Executive Summary

An emergency can occur at any time, suddenly, and without warning. Proper planning is essential to minimize the impact of any emergency on the public, Crestone Peak Resources' operations, and facilities.

The Crestone Emergency Response Plan (ERP) is designed to facilitate a timely, effective, efficient, and coordinated emergency response to significant events affecting Crestone's operations or facilities. The Crestone ERP consists of nine sections establishing procedures prioritizing life safety, environmental quality, and surrounding communities. The Crestone ERP also creates procedures on incorporating unified command with agencies to effectively coordinate a seamless response to all levels of emergencies.

The Crestone Emergency Response plan sections include:

1. Introduction to the Emergency Response Plan
2. Notification and Activation Requirements
3. Incident Command Structure Overview
4. Incident Planning Cycle
5. Initial Action Plan
6. Communication Guidelines
7. Risk Assessments and Mitigation Plans
8. Pandemic Response Plan
9. CPR Midstream LLC Pipelines and Facilities

These nine sections allow Crestone to implement a fluid emergency response operation through managing prevention, preparedness, response, and recovery.

Prevention

This stage includes activities designed to reduce or eliminate potential risks to persons or property or to lessen the potential effects or consequences of an incident. Prevention measures are implemented prior to, during, or after an incident. Prevention measures include ongoing actions to reduce exposure to, probability of, or potential loss from hazards. These ongoing actions include risk assessments, PHAs, HAZOPS, FMEAs, and shared learnings from previous incidents.

Preparedness

Preparedness is a continuous process including efforts at all levels to identify risks, hazards, educate and train workers and public responders, and identify required resources. Preparedness operationally includes establishing guidelines, plans, policies, procedures, protocols, trainings, emergency exercises, personnel qualification and certification, and equipment certification and integrity.

Response

Response includes activities that address the short-term and direct effects of an incident. Response includes immediate actions to protect life safety, environmental quality, the community, and property. Response also includes the execution of emergency response plans including notification, incident planning, and execution.

Recovery

Recovery incorporates the development, coordination, and execution of service and site restoration plans, reactivation of operations, social, political, environmental, and economic restoration, evaluation of the incident to identify lessons learned, post incident reporting, and development of initiatives to mitigate the effects of future incidents.

Crestone leadership is committed to the ongoing improvement of Crestone's ERP by implementing continuous improvement through reviews, feedback, trainings, exercises, and through building relationships with first responder agencies.

David Stewart
VP, EHS&R

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VP, Operations

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1.0 Forward

Emergency Preparedness, Response Processes, and Plans are governed by many state and federal regulations. **Crestone Peak Resource's (Crestone) Emergency Response Plan supersedes all Crestone Contractor's Emergency Response Plans.** Crestone will continue to oversee all emergency response activities and follow this guidance, until emergency response activities have been formerly relinquished to another party. This plan in an over-arching document and is summarized in our field Emergency Action Plan and distributed to all associated parties. The EAP is the main document that is used for training and field purposes.

Having quality Emergency Response Plans in place is vital and only one aspect of our emergency preparedness planning. The following diagram depicts the Crestone's philosophy of continuous improvement:

Crestone's Leadership involves all aspects of planning, performing, measuring and improving its practices to adequately and properly respond to emergency conditions.

1.1 Environment, Health & Safety Management System

1.1.1 Purpose and Scope

The purpose of this plan is to establish consistent Emergency Preparedness and Response planning (including community and emergency services), promote risk awareness and ensure conformance with Crestone's practices and guidelines and compliance with regulatory requirements.

Emergency Preparedness and Response is defined as the preparation for and the carrying out of all functions to identify, respond to, mitigate and recover from emergencies.

Emergency Preparedness and Emergency Response Plans must be in place at Operational Areas and at key facility level. These plans must be kept current and must be supported by training and resources to ensure decisive and effective incident response.

This Emergency Response Plan (ERP) facilitates a coordinated response by Crestone's personnel to any emergency situation related to seismic/exploration, construction, drilling, completion, workovers, operations, remediation, reclamation and support services. It will describe the procedures which will be implemented, in whole or in part, if an emergency situation occurs during any phase of Crestone operations including, but not limited to, the following types of incidents:

- Serious injury or fatality
- Vehicle related incident
- Major property or equipment damage
- Fire or explosion
- Spill, hazardous materials release, or product release
- Security threat or suspicious activity
- Natural occurrence

1.1.2 Practice(s)

The EH&S Emergency Preparedness and Response practice(s) must meet the following criteria:

- Conform to Corporate policies, practices, and guidelines.
- Use a common Incident Command System (ICS).
- Establish a process to ensure Emergency Preparedness and Response plans are in place.
- Establish a process to ensure exercises and drills are conducted with predefined objectives.

- Establish a process to ensure the needs of relevant interested parties (e.g., internal stakeholders, emergency services and neighbors) are considered and communications are defined.
- Establish a process that provides for post incident evaluations and critiques of drills, exercises and emergency responses.
- Establish a process that addresses recommended plan revisions resulting from critiques and response evaluations.
- Prescribe relevant document control and record keeping requirements.

1.2 Goals, Objectives and Performance Measures

The practice(s) associated with this plan must include goals, objectives and performance measures with an implementation schedule. Leaders must monitor performance measures and implement related corrective actions.

1.3 Competency Requirements

The EH&S Emergency Preparedness and Response practice(s) must address training and include the following topics:

- Incident Command System (ICS) roles, responsibilities and competencies
- Plan-specific training
- Emergency response table top exercises, emergency communication exercises or full-scale emergency response drills roles, responsibilities, and accountabilities related to Emergency Preparedness and Response shall be defined and assigned.

1.4 Resources

Resources must be identified, allocated and verified to ensure Emergency Preparedness and Response is properly managed in each step of the Emergency Preparedness and Response process.

1.5 Guidelines and Regulatory Requirements

This Emergency Response Plan is following guidelines set forth and incorporated by the following regulatory agencies or departments:

- **Department of Transportation (D.O.T), Office of Pipeline Safety**
  - 49 CFR 190-195, *Pipeline and Hazardous Materials Safety Administration*
  - 49 CFR 192.615*, Emergency Plans*
  - 49 CFR 195.402, *Emergency Plans*
- **Environmental Protection Agency (EPA)**
  - 40 CFR Part 68, *Chemical Accident Prevention Provisions {For RMP Facilities}*
  - 40 CFR Part 68, *Subpart E, Emergency Response {For RMP Facilities}*

  - 40 CFR, Subchapter D, Part 109, *Criteria for State, Local and Regional Oil Removal Contingency Plans*
  - 40 CFR 110, *Discharge of Oil*
  - 40 CFR 112, *Oil Pollution Prevention Regulation (Spill Prevention, Control, and Countermeasure Plan and Facility Response Plans)*
  - *40 CFR 260-265, Hazardous Waste*
  - 40 CFR 279.52, *Standards for the Management of Used Oil; General Facility Standards*
  - 40 CFR, Subchapter J, Part 300, *National Oil and Hazardous Substances Pollution Contingency Plan*
  - 40 CFR, Subchapter J, Part 350, *Community Right-to-Know Information*
  - 40 CFR, Subchapter J, Part 355, *Emergency Planning and Notification*
  - 40 CFR 370, *Hazardous Chemical Reporting: Community Right to Know*
- **ISO (International Organization for Standardization)**
  - ISO 14001: 2004, Second Edition (2004-11-15). *Environmental Management Systems—Requirements with Guidance for Use.* Specifically, 4.4.7 Emergency preparedness and response.
- **National Fire Protection Association (NFPA)**
  - *NFPA 1600, Standard on Disaster/Emergency Management and Business Continuity Programs*
- **Occupational Health and Safety Assessment Series (OHSAS)**
  - OHSAS 18001: 2007, Second Edition. *Occupational Health and Safety Management Systems—Requirements.* Specifically, 4.4.7 Emergency preparedness and response.
- **Oil Pollution Act of 1990**
  - 40 CFR 112, *Oil Pollution Prevention*
  - 49 CFR 194, *Response Plans for Onshore Oil Pipelines*
- **United States Occupational Safety and Health Administration (OSHA)**
  - *29 CFR 1910.38, Emergency Action Plans*
  - *29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER)*
  - 29 CFR 1926.65, Hazardous Waste Operations and Emergency Response.

1.6 National Incident Management System (NIMS)

The National Incident Management System (NIMS) was developed by the U.S. Department of Homeland Security (DHS), under Homeland Security Presidential Directive (HSPD)-5 issued by President George W. Bush on February 28, 2003. The *National Incident Management System* (NIMS) provides a systematic, proactive approach to guide departments and agencies at all levels of government, nongovernmental organizations, and the private sector to work seamlessly to prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity, in order to reduce the loss of life and property and harm to the environment.

NIMS works hand in hand with the *National Response Framework* (NRF). NIMS provides the template for the management of incidents, while the NRF provides the structure and mechanisms for national-level policy for incident management.

1.6.1 What is the National Incident Management System?

- Comprehensive, nationwide systematic approach to incident management
- Core set of doctrine, concepts, principles, terminology and organizational processes for all hazards
- Essential principles for a common operating picture and interoperability of communications and information management
- Standardized resource management procedures for coordination among different jurisdictions and organizations
- Scalable and applicable for all incidents

1.6.2 Key Benefits of NIMS

- Enhances organizational and technological interoperability and cooperation
- Provides a scalable and flexible framework with universal applicability
- Promotes all-hazards preparedness
- Enables a wide variety of organizations to participate effectively in emergency management/incident response
- Institutionalizes professional emergency management/incident response practices

1.6.3 NIMS Audience

NIMS is applicable to all incidents and all levels of stakeholders, including levels of government, private sector organizations, critical infrastructure owners and operators, nongovernmental organizations and all other organizations who assume a role in emergency management. Elected and appointed officials and policy makers, who are responsible for jurisdictional policy decisions, must also have a clear understanding of NIMS to better serve their constituency.

1.6.4 NIMS Components

Built on existing structures, such as the Incident Command System (ICS), NIMS creates a proactive system to assist those responding to incidents or planned events. To unite the practice of emergency management and incident response throughout the country, NIMS focuses on five key areas, or components. These components link together and work in unison to form a larger and comprehensive incident management system.

NIMS Components include:

- Preparedness
- Communications and Information Management
- Resource Management
- Command and Management
- Ongoing Management and Maintenance

Crestone's Emergency Response Structure is based on the principles and guidance of *National Incident Management System (NIMS)* and the *Incident Command System (ICS).* ICS is the cornerstone of NIMS. Principles of preparedness, communications/ information management, resource management, incident command/management, and ongoing management and maintenance of supporting technologies are outlined under this guidance.

Both NIMS and OSHA's *Hazardous Waste Operations and Emergency Response (HAZWOPER)* standards (among other guidance) uses the Incident Command System (ICS) for emergency response. ICS is an emergency management structure which has been designed to include common terminology, interactive scene management components, and a simplified operational structure. Public Sector Emergency Response managers have for many years utilized various Incident Command Systems as an emergency management tool to help effectively mitigate emergency medical and hazardous material incidents. The Incident Command System was initially designed in the 1970s to manage large multi-jurisdictional wildfires (**FIRESCOPE** – **Fi**refighting **Res**ources of **C**alifornia **O**rganized for **P**otential **E**mergencies.)

1.7 Incident Command System (ICS)

The Incident Command System (ICS) creates a standardized, on-scene, all-hazards incident management approach, which:

- Allows for the integration of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure.
- Enables a coordinated response among various jurisdictions and functional agencies, both public and private.
- Establishes common processes for planning and managing resources.

ICS is flexible. ICS can be used for incidents of any type, scope, and complexity. ICS allows users to adopt an integrated organizational structure to match the complexities and demands of single or multiple incidents **(see Crestone's Incident Command System Chart.)**

ICS is used by all levels of government—Federal, State, tribal, and local—as well as by many non-governmental organizations and private entities. ICS is applicable across many disciplines. It is typically structured to facilitate activities in five major functional areas: Command, Operations, Planning, Logistics, and Finance/Administration. All of the functional areas may or may not be used based on the incident needs and conditions. Intelligence/Investigations may become an optional sixth functional area, which shall be activated on a case-by-case basis.

As a system, ICS is extremely useful. ICS provides an organizational structure for incident management and guides the process for planning, building, and adapting that structure. Using ICS for every incident (and in every training element) helps hone and maintain skills needed for the large-scale incidents.

1.8 Crestone's Emergency Response Structure

Crestone's Incident Command System (ICS) components are outlined in detail within this Emergency Response Plan.

The size and focus of the Crestone ICS organization depends on the magnitude of the incident and the divisions of operation where the incident occurs. The system can be expanded or contracted, as necessary. Only positions that are required for an adequate response need to be filled by the Incident Commander and ICS sections should be kept as small as possible to accomplish incident objectives, while monitoring progress. The level of response necessary for a specific incident dictates how and when the organization develops. All ICS features do not need to be activated in many cases. Only in the largest and most complex operations would the full ICS organization be staffed.

The principles of Chain-of-Command and Span of Control are an essential part to controlling incidents of any size. Every person responding has a designated supervisor and there is clear line of authority within the organization. Local level responders ultimately take direction from the Incident Commander.

These principles clarify reporting relationships and eliminate the confusion caused by multiple or conflicting directives.

This command function may be carried out in two ways:

1. As a ***Single Command***, allows the Incident Commander to have responsibility for incident management at the local level. A Single Command may be simple, involving an Incident Commander and single resources; or, it may be a more complex organizational structure with a number of internal and external support resources activated; or
2. As a ***Unified Command***, allows responding agencies and/or jurisdictions share incident management with the onsite Incident Commander. A Unified Command may be needed for incidents involving multiple jurisdictions, a single jurisdiction with multiple agencies sharing responsibility; or multiple responding agencies or jurisdictions when operating within multi-agency involvement.

It is important to remember that pre-planning is the key to adapting ICS to specific types of operations and working environments.

1.8.1 Principles

Per the EH&S Best Practices, Crestone's principles in effectively managing any incident is:

- Protect lives (workers, responders, public),
- Effectively rescue and treat casualties,
- Minimize environmental impacts,
- Minimize damage to company, public, and private property,
- Protect shareholder value,
- Facilitate rapid recovery and restoration from emergency occurrences,
- Reflect the political, socio-cultural, operational and regulatory environment of the jurisdiction,
- Address stakeholder concerns and expectations,
- Interface with Corporate Support Emergency Management Plans, and
- Interface with Executive Management Team.

All Crestone Company and contract personnel will conduct their response actions within the context of Crestone's Operating and Safe Work Procedures, training programs, and all applicable regulations.

1.8.2 Plan Components

Core plan components create the framework of this Emergency Response Plan (ERP) developed for Crestone's Operations. Core components of this ERP include: Introduction, Notification & Activation Requirements, ICS Structure Overview & Responsibilities, Incident Planning Cycle, Initial Action Plan, Site Specific Information, Community Relations Guideline, Emergency Response Forms and Checklists, Risk Assessments and Mitigation Plans, Spill Contingency Manual, Incident Command and Emergency Management Team Responsibilities, First Responder's Guide, completed Risk Assessments, Bridging Documents, Communications Trailer Capabilities and Standard Operating Procedures, Incident Command System Quick Reference Guide, NIMS Glossary, and Reference List.

1.8.3 Pre-Planning

During pre-planning it is important to remember that no two emergency incidents are alike. Look at all the possibilities surrounding the emergency. This includes the size of the event, community and environmental impact, and the possibility of several types of emergencies which could occur at the same time.

1.8.4 Site or Area-Specific Planning Measures

For all area operations and project work, including drilling, testing, construction, commissioning, or maintenance activities, Crestone personnel will, at a minimum and as applicable to the activities being conducted, initiate a review of the following planning measures:

- Clarify project / operational parameters / hazard identification;
- Conduct risk assessments and implement prevention measures as an integral part of company operations, where appropriate;
- Identify the residual risk of the operation, and potential emergency scenarios that could happen;
- Procure or contract resources to respond effectively to emergencies;
- Meet with stakeholders (i.e.: government agencies, residents/landowners, emergency agencies) as required, to discuss emergency planning;
- Compile and distribute site-specific emergency response information for the project or production operation to key stakeholders;
- Prepare Site Safety / Evacuation Plan(s) for key job sites (i.e., Drilling/Completions, Gas Plants, Occupied Compressor Stations, etc.);
- Ensure Company personnel and contractors attend emergency response plan review meetings before major facility modifications are commissioned;
- Engage Corporate support, as required, to ensure emergency support plans address risks and communications specific to the activities; and
- Ensure that plans are compliant with applicable government regulation and, if required, registered and/or approved by regulatory agencies.

1.9 Plan Administration

Crestone operations personnel are responsible for the development, review and administration of all components of the plan.

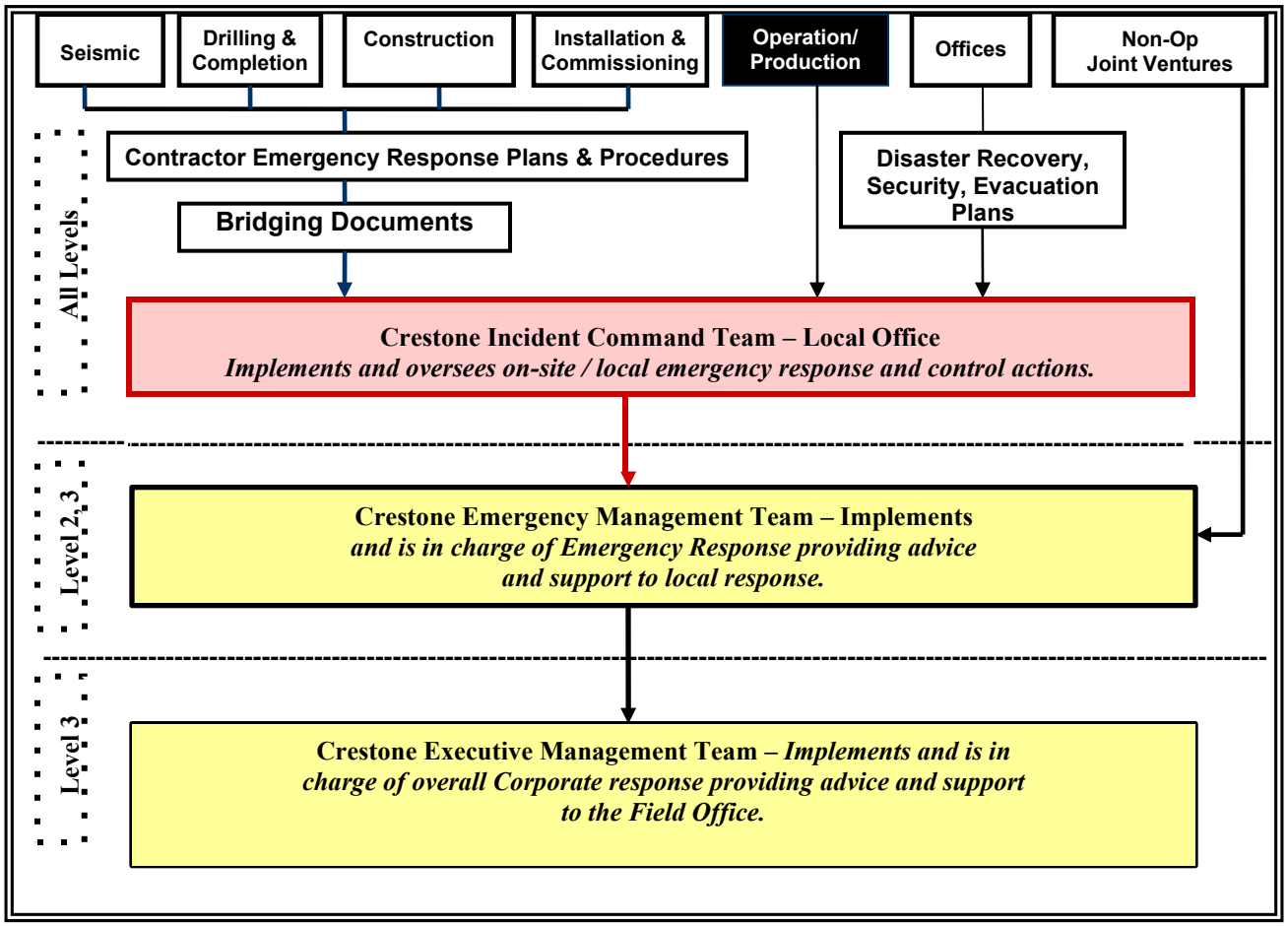
The administration of Emergency Response Plans and Programs involves the following processes:

- **Distribution:** Copies of programs and plans should be accessible to all Crestone personnel and agencies assigned responsibilities under the program or plan.
- **Updating:** Programs and plans should be reviewed as necessary to include regulatory changes, organizational and personnel adjustments, identified operational hazards and recommendations resulting from exercises or real incidents.
- **Approval:** Where required, programs and plans should be submitted for regulatory review and approval to the government entity having jurisdiction.

1.10 Contractor Responsibilities and Response Plan Integration

When the responsibility for a worksite has been completely transferred to another company / contractor, local Crestone personnel will ensure that Emergency Response Roles and Responsibilities have been identified and that there is alignment with Crestone's ERP and a bridging documentation is in place, as required, prior to commencement of work activities. Crestone personnel will support the Contractor's response effort and will ensure that the contractor implements Incident Command functions, as required, to effectively respond to the incident.

Contractor Documentation Bridging Process



1.11 Training Requirements of Emergency Responders per 29 CFR 1910.120(q)

Training for emergency response employees shall be completed before they are called upon to perform in real emergencies. Such training shall include the elements of the emergency response plan, standard operating procedures the employer has established for the job, the personal protective equipment to be worn and procedures for handling emergency incidents.

Table 1
Training Requirements of Emergency Responders per OSHA's 29 CFR 1910.120(q)

What action will personnel be expected to take during an emergency?	***Training Required per 29 CFR 1910.120(q)***
Initiating Emergency Response Only: Notifying authorities.	**First Responder Awareness Level 1910.120(q)(6)(i)** **Sufficient** Training to demonstrate competencies.
Respond in a Defensive Fashion: Protect nearby persons, property, or the environment from a safe distance. Build dykes or containment with no potential exposure of release.	**First Responder Operations Level 1910.120(q)(6)(ii)** 8 hours of training and specified competencies.
Respond in an Aggressive Fashion: These individuals approach the point of release to stop the hazardous substance release (plugging, patching, or valve isolation at point of release or exposure.) Enter Hot Zone.	**Hazardous Materials (HAZMAT) Technician 1910.120(q)(iii) or Specialist 1910.120(q)(6)(iv)** 24 hours of training equal to First Responder Operations Level and specified competencies.
Assume Control of the Incident: Incident Commanders assume control of the incident scene beyond the First Responder Awareness Level.	**On Scene Incident Commander 1910.120(q)(6)(v)** 24 hours of training equal to First Responder Operations Level and specified competencies.
Skilled support: Providing immediate, short-term support work at the scene.	**Skilled Support Personnel 1910.120(q)(4)** Initial briefing at emergency response site to include wearing of PPE, chemical hazards involved and the duties to be performed.
Specialized Support: Assist, counsel, or advise the IC on specific hazardous substances at the facility.	**Specialist Employees 1910.120(q)(5)** Sufficient training or demonstration competency in area of specialization annually.
Clean-Up or Clean-Up Supervisors Assisting in or directing in clean-up efforts on plant property using plant or workplace employees will ensure proper training.	**Clean-Up or Clean-Up Supervisors requires training competencies: 1910.120(q)(11) Post Emergency Response Operations** 40-hour HAZWOPER training, plus proper training in 29 CFR 1910.38 (Emergency Action Plans), 1910.134 (Respiratory Protection), 1910.1200 (Hazard Communication), and other appropriate safety and health training made necessary by the tasks they are expected to perform such as personal protective equipment and decontamination procedures.
****All employees require annual refresher training and competency demonstration (classroom examinations with test grades of 80% or higher.)**	

1.11.1 First Responder Awareness Level—29 CFR 1910.120(q)(6)(i)

A summary of training requirements are provided in Table 1. First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release. First responders at the awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

- **1910.120(q)(6)(i)(A) -** An understanding of what hazardous substances are, and the risks associated with them in an incident.

- **1910.120(q)(6)(i)(B) -** An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.
- **1910.120(q)(6)(i)(C) -** The ability to recognize the presence of hazardous substances in an emergency.
- **1910.120(q)(6)(i)(D) -** The ability to identify the hazardous substances, if possible.
- **1910.120(q)(6)(i)(E) -** An understanding of the role of the first responder awareness individual in the employer's emergency response plan including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.
- **1910.120(q)(6)(i)(F) -** The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

1.11.2 First Responder Operations Level—29 CFR 1910.120(q)(6)(ii)

First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. First responders at the operational level shall have received at least eight hours of training or have had sufficient experience to objectively demonstrate competency in the following areas in addition to those listed for the awareness level and the employer shall so certify:

- **1910.120(q)(6)(ii)(A) -** Knowledge of basic hazard and risk assessment techniques.
- **1910.120(q)(6)(ii)(B) -** Know how to select and use proper personal protective equipment provided to the first responder operational level.
- **1910.120(q)(6)(ii)(C) -** An understanding of basic hazardous materials terms.
- **1910.120(q)(6)(ii)(D) -** Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and personal protective equipment available with their unit.
- **1910.120(q)(6)(ii)(E) -** Know how to implement basic decontamination procedures.
- **1910.120(q)(6)(ii)(F) -** An understanding of the relevant standard operating procedures and termination procedures.

1.11.3 Hazardous Materials (HAZMAT) Technician Level—29 CFR 1910.120(q)(6)(iii)

Hazardous materials technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch or otherwise stop the release of a hazardous substance. Hazardous materials technicians shall have received at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

- **1910.120(q)(6)(iii)(A) -** Know how to implement the employer's emergency response plan.
- **1910.120(q)(6)(iii)(B) -** Know the classification, identification and verification of known and unknown materials by using field survey instruments and equipment.
- **1910.120(q)(6)(iii)(C) -** Be able to function within an assigned role in the Incident Command System.

1.11.4 Hazardous Materials (HAZMAT) Specialist Level—29 CFR 1910.120(q)(6)(iv)

Hazardous materials specialists are individuals who respond with and provide support to hazardous materials technicians. Their duties parallel those of the hazardous materials technician, however, those duties require a more directed or specific knowledge of the various substances they may be called upon to contain. The hazardous materials specialist would also act as the site liaison with Federal, state, local and other government authorities in regard to site activities. Hazardous materials specialists shall have received at least 24 hours of training equal to the technician level and in addition have competency in the following areas and the employer shall so certify:

- **1910.120(q)(6)(iv)(A) -** Know how to implement the local emergency response plan.
- **1910.120(q)(6)(iv)(B) -** Understand classification, identification and verification of known and unknown materials by using advanced survey instruments and equipment.
- **1910.120(q)(6)(iv)(C) -** Know the state emergency response plan.
- **1910.120(q)(6)(iv)(D) -** Be able to select and use proper specialized chemical personal protective equipment provided to the hazardous materials specialist.
- **1910.120(q)(6)(iv)(E) -** Understand in-depth hazard and risk techniques.
- **1910.120(q)(6)(iv)(F) -** Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available.
- **1910.120(q)(6)(iv)(G) -** Be able to determine and implement decontamination procedures.
- **1910.120(q)(6)(iv)(H) -** Can develop a site safety and control plan.
- **1910.120(q)(6)(iv)(I) -** Understand chemical, radiological and toxicological terminology and behavior.

1.11.5 On Scene Incident Commander (IC)—29 CFR 1910.120(q)(6)(v)

Incident commanders, who will assume control of the incident scene beyond the first responder awareness level, shall receive at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

- **1910.120(q)(6)(v)(A) -** Know and be able to implement the employer's incident command system.

- **1910.120(q)(6)(v)(B) -** Know how to implement the employer's emergency response plan.
- **1910.120(q)(6)(v)(C) -** Know and understand the hazards and risks associated with employees working in chemical protective clothing.
- **1910.120(q)(6)(v)(D) -** Know how to implement the local emergency response plan.
- **1910.120(q)(6)(v)(E) -** Know of the state emergency response plan and of the Federal Regional Response Team.
- **1910.120(q)(6)(v)(F) -** Know and understand the importance of decontamination procedures.

1.11.6 Skilled Support Personnel—29 CFR 1910.120(q)(4)

Personnel, not necessarily an employer's own employees, who are skilled in the operation of certain equipment, such as mechanized earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to perform immediate emergency support work that cannot reasonably be performed in a timely fashion by an employer's own employees, and who will be or may be exposed to the hazards at an emergency response scene, are not required to meet the training required in this paragraph for the employer's regular employees. However, these personnel shall be given an initial briefing at the site prior to their participation in any emergency response. The initial briefing shall include instruction in the wearing of appropriate personal protective equipment, what chemical hazards are involved, and what duties are to be performed. All other appropriate safety and health precautions provided to the employer's own employees shall be used to assure the safety and health of these personnel.

Personnel who are to enter contaminated areas on a regular basis are not considered SSP employees—and are required to be trained under HAZWOPER training in paragraph (q)(6).

1.11.7 Specialist Employees—29 CFR 1910.120(q)(5)

A Specialist Employee is an expert who may assist, counsel, or advise the Incident Commander. Specialist Employees may be individuals who work with and are trained in the hazards of a specific hazardous substance and are by definition individuals who specialize in their area of expertise; but not necessarily have all the competencies of the hazardous materials (HAZMAT) Technician or HAZMAT Specialist.

Employees who, in the course of their regular job duties, work with and are trained in the hazards of specific hazardous substances, and who will be called upon to provide technical advice or assistance at a hazardous substance release incident to the individual in charge, shall receive training or demonstrate competency in the area of their specialization annually.

The Specialist Employee may not enter the danger area unless they are fully trained in the proper use of personal protective equipment (PPE) and are accompanied by someone trained to the HAZMAT Technician Level. Personnel who are to enter contaminated areas on a regular basis can no longer be considered Specialist Employees, and they are required to be trained under HAZWOPER paragraph (q)(6).

1.11.8 Clean-Up Operation or Supervisor of Clean-Up Operations—29 CFR 1910.120(q)(11)

(11) Post-emergency response operations. Upon completion of the emergency response, if it is determined that it is necessary to remove hazardous substances, health hazards and materials contaminated with them (such as contaminated soil or other elements of the natural environment) from the site of the incident, the employer conducting the clean-up shall comply with one of the following:

(i) Meet all the requirements of paragraphs (b) through (o) of this section; or

(ii) Where the clean-up is done on plant property using plant or workplace employees, such employees shall have completed the training requirements of the following: **29 CFR 1910.38, 1910.134, 1910.1200, and other appropriate safety and health training made necessary by the tasks they are expected to perform such as personal protective equipment and decontamination procedures.** All equipment to be used in the performance of the clean-up work shall be in serviceable condition and shall have been inspected prior to use.

1.11.9 Minimum Emergency Response Plan Requirements for Contractors - 29 CFR 1910.120(q)(2)

The employer shall develop an emergency response plan for emergencies which shall address, as a minimum, the following areas to the extent that they are not addressed in any specific program required in this paragraph:

1910.120(q)(2)(i) - Pre-emergency planning and coordination with outside parties.

1910.120(q)(2)(ii) - Personnel roles, lines of authority, training, and communication.

1910.120(q)(2)(iii) - Emergency recognition and prevention.

1910.120(q)(2)(iv) - Safe distances and places of refuge.

1910.120(q)(2)(v) - Site security and control.

1910.120(q)(2)(vi) - Evacuation routes and procedures.

1910.120(q)(2)(vii) - Decontamination.

1910.120(q)(2)(viii) - Emergency medical treatment and first aid.

1910.120(q)(2)(ix) - Emergency alerting and response procedures.

1910.120(q)(2)(x) - Critique of response and follow-up.

1910.120(q)(2)(xi) - PPE and emergency equipment.

1.11.10 Refresher Training—29 CFR 1910.120(q)(8)

- **1910.120(q)(8)(i) -** Those employees who are trained in accordance with paragraph (q)(6) of this section shall receive annual refresher training of sufficient content and duration to maintain their competencies, or shall demonstrate competency in those areas at least yearly.

- **1910.120(q)(8)(ii) -** A statement shall be made of the training or competency, and if a statement of competency is made, the employer shall keep a record of the methodology used to demonstrate competency.

1.11.11 Trainers—1910.120(q)(7)

Trainers who teach any of the above training subjects shall have satisfactorily completed a training course for teaching the subjects they are expected to teach, such as the courses offered by the U.S. National Fire Academy, or they shall have the training and/or academic credentials and instructional experience necessary to demonstrate competent instructional skills and a good command of the subject matter of the courses they are to teach.

1.11.12 Medical Surveillance and Consultation--1910.120(q)(9)

- 1910.120(q)(9)(i) - Members of an organized and designated HAZMAT team and hazardous materials specialist shall receive a baseline physical examination and be which provided with medical surveillance as required in paragraph (f) of this section.
- **1910.120(q)(9)(ii) -** Any emergency response employees who exhibit signs or symptoms may have resulted from exposure to hazardous substances during the course of an emergency incident either immediately or subsequently, shall be provided with medical consultation as required in paragraph (f)(3)(ii) of this section.

1.11.13 Chemical Protective Clothing--1910.120(q)(10)

- Chemical protective clothing and equipment to be used by organized and designated HAZMAT team members, or to be used by hazardous materials specialists, shall meet the requirements of paragraphs (g)(3) through (5) of this section.

1.12 Testing and Exercising the Emergency Response Plan

Crestone recommends that the Operational Areas exercise their Emergency Response Plan at a minimum annually; however, a more frequent schedule may be necessary dependent upon business needs and the environment of operation. Exercises / training should be documented and include at a minimum the following information:

- type of exercise held
- Scope and objectives
- Persons involved
- Sequence of events
- Outcome (i.e., whether objectives were achieved)
- Lessons learned
- Action plan, including timelines

Corrective actions or findings that are identified within the Testing or Exercising of the Emergency Response Plan shall be inputted into the Incident Management System and tracked to closure.

1.12.1 Regulatory requirements of Testing/Exercising the Emergency Response Plan

Regulatory agencies view emergency response exercises as an opportunity for continuous improvement of response plans and response systems. As such, plan holders are responsible for addressing any issues that arise from evaluation of exercises and for making changes to the response plans necessary to ensure the highest level of preparedness.

1.12.2 OSHA's 29 CFR 1910.120(l)(3)(iv) and (v) states:

(iv) - The emergency response plan shall be rehearsed regularly as part of the overall training program for site operations.

(v) - The site emergency response plan shall be reviewed periodically and, as necessary, be amended to keep it current with new or changing site conditions or information.

1.12.3 NFPA 1600:2013

Chapter 7, Testing and Exercises and Chapter 8, Program Improvement states:
NFPA 1600, adopted by Crestone's Management System, identifies the following requirements for Testing and Exercising Emergency Response Plans:

- **Entity Evaluation -** Entity shall evaluate program plans, procedures, and capabilities through periodic testing and exercises.
- **Exercise Evaluation -** Exercises shall be designed to evaluate program plans, procedures, and capabilities.
- **Methodology -** Exercises shall provide a standardized methodology to practice procedures and interact with other entities in a controlled setting.
- **Exercise Design -** Exercises shall be designed to:
  - Evaluate the program.
  - Identify planning and procedural deficiencies.
  - Test or validate recently changed procedures or plans
  - Clarify roles and responsibilities.
  - Obtain participant feedback and recommendations for program improvement.
  - Measure improvement compared to performance objectives.
  - Improve coordination between internal and external teams, organizations, entities.
  - Validate training and education.
  - Increase awareness and understanding of hazards and the potential impacts of hazards on the entity.
  - Identify additional resources and assess the capabilities of existing resources, including personnel and equipment needed for effective response and recovery.

Increase awareness and understanding of hazards and the potential impacts of hazards on the entity.

Identify additional resources and assess the capabilities of existing resources, including personnel and equipment needed for effective response and recovery objectives, evaluation of program implementation, and changes resulting from preventative and corrective action.

- **Corrective Action -** The entity shall establish corrective action processes and take corrective action on deficiencies identified *{by inputting data into the Crestone's Incident Management System (IMS) and tracking to closure.}*

1.12.4 United States Department of Transportation (Pipelines)

- **Training/Drills 49 CFR 192.615(b)(2) -** All supervisors and employees must be trained on their roles in responding to an emergency. Annual training and/or drills will be conducted to:
  - Educate employees on their roles in responding to an emergency, and
  - Test the plan effectiveness.

1.12.5 International Organization for Standardization (ISO) 14001:2004, 4.4.7

- **Emergency Preparedness and Response -** It is the responsibility of each organization to develop emergency preparedness and response procedure(s) that suits its own particular needs. In developing its procedure(s), the organization should include consideration of:

  …h) periodic testing of emergency response procedure(s)

1.12.6 Occupational Health & Safety Assessment Series (OHSAS) 18001:2007, 4.4.7

- **Emergency Preparedness and Response -** The organization shall periodically test its procedure(s) to respond to emergency situations, where practicable, involving relevant interested parties as appropriate.

The organization shall periodically review and, where necessary, revise its emergency preparedness and response procedure(s), in, after periodical testing and after the occurrence of emergency situations.

1.12.7 NIMS (National Incident Management, December 2008, p 19-20)

NIMS strongly encourages governments and private sector entities with direct roles in response operations to participate in NIMS training and exercises.

Exercises should contain a mechanism for incorporating corrective actions into the planning process.

To improve NIMS performance, emergency management/response personnel should also participate in realistic exercises—including multidisciplinary, multijurisdictional incidents, and NGO and private-sector interaction—to improve coordination and interoperability. Thorough exercising of NIMS components may be done using a single exercise or a series of exercises, each of which evaluates specific aspects of NIMS and its components.

Exercises should be conducted with parties identified in strategic and operational plans (e.g., the emergency operations plan), including departments, agencies, partners in mutual aid agreements and assistance agreements, NGOs, and the private sector.

Exercises should contain a mechanism for incorporating corrective actions and lessons learned from incidents into the planning process. For guidance on exercise design, methodologies, and evaluation, refer to the Homeland Security Exercise and Evaluation Program or other exercise development tools.

Exercises should also cover the following:

- All aspects of a plan, particularly the processes and procedures for activating local, intrastate, and/or interstate mutual aid agreements and assistance agreements.
- Knowledge needed to activate those agreements.

1.13 Exercise Types (Tabletop, Communication, Major/Full-Scale Drills)

The following are three examples of the types and characteristics of exercises, which can be conducted:

1.13.1 Tabletop Exercise

A tabletop exercise is conducted in a conference room setting. Through a facilitated discussion, participants discuss their roles and responses to various prepared scenarios. Tabletop exercises are very useful when you have new processes or policies, response centers, facilities, personnel or equipment.

Tabletop exercises can include the following characteristics:

- Scenario-driven (no physical response)
- Small team in a conference room setting
- May include verification of internal / external contact numbers
- Trained personnel to facilitate the discussion, evaluate performance and track lessons learned

1.13.2 Communication Exercise

Communication exercises are scenario-driven and require responders to play their roles from assigned locations using the communication equipment that would normally be deployed in a real emergency. There is little or no mobilization of resources other than company personnel.

Communication exercises can include the following characteristics:

- Scenario-driven response activities
- Range of scope and participation
- Simulation of non-participating agencies / personnel
- Actual notification to required government agencies and support services without physical response or mobilization from these agencies occurring

- Notification through the 24-hour emergency line to Emergency Management
- Internal mobilization may be limited to simulated inputs provided by the On-Site Command Post

1.13.3 Major/Full-Scale Exercise

A full-scale exercise is recommended at least once every two years and is as close to the real incident as possible. It is a lengthy exercise which takes place on location, using the equipment and personnel, which would be called upon in a real event.

In a sense, a full-scale exercise combines the interactivity of the functional exercise with a field element. It differs from a drill in that a drill focuses on a single operation and exercises only one organization.

Full-scale exercises are necessary to test capabilities in an environment as near to an actual event as possible. Various regulatory agencies have requirements for full-scale exercises which must be satisfied. Federal Emergency Management Administration (FEMA), for example, requires a full-scale exercise to fulfill three requirements:

1.0 It must exercise most functions.

2.0 It must coordinate the efforts of several agencies.

3.0 In order to achieve full coordination, the EOC must be activated.

A full-scale exercise validates the major aspects of the Company's Emergency Preparedness Programs and involves *all* levels of the organization, plus stakeholders, other agencies, and/or regulatory agencies or agents.

1.13.4 Key Characteristics

- Interactive exercise designed to challenge the entire emergency management system in a highly realistic and stressful environment.
- Tests and evaluates most functions of the emergency management plan or operational plan.
- Takes place in an EOC or other operating center and at field sites.

1.13.5 Achieves realism through:

- On-scene actions and decisions.
- Simulated "victims."
- Search and rescue requirements.
- Communication devices.
- Equipment deployment.
- Actual resource and personnel allocation.

- Involves controller(s), players, simulators (different from simulators in a functional exercise), and evaluators.
- Players represent all levels of personnel, including response personnel.
- Messages may be visual (e.g., staged scenes, made-up victims, props) and scripted.
- All decisions and actions by players occur in real time and generate real responses and consequences from other players.
- Requires significant investment of time, effort, and resources. Attention to detail is crucial.

1.13.6 Purpose of a Full-Scale Exercise

There are numerous reasons for conducting a full-scale exercise. A full-scale exercise:

- Greatly expands the scope and visibility of the exercise program.
- If well-planned, can attract public attention and raise credibility. (However, to be successful, it must be the culmination of a comprehensive and progressive exercise program that has been developed as the organizational capacity has grown.)
- Is useful to test total coordination, not only among policy and coordination officials, but among field forces. At the same time, it can test inter-organizational coordination.
- Enables a jurisdiction or emergency management system to evaluate its ability to perform many functions at once.
- Can pinpoint resource and personnel capabilities and reveal shortfalls.

1.13.7 What Does It Take to Run a Full-Scale Exercise?

Planning and coordination. Some people wrongly believe that, once started, a full-scale exercise can run on its own steam. In fact, a full-scale exercise requires a substantial commitment of time, money, personnel, and expertise and should not be undertaken without the necessary preparation. These are the most important requirements:

- Substantial experience with preparatory exercises of various kinds of tabletops, communication, and full-scale exercises.
- Total commitment of all emergency service organizations (internal and external.)
- Support from middle and upper management.
- Adequate physical facilities, including space for the EOC and field command posts.
- Adequate communication facilities (e.g., radios and telephones).
- Plans in place to handle costs (both evident and hidden), labor, time commitment, etc.
- Carefully thought out and planned site and logistics.

1.13.8 Managing a Full-Scale Exercise: Exercise Roles

Full-scale exercises involve one or more controllers, the participants, simulators, evaluators, and a safety officer.

1.13.9 Controllers

One or more controllers manage the exercise. In some exercises, where there are multiple sites or organizations, there may be more than one controller. In this case, all of the controllers cooperate under the direction of a chief controller.

The controller (or chief controller) is responsible for ensuring that the exercise starts on schedule. The controller also designates an exercise control point from which all communications should be monitored.

1.13.10 Participants

A full-scale exercise involves all levels of personnel, including:

- **Policy makers**—those who are responsible for making broad policy decisions. They might include the chief executive and his or her staff, the Public Information Officer, the emergency manager, key department heads, and other elected officials.
- **Coordination personnel**—people from various departments who coordinate decisions of policy makers and make plans for resources.
- **Operations personnel**—those who carry out the directives. Sometimes coordination and operations are the same.
- **Field personnel**—fire, police, EMS, search and rescue, volunteer groups, representatives of private enterprises who participate in the response, and many others.

1.13.11 Simulators

Simulators in a full-scale exercise are different from those in a functional exercise. In a full-scale exercise, simulators are the volunteers who pretend to be victims of the emergency event. For realism, they may wear makeup and they "act" injured, unconscious, hysterical, or dead; whatever the scene calls for.

1.13.12 Evaluators

Evaluators observe the action and keep a log of all significant events. This is important because so many of the actions will not be pre-scripted, but rather spontaneous responses to other actions. Evaluators may videotape exercise action.

1.13.13 Safety Officer

There are so many potential safety issues in a full-scale exercise that a safety officer should be designated. This person's primary responsibility is to analyze the entire exercise from a safety perspective and determine the need for specialized resources.

1.13.14 Action

Actions in a full-scale exercise occur in the EOC, at one or more field sites, and at the related command posts. Actions taking place at the event site and command posts serve as input to the simulation taking place at the EOC.

Although medical personnel, hospitals, EMS, fire services, and other localized emergency operations do not usually require centralized command from the EOC, they do require coordination with officials at the command posts.

1.13.15 Sustaining Action

Action is sustained by various means, including:

- Pre-scripted messages input by the controller(s).
- Messages and actions from the field that require action at the EOC.
- Spontaneous responses to the various messages and actions.

1.13.16 Command Post Messages

A field command post can be used as part of the message input into the EOC. Either the command post can be written into the scenario and have a set of pre-scripted messages to be transmitted by radio, or the command post controller can monitor the sequence of events and transmit spontaneous messages.

1.14 Metrics

Emergency Preparedness and Response activities will be measured as follows:

- EH&S will provide the number of emergency activations.
- Competency Management Data, by competency category (i.e., Emergency Manager, Incident Commander and Operations Chief) and percentage of employees that have completed the required training.

1.14.1 Frequency

Emergency Preparedness and Response metrics are reported on an annual basis.

1.15 Accountabilities

1.15.1 Offices

- Ensure Emergency Preparedness and Response Practices, including assigned accountabilities, are developed and implemented.
- Review and maintain previously established Emergency Preparedness and Response Practices.

- Ensure Emergency Preparedness and Response Practices are applied systematically.
- Establish Emergency Preparedness and Response training programs where necessary and ensure that staff is trained and competent.
- Educate service providers/contractors on the Emergency Preparedness and Response practices and procedures.
- Identify Emergency Preparedness and Response opportunities.

1.15.2 Corporate EH&S

- Develop and maintain the Emergency Response Plan.
- Incorporate improvements identified in risk assessments, hazard assessments, incident investigations, corporate audits, divisional audits, and change management reviews.
- Provide continuing education modules for the Operational Areas on Emergency Response.
- Develop Tabletop drills and exercises to be utilized by the Operational Areas.
- Provide support to the Operational Areas and positive reinforcement to achieve Emergency Preparedness and Response goals and objectives.
- Assist Operational Areas in providing Emergency Preparedness and Response metrics.

1.15.3 EH&S

- Ensure Maintenance of Emergency Operations Center.
- Maintain EOC training records.
- Maintain and manage the Emergency Response Plan
- Maintain the Emergency Response webpage.
- Review Emergency Response webpage regularly to ensure all links are active.
- Assist Operational Areas in the development of Site-Specific ER Plans and/or Contingency Plans.
- Maintain all associated ERP documents.
- Assist Operational Areas in the development of tabletop drills/full-scale drills.
- Evaluate tabletop drills.
- Develop After Action Reports.
- Track tabletop drills for field offices.
- Enter action items into IMS.
- Assist in development of ERP/ICS training modules.

- Assist in development of ER process.
- Assist in the development of ER Implementation plan.
- Assist in development of ER competency plan.
- Assist in development of ER communication plan.

1.16 Program Improvement (NFPA 1600:2013, Chapter 8)

1.16.1 Program Reviews

The entity shall improve effectiveness of the program through management review of the policies, performance objectives, evaluation of program implementation, and changes resulting from preventative and corrective action.

Reviews shall be conducted on a regularly scheduled basis, and when the situation changes to challenge the effectiveness of the existing program. Reviews shall be conducted based on post-incident analyses, lessons learned, and operational performance. The entity shall maintain records of its reviews and evaluations, in accordance with records management practices. Documentation, records, and reports shall be provided to management for review and follow-up.

1.16.2 Management of Change

The program shall be re-evaluated when any of the following occur (when impacting Emergency Response, this Plan, or its implementation):

- Regulatory changes
- Changes in hazards or potential impacts
- Resource availability or capability changes
- Organizational changes
- Funding Changes
- Infrastructure, economic, and geopolitical changes
- Changes in products or services
- Operational changes

1.17 Delegation of Responsibilities

To ensure rapid response to any emergency, each Department Lead shall establish a process for Delegation of Responsibilities when an individual with assigned responsibilities within the Incident Command System is incapable of fulfilling their assigned role for any reason (i.e., sick leave, bereavement, vacation, etc.). The person delegated responsibility shall receive training on the Emergency Response Plan and the Incident Command system as well as any other regulatory driven training commensurate with his responsibility in an emergency response.

Any delegation of responsibility shall terminate as soon as the primary designee is able to resume his/her responsibilities.

1.18 Document Control and Recordkeeping Requirements

Safety, Health, and Security is responsible for maintaining control of the Emergency Response Plan and maintaining records associated with changes to the Emergency Response Plan.

1.19 Crestone ERP Training Elements

The training requirements for those individuals that may respond and/or participate in an emergency response are as follows:

Incident Management Team *(Field-based personnel)*
Incident Commanders (See Emergency Notification Charts), Operations, Planning, and Logistics Chiefs.

Advanced ICS (4-hours)

HAZWOPER Training per OSHA 29 CFR 1910.120 (q)(v)(6) (24-hours)

Field Technicians/Pumpers who serve as ***First Responders*** may be called upon to take offensive maneuvers to stop a gas or liquid hazardous material release.

Basic ICS (2.5-hours)

Hazardous Materials Technician per 29 CFR 1910.120(q)(iii) (24-hours)

EH&S Field Staff
Basic ICS (2.5-hour

HAZWOPER (40-hours)

HAZWOPER Supervisory (8-hours)

An 8-hours refresher course is required annually for all field personnel who have completed the 24–40-hour OSHA required training.

Staff Personnel who may be involved in an emergency response with no chance of chemical exposure and will only play a minimal roll shall attend at a minimum:

Basic ICS (2.5-hours)

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CRESTONE PEAK MUST REVIEW

EMERGENCY NOTIFICATION CHARTS

And Other Published Telephone Lists

MONTHLY

Notification and Activation Process

Report comes from another source or employee on-site:

First Responder is to notify Incident Commander

Level 1 –
As Soon As Possible

Level 2 or 3 –
IMMEDIATELY

Typical Notification Process

Report comes directly from 24 Hr Emergency Number 1-303-659-7740

Crestone local Incident Commander (IC) notified
(Reception / Answering Service will initiate call-down. The first person contacted establishes the Incident Commander position, until delegated)

Notify/dispatch Operator to Investigate
- Sr. Operator Or Representative establishes the First Responder position
- Two operators (buddy system) required when 10 ppm H_2S in atmosphere

First Responder determines "Does the incident involve a Crestone facility?"

YES

Incident Commander and First Responder will assess the incident.

Is it an Emergency?

NO

Incident Commander
- Contact individual who reported the incident to advise outcome

First Responder
- Initiate standard operating/ maintenance procedures

YES

Determine Level of Emergency
Level 1, Level 2, or Level 3

NO

Incident Commander
- Contact Operating Company
- Contact individual who reported the incident to advise outcome

First Responder
- Provide assistance, if possible, until relieved by Operating Company.
- Maintain contact with operating company and Incident Commander until relieved of duties.

Identify Scope/Area affected (exposure zone) and:
- **Activate ERP, notify support personnel (field and Region), emergency services, initiate regulatory notifications.**
- **First Responder establishes Command Post (CP) and initiates response actions.**
- **Incident Commander notifies authorities and contacts Crestone's Emergency Manager.**
- **Incident Commander contacts persons who reported incident to advise them of outcome.**
- **RECORD YOUR ACTIONS!**

Classifying Incidents

Field operations and the first responder to an incident or event typically have the responsibility for initially declaring an Alert (non-ERP related) or an incident assessed at an Emergency Level of Level 1, 2, or 3, which requires the activation of the Emergency Response Plan (ERP.)

The Incident Commander normally announces the emergency at the level first declared by the Initial Responder (or on-call operator investigating). However, the Emergency Manager or the Incident Commander has the authority to increase an Alert to an Emergency Level 1, 2, or 3 once the facts have been assessed.

It is the responsibility of the Initial Responder in conjunction with the Incident Commander to determine the seriousness of the incident. General guidance to help determine the Alert or Emergency Level is provided on the following page.

If in doubt about which emergency level is appropriate, implement the higher level of response.

IMPORTANT:

⇒ **If there is any doubt as to whether a certain condition warrants an "EMERGENCY" as defined herein, at a minimum—make the IMMEDIATE Notification to Crestone Corporation Personnel and DISPATCH any resources deemed possibly necessary for the event/incident.**

⇒ **All affected persons having authority or jurisdiction, and media (if involved) must be kept informed of the status of the Event/Incident.**

Level 1 Emergency

Definition / Criteria	Examples *(may not reflect area-specific risks or threats)*
Onsite incidents where control of the hazard has been obtained, but the potential exists for the imminent loss of control due to deteriorating conditions.	
• Immediate control of the hazard has been established using available resources, however, conditions are not improving and/or resources are being depleted. • Injuries to onsite personnel that are of a moderate impact. • Public safety is not threatened, however there is, or may be, a public perception of moderate risk to human health or the environment. • Environmental impacts are confined to the site and have limited potential to impact offsite. • All control and relief systems are functioning normally.	• Any controlled situation, outside of normal operation conditions, where the ability to maintain control using onsite resources is in question or offsite resources are required to maintain control such as a fire or explosion where imminent control of the fire is probable. • Injuries to personnel requiring offsite medical attention. • Spills and releases that are contained onsite but have the potential to extend offsite. • Any incident requiring the advisory notification of the public of a non-routine, onsite occurrence. • Weather conditions (i.e., tornado) which may threaten personnel and operations. • Potential social / political unrest, labor disputes

Level 2 Emergency

Definition / Criteria	Examples *(may not reflect area-specific risks or threats)*
An incident where control of the hazard has been lost but where imminent and/or intermittent control of the hazard is possible.	
• Control of the hazard has been lost, however, through the application of available resources intermittent control is being obtained or hazard control is imminent. • Injuries to onsite personnel that are of a major impact. • Public safety is not threatened, however, there is or may be a public perception of significant risk to human health or the environment • Environmental effects extend offsite and are resulting in minor or short-term detrimental impacts. • Some control and relief systems are not operational.	• Any uncontrolled hazard where the ability to regain control using available resources is imminent or intermittent control is being achieved using available resources such as pipeline integrity failure. • Injuries to personnel which have or are likely to result in a lost time (beyond the day of the occurrence) injury or short term health impact. • Spills or releases that extend offsite and are, or will, result in minor or short-term detrimental impacts. • Any incident requiring the notification of the public of a potential or imminent threat to human health or the environment, such as or pipeline rupture. • Some control and/or relief systems are not operational. • Imminent security threats, social / political unrest, and labor disputes. • Severe weather threats which threatens personnel and/or operations. • Overdue vehicle or aircraft.

Level 3 Emergency

Definition / Criteria	Examples *(may not reflect area-specific risks or threats)*
An incident where control of the hazard has been lost, imminent control is not possible and public safety is, or has the potential, to be threatened.	
• Control of the hazard has been lost and regaining control is not imminently possible. • Onsite personnel have sustained injuries with a serious impact. • Public safety is being, or has the imminent potential to be, jeopardized. • Environmental impacts are significant, extend offsite and have the potential to result in long-term environmental degradation. • Key control and relief functions have failed and are not operating correctly.	• Any situation where control of a hazard has been lost and regaining control is not imminently possible such as loss of well control or failure of essential well control equipment. • Injuries to personnel which have or are likely to result in permanent disability, long term health impacts or death • Any incident that has necessitated the evacuation or sheltering of public such as or a catastrophic facility fire or loss of process control. • Spills or releases that have extended off site and are, or likely to, result in significant and substantial detrimental impact to the environment. • Key control and relief systems are not operational. • Act of terrorism, violence, social/political unrest. • Severe weather impacting personnel and/or operations. • Overdue vehicle or aircraft, missing person

Incident Reporting Matrix

Incident Type/Description Begin reading down this column until you find the descriptions that match your incident. Then read across the page to find the various types of reports you need to make. Contact your EH&S Representative for support. Incident levels correspond with Emergency Response notification requirements. Incident categorization corresponds with Crestone's Risk Matrix.	**Oral Report Phone to Supervisor same day as incident (4)**	**Drug & Alcohol Testing (5) (8)**	**Phone NRC (3) (800) 424-8802 Immediate/ Verbal**	**Initial Incident Investigation Report**	**DOT Pipeline (7) Call NRC at (800) 424-8802 Immediate/ Verbal**	**Federal, State or Local Reporting Written/ Verbal**	**OSHA Phone Report Within 8 hrs Call OSHA Federal**	**Human Resources Notification (If Crestone employee)**	**Tap Root Required (* High Potential)**
CRITICAL Incidents (Level 3)									
Fatality, 1 or more hospitalized (employee or contractor)	X	X		X	X		X	X	X
Property/environmental loss, significant fire/explosion (potentially exceeding $500,000)	X	X	As Needed (3)	X	X	As Needed (3)			X
Spills/releases impacting water or exceeding 500 bbls oil or 2,500 bbls produced water	X	X	As Needed	X	As Needed (7)	X			X
Loss of production (equipment, property or process loss) potentially exceeding $500,000 (1)	X	X	As Needed (3)	X	X	As Needed (3)			X
Significant media event/government agency response/public nuisance (2)	X	X		X	As Needed (7)				X
Near Hit for any critical item above	X	X		X					X
Vehicle crashes resulting in lost time or fatality (10)	X	X		X		As Needed	As Needed		X
Pipeline Incident (7)	X	X		X	X		As Needed		X
SERIOUS Incidents (Level 2)									
Lost time incident (LTI) including employees and contractors	X	X		X	As Needed (7)			X	X
Property/environmental loss ($25,000-$500,000)	X	X	As Needed	X	As Needed (7)				X
Spills/releases equal to or exceeding reportable quantities	X	X	As Needed	X	As Needed (7)	X			X
Citation/Notice of Violation which could exceed $25,000	X	X		X					X
Media event/public nuisance (2)	X	X		X	As Needed (7)	As Needed			X
Vehicle crashes involving third party resulting in injury (10)	X	X		X		As Needed			X
Near Hit or upset condition reporting for any serious item	X	X		X					X
Pipeline Incident (7)	X	X		X	X		As Needed		X
MODERATE Incidents (Level 1)									
Restricted work case or medical aid case, employee or contractor	X	X		X	As Needed (7)	CO - Form 22		X	X
Vehicle incident involving employee or third party	X	As Needed		X		As Needed			
Property/environmental loss (10)	X	As Needed	As Needed	X					
Spills/releases less than reportable quantities	X	As Needed	As Needed	X		As Needed			
Near Hit or upset condition reporting for any moderate item	X	As Needed		X					
MINOR/OTHER Incidents									
First aid case, employee or contractor	X	As Needed		x				X	
Off-the-job resulting in lost work days (9)	X								

Note: TapRoots can be requested and performed based on Management decision.

(1) "Production losses" – losses or incidents that do not involve environment, health or safety issues, i.e. loss of well due to rig or support equipment failure, loss of production due to civil unrest or weather.
(2) "Significant Media Event" – Any time the media responds, make oral report to determine if future reporting is needed. "Media Event" – Any time media may respond to a public sensitive area, make preparatory notification to Community Relations Dept.
(3) Call NRC (National Response Center) if there is any possible impact to water.
(4) Refer to area Emergency Notification Chart.
(5) Post incident alcohol & drug testing is required whenever a supervisor or EH&S determines that the behavior of a worker(s) whose actions cannot be discounted to or potentially contributing to the chain of acts or omissions leading up to the event. Alcohol & drug testing will be done for incidents involving vehicles when a third party is involved. DOT drug testing for spills resulting in fire or 50 bbls or more of a flammable liquid or medical treatment or greater injury, or property loss exceeding $500,000, or an event that is significant in the judgment of the supervisor or EH&S Representative.
(6) HR should be notified of all employee incidents so they can follow through with any worker's compensation requirements or needs.
(7) DOT Pipeline – Report Levels 1, 2, & 3 pipeline and facility incidents to State and Federal pipeline authorities as required. Refer to "Gas Pipeline and Facilities Operation & maintenance Manual" or "Liquid Pipelines and Facilities maintenance manual" for State and Federal incident reporting criteria.
(8) Notify Human Resources if drug & alcohol testing (besides random testing) is done on a Crestone employee.
(9) Off-the-job injured individual must have a release to work completed prior to returning to work.

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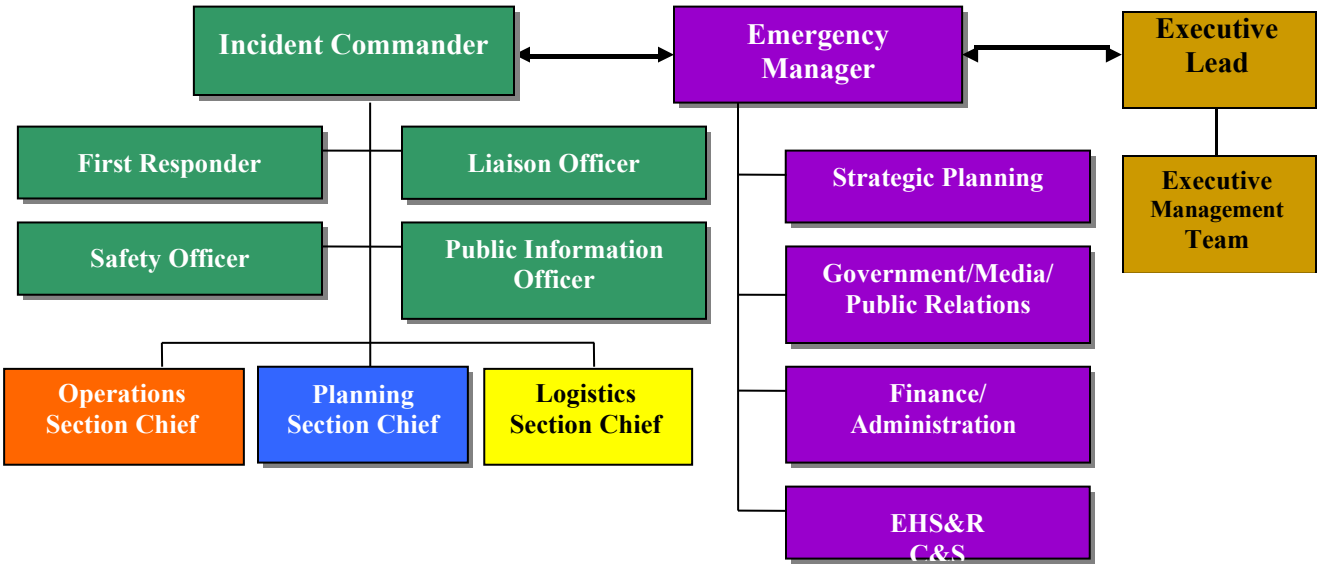
3.0 Incident Command System

Crestone's Incident Command System (ICS) is a standardized on-scene incident management concept designed specifically to allow responders to adopt an integrated organizational structure equal to the complexity and demands of any single incident or multiple incidents without being hindered by operational boundaries.

An ICS enables integrated communication and planning by establishing a manageable span of control. ICS divides an emergency response into manageable functions essential for emergency response operations.

Figure 1
Crestone Incident Command Structure



3.1 Incident Management Organization

Crestone's ICS organization is comprised of four functional elements: command, operations, planning, and logistics. Branches, groups/divisions, and units support these four functional sections. In addition, the Emergency Management Team (EMT) may also be activated in the event of an emergency, where, the Finance/Administration team will be located.

The field level response team will consist of the **Command Staff**, which includes the Incident Commander, Safety Officer, Liaison Officer, and Information Officer. The **General Staff** consists of three Section Chiefs: (1) Operations, (2) Planning, and (3) Logistics. This team is responsible for incident control and containment, public safety, and environmental monitoring.

The Incident Commander develops Incident Action Plans (IAP) and directs the Emergency Response Team (ERT.) The Incident Commander obtains support as necessary from the EMT, mutual aid partners, and assisting agencies. The Emergency Management Team (EMT) will report to the designated Emergency Operations Center (EOC) for Communications with the Incident Commander and his/her staff. The EMT provides support and advice to the Incident Command Staff and directly supports the Incident Commander, and even helps develop Incident Action Plans.

The Emergency Manager (EM) and the EMT in the Emergency Operations Center (EOC) consists of leadership in the following departments: Strategic Planning Section, Government/Media/Public Relations, Finance/Administration, and EHS&RC&S Teams. The Emergency Manager is responsible to notify and update the Executive Lead.

The Executive Lead (Operational Area Vice President) is empowered to redirect needed resources to the incident, and ensure appropriate support is available to the EMT. The Executive Lead has an Executive Management Team consisting of a Security Advisor, Business Interruption Support, and Media Support. These Executive Team Members provide long-term support; assess the incident events in relation to impacts on Crestone Corporation's image, reputation, assets, and investor relations.

Executive Leadership is not typically involved in decision processes related to the immediate control and containment issues, but may be involved in a support role as public issues arise. Table 3.1 provides and overview of key locales and positions associated with the Incident Command System. Table 3.2 provides and overview of key Incident Command Support Members.

3.2 Relationship to Other Response Management Systems

Crestone has the primary responsibility to invoke its response (contingency) plan and deploy private resources to respond to an incident. As we know from experience, incidents may require the need for outside emergency assistance and from time to time governmental agencies may visit the site of an incident for updates or to monitor progress of the response, establish protection priorities for the general public, and to augment the response efforts with government staff and resources, if required

As such, Crestone's Emergency Response Plan, through the application of the ICS, is structured in a manner to ensure effective integration of governmental responders in the event that government or regulatory agencies and resources become involve in an incident response. As well, the structure and ICS protocols assist to ensure company interests will be fully addressed at both the strategic and tactical levels of response. The Plan is also consistent with the United States National Incident Management System (NIMS) that is based on the ICS.

Table 3.1 - Key Locations	
Incident Command Post (ICP)	Pre-designated temporary facilities and signifies the physical location of the tactical-level, on-scene incident command and management organization. It typically comprises the Incident Commander and immediate staff and may include other designated incident management officials and responders from Federal, State, local, and tribal agencies, as well as private-sector, nongovernmental, and volunteer organizations. Typically, the Incident Command Post (ICP) is located at or in the immediate vicinity of the incident site and is the focus for the conduct of direct, on-scene control of tactical operations. Incident planning is also conducted at the ICP; an incident communications center also would normally be established at this location. The ICP may be collocated with the incident base, if the communications requirements can be met. The ICP may perform local Emergency Operations Center-like functions in the context of smaller jurisdictions or less complex incident scenarios. It is commonly marked with a green emergency light, so as to be distinguished from a distance.
Emergency Operations Center (EOC)	An Emergency Operations Center (EOC) is the physical location where an organization comes together during an emergency to coordinate response and recovery actions and resources. These centers may alternatively be called command centers, situation rooms, war rooms, crisis management centers, or other similar terms. Regardless of the term, this is where the coordination of information and resources takes place. The EOC is not an incident command post; rather, it is the operations center where coordination and management decisions are facilitated.
First Responder	The **First Responder** is responsible for initiating and coordinating all initial emergency response activities on site. He/She holds the primary responsibility for evaluating the risks to on-site personnel with respect to the purpose and potential results of response actions in each situation.
Incident Commander	**The Incident Commander is responsible for the overall coordination and direction of all response activities at the local level.** This includes overall responsibility for the safety and health of all personnel and for other persons operating within the incident command system at the local level.

Table 3.2 - Key Personnel Positions	
Incident Commander (Continue)	For small emergencies, the Incident Commander may perform more than one role. Directing the activities of each of the Key Implementers, the Incident Commander may establish the local Incident Command Center. All communications must flow into and out of the Incident Commander's position to ensure that accurate and timely information is received and disseminated and that an orderly, efficient response is mounted.
Safety Officer	Ensures the safety of all on-site incident responders and is to develop and recommend measures for assuring personnel safety, and to monitor and/or anticipate hazardous and unsafe situations. Only one Safety Officer will be assigned for each incident and works as a support officer for the IC. The SO may have assistants, as necessary. This position reports to the Incident Commander.
Liaison Officer	Contact for agency representatives and mutual aid agencies. Assists the Incident Commander by making the phone calls of notifications to all personnel and agencies (as necessary) that are identified in this plan as directed by the Incident Commander**.** This position reports to the Incident Commander.
Public Information Officer or Public / Media Relations Advisor	Act as initial Company Spokesperson (using Preliminary Media Statement). The Advisor will activate Communications Plan for ongoing media support. Responsible for dissemination of the information about the incident to the news media, to incident personnel, and to other appropriate agencies and organizations. This position reports, initially, to the Incident Commander, but may eventually turn over responsible to the Emergency Management Team (EMT.)
Emergency Manager	The Emergency Manager is the primary management contact for the Incident Commander and is responsible for evaluating risks, potential impacts and consequences at the local and corporate level. The Emergency Manager leads the EMT which consists of Strategic Planning, EHS&RC&S and Finance/Admin members, and makes notification to the Executive Lead.
Executive Lead	The Executive Lead is the executive management contact for the Emergency Manager and is responsible for evaluating risks, potential impacts and consequences at the corporate level, addressing key business issues and strategic implications.

Table 3.2 - Key Personnel Positions	
Executive Lead (Continued)	The Executive Lead provides ongoing advice and support to the Emergency Manager, and will be in contact with Executive Team members.
Operations Section	The Operations Section is responsible for tactical incident operations and implementation of the Incident Action Plan. This position supports and reports to the Incident Commander.
Planning Section	The Planning Section Chief is responsible for assessing the overall impact of the emergency, providing technical support, and developing the Incident Action Plan (IAP). The Chief of this Section reports to the Incident Commander but works with the EMT to develop the IAP. This position supports the Incident Commander.
Logistics Section	The Logistics Section Chief is responsible for providing support resources to incident responders, such as personnel, supplies / equipment, food. This position supports the Incident Commander.
Finance/ Administration Section	The Lead of this Section is responsible for tracking incident costs and reimbursement accounting. The Lead of this Section reports to the Emergency Manager. A Chief may be appointed at the local level. This position supports the Incident Commander.
Documentation Unit	Individual charged with overall documentation support to the Incident Command Team members, collecting time and event documentation and maintaining a chronological event summary of the incident. This position reports to the Planning Section Chief.
Staging Area Manager	Supervises pre-deployment area for personnel and equipment. This position reports to the Operation Section Chief.
Leaders	Leaders may provide tactical and planning and logistical support including, but not limited to: • HAZMAT (Control & Recovery); • Decontamination, • Response, • Recovery, • Situation, • Resources,

Table 3.2 - Key Personnel Positions	
Leaders (Continued)	• Medical, and • Rescue. Leaders will take direction from and report to their appropriate Section Chief.
Other EOC Support Staff	Leaders or other company representatives may be notified or called to assist in an emergency response, taking direction from and reporting to the Emergency Manager. These individuals will participate in the risk assessment, the development of the IAP, or provide support for incident responders. Additional participants may include but are not limited to representatives from: • Drilling and Completions, • Construction and Production, • Land, • Human Resources, • Legal, • EHS&RC, • Security, and • Information Services.

3.3 Accountability

Effective accountability during incident operations is required at all levels within functional areas. All individuals must abide by Crestone policies and guidelines and any applicable local, state, or Federal rules and regulations. In addition, the following will be adhered to:

- **Check-In** - All responders, regardless of agency or contractor affiliation, must report in to receive an assignment in accordance with the procedures established by the Incident Commander.
- **Incident Action Plan** - Response operations must be directed and coordinated as outlined in the IAP.
- **Unity of Command** - Each individual involved in incident operations will be assigned to only one supervisor.
- **Transfer of Command** - The Transfer of Command process will always include a briefing, which may be oral, written, or a combination of both.
- **Span of Control** - Supervisors must be able to adequately supervise and control their team members, as well communicate with and manage all resources under them.

supervision. A staff / supervisory ratio of 5:1 has been established as optimum, but not to exceed a 7:1 ratio.

- **Resource Tracking** - Supervisors must record and report resource status changes as they occur, including:
  - Resources Required
  - Resources Ordered
  - Estimated Time of Arrival (ETA)
  - Resources On-Scene
  - Resource Location / Assignment

Within the Incident Command Structure, a Section Chief works within a team coordinating their activities with other supervisory personnel at the same level, while providing direction to assigned staff within their span of control. Section Chiefs are responsible for accomplishment of assigned duties, including responsibility for the safety and health of the support personnel reporting to them, and:

- Are expected to work toward assigned objectives within the overall strategy defined by the checklists provided in the Quick Reference Guide and which are supplemented by an IAP. They are, on a regular basis, to report progress or lack of progress, in accomplishing their duties and any deviation from the established Incident Action Plan, to their direct report.
- Should maintain a constant awareness of the position and function of all personnel assigned to operate under their supervision. This awareness is the basic means of accountability that is required to ensure operational / response safety.
- Should be alert to recognize conditions and actions that create a hazard within their span of control. Key Implementers have the authority and responsibility to take immediate action to correct imminent hazards and to advise their staff regarding these actions.

Personnel at each level of the command structure will receive direction from and are required to provide regular status reports to their immediate supervisor. It is recommended that the Incident Status Update Form be used as a format. A whiteboard or equivalent should also be used during response activities to provide a snapshot of current incident status to personnel.

3.4 Incident / Risk Assessment and Incident Action Planning

During initial and ongoing response, all appointed Incident Command supervisory personnel, specifically the First Responder, Incident Commander, and Emergency Manager, should continually evaluate the risk to personnel, public, and the environment with respect to the purpose and potential results of their actions in each situation.

The nature of the hazard(s) will influence the responses that are implemented by the First Responder and the Incident Commander.

Crestone manages risks associated with incident response actions based on the following principles:

- **Activities that present an extreme risk to workers, responders and public must be limited to only situations where there is a potential to protect endangered lives. Life safety is the number one priority in every incident; this includes the safety of responders.**
- **Where there is no possibility to protect lives, personnel should not attempt extreme-risk operations.**
- **Activities to protect the environment or property are recognized as inherent risks to the safety of response personnel and actions should be taken to reduce or avoid these risks.**
- **Responders will follow company safety and environment policies, standard operating procedures, and safe work procedures.**

All levels of risk require the appropriate risk transfer, reduction or elimination as well as appropriate actions and approvals within the Incident Command Team. In situations where the risk to personnel is extreme, activities will be limited to defensive and protective actions.

The factors to determine appropriate response actions are:

- Defining the problem,
- Clarifying any modifying conditions,
- Evaluating the risk to people, environment, financial and company reputation,
- Clarifying available resources for control measures,
- Defining critical issues,
- Prioritizing critical issues, and
- Implementing corrective or preventative strategies.

Table 3.3: Incident Assessment Considerations is a guide to assist in identifying these critical factors for the specific incident. On the basis of the initial incident assessment, the Incident Commander and First Responder can identify the emergency level and implement the appropriate response actions. The nature of a hazard(s) will influence the responses that are implemented.

Table 3.3 - Incident Assessment Considerations	
Clarify Problem	**Consider**
Quantity and nature of material(s) involved	Explosive gases (flammable, poisonous), flammable liquids, flammable solids, toxic substance, poisonous/infectious substances, radioactive materials, corrosives, other dangerous goods - quantity spilled, release rate.
Type, condition and behavior of container or storage facility	Well, pipeline, storage tank, truck, drum in danger of failure from: heat, fire, damaged has failed – i.e., leak, rupture, well-control issue.
Stable or unstable	Potential for escalation of the incident.
Modifying Conditions	**Consider**
Location	Remote, populated, limited access, difficult terrain, land spill, spill into water course.
Time	Time of day, response time, speed of product movement downwind / downstream, Gov. holiday, fatigue of responders.
Weather Conditions	Temperature, wind direction, wind speed, kind of precipitation, weather forecast.
Potential Risk	**Consider**
People	Injury or fatality to workers or responders; public safety, residents, contamination of drinking water.
Environment	Navigable water, lake / stream / river, fish / wildlife / habitat / protected area, soil / groundwater contamination, air quality.
Assets	Loss or damage to production or equipment.
Financial Exposure	Impact to project budget.
Reputational Exposure	Media, community, local residents, government, activists.
Control Measures	**Consider Internal Resources**
Personnel	Amount, location, response time, training, competence, fatigue / stress.
Equipment	Personal protection equipment, communication equipment, containment equipment, recovery and transfer equipment and back-up equipment. Automatic or emergency shut-downs.
Control Agents	Firefighting, dispersants, neutralizing agents.
Support (local/corporate)	Notification of Emergency Manager to engage support of Communications, Community / Government Affairs, EHS&RC, etc.

Table 3.3 - Incident Assessment Considerations	
Control Measures	**Consider External Resources**
First Response Agencies	Medical aid and treatment, firefighters, police, utilities, power, gas, highway authorities, emergency management agencies.
Other supporting emergency responders	Mutual aid partners.
Contractors	Amount, location, response time, equipment, training, competence, communications.
Media	As a communications aid for public safety or information.
Product Information	Dangerous Goods incident (i.e.: SDS information, agencies such as CHEMTREC).
Government Agencies	Oil & gas regulator(s), environmental agency, occupational safety legislator, etc.

For example, the following characteristics about the hazard should be considered:

- Quantity and type of product involved,
- Type of container involved (i.e. pipeline or vessel),
- Operating conditions of the well, pipeline or vessel at the time of the failure,
- Potential for the situation to escalate,
- Location of the incident, the time of day and the weather conditions,
- Actual and potential impact to workers, the public and the environment,
- Number of responders and their training,
- Availability of response equipment, and
- Availability of external support (i.e. ambulances, police, fire fighters and mutual aid).

3.5 Incident Action Plans

Incident objectives and strategies are essential prerequisites to any written or oral IAP and should be established expeditiously. The Incident Commander and Planning Chief (if assigned), are responsible for the development of strategic response objectives, as summarized in Table 3.4, that clearly define what the Incident Command Team is working to achieve during response operations. Based upon the information presented at the initial incident planning meeting and analysis of incident potential and impacts, the Incident Commander and Key Implementers should have a clear understanding of the major problems that need to be addressed.

From this point, an Incident Action Plan (IAP) is to be developed which provides all supervisory personnel with appropriate direction for future actions. IAPs provide a coherent means of communicating the overall incident objectives in the context of both operational and support activities.

The checklists for each role in the Quick Reference Guide function as the ***initial*** **Incident Action Plan**. The development of ongoing strategic IAPs will be coordinated by the Incident Commander or delegated to the Planning Chief, if appointed. At the simplest level, IAPs have four elements:

1) What do we want to do?
2) Who is responsible for doing it?
3) How do we communicate with each other?
4) What is the procedure if someone is injured?

The IAP will undergo continuous updating and refinement as more information is clarified and provided and the incident objectives change. The Incident Commander should ensure that any change in the IAP is communicated to all affected response team members.

Table 3.4 - Response Objectives and Example Strategies

Ensure the Safety of Public and Response Personnel	• Identify hazard(s) of spilled or released material • Establish site control (hot zone, warm zone, cold zone, and security) • Consider evacuations, as required • Establish vessel or aircraft restrictions, as required • Monitor air in impacted and predicted dispersion area • Develop site safety and health plan for response personnel • Ensure safety briefings are conducted
Control Source of Spill	• Complete emergency shutdown • Conduct firefighting, if safe to do so • Initiate temporary repairs • Transfer product • Conduct salvage operations, as required
Manage Coordinated Response Effort	• Complete or confirm notifications • Establish a unified command organization and facilities (Incident Command Center, On-Site Command Post, Emergency Operations Center, etc.) • Ensure local officials and response support are included in response organization, as required

Table 3.4 - Response Objectives and Example Strategies

Manage Coordinated Response Effort (Continued)	• Initiate response Incident Action Plan (IAP) • Evaluate planned response objectives vs. actual response (post-incident debriefing)
Maximize Protection of Environmentally Sensitive Areas	• Implement pre-designated response strategies • Identify resources at risk in spill vicinity • Track oil movement and develop spill trajectories • Conduct visual assessments (e.g. over-flights) • Development and implement appropriate protection plans
Contain and Recover Spilled Material	• Deploy oil containment boom at the spill source • Deploy containment boom at appropriate collection areas • Conduct open-water skimming with vessels • Evaluate time-sensitive response technologies (e.g. dispersants, in-situ burning) • Develop waste management plan
Remove Oil from Impacted Areas	• Conduct appropriate shoreline clean-up efforts • Clean oiled structures and equipment
Minimize Economic Impacts	• Consider tourism and local economic impacts throughout response • Protect public and private assets • Establish a damage / claims process
Keep Stake-holders informed of Response Activities (public, regulatory, municipal/local officials)	• Provide forum to obtain stakeholder input and concerns • Provide stakeholders with details of response actions • Identify stakeholder concerns and issues and address, as practical • Provide municipal and local officials and regulators details of response actions • Provide timely safety announcements • Conduct regular news briefings, managing media access to spill response area

Crestone Peak Resources EH&S Risk Matrix

Step 1: Impact Evaluation

SEVERITY

Risk Matrix Level	Severity Rating	People	Environment	Assets	Reputation	Financial & Business
Critical	10	Fatality	Severe irreversible / long-term damage	Production and equipment loss of >$10MM	Wide spread concerns with extensive adverse media coverage or action resulting in regulatory and / or legal prosecution or suspension of operations	Impact > 20% of project / team budget
	9	Long-term health impact, or permanent disability	Wide-spread impacts to sensitive environments, air, or bodies of water	One month facility / equipment damage	Prolonged operating region attention	Significant effect on company deliverables
	8	Evacuation of a facility and community, or action from landowner / activist with weapons	Severe reversible or short-term environmental damage	Terrorist attack / attempt	International or North American attention	Impact 20% - 10% of project/team budget
Serious	7	Lost time incident (LTI)	Effect within Crestone operating field / block	Production and equipment loss >$1MM	Prolonged local area attention	Minor effect on company deliverables
	6	Multiple injuries, or short-term health impact	Wide-spread impact to land / air / water	One week facility / equipment outage	Brief operating area region attention, or regulatory and / or legal action resulting in fines or punitive action	Impact 9% - 5% of project / team budget
	5	Evacuation of a facility and immediate area, or violent action from landowner / activist	Moderate environmental damage	Substantial loss form theft / vandalism	Company-wide attention	Significant effect on team deliverables
Moderate	4	Medical injury	Localized off lease or off site impacts	Production and equipment loss > $100M	Brief local area attention, or regulatory and / or legal action resulting in administrative response	Impact < 5% of project / team budget
	3	Restricted work, or evacuation of job site, or specific threat from landowner / activist	Release with immediate clean up	Major property crime	Localized concerns with no media attention	Small impact on budget
Minor	2	Minor injury, or minor illness, or first aid, or implied threat from landowner / activist	Minor environmental damage with effect contained on lease	Production and equipment loss of <$100M	Minimal impact on public, or interdepartmental attention	Noticeable effect on team deliverables
	1	No threat of injury, or no evacuation	No risk of environmental damage	Negligible production or equipment loss	No attention	No financial effect

Step 2: Probability Estimation

OCCURRENCE

Risk Matrix Level	Occurrence Rating	By Time of Occurrence
Frequent	10	More than once per day
	9	Once every w eek
	8	Once per month
	7	Once every 6 months
	6	Once every year
Likely	5	Once every 1-3 years
Unlikely	4	Once every 3-9 years
	3	Once every 10-20 years
Remote	2	Once over 20 years
	1	Once in a lifetime

Step 3: Detection Probability Estimation

Detection

Level	Detection Rating	By Probability of Detection
Extremely Poor	10	< 0.03% chance of detecting failure
	9	0.03% chance of detecting failure
	8	0.30% chance of detecting failure
Poor	7	5% chance of detecting failure
	6	32% chance of detecting failure
Fair	5	50% chance of detecting failure
	4	69% chance of detecting failure
	3	95% chance of detecting failure
Excellent	2	99.1% chance of detecting failure
	1	99.7% chance of detecting failure

Step 4: Risk Level

Extreme – Stop activities. Work cannot proceed until risk is reduced to a lower level.

High – Extensive risk controls/mitigation measures must be implemented and BU VP approval is required to allow work to proceed. Efforts to reduce risk to a MEDIUM or LOW level should be undertaken.

Medium – Risk controls/mitigation measures must be implemented to allow work to proceed. Efforts to reduce risk to a LOW level should be undertaken.

Low – Some risk controls/mitigation measures may be justified. Represents an acceptable level of risk.

Step 5: Take Action

Ensure all risks are understood, controlled, and communicated prior to starting work.

This matrix and tables may not precisely describe all situations.

3.6 Ongoing Evaluation and Re-assessment

To ensure that appropriate actions are taken throughout the incident, additional incident assessments should be performed by the Incident Commander, First Responder and other ICS Chiefs to:

- Continuously evaluate the response actions taken,
- Conduct incident assessments,
- Define new objectives / strategies, and preparing an updated Incident Action Plan, as required.

Again, the Risk Matrix provided as Figure 1 (above) can be used as a guide to evaluate response and re-assess the incident on an on-going basis. The Incident Assessment Considerations may assist the Incident Commander and Emergency Manager in reassessing the incident and updating the overall Incident Action Plan.

3.7 Documentation/Records

For any incidents that affect company operations, documentation should be maintained to allow proper management of the incident and to ensure that a historical record of response activities is available for future reference.

All personnel involved are responsible for maintaining a record of their activities during an emergency. Forms are available to help facilitate the documentation.

As a minimum, all personnel should document their activities and outgoing and incoming contacts on a Time & Event Log and/or their Individual Log.

The Incident Commander may appoint a Documentation Lead to help maintain a written summary of the chronological events.

Important records include:

- Logs outlining communication and significant response actions and events.
- Incident Action Plans (IAPs) and status updates/briefings.
- Records or listings of personnel.
- Records related to contacts with emergency agencies, media agencies, landowners, or the public.
- Records of contacts or meetings held with government agencies, including significant decisions which were made related to the incident.
- Photographs or maps made of the emergency site.
- Incident notification and investigation reports and supporting documentation.

- Bills or invoices for services provided by contractors or outside agencies during the emergency.
- Records of air monitoring, soil or water samples taken, performed during the incident.

The Incident Commander and Emergency Manager will ensure that all incident records are completed, gathered and stored for the subsequent post-incident investigation.

Once the emergency situation has been brought under control, the Emergency Manager will ensure that response personnel are debriefed as soon as possible.

3.8 Post-Incident Procedures

The decision to remove the emergency level status and resume normal operations is made by the Incident Commander. This decision may need to have the approval of regulatory authorities. Government agencies that could be involved in the decision to resume normal activities may include the lead oil & gas regulatory agency, police, worker health and safety authorities, and environmental protection agencies.

Whenever the Emergency Response Plan has been activated this decision must be made in conjunction with the Emergency Manager.

The locally based post-incident procedures are carried out under the instruction and direction of the Incident Commander and Emergency Manager.

3.9 Accountability

The Incident Commander is accountable for initiating and managing the following field-based post-incident activities. The Emergency Manager is responsible for conducting corporate post-incident actions including standing down the EMT assisting with ongoing regulatory, public and media communications, as required.

- Give the "all clear" signal to remove the emergency status – consultation between Incident Commander, First Responder, Emergency Manager and involved regulatory authorities.
- Coordinating the deactivation of all emergency response operations.
- Establishing goals and objectives and delegating responsibility for the completion of post-incident and recovery tasks.
- Ensuring an incident investigation including an evaluation of response action is conducted.

3.10 De-Escalation of Incident

- Ensure that all response team members and on-site personnel, including contract personnel and emergency services are notified about the emergency de-escalation.
- Ensure that all contacts made during the response are notified about the emergency de-escalation.
- Advise all response team members to document their call-down notifications.
- Prepare and release a statement to the media as required.
- Conduct a debriefing meeting and arrange for critical incident stress counselling as necessary for the response team members through **Health & Wellness, Employee Assistance Program (EAP)**. Occasionally, some people are so seriously affected by the trauma of an incident that they cannot return to a normal work routine. They would probably display symptoms of such trauma during debriefing sessions by being highly agitated, or relating problems of stress, lack of sleep, or emotional upset. These people should be referred to medical professionals for treatment and may require extended counseling to return to normalcy.
- Notify and conduct debriefing meetings with joint interest and/or other stakeholders such as insurance company representatives as required.
- If the incident has affected many residents or has caused significant damage to private property or the environment, Community Relations personnel may be required to develop a post-incident action plan to address issues in the affected community.

3.11 Demobilization

- Until the police, regulatory officials and company representatives can complete an investigation, responders should not disturb the incident site, if possible, when there has been a fatality or a serious injury.
- Ensure that the key response positions of First Responder and Site Safety Lead continue throughout the cleanup and repair phase.
- Ensure that the correct procedures are developed and implemented for the decontamination of equipment.
- Ensure that all hazardous waste is disposed of according to applicable regulations. Contact Crestone EHS&RC personnel for additional guidance.
- Ensure that priority is given to clearing debris and restoring the site to normal operating conditions after the government and company investigations are complete.
- Demobilize and ensure that all safety equipment is cleaned, inspected and inventoried before it is returned to its normal storage location.
- Demobilize all roadblocks, staging and detour equipment.

- Ensure that all cleanup and repair actions follow Crestone EHS&RC policies and safe-work procedures.
- Demobilize response centers, ensuring to gather all records (hard copy, electronic, whiteboard).
- Ensure that pages, forms and checklists from all Emergency Response Manuals are replaced
- Return the response centers to pre-incident ready condition.

3.12 Preparing for Follow-Up Investigations

- Collect and compile all statements, Time and Event Logs, forms and documentation for the incident including all electronic records.
- Always make copies of the originals and work from the copies only.
- Securely store all incident documentation. The protection of records is extremely important to ensure the evidence is complete and unchanged.
- Obtain all photographs and videos of the incident site and response.

  Ensure that all reports are provided to the investigative authorities as required.
- Ensure that pages and checklists from all emergency response manuals are replaced.

NOTE: All photographs (and negatives) of the incident site which have been taken at Crestone's request, whether by a professional photographer or a company employee, are considered Crestone material and are to be turned over to Crestone.

Crestone utilizes the Incident Investigation Report Form and the Time and Event Log Form to capture aspects of the incident. These Crestone forms (and others as relevant from the Emergency Response Plan) are to be collected and provided to the Safety Officer.

3.13 Investigation and Work Resumption (after-injury or fatality)

Following an incident where a serious injury or fatality has occurred, government agencies will investigate. When possible, write down the name, company, and telephone number of every person on location at the time of the incident. Their information could be valuable during the investigation.
All government investigators should be asked to present their credentials upon arrival at the accident scene and, upon verification, are to be afforded full cooperation. Answer the regulatory agency questions but do not speculate on any answers.

The Field Safety Advisor will coordinate internal investigations and follow-up written reports to any agency with the assistance of the Emergency Manager and Legal Counsel.

The Incident Commander shall ensure that all evidence is preserved in its original state. Do not allow removal of any equipment (evidence) that was on site at the time of the incident. If, due to some unusual circumstance, an item of evidence must be removed, do not allow it to be altered or destroyed and document its handling and whereabouts.

Work at the scene must not resume until permission has been obtained from the local, state and/or federal agencies. In some cases, work shall not resume until Loss Control/ Insurance (insurance adjusters) has visited the site. The Incident Commander and Safety Officer shall be responsible for obtaining that permission.

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4.0 Incident Planning Cycle

It was recognized early in the development of the Incident Command System (ICS) that the critical factor of adequate planning for incident operations was often overlooked or not given enough emphasis. This resulted in poor use of resources, inappropriate strategies and tactics, safety problems, higher incident costs, and lower effectiveness.

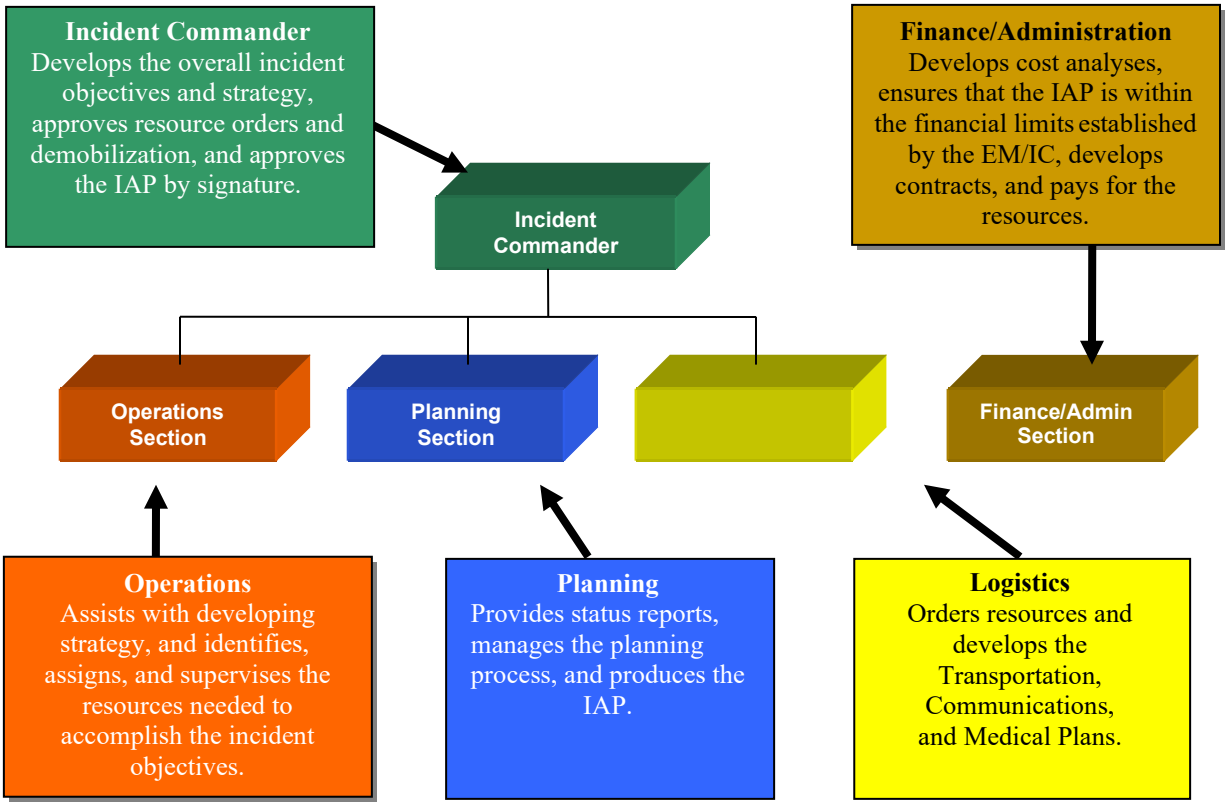
Those involved in the original ICS development felt there was a need to develop a simple but thorough process for planning which could be utilized for both smaller, short-term incidents and events, and for longer, more complex incident planning. The planning process may begin with the scheduling of a planned event, the identification of a credible threat, or the initial response to an actual or impending event. The process continues with the implementation of the formalized steps and staffing required to develop a written Incident Action Plan (IAP).

The primary phases of the planning process are essentially the same for the Incident Commander (IC) who develops the Initial Plan. It is the responsibility of the IC and Operations Section Chief (OPSC) to revise the initial plan for extended operations, and for the incident management team developing a formal IAP, each following a similar process. During the initial stages of incident management, planners must develop a simple plan to be communicated through concise verbal briefings. Frequently, this plan must be developed very quickly and with incomplete situation information. As the incident management effort evolves over time, additional lead time, staff, information systems, and technologies enable more detailed planning and cataloging of events and "lessons learned."

Planning involves:

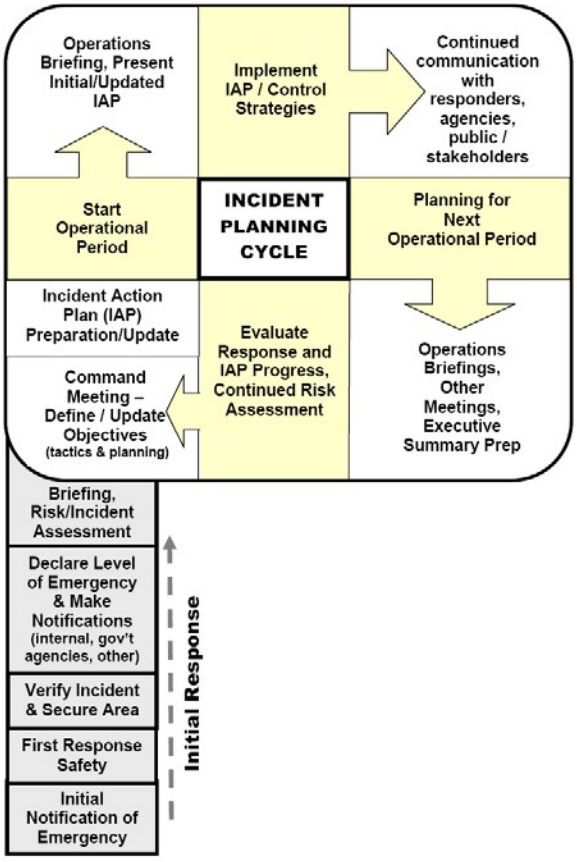
- Evaluating the situation.
- Developing incident objectives.
- Selecting a strategy.
- Deciding which resources should be used to achieve the objectives in the safest, most efficient, and cost-effective manner.

This **Organizational Chart** shows that the **IC** develops the overall incident objectives and strategy, approves resource orders, demobilization, and approves the IAP by signature.



4.1 Incident Action Plan Summary

- **Operations** will assist with developing strategy, plus identifies, assigns, and supervises the resources needed to accomplish the incident objectives.
- **Planning** provides status reports, manages the planning process, and produces the IAP.
- **Logistics** orders resources and develops the Transportation, Communications, and Medical Plans.
- **Finance/Administration** develops cost analyses, ensures that the IAP is within the financial limits established by the IC, develops contracts, and pays for the resources.



Planning "P"

ERP-201 Incident Briefing/Action Plan
ERP-209 Incident Status Update
ERP-210 Resources Summary
ERP-207 ICS Organization Chart
{These Crestone ERP Forms compiled together equal the equivalent of NIMS ICS 201 Incident Briefing Form.}

Most often used by the initial IC, used to capture vital incident information prior to the implementation of the formal planning process.

The ERP-201 allows for a concise and complete transition of command briefing to an incoming new IC. In addition, this form may serve as the full extent of incident command and control documentation if the situation is resolved by the initial response resources and organization.

Both of these forms are designed to be transferred easily to the members of the Command and General Staffs as they arrive and begin work.

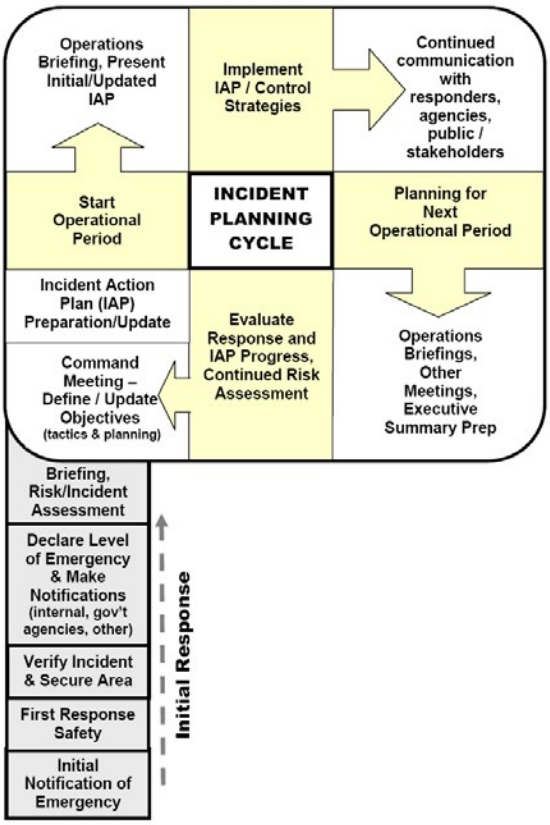
- The Planning "P" is a guide to the process and steps involved in planning for an incident. The leg of the "P" describes the Initial Response Period. Once the incident/event begins, the steps are Notifications, Initial Response & Assessment, Incident Briefing Using the ERP-202 Incident Action Plan, ERP-209 Incident Status Update, ERP-210 Resource Summary, and ERP-203 ICS Organization Chart (compiled equal the ICS 201 Incident Briefing Form)
- At the top of the leg of the "P" is the beginning of the first operational planning period cycle. In this circular sequence, the steps are Initial Incident Command (IC)/Unified Command (UC) Develop/Update Objectives Meeting, Command and General Staff Meeting, preparing for the Tactics Meeting, Tactics Meeting, preparing for the Planning Meeting, Planning Meeting, IAP Prep & Approval, and Operations Briefing.
- At this point a new operational period begins. The next step is Execute Plan & Assess Progress, after reaching the end of the first cycle, the cycle will begin again. The cycles continue until the Incident has reached closure.

4.2 Initial Information Gathering

Planning begins with a thorough size-up that provides information needed to make initial management decisions on the following Crestone forms: ERP-201/202 Incident Briefing/Action Plan and ERP-210 Resources Summary together provides the Command Staff with information about the incident situation and the resources allocated to the incident.

ERP-209 Incident Status Update serves as a permanent record of the initial response to the incident and can be used to Transfer of Command.

ERP-203 ICS Organizational Chart identifies personnel into key roles to the response.



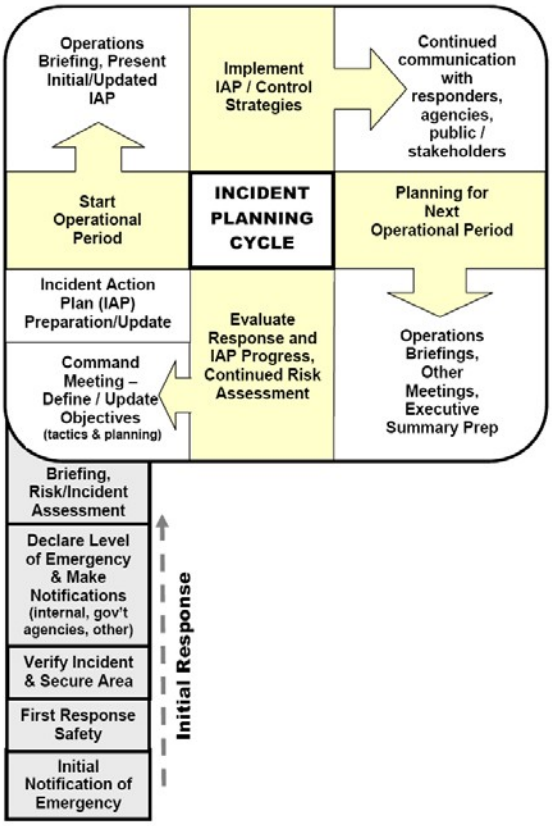
4.3 The Start of Each Planning Cycle

- **IC Objectives Meeting** is where the Incident Command Team establishes incident objectives that cover the entire course of the incident. For complex incidents, it may take more than one operational period to accomplish the incident objectives.
- The **Cyclical Planning Process** is designed to take the overall incident objectives and break them down into tactical assignments for each operational period. It is important for this initial overall approach to establish the incident objectives establish and the course of the incident, rather than having incident objectives only address a single operational period.
- **Command and General Staff Meeting:** The Incident Command/Unified Command may meet with the Command and General Staff to gather input or to provide immediate direction that cannot wait until the planning process is completed. This meeting should occur as needed and should be as brief as possible.

4.4 Preparing and Conducting the Tactics Meeting

The purpose of the **Tactics Meeting** is to review the tactics developed by the Operations Section Chief (OPSC), including:

- Determine how the selected strategy will be accomplished in order to achieve the incident objectives.
- Assign resources to implement the tactics.
- Identify methods for monitoring tactics and resources to determine if adjustments are required (e.g., different tactics, different resources, or new strategy).



The OPSC leads the Tactics Meeting explaining the findings of Crestone's Risk Matrix and Assessment Forms (Crestone EHS&RC Risk Matrix, Risk Assessment Worksheet and Documentation Forms.) Those Team Members involved in the Tactics Meeting include the Safety Officer (SO), Logistics Section Chief (LSC), and Resources Unit Leader (RESL).

Resource assignments will be made for each of the specific work tasks. Resource assignments will consist of the kind, type, and numbers of resources available and needed to achieve the tactical operations desired for the operational period. If the required tactical resources will not be available, then an adjustment should be made to the tactical assignments being planned for the Operational Period. It is very important to have tactical resource availability and other needed support determined prior to spending a great deal of time working on strategies and tactical operations, which may not realistically be achieved.

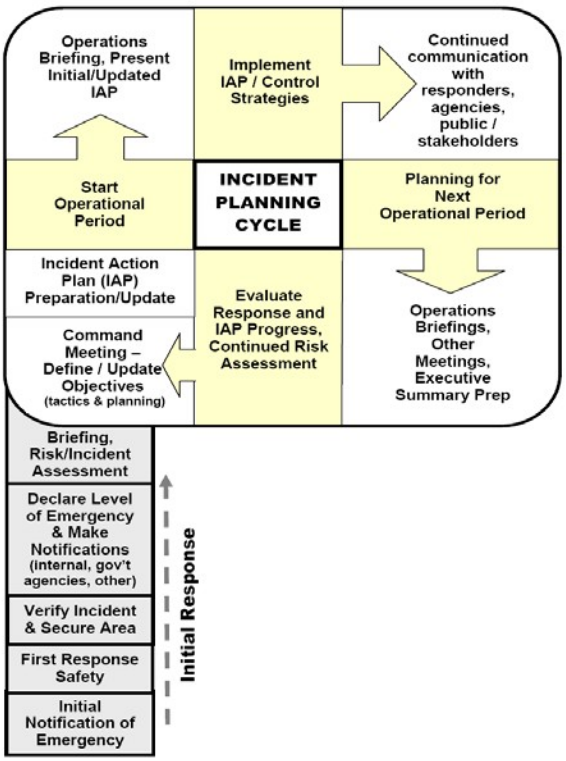
Forms:
ERP-215 Operational Planning Worksheet
Crestone EHS&RC Risk Matrix.
- Risk Assessment Worksheet and Documentation Form

4.5 Preparing for the Planning Meeting

Following the Tactics Meeting, preparations are made for the Planning Meeting including the following actions coordinated by the Planning Section:

- Review the forms previously completed (Crestone Risk Matrix and Risk Assessment Forms) and determine if there are other hazards or concerns to consider.
- Assess current operations effectiveness and resource efficiency.
- Gather information to support incident management.
- Begin preparation of the H&S Plan, Medical Plan, and Communication Plan.

Note: The Medical Plan and Communication Plans can be completed prior to an emergency by determining nearest medical resources in the area and reviewing radio frequencies and all hand held radio designated for emergency use.

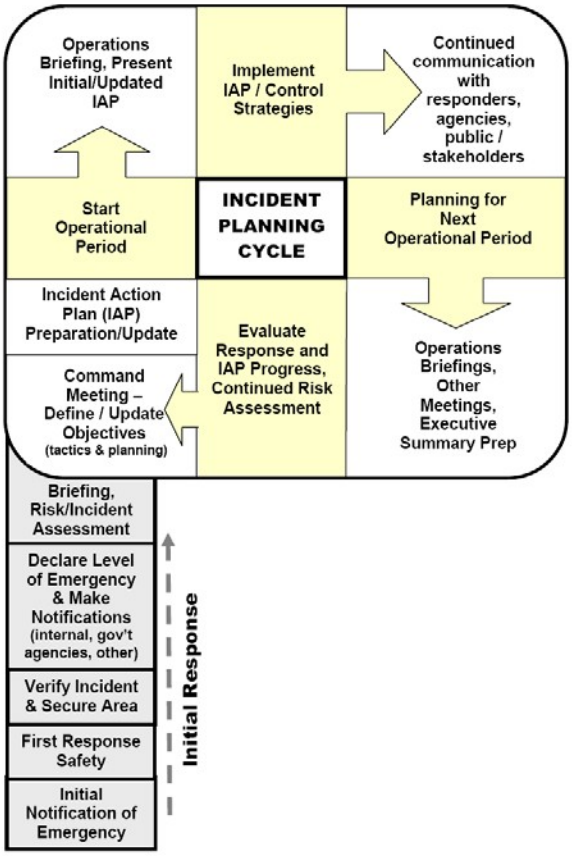


4.6 Planning Meeting

The Planning Meeting provides the opportunity for the Command and General Staff to review and validate the Operational Plan as proposed by the OPSC. Attendance is required for all Command and General Staff. Additional incident personnel may attend at the request of the Planning Section Chief (PSC) or the Incident Commander (IC.) The PSC conducts the Planning Meeting following a fixed agenda.

The OPSC delineates the amount and type of resources he or she will need to accomplish the plan. The Planning Section's Resources Unit will have to work with the Logistics Section to accommodate the ordering of all resources.

At the conclusion of the meeting, the Planning Section Staff will indicate when all elements of the plan and support documents are required to be submitted in order for the plan to be collated, duplicated, and made ready for the Operational Period Briefing.



4.7 IAP Preparation and Approval

The next step in the Incident Action Planning Process is plan preparation and approval. The written plan is comprised of a series of standard forms and supporting documents which convey the IC's intent and the Operations Section direction for accomplishment of the plan for that Operational Period.

For simple incidents of short duration, the IAP will be developed by the IC and communicated to subordinates in a verbal briefing. The planning associated with this level of complexity does not demand the formal planning meeting process as highlighted above.

Certain conditions result in the need for the IC to engage a more formal process.

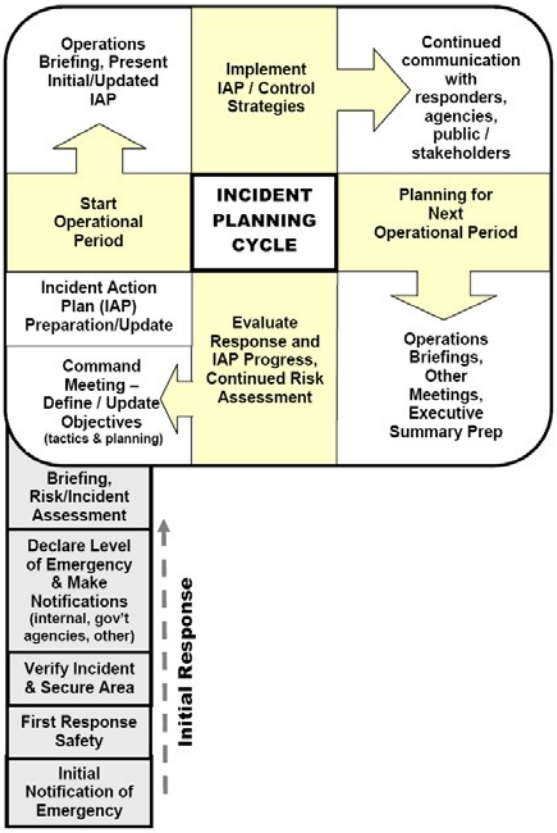
A written ERP-202 Incident Action Plan (IAP) should be considered whenever:

- Two or more jurisdictions are involved in the response.
- The incident continues into the next Operational Period.
- A number of ICS organizational elements are activated (typically when General Staff Sections are staffed).
- When required by agency policy.
- If possible, when a HazMat incident occurs.

4.8 Operations Period Briefing

The Operations Period Briefing may be referred to as the Operational Briefing or the Shift Briefing. This briefing is conducted at the beginning of each Operational Period and presents the IAP to supervisors of tactical resources.

Following the Operations Period Briefing supervisors will meet with their assigned resources for a detailed briefing on their respective assignments.

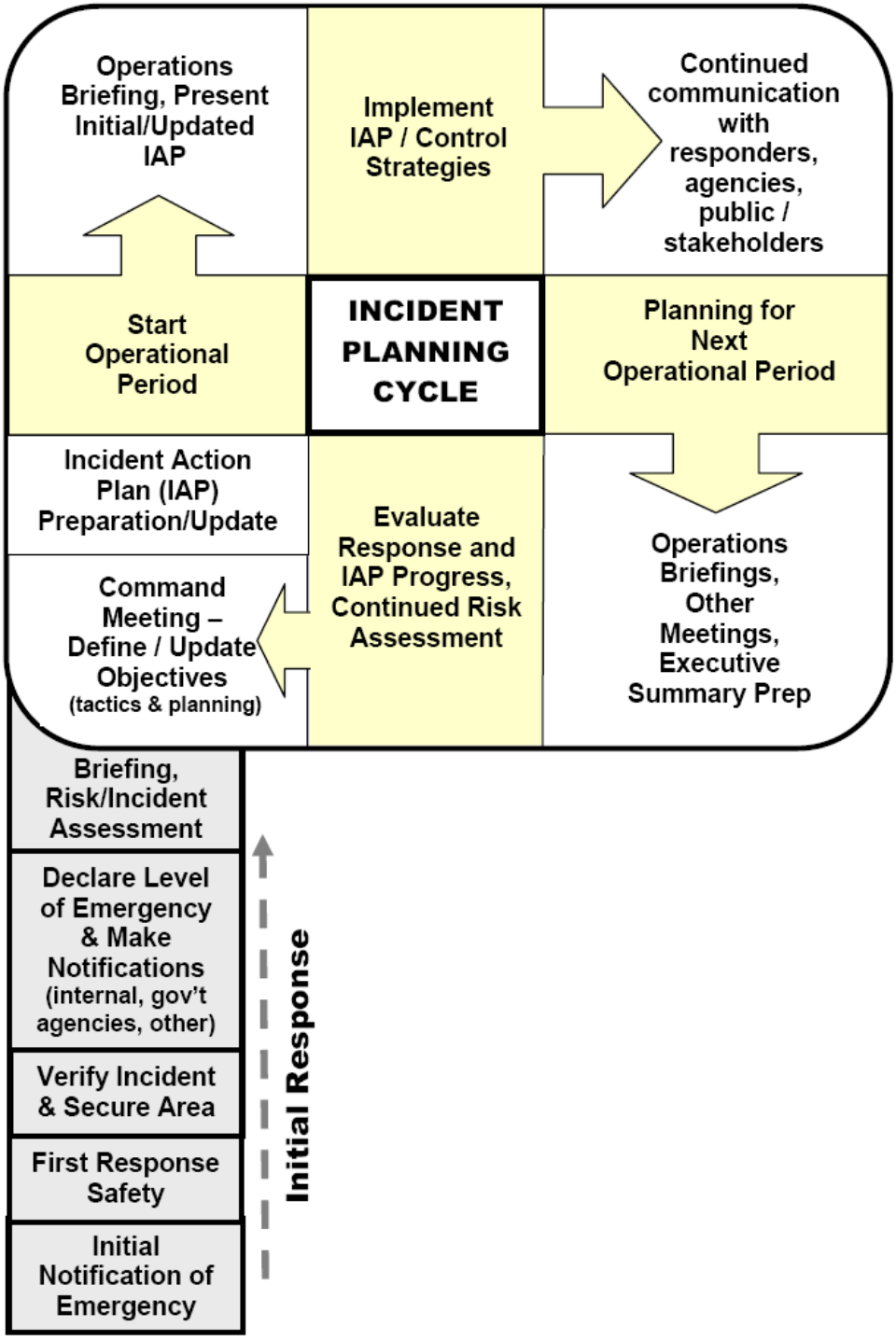


4.9 Execute Plan and Assess Progress

The Operations Section directs the implementation of the ERP-202 Incident Action Plan (IAP.) The supervisory personnel within the Operations Section are responsible for implementation of the IAP for the specific Operational Period.

The IAP is evaluated and re-evaluated at various stages in its development and implementation.

The OSC may make the appropriate adjustments during the Operational Period to ensure that the objectives are met and effectiveness is assured.


Operations Briefing, Present Initial/Updated IAP
Implement IAP / Control Strategies
Continued communication with responders, agencies, public / stakeholders
Start Operational Period
INCIDENT PLANNING CYCLE
Planning for Next Operational Period
Incident Action Plan (IAP) Preparation/Update
Evaluate Response and IAP Progress, Continued Risk Assessment
Operations Briefings, Other Meetings, Executive Summary Prep
Command Meeting – Define / Update Objectives (tactics & planning)
Briefing, Risk/Incident Assessment
Declare Level of Emergency & Make Notifications (internal, gov't agencies, other)
Verify Incident & Secure Area
First Response Safety
Initial Notification of Emergency
Initial Response

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5.0 First Responders (Two Types)

Type 1: First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release.

Type 2: First responders at the operations level are individuals who respond to releases or potential releases of hazardous materials as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures.

First Responders are often placed in the precarious position upon arriving at the scene of a hazardous substance release with little or no information concerning the incident and are often lacking the proper protective clothing required to operate near the release. In order to minimize the risk of exposure and injury to personnel, first responders should accomplish the following:

5.1 First Responder Actions

1) **Approach the incident from upwind and uphill, if possible.**
2) **Position vehicle far enough away from the release, allowing for a safe retreat, if necessary.**
3) **Make arrival report to Immediate Field Supervisor:**
    a) Avoid any contact with liquids, mists, sludge, gases, vapors, or smoke.
    b) Confirm location (if necessary).
    c) Situation found.
    d) Assume command.
    e) Size up incident and make report.
4) **Announce Level of Emergency (Level 1, Level 2, Level 3)**
    a) Point of entry for the location (if applicable).
    b) General objectives:
        i) Tape off hot zone.
        ii) Deny entry (have secure perimeter).
        iii) Identify product.
        iv) Initiate rescue operations.
        v) Contain product and runoff.

5) **Make assignments (as necessary).** Summon additional help and technical assistance as required. Do not hesitate to summon assistance; it can always be canceled if not needed.

6) Transfer command (as necessary).

7) Tactical considerations:

a) Priorities:

i) Life safety.

ii) Incident stabilization.

iii) Environmental protection.

iv) Property conservation.

v) Zoning:

(1) Utilize, with caution, the ***U.S. DOT Emergency Response Guidebook*** for recommended actions, if ***Safety Data Sheets (SDSs)*** are unavailable for released material.

(2) Hazardous Material Control Zones

(a) The understanding of zones for hazardous material management is very important for safe and effective response planning, communications, and tactical operations. Though the concepts are generally understood, the terminology varies between agencies and companies. The zones and areas of particular concern are:

(i) The ***Hot Zone*** is the area where hazardous material has been released, or area of potential contamination from further discharges. This zone is where all hazardous material control is undertaken, such as plugging/repairing of pipe and removal of containers. Only emergency response personnel with the appropriate level of training and personal protective equipment (PPE) are allowed (use fire line tape or designated signage for **hot line**).

(ii) The ***Warm Zone*** **(decontamination corridor)** is where response personnel and equipment are prepared to enter the hot zone, and where they are cleaned prior to being allowed to enter the support zone. Specific facilities and corridors are established to handle and track people and equipment. Only trained response personnel are allowed in this area. It is also the location of the "Safe Refuge Area" where affected personnel within the incident area are mustered for medical and health impact evaluation, documentation, and release to care facilities or emergency social services (use warm zone tape or signage in order to designate area.)

(iii) The ***Cold Zone*** **(set security line)** is where response equipment and personnel are staged, as well as the refuge area for all victims and responders. Entry into the support zone is controlled and managed. No contaminated equipment or personnel are allowed to enter this zone. All personnel using the facilities must have the proper identification and authorizations.

(b) Immediately provide for proper decontamination of responders and/or injured.

8) Utilize law enforcement agencies (Emergency Alert System) and any other available resources to evacuate or shelter in-place exposed victims.

9) **If immediate rescue is required, it should only be attempted when the rescuers are fully aware of the risks posed to them, they are wearing protective clothing, as required, utilizing a bare minimum number of personnel.** If the hazards are unknown or exceptionally life-threatening, the rescuer should consider waiting until the situation has been assessed by the Incident Commander (IC), Safety Officer (SO), and the EHS&RC/HazMat Unit.

5.2 Control Methods

1) **Defensive** (Confinement to a location or general area).

2) **Offensive** (Containment within container/structure).

a) Prior to entry:

i) Set up decontamination corridor.

ii) Monitor atmosphere.

iii) Ventilate confined spaces.

iv) Lock-out / tag-out hazards.

3) Consider runoff contamination.

4) Determine if resources (i.e. personnel, PPE, & equipment) are adequate to achieve control objectives.

5) If resources are inadequate, request necessary resources.

6) **First Responders should remember** that quick, aggressive action has no place at a hazardous materials incident. Occasionally, NO ACTION may be the only safe action due to a lack of proper protective clothing.

7) No responder shall take an offensive action unless they are at least ***Certified as a Hazardous Materials Technician*** or they have been trained to perform that specific offensive operation within the required level of emergency response training and the proper personal protective equipment (PPE) is available.

8) Crestone Peak Resources has a variety of air monitoring resources including area

Monitors (e.g. Canary), contracted third party resources specializing in air monitoring and emergency response, and relationships with local fire departments who utilize a number of area monitoring tools. Each required resource will be determined during the initial action plan.

5.3 Crestone's Public Protection Guidelines

The following guidelines have been developed for those Crestone operations required to meet site specific emergency planning such as those required from Department of Transportation's PSM/RMP regulations.

There are three primary methods used to safe guard the public against exposure to potentially dangerous situations – evacuation, sheltering, and ignition[1]. Although more common during sour gas release emergencies, they may have an application in situations where a different risk to the public is apparent. The following outlines these methods.

Incidents, which may require shelter or evacuation, will be coordinated with the local and/or state agencies.

5.3.1 Evacuation Guidelines

Evacuation is the preferred public protection strategy. Once the public has been evacuated from the exposure zone, they are no longer at risk and attention can be directed to other priorities.

The following should be considered for voluntary evacuation during a Level 1 emergency:

- Those who may have difficulty evacuating in a timely manner, including transients in remote areas;
- Those living in residences with egress problems or requiring assistance; and
- Those who have requested to be evacuated early when an incident occurs.

If sufficient time exists and a safe egress route is clearly established, evacuation of nearby public should begin no later than a Level 2 emergency.

It should be recognized that in certain instances evacuation may NOT **be the best tactic based on prevailing wind conditions.**

If public evacuation is necessary, Crestone will assist local emergency officials. This may consist of contacting the public by phone or in person (or both) and given instructions to safely go to a Reception Center where company representatives will address their concerns and immediate needs. Rovers (assigned personnel to assist in evacuation) must assist any residents requiring transportation assistance to the Reception Center.

Evacuations may require the use of helicopters or other non-conventional means of locating and contacting members of the public (i.e. ATVs). While helicopters provide a

[1] Third-party specialist will be called in to handle situations where ignition may be required.

valuable tool in the area search, they cannot be used for the periods when limited visibility, darkness, weather, or other conditions make flying hazardous.

Special arrangements may be required for evacuating public facilities. Should large numbers of people be involved, assistance with transportation (i.e.: school buses) or changes in the normal notification procedures may be required.

Evacuation efforts are generally focused on a pre-defined radius of exposure however, the Company should recommend to the local authority that the exposure zone be expanded based on monitored levels (i.e. H_2S, SO_2) obtained at nearest non-evacuated location.

5.3.2 Sheltering Guidelines

Shelter-In-Place is the practice of going or remaining safely indoors during an outdoor release of a hazardous substance.

Shelter-In-Place has been demonstrated to be the most effective response during the first few hours of a substance release where the public would be a higher risk outdoors. Sheltering creates an indoor buffer to protect the public from higher (more toxic) concentrations that may exist outdoors. It is based on using a building that is not too drafty for typical winter weather conditions.

The goal of Shelter-In-Place is to reduce the movement of air into and out of the building until either the hazard has passed or other appropriate emergency actions can be taken, such as evacuation.

An event such as a fire, motor vehicle accident, train derailment, industrial incident, or a natural disaster may cause a hazardous substance release. Here are some examples of when Crestone response personnel may choose sheltering as a public protection strategy:

- Buildings located within a toxic gas plume;
- There is not enough time or warning to safely evacuate;
- The release is expected to pass over the area quickly;
- Ignition procedures are underway and evacuation may place evacuees at risk;
- The source and nature of the release has yet to be determined;
- A safe evacuation route has yet to be verified;
- Public have special needs or require evacuation assistance;
- Extreme weather conditions compromise the ability to evacuate.

5.3.3 Shelter-in-Place Instructions

1) Immediately gather everyone indoors and stay there
2) Close and lock all windows and outside doors
    a) If convenient, tape the gaps around the exterior door frames
3) Extinguish indoor wood burning fires
    a) If possible, close flue dampers
4) Turn off appliances or equipment that either:
    a) Blows out or uses indoor air, such as
        i) Bathroom and kitchen exhaust fans
        ii) Built-in vacuum systems
        iii) Clothes dryers
        iv) Gas fireplaces
        v) Gas stoves
5) Sucks in outside air, such as:
    a) Heating, ventilation, and air conditioning (HVAC) systems for apartments, commercial or public facilities.
    b) Fans for heat recovery ventilators or energy recovery ventilators (HRV / ERV)
6) Turn down furnace thermostats to the minimum setting and turn off air conditioners
7) Leave open all inside doors
8) Avoid using the telephone, except for emergencies, so that you can be contacted by company emergency response personnel
    a) Call the emergency numbers you have been provided (company or state agency):
    b) If you are experiencing symptoms or smelling odors (so that we can address your concerns and adjust our response priorities)
    c) If you have contacted fire, police or ambulance (so that we can coordinate our response)
9) Stay tuned to local radio and television for possible information updates
10) Even if you see people outside do not leave until told to do so
11) If you are unable to follow these instructions, please notify company emergency response personnel

12) After the hazardous substance has passed through the area you will receive an "all-clear" message from company personnel. You may also receive, if required, instructions to:

a) Ventilate your building by opening all windows and doors; turning on fans and turning up thermostats (during this time the air outside may be fresher and you may choose to leave your building while ventilating).

b) Once the building is completely ventilated return all equipment to normal settings and operation.

5.4 Designated Incident Commander

1) Responding:

a) Approach upwind and uphill, if possible.

b) Consider contacting law enforcement for perimeter/traffic control.

2) Initial Operations:

a) Assume command (as necessary).

b) Size-up and assess conditions.

c) Identify command post location (in the cold zone).

d) Position or stage responding units upwind and uphill, if possible, a minimum of 150' from incident.

e) Assign Safety Officer.

f) Contact receiving hospitals and give them appropriate product information.

g) Request additional resources, as necessary.

3) Extended Operations:

a) Develop extended organizational structure (Command Staff/General Staff positions.)

b) Implement command staff vest system.

c) Develop Communications / Medical support / Air supply / Water supply / Lighting plants, as necessary.

d) Implement incident action plan.

e) Contact food unit.

f) Provide family support

g) Provide for media (assign Information Officer, IO, if press involved).

h) Identify required air monitoring equipment including portable monitoring equipment, contracted third party resources, and local first responder equipment.

4) Progress Reports:

a) "Evacuation"

b) "Incident situation"

c) "Response status"

d) Contact Regulatory Agency if release material is a reportable quantity.

e) Contact EHS&RC for decontamination and clean up information.

5) Withdrawal Procedures:

a) If the initial zones and security line prove to be inadequate for public or personnel safety, a withdrawal should be made.

b) Command should notify all personnel of the new distances on operational and tactical radio channels.

c) Command should ensure all mutual aid and law enforcement personnel are also aware of the withdrawal.

d) A Roll Call should be implemented immediately upon completion of the withdrawal, with confirmation that all personnel have withdrawn to the new zone lines.

e) Personnel should mark the new control lines.

5.5 First Response – Medical

1) Provide medical care as required. Use disposable equipment when possible.

a) Don blood-borne pathogen PPE with eye and face protection, if potential of exposure to blood or body fluids exists.

2) Get assistance as needed to help with injured.

3) Prepare and transfer injured to warm zone.

4) Decontaminate injured, as required.

5) Encapsulate injured with blanket and move to cold zone.

6) Provide general supportive care and specific care at direction of **Poison Control**.

a) **1-800-222-1222 or 911 Emergency Operator** until medical services arrives.

7) Contact hospital and request they prepare for patient.

8) Determine area where the medics and ambulance will need to be decontaminated.

9) Decontaminate stretcher.

5.6 Additional Response Units

1. Stage upwind and uphill, if possible, at least 150' from the incident. Report to command and request assignment. If information indicates explosive or toxic airborne hazards, increase staging distance accordingly.

2. Assist with response as requested.

5.7 Transfer of Command

The process of moving the responsibility for incident command from one Incident Commander to another is called **Transfer of Command.** It should be recognized that transition of command on an expanding incident is to be expected. It does not reflect on the competency of the current Incident Commander.

There are five important steps in effectively assuming command of an incident in progress.

1) The incoming Incident Commander should, if at all possible, personally perform an assessment of the incident situation with the existing Incident Commander.
2) The incoming Incident Commander must be adequately briefed. This briefing must be by the current Incident Commander, and take place face-to-face if possible. The briefing must cover the following:
    a) Incident history (what has happened).
    b) Priorities and objectives.
    c) Current plan.
    d) Resource assignments.
    e) Incident organization.
    f) Resources ordered/needed.
    g) Facilities established.
    h) Status of communications.
    i) Any constraints or limitations.
    j) Incident potential.
    k) Delegation of Authority.

    The incident summary form is especially designed to assist in incident briefings. It should be used whenever possible because it provides a written record of the incident as of the time prepared.

    This form contains:

    l) Incident objectives.
    m) A place for a sketch map.
    n) Summary of current actions.
    o) Organizational framework.
    p) Resources summary.
3) After the incident briefing, the incoming Incident Commander should determine an appropriate time for transfer of command.

4) At the appropriate time, notice of a change in incident command should be made to:
   a) Emergency Management Team (through dispatch).
   b) General Staff members (if designated).
   c) Command Staff members (if designated).
   d) All incident personnel and agencies.
5) The incoming Incident Commander may give the previous Incident Commander another assignment on the incident. There are several advantages of this:
   a) The initial Incident Commander retains first-hand knowledge at the incident site.
   b) This strategy allows the initial Incident Commander to observe the progress of the incident and to gain experience.

5.8 Enhanced Field Communications

The Communication Trailer is designed to enhance field communications with rapid receipt, transmission and processing of voice, data and imagery. Not just an EHS&RC/Security tool, it can be used anywhere field leaders need enhanced communications such as well control situations, complex drilling/completions phases, unique operations or for educational purposes.

The prototype is a six-foot by four-foot hitch-trailer that hooks to a pickup truck for easy transport. The exterior appears like any other trailer being towed down the interstate, save for the self-deploying satellite antenna (SDSA) which makes all the magic happen. The SDSA provides:

- Internet connection
- VOIP phone connection
- wireless network and Ethernet ports
- cell phone boosting

Other convenient bonus features on the trailer include:

- AC power conditioning (with battery back-up) to keep equipment running for short power outages
- AC outlets
- inside lighting
- air conditioning

Also on the trailer are two high-resolution cameras in weather-proof enclosures to record and transmit video outside of the hot-zone area. By using Crestone's web conferencing tool, a user at the trailer can share real-time video with a remote user back in an office. A user at the trailer can give remote control of the cameras to a user at an office location.

The system stores all recorded video to provide a historical record of events. A monthly equipment check should be performed and documented on Form ERP-002 by the EHS&RC Team in possession of the trailer to verify all equipment is ready and available for use when needed.

5.9 Communication Trailer Capabilities

- Provides satellite communication in remote areas that includes Internet Access and Telephone (voice) access.
- A user at the remote site can use a phone, connect to the internet for email, connect to the Crestone network.
- Self-deploying and pointing of Satellite Antenna System.
- Provides a wireless network for users around the trailer.
- A number of users can connect to the Internet and access from their trucks to share this network connection.
- Provides two high resolution cameras (in weather proof enclosures) that can be placed outside the hot zone to record and transmit video.
- Using the Crestone web conferencing utility, a user at the trailer can share real-time video with a remote user/location.
- A user at the trailer can give remote control of the cameras to a user at another location.
- Provides video storage while the trailer is on location.
- All video is stored on a DVR to provide a historical record.
- Provide Cell Phone boosting, if there are Cell Phone signals present at the location.
- Provides A/C power conditioning and battery back-up to keep equipment running for short power outages.
- Trailer has convenient A/C outlets, wired Ethernet ports, and inside lighting.
- Trailer has Air Conditioning to provide cooling for high temperature locations.

5.9.1 Communication Trailer Contents

- 24 port Ethernet switch.
- 1 wireless router
- 1 Digital Video Recorder
- 1 Uninterruptible Power Supply
- 1 Satellite Telephone
- 1 Satellite Antenna

- 1 Antenna Controller
- 1 Satellite Modem
- 1 laptop computer
- 1 printer
- 1 high resolution Panasonic 202 A PTZ camera with enclosure
- 1 high resolution Panasonic 964A PTZ camera with enclosure
- 1 set of camera cables
- 1 video monitor
- 1 spare trailer tire
- 1 emergency communications poster

5.10 Emergency Response Trailer or Spill Response Trailer

Crestone has an Emergency Response Trailer that is equipped with hazardous material clean-up/containment materials, 24-person first aid kit, emergency response equipment, and supplies that may be available to Incident Commanders. The trailer is towable by a pick-up truck and is deployed with a standard receiver hitch, which is left with the trailer for quick hook-up.

Emergency Radios and Multi-Gas Monitors should be transported to the incident, if weather and conditions prohibit their storage within the Emergency Response Trailer.

Dispatching of the Emergency Response Trailer can be requested through the Safety On-Call Person or Crestone Gas Control. Items used during a response are replaced in a timely manner. When not in use the trailers are locked and secured on Crestone property. Monthly equipment checks are performed using Form ERP-002. Equipment is re-stocked as needed based on the monthly inventory check.

Response times to locations will be evaluated and listed on the site-specific Site Safety and Evacuation Plan.

**NOTE: This trailer and its driver might fall under the regulations and guidance of the Federal Motor Carrier Safety Administration (FMCSA). Risk assessment is required for determination.

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6.0 Media/Community Relations Support Plan

Crestone's Media/Community Relations team is the voice of Crestone. They are responsible for developing, managing, and communicating essential organizational information to internal and external stakeholders through a variety of channels. They are on the information "front lines" during an emergency, supporting the Crestone emergency response teams and ensuring accurate, timely, and consistent communication of emergency information. This could include:

- Maintaining proactive contact with the Emergency Management Team, assisting with evaluations, collecting information, and communicating progress and updates;
- Liaising with field personnel;
- Developing and distributing public statements and news releases;
- Arranging and leading media communications when necessary;
- Writing and distributing updates for employees via email or internal intranet site;
- Maintaining and managing updates via social media and external website.

Crestone's Media/Community Relations team has a specific Emergency Communications Support Plan in place which defines in detail, the roles and responsibilities of the team and provides guidelines, information, and instructions for perform these functions. This plan and supplemental materials are provided at the end of this section.

6.1 Media

At the Incident Site

It is important to develop and maintain a good working relationship with the news media from the outset of any emergency. The way that both field and company personnel interface with reporters will affect the public perception of the company and the effectiveness of our response. The news media have a responsibility to report on the incident. We have a responsibility to provide accurate information in a timely, consistent, and professional manner.

Sometimes the particulars of the incident are not known. **Until the facts are clear, answers to media queries should be as follows:**

"On (date) / at (time) there has been a (what) at (where) that involved company (facilities, employees, equipment). "A complete statement will be issued by the Company as soon as the facts have been determined; until then no further information is available."

Until the Media/Community Relations Advisor has been engaged, the Incident Commander will deal with media inquiries.

When the facts become known, a Senior Company employee will, in conjunction with the Community/Media Relations Advisor, prepare a statement for release to the news media, if appropriate.

Under no circumstances will the name of any accident victim be released to the public before the next-of-kin are notified.

The Community/Media Relations team will document all contact made with media and maintain all preliminary media statements, fact sheets or backgrounders, etc. that may have been provided, for later use in reconstructing the events, evaluating our response and monitoring message consistency in the media.

6.2 Media Management

Do

- Exhibit a professional, co-operative but firm attitude and remain low-key at all times.
- Know the location and telephone numbers of company spokespersons.
- Know where the media/public muster point is.
- Offer to follow up requests for information about the incident, rather than answer questions yourself.

Don't

- Don't try to please photographers by allowing unauthorized photo opportunities.
- Don't allow media in "No Go" areas. If they insist, request back up.
- Don't feel compelled to answer questions. You are not a spokesperson. "I don't know" is a good answer.
- Don't get into a confrontation with the media. It may become the story.
- Remember - any statements made by Company employees and/or contractors that may in any way deal with root cause, fault or liability have the potential to negatively impact Crestone's reputation.

Interview Tips

- Look directly at the reporter as you answer the question. When you finish an answer and the reporter doesn't speak – wait and don't continue speaking to break the silence.
- Control the pace of your answer; speak calmly and deliberately.
- Keep it simple. Avoid using industry jargon or technical terms.

- Express concern for individuals affected by the mishap. State that your company is striving to rectify the situation as quickly as possible, and that you are diligently following a plan.
- Listen to the question. Ask to have it repeated if necessary. Don't speculate as to the cause. "It's too early to tell but an investigation will determine the cause of the accident".
- If you don't know, say so. Offer to find out and provide the answer later.
- Anything you say to a reporter at any time may be reported. Never offer to comment "off the record". Remember you are still "on the record" even after the camera has been turned off.
- Don't speak for, comment for or speculate about other parties.
- Document the reporter's name, organization, phone number and email address.

6.3 External Website and Social Media

The Community/Media Relations team also manages content updates for social media and CrestonePeakResources.com. This team has authorization to use the following social media tools, contingent upon Legal and Vice-President approvals as required per Crestone's Social Media Practice:

- CrestonePeakResources.com
- Twitter
- Facebook

Prior to dissemination, the following parties must approve any social media and external website posts related to emergencies:

- Legal;
- Vice-President(s) with oversight of the situation, or their delegate(s)

External Website

As an information hub, CrestonePeakResources.com, the company's external website, is an engaging venue to tell the Crestone story to all of our stakeholders. The site's importance is only enhanced in an emergency.

The Community/Media Relations team will work collaboratively in developing and posting approved messaging and content updates to the external website.

Twitter and Facebook

Crestone maintains a Twitter account to use in the event of an emergency. Currently the account is inactive but if there is an emergency situation, it can be quickly activated to disseminate critical information.

Crestone has a Community Relations focused Facebook page as well. Currently the site is used to post operational updates in and around the Erie community. In the event of an emergency it would be used to share critical information as well.

The Community/Media Relations team will work collaboratively in developing and posting approved messaging and content updates to Crestone accounts on both Twitter and Facebook.

6.4 Internal Communications Support

The Media/Community Relations team is also responsible for developing, managing, and communicating essential information to Crestone staff. Consistent, accurate and timely communication to staff is critical during an emergency situation.

Staff Communications

Our staff can be our best ambassadors in an emergency. It is important to keep them informed of essential, accurate and consistent information. Employee communications during an emergency will be managed via all-staff meetings and email. If the emergency is considered a level two or three, the communications team will schedule a staff meeting and share critical updates with staff within the first 24 hours of the incident.

When/if a media bulletin or news release is distributed, all staff will also receive the information via email.

Procedure for communicating with employees

- State the facts as they're known now (including the incident, impact and action being taken) plus, consider articulating any information not known at this point (as needed or appropriate) (what happened, what were the impacts to individuals or the community, what are we doing to resolve the situation)
- Outline safety steps currently being taken to avoid another incident or emergency
- Highlight the impacts to our key audiences and/or the company and impress the importance of resolving as effectively and efficiently as possible
- Summarize Crestone's policy and position

The Community/Media Relations team has the authorization, contingent upon Legal and Vice-President-level approvals (or that of their delegate), to use the following tools to communicate with staff:

- Email from the Community Relations (communityrelations@crestonepr.com) mailbox

to most email distribution lists;

- Internal intranet site updates;
- Emergency notification system, under the oversight of the Security team.

Legal and the appropriate Vice-President(s) (or their delegate[s]) must approve any messaging or content updates related to emergencies prior to dissemination to company staff.

6.5 Next-of-Kin Notification

Notification of next-of-kin is extremely stressful for all involved. Company representatives should coordinate with the legal department, the human resources department, and local law enforcement agencies regarding next-of-kin notification. Company personnel involved may have to manage reactions such as denial, fear, anger, pain, sorrow, and grief. Crestone's Safety Team and the local police can help provide next-of-kin notification coaching and support for notification of a fatality.

6.5.1 Accountability

Employee: The Emergency Manager is accountable to ensure prompt notification of next-of-kin for a serious injury or death of a Crestone employee.

Contractors: Notification to contractors next-of-kin should be made by their employers. The Crestone Incident Commander will ensure that the affected contractor's head office is notified (directly or by the Liaison Officer) if appointed.

Some independent contractors directly hired by Crestone may not have a head office such as an independent welder. In this case, Crestone's Emergency Manager will ensure next-of- kin notifications are conducted just as if the contractor were a company employee.

Public: If a member of the public is injured or killed as a result of company operations, notifications will be coordinated through the local police.

Preparation for Notifying Next-of-Kin

- Triple check the identities of any victims. Do not release the names of the injured, missing, or persons pronounced dead by a physician (i.e.: Coroner) before next-of-kin are notified.
- Check with local or state police before notification is attempted as they have specialized departments who will also be attempting that function.
- Obtain confidential employee information about emergency contacts from Crestone's Human Resources Department.

- Confirm the victim's relationship with the people being notified.
- Determine the senior company representative whom will conduct the notification, accompanied by a co-worker, a family friend or the police.
- Develop a plan to support the victims next-of-kin. Consider what needs to be done to provide assistance such as transportation, childcare, alternative accommodations, reimbursement of daily expenses and the temporary care of the family home if required.

6.5.2 Notifying Next-of-Kin

- At least two people should conduct the notification.
- Make the notification in person, not by telephone or through an intermediary. Representatives conducting the notification should not have any time pressures so they are available to support the next-of-kin.
- Provide as much information as possible, as too few details can cause excessive worry. Present only the facts; do not speculate.
- Do not discuss personal views of liability or fault.
- Be prepared to listen to what people are trying to say.
- Allow them to vent their emotions.
- Attempt to support and reunite families as quickly as possible.
- Offer assistance; document key issues and concerns. Do not make promises that cannot be kept. Follow up on any request made by the family.
- Document the details of anyone who appears to be having trouble coping with the incident so that he/she can be given prompt medical support.
- Do not leave the next-of-kin alone.
- Offer to contact a neighbor, friend, relative, minister, doctor or counselor.
- Leave your name and telephone number with family members.
- Ensure that the family and other next-of-kin are protected from media and public harassment.

6.5.3 Follow-up

The same representatives who conducted the initial notification should continue to contact and support the next-of-kin.

If required, the Emergency Manager will ensure that a trained psychologist conducts critical incident stress debriefing sessions with next-of-kin, friends and company employees involved or affected by the tragedy.

Advise the employee's family that a senior company representative will be contacting them to discuss any immediate needs and to provide information on insurance coverage and benefits support. Follow up on this commitment.

Stand by statement templates

STAND-BY STATEMENT

DJ Basin / xx well site / Incident

month day, 2016 / time a.m. / p.m.

REFER ALL MEDIA TO:

xx xx
xxxxxxxxxx cell

STANDBY STATEMENT

At approximately xx:xx a.m./p.m. today an incident occurred on a Crestone Peak Resource site, the xx xx, located in city off cross streets/ nearby town.

Crestone has activated its emergency response plan. Local responders have been notified. There are multiple injuries on location. Crestone is coordinating with local emergency responders to care for the injured. The cause is not known at this time.

We will provide additional information as it becomes available.

Crestone Media Contact:

CHIEF SPOKESPERSON: **BACK-UP:**
DISTRIBUTED TO:
PREPARED BY: **APPROVED BY:**

MEDIA / PUBLIC STATEMENT
XX:XX, Month DD, 20YR

Description of purpose/need to communicate

"Thank you for coming. I have a brief statement to read, and then I'll take a few questions. After this, I must get back and assist our team…

"This is the information I can provide at this time:

The situation

At _____ (a.m./p.m.), on _____ (day/date) a(n) _____ (fire, explosion, gas release, spill) occurred at _____ (location), _____ miles _____ (north/south/east/west) of _____ (nearest town/city) in _____ (state).

ResponseGuide:

Our main priority now

Our main priority now is to _____ (people) and to _____(equipment/situation).

What is happening now

At this time, _____ (number) individuals are _____ (injured/unaccounted for) and are being _____ (attended to by medical personnel/taken to hospital). The names and conditions of these individuals are not known

at this time. (Do not use 'next of kin' as it suggests the people are dead.)

The _____ (facility/equipment) is being / has been _____ (put out/isolated/contained/controlled) according to our emergency response procedures. The following authorities have been notified _____.

What to expect next

Our next steps will be to _____ _____.

The cause of / reason for the _____ (spill, fire, explosion, gas release, or incident) is not known at this time. We will work with the appropriate agencies to determine the exact cause.

The cause of the _____ (fire, explosion, gas release, spill) is not known at this time and there can be no estimate of damages yet. (Only a subsequent accident investigation will reveal the cause and cost.)

Now, I'll take a few questions…

OK… two more questions…

Ending the interview

That's all I can confirm at the moment. I'm sure you understand that we are all focused on dealing with the situation and I'd ask you to please bear with us for the next while. This is a difficult time and we appreciate your cooperation. Right now, I'm needed to help attend to the situation.

Next information

Our next briefing will be _____. Please direct your questions to _____ at _____.

CHIEF SPOKESPERSON: TBD
BACK-UP or ON-SCENE SPOKESPERSON: TBD
DISTRIBUTED TO: Executive Leadership Team
IR
EC

Others TBD

PREPARED BY: TBD (Whoever the communication lead delegates this to)

APPROVED BY: TBD (Communications and executive lead, with input from legal)

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7.0 Background: Identifying Hazards

An Emergency Response Plan is the initial preparation for first responders by identifying Crestone Peak Resource's risks and identifying vulnerabilities. Data on Crestone's Business Operations was compiled using the Crestone Risk Matrix to respond to the possible hazards outlined by multiple regulations found under Guidelines and Regulations in Section 1. Historical data from within the states and counties of operation, FEMA, NOAA, local city/county/state and federal Emergency Operation Plans (EOP), and Department of Homeland Security was used as basis for analyzing natural hazards. Incident data was used to estimate Technological and Security hazards, along with NIOSH/OSHA/USCG/EPA's *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* to summarize hazards in areas of possible clean-up activities, which might be associated with Crestone's Emergency Response elements.

NFPA 1600:2007 A.5.3.2 defined four specific areas for hazard identification (geological, meteorological, human-caused events, and technological-caused events) within these they identified forty-five hazard areas to be reviewed by employers. Worksites which may involve hazardous clean-up during or after an emergency response may pose additional hazards: chemical exposure, fire and explosion, oxygen deficiency, ionizing radiation, biologic hazards, safety hazards, electrical hazards, heat stress, cold exposure, and noise issues (*NIOSH/OSHA /USCG/EPA's Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*, 1985, p 2-1.)

SDS sheets are available online at: https://msdsmanagement.msdsonline.com/ebinder/?nas=True

The Crestone Operating Area was issued a list of risk assessments identified by NFPA 1600:2007 to be analyzed for Crestone Hazards and Risks of Operation. Additional research was conducted by recognizing hazards identified within local and state Emergency Operation Plans.

Hazards and risks were identified and vulnerabilities were assessed by Crestone Safety using this newly created hazard identification form, plus adding additional hazards known to the Oil and Gas Industry. Potential hazards were assessed with the Crestone Risk Matrix. EHS&RC completed one form for the Colorado Region of Operation, the potential natural and technological hazards range in degree and response times varying due to population density and/or community preparedness. The EHS&RC group ranked each hazard as to whether the event would have a low, medium, or high probability of occurrence. The same hazard was assessed as low, medium, or high/catastrophic damage it would cause.

The list of ranked risks was analyzed by identifying the high probability/serious and catastrophic portion of the Risk Matrix as requiring the greatest scrutiny and being of greatest concern. Hazards that fell into the low probability of occurrence and resulted only in minor damage are constituted as acceptable risks. The findings identified areas with possible high likelihood of the listed hazard occurring at high or catastrophic events occurring within each Crestone Operating Area.

7.1 Crestone Operational Hazards Identified

7.1.1 Natural Hazards

1. Epidemic/Emerging Disease Impacting Humans or Animals
2. Fires/Structural or Other
3. Flash Flood-Acute Flooding
4. Lightning
5. Pandemic/Massive Illness (H1N1 Plan implemented)
6. Severe Storm: Thunderstorms
7. Snow Storms
8. Tornado
9. Winter Storm/Extreme Cold

7.1.2 Technological Hazards

1. Air Contamination
2. Building Evacuation
3. Communication Failures/Interruption
4. DOS-IT (Denial of Service-Crestone Network or SCADA Systems)
5. Explosion
6. Fire
7. H_2S Exposures
8. Hazard Material In Transit (those transported by our company and those of others' especially railcars, truck, pipelines, etc.)
9. High Voltage Electrical Installations
10. Misinformation
11. Oil Spill (Fixed Site)
12. Oil Spill (Mobile Site)
13. Pipeline Leak/Failure
14. Vast Distance to Support Personnel or Emergency Response
15. Water Control Structure/Dam/Levee Failure
16. Water Supply Contamination/Pollution
17. Well Control

7.1.3 Security Hazards

1. Biological Threats
2. Bomb Threats/Explosions/IED Threat
3. Building/Structure Collapse
4. Chemical Threats
5. Civil Disorder/Unrest
6. Internal Threat
7. Missing Person(s)
8. Sabotage
9. Security Breach Suspicious Package
10. Terrorism
11. Transportation Accidents
12. Trespassing
13. Workplace Violence

7.2 Risk Assessment

7.2.1 Security Advisor

1. Chemical/Biological (WMD) Threat (e.g., Anthrax)
2. Bomb Threat, to include suspicious packages
3. Direct Action, Civil Disobedience (e.g., banner hangs, blockades, office occupation, locking down to access points, "hit & run" tactics)
4. Localized Criminal Activity (theft, breaking and entering, car jackings, destruction of Crestone property)
5. Sabotage, Vandalism
6. Suspicious Persons, Activity
7. Terrorism (Domestic and International Threats)
8. Economic or Industrial Espionage (theft of trade secrets, propriety information)
9. Trespassing- ATVs, 4-wheelers and other off-road or recreation vehicles Workplace Violence
10. Disgruntled Persons, to include land/mineral owners; near-by residents; curious on-lookers
11. Hunter Access

12. Proximity to Critical Infrastructures (e.g., schools, hospitals, recreation centers/ athletic fields, shopping malls, governmental facilities)

7.3 Analysis and Findings

Crestone has identified their highest risks for its Operating Area. Each of these risks will be mitigated and have a mitigation plan completed to implement and attach to this Plan.

7.4 Mitigation Processes

Crestone uses their Risk Assessment Worksheet and their EHS&RC Risk Matrix to measurably determine risk level by the hazard impact and probability. This identified risk level leads to actions needed to be taken before work or processes can continue.

Extreme risk levels require the activity to be stopped and work cannot proceed until the risk is reduced to a lower level. High-risk levels have identified extensive risk controls/mitigation measures, which must be implemented and Vice President approval is required to allow work to proceed. Efforts to reduce to a Medium or Low level should be undertaken. Medium risk controls/mitigation measures must be implemented to allow work to proceed. Efforts to reduce risk to a Low Level should be undertaken. Low Levels require some risk controls/mitigation measures may need to be justified. Hazards, which have been lowered to a Low Risk Level, represent an acceptable level of risk.

7.5 Recommendation

Crestone annually reviews the listed potentially hazardous items suggested by guidance and regulation using Crestone's current Risk Matrix. Any changes over the previous 12 months in events, incidents, accidents, or previously inexperienced events will be documented and re-evaluated. Mitigation Plans written to lessen the hazardous events will be reviewed, assessed, and updated regularly to ensure the strength and usefulness of the plan.

Previous incidents, accidents, and company losses due to Natural, Technological or Security hazards will be re-visited and analyzed for the current levels of mitigation processes and hazard potential. As new ventures are pursued, a Risk Analysis of the same hazards identified by guidance and regulation will be documented and mitigation plans written and implemented.

Management and planners need to identify their top concerns, as well as hazards identified as having medium probability and medium severity, for re-ranking and continued evaluation.

This Emergency Response Plan for Crestone is designed to provide guidance to the employees and contractors and ensure unified command within incidents affecting the community, local public response entities, and all first responders (whether local, state, or federal). In completing this task, the unity of the Operating Area will be required to successfully design, implement, and continue updating this Emergency Response Plan. This plan will be ever evolving as locations of operation

change, department organization changes, and the company grows. This plan must be revised and practiced at a minimum annually.

7.6 Research Documentation

- Risk Assessment from Crestone Operations
- Risk Assessment from Security Advisor

FEMA's list of most common hazards are avalanche, dam failure, drought, earthquake, flood/flash flood, hazardous materials, hurricane/tropical storm, landslide, national security, power/communications failure, radiological, severe thunderstorm, subsidence (sinking of earth), terrorism/civil disorder, tornado, transportation accidents, tsunami, urban fire, volcano, wildfire, and winter storms.

CRESTONE PEAK RESOURCES	**Emergency Response Plan** **Section 8.0 – Pandemic Continuity of Operations Plan**
	Date last revised: 06/29/2020

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8.0 Introduction

Organizations across the nation perform essential functions and services that may be adversely affected in the event of a pandemic influenza. In such events, organizations should have continuity plans to assist in the continuance of their essential functions. Continuing to perform essential functions and provide essential services is vital to an organization's ability to remain a viable entity during times of increased threats from all hazards, manmade or natural. Since the threat to an organization's continuity of operations is great during a pandemic outbreak; it is important for organizations, in particular Crestone Peak Resources (Crestone), to have a Pandemic Influenza Continuity of Operations plan in place to ensure it can carry out its essential functions and services. Crestone may be forced to suspend some operations due to the severity of a pandemic outbreak, an effective Continuity of Operations Plan will assist the organization in its efforts to remain operational, as well as strengthen the ability to resume operations.

8.1 Purpose

This plan provides guidance to Crestone and may serve as the plan for maintaining essential functions and services during an influenza pandemic. This guidance neither replaces nor supersedes any current, approved Crestone continuity plan; rather it supplements it, bridging the gap between the traditional, all-hazards continuity planning and the specialized continuity planning required for a pandemic by addressing additional considerations, challenges, and elements specific to the dynamic nature of a pandemic. This guidance stresses that essential functions can be maintained during a pandemic outbreak through mitigation strategies, such as social distancing, increased hygiene, the vaccination of employees and their families, and similar approaches. Influenza may not, in itself, require a traditional continuity response, such as partial or full relocation of the organization's essential functions, although this response may be concurrently necessary due to other circumstances.

8.2 Corporate Governance During Pandemic

During the time of a pandemic Crestone will establish a corporate governance taskforce that is charged with implementation of the Pandemic Continuity of Operations Plan. The taskforce will be formed as soon as possible after the potential for a pandemic flu has been acknowledged by the United States (US) Centers for Disease Control and Prevention (CDC). The taskforce shall be established by the Crestone Chief Compliance Officer and consist of the following functions. Human Resources, Operations, Engineering, External Affairs, Land, Information Technology (IT), Supply Chain, Security, and Environmental Health and Safety (EHS).
The taskforce will be charged with the following functions.

- Ensuring the Pandemic Influenza Continuity of Operations Plan is up to date and implemented.
- Establishes a coordinator for the plan. The coordinator is charged with scheduling regular meetings and assisting implementation of the policies and actions established by the task force.
- Developing provisions for hand washing facilities, antiseptic hand cleaners, signs promoting safe practices, and other protective/preventative measures.
- Implementation of training on illness prevention, measures required to prevent disease spread and communication of human resource policies concerning illness and working at home policies.
- Development of contingency plans in the event that a large number of staff become ill and are unable to perform essential job functions.
- Encourage employees and contractor to obtain appropriate immunizations as they become available.
- Establish a communication procedure for internal employee communications and methods to communicate with contractors and vendors working on Crestone job sites.

- Establish work guidelines that attempt to prevent working or gathering in large numbers
    - Specifically, develop risk management guidelines using the failure modes and effects analysis tool for all phases of operations and office settings
- Establishes disinfecting protocols and to address periodic workspace cleaning of workstations, lunchrooms, restrooms, handrails, faucets, knobs, handles and other areas the staff may encounter.
- Establish for licensed disinfecting service providers that will conduct cleaning of workspaces in the event of an outbreak.
- Complete emergency response tabletop drills to exercise the emergency response system during a time of pandemic influenza.
    - Specifically, establish protocols on how and where to transport patients that may be injured during the pandemic influenza outbreak. Work with local health departments and health care providers to establish revised protocols.

8.3 Concept of Operations

The Crestone taskforce will monitor the severity of the pandemic and establish continuity activation triggers to address the unique nature of the pandemic threat. The Pandemic Influenza Continuity of Operations Plan will be implemented as needed to support the continued performance of essential functions. This plan is to be read in conjunction with the Crestone Emergency Response Plan (ERP), as appropriate. It supplements the ERP plan by addressing considerations and elements specific to pandemic events and emerging infectious diseases.
Monitoring of the pandemic will be conducted by the taskforce and rely upon information provided by the CDC, Colorado Governor's Office and other state and local medical centers.
Our concept of operations during a pandemic is to stop all non-essential work that involves multiple individuals required to work in close proximity. For work that cannot be delayed risk assessment and mitigation plans will be conducted. We will implement a work from home policy for all workers.
Operations that can be conducted with single individuals or small teams will be conducted as necessary to ensure safe operations and critical infrastructure requirements.

8.4 Continuity of Operations

The Crestone taskforce will develop operational plans to provide and implement selected mitigation, prevention, protection, or control measures, to decrease the threat of and impact from identified risks, to include pandemic. The taskforce will conduct an analysis of the remaining risk based on implemented measures in accordance with Federal Continuity Directive 1, Federal Executive Branch Continuity Programs and Requirements, October 2012, continuity pandemic plans/guidance. This should address the following:

- Identification of appropriate mitigation and protective measures, to include measures necessary during a pandemic influenza.
- An operational plan to provide and implement selected mitigation, prevention, protection, or control measures, to include those necessary during a pandemic, and
- For those essential functions that employees must conduct onsite, organizations must classify jobs by exposure risk level to pandemic influenza. Organizations must notify these employees that they are expected to work onsite during an influenza pandemic.

All organization personnel are to be informed regarding protective actions and/or modifications related to this plan. Messaging and risk communications during an emerging infectious disease or pandemic will be conducted by the Vice President of Human Resources. Guidance and instructions on established infection

control measures such as social distancing, personnel protective equipment and telework polices are provided by the taskforce to assist in limiting the spread of influenza at the primary and alternate worksite.

Within the workplace, social distancing measures could take the form of: modifying the frequency and type of face-to-face employee encounters (e.g., placing moratoriums on hand-shaking, substituting teleconferences for face-to-face meetings, staggering breaks, posting infection control guidelines); establishing flexible work hours or worksite, (e.g., telecommuting); promoting social distancing between employees and customers to maintain six-feet spatial separation between individuals; and implementing strategies that request and enable employees with influenza to stay home at the first sign of symptoms. Crestone will encourage communication with their employees, particularly any who are in harm's way. The messages should follow the Chief Executive Officer's message and will echo that message's themes and should be in the same voice employees' associate with their leader. Frequent, daily contact is important to keep employees informed about developments in the organization's response, impacts on the workforce, and to reassure employees that Crestone is continuing to function as usual. The task force will include deliberate methods to measure, monitor, and adjust actions to changing conditions and improved protection strategies by doing the following.

- Implement a formal worker and workplace protection strategy with metrics for assessing worker conformance and workplace cleanliness.
- Monitor and periodically test protection methods.
- Track and implement changes in approved or recommended protection measures.
- Pre-position material and equipment onsite.
- Ensure essential personnel are at the primary worksite.
- Reaffirm that essential suppliers have their material and personnel on-hand and can respond and support as planned.
- Coordinate with local public health and emergency response points of contact to ensure open, adequate communications.

Component-specific risk assessments that identify actual control band designations for all personnel and/ or positions will be conducted initially and periodically thereafter for each participating organization by the safety office in coordination with the department head. These assessments are kept as part of each component's specific action plan documentation.

8.5 Strategy Assumptions Used in the Pandemic Planning Process

This section addresses the overarching planning assumptions that were used in developing Crestone's Pandemic Influenza Continuity of Operations Plan such as those provided in the National Strategy for Pandemic Influenza Implementation Plan. It should also identify any specific planning assumptions identified by the organization's State and/or local jurisdiction.

8.5.1 National Assumptions of Pandemic Influenza Spread, Transmission and Effects

- Susceptibility to the pandemic influenza virus will be universal.
- Efficient and sustained person-to-person transmission signals an imminent pandemic.
- The clinical disease attack rate will likely be 30 percent or higher in the overall population during the pandemic. Illness rates will be highest among school-aged children (about 40 percent) and decline with age. Among working adults, an average of 20 percent will become ill during a community outbreak.

- Some persons will become infected but not develop clinically significant symptoms. Asymptomatic or minimally symptomatic individuals can transmit infection and develop immunity to subsequent infection.
- While the number of patients seeking medical care cannot be predicted with certainty, in previous pandemic about half of those who become ill sought care. With the availability of effective antiviral drugs for treatment, this proportion may be higher in the next pandemic.
- Rates of serious illness, hospitalization, and deaths will depend on the virulence of the pandemic virus and differ by an order of magnitude between more and less severe scenarios.
- Rates of absenteeism will depend on the severity of the pandemic. In a severe pandemic, absenteeism attributable to illness, the need to care for ill family members and fear of infection may reach 40 percent during the peak weeks of a community outbreak, with lower rates of absenteeism during the weeks before and after the peak. Certain public health measures (closing organizations, quarantining household contacts of infected individuals, "snow days") are likely to increase rates of absenteeism.
- The typical incubation period (interval between infection and onset of symptoms) for influenza is approximately two days, but may be as long as 12 days.
- Persons who become ill may shed virus and can transmit infection for up to one day before the onset of symptoms. Viral shedding and the risk of transmission will be greatest during the first two days of illness. Children usually shed the greatest amount of virus and therefore are likely to post the greatest risk for transmission.
- On average, infected persons will transmit infection to approximately two other people.
- A pandemic outbreak in any given community will last about six to eight weeks for each wave of the pandemic.
- Multiple waves (periods during which community outbreaks occur across the country) of illness could occur with each wave lasting two-three months. Historically, the largest waves have occurred in the fall and winter, but the seasonality of a pandemic cannot be predicted with certainty.

8.5.2 Organizational Assumptions

- Crestone will be provided with guidance and/or direction by Federal, State, and local governments regarding current influenza pandemic status in our area.
- Crestone will have actionable plans and procedures to assist in the ability to remain operational during a pandemic. Plans and procedures may include social distancing protocols, personal protection equipment (PPE), and temporary suspension of some nonessential activities.
- Crestone has a viable ERP and continuity communication program.
- Crestone will review its continuity communications programs to ensure they are fully capable of supporting pandemic and other related emergencies, as well as supporting social distancing operations, including telework and other virtual office options.
- Crestone controlled buildings will be accessible, but right of entry may be limited.
- Crestone may deploy to its alternate offices in either Firestone or Watkins
- During a Pandemic Influenza event, Crestone may make its alternate facilities available for staff to implement social distancing protocols.
- Essential functions, operations, and support requirements will continue to be people dependent. However, human interactions may be remote or virtual, resulting in the employment of appropriate teleworking and other approved social distancing protocols.

- Travel restrictions, such as limitations on mass transit, implemented at the Federal, State, and local levels may affect the ability of some staff to report to work.
- Additional funding will be budgeted for the acquisition of additional equipment required for a possible surge in teleworking capabilities.

8.6 Risk Communications

Crestone will develop influenza pandemic risk communications procedures for communicating with all internal and external stakeholders. This includes the use of existing notification rosters with names and telephone numbers for Emergency Response, Essential and Non-essential personnel. Essential personnel are those staff that are critical to operational safety or infrastructure. These rosters are maintained and updated by the External Affairs and Human Resource Departments. These rosters are maintained in the Human Resources files and hard copies are retained by the Chief Compliance Officer

8.7 Essential Elements of Pandemic Influenza Continuity Capability

The Elements of a Viable Continuity Capability section should address the 10 traditional elements of continuity within the context of a pandemic influenza outbreak. Because this document one portion of the Crestone ERP. Many of these elements may be handled by different portions of the overall ERP. These portions will be referenced as applicable and differences and parallels will be highlighted in responding to a pandemic outbreak when compared to responses to other, more physically destructive hazards, such as industrial accidents, tornados, hurricanes, floods, and fires. These strategies are not required to be used during a pandemic but could help Crestone maintain its overall capability.

8.7.1 Essential Functions

Given the expected duration and potential multiple waves of pandemic outbreaks, Crestone must review the process involved in carrying out essential functions and services in order to develop plans that mitigate the effects of the pandemic while simultaneously allowing the continuation of operations which support essential functions. Crestone has identified essential Pandemic Influenza Continuity functions and services needed to sustain its mission and operations during a pandemic. Crestone's essential functions were assessed using a failure modes and effects (FMEA) analysis. The FMEA's for all essential functions are evergreen documents and will be updated periodically. These will be stored in the safety departments electronic files and communicated to the different departments. The FMEA will identify mitigations necessary to reduce risk of these essential functions to tolerable levels. Basic essential functions include the following: Well production, maintenance of wells and facilities, HUB facility operations, office operations, IT systems, finance, accounting, internet services, network services, telecommunication services, land services, geology, engineering, environmental compliance, regulatory compliance and safety.

8.7.2 Orders of Succession and Delegations of Authority

Since influenza pandemic may affect different areas of our operations and different departments differently in terms of timing, severity, and duration, Crestone has identified orders of succession and delegations of authority for essential personnel. These are to be maintained in the human resources departments electronic files and hard copies provided to the Chief Compliance Officer.

8.7.3 Continuity Facilities

The traditional use of continuity facilities to maintain essential functions and services may not be a viable option during a pandemic. Rather, safe work practices, which include social distancing and transmission interventions, reduce the likelihood of contacts with other people that could lead to disease transmission. Crestone has developed preventative practices such as social distancing procedures, hygiene etiquette, and cancellation of organizations non-essential activities to reduce the spread of the pandemic. Plans have also

been established to relocate to an alternate facility, if applicable. Alternate facilities are the Crestone Watkins Field Office and the Crestone Firestone Field Office.

8.7.4 Continuity Communications

According to the National Strategy Implementation Guidance, workplace risk can be minimized through implementation of systems and technologies that facilitate communication without person-to-person contact. The IT department has identified communication systems needed to perform essential functions. Essential Communications systems and equipment lists are maintained in the IT departments electronic files and hard copies provided to the Chief Compliance Officer.

8.7.5 Essential Records Management

Crestone shall identify, protect, and ensure the ready availability of electronic and hardcopy documents, references, records, and information systems needed to support essential functions during a pandemic outbreak. The IT department has identified systems, databases, and files that are needed to ensure essential functions remain operational. Essential records are maintained in the IT departments electronic files and hard copies provided to the Chief Compliance Officer.

8.7.6 Human Resources

Although a pandemic influenza outbreak may not directly affect the physical infrastructure of an organization, a pandemic will ultimately threaten all operations by its impact on an organization's human resources. The health threat to personnel is the primary threat to maintaining essential functions and services during a pandemic outbreak. Crestone has established plans to protect the entire employee population and their families, with additional guidance for key personnel, ERP members, and other essential personnel, should a pandemic influenza outbreak occur. The human resource plan is maintained in the human resources departments electronic files and hard copies provided to the Chief Compliance Officer.

8.7.7 Test, Training and Exercises

Testing, training, and exercising are essential to assessing, demonstrating, and improving an organization's ability to maintain its essential functions and services. The organization conducts annual tests, training, and exercises to ensure sustainable social distancing techniques, and to assess the impacts of reduced staff on the performance of essential functions. The organization conducts continuity exercises to examine the impacts of pandemic influenza on performing essential functions, and to familiarize personnel with their responsibilities. The organization has identified resources and trained continuity personnel, needed to perform essential functions. Crestone's continuity test, training and exercise plan is maintained in the safety departments files and periodic updates are provided to the Chief Compliance Officer.

8.7.8 Devolution of Control and Direction

Devolution is the process of transferring operational control of one or more essential functions to a pre-determined responsible party or parties. Pandemic outbreaks will occur at different times, have variable durations, and may differ in the severity; therefore, full or partial devolution of essential functions may be necessary to continue essential functions and services. Crestone has established plans and procedures for devolution, which identifies how it will transfer operations, if pandemic influenza renders leadership and essential staff incapable or unavailable. Crestone's Devolution of Control and Direction plan for pandemic influenza is maintained in the human resources departments electronic files and hard copies provided to the Chief Compliance Officer.

8.7.9 Reconstitution

Reconstitution is the process whereby an organization has regained the capability and physical resources necessary to return to normal (pre-disaster) operations. The objective during reconstitution is to effectively

manage, control, and, with safety in mind, expedite the return to normal operations. Crestone has developed reconstitution plans and procedures, in conjunction with local public health authorities, to ensure facilities/buildings are safe to return. Crestone's reconstitution plan considers the possibility that not all employees may be able to return to work at the time of reconstitution and that it may be necessary to hire temporary or permanent workers in order to complete the reconstitution process. Crestone's Reconstitution plan for pandemic influenza is maintained in the human resources departments electronic files and hard copies provided to the Chief Compliance Officer.

8.8 Conclusion

Maintaining Crestone's essential functions and services in the event of pandemic influenza requires additional considerations beyond traditional continuity planning. Unlike other hazards that necessitate the relocation of staff performing essential functions to an alternate operating facility, an influenza pandemic may not directly affect the physical infrastructure of the organization. As such, a traditional "continuity activation" may not be required during a pandemic influenza outbreak. However, a pandemic outbreak threatens an organization's human resources by removing essential personnel from the workplace for extended periods of time. Accordingly, Crestone's continuity plan addresses the threat of a pandemic influenza outbreak. Continuity Plans for maintaining essential functions and services in a pandemic influenza should include implementing procedures such as social distancing, infection control, personal hygiene, and cross-training (to ease personnel absenteeism in a critical skill set). Protecting the health and safety of key personnel and other essential personnel must be the focused goal of the organization in order to enable the organizations to continue to operate effectively and to perform essential functions and provide essential services during a pandemic outbreak.

Appendix A

World Health Organization Phases

The World Health Organizations (WHO) developed an alert system to help inform the world about the seriousness of a pandemic. The alert system has six phases, with Phase 1 having the lowest risk of human cases and Phase 6 posing the greatest risk of pandemic. Organizations are encouraged to monitor the WHO phases and establish continuity "triggers" as deemed appropriate. The phases are applicable globally and provide a framework to aid countries in pandemic preparedness and response planning. The use of a six-phased approach has been retained. However, the pandemic phases have been re-defined (Table 1). In addition, the time after the first pandemic wave has been elaborated into post peak and post pandemic periods.

Table 1: World Health Organization Pandemic Influenza Phases

Phase 1	No animal influenza virus circulating among animals has been reported to cause infection in humans.
Phase 2	An animal influenza virus circulating in domesticated or wild animals is known to have caused infection in humans and is therefore considered a specific potential pandemic threat.
Phase 3	An animal or human-animal influenza reassortant virus has caused sporadic cases or small clusters of disease in people, but has not resulted in human-to-human transmission sufficient to sustain community-level outbreaks.
Phase 4	Human-to-human transmission (H2H) of an animal or human-animal influenza reassortant virus able to sustain community-level outbreaks has been verified.
Phase 5	The same identified virus has caused sustained community level outbreaks in two or more countries in one WHO region.
Phase 6	In addition to the criteria defined in Phase 5, the same virus has caused sustained community level outbreaks in at least one other country in another WHO region.
Post-Peak Period	Levels of pandemic influenza in most countries with adequate surveillance have dropped below peak levels.
Possible New Wave	Level of pandemic influenza activity in most countries with adequate surveillance rising again.
Post-Pandemic Period	Levels of influenza activity have returned to the levels seen for seasonal influenza in most countries with adequate surveillance.

Appendix B

OSHA Risk Level Analysis

Functional Area	Work Type	OSHA Rating	Estimated Number of Personnel	Mitigation Strategies	Essential / Work Stoppage Possible
Drilling Operations	Drilling	Medium	6	PPE	Essential – Less than 10 days until demob
	Cementation	Medium	4	PPE; Maintaining 6' where possible; Segregating Crews	Essential – Less than 10 days until demob
	Casing Running	Medium	2	PPE; Maintaining 6' where possible; Segregating Crews	Essential – Less than 10 days until demob
	Rig Moves	Medium	10+	PPE; Maintaining 6' where possible; Segregating Crews so 1 Company is Moving at a Time	Essential – Less than 10 days until demob
	Trucking	High	10+ Daily	PPE; Notice to Vendors	Essential – Less than 10 days until demob
Completions	Drill Out Operations	Medium	5	PPE	Place on hold until April 17, 2020
	Snubbing	Medium	2	PPE; Maintaining 6' where possible; Segregating Crews	Place on hold until April 17, 2020
	Flowback	Low	4	PPE; Maintaining 6' where possible; Segregating Crews	Place on hold until April 17, 2020
	Trucking		10+ Daily	PPE; Notice to Vendors	Place on hold until April 17, 2020
Production	P&A	Medium	5	PPE	Complete Wantle P&A; Place on hold until April 17, 2020
	ALS Installs	Medium	7	PPE; Maintaining 6' where possible; Segregating Crews	Complete Wantle P&A; Place on hold until April 17, 2020
	ALS Break / Fix	Low / Medium	2	PPE; Maintaining 6' where possible; Segregating Crews	Complete Wantle P&A; Place on hold until April 17, 2020
	Swabbing	Medium	2	PPE; Maintaining 6' where possible; Segregating Crews	TBD
	Route Maintenance	Low	1	PPE; Maintaining 6' at all times	Essential
Automation	New Installs	Medium	2-3	PPE; Maintaining 6' where possible; Segregating Crews	Place on hold until April 17, 2020
	Route Maintenance	Low	1	PPE; Maintaining 6' at all times	Essential
Maintenance	New Installs	Medium	4	PPE; Maintaining 6' where possible; Segregating Crews	Place on hold until April 17, 2020
	Route Maintenance	Low	2	PPE; Maintaining 6' at all times	Essential
New Construction	New Installs	Medium	10+	PPE; Maintaining 6' where possible; Segregating Crews	Place on hold until April 17, 2020

Appendix C
Risk Assessments (FMEA)
Office Locations

Process or Operation (SBU):	Covid-19 Workover Risk Assessment
FMEA Participants:	Danny Knutson/Covid Task Force
Responsible:	Danny Knutson/David Stewart
FMEA Date: 4/15/2020	**Revised FMEA Date:**

Input or Process Step	Potential Failure Mode	Potential Effects of Failure	SEV	Potential Cause(s)/ Mechanism(s) of Failure	OCC	Current Process Controls	DET	RPN	Risk Matrix Level PRIOR to Mitigation	Recommended Mitigation Action(s)	Last Name of Responsible Team Member	Date Due	Mitigating Action Implemented	Date Mitigation Implemented	SEV	OCC	DET	RPN	Risk Matrix Level AFTER Mitigation	EHS Reviewer Initials	EHS Review Date
Safety of workers during pandemic of Covid-19 stay at home order	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following Company or CDC rules	7	Working in the Denver Office: Minimize/Alternating personel entering the office, supplying hand sanitizer, Signing in and out, Approval from supervisor or email to Covid-19, Social distancing, Minimize time at the office, Receptionist is wiping down periodically, Working only in your assigned office, Employees are to self report if they have synptoms, Utilizing only one bank of elevators	4	280	MEDIUM	Weekly updates from Covid Task Force	Covid Task Force	TBD	3/13/2020	3/13/2020	10	7	4	280	MEDIUM	Covid Task Force - KB, EM, CC, JS, JO, TA, DS, SK	4/15/2020
Resuming work after the Stay at Home orders	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following Company or CDC rules	7	Working in the Denver Office: Minimize/Alternating personel entering the office, 1/2 staff entering the office, Alternating start/end times, supplying hand sanitizer, Signing in and out, Social distancing, Attend meeting remotely from office, Receptionist is wiping down periodically, Working only in your assigned office, Employees are to self report if they have symptoms and come to work fit for duty (monitor temperature, etc.), Utilizing only one bank of elevators, Professional cleaning by contractor, Require folks to wear masks, When using common areas practice social distancing (Post reminders), Follow all CDC and company guidelines,	4	280	MEDIUM	Weekly updates from Covid Task Force	Covid Task Force	TBD			10	7	4	280	MEDIUM	Covid Task Force - KB, EM, CC, JS, JO, TA, DS, SK	4/15/2020
Someone is diagnosed with the Covid-19	Current processes failed?	Death, Lost time incident	10		7	Denver Office: Send everyone home for and have the office cleaned by contract company and determine the return process.	4	280	MEDIUM	Weekly updates from Covid Task Force	Covid Task Force	TBD			10	7	4	280	MEDIUM	Covid Task Force - KB, EM, CC, JS, JO, TA, DS, SK	4/15/2020
Safety of workers during pandemic of Covid-19 stay at home order	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following Company or CDC rules	7	Firestone Office: Sign/In while in office, No non essenitial personel, Nothing being dropped off by third parties, For necessary drop off of items they must schedule days to enter, While working at office close doors, Wear masks while in office or interacting with others, Hand snitizer to all employees, Receptionist wiping down office, Any drop offs are left in the inner and outer doors,	4	280	MEDIUM	Weekly updates from Covid Task Force	Covid Task Force	TBD	3/13/2020	3/13/2020	10	7	4	280	MEDIUM	Covid Task Force - KB, EM, CC, JS, JO, TA, DS, SK	4/15/2020
Resuming work after the Stay at Home orders	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following Company or CDC rules	7	Firestone Office: Sign/In while in office, No non essenitial personel, Nothing being dropped off by third parties, For necessary drop off of items they must schedule days to enter, While working at office close doors, Wear masks while in office or interacting with others, Hand snitizer to all employees, Receptionist wiping down office, Any drop offs are left in the inner and outer doors,	4	280	MEDIUM	Weekly updates from Covid Task Force	Covid Task Force	TBD			10	7	4	280	MEDIUM	Covid Task Force - KB, EM, CC, JS, JO, TA, DS, SK	4/15/2020
Someone is diagnosed with the Covid-19	Current processes potentially failed	Death, Lost time incident	10	Workers not following protocols or not aware of symptoms.	7	Firestone Office: Send everyone home for and have the office cleaned by contract company and determine the return process.	4	280	MEDIUM	Weekly updates from Covid Task Force	Covid Task Force	TBD			10	7	4	280	MEDIUM	Covid Task Force - KB, EM, CC, JS, JO, TA, DS, SK	4/15/2020
Safety of workers during pandemic of Covid-19 stay at home order	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following Company or CDC rules	7	Watkins Office: Sign/In while in office, No non essenitial personel, Nothing being dropped off by third parties, For necessary drop off of items they must schedule days to enter, While working at office close doors, Wear masks while in office or interacting with others, Hand snitizer to all employees, Receptionist wiping down office, Any drop offs are left in the inner and outer doors,	4	280	MEDIUM	Weekly updates from Covid Task Force	Covid Task Force	TBD	3/13/2020	3/13/2020	10	7	4	280	MEDIUM	Covid Task Force - KB, EM, CC, JS, JO, TA, DS, SK	4/15/2020
Resuming work after the Stay at Home orders	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following Company or CDC rules	7	Watkins Office: Sign/In while in office, No non essenitial personel, Nothing being dropped off by third parties, For necessary drop off of items they must schedule days to enter, While working at office close doors, Wear masks while in office or interacting with others, Hand snitizer to all employees, Receptionist wiping down office, Any drop offs are left in the inner and outer doors,	4	280	MEDIUM	Weekly updates from Covid Task Force	Covid Task Force	TBD			10	7	4	280	MEDIUM	Covid Task Force - KB, EM, CC, JS, JO, TA, DS, SK	4/15/2020
Someone is diagnosed with the Covid-19	Current processes potentially failed	Death, Lost time incident	10	Workers not following protocols or not aware of symptoms.	7	Watkins Office: Send everyone home for and have the office cleaned by contract company and determine the return process.	4	280	MEDIUM	Weekly updates from Covid Task Force	Covid Task Force	TBD			10	7	4	280	MEDIUM	Covid Task Force - KB, EM, CC, JS, JO, TA, DS, SK	4/15/2020

Appendix C

Risk Assessments (FMEA)

Drilling Locations

Process		**Conducting Drilling Operations During COVID-19 Pandemic**	
FMEA Participants		Jerry Thorstad Drlg Mngr, Robert Samples Drlg Supt	
Responsible			
FMEA Date	4/1/2020	**Revised FMEA Date:**	

Input or Process Step	Potential Failure Mode	Potential Effects of Failure	SEV	Potential Cause(s)/ Mechanism(s) of Failure	OCC	Current Process Controls	DET	RPN	Risk Matrix Level PRIOR to Mitigation	Recommended Mitigation Action(s)	Last Name of Responsible Team Member	Date Due	Mitigating Action Implemented	Date Mitigation Implemented	SEV	OCC	DET	RPN	Risk Matrix Level AFTER Mitigation
allowing workers to work site	workers contract COVID-19	'sick' workers transmit COVID-19 to other workers (passing COVID-19 to multiple workers and their families (**workers experience lost-time**))	9	workers have/carry COVID-19	6	Crestone Contractor Manual states all 3rd parties and their subcontractors performing work on Crestone locations shall be 'Fit for Duty' before coming to work. Crestone is following Federal, State & Local Agency recommendation-mandates. Crestone is actively monitoring worker entry thru guard shack at site entrance. Worker temperatures are being taken. Routine check-in's with on-site personnel. New transportation drivers are asked to stay in truck while site personnel load/unload truck. Social distancing, all meetings are outdoor and 6-8 feet apart. No non-essential personnel on location. No passing around paper and pen, using a single person to scribe. Communicating by phone or intercom whenever possible. Creating and maintaining sanitary conditions, wiping equipment with Lysol, Clorox wipes, and or bleach water. Soap and water f/ personal washing. Lysol and wipes where needed for surfaces. Using nitrile gloves when applicable. Masks when duties require and availability of N-95 masks. Following W.H.O. recommendations - wash hands minimum 20-seconds with soap and water, don't touch face, etc.	4	**216**	**MEDIUM**	no new recommendation	already complete	4/1/2020	same as current process control already in place	4/1/2020	9	6	4	**216**	**MEDIUM**
allowing workers to work site	workers contract COVID-19	'sick' workers transmit COVID-19 to other workers passing COVID-19 to multiple workers and their families (**workers experience death**)	10	workers have/carry COVID-19	4	Crestone Contractor Manual states all 3rd parties and their subcontractors performing work on Crestone locations shall be 'Fit for Duty' before coming to work. Crestone is following Federal, State & Local Agency recommendation-mandates. Crestone is actively monitoring worker entry thru guard shack at site entrance. Worker temperatures are being taken. Routine check-in's with on-site personnel. New transportation drivers are asked to stay in truck while site personnel load/unload truck. Social distancing, all meetings are outdoor and 6-8 feet apart. No non-essential personnel on location. No passing around paper and pen, using a single person to scribe. Communicating by phone or intercom whenever possible. Creating and maintaining sanitary conditions, wiping equipment with Lysol, Clorox wipes, and or bleach water. Soap and water f/ personal washing. Lysol and wipes where needed for surfaces. Using nitrile gloves when applicable. Masks when duties require and availability of N-95 masks. Following W.H.O. recommendations - wash hands minimum 20-seconds with soap and water, don't touch face, etc.	4	**160**	**MEDIUM**	no new recommendation	already complete	4/1/2020	same as current process control already in place	4/1/2020	10	4	4	**160**	**MEDIUM**

Appendix C

Risk Assessments (FMEA)

Completions Locations

Process or Operation (SBU):		Covid-19 Completion Risk Assessment	
FMEA Participants:		Danny Knutson/Mark Balderston	
Responsible:		Danny Knutson/Mark Balderston	
FMEA Date:	4/2/2020	**Revised FMEA Date:**	

Input or Process Step	Potential Failure Mode	Potential Effects of Failure	SEV	Potential Cause(s)/ Mechanism(s) of Failure	OCC	Current Process Controls	DET	RPN	Risk Matrix Level PRIOR to Mitigation	Recommended Mitigation Action(s)	Last Name of Responsible Team Member	Date Due	Mitigating Action Implemented	Date Mitigation Implemented	SEV	OCC	DET	RPN	Risk Matrix Level AFTER Mitigation
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	1	Pandemic Prepardness Protocol request sent to all contractors and acknowledgement form to be signed. Plan to be in ISN by May 1st. Social Distancing of 6-8 feet. Washing of hands on a periodic basis.Stopped work from 3/14/2020 to 4/20/2020.	1	**10**	LOW	No Further action Needed					10	1	1	**1**	LOW
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	1	Start up of work on 4/20/2020, Steps to be in place are as follows. Re-assess on going back to work at by 4/17/2020 to authorize start up.	1	**10**	LOW	Reassessment done on 4/17/2020 by management	Covid Task Force	4/17/2020			10	1	1	**10**	LOW
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	7	Startup if approved for the Hingley A/N pad on flowing the I, J, K wells. Mimnimize crew size to 4 people , Practicing 6-8 feet, washing of hands on a periodic basis, Avoid touching face with hands, If available wear masks, One person placing names on JSA and associated documents, Minimize touching of documents, pens, etc. Supply hand wash stations.Contractors must follow thier Pandemic Prepardness Protocol and have a copy on location. Follow all Federal, State, and local guidelines. No non-essential personell are not allowed on site. Gloves must be worn at all times.This crew will be limited to thier no go zone. Each crew will have designated toilets assigned.	4	**280**	MEDIUM	Weekly updates fromCovid Task Force	Covid Task Force	TBD			10	7	3	**210**	MEDIUM
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	7	Drill out of remaining wells.Startup if approved for the Hingley A/N pad. Mimnimize crew size to 5 people, Practicing 6-8 feet, washing of hands on a periodic basis, Avoid touching face with hands, If available wear masks, One person placing names on JSA and associated documents, Minimize touching of documents, pens, etc. Supply hand wash stations.Contractors must follow thier Pandemic Prepardness Protocol and have a copy on location. Follow all Federal, State, and local guidelines. No non-essential personell are not allowed on site. Gloves must be worn at all times.This crew will be limited to thier no go zone. Designate crew specific toilets and have cleaned more often.	4	**280**	MEDIUM									**0**	LOW
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	7	Startup if approved for the Hingley A/N pad. Water support crews. Mimnimize crew size to 2-3 people, Practicing 6-8 feet, washing of hands on a periodic basis, Avoid touching face with hands, If available wear masks, One person placing names on JSA and associated documents, Minimize touching of documents, pens, etc. Supply hand wash stations.Contractors must follow thier Pandemic Prepardness Protocol and have a copy on location. Follow all Federal, State, and local guidelines. No non-essential personell are not allowed on site. Gloves must be worn at all times.This crew will be limited to thier no go zone. Crew specific toilets assigned and cleaned accasioanlly.	4	**280**	MEDIUM									**0**	LOW

Appendix C
Risk Assessments (FMEA)
Workover Locations

Process or Operation (SBU):		Covid-19 Workover Risk Assessment	
FMEA Participants:		Danny Knutson/Cole Carveth/Matt Rohret	
Responsible:		Danny Knutson/Cole Carveth/Matt Rohret	
FMEA Date:	4/13/2020	**Revised FMEA Date:**	

Input or Process Step	Potential Failure Mode	Potential Effects of Failure	SEV	Potential Cause(s)/ Mechanism(s) of Failure	OCC	Current Process Controls	DET	RPN	Risk Matrix Level PRIOR to Mitigation	Recommended Mitigation Action(s)	Last Name of Responsible Team Member	Date Due	Mitigating Action Implemented	Date Mitigation Implemented	SEV	OCC	DET	RPN	Risk Matrix Level AFTER Mitigation
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	1	Pandemic Prepardness Protocol request sent to all contractors and acknowledgement form to be signed. Plan to be in ISN by May 1st. Social Distancing of 6-8 feet. Washing of hands on a periodic basis.Stopped work from 4/2/2020 to 4/27/2020.	1	**10**	LOW	No Further action Needed					10	1	1	**1**	LOW
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	1	Start up of work on 4/27/2020, Steps to be in place are as follows. Re-assess on going back to work at by 4/24/2020 to authorize start up.	1	**10**	LOW	Reassessment done on 4/24/2020 by management	Covid Task Force	4/24/2020			10	1	1	**10**	LOW
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	7	Startup if approved for the COGCC required P&A operations. Minimize rig crew size to 4 people plus tool pusher and wellsite supervisor. Practice distancing of 6-8 feet, washing of hands on a periodic basis, avoid touching face with hands. Gloves must be worn at all times. Consider wearing FR or 100% cotton face covering on rig floor or all situations when distancing of 6-8 feet is not practical. Prevent congregating in doghouse during safety meetings and meal times. One person placing names on JSA and associated documents. Minimize touching of documents, pens, etc. If contactor is on standby, must be segregated from essential operation and only engage when required. No physical signing of field tickets, must be done electronically. Supply hand wash stations. Minimum two toilets will be used at all times. Contractors must follow their Pandemic Prepardness Protocol and have a copy on location. Follow all Federal, State, and local guidelines. No non-essential personel are allowed on site.	4	**280**	MEDIUM	Weekly updates from Covid Task Force	Covid Task Force	TBD			10	7	3	**210**	MEDIUM
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	7	Startup if approved for wellwork and maintenance operations. Minimize rig crew size to 4 people plus tool pusher and wellsite supervisor. Practice distancing of 6-8 feet, washing of hands on a periodic basis, avoid touching face with hands. Gloves must be worn at all times. Consider wearing FR or 100% cotton face covering on rig floor or all situations when distancing of 6-8 feet is not practical. Prevent congregating in doghouse during safety meetings and meal times. One person placing names on JSA and associated documents. Minimize touching of documents, pens, etc. If contactor is on standby, must be segregated from essential operation and only engage when required. No physical signing of field tickets, must be done electronically. Supply hand wash stations. Minimum two toilets will be used at all times. Contractors must follow their Pandemic Prepardness Protocol and have a copy on location. Follow all Federal, State, and local guidelines. No non-essential personel are allowed on site.	4	**280**	MEDIUM	Weekly updates from Covid Task Force	Covid Task Force	TBD			10	7	3	**210**	MEDIUM

Appendix C

Risk Assessments (FMEA)

Maintenance Construction Locations

Process or Operation (SBU):		Covid-19 Workover Risk Assessment	
FMEA Participants:		Danny Knutson/Maintenance & Construction	
Responsible:		Danny Knutson/AJ Buffington	
FMEA Date:	4/13/2020	**Revised FMEA Date:**	

Input or Process Step	Potential Failure Mode	Potential Effects of Failure	SEV (View)	Potential Cause(s)/ Mechanism(s) of Failure	OCC (View)	Current Process Controls	DET (View)	RPN	Risk Matrix Level PRIOR to Mitigation (View)	Recommended Mitigation Action(s)	Last Name of Responsible Team Member	Date Due	Mitigating Action Implemented	Date Mitigation Implemented	SEV (View)	OCC (View)	DET (View)	RPN	Risk Matrix Level AFTER Mitigation (View)
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	7	Facilities/Maintenance: Minimize rig crew size to 2 people where applicable, Practice distancing of 6-8 feet, washing of hands on a periodic basis, avoid touching face with hands. Gloves must be worn at all times. Consider wearing FR or 100% cotton face covering in situations when distancing of 6-8 feet is not practical. Prevent congregating in groups during safety meetings and meal times. One person placing names on JSA and associated documents. Minimize touching of documents, pens, etc. If contactor is on standby, must be segregated from essential operation and only engage when required. No physical signing of field tickets, must be done electronically. Crews be supplied with hand sanitizer. Toilets when used ensure sanitize hands before and after use. Contractors must follow their Pandemic Prepardness Protocol and have a copy on location. Follow all Federal, State, and local guidelines. No non-essential personel are allowed on site. Crews are traveling in separate vehicles from site to site,	4	**280**	**MEDIUM**	Weekly updates from Covid Task Force	Covid Task Force	TBD			10	7	3	**210**	**MEDIUM**

Appendix C

Risk Assessments (FMEA)

Production Locations

Process or Operation (SBU):		Standard operating for Lease Operators	
FMEA Participants:		Danny Knutson/Production Group.	
Responsible:		Danny Knutson	
FMEA Date:	4/13/2020	**Revised FMEA Date:**	

Input or Process Step	Potential Failure Mode	Potential Effects of Failure	SEV (View)	Potential Cause(s)/ Mechanism(s) of Failure	OCC (View)	Current Process Controls	DET (View)	RPN	Risk Matrix Level PRIOR to Mitigation (View)	Recommended Mitigation Action(s)	Last Name of Responsible Team Member	Date Due	Mitigating Action Implemented	Date Mitigation Implemented	SEV (View)	OCC (View)	DET (View)	RPN	Risk Matrix Level AFTER Mitigation (View)
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	4	Standard Operation: Lone Workers on most locations, Distancing when experiencing contractors, Distancing when approached by pulic sector, Distancing when employee's are working together, gloves being worn when retrieving paperwork, Utilzing hand sanitizer as needed,When fueling a barrier is used for the pump, Following CDC and Company Covid-19 procedures, Maintain rigor to any updates,	5	200	MEDIUM	When available, distribute FRC face masks to all workers	Danny Knutson	4/18/2020			10	4	5	200	MEDIUM
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	4	Breakdowns/Non-standard Operations: Distancing when experiencing contractors, Distancing when approached by pulic sector, Distancing when employee's are working together, gloves being worn when retrieving paperwork, Utilzing hand sanitizer as needed,When fueling a barrier is used for the pump, Following CDC and Company Covid-19 procedures, Maintain rigor to any updates, Sanitize before and after job, only touch individual tools per worker, Only one person will fill out the JSA and add all workers and first step on JSA is ensuring protection steps are understood. ,	5	200	MEDIUM									0	LOW
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	4	Startup's: Distancing when experiencing contractors, Distancing when approached by pulic sector, Distancing when employee's are working together, gloves being worn when retrieving paperwork, Utilzing hand sanitizer as needed,When fueling a barrier is used for the pump, Following CDC and Company Covid-19 procedures, Maintain rigor to any updates, Sanitize before and after job, only touch individual tools per worker, Only one person will fill out the JSA and add all workers and first step on JSA is ensuring protection steps are understood.Radios when possible to eliminate close contact, Crews are limited to 2 per crew or minimum,	5	200	MEDIUM									0	LOW

Appendix C

Risk Assessments (FMEA)

Production Locations

Input or Process Step	Potential Failure Mode	Potential Effects of Failure	SEV	Potential Cause(s)/ Mechanism(s) of Failure	OCC	Current Process Controls	DET	RPN	Risk Matrix Level PRIOR to Mitigation	Recommended Mitigation Action(s)	Last Name of Responsible Team Member	Date Due	Mitigating Action Implemented	Date Mitigation Implemented	SEV	OCC	DET	RPN	Risk Matrix Level AFTER Mitigation
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	4	Pig Launching/Receiving Distancing when experiencing contractors, Distancing when approached by pulic sector, Distancing when employee's are working together, gloves being worn when retrieving paperwork, Utilizing hand sanitizer as needed,When fueling a barrier is used for the pump, Following CDC and Company Covid-19 procedures, Maintain rigor to any updates, Sanitize before and after job, only touch individual tools per worker, Only one person will fill out the JSA and add all workers and first step on JSA is ensuring protection steps are understood.Radios when possible to eliminate close contact, Crews are limited to 2 per crew or minimum,	5	200	MEDIUM									0	LOW
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	4	Hub Control Room: Cleaning office space on daily basis, Limit number of workers in Control Roon at one time (Limit 4), Follow all CDC and company Covid-19 procedures, Keyboards and other equipment is cleaned after each use,	5	200	MEDIUM									0	LOW
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	4	Non-Stardard operations: Distancing when experiencing contractors, Distancing when approached by pulic sector, Distancing when employee's are working together, gloves being worn when retrieving paperwork, Utilzing hand sanitizer as needed,When fueling a barrier is used for the pump, Following CDC and Company Covid-19 procedures, Maintain rigor to any updates, Sanitize before and after job, only touch individual tools per worker, Only one person will fill out the JSA and add all workers and first step on JSA is ensuring protection steps are understood.Radios when possible to eliminate close contact, Crews are limited to 2 per crew or minimum,	5	200	MEDIUM									0	LOW
Safety of workers during pandemic of Covid-19	Contracting the Covid-19 virus	Death, Lost time incident	10	Workers showing up while sick, Coughing and or not following CDC rules	4	Paperwork, Run Tickets, Going to Office: Sanitize everytime after touching, Wear gloves when needed, Wear gloves when picking up parts from anywhere, Wash hands upon arrival and when leaving,	5	200	MEDIUM									0	LOW

Appendix D
Links to Reference Documents and Guides

Occupational Safety and Health Administration:
Guidance on Preparing Workplaces for COVID-19, https://www.osha.gov/Publications/OSHA3990.pdf

Centers for Disease Control and Prevention:
Interim Guidance for Businesses and Employers to Plan and Respond to Coronavirus Disease 2019 (COVID-19),
https://www.cdc.gov/coronavirus/2019-ncov/community/guidance-business-response.html

World Health Organization:
Critical preparedness, readiness and response actions for COVID-19, https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/critical-preparedness-readiness-and-response-actions-for-covid-19

Federal Emergency Management Administration:
Pandemic Influenza Template
https://www.fema.gov/media-library/assets/documents/93250

American Petroleum Institute:
Pandemic Planning Guide
https://www.api.org/~/media/Files/EHS/Process-Safety/API-PandemicGuide-2016.pdf

Department of Homeland Security – Cyber and Infrastructure:
Guidance on the Essential Critical Infrastructure Workforce
https://www.cisa.gov/publication/guidance-essential-critical-infrastructure-workforce

Department of Homeland Security:
Pandemic Influenza Preparedness, Response, and Recovery
Guide for critical infrastructure and key resources
https://www.dhs.gov/sites/default/files/publications/cikrpandemicinfluenzaguide.pdf

Colorado Oil and Gas Association:
Link to COVID-19 Resource Page
https://us.workplace.datto.com/webhome?XAOYI_6a=F8HG-OPS7-1XB9-NBJF-J8RO#/folder/ViewFolder.action?folderId=619106256&saauth=false

Emergency Response Plan
Section 9.0 – Crestone Peak Resources Midstream LLC Pipelines and Facilities

Date last revised: 06/29/2020

Table of Contents

9.0 Introduction

This section of CPR's ERP is dedicated to emergency response procedures that are specific to CPRs Midstream facilities in Arapahoe County, City of Aurora and Adams County. This section is intended to be used in conjunction with CPRs overarching ERP and tools. This section is intended to provide information necessary to give guidance during a potential emergency occurring on the pipeline and midstream facilities. This plan has information showing the pipeline map of the system, Pipeline isolation valves, and compressor stations. The following is a system description specifying the components and pressures during normal operating conditions.

9.1 Purpose

The Crestone Peak Resources Midstream (CPRM) pipeline consists of thirty-three-mile network of pipeline generally located east of Powhaton Road, west of Watkins Road, north of Yale Avenue and south of 56th Avenue. The existing pipelines convey natural gas in diameters of four inches to twelve inches and transport gas from the perspective wells to the compressor stations by wellhead pressures (30-100 PSI). Once at the compressor stations the gas is compressed up to pipeline pressure (300-350 PSI) for sale to a third-party sale. Above ground valve sites are located along the pipeline alignments so that pressure within the pipes can be regulated, including isolation operations needed during maintenance activities or emergencies. These sites are also used as access points for cleaning and maintenance operations. These above-ground appurtenance locations will be fenced, restricting access to authorized personnel only.

In addition to the CPR's ERP the following documents are also used to maintain pipeline integrity and safety.

- CPRM Type B Pipeline Operations and Maintenance Manual
- CPRM Integrity Management Plan
- CPRM Emergency Response Plan
- CPRM Emergency Notification Chart
- CPRMS Emergency Response Quick Reference Guide
- CPRM Risk Assessment

9.2 Regulatory Requirements

CPR's Midstream Assets are regulated by the State of Colorado's Public Utilities Commission. Pursuant to the State of Colorado's Public Utility Commission pipeline regulations, CPRM will be regulated as a Type C gathering line. CPRM, as an operator of gathering lines located in class 1 locations, as defined in § 192.5, or, type B gathering lines located in class 2 areas that the operator determines does not meet Area 2 dwelling density in §192.8, must comply with the following requirements:

A. Telephonically report any incident or events as described in 4911(b) to staff. Any hazardous leakage or conditions which may lead to an immediate repair shall be promptly repaired and documented;

B. Tier 1 Member at the Utility Notification Center of Colorado if the pipeline system is located in any public road or railroad right-of-way, and;

C. Establish the MAOP of the line; and

D. Install and maintain pipeline markers at each crossing of a public road or railroad right-of-way and labeled according to the MPR.

9.3 Establishing and Maintaining Communications with Fire, Police, and Public Officials

CPRM will complete the following tasks in order to establish and maintain communication with local emergency responders.

- Maintain current telephone numbers for emergency response agencies.
- Develop a matrix of responsibilities and resources for each response agency
- Crestone will reach out to the local emergency responders and educate them based on Crestone's knowledge in responding to a gas pipeline emergency
- Identify the types of gas pipeline incidents which require notification to local emergency responders and public officials.
- Plan how officials can engage in mutual assistance to minimize hazards to life or property using the unified command structure.
- Conduct training exercises, table-top drills and other mutual learning events with local emergency responders.

9.4 Availability of Emergency Resources

Below are the identified resources for CPRM:

- All pipeline and facility operators are trained on the operation, ERP procedures and have hazardous operations training; which includes tabletop and practical exercises.
- Emergency Notification chart, guideline and plan that defines how Crestone will respond to an emergency with 24-hour availability and an incident command structure.
- CPRM operates an Emergency Response truck and trailer with an uplink satellite system capable of Skype and telephonic communication as needed.
- CPRM operates a drone for emergencies and can feed into the Emergency Response trailer for aerial reconnaissance information during an emergency and/or drill.
- CPRM operates an operations command center in our Watkins Field office that monitors pipeline pressures and integrity. This command center has the ability to remotely shut in well heads and reduce pipeline system pressure.
- CPRM's command center is also equipped with alarms and call-out systems for staff needed during incident management.

9.5 Valve Isolation and Emergency Shutdown

CPRM will maintain a current map of the complete pipeline system showing isolation valves and other appurtenances. The map will also include coordinates and driving directions to each location for responding to an emergency or drill. This map will be made available to local emergency responders in the event of an emergency or drill. The attached map is the current configuration, but this is subject to change given our ongoing development of additional pipeline infrastructure.

9.5.1 Remotely Controlled Isolation Valves

The primary purpose of remotely controlled isolation valves is to minimize the environmental and safety effects if Pony Compressor Station experiences a sudden pressure drop, fire, or other upset conditions.

Remotely controlled pipeline isolation valves are installed on the inlet and discharge of Pony Station. The discharge has one on both the gas and fluid lines.

- Pony Station – Inlet and discharge header to station is equipped with emergency shutdown systems (ESDs).
- Additionally, each wellsite facility is equipped with an ESD system and can be shut down remotely.

9.6 Emergency Response

When a facility is involved in an emergency event, personnel shall first take the appropriate action to safeguard human life by distancing themselves from the hazards. Protection of property and the environment should be considered secondary after the hazard to human life is diminished.

The goal in any emergency event should be to *make safe* any actual or potential hazard to life or property. If necessary, to minimize hazards to life or property, pipelines or facilities must be immediately shut down and pressure reduced. Once a line has been shut down, the line may not be restarted until proper approval is obtained.

All responses to pipeline emergencies shall follow the requirements listed in the Corporate Emergency Response Guide. The following are additional requirements that may be specific to pipeline facilities.

9.6.1 Responding to a Gas Leak

Any leak detected deserves prompt corrective action, regardless of the size or amount of gas/liquid leaking. Immediately report all leaks, regardless of size, to the appropriate personnel.

General guidelines for responding to a gas leak are stated below.

- If a leak is detected or suspected, shut down compressor units and / or pipelines feeding the affected line segment.
- Utilize area Emergency Notification Chart to contact:
  - emergency response agencies (Call 911),
  - Company personnel as required, and
  - State One-Call Center if excavation is required (811).
- Confirm exact location of the leak and isolate appropriately. If the person who discovers the leak is unsure of the proper valves to close, he or she should contact the appropriate personnel.
- If a hazardous area exists, consideration must be given to:
  - halting traffic on roads or railroads
  - evacuating people (evacuate to area upwind of release)
  - prohibiting access by the public, and
  - eliminating all possible sources of ignition including internal combustion engines and power tools.
  - See the Emergency Response Guide and Notification Chart for further response actions and for notifying government agencies

9.6.2 Gas Detected in or Near a Building

If flammable natural gases or liquids are released inside or near a building, the following action should be taken immediately.

- Evacuate all people who may be affected
- Utilize area Emergency Notification Chart to contact:
  - emergency response agencies (Call 911)
  - Supervisor/Company personnel as required, and
  - the local gas and electric utility company regarding vapor cloud or blowing gas.

  Be aware of ignition sources—do not light a match; never turn lights on or off; never use any electrical switches, including a garage door opener; never use the doorbell; never use the telephone, including cell phones. The electrical current in a phone, light or electric switch is enough to spark an explosion.
- Close all valves upstream and downstream of building.
- Determine source of leak without putting self or others at risk.
- If odor source is a leak, determine where gas came from and where the gas went (above ground and/or below ground migration.
- Use appropriate instruments to assess the extent and coverage of the vapor cloud and determine the hazardous area.
- Once leak is stopped and if possible, to do safely, ventilate the area. If the flammable atmosphere is above the upper explosive limit (UEL), keep in mind that during ventilation the atmosphere will pass back through the flammable range of 4% to 16% gas to air. Also remember that fans are a potential ignition source. Natural gas, depending on the makeup, requires a minimum mixture of 4% to 16% in air to ignite.

  Do not start up pipeline or allow people to return to building until leak is found and repaired, and building is determined to be safe.

9.6.3 Fire and Explosions Involving a Pipeline Facility

General guidelines for responding to a fire or explosion are stated below.

- Utilize area Emergency Notification Chart to contact appropriate:
  - emergency response agencies (Call 911), and
  - Supervisor/Company personnel as required
  - Affected pipeline operators, if any.
- Evacuate people if necessary.
- Assess the situation and determine the most effective and safest strategy to respond to the blowing gas or fire.

  If the fire is in the incipient stage, the closest available trained employee should attempt to shut off the fuel source and extinguish the flames. (Do this **only** if it can be done safely.)
- See the Emergency Response Guide for further response actions, and for notifying government agencies.

9.7 Natural Disaster

9.7.1 Tornados and Other Severe Weather

Tornadoes are often accompanied by heavy rain, lightning and sometimes hail. Personal safety should be considered first, and care needs to be taken to avoid possible injury.

During thunderstorms, when tornadoes are most likely to occur, personnel should keep abreast of weather conditions by tuning into local radio and/or TV stations.

A tornado may be monitored and detected by:

- listening to news reports, keeping in mind that:
  - a *tornado watch* means that conditions are conducive for the formation of tornadoes, and
  - a *tornado warning* means that a tornado has been sighted.
- sighting of a funnel formation on the ground or in the clouds, and/or
- hearing a roar that sounds like a jet or a locomotive.

If the tornado is a direct threat to a pipeline facility:

- notify appropriate Company personnel
- shut down the pipeline facility, and
- inform others and take appropriate shelter
  - Low-lying areas such as ditches or culverts afford the best protection from a tornado; however, these low-lying areas can collect heavier than air gases.
  - Special precautions need to be taken when seeking protection in these low-lying areas.
  - If you are inside a building, the safest place is near the floor, in a hallway, interior room (such as a closet or bathroom), or under a desk.

After the tornado passes, correct any damage to the facility and restart operations after obtaining proper approval.

9.7.2 Responding to an Earthquake

General guidelines for responding to an earthquake are stated below.

- Shut down the pipeline and or facility, if necessary.
- Notify appropriate Company personnel.
- Inspect affected pipeline and/or facility for leaks and damage.
- Patrol right-of-way for ground slippage, damage, unsafe conditions, or indication of leaks.
- If necessary, notify appropriate government agencies. If unsafe conditions are found, a safety related conditions report may have to be filed with the local agencies.
- Restart operations after correcting any damage or unsafe conditions and obtaining proper approval.

9.7.3 Responding to a Flood

Before and During a Flood

- Monitor news reports for flood status.
- Notify appropriate Company personnel.
- Determine whether to shut down the pipeline during flooding conditions.

- Perform frequent patrols to:
  - evaluate the accessibility of block valves that may be needed to isolate water crossings or other sections of a pipeline
  - determine if the pipeline is exposed (debris in water at the pipeline crossing may be an indication of an exposed pipeline)
  - determine if any new river channels have been cut along the pipeline by the flooding (pipelines are likely to be exposed when a new river channel is formed), and
  - determine if facilities which are normally above ground have become submerged and are in danger of being struck by vessels or debris. If so, those facilities should be marked or protected.
- If applicable, monitor the Cygnet system for indication of leaks.

After a Flood

- Correct any damage to exposed pipeline facilities and restart operations after obtaining proper approval.
- Consider performing surveys to determine depth of cover for pipelines affected by the flood.
- Replace or repair any missing or damaged markers and signs.

9.8 Emergencies Involving a Breach of Security

It is incumbent upon all staff members to support all security practices and requirements relevant to their work environment. If there is an event that involves a breach of security, the Security Operations Center must be notified immediately.

The following situations constitute a security breach and the Corporate Security Team

should be notified immediately if any of these situations are discovered.

- Lost or stolen Company property
- Vandalism of Company property
- Suspected terrorist activities
- Bomb threats, burglaries, or assaults involving company personnel and/or property
- Disturbances on Company property

9.9 Emergency Response Plan Access

All supervisors and employees must have access to the latest editions of this local ERP as well as the Corporate Emergency Response Guide.

9.10 Training/Drills

All supervisors and employees must be trained on their roles in responding to an emergency.

Emergency Response training and/or drills will be conducted periodically to:

- educate employees on their roles in responding to an emergency, and
- test the plan effectiveness.

Educate and work with responding agencies

9.11 Review of Actual Emergencies

Any actual incidents, which initiate an emergency response, will be reviewed and documented to determine:

- effectiveness of procedures, and
- performance of employees in following procedures.
- Interaction with responding agencies

9.12 Post Incident Drug and Alcohol Testing

Each employee whose performance either contributed to the accident or cannot be completely discounted as a contributing factor to the accident, shall be post-accident drug tested as soon as possible but no later than 32 hours after an accident.

Each employee whose performance of a covered function either contributed to the accident or cannot be completely discounted as a contributing factor to the accident, shall be post-accident alcohol tested promptly following the accident.

If the test is not administered within 2 hours, the operator shall prepare and maintain on file a record stating the reasons the test was not promptly administered. If the test is not administered within eight hours, the operator shall cease attempts to administer an alcohol test and shall state in the record the reason for not administering the test.

9.13 Liaison with Public Officials

The Pipeline Supervisor or designee will make personal contact with appropriate public officials in their area, including fire department and law enforcement agencies. The contact will be made to acquaint them with the Company's ability to respond to a pipeline emergency and learn the responsibility and resources that these officials retain.

A plan will then be agreed upon that includes the identification of the emergency and how the Company and public officials can engage in mutual assistance to minimize the hazards to life and property.

9.14 Responsibilities

The Pipeline Supervisor shall designate the areas of responsibilities for all affected personnel (valve isolation, shut down, communications, etc.).

- The Pipeline Supervisor shall assure that all employees are thoroughly knowledgeable regarding the function for which they are responsible.
- The Pipeline Supervisor shall be responsible for training personnel in these emergency procedures and verifying the effectiveness of the training. This training shall be done annually, at intervals not exceeding 15 months or as needed. Emergency drills and/ or oral and written exams may be used to verify training. The Pipeline Supervisor shall document the types and the effectiveness of the training.
- The training of personnel shall include the recognition and identification of potential hazards which could cause emergencies. Personnel shall also be trained to predict the consequences of

malfunction or failures and to take corrective actions.

- The Pipeline Supervisor shall provide training to plant personnel in the operation of adjacent pipeline facilities where plant personnel can respond more rapidly than pipeline personnel can.
- Copies of this Emergency Plan will be kept at the affected location and any manned plants.
- In an emergency, the Pipeline Supervisor or designee shall notify appropriate key personnel, location response personnel, and emergency response services as the situation warrants. Communications with emergency response services is to be maintained throughout the emergency.
- The plant control room will generally serve as communications center(s) during the emergency if available. Personnel not directly involved in the emergency shall refrain from using Company radios and telephones or telephoning the plant control room or affected location unless necessary.
- The Pipeline Supervisor shall assure the necessary preparation of a chronological record of notifications, action taken, and other pertinent information while operating under the emergency response plan.
- State and Federal pipeline safety reporting requirements are the responsibility of the Pipeline Supervisor.

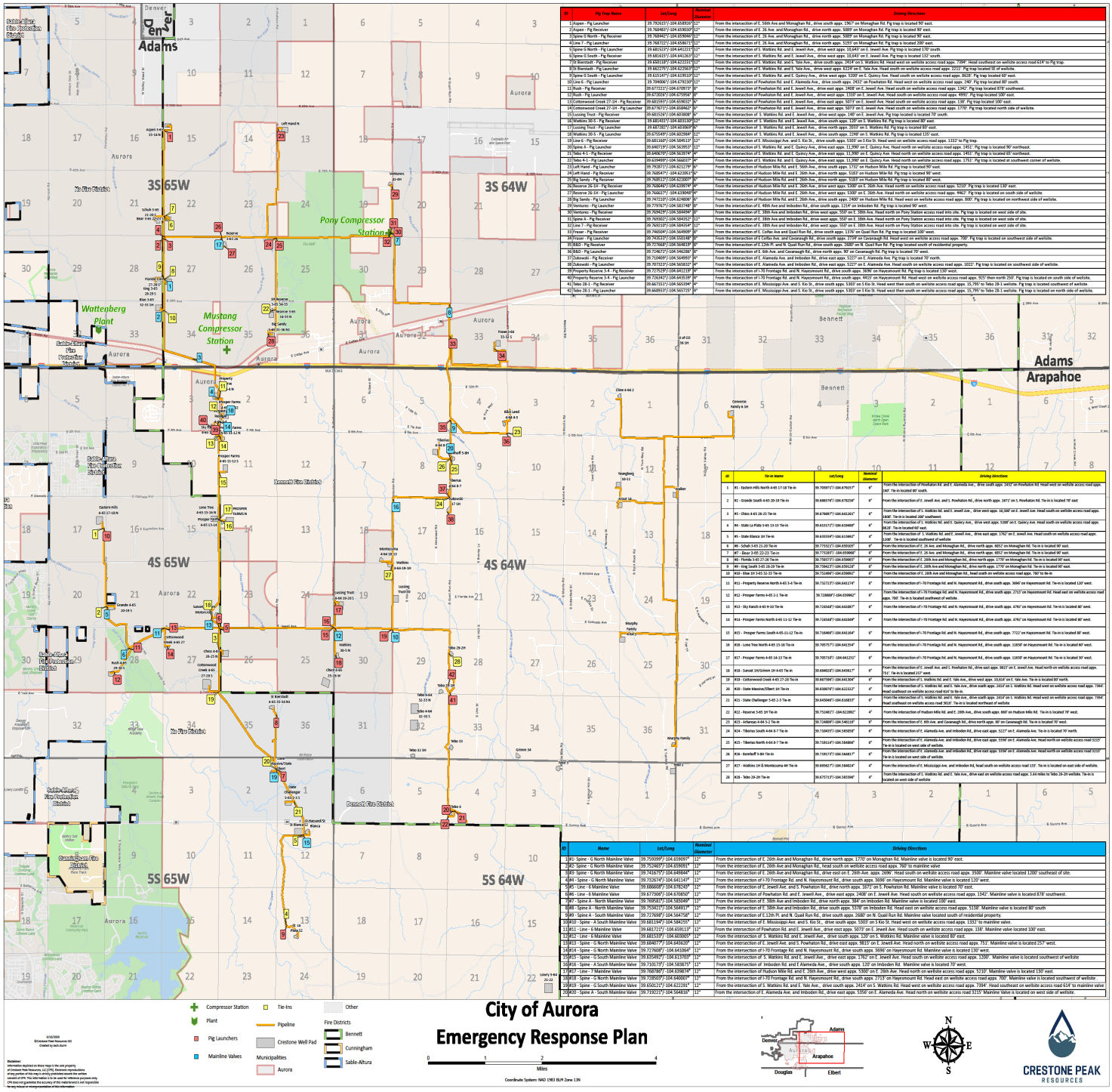
Emergency Response Plan

Section 9.0 – Crestone Peak Resources Midstream LLC Pipelines and Facilities

Date last revised: 06/29/2020

Appendix A

Pipeline Map



ID	Pig Trap Name	Lat/Long	Nominal Diameter	Driving Directions
1	Aspen - Pig Launcher	39.7925157°/-104.659509°	12"	From the intersection of E. 56th Ave and Monaghan Rd., drive south appx. 1967' on Monaghan Rd. Pig trap is located 90' east.
2	Aspen - Pig Receiver	39.7684827°/-104.659309°	12"	From the intersection of E. 26 Ave. and Monaghan Rd., drive north appx. 5089' on Monaghan Rd. Pig trap is located 90' east.
3	Spine G North - Pig Receiver	39.7684827°/-104.659309°	12"	From the intersection of E. 26 Ave. and Monaghan Rd., drive north appx. 5089' on Monaghan Rd. Pig trap is located 90' east.
4	Line 7 - Pig Launcher	39.7687227°/-104.658671°	12"	From the intersection of E. 26 Ave. and Monaghan Rd., drive north appx. 5193' on Monaghan Rd. Pig trap is located 200' east.
5	Spine G North - Pig Launcher	39.6815157°/-104.641211°	12"	From the intersection of S. Watkins Rd. and E. Jewell Ave., drive west appx. 10,643' on E. Jewell Ave. Pig trap is located 170' south
6	Spine G South - Pig Launcher	39.6816157°/-104.641263°	12"	From the intersection of S. Watkins Rd. and E. Jewell Ave., drive west appx. 10,643' on E. Jewell Ave. Pig trap is located 132' south.
7	16 Bientaalt - Pig Receiver	39.6501185°/-104.622211°	16"	From the intersection of E. Watkins Rd. and S. Yale Ave., drive south appx. 2414' on S. Watkins Rd. Head west on wellsite access road appx. 7294'. Head southwest on wellsite access road 614' to Pig trap.
8	16 Bientaalt - Pig Launcher	39.6822757°/-104.622563°	12"	From the intersection of E. Watkins Rd. and S. Yale Ave., drive west appx. 6224' on E. Yale Ave. Head south on wellsite access road appx. 2211'. Pig trap located 56' of wellsite.
9	Spine G South - Pig Launcher	39.6151457°/-104.641263°	12"	From the intersection of S. Watkins Rd. and E. Quincy Ave., drive west appx. 5280' on E. Quincy Ave. Head south on wellsite access road appx. 8628'. Pig trap located 60' east.
10	Line 6 - Pig Launcher	39.7040067°/-104.676150°	12"	From the intersection of Powhaton Rd. and E. Alameda Ave., drive south appx. 2432' on Powhaton Rd. Head west on wellsite access road appx. 240' Pig trap located 80' south.
11	Rush - Pig Receiver	39.6772172°/-104.670719°	8"	From the intersection of Powhaton Rd. and E. Jewell Ave., drive west appx. 2408' on E. Jewell Ave. Head south on wellsite access road appx. 1342'. Pig trap located 878' southwest.
12	Rush - Pig Launcher	39.6720972°/-104.675954°	8"	From the intersection of Powhaton Rd. and E. Jewell Ave., drive west appx. 1330' on E. Jewell Ave. Head south on wellsite access road appx. 4991'. Pig trap located 100' east.
13	Cottonwood Creek 27-1H - Pig Receiver	39.6815597°/-104.659032°	6"	From the intersection of Powhaton Rd. and E. Jewell Ave., drive east appx. 5073' on E. Jewell Ave. Head south on wellsite access road appx. 130'. Pig trap located 100' east.
14	Cottonwood Creek 27-1H - Pig Launcher	39.6776737°/-104.659462°	6"	From the intersection of Powhaton Rd. and E. Jewell Ave., drive east appx. 5073' on E. Jewell Ave. Head south on wellsite access road appx. 1770'. Pig trap located north side of wellsite.
15	Lassing Trust - Pig Receiver	39.6815267°/-104.603808°	6"	From the intersection of S. Watkins Rd. and E. Jewell Ave., drive west appx. 140' on E. Jewell Ave. Pig trap located is located 70' south.
16	Watkins 30-5 - Pig Receiver	39.6814317°/-104.631150°	6"	From the intersection of S. Watkins Rd. and E. Jewell Ave., drive south appx. 120' on S. Watkins Rd. Pig trap is located 80' west.
17	Lassing Trust - Pig Launcher	39.687282°/-104.603909°	6"	From the intersection of S. Watkins Rd. and E. Jewell Ave., drive north appx. 3019' on S. Watkins Rd. Pig trap is located 80' east.
18	Watkins 30-5 - Pig Launcher	39.6750497°/-104.602984°	12"	From the intersection of S. Watkins Rd. and E. Jewell Ave., drive south appx. 2248' on S. Watkins Rd. Pig trap is located 155' east.
19	Line 6 - Pig Receiver	39.6811687°/-104.594513°	12"	From the intersection of E. Mississippi Ave. and S. Kio St., drive south appx. 5300' on S Kio St. Head west on wellsite access road appx. 1332' to Pig trap.
20	Spine A - Pig Launcher	39.6407197°/-104.563953°	12"	From the intersection of S. Watkins Rd. and E. Quincy Ave., drive east appx. 11,990' on E. Quincy Ave. Head north on wellsite access road appx. 1451'. Pig trap is located 90' northeast.
21	Tebo 4-1 - Pig Receiver	39.6406267°/-104.563974°	6"	From the intersection of S. Watkins Rd. and E. Quincy Ave., drive east appx. 11,990' on E. Quincy Ave. Head north on wellsite access road appx. 1401'. Pig trap is located 65' northeast.
22	Tebo 4-1 - Pig Launcher	39.6394997°/-104.566033°	6"	From the intersection of S. Watkins Rd. and S. Quincy Ave., drive east appx. 11,990' on S. Quincy Ave. Head north on wellsite access road appx. 1751'. Pig trap is located at southwest corner of wellsite.
23	Left Hand - Pig Launcher	39.7928717°/-104.621179°	6"	From the intersection of Hudson Mile Rd. and E. 56th Ave., drive south appx. 7732' on Hudson Mile Rd. Pig trap is located 90' east.
24	Left Hand - Pig Receiver	39.7685477°/-104.621001°	6"	From the intersection of Hudson Mile Rd. and E. 56th Ave., drive north appx. 5183' on Hudson Mile Rd. Pig trap is located 90' west.
25	Big Sandy - Pig Receiver	39.7685317°/-104.622007°	6"	From the intersection of Hudson Mile Rd. and E. 26th Ave., drive north appx. 5183' on Hudson Mile Rd. Pig trap is located 80' west.
26	Reserve 26-1H - Pig Receiver	39.7685497°/-104.639974°	6"	From the intersection of Hudson Mile Rd. and E. 26th Ave., drive west appx. 5300' on E. 26th Ave. Head north on wellsite access road appx. 5210'. Pig trap is located 130' east.
27	Reserve 26-1H - Pig Launcher	39.7686177°/-104.639654°	6"	From the intersection of Hudson Mile Rd. and E. 26th Ave., drive west appx. 5300' on E. 26th Ave. Head north on wellsite access road appx. 4462'. Pig trap is located on south side of wellsite.
28	Big Sandy - Pig Launcher	39.7471237°/-104.624008°	6"	From the intersection of Hudson Mile Rd. and E. 26th Ave., drive south appx. 24690' on Hudson Mile Rd. Head west on wellsite access road appx. 800'. Pig trap is located on northwest side of wellsite.
29	Ventures - Pig Launcher	39.7707675°/-104.582748°	6"	From the intersection of S. 48th Ave and Inboden Rd., drive south appx. 1154' on Inboden Rd. Pig trap is located 90' west.
30	Ventures - Pig Receiver	39.7694297°/-104.584494°	6"	From the intersection of E. 38th Ave and Inboden Rd., drive west appx. 550' on E. 38th Ave. Head north on Pony Station access road into site. Pig trap is located on west side of site.
31	Spine A - Pig Receiver	39.7693927°/-104.584352°	12"	From the intersection of E. 38th Ave and Inboden Rd., drive west appx. 550' on E. 38th Ave. Head north on Pony Station access road into site. Pig trap is located on west side of site.
32	Line 7 - Pig Receiver	39.7692317°/-104.584147°	6"	From the intersection of E. 38th Ave and Inboden Rd., drive west appx. 550' on E. 38th Ave. Head north on Pony Station access road into site. Pig trap is located on west side of site.
33	Fraser - Pig Receiver	39.7465047°/-104.564909°	8"	From the intersection of E. Colfax Ave and Quail Run Rd., drive south appx. 1376' on Quail Run Rd. Pig trap is located 100' west.
34	Fraser - Pig Launcher	39.7435317°/-104.550148°	8"	From the intersection of E Colfax Ave. and Cavanaugh Rd., drive south appx. 2739' on Cavanaugh Rd. Head west on wellsite access road appx. 700'. Pig trap is located on southwest side of wellsite.
35	36LD - Pig Receiver	39.7276687°/-104.564833°	6"	From the intersection of E. 12th Pl. and N. Quail Run Rd., drive south appx. 2680' on N. Quail Run Rd. Pig trap located south of residential property.
36	36LD - Pig Launcher	39.7246727°/-104.546286°	6"	From the intersection of E. 6th Ave. and Cavanaugh Rd., drive north appx. 90' on Cavanaugh Rd. Pig trap is located 70' west.
37	Zukowski - Pig Receiver	39.7126697°/-104.564959°	6"	From the intersection of E. Alameda Ave. and Inboden Rd., drive east appx. 5227' on E. Alameda Ave. Pig trap is located 70' north.
38	Zukowski - Pig Launcher	39.7073237°/-104.565032°	6"	From the intersection of E. Alameda Ave. and Inboden Rd., drive east appx. 5227' on E. Alameda Ave. Head south on wellsite access road appx. 1022'. Pig trap is located on southwest side of wellsite.
39	Property Reserve 3-4 - Pig Receiver	39.7275297°/-104.641219°	6"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 3696' on Hayesmount Rd. Pig trap is located 130' west.
40	Property Reserve 3-4 - Pig Launcher	39.7263457°/-104.641539°	6"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 4415' on Hayesmount Rd. Head west on wellsite access road appx. 925' then north 250'. Pig trap is located on south side of wellsite.
41	Tebo 28-1 - Pig Receiver	39.6671557°/-104.565394°	6"	From the intersection of E. Mississippi Ave. and S. Kio St., drive south appx. 5303' on S Kio St. Head west then south on wellsite access road appx. 15,795' to Tebo 28-1 wellsite. Pig trap is located southwest of wellsite.
42	Tebo 28-1 - Pig Launcher	39.6669357°/-104.565725°	6"	From the intersection of E. Mississippi Ave. and S. Kio St., drive south appx. 5303' on S Kio St. Head west then south on wellsite access road appx. 15,795' to Tebo 28-1 wellsite. Pig trap is located on north side of wellsite.

ID	File-in Name	Lat/Long	Nominal Diameter	Driving Directions
1	#1 - Eastern Hills North 4-65 17-18 Tie-In	39.7009717°/-104.679257°	6"	From the intersection of Powhaton Rd. and E. Alameda Ave., drive south appx. 2432' on Powhaton Rd. Head west on wellsite access road appx. 240' Tie-in located 90' south.
2	#2 - Grande South 4-65 20-19 Tie-In	39.6985787°/-104.678256°	6"	From the intersection of E. Jewell Ave. and S. Powhaton Rd., drive north appx. 1671' on S. Powhaton Rd. Tie-in is located 70' east
3	#3 - Chico 4-65 28-29 Tie-In	39.6748697°/-104.643265°	6"	From the intersection of S. Watkins Rd. and E. Jewell Ave., drive west appx. 10,560' on E. Jewell Ave. Head south on wellsite access road appx. 1808'. Tie-in is located 200' southwest.
4	#4 - Stabo La Plata 5-65 13-15 Tie-In	39.6535177°/-104.619488°	6"	From the intersection of S. Watkins Rd. and E. Quincy Ave., drive west appx. 5280' on E. Quincy Ave. Head south on wellsite access road appx. 8628'. Tie-in located 60' east.
5	#5 - Stabo Blanca 1H Tie-In	39.6355597°/-104.613865°	6"	From the intersection of E. Watkins Rd. and E. Jewell Ave., drive east appx. 3762' on E. Jewell Ave. Head south on wellsite access road appx. 1200'. Tie-in is located southwest of wellsite
6	#6 - Schuh 5-65 23-26 Tie-In	39.7733217°/-104.659205°	6"	From the intersection of E. 26 Ave. and Monaghan Rd., drive north appx. 6852' on Monaghan Rd. Tie-in is located 90' east.
7	#7 - Bear 22-23 Tie-In	39.7733097°/-104.659066°	6"	From the intersection of E. 26 Ave. and Monaghan Rd., drive north appx. 6852' on Monaghan Rd. Tie-in is located 90' east.
8	#8 - Florida 5-65 27-28 Tie-In	39.7305737°/-104.659065°	6"	From the intersection of E. 26th Ave and Monaghan Rd., drive north appx. 1770' on Monaghan Rd. Tie-in is located 90' east.
9	#9 - King South 5-65 26-29 Tie-In	39.7304237°/-104.659118°	6"	From the intersection of E. 26th Ave and Monaghan Rd., drive north appx. 1770' on Monaghan Rd. Tie-in is located 90' east.
10	#10 - Blue 35-5 31-32 Tie-In	39.7154997°/-104.659065°	6"	From the intersection of E. 26th Ave and Monaghan Rd., head south on wellsite access road appx. 760' to tie-in
11	#11 - Property Reserve North 4-65 3-4 Tie-In	39.7327237°/-104.641174°	6"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 3684' on Hayesmount Rd. Tie-in is located 130' west.
12	#12 - Prosper Farms 4-65 2-1 Tie-In	39.726889°/-104.659662°	6"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 2713' on Hayesmount Rd. Head east on wellsite access road appx. 700'. Tie-in is located southwest of wellsite.
13	#13 - Sky Ranch 4-65 9-10 Tie-In	39.7245487°/-104.643387°	6"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 4741' on Hayesmount Rd. Tie-in is located 80' west.
14	#14 - Prosper Farms North 4-65 11-12 Tie-In	39.7245487°/-104.643369°	6"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 4741' on Hayesmount Rd. Tie-in is located 80' west.
15	#15 - Prosper Farms South 4-65-11-12 Tie-In	39.7164667°/-104.641164°	6"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 7722' on Hayesmount Rd. Tie-in is located 80' west.
16	#16 - Lone Tree North 4-65 15-16 Tie-In	39.7025757°/-104.641254°	6"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 1185' on Hayesmount Rd. Tie-in is located 80' west.
17	#17 - Prosper Farms 4-65 14-13 Tie-In	39.7057197°/-104.641252°	6"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 1185' on Hayesmount Rd. Tie-in is located 90' west.
18	#18 - Sunset 3rd Grimm 1H 4-65 Tie-In	39.6940237°/-104.643451°	6"	From the intersection of E. Jewell Ave. and S. Powhaton Rd., drive east appx. 9815' on E. Jewell Ave. Head north on wellsite access road appx. 751'. Tie-in is located 210' west.
19	#19 - Cottonwood Creek 4-65 27-28 Tie-In	39.6875997°/-104.641304°	6"	From the intersection of S. Watkins Rd. and E. Yale Ave., drive west appx. 10,654' on E. Yale Ave. Tie-in is located 80' north.
20	#20 - State Meadow/Elbert 1H Tie-In	39.6560747°/-104.622322°	6"	From the intersection of S. Watkins Rd. and E. Yale Ave., drive south appx. 2414' on S. Watkins Rd. Head west on wellsite access road appx. 7394' Head southwest on wellsite access road 614' to Tie-in.
21	#21 - State Challenger 5-65 2-3 Tie-In	39.6430487°/-104.616833°	6"	From the intersection of S. Watkins Rd. and E. Yale Ave., drive south appx. 2414' on S. Watkins Rd. Head west on wellsite access road appx. 7394' Head southwest on wellsite access road 3615'. Tie-in is located northeast of wellsite.
22	#22 - Reserve 5-65 34 Tie-In	39.7324817°/-104.622080°	6"	From the intersection of Hudson Mile Rd. and E. 38th Ave., drive south appx. 660' on Hudson Mile Rd. Tie-in is located 70' west.
23	#23 - Arkansas 4-64 5-2 Tie-In	39.7248097°/-104.540118°	6"	From the intersection of E. 6th Ave. and Cavanaugh Rd., drive north appx. 90' on Cavanaugh Rd. Tie-in is located 70' west.
24	#24 - Tiberius South 4-64 8-7 Tie-In	39.7304737°/-104.585958°	6"	From the intersection of E. Alameda Ave. and Inboden Rd., drive east appx. 5227' on E. Alameda Ave. Tie-in is located 70' north.
25	#25 - Tiberius North 4-64 8-7 Tie-In	39.7381147°/-104.564868°	6"	From the intersection of E. Alameda Ave. and Inboden Rd., drive east appx. 5706' on E. Alameda Ave. Head north on wellsite access road 5155' Tie-in is located on west side of wellsite.
26	#26 - Bankoff 1-6H Tie-In	39.7381737°/-104.564817°	6"	From the intersection of E. Alameda Ave. and Inboden Rd., drive east appx. 5706' on E. Alameda Ave. Head north on wellsite access road 5155' Tie-in is located on west side of wellsite.
27	#27 - Watkins 1H-6 Monticsanna 4H Tie-In	39.6999617°/-104.594014°	6"	From the intersection of E. Mississippi Ave. and Inboden Rd, head south on wellsite access road 155'. Tie-in is located on east side of wellsite.
28	#28 - Tebo 29-2H Tie-In	39.6757177°/-104.565594°	6"	From the intersection of S. Watkins Rd. and E. Yale Ave., drive east on wellsite access road appx. 3.44 miles to Tebo 29-2H wellsite. Tie-in is located on west side of wellsite

ID	Name	Lat/Long	Nominal Diameter	Driving Directions
1	#1- Spine - G North Mainline Valve	39.7593999°/-104.659697°	12"	From the intersection of E. 26th Ave and Monaghan Rd., drive north appx. 1770' on Monaghan Rd. Mainline valve is located 90' east.
2	#2- Spine - G North Mainline Valve	39.7524959°/-104.659091°	12"	From the intersection of E. 26th Ave and Monaghan Rd., head south on wellsite access road appx. 760' to mainline valve
3	#3- Spine - G North Mainline Valve	39.7414757°/-104.649844°	12"	From the intersection of E. 26th Ave and Monaghan Rd., drive east on E. 26th Ave. appx. 2696'. Head south on wellsite access road appx. 3500' Mainline valve located 1200' southeast of site.
4	#4 - Spine - G North Mainline Valve	39.7328197°/-104.643147°	12"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 3696' on Hayesmount Rd. Mainline valve is located 130' west.
5	#5 - Line - 6 Mainline Valve	39.6866698°/-104.678243°	12"	From the intersection of E. Jewell Ave. and S. Powhaton Rd., drive north appx. 1671' on S. Powhaton Rd. Mainline valve is located 70' east.
6	#6 - Line - 6 Mainline Valve	39.67736N°/-104.678850°	12"	From the intersection of Powhaton Rd. and E. Jewell Ave., drive east appx. 2408' on E. Jewell Ave. Head south on wellsite access road appx. 1342'. Mainline valve is located 878' southwest.
7	#7 - Spine A - North Mainline Valve	39.7073537°/-104.583650°	12"	From the intersection of E. 38th Ave and Inboden Rd., drive north appx. 384' on Inboden Rd. Mainline valve is located 120' west.
8	#8 - Spine A - North Mainline Valve	39.7534217°/-104.564913°	12"	From the intersection of E. 38th Ave and Inboden Rd., drive north appx. 5378' on Inboden Rd. Head east on wellsite access road appx. 5158'. Mainline valve is located 80' south
9	#9 - Spine A - South Mainline Valve	39.7227698°/-104.564758°	12"	From the intersection of E.12th Pl. and N. Quail Run Rd., drive south appx. 2680' on N. Quail Run Rd. Mainline valve located south of residential property.
10	#10 - Spine - G South Mainline Valve	39.6813347°/-104.584255°	12"	From the intersection of E. Mississippi Ave. and S. Kio St., drive south appx. 5303' on S Kio St. Head west on wellsite access road appx. 1332' to mainline valve.
11	#11 - Line - 6 Mainline Valve	39.6817217°/-104.659113°	12"	From the intersection of Powhaton Rd. and E. Jewell Ave., drive east appx. 5073' on E. Jewell Ave. Head south on wellsite access road appx. 136'. Mainline valve located 100' east.
12	#12 - Line - 6 Mainline Valve	39.6815337°/-104.603005°	12"	From the intersection of S. Watkins Rd. and E. Jewell Ave., drive south appx. 120' on S. Watkins Rd. Mainline valve is located 80' east.
13	#13 - Spine - G North Mainline Valve	39.6840727°/-104.643633°	12"	From the intersection of E. Jewell Ave. and S. Powhaton Rd., drive east appx. 9815' on E. Jewell Ave. Head north on wellsite access road appx. 751'. Mainline valve is located 253' west.
14	#14 - Spine - G North Mainline Valve	39.7276687°/-104.641064°	12"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 3696' on Hayesmount Rd. Mainline valve is located 130' west.
15	#15 - Spine - G South Mainline Valve	39.6554582°/-104.613703°	12"	From the intersection of S. Watkins Rd. and E. Jewell Ave., drive east appx. 1761' on E. Jewell Ave. Head south on wellsite access road appx. 1200'. Mainline valve is located southwest of wellsite
16	#16 - Spine - A South Mainline Valve	39.7101737°/-104.583875°	12"	From the intersection of Inboden Rd. and E Alameda Ave., drive south appx. 1320' on Inboden Rd. Mainline valve is located 70' west.
17	#17 - Line - 7 Mainline Valve	39.7676878°/-104.659874°	12"	From the intersection of Hudson Mile Rd. and E. 26th Ave., drive west appx. 5300' on E. 26th Ave. Head north on wellsite access road appx. 5210' Mainline valve is located 130' east.
18	#18 - Spine - G North Mainline Valve	39.7730037°/-104.640083°	12"	From the intersection of I-70 Frontage Rd. and N. Hayesmount Rd., drive south appx. 2713' on Hayesmount Rd. Head east on wellsite access road appx. 700'. Mainline valve is located southwest of wellsite
19	#19 - Spine - G South Mainline Valve	39.6560127°/-104.622291°	12"	From the intersection of S. Watkins Rd. and E. Yale Ave., drive south appx. 2414' on S. Watkins Rd. Head southeast on wellsite access road appx. 7394'. Head southeast on wellsite access road 614' to mainline valve
20	#20 - Spine A - South Mainline Valve	39.7192217°/-104.564816°	12"	From the intersection of E. Alameda Ave. and Inboden Rd., drive east appx. 5356' on E. Alameda Ave. Head north on wellsite access road 5215' Mainline Valve is located on west side of wellsite.

Appendix B
Crestone Peak Resources Midstream LLC Pipeline FMEA

Process or Operation		Crestone Peak Resources Midstream, LLC	
FMEA Participants:		Danny Knutson/David Stewart	
Responsible:		David Stewart	
FMEA Date:	3/1/2020	**Revised FMEA Date:**	

Input or Process Step	Potential Failure Mode	Potential Effects of Failure	SEV (View)	Potential Cause(s)/ Mechanism(s) of Failure	OCC (View)	Current Process Controls	DET (View)	RPN	Risk Matrix Level PRIOR to Mitigation (View)	Recommended Mitigation Action(s)
Pipeline Rupture/Corrosion/ People	Uncontrolled Gas/Liquid Release	Personal injury or death, Fire Explosion, Public interaction, Property Damage	10	Internal Corrosion/Pipe Failure/Valve Failure, Line Strike	4	Pigging Schedule, Corrosion Inhibitor, Engineering Standards, DOT specifications, Isolation Block Valves, Corrosion Coupons, Pipeline monitoring, Fencing, 811 Member, Pipeline markers, Visual inspections	3	**120**	LOW	No additioanl mitigations needed.
Pipeline Rupture/Corrosion/ Reputation	Uncontrolled Gas/Liquid Release	Personal injury or death, Fire Explosion, Public interaction, Property Damage	10	Internal Corrosion/Pipe Failure/Valve Failure, Line Strike	4	Pigging Schedule, Corrosion Inhibitor, Engineering Standards, DOT specifications, Isolation Block Valves, Corrosion Coupons, Pipeline monitoring, Fencing, 811 Member, Pipeline markers, Visual inspections	3	**120**	LOW	No additioanl mitigations needed.
Pipeline Rupture/Corrosion/ Environment	Uncontrolled Gas/Liquid Release	Personal injury or death, Fire Explosion, Public interaction, Property Damage	9	Internal Corrosion/Pipe Failure/Valve Failure, Line Strike	4	Pigging Schedule, Corrosion Inhibitor, Engineering Standards, DOT specifications, Isolation Block Valves, Corrosion Coupons, Pipeline monitoring, Fencing, 811 Member, Pipeline markers, Visual inspections	3	**108**	LOW	No additioanl mitigations needed.
Pipeline Rupture/Corrosion/ Assets	Uncontrolled Gas/Liquid Release	Shuts all available wells in until pipeline is repaired	7	Internal Corrosion/Pipe Failure/Valve Failure, Line Strike	4	Pigging Schedule, Corrosion Inhibitor, Engineering Standards, DOT specifications, Isolation Block Valves, Corrosion Coupons, Pipeline monitoring, Fencing, 811 Member, Pipeline markers, Visual inspections	3	**84**	LOW	No additioanl mitigations needed.
Human Error/Procrdures not Followed	Uncontrolled Gas/Liquid Release	Personal injury or death, Fire Explosion, Public interaction, Property Damage	10	Human Error/Procrdures not Followed	4	Written operating procedures, Training on procedures, Profecincy sign off's	2	**80**	LOW	No additioanl mitigations needed.
Spills/Environment	Overfilling containment, Blowing pipe sections down	Surface land contamination	5	Human Error/Procrdures not Followed	4	Written operating procedures, Training on procedures, Profecincy sign off's, Blowdown into containment	3	**60**	LOW	No additioanl mitigations needed.
Wildfires	Fire causing a pipeline leak	Uncontrolled Gas/Liquid Release/Fire	9	Pipeline Integrity Failure	4	Engineering Standards, Dot specifications, ERP procedures, Detectability of fires reported, House Keeping protocols	1	**36**	LOW	No additioanl mitigations needed.
Security/Assets	Opening/ClosingValves, Protest (Locking self to pipeline?), Vandalism	Uncontrolled Gas/Liquid Release/Fire	5	Gas Release, Spills, Property Damage	4	Security Fencing, No Tresspass signage,Daily monitoring	7	**140**	LOW	No additioanl mitigations needed.
Extreme Weather/People	Tornadoes, Earthquakes, Cold Weather, Lightning, Flood	Uncontrolled Gas/Liquid Release/Fire/Freezes	5	Gas Release, Spills, Property Damage, Hydrate Mitigation	4	Wheather alerts, ERP protocol, Procedures, Lightning/Weather Apps	1	**20**	LOW	No additioanl mitigations needed.