hazmat
- Chemical and radiological agents of opportunity https://education.acmt.net/warfare-terrorism-hazmat

Centers for Disease Control and Prevention (CDC)
CME credit training:

- Radiation basics made simple: http://emergency.cdc.gov/radiation/radbasics.asp

No CME credit offered:

- Radiological terrorism: Medical response to mass casualties: http://emergency.cdc.gov/radiation/masscasualties/training.asp
- Radiological terrorism: Just in time training for hospital clinicians: http://emergency.cdc.gov/radiation/justintime.asp
- Radiological terrorism: Emergency management pocket guide for clinicians: https://www.cdc.gov/nceh/radiation/emergencies/pocket.htm

Emergency Nurses Association
Trauma nursing core course (TNCC)
https://www.ena.org/enau/educational-offerings/tncc

Radiation Injury Treatment Network (RITN)
Just In time training for medical staff

- What you need to know about RITN—4 minute YouTube video
- What to expect . . . does the patient have ARS?
- Treating radiation victims . . . am I safe?
- Preparedness steps . . . identifying your resources
- Acute radiation syndrome just in time training video (16 min) developed in collaboration with Emory University, Emory University Hospital, and Winship Cancer Center
- RITN YouTube channel—Training and exercise videos
- RITN medical grand rounds training: Medical response to radiation exposure: the role of hematologists' presentation (PPTX)
- Radiation Injury Treatment Network (RITN) web based training (NOTE: These modules are viewed best on a PC using Google Chrome or Windows Internet Explorer. Viewing on handheld devices is not currently supported.)
    - Basic Radiation Training (~30 min)
    - Introduction to RITN (~25 min)
    - RITN Concept of Operations (~40 min)
    - Non-Medical Personnel Radiation Awareness (~30 min)
    - Facilitator led non-medical personnel radiation awareness (PPTX)

    - Radiation Safety Communication (~30 min)
    - Initial Care of Patients with Suspected ARS (~30 min)
    - GETS card (~30 min)
- Advanced Radiation Medical Emergency Training Course (REAC/TS) RITN-sponsored Training
    - This course takes place at different host RITN centers every year. Staff who should consider attending in the future include MDs, RNs, coordinators.

FEMA Emergency Management Institute Courses:

- IS-3 Radiological Emergency Management
- IS-301 Radiological Emergency Response
- IS-302 Modular Emergency Radiological Response Transportation Training
- IS-331 Introduction to Radiological Emergency Preparedness (REP) exercise evaluation
- IS-346 An orientation to hazardous materials for medical personnel (Chapter 5 is about radiological materials)
- IS-808 Emergency Support Function (ESF) #8 - Public Health and Medical Services
- IS-836 Nuclear/radiological incident annex to the National Response Framework interactive web-based course

National Alliance for radiation readiness radiation training modules for public health

- Description: Throughout these training modules, subject matter experts (SMEs) will walk you through the radiation-specific issues that should be considered before and during the four phases of response. These SMEs are members of the National Alliance for Radiation Readiness and represent public health, healthcare and emergency management.

Radiological Terrorism: Just-in-time training for hospital clinicians

- https://orau.gov/rsb/video/jit.html

Acronyms

CBRNE	Chemical, Biological, Radiological, Nuclear, and Explosives
CFR	Code of Federal Regulations
ConOps	Concept of Operations
DEM	Division of Emergency Management
DEQ	Department of Environmental Quality
DHHS	Department of Health and Human Services
DHS	US Department of Homeland Security
EOP	Emergency operations plan
ESF	Emergency support function
FBI	Federal Bureau of Investigation
FMO	Fire Marshal's Office
HazMat	Hazardous material
KI	Potassium iodide
MCM	Medical countermeasures
NRC	National Response Center
OCD	Office of Communicable Disease
OME	Office of the Medical Examiner
OPR	Office of Preparedness and Response
PAE	Public Affairs and Education
PPE	Personal Protective Equipment
RACC	Risk Assessment Coordinating Committee
RDD	Radiation Disaster Response
REMM	Radiation Emergency Medical Management
SME	Subject matter expert
SNS	Strategic national stockpile
UOSH	Utah Occupational Health and Safety
UPCC	Utah Poison Control Center
UPHL	Utah Public Health Laboratory