



PANDEMIC PLANNING GUIDE

API GUIDANCE DOCUMENT 1180
Revised 2020



FOREWORD

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*Suggested revisions are invited and should be submitted to the Director of Midstream,
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INTRODUCTION

The oil and natural gas industry directly employs almost **2.8 million** Americans, and supports **10.9 million jobs** in America or **5.5% of total U.S. employment**.



2.8 MILLION



10.9 MILLION



5.5 PERCENT

Therefore, it is critical that oil and natural gas companies are aware of and plan for the potential threats that could directly or indirectly impact their employees and operations. The Department of Homeland Security's Strategic National Risk Assessment identified human pandemic outbreak as one of "the types of incidents that pose the greatest threat to the Nation's homeland security." More specifically, the assessment describes the potential impacts of a virulent strain of pandemic influenza.

A virulent strain of pandemic influenza could kill hundreds of thousands of Americans, affect millions more and result in economic loss. Additional human and animal infectious diseases, including those previously undiscovered, may present significant risks.

Planning for such an event including understanding the best practices to limit the spread of a disease, the operating changes that might need to be considered if an outbreak

were to occur, challenges that both employers and employees may face should all be part of a company's business continuity and emergency preparedness responsibilities. Recognizing the unique challenges and operating considerations present in the oil and natural gas industry, API members have created the following document as a guide to those companies and individuals who are attempting to create an infectious disease or pandemic plan, as well as for those who are attempting updates to existing plans in light of changing threats.

This guide helps the planner determine how they can determine their operating regions based on considerations of an affected region, identifies the many sources of public sector information that are available for the planner to help develop the plan and to provide alerts and notices, and the process that a company can follow to make sure all relevant aspects of the business are included in the development of the plan. The guide can also help the planner think through resources and resource staging, communications, transmission routes, and how to work with other organizations during an event, such as contractors and joint venture partners. While this guide is not meant to be comprehensive, it does provide a roadmap for plan development that includes considerations pertinent to the oil and natural gas industry.

GUIDANCE ON DEFINING REGIONS

1



GUIDANCE ON DEFINING REGIONS

With the mobility of workers, companies need to consider the overlap between the regional impact of a pandemic disease and the overlap with their employees. Depending on the work location, regions may be simple to define or multifaceted if the company has several locations or employees come from a large region.

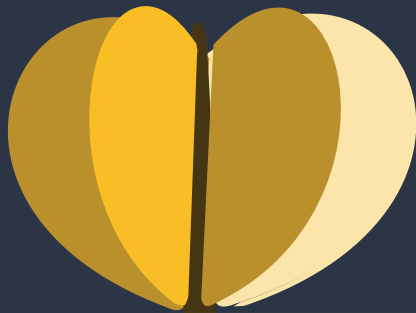
- A company with one discrete location will be simple to define and should include not only the plant location and the drawing area for employees but also its contractors and supporting organizations.
- Companies with multiple locations or multiple lines of business can be more challenging.
 - Multiple discrete locations in the same state with no or little overlap will likely require separate plans.
 - Discrete locations that are in different states may require additional planning because state laws will differ.
 - Multiple locations with overlap may increase the size of the area that employees will come from, but may make planning easier with the ability to share some resources.
 - Some companies have extended rotational work that allows employees to live hundreds of miles away from the worksite and fly in and out. These worksites can either consider the entire US as a region or may want to break the region into sub regions.

Considerations include:

- » Providing care across state lines without operations in those states
- » Effectively communicating with the workers may be difficult
- » Employees traveling from an affected location may bring disease with them to a location that is not yet affected
- » In a severe pandemic, transport may be disrupted

SOURCES OF INFORMATION

2



THE WORLD HEALTH ORGANIZATION

.1

THE CENTERS FOR DISEASE CONTROL AND PREVENTION

.2

THE INTERNATIONAL SOS

.3

THE INTERNATIONAL MARITIME ORGANIZATION

.4

SOURCES OF INFORMATION

It is advisable to check with the specific country of concern's Ministry of Health to see what the current pandemic conditions are and any travel restrictions that may have been established.

Further information can be found on the following links:

- The Centers for Disease Control and Prevention's (CDC's) website includes a Travel Notices section that contains current epidemic/pandemic updates, alert levels by area, and resources to locate a travel health specialist:

<http://wwwnc.cdc.gov/travel/notices>

The CDC website will also be the best source of authoritative information related to pandemic response in the United States. While much of the legal authority for infectious disease response rests at the state and local level, states and local public health agencies will often base their response on the scientific guidance provided by CDC. Often, CDC will establish an incident-specific web page that will include all the latest information and public health guidance related to a specific pandemic incident.

- The World Health Organization has put in place an International Travel and Health information site that includes updates for travelers, prevention measures, and disease distribution maps:

<http://www.who.int/ith/en/>

- The Overseas Advisory Council (OSAC) is a program in the U.S. Department of State that provides relevant and timely threat information specific to the country, operations, and personnel to private sector partners. This information can often be critical, particularly if country evacuations, enhanced security procedures or emergency response operations are required.

<https://www.osac.gov/Pages/Home.aspx>

- International SOS is a worldwide medical and travel security services company with locations across the globe. Their website has a dedicated Pandemic Preparedness section that provides up-to-date information for its members:

<https://www.internationalsos.com/pandemicpreparedness/index.aspx?languageID=ENG>

- The International Maritime Organization has issued guidance and information on protection measures for ships visiting countries affected specifically by the Ebola virus disease:

<http://www.imo.org/Documents/3484.pdf>

<http://www.imo.org/MediaCentre/HotTopics/ebola/Documents/3485.pdf>

INFECTIOUS DISEASE PLANNING PROCESS

3



INFECTIOUS DISEASE PLANNING PROCESS

3.1 GENERAL

Planning for infectious diseases should be a comprehensive process that involves both internal and external parties to your organization. A good Infectious Disease Plan will identify and include all stakeholders that are affected by this plan as well as a process to mitigate, prepare for, respond to, and recover from an Infectious Disease or Pandemic event.

3.2 PLANNING TEAM

As with most planning processes, planning for infectious diseases works best when all applicable stakeholders are involved. These stakeholders should include members from inside and outside of your organization.

3.2.1 INTERNAL STAKEHOLDERS

■ **Medical Director/Advisor:**

- Infectious diseases can come in all shapes and sizes. Your organization's Medical Director or Advisor can act as a Subject Matter Expert (SME) to identify potential risk factors including:
 - a. Type of disease (virus, bacteria, fungus, etc...)
 - b. Transmission routes
 - c. Severity

■ **Supply Chain Specialist:**

- Infectious diseases and pandemic events can require a high demand in resources that may be

in limited supply. Your supply chain specialist will assist in identifying these short lead items for possible stockpile or focused procurement.

- Depending on your organization's structure, Travel Services may be a function of Supply Chain. If so, travel can be a critical component during any pandemic event as your company and the local, state, and federal government may impede travel to curb the spread of the disease. Including Travel Services in your planning will be critical to your organization's success in responding to an event.

■ **Occupational Health Advisor:**

- Most pandemic events require specialized Personal Protective Equipment (PPE) to prevent the spread of the infectious disease. Your Occupational Health team can work with the Medical Advisor and assist you in identifying the right PPE for the right situation.

■ **Emergency Manager:**

- Depending on the circumstances of an infectious disease or pandemic event, it may be necessary to activate your Emergency Response Organization. Including your Emergency Manager in the planning process will ensure this activation occurs seamlessly with the rest of your planned actions.
- During a pandemic event, it may be necessary to defer to your Emergency and/or Business Continuity Plans. Including your Emergency Manager in the infectious disease planning process should ensure your pandemic planning coincides with your associated plans.

■ **Business Unit Leader:**

- Most infectious disease or pandemic events will impact your organization's business unit in one way or another. Supply chains could be interrupted or your workforce could be compromised, negatively affecting the business unit. The Business Unit Leader must be involved

to ensure they are aware of the impacts of an event and the contingencies put in place to address them.

■ **Business Continuity Specialist:**

- Pandemic and business continuity events are often intertwined. So much so that some organizations prefer to include the Infectious Disease/Pandemic Plan as an appendix to their Business Continuity Plans. Including your organization's Business Continuity Specialist will allow your team to create protocols for a pandemic event that mirror your business continuity protocols.

■ **Human Resources Specialist:**

- During a pandemic or infectious disease event normal work routines will most likely be altered. Human Resources will play a critical role in ensuring that the proper policies and procedures are planned for and followed during an incident.
- Human Resources also add value as a reviewer to any messaging that is distributed to employees or contractors.

3.2.2 EXTERNAL STAKEHOLDERS

■ **Local Emergency Planning Committee (LEPC):**

- LEPCs are responsible for maintaining the community's overall preparedness during emergencies. They can be a valuable source in identifying local hospitals, clinics, ambulance services, and other municipal resources that could assist your organization during an event.
- This also gives your organization an opportunity to reach out to your local community and communicate on issues that could arise during an event.
- Your Emergency Manager will most likely be the best point of contact within your organization to establish this connection.

■ **State/Federal Agencies:**

- As detailed later in this guidance, organizations like the Center for Disease Control and Prevention or your state's National Guard could prove valuable partners in your organization's prevention and response efforts. These agencies can be contacted directly or through the Sector Specific Agency for the Energy Sector.
- These organizations can be valuable sources of information during an outbreak or provide resource and planning details during the planning process.
- State and local public health agencies will be the best source of information, guidance, and assistance at the state and local level.

3.3 PLANNING PROCESS

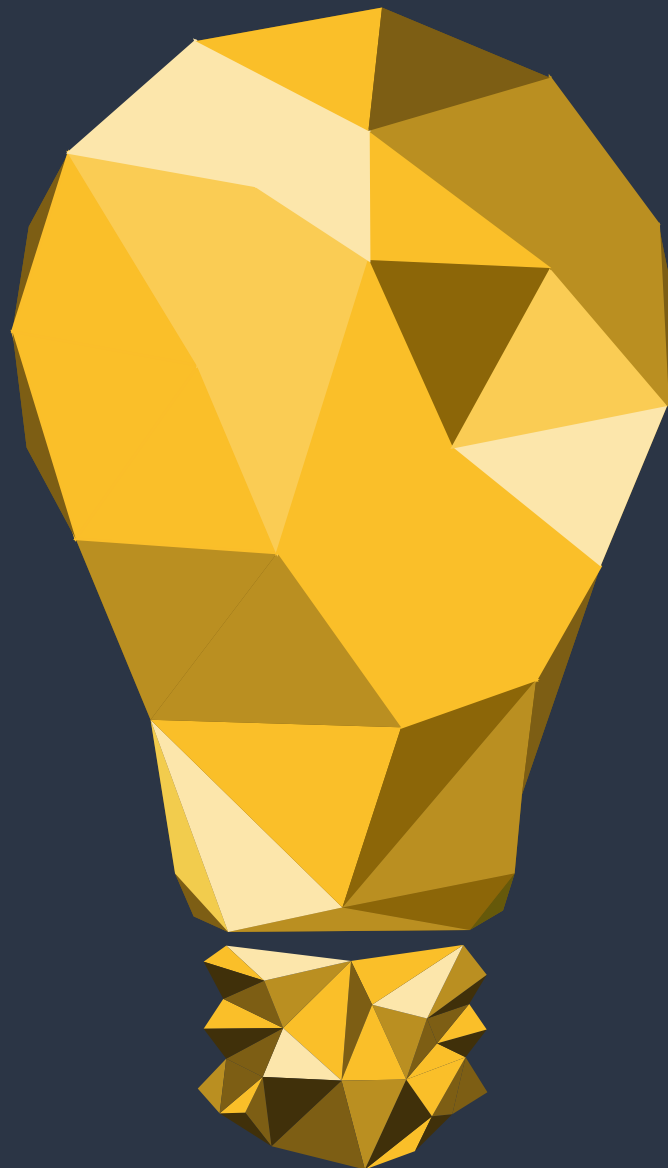
By identifying and bringing together the previously mentioned stakeholders, your organization should have a comprehensive team more than capable of putting together a holistic Infectious Disease / Pandemic Plan for your organization or region. This Guidance recommends several components that should be included into any holistic Infectious Disease Plan. This Guidance is not meant to be a rigid format for your plan, but a general roadmap to help assist with your plan's composition. Each region or organization will have its own specific risks or challenges.

These should be addressed in your plan as well. All plans must be periodically reviewed to remain effective and accurate. This guidance recommends the following review periods:

- Annually; or
- After significant changes to your prevention or response capability; or
- Upon the onset of the Recognition Trigger

API PANDEMIC PLAN THRESHOLD

4



4 API PANDEMIC PLAN THRESHOLD



Knowing when to begin implementing the various steps in a plan is critical to its effectiveness. Triggering a plan too late may leave employees and operations vulnerable to infection, while implementing a plan too early may waste resources that could be critical later in the event.

Table 1 outlines the oil and natural gas industry’s thresholds/triggers for implementing mitigation steps in response to escalating pandemic/epidemic concerns.

Phase	Description	Response
0	No pandemic concerns	<ul style="list-style-type: none"> Implement normal good health practices (washing hands frequently, common areas cleaned routinely, hand sanitizer available in public areas, etc.)
1	News of a specific potential pandemic threat is circulated by the World Health Organization (WHO) or the Centers for Disease Control (CDC) with reports of human cases outside of countries of operation.	<ul style="list-style-type: none"> Monitor disease progress Review Company Pandemic Plan Provide generic disease information to employees as deemed appropriate
2	News of a specific potential pandemic threat is circulated by the World Health Organization (WHO) or the Centers for Disease Control (CDC) with reports of human cases within countries of operation.	<ul style="list-style-type: none"> Enact Company Pandemic Plan Begin non-invasive mitigation measures (wash hands more frequently, distribute hand sanitizer, clean common rooms more frequently, etc.)
3	WHO or CDC reports that a pandemic disease is present within the country of operation, but no reported cases are present in the region/area of operation.	<ul style="list-style-type: none"> Begin invasive mitigation measures (limit face-to-face meetings; reduce use of public transportation, etc.)
4	WHO or CDC reports that a pandemic disease is present within the region/area of operation.	<ul style="list-style-type: none"> Continue invasive mitigation measures (stop face-to-face meetings, restrict use of public transportation, implement PPE, etc.)
5	Cases have been confirmed within company/location	<ul style="list-style-type: none"> Implement aggressive mitigation measures (exercise work from home plans, reduce human interfaces, etc.)

TRANSMISSION ROUTES

5



5 TRANSMISSION ROUTES

In general, the routes for infectious disease transmission are:

- Direct Transmission
 - Person-to-person (from direct contact between people or through direct projection—such as respiratory droplets)
 - Transplacental (from a mother to her fetus)
 - Indirect Transmission
 - Airborne transmission (the infectious agent is suspended in the air for a period of time)
 - Vehicle-borne transmission (through a contaminated non-living object)
 - Vector-borne transmission (through another organism, usually an arthropod such as a housefly, mosquito, lice and ticks)
- e. **Rickettsia:** a form of bacteria that shares traits of viruses and causes diseases such as Rocky Mountain Spotted Fever.
 - f. **Viruses:** agents that are pieces of DNA or RNA and require a living cell to infect and spread disease such as Rabies and Influenza.
 - g. **Prions:** protein particles that cause disease sporadically, by inheritance, or through exposure to infected human tissue such as Creutzfeld-Jacob disease (CJD) or Kuru. A CJD variant has been linked primarily to eating beef infected with Mad Cow Disease.

Biological agents that cause infectious diseases are divided into 7 categories.

These are:

- a. **Metazoa:** multicellular organisms including parasites such as Trichinellosis, Hookworm and Schistosomiasis.
- b. **Protozoa:** single-celled organisms that cause diseases such as Malaria, Giardiasis, Toxoplasmosis.
- c. **Fungi:** non-motile organisms that can cause disease through inhalation of spores such as Histoplasmosis and Candidiasis.
- d. **Bacteria:** single celled organisms responsible for a wide variety of human diseases such as Tuberculosis and Pertussis.

The three main agents concerned by this document include fungi, bacteria and viruses.

■ **Fungi**

Fungal diseases are often caused by fungi that are common in the environment. Most fungi are not dangerous, but some types can be harmful to health. Mild fungal skin diseases can look like a rash and are very common. Fungal diseases in the lungs are often similar to other illnesses such as the flu or tuberculosis. Some fungal diseases like fungal meningitis and bloodstream infections are less common than skin and lung infections but can be deadly.

Anyone can get a fungal infection, even people who are otherwise healthy. Fungi are common in the environment, and people breathe in or come in contact with fungal spores every day without getting sick. However, in people with weak immune systems, these fungi are more likely to cause an infection.

■ **Bacteria**

Some bacteria help to digest food, destroy disease-causing cells, and give the body needed vitamins. Bacteria are also used in making healthy foods like yogurt and cheese. But infectious bacteria can cause illness. They reproduce quickly in the body. Many give off chemicals called toxins, which can damage tissue. Examples of bacteria that cause infections include Streptococcus, Staphylococcus, and E. coli.

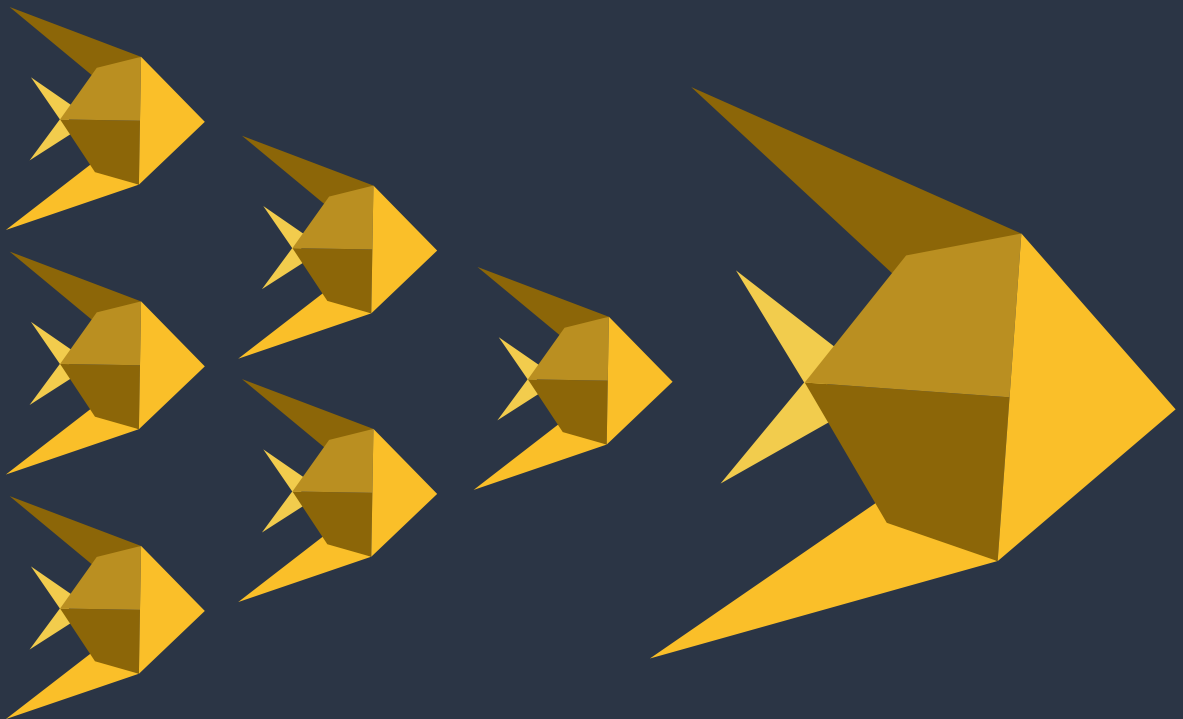
Antibiotics are the usual treatment. When taking antibiotics, follow the directions carefully. Taking antibiotics can increase the chance that the targeted bacteria could learn to resist them. This could cause the spread of an infection that antibiotics cannot cure.

■ **Viruses**

Viruses, such as influenza, are transmitted through droplets or direct contact. Influenza is transmitted if one breathes in droplets of the influenza virus produced by infected persons who cough or sneeze, so-called close-contact droplet infection. Infection can also occur through direct contact. A small infectious dose is enough to cause illness. The incubation period from infection to the onset of symptoms is usually two days but varies from between one and three days. A person is contagious from the day on which the symptoms begin to appear and for the following three to five days. People who have had influenza from one particular strain of a virus will normally have immunity against it for many years. They may also be immune to similar strains (so-called “cross-immunity”).

**JOINT VENTURES/
CONTRACTORS/
PARTNERS PANDEMIC
PLAN MINIMUM
REQUIREMENTS**

6



6 JOINT VENTURES/ CONTRACTORS/PARTNERS PANDEMIC PLAN MINIMUM REQUIREMENTS

An infectious disease or pandemic event does not recognize borders or companies. Oil and gas companies use a myriad of contractors and partners during operations. Each of these entities must be just as prepared as the facility or asset they are working within. It is up to the oil and gas company to ensure their standards meet the same standards as the operating entity. For the purposes of this section, joint ventures, contractors, and partners will be referred to as Partners.

6.1 INITIAL ACTIONS

Ensure the partners have created a Pandemic Preparedness Plan to minimize impacts to workers from pandemic, reduce risks to critical business functions, and minimize financial losses for the company over the long term.

- Pandemic planning assumptions and recommendations have been included for business continuity planning.
- Control fragmented communications by implementing a basic requirement for Pandemic Planning.

6.2 PLANNED ACTIONS

- **Preparedness:**
- **The partner's current Pandemic Plan should be tested against reasonable scenarios (i.e. table top drill) with the Pandemic Team:**
 - May include another key group (e.g. gas control);
 - Monitor event and external agencies to determine if additional guidance or actions are necessary;
 - Report substantive plan modification suggestions and updates as per the Partner's management of change policy.
- **In the event of a pandemic, Command and Control shall be established in a manner consistent with the Incident Command (IC)/ Emergency Response Structure.**

6.3 AGENCY UPDATES

- **Ensure the Partner's plan includes current agency updates, such as:**
 - USCG "Marine Safety Information Bulletin"
 - CDC updated "PPE Guidance" for defined work groups

6.4 RECOMMENDED NEXT STEPS

- **Pandemic Team to develop and share following with Sr. Management for distribution from Pandemic Committee:**
 - Finalize WHITE PAPER for Incoming Vessels
 - Confirm OSHA & Employment law topics that relate to corporate responsibilities

■ **Require Partners to implement a standardized Pandemic Preparedness Plan (see Figure 1) to include but not limited to:**

- Protecting Employee Health—The following precautions are recommended by the U.S. Center for Disease Control (CDC)
 - » Avoid close contact with people who are sick. If you are sick, keep your distance from others to protect them from getting sick also.
 - » Stay home when you're sick with flu or virus-like symptoms. Get plenty of rest and check with a health care provider as needed.
 - » Cover your mouth and nose with a tissue when coughing or sneezing. It may prevent those around you from getting sick.
 - » Clean your hands. Washing your hands often will help protect you against germs. When soap and water are not available, use alcohol-based disposable hand wipes or gel sanitizers.
 - » Avoid touching your eyes, nose or mouth. Germs are often spread when a person touches something that is contaminated with germs and then touches their eyes, nose or mouth
 - » Practice other good health habits. Get plenty of sleep, be physically active, manage stress, drink plenty of fluids, eat nutritious foods, and avoid smoking, which may increase the risk of serious consequences if you do contract the flu.
- Restrict Workplace Entry of People with Influenza or other virus-like symptoms
 - » On declaration of the pandemic phase, Facilities department or local management may prohibit staff and visitors from entering if they have influenza or other virus-like symptoms.
 - » Workers should be advised not to come to work when ill or remain isolated until symptoms are resolved. They should be directed to their family physician and/or to information materials on the websites of health service providers.
- There are typically three methods of distancing infected or potentially infected personnel from those who are not:
 - » **Social Distancing:** Social distancing means minimizing human-to-human contact in peak phases of pandemic influenza or a virus. Contacts are those persons who have had close (one meter or less) physical or confined airspace contact with an infected person within four days of that person developing symptoms. Social distancing may vary from incident to incident. Please research federal guidance specific to the incident for social distancing procedures.
 - » **Isolation:** Separates infected personnel from those who are not infected.
 - » **Quarantine:** Separates and restricts the movement of those who were exposed to a contagious disease to determine if they are infected.

FIGURE 1

PANDEMIC PREPAREDNESS CHECKLIST



✓	Company Coordinator: A pandemic disease plan or disease containment plan should be developed for the company and a coordinator appointed. Identify a workplace coordinator who will be responsible for dealing with disease issues and their impact at the workplace. This may include contacting local health department and health care providers in advance and developing and implementing protocols for response to ill individuals.
✓	Personal Sanitization: Hand washing and use of alcohol-based hand sanitizers should be encouraged by company supervision. Hand washing facilities, hand sanitizers, tissues, no touch trash cans, hand soap and disposable towels should be provided by the employer.
✓	Environment Sanitization: Clean all areas that are likely to have frequent hand contact (like doorknobs, faucets, handrails) routinely and when visibly soiled. Work surfaces should also be cleaned frequently using normal cleaning products.
✓	Illness Prevention: Employees should be trained on health issues of the pertinent disease to include prevention of illness, initial disease symptoms, preventing the spread of the disease, and when it is appropriate to return to work after illness. Disease containment plans and expectations should be shared with employees. Communicating information with non-English speaking employees or those with disabilities must be considered.
✓	Flexible Work Policies: Flexible work policies should be developed as possible. Workers should be encouraged to stay at home when ill, when having to care for ill family members, or when caring for children when schools close, without fear of reprisal. Telecommuting or other work-at-home strategies should be developed.
✓	Business Continuity Planning: Business continuity plans should be prepared so that if significant absenteeism or changes in business practices are required business operations can be effectively maintained.
✓	Immunizations: Workers should be encouraged to obtain appropriate immunizations to help avoid disease. Granting time off work to obtain the vaccine should be considered when vaccines become available in the community.
✓	Internal Communications: Key contacts, a chain of communications and contact numbers for employees, and processes for tracking business and employees' status should be developed.
✓	External Communications: A procedure must be developed to notify key contacts including both customers and suppliers in the event an outbreak has impacted your company's ability to perform services. This procedure must also include notification to customers and suppliers when operations resume.
✓	Social Distancing: Social distancing including increasing the space between employee work areas and decreasing the possibility of contact by limiting large or close contact gatherings should be considered.
✓	Exercising: The plan and emergency communication strategies should be periodically tested (for example annually) to ensure it is effective and workable.

INCOMING RESOURCES PROTOCOLS AND RESOURCE ROUTES

7



7 INCOMING RESOURCES PROTOCOLS AND RESOURCE ROUTES

The oil and natural gas industry requires a unique and diverse work environment that interfaces with numerous categories of workers and requires the transportation of raw and processed materials resulting in the complex interaction between a variety of personnel and locations.

Pandemics and emerging infectious diseases therefore have the potential to impact business operations and the individuals performing this type of work because of this highly integrative and interactive business.

Consideration and planning should consider the unique set of interfaces to assure business continuity and adequate contingency planning.

Incoming Resources Considerations:

■ External transportation services of raw materials to business location

- The transportation of raw material to oil and natural gas facilities routinely involves domestic and international shipments.
- Vessel crew members and vessel procurement and logistics are important considerations when emerging illnesses come into play. Depending on the potential infectious agent, consideration of screening crew members at point of departure may be reasonable. Additionally, consideration of contract vessel personnel disembarkation

should be taken into consideration up to and including establishment of screening protocols as permitted by law.

- Materials brought in for sustenance of site personnel (e.g. food, water, supplies) should be assessed to determine potential for infectivity and transmission depending on the particular infectious agent.

■ Employees

- Determination of how to manage the employee population at an oil and natural gas facility should address a variety of factors. Planning should determine essential job functions to maintain operations. The development of alternative work arrangements and locations may be reasonable for a variety of functions and individuals.
- Communications to employees should be informative and include directions regarding managing illnesses in family members as well as the employee, directions to isolate at home if consistent with the particular disease, and updates regularly on new directives or plans.

■ Contract employees

- The types and number of contract employee resources utilized in the oil and natural gas industry will depend on the particular business as well as the business activities needed. Establishing screening protocols with the contracting agencies should be considered—or establishing screening prior to plant/location entry may be reasonable depending on the particular infectious agent. Consideration of what actions would be taken if a contractor screens positive for a particular illness must be considered and may result in

interface with the local agency or public health guidelines. Maintenance of confidentiality of screening results may be required depending on the jurisdiction as well as the current guidance from the public health departments.

- Establishing an effective communication process with contract agencies and employees should be considered.
- Contract agency pandemic plans should be reviewed and aligned with core business requirements.

■ Offshore Facilities

- Offshore operating platforms create another unique work circumstance that requires the consideration of screening prior to the on-platform work rotation as well as while working on-platform. Crew members will be working for a continuous period of time on the platform; adequate facilities to isolate, protect, treat, and screen personnel should be available and would depend on the particular infectious agent.
- The ability to evacuate on-platform individuals who develop disease may be limited by the medical evacuation service availability and willingness to perform activities. Careful consideration for medical evacuation must therefore be prearranged with these specialty companies. Given the inability to predict future emerging infectious diseases, consideration of isolation and treatment-in-place may be reasonable. Tools such as telemedicine may facilitate these types of circumstances.

■ Onshore Facilities

- Onshore operations involve control of people that travel to and from the work location or may work in remote locations (pipelines, wind farms, etc.). Consideration of control

of entrance and egress to the work location may be necessary to implement appropriate screening programs/processes.

- Mechanisms to account for employee location are other important considerations—especially pertinent in remote work or isolated work circumstances.
- Processes to communicate with employees should be established as should processes permitting employees to communicate to the business important information (such as illness or symptoms).
- County support of plant or business utility services and municipal support (police, fire) is critical to the business. The oil and natural gas business is considered to be part of the county infrastructure. As such, there are considerations regarding security, threats, and interfaces between local agencies for both disasters and breaches of security. Managing these outside agencies and providing site access should be considered in any pandemic plan and would best align with these agencies to assure safety of their personnel as well as the oil and natural gas industry workers.

Screening Tools and Resources

■ Screening

The oil and natural gas industry is presented with a variety of unique and challenging situations for screening because of the variety of locations that the business is conducted.

Refineries operate as controlled limited access facilities with personnel arriving to work during their assigned shift and then returning to their home and social community environments when not working. Refineries also operate with a mix of workers including employees and

contract services personnel (often security, various trade workers, logistics personnel, DOT operators for pick-up and delivery of products). Off-shore installations present additional workforce challenges that require consideration of transportation vessel crew (air and ship), off-shore workers with rotating work assignments necessitating extended periods of work in isolated conditions and limited health facility resources while working on off-shore rigs (as well as for transport of potentially infectious personnel).

Oil transportation requirements mandate an interface between domestic, international, and maritime locales layered with the compositional diversity of the vessel's crew members. Personnel are often recruited at the vessel's origin. Third party transportation (trucking, railway) companies may be utilized to bring product to refineries or transport refined crude to supply chain distribution sites.

■ **Screening Tools**

The particular infectious or pandemic agent will dictate the available assessment processes to screen as well as the practicality of screening. Screening and assessment resources are outlined in this guide to assist in identifying appropriate resources. In the case of Ebola, for example, fever (subjective or 101.5 °F or 38.6 °C) OR Ebola symptoms (weakness, fatigue, vomiting, diarrhea, abdominal pain) combined with a positive exposure history (travel or residence in an Ebola-infected area) should be considered as reasonable screening tools for personnel. Positive exposure histories should prompt consideration of a 21-day self-monitored isolation period (in the case of Ebola) or other similar self-quarantine periods depending on the recommendation of authoritative health guidelines. It is recommended that the oil & natural gas industry determine local public health resources and assess capabilities at critical operation sites. In the case of operations in countries lacking public health infrastructure, the operating business should consider working with local, federal and NGO officials to develop programs that would augment community programs and facilitate care of the potential workforce.

CONSIDERATIONS FOR REGIONAL RESOURCES

8



8 CONSIDERATIONS FOR REGIONAL RESOURCES

Evaluating regional resources requires a good understanding of the region (see Guidance on Defining Regions). These resources will be affected by the location (proximity to population centers, geographic distribution of its workers, etc.) of the operational asset, and each company can have multiple regions depending on the operation. As a result, the company needs to consider multiple issues related to the resources in each region.

Resources to consider include:

■ Co-located medical staff:

- These may include licensed staff (physicians, midlevel providers, and nurses) and well-trained emergency medical responders.
- Companies must understand the abilities and/or limitations of each of these types of medical staff and the local laws that affect their ability to provide care.
 - Physician and midlevel providers can diagnose and make treatment plans.
 - In general, nurses and paramedics operate using standing orders but cannot diagnose or prescribe medications.
 - Emergency medical responders are limited to using standing orders and are often restricted by state law on functioning outside of these standing orders.

■ Community resources:

- Hospital resources. Factors include:
 - a. The number of total hospital beds
 - b. The number of intensive care beds
 - c. The availability of isolation rooms for infectious disease
 - d. The number and type of physician specialists on staff
- Local medical providers and specialists
- Emergency and urgent care centers located near the operations site and/or near where the workers live
- Ambulances including air ambulances, or if appropriate, plans to transport ill workers by other means
- Public health authorities (each state will have a public health department), who can help with current information and recommendations

■ Regional resources:

- In some cases, workers may need referral to larger regional centers such as university hospitals
- Air ambulance capability
- In some cases, military and national guard may be able to assist in critical events

- **Federal/National resources that can provide current information on the infectious disease outbreak as well as potential response options:**

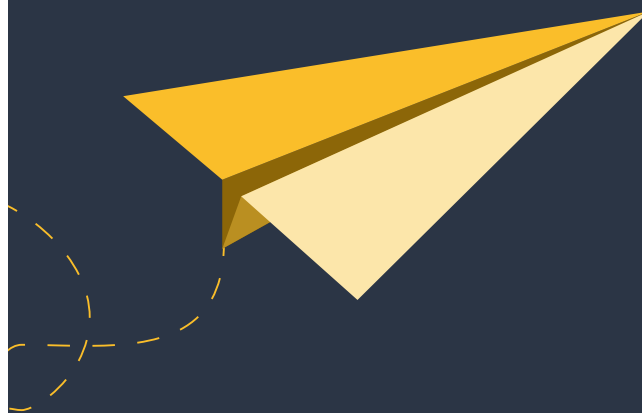
- Centers for Disease Control and Prevention
- World Health Organization

- **If vaccines or other treatments are available:**

- Vaccine/pharmaceutical suppliers
- Licensed health care provider in the state where the treatment is being given

NOTE: Treatment cannot be provided across state lines unless the provider is licensed in both states.

When considering regional resources, it is essential to contact the resources to get an understanding of the services that they can provide. Additionally, the contacts should be made periodically to receive an update on their services and capabilities. In the event of an outbreak, the resources need to be contacted again to ensure they still have the capability to address issues related to the specific disease or illness.



**BEST HEALTH
PRACTICES—
PREPARING FOR AN
INFECTIOUS DISEASE
CRISIS**

9



9 BEST HEALTH PRACTICES— PREPARING FOR AN INFECTIOUS DISEASE CRISIS

9.1 GENERAL

In order to maintain the health and welfare of the workforce, it is important for the company to consider the following.

- Having an infection control plan.
- Communicating to staff the importance of appropriate coughing etiquette and good hand hygiene.
- Providing clean hand washing facilities.
- Offering waterless alcohol-based hand sanitizers when regular facilities are not available (or to people on the road).
- Providing boxes of tissues and encouraging their use.
- Reminding staff to not share cups, glasses, dishes, and cutlery. Be sure dishes are washed in soap and water after use.
- Removing magazines and papers from waiting areas or common rooms (such as break rooms and kitchens).
- Considering cleaning a person's workstation or other areas where they have been if a person has suspected or identified influenza.
- Making sure ventilation systems are working properly.
- Providing personal protective equipment and anti-viral or other types of medication as deemed appropriate.

9.2 INFECTION CONTROL

Establishing regular disinfection/cleaning protocols for your facility is important. Additional measures may be required when there is an increase in illnesses occurring to personnel. This is necessary when dealing with highly contagious viruses to minimize virus transmission from hard surfaces (such as counters, sink/door/cupboard handles, railings, etc.). The length of time a virus survives on hard surfaces depends on the type of virus. Disinfection protocols will need to be established based on the type of virus that is causing the disease to ensure effectiveness.

In most workplaces and homes, cleaning floors, walls, doorknobs, etc. with regular disinfectants or soap and water is very adequate. Facilities with onsite medical clinics often require specific cleaning and disinfection steps. Companies should run periodic health/wellness campaigns that provide education to employees. This can reduce or slow the spread of infection/disease.

INFECTION CONTROL GRAPHIC

10 STEPS FOR DISINFECTION PROTOCOLS

1



UP-TO-DATE

Encourage maintaining up-to-date vaccinations and immunization or appropriate medication prophylaxis as recommended.

2



WASH HANDS

Wash your hands frequently.

3



STAY HOME

Stay home if you are sick (so you do not spread the illness to other people).

4



USE A TISSUE

Use a tissue, or cough and sneeze into your arm, not your hand. Turn away from other people.

5



DISPOSE

Use single-use tissues. Dispose of the tissue immediately.

6



AFTER COUGHING

Wash your hands after coughing, sneezing, or using tissues.

7



PLAY TOYS

If working with children, have them play with hard surface toys that can be easily cleaned.

8



DON'T TOUCH

Do not touch your eyes, nose, or mouth (viruses can transfer from your hands and into the body).

9



DON'T SHARE

Do not share cups, glasses, dishes, or cutlery. (viruses can transfer from your hands and into the body).

10



STAY HEALTHY

Consider developing screening processes based on the signs/symptoms of the infection/disease to assist with exposure control.

9.3 STRATEGIES DURING OUTBREAK

Consider developing screening processes based on the signs/symptoms of the infection/disease to assist with exposure control.

Implement social distancing. Social distancing is a strategy where you try to avoid crowded places, large gatherings of people, or close contact with a group of people. In these situations, viruses can easily spread from person to person. In general, a distance of 3 feet will slow the spread of a disease, but more distance is more effective.

Should social distancing be recommended, steps to follow include the following.

- Use telephone, video conferencing, or the Internet to conduct as much business as possible (including within the same building).
- Allow employees to work from home, or to work flexible hours to avoid crowding the workplace.
- Cancel or postpone any travel, meetings, workshops, etc. that are not absolutely necessary.
- Drive, walk, or cycle to work, but try to avoid public transit. Alternatively, workplaces can consider allowing staff to arrive early/late so they can use public transit when it is less crowded.
- Allow staff to eat at their desks or have staggered lunch hours to avoid crowded lunch rooms.
- Spend as little time as possible in coffee bars, cafeterias, and copy rooms.
- When meetings are necessary, have the meeting in a larger room where people can sit with more space between them (at least 3 ft. apart).
- Avoid shaking hands or hugging.
- Encourage staff to avoid social gatherings outside of work where they might come into contact with infectious people.

Reasons to determine “fitness to work” may depend on a number of issues such as size or type of organization, job responsibilities of employees, ease of working from home (via Internet connections, etc.). It is recommended that the company outline and communicate to workers how absences will be managed should a worker become ill or asked to stay home (salary continuation, short-term disability, etc.).

Generally, employees should be allowed and encouraged to stay at home if they are not feeling well. However, in the event of a pandemic or other disease outbreak, use screening tools or a list of symptoms as a checklist. If employees are showing any signs, allow them to go or remain at home. If there is doubt if a person is sick, they should stay home until they feel well and are able to resume their regular activities.

9.4 RETURN TO WORK

The company will have to assess RTW protocols based on the type of epidemic/disease. Create a return to work checklist that provides guidance for the company representative responsible for returning workers. For example: Influenza Outbreak –the CDC recommends that employees who appear to have flu-like illness upon arrival or become sick during the day be promptly separated from other employees and be advised to go home immediately until at least 24 hours after they are free of fever or signs of a fever, without the use of fever-reducing medicines.

COMMUNICATIONS

10



10 COMMUNICATIONS

Messaging can be created in advance of an event to address the concerns of the following key stakeholders, although the dynamic nature of infectious diseases requires each message to be customized depending on the specifics of the event:

- a. Regional Team
- b. Your Organization's Senior Management
- c. Employees/Contractors
- d. Suppliers
- e. External Parties/Stakeholders/Community
- f. Customers

Communications is a critical component of any incident response. Even more so with respect to keeping personnel apprised of actions during a disease outbreak. This guidance recommends touching on each of the following 5 message components:

- What is the incident?
- What is the organization doing?
- What does the organization want the recipient to do?
- Where can more information be obtained?
- When will the next update be distributed?

External and internal communication should follow the corporate vetting process established by your company and ensure senior level management is kept well-versed.

CONCLUSION

11

Pandemic and infectious disease planning is essential to health, safety, and business continuity. An oil & gas operator must be just as prepared for this type of event as any of its other identified risks. As with any incident, proper planning is the key to a successful response.

This document is meant to guide the planner along a recommended process of developing a comprehensive infectious disease or pandemic plan. Each operator or asset will need to address issues

that are specific to those locations and operations and this guidance encourages the operator to do so. Infectious disease and pandemic planning will help assure that an oil and gas operator is prepared for such an event and minimize any disruption to the business unit. Resiliency is an important aspect of any operation and maintaining a pandemic or infectious disease plan provides the processes necessary for an oil and gas operator to maintain safe, reliable operation when faced with these types of events.

