

# GUIDANCE ON THE ESSENTIAL CRITICAL INFRASTRUCTURE WORKFORCE: ENSURING COMMUNITY AND NATIONAL RESILIENCE IN COVID-19 RESPONSE

Version ~~2.0-3.0~~ (~~March 28~~ [April 17](#), 2020)

## THE IMPORTANCE OF ESSENTIAL CRITICAL INFRASTRUCTURE WORKERS

Functioning critical infrastructure is imperative during the response to the COVID-19 emergency for both public health and safety as well as community well-being. Certain critical infrastructure industries have a special responsibility in these times to continue operations.

This advisory guidance and accompanying list are intended to support state, local, tribal, territorial and industry partners in identifying the critical infrastructure sectors and the essential workers needed to maintain the services and functions Americans depend on daily and that need to be able to operate resiliently during the COVID-19 pandemic response.

This document gives advisory guidance on defining essential critical infrastructure workers. Promoting the ability of such workers to continue to work during periods of community restriction, access management, social distancing, or closure orders/directives is crucial to community resilience and continuity of essential functions. [The term “workers” as used in this guidance is intended to apply to both employees and contractors performing the described functions.](#)

CISA will continually solicit and accept feedback on the list and will evolve the list in response to stakeholder feedback. We will also use our various stakeholder engagement mechanisms to work with partners on how they are using this list and share those lessons learned and best practices broadly. Feedback can be sent to [CISA.CAT@CISA.DHS.GOV](mailto:CISA.CAT@CISA.DHS.GOV).

## CONSIDERATIONS FOR GOVERNMENT AND BUSINESS

This list was developed in consultation with federal agency partners, industry experts, and State and local officials, and is based on several key principles:

1. Response efforts to the COVID-19 pandemic are locally executed, state managed, and federally supported.
2. Everyone should follow guidance from the ~~CDC~~ [Centers for Disease Control and Prevention \(CDC\)](#), as well as ~~State-state~~ and local government officials, regarding strategies to limit disease spread.
3. [Employers must comply with applicable Occupational Safety and Health Administration \(OSHA\) requirements for protecting critical infrastructure workers who remain on or return to the job during the COVID-19 pandemic. As the nation relies on these workers to protect public health, safety, and community well-being, they must be protected from exposure to and infection with the virus so that they can continue to carry out their responsibilities. OSHA has guidance and enforcement information for workplaces at \[www.osha.gov/coronavirus\]\(http://www.osha.gov/coronavirus\).](#)

4. Businesses and government agencies may continue to implement organization-specific measures, which protect the workforce while meeting mission needs.
5. ~~3.~~ Workers should be encouraged to work remotely when possible and focus on core business activities. In-person, non-mandatory activities should be delayed until the resumption of normal operations.
6. ~~4.~~ When continuous remote work is not possible, businesses should enlist strategies to reduce the likelihood of spreading the disease. This includes, but is not ~~necessarily~~ limited to, physically separating staff~~by off setting, staggering work shift hours or days~~ and/or social distancing. These steps can preserve the workforce and allow operations to continue., and other social distancing measures. While the CDC recommends that everyone wear a cloth face cover to contain respiratory droplets when around others, critical infrastructure employers must consider how best to implement this public health recommendation for source control in the workplace. For example, employers may provide disposable facemasks (e.g., surgical masks) instead of cloth face coverings when workers would need to wear masks for extended periods of time (e.g., the duration of a work shift) or while performing tasks in which the face covering could become contaminated.
7. Consider the impact of workplace sick leave policies that may contribute to an employee decision to delay reporting medical symptoms. Sick employees should not return to the workplace until they meet the criteria to stop home isolation.
8. Critical infrastructure has an obligation to limit to the extent possible the reintegration of in-person workers who have experienced an exposure to COVID-19 but remain asymptomatic in ways that best protect the health of the worker, their co-workers, and the general public. An analysis of core job tasks and workforce availability at worksites can allow the employer to match core activities to other equally skilled and available in-person workers who have not experienced an exposure. CDC guidance on safety practices for critical infrastructure workers is maintained at <https://www.cdc.gov/coronavirus/2019-ncov/community/critical-workers/implementing-safety-practices.html>
9. ~~5.~~ All organizations should implement their business continuity and pandemic plans or put plans in place if they do not exist. Delaying implementation is not advised and puts at risk the viability of the business and the health and safety of the ~~employees~~workers.
10. ~~6.~~ Reliance on technology and just-in-time supply chains means that certain workers must be able to access certain sites, facilities, and assets to ensure continuity of functions. The vast majority of our economy relies on technology and therefore information technology (IT) and operational technology (OT) workers for critical infrastructure operations are essential. This includes workers

in many roles, including workers focusing on management systems, control systems, and Supervisory Control and Data Acquisition (SCADA) systems, and data centers; cybersecurity engineering; and cybersecurity risk management.

11. ~~7.~~Government ~~employees~~workers, such as emergency managers, and the business community need to establish and maintain lines of communication.

~~8. When government and businesses engage in discussions about essential critical infrastructure workers, they need to consider the implications of business operations beyond the jurisdiction where the asset or facility is located. Businesses can have sizeable economic and societal impacts as well as supply chain dependencies that are geographically distributed.~~

12. Essential critical infrastructure workers need continued and unimpeded access to sites, facilities, and equipment within quarantine zones, containment areas, or other areas where access or movement is limited to perform functions for community relief and stability; for public safety, security and health; for maintaining essential supply chains and preserving local, regional, and national economic well-being.

13. Essential critical infrastructure workers need sustained access to designated quarantine, containment, or restricted areas; and should be exempted from curfews, shelter-in-place orders, and transportation restrictions or restrictions on movement.

14. ~~9.~~Whenever possible, ~~jurisdictions should align access and movement control policies related to critical infrastructure workers to lower the burden~~local governments should consider adopting specific state guidance on essential workers to reduce potential complications of workers crossing jurisdictional boundaries. When this is not possible, local jurisdictions should consider aligning access and movement control policies with neighboring jurisdictions to reduce the burden of cross-jurisdictional movement of essential critical infrastructure workers.

## IDENTIFYING ESSENTIAL CRITICAL INFRASTRUCTURE WORKERS

The following list of identified essential critical infrastructure workers is intended to be overly inclusive reflecting the diversity of industries across the United States.

### HEALTHCARE / PUBLIC HEALTH

- ~~Workers who,~~ including laboratory personnel, that perform critical clinical, biomedical and other research, development, and testing needed for COVID-19 ~~response~~or other diseases.
- ~~Healthcare providers and Caregivers~~including-, but not limited to, physicians, dentists,-, psychologists,-, mid-level practitioners,-, nurses-and- assistants,- and aids; infection control and quality assurance personnel, pharmacists,-, physical- respiratory, speech and occupational therapists and assistants, social workers,-;

- optometrists-; speech pathologists-; chiropractors-, and-; diagnostic and therapeutic technicians-; and radiology technologists.
- ~~Hospital and laboratory personnel (including~~ Workers required for effective clinical, command, infrastructure, support service, administrative, security, and intelligence operations across the direct patient care and full healthcare and public health spectrum. Personnel examples may include, but are not limited, to accounting, administrative, admitting and discharge, engineering, accrediting, certification, licensing, credentialing, epidemiological, source plasma and blood donation, food service, environmental services, housekeeping, medical records, information technology and operational technology, nutritionists, sanitarians, respiratory therapists, etc.)-
    - Emergency medical services workers.
    - Prehospital workers included but not limited to urgent care workers.
    - Inpatient & hospital workers (e.g. hospitals, critical access hospitals, long-term acute care hospitals, long-term care facilities, inpatient hospice, ambulatory surgical centers, etc.).
    - Outpatient care workers (e.g. end-stage-renal disease, Federally Qualified Health Centers, Rural Health Clinics, community mental health clinics, organ transplant/procurement centers, and other ambulatory care settings/providers, comprehensive outpatient rehabilitation facilities, etc.).
    - Home care workers (e.g. home health care, at-home hospice, home dialysis, home infusion, etc.).
    - Workers at Long-term care facilities, residential and community-based providers (e.g. Programs of All-Inclusive Care for the Elderly (PACE), Intermediate Care Facilities for Individuals with Intellectual Disabilities, Psychiatric Residential Treatment Facilities, Religious Nonmedical Health Care Institutions, etc.).
    - Workplace safety workers (i.e., workers who anticipate, recognize, evaluate, and control workplace conditions that may cause workers' illness or injury).
  - Workers needed to support transportation to and from healthcare facility and provider appointments.
  - Workers needed to provide laundry services, food services, reprocessing of medical equipment, and waste management.
  - Workers that manage health plans, billing, and health information and who cannot work remotely.
  - Workers performing cybersecurity functions at healthcare and public health facilities and who cannot work remotely.
  - Workers performing security, incident management, and emergency operations functions at or on behalf of healthcare entities including healthcare coalitions, who cannot practically work remotely.
  - Childcare, eldercare, and other service providers for essential healthcare personnel.
  - Vendors and suppliers (e.g. imaging, pharmacy, oxygen services, durable medical equipment, etc.).
  - ~~Workers in other medical and biomedical facilities (including Ambulatory Health and Surgical, Blood Banks, Clinics, Community Mental Health, Comprehensive Outpatient rehabilitation, End Stage Renal Disease, Health Departments, Home~~

~~Health care, Hospices, Hospitals, Long Term Care, Nursing Care Facilities, Organ Pharmacies, Procurement Organizations, Psychiatric Residential, Rural Health Clinics and Federally Qualified Health Centers, and retail facilities specializing in medical good and supplies).~~

- ~~Manufacturer workers for health manufacturing~~ Workers at manufacturers (including biotechnology companies), ~~and those companies that have shifted production to~~ medical supplies, materials and parts suppliers, technicians, logistics and warehouse operators, printers, packagers, distributors of medical products and equipment (including third party logistics providers, and those who test and repair), personal protective equipment (PPE), isolation barriers, medical gases, pharmaceuticals (including materials used in radioactive drugs), dietary supplements, blood and blood products, vaccines, testing materials, laboratory supplies, cleaning, sanitizing, disinfecting or sterilization supplies (including dispensers), sanitary goods, personal care products, pest control products, and tissue and paper towel products.
- ~~Public health / community health workers, including those who compile, model, analyze and communicate public health information.~~
- ~~Blood and plasma donors and the employees~~ Donors of blood, bone marrow, blood stem cell, or plasma, and the workers of the organizations that operate and manage related activities.
- ~~Workers who manage health plans, billing, and health information, who cannot practically work remotely.~~
- Pharmacy staff, including workers necessary to maintain uninterrupted prescription, and other workers for pharmacy operations.
- Workers in retail facilities specializing in medical good and supplies.
- Public health and environmental health workers, such as:
  - Workers specializing in environmental health that focus on implementing environmental controls, sanitary and infection control interventions, healthcare facility safety and emergency preparedness planning, engineered work practices, and developing guidance and protocols for appropriate PPE to prevent COVID-19 disease transmission.
  - ~~Workers~~ Public health/ community health workers (including call center workers) who conduct community-based public health functions, conducting epidemiologic surveillance, ~~and~~ compiling, analyzing, and communicating public health information, who cannot ~~practically~~ work remotely.
- ~~Workers performing information technology and cybersecurity functions at healthcare and public health facilities, who cannot practically work remotely.~~
- ~~Workers performing security, incident management, and emergency operations functions at or on behalf of healthcare entities including healthcare coalitions, who cannot practically work remotely.~~
- ~~Pharmacy employees necessary to maintain uninterrupted prescription filling.~~
- Human services providers, especially for at risk populations such as:

- Home delivered meal providers for older adults, people with disabilities, and others with chronic health conditions.
- Home-maker services for frail, homebound, older adults.
- Personal assistance services providers to support activities of daily living for older adults, people with disabilities, and others with chronic health conditions who live independently in the community with supports and services.
- Home health providers who deliver health care services for older adults, people with disabilities, and others with chronic health conditions who live independently in the community with supports and services.
- Government entities, and contractors that work in support of local, state, and federal public health and medical mission sets, including but not limited to supporting access to healthcare and associated payment functions, conducting public health functions, providing medical care, supporting emergency management, or other services necessary for supporting the COVID-19 response.
- Mortuary service providers, such as:
  - Workers performing mortuary funeral, cremation, burial, cemetery, and related services, including funeral homes, crematoriums, cemetery workers, and coffin makers.
  - Workers who coordinate with other organizations to ensure the proper recovery, handling, identification, transportation, tracking, storage, and disposal of human remains and personal effects; certify cause of death; and facilitate access to mental ~~and~~ behavioral health services to the family members, responders, and survivors of an incident.

## LAW ENFORCEMENT, PUBLIC SAFETY, AND OTHER FIRST RESPONDERS

- Public, private, and voluntary personnel (front-line and management, civilian and sworn) in emergency management, law enforcement, fire and rescue services, emergency medical services (EMS), and ~~private~~ security, ~~to include~~ public and private hazardous material responders, air medical service providers (pilots and supporting technicians), corrections, and search and rescue personnel.
- ~~911 call center employees and Public Safety Answering Points who can't perform their duties remotely.~~
- Personnel involved in provisioning of access to emergency services, including the provisioning of real-time text, text-to-911, and dialing 911 via relay.
- Personnel that are involved in the emergency alert system (EAS) ((broadcasters, satellite radio and television, cable, and wireline video) and wireless emergency alerts (WEA).
- Workers at Independent System Operators and Regional Transmission Organizations, and Network Operations staff, engineers and technicians to manage the network or operate facilities.
- Workers at emergency communication center, public safety answering points, public safety communications centers, emergency operation centers, and 911 call centers.
- Fusion Center ~~employees~~workers.
- Workers—, including contracted vendors—, who maintain, manufacture, or supply equipment and services supporting law enforcement ~~emergency service~~, fire, EMS,

and response operations (to include electronic security and life safety security personnel).

- Workers and contracted vendors who maintain and provide services and supplies to public safety facilities, including emergency communication center, public safety answering points, public safety communications centers, emergency operation centers, fire and emergency medical services stations, police and law enforcement stations and facilities.
- ~~Workers supporting the manufacturing of,~~ distribution, and maintenance of necessary safety equipment and uniforms for law enforcement, ~~and all~~ public safety personnel, ~~and first responder.~~
- ~~Workers supporting the operation of firearm,~~ or ammunition product manufacturers, retailers, importers, distributors, and shooting ranges.
- ~~Public agency workers responding to abuse and neglect of children,~~ spouses, elders, and dependent adults.
- ~~Workers who support weather disaster~~ and natural hazard mitigation and prevention activities.
- ~~Security staff to maintain building access control and physical security measures.~~

## FOOD AND AGRICULTURE

- ~~Workers supporting groceries, pharmacies, convenience stores, and other retail (including unattended and vending) that sells human food, animal~~ and pet food and pet supply, and beverage products, including retail customer support service and information technology support staff necessary for online orders, pickup, and delivery.
- ~~Restaurant carry-out and quick serve food operations, including dark kitchen and food prep centers, and carry-out,~~ and delivery food ~~employees~~ workers.
- ~~Food manufacturer~~ employees-workers and their supplier ~~employees~~ to include workers including those employed ~~in~~ at food ingredient production and processing facilities; aquaculture and seafood harvesting facilities; livestock, poultry, seafood slaughter facilities; pet and animal feed processing facilities; human food facilities producing ~~by products~~ byproducts for animal food; beverage production facilities; and the production of food packaging.
- ~~Farmers, farm~~ and ranch workers, and agribusiness support services to include those employed in auction and sales; ~~grain and oilseed handling,~~ storage, processing, and distribution; animal food, feed, and ingredient production, packaging, and distribution; manufacturing, packaging, and distribution of veterinary drugs; and truck delivery and transport; ~~farm and fishery labor needed to produce our~~ food supply ~~domestically and for export.~~
- ~~Farmers~~ Farmers, farm and ranch workers, and support service and supplier workers producing food supply domestically and for export, ~~farm workers, support service workers, and their supplier employees~~ to include those engaged in ~~producing and harvesting field crops; commodity~~ raising, cultivating, harvesting, packing, storing, or delivering to storage or to market or to a carrier for transportation to market any agricultural or horticultural commodity for human consumption; agricultural

- inspection; fuel ethanol facilities; biodiesel and renewable diesel facilities; storage facilities; and other agricultural inputs.
- ~~Employees~~ Workers and firms supporting the distribution of food, feed, and beverage and ingredients used in these products, including warehouse workers, ~~vendor~~ vendor- managed inventory controllers, and blockchain managers.
  - ~~Workers~~ supporting the sanitation and pest control of all food manufacturing processes and operations from wholesale to retail.
  - Workers supporting the growth and distribution of plants and associated products for home gardens.
  - ~~Employees~~ Workers in cafeterias used to feed ~~employees~~ workers, particularly ~~—employee~~ worker populations sheltered against COVID-19.
  - ~~Workers in animal diagnostic and food testing laboratories~~ in private industries and in institutions of higher education.
  - ~~Government, private, and non-governmental organizations’ workers essential for food assistance programs (including school lunch programs) and government payments.~~
  - ~~Employees~~ Workers of companies engaged in the production, storage, transport, and distribution of chemicals, medicines, vaccines, and other substances used by the food and agriculture industry, including seeds, pesticides, herbicides, fertilizers, minerals, enrichments, and other agricultural production aids.
  - ~~Animal agriculture workers to include those employed in veterinary health (including those involved in supporting emergency veterinary or livestock services); raising,~~ caring for and management of animals for food; animal production operations; livestock markets; slaughter and packing plants, manufacturers, renderers, and associated regulatory and government workforce.
  - ~~Transportation supporting animal agricultural industries, including movement of animal medical and reproductive supplies and materials, animal vaccines, animal drugs, feed ingredients, feed,~~ and bedding, live animals, animal by-products, and deceased animals for disposal.
  - ~~Workers who support sawmills and the manufacture and distribution of fiber and forest products, including, but not limited to timber, paper, and other wood and fiber products,~~ as well as manufacture and distribution of products using agricultural commodities.
  - ~~Employees~~ Workers engaged in the manufacture and maintenance of equipment and other infrastructure necessary for agricultural production and distribution.

## ENERGY

- ~~Workers supporting the energy sector, regardless of the energy source (including,~~ but not limited to ~~,~~ nuclear, fossil, hydroelectric, or renewable), segment of the system, or infrastructure the worker is involved in, ~~or~~ who are needed to construct, manufacture, repair, transport, permit, monitor, operate, ~~,~~ engineer, and maintain the reliability, safety, security, environmental health, and physical and cyber security of the energy system, including those who support construction, manufacturing, transportation, permitting, and logistics.

- Workers and contractors supporting energy facilities that provide steam, hot water or chilled water from central power plants to connected customers.
- ~~Energy/commodity~~ Workers conducting energy/commodity trading/scheduling/marketing functions, who can't perform their duties remotely.
- ~~IT and OT technology for essential energy sector operations including support workers, customer service operations; energy management systems, control systems, and Supervisory Control and Data Acquisition SCADA systems, and energy sector entity data centers; cybersecurity engineers; and cybersecurity risk management.~~
- ~~Workers supporting the energy sector through renewable energy infrastructure (including, but not limited to,~~ wind, solar, biomass, hydrogen, ocean, geothermal, and/or hydroelectric) and microgrids, including those supporting construction, manufacturing, transportation, permitting, operation/ and maintenance, monitoring, and logistics.
- ~~Workers and security staff involved in nuclear re-fueling operations.~~
- ~~Providing~~ Workers providing services related to energy sector fuels (including, but not limited to, petroleum (crude oil), natural gas, propane, liquefied natural gas (LNG), compressed natural gas (CNG), natural gas liquids (NGL), other liquid fuels, nuclear, and coal), and supporting the mining, processing, manufacturing, construction, logistics, transportation, permitting, operation/ and maintenance, security, waste disposal and storage, and monitoring of support for resources.
- ~~Environmental remediation~~ Workers providing environmental remediation and monitoring, limited to immediate critical needs technicians.
- ~~Manufacturing~~ Workers involved in the manufacturing and distribution of equipment, supplies, and parts necessary to maintain production, maintenance, restoration, and service at energy sector facilities (~~across all energy sector segments~~).

### Electricity ~~industry:~~ Industry

- ~~Workers who maintain, ensure, or~~ restore, or who are involved in the development, transportation, fuel procurement, expansion, or operation of- the generation, transmission, and distribution of electric power, including call centers, utility workers, engineers, retail electricity, ~~constraint~~ construction, maintenance, utility telecommunications, relaying, and fleet maintenance technicians- who cannot perform their duties remotely.
- ~~Workers at coal mines, production facilities, and those involved in manufacturing, transportation, permitting, operation/~~ maintenance, maintenance, and monitoring at coal sites ~~which is critical to ensuring the reliability of the electrical system.~~
- ~~Workers who produce, process, ship,~~ and handle coal used for power generation and manufacturing.
- Workers in the electricity industry including but not limited to those supporting safety, construction, manufacturing, transportation, permitting, operation/maintenance, engineering, physical and cyber security, monitoring, and logistics
- ~~Workers needed for safe and secure operations at nuclear generation~~ to include including, but not limited to, those critical to the broader nuclear supply chain, the manufacture and delivery of parts needed to maintain nuclear equipment, the

operations of fuel manufacturers and the production and processing of fuel components used in the manufacturing of fuel.

- Workers at fossil fuel (including but not limited to natural gas, refined, distillate, and/or coal), nuclear, and renewable energy infrastructure (including, but not limited to wind, solar, biomass, hydrogen, geothermal, and ~~or~~ hydroelectric), and microgrids, including those supporting safety, construction, manufacturing, transportation, permitting, operation, maintenance, monitoring, and logistics.
- Workers at generation, transmission, and electric black start facilities.
- Workers at Reliability Coordinator, Balancing ~~Authorities~~ Authority, local distribution control centers, and primary and backup Control Centers, including but not limited to independent system operators, regional transmission organizations, and local distribution control centers.
- ~~Mutual assistance~~ Workers that are mutual assistance/aid personnel which may include workers from outside of the state or local jurisdiction.
- Vegetation management and traffic control for supporting those crews.
- ~~Environmental remediation/monitoring workers limited to immediate critical needs technicians.~~
- Instrumentation, protection, and control technicians.
- Essential support personnel for electricity operations.
- Generator set support workers such as diesel engineers used in power generation, including those providing fuel.

### **Petroleum ~~industry~~: Industry**

- Workers ~~for~~ who support onshore and offshore petroleum drilling operations; platform and drilling construction and maintenance; transportation (including helicopter operations), maritime transportation, supply, and dredging operations; maritime navigation; well stimulation, intervention, monitoring, automation and control, extraction, production; processing; waste disposal, and maintenance, construction, and operations.
- Workers in the petroleum industry including but not limited to those supporting safety, construction, manufacturing, transportation, permitting, operation/maintenance, engineering, physical and cyber security, monitoring, and logistics.
- Workers for crude oil, petroleum, and petroleum product storage and transportation, including pipeline, marine transport, terminals, rail transport, storage facilities ~~and~~ racks, and ~~road transport~~ road transport for use as ~~end-end~~ use fuels such as gasoline, diesel fuel, jet fuel, and heating fuels or feedstocks for chemical manufacturing.
- Petroleum and petroleum product security operations center ~~employees~~ workers and workers who support maintenance and emergency response services.
- Petroleum and petroleum product operations control rooms ~~centers~~, centers, and refinery facilities.
- Retail fuel centers such as gas stations and truck stops, and the distribution systems that support them.
- Supporting new and existing construction projects, including, but not limited to, pipeline construction.

- [Manufacturing and distribution of equipment, supplies, and parts necessary for production, maintenance, restoration, and service of petroleum and petroleum product operations and use, including end-users.](#)
- [Transmission and distribution pipeline workers, including but not limited to pump stations and any other required, operations maintenance, construction, and support for petroleum products.](#)

## **Natural Gas, Natural Gas Liquids (NGL), Propane, and ~~other liquid fuels~~ [Other Liquid Fuels](#)**

- ~~Workers who support onshore and offshore drilling operations, platform and drilling construction and maintenance; transportation (including helicopter operations); maritime transportation, supply, and dredging operations; maritime navigation; natural gas and natural gas liquid production, processing, extraction, storage and transportation; well intervention, monitoring, automation and control; waste disposal, and maintenance, construction, and operations.~~
- [Workers in the natural gas, NGL, propane, and other liquid fuels industries including but not limited to those supporting safety, construction, manufacturing, transportation, permitting, operation/maintenance, engineering, physical and cyber security, monitoring, and logistics.](#)
- ~~Transmission and distribution pipeline workers, including compressor stations and any other required, operations maintenance, construction, and support for natural gas, natural gas liquid, propane, and other liquid fuels.~~
- [Workers at Liquefied Natural Gas \(LNG\) and Compressed Natural Gas \(CNG\) facilities.](#)
- ~~Natural~~ [Workers at natural gas, propane, natural gas liquids, and other liquified natural gas, liquid fuel storage facilities, underground facilities, and processing plants and other related facilities](#), including construction, maintenance, and support operations personnel.
- ~~Natural gas processing plants workers, and those that who deal with natural gas liquids.~~
- ~~Workers who staff natural gas, propane, natural gas liquids, and other liquid fuel security operations centers, operations dispatch and control rooms/ and centers, and emergency response and customer emergencies (including leak calls) operations.~~
- ~~Drilling~~ [Workers supporting drilling](#), production, processing, refining, and transporting natural gas-, [propane, natural gas liquids, and other liquid fuels](#) for use as end-use fuels, feedstocks for chemical manufacturing, or use in electricity generation.
- ~~Dispatch and control rooms and emergency response and customer emergencies, including propane leak calls.~~
- ~~Propane~~ [Workers supporting propane](#) gas service maintenance and restoration, including call centers.
- ~~Propane~~ [Workers supporting propane](#), natural gas liquids, and other liquid fuel distribution centers.
- ~~Propane~~ [Workers supporting propane](#) gas storage, transmission, and distribution centers.

- ~~Supporting~~ Workers supporting new and existing construction projects, including, but not limited to, pipeline construction.
- ~~Ethanol~~ Workers supporting ethanol and biofuel production, refining, and distribution.
- ~~Workers~~ in fuel sectors (including, but not limited to nuclear, coal, and gas types and liquid fuels) supporting the mining, manufacturing, logistics, transportation, permitting, operation, maintenance, and monitoring of support for resources.
- Workers ensuring, monitoring, and engaging in the physical security of assets and locations associated with natural gas, propane, natural gas liquids, and other liquid fuels.
- Workers involved in the manufacturing and distribution of equipment, supplies, and parts necessary to maintain production, maintenance, restoration, and service of natural gas, propane, natural gas liquids, and other liquid fuels operations and use, including end-users.

## WATER AND WASTEWATER

~~Employees~~ Workers needed to operate and maintain drinking water and wastewater ~~and~~ drainage infrastructure, including:

- ~~Operational~~ staff at water authorities.
- ~~Operational~~ staff at community water systems.
- ~~Operational~~ staff at wastewater treatment facilities.
- ~~Workers~~ repairing water and wastewater conveyances and performing required sampling or monitoring, including field staff.
- ~~Operational~~ staff for water distribution and testing.
- ~~Operational~~ staff at wastewater collection facilities.
- ~~Operational~~ staff and technical support for SCADA Control systems.
- ~~Chemical and equipment~~ and personal protection suppliers to water and wastewater ~~systems and personnel protection~~ system.
- ~~Workers~~ who maintain digital systems infrastructure supporting water and wastewater operations.

## TRANSPORTATION AND LOGISTICS

- ~~Employees~~ Workers supporting or enabling transportation and logistics functions, including truck drivers, bus drivers, dispatchers, maintenance and repair technicians, warehouse workers, truck stop and rest area workers, driver training and education centers, Department of Motor Vehicle (DMV) ~~employees~~ workers, ~~towing/enrollment~~ agents for federal transportation worker vetting programs, towing and recovery services, roadside assistance workers, intermodal transportation personnel, and workers ~~who~~ that construct, maintain, rehabilitate, and inspect infrastructure ~~(including those that require cross-jurisdiction travel)~~.
- ~~Workers~~ supporting the distribution of food, fuels, pharmaceuticals and medical material (including materials used in radioactive drugs) ~~and other medical materials, fuels,~~ chemicals needed for water or water treatment and energy ~~Maintenance and~~

- operation of essential highway infrastructure, including roads, bridges, and tunnels (e.g., traffic operations centers and moveable bridge operators). maintenance.
- Workers supporting operation of essential highway infrastructure, including roads, bridges, and tunnels (e.g., traffic operations centers and moveable bridge operators).
  - ~~Employees~~ Workers of firms providing services, supplies, and equipment that enable warehouse and operations, including cooling, storing, packaging, and distributing products for wholesale or retail sale or use. ~~Includes,~~ including cold- and frozen-chain logistics for food and critical biologic products.
  - ~~Mass transit workers and~~ providing critical transit services and ~~or~~ performing critical or routine maintenance to mass transit infrastructure or equipment.
  - ~~Employees~~ Workers supporting personal and commercial transportation services – including taxis, delivery services, vehicle rental services, bicycle maintenance and car-sharing services, and transportation network providers.
  - ~~Workers,~~ including police, responsible for operating and dispatching passenger, commuter- and freight trains and maintaining rail infrastructure and equipment.
  - ~~Maritime transportation workers, including port authority and commercial facility personnel,~~ dredgers, port workers, security personnel, mariners, ship crewmembers, ship pilots ~~and tug boat,~~ tugboat operators, equipment operators (to include maintenance and repair, and maritime-specific medical providers), ship supply workers, ~~chandler~~ chandlers, and repair ~~companies~~ company workers. Refer to the United States Coast Guard’s Marine Safety Information Bulletin “Maintaining Maritime Commerce and Identification of Essential Maritime Critical Infrastructure Workers” for more information.
  - ~~Workers~~ Workers, including truck drivers, railroad employees ~~and contractors,~~ maintenance ~~crew~~ crews, and cleaners- supporting transportation of chemicals, hazardous, medical, and waste materials to that support critical infrastructure, capabilities, functions, and services, including specialized carriers, crane and rigging industry workers.
  - ~~Bus drivers and workers who provide or support intercity, commuter- and charter bus service in support of other essential services or functions.~~
  - ~~Automotive repair, maintenance, and transportation equipment manufacturing and distribution facilities (including those who repair and maintain electric vehicle charging stations).~~
  - ~~Transportation safety inspectors, including hazardous material inspectors and accident investigator inspectors.~~
  - ~~Manufacturers and distributors (to include service centers and related operations) of lighting and communication systems, specialized signage and structural systems, emergency response equipment and support materials, printers, printed materials, packaging materials, pallets, crates, containers, and other supplies needed to support manufacturing, packaging staging and distribution operations, and other critical infrastructure needs.~~
  - Postal Service, parcel, courier, last-mile delivery, and shipping and related workers, to include private companies, who accept, process, transport, and deliver information and goods.
  - Workers who supply equipment and materials for maintenance of transportation equipment.

- ~~Employees~~ Workers who repair and maintain vehicles, aircraft, rail equipment, marine vessels, bicycles, and the equipment and infrastructure that enables operations that encompass movement of cargo and passengers.
- ~~Air~~ Workers who support air transportation employees for cargo and passengers, including operation distribution, maintenance, and sanitation. This includes air traffic controllers ~~and~~, flight dispatchers, maintenance personnel, ramp workers, fueling agents, flight crews, airport safety inspectors and engineers, airport operations personnel, aviation and aerospace safety workers, security, ~~and commercial space personnel,~~ operations personnel ~~and accident investigations,~~ accident investigators, flight instructors, and other on- and off-airport facilities workers.
- ~~Workers who support the operation, distribution, maintenance, and sanitation, of air transportation for cargo and passengers, including flight crews, maintenance, airport operations, those responsible for cleaning and disinfection, and other on- and off-airport facilities workers.~~
- ~~Workers supporting transportation via inland waterways,~~ such as barge crew, dredging crew, and river port workers for essential goods.
- ~~Workers critical to the manufacturing, distribution, sales, rental and, leasing, repair, and maintenance of vehicles and other transportation equipment that (including electric vehicle charging stations) and the supply chains that enable these operations to facilitate continuity of travel-related operations for essential workforces and other essential travel workers.~~
- ~~Warehouse operators, including vendors and support personnel critical for business continuity (including heating, ventilation, and air conditioning (HVAC & ) and electrical engineers, security personnel, and janitorial staff), e-commerce or online commerce, and customer service for essential functions.~~

## **PUBLIC WORKS AND INFRASTRUCTURE SUPPORT SERVICES**

- Workers who support the construction, maintenance, or rehabilitation of critical infrastructure.
- Workers supporting construction materials production, testing laboratories, material delivery services, and construction inspection.
- ~~Workers who support the operation, inspection, and maintenance of essential public works facilities and operations, including bridges, water and sewer main breaks, fleet maintenance personnel, construction of critical or strategic infrastructure, traffic signal maintenance, emergency location services for buried utilities, maintenance of digital systems infrastructure supporting public works operations, and other emergent issues.~~
- ~~Workers such as plumbers, electricians, exterminators, builders (including building and insulation), contractors, HVAC Technicians, landscapers, and other service providers who provide services, including temporary construction, that are necessary to maintaining the safety, sanitation, and essential operation of residences, businesses and buildings, such as hospitals, and senior living facilities, any temporary construction required to support COVID-19 response.~~

- ~~Workers~~ personnel, who support operations that ensure, ~~such as road and line clearing, to ensure~~ the availability of and access to needed facilities, transportation, energy, and communications through activities such as road and line clearing.
- ~~Support to ensure~~ Workers who support the effective removal, storage, and disposal of residential, industrial, and commercial solid waste and hazardous waste, including at landfill operations.
- ~~Workers~~ who support the operation, inspection, and maintenance of essential dams, locks, and levees.
- ~~Workers~~ who support the inspection and maintenance of aids to navigation, and other government-provided services that ensure continued maritime commerce.

## COMMUNICATIONS AND INFORMATION TECHNOLOGY

### Communications:

- ~~Maintenance of communications infrastructure, --~~ including privately owned and maintained communication systems, -- supported by technicians, operators, call centers, wireline and wireless providers, cable service providers, satellite operations, Internet Exchange Points, Points of Presence, Network Access Points, back haul and front haul facilities, and manufacturers and distributors of communications equipment.
- ~~Government and private sector employees (workers,~~ including government contractors), with work related to undersea cable infrastructure and support facilities, including cable landing sites, beach manhole vaults and covers, submarine cable depots, and submarine cable ship facilities.
- ~~Government and private sector employees (workers,~~ including government contractors), supporting Department of Defense internet and communications facilities.
- ~~Workers who support radio, television, and media service, including, but not limited to front-line news reporters, studio, and technicians for newsgathering, and reporting, and publishing news.~~
- ~~Network Operations staff, engineers and/or~~ Network Operations staff, engineers, and technicians to include IT managers and staff, HVAC & and electrical engineers, security personnel, software and hardware engineers, and database administrators that manage the network or operate facilities.
- ~~Engineers, technicians and associated personnel~~ Workers responsible for infrastructure construction and restoration, including but not limited to engineers, technicians, and contractors for construction and engineering of fiber optic cables, buried conduit, small cells, other wireless facilities, and other communications sector-related infrastructure. This includes permitting, construction of new facilities, and deployment of new technology as ~~these are~~ required to address congestion or customer usage due to unprecedented use of remote services.
- ~~Installation, maintenance,~~ and repair technicians that establish, support, or repair service as needed.

- ~~Central office personnel to maintain and operate central office, data centers, and other network office facilities, including critical support personnel assisting front line employeesworkers.~~
- ~~Customer service and support staff, including managed and professional services, as well as remote providers of support to transitioning employees-workers to set up and maintain home offices, who interface with customers to manage or support service environments and security issues, including payroll, billing, fraud, logistics, and troubleshooting.~~
- ~~Workers providing electronic security, fire, monitoring, and life safety services, and to-who ensure physical security, cleanliness, and the safety of facilities and personnel, including those who provide temporary licensing waivers for security personnel to work in other States of-or Municipalities.~~
- ~~Dispatchers involved with service repair and restoration.~~
- ~~Retail customer service personnel at critical service center locations for-onboarding customers to address customer needs, including new customer processing, distributing and repairing equipment, and addressing customer issues, in order to support individuals' remote emergency communications needs, supply-Supply chain and logistics personnel to ensure goods and products are on-boarded-available to provision these front-line employeesfrontline workers.~~
- ~~External Affairs personnel to assist in coordinating with local, state, and federal officials to address communications needs supporting COVID-19 response, public safety, and national security.~~
- Workers responsible for ensuring that persons with disabilities have access to and the benefits of various communications platforms, including those involved in the provision of telecommunication relay services, closed captioning of broadcast television for the deaf, video relay services for deaf citizens who prefer communication via American Sign Language over text, and audio-description for television programming.

### **Information Technology:**

- ~~Workers who support command centers, including, but not limited to, Network Operations Command Centers, Broadcast Operations Control Centers, and Security Operations Command Centers.~~
- ~~Data center operators, including system administrators, HVAC &-and electrical engineers, security personnel, IT managers and purchasers, data transfer solutions engineers, software and hardware engineers, and database administrators, for all industries (including financial services).~~
- ~~Workers who support client service centers, field engineers, and other technicians and workers supporting critical infrastructure, as well as manufacturers and supply chain vendors that provide hardware and software, support services, research and development, and information technology equipment (to include microelectronics and semiconductors), and HVAC and electrical equipment for critical infrastructure, and test labs and certification agencies that qualify such equipment (to include microelectronics, optoelectronics, and semiconductors) for critical infrastructure, including data centers.~~

- ~~Workers~~ needed to preempt and respond to cyber incidents involving critical infrastructure, including medical facilities; state, local, tribal, and territorial (SLTT) governments and federal facilities; ~~energy and utilities, and banks and financial institutions, securities, securities and other exchanges, other entities that support the functioning of capital markets, public works, critical manufacturing, food & agricultural production, transportation, and other critical infrastructure categories and personnel, in addition to all cyber defense workers (who can't perform their duties remotely).~~
- ~~Suppliers, designers, transporters and other workers supporting the manufacture, distribution and provision and construction of essential global, national and local infrastructure for computing services (including cloud computing services and telework capabilities), business infrastructure, financial transactions and services, web-based services, and critical manufacturing.~~
- ~~Workers supporting communications systems and information technology and work from home solutions—used by law enforcement, public safety, medical, energy, public works, critical manufacturing, food & agricultural production, financial services, education, and other critical industries and businesses.~~
- ~~Employees~~ Workers required in person to support Software as a Service businesses that enable remote working, performance of business operations, distance learning, media services, and digital health offerings, or required for technical support crucial for business continuity and connectivity.

## OTHER COMMUNITY- OR GOVERNMENT-BASED OPERATIONS AND ESSENTIAL FUNCTIONS

- ~~Workers~~ to ensure continuity of building functions, including but not limited to security and environmental controls (e.g., HVAC), the manufacturing and distribution of the products required for these functions, and the permits and inspections for construction supporting essential infrastructure.
- ~~Elections personnel to include both public and private sector elections support.~~
- ~~Workers supporting the operations of the judicial system, including judges, lawyers, and others providing legal assistance.~~
- ~~Workers who support administration and delivery of unemployment insurance programs, income maintenance, employment service, disaster assistance, workers' compensation insurance and benefits programs, and pandemic assistance.~~
- ~~Federal, State, and Local, Tribal, and Territorial employees-government workers who support Mission Essential Functions and communications networks.~~
- ~~Trade Officials (FTA negotiators; international data flow administrators).~~
- ~~Employees necessary to maintain news and media operations across various media.~~
- ~~Workers who support radio, print, internet and television news and media services, including, but not limited to front line news reporters, studio, and technicians for newsgathering, reporting, and publishing news.~~
- ~~Employees~~ Workers supporting Census 2020.
- ~~Weather forecasters.~~
- ~~Clergy for essential support.~~

- ~~Workers~~ who maintain digital systems infrastructure supporting other critical government operations.
- ~~Workers~~ who support necessary permitting, credentialing, vetting, and licensing ~~operations~~ for essential critical infrastructure workers and their operations.
- ~~Customs and immigration workers~~ who are critical to facilitating trade in support of the national emergency response supply chain.
- ~~Educators~~ supporting public and private K-12 schools, colleges, and universities for purposes of facilitating distance learning or performing other essential functions.
- Workers at testing centers for emergency medical services and other healthcare workers.
- ~~Staff at government offices~~ who perform title search, notary, and recording services in support of mortgage and real estate services and transactions.
- ~~Residential and commercial real estate services~~, including settlement services.
- ~~Workers~~ supporting essential maintenance, manufacturing, design, operation, inspection, security, and construction for essential products, services, ~~and~~ supply chain ~~and~~ COVID-19 relief efforts.
- Workers performing services to animals in human care, including zoos and aquariums.

## CRITICAL MANUFACTURING

- ~~Workers~~ necessary for the manufacturing of metals (including steel and aluminum), industrial minerals, semiconductors, materials and products needed for medical supply chains, ~~and~~ for supply chains associated with transportation, aerospace, energy, communications, information technology, food and agriculture, chemical manufacturing, nuclear facilities, wood products, commodities used as fuel for power generation facilities, the operation of dams, water and wastewater treatment, processing and reprocessing of solid waste, emergency services, and the defense industrial base. Additionally, workers needed to maintain the continuity of these manufacturing functions and associated supply chains, and workers necessary to maintain a manufacturing operation in warm standby.
- ~~Workers~~ necessary for the manufacturing of materials and products needed to manufacture medical equipment and ~~personal protective equipment (PPE)~~ PPE.  
  - ~~Workers~~ necessary for mining and production of critical minerals, materials and associated essential supply chains, and workers engaged in the manufacture and maintenance of equipment and other infrastructure necessary for mining production and distribution.
- ~~Workers~~ who produce or manufacture parts or equipment that supports continued operations for any essential services and increase in remote workforce ~~(including~~ computing and communication devices, semiconductors, and equipment such as security tools for Security Operations Centers (SOCs) or ~~datacenters)~~ data centers.
- Workers manufacturing or providing parts and equipment that enable the maintenance and continued operation of essential businesses and facilities.

## HAZARDOUS MATERIALS

- ~~Workers who manage hazardous materials associated with any other essential activity, including but not limited to healthcare waste (medical, pharmaceuticals, medical material production), and testing operations (from laboratories processing test and testing kits), and energy (nuclear facilities) Workers at including nuclear facilities, workers managing medical waste, workers managing waste from pharmaceuticals and medical material production, and workers at laboratories processing tests).~~
- Workers who support hazardous materials response and cleanup.
- Workers who maintain digital systems infrastructure supporting hazardous materials management operations.

## FINANCIAL SERVICES

- Workers who are needed to provide, process, and maintain systems for processing, verification, and recording of financial transactions and services, including payment, clearing, and settlement; wholesale funding; insurance services; consumer and commercial lending; public accounting; and capital markets activities).
- Workers who are needed to maintain orderly market operations to ensure the continuity of financial transactions and services.
- Workers who are needed to provide business, commercial, and consumer access to bank and non-bank financial services and lending services, including ATMs, lending and money transmission, lockbox banking, and to move currency, checks, securities, and payments (e.g., armored cash carriers).
- Workers who support financial operations and those staffing call centers, such as those staffing data and security operations centers, managing physical security, or providing accounting services.
- Workers supporting production and distribution of debit and credit cards.
- Workers providing electronic point of sale support personnel for essential businesses and workers.

## CHEMICAL

- Workers supporting the chemical and industrial gas supply chains, including workers at chemical manufacturing plants, ~~workers in~~ laboratories, ~~workers at~~ distribution facilities, and workers who transport basic raw chemical materials to the producers of industrial and consumer goods, including hand sanitizers, food and food additives, pharmaceuticals, paintings and coatings, textiles, building materials, plumbing, electrical, and paper products.
- Workers supporting the safe transportation of chemicals, including those supporting tank truck cleaning facilities and workers who manufacture packaging items.
- Workers supporting the production of protective cleaning and medical solutions, ~~personal protective equipment~~ PPE, chemical consumer and institutional products, disinfectants, fragrances, and packaging that prevents the contamination of food, water, medicine, among others essential products.
- Workers supporting the operation and maintenance of facilities (particularly those with high risk chemicals and ~~or~~ sites that cannot be shut down) whose work cannot

be done remotely and requires the presence of highly trained personnel to ensure safe operations, including plant contract workers who provide inspections.

- ~~Workers~~ (including those in glass container manufacturing) who support the production and transportation of chlorine and alkali manufacturing, single-use plastics, and packaging that prevents the contamination or supports the continued manufacture of food, water, medicine, and other essential products, ~~including glass container manufacturing.~~

## DEFENSE INDUSTRIAL BASE

- ~~Workers~~ who support the essential services required to meet national security commitments to the federal government and U.S. Military. ~~These individuals include,~~ including, but are not limited to, space and aerospace; ~~workers, nuclear matters workers,~~ workers, mechanical and software engineers (various disciplines), manufacturing ~~and~~ and production workers; ~~IT support;~~ IT support; ~~security staff;~~ security staff; ~~security personnel;~~ security personnel; intelligence support, aircraft and weapon system mechanics and maintainers; ~~and~~ and sanitary workers who maintain the hygienic viability of necessary facilities.
- ~~Personnel~~ working for companies, and their subcontractors, who perform under contract or sub-contract to the Department of Defense (DoD) and the Department of Energy (DoE) (on nuclear matters), as well as personnel at government-owned/contractor ~~operated and government owned/government~~ operated facilities, and who provide materials and services to the ~~Department of Defense~~ DoD and DoE (on nuclear matters), including support for weapon systems, software systems and cybersecurity, defense and intelligence communications ~~and,~~ and surveillance, sale of U.S. defense articles and services for export to foreign allies and partners (as authorized by the U.S. government), and space systems and other activities in support of our military, intelligence, and space forces.

## COMMERCIAL FACILITIES

- ~~Workers~~ who support the supply chain of building materials from production through application ~~and~~ and installation, including cabinetry, fixtures, doors, cement, hardware, plumbing (including parts and services), electrical, heating ~~and~~ and cooling, refrigeration, appliances, paint ~~and~~ and coatings, and ~~employees~~ workers who provide services that enable repair materials and equipment for essential functions.
- ~~Workers~~ supporting ecommerce through distribution, warehouse, call center facilities, and other essential operational support functions, that accept, store, and process goods, and that facilitate their transportation and delivery.
- ~~Workers~~ in hardware and building materials stores necessary to provide access to essential supplies, consumer electronics, technology and appliances retail, and related merchant wholesalers and distributors ~~with reduced staff to ensure continued operations.~~
- ~~Workers~~ distributing, servicing, repairing, installing residential and commercial HVAC systems, boilers, furnaces and other heating, cooling, refrigeration, and ventilation equipment.
- Workers supporting the operations of commercial buildings that are critical to safety, security, and the continuance of essential activities, such as on-site property

managers, building engineers, security staff, fire safety directors, janitorial personnel, and service technicians (e.g., mechanical, HVAC, plumbers, electricians, and elevator).

- Management and staff at hotels and other temporary lodging facilities that provide for COVID-19 mitigation, containment, and treatment measures or provide accommodations for essential workers.

## RESIDENTIAL/SHELTER FACILITIES AND SERVICES

- ~~Workers in-providing dependent care services, in support of workers in other particularly those whose services ensure essential products and services workers can continue to work.~~
- ~~Workers who support food, shelter, and social services, and other necessities of life for needy groups and individuals, including in-need populations and COVID-19 responders (including travelling medical staff).~~
- ~~Workers in animal shelters.~~
- ~~Workers responsible for the leasing of residential properties to provide individuals and families with ready access to available housing.~~
- ~~Workers responsible for handling property management, maintenance, and related service calls who can coordinate the response to emergency “at-home” situations requiring immediate attention, as well as facilitate the reception of deliveries, mail, and other necessary services.~~
- ~~Workers performing housing construction related activities to ensure additional units can be made available to combat the nation’s existing housing supply shortage.~~
- ~~Workers performing services in support of the elderly and disabled populations who coordinate a variety of services, including health care appointments and activities of daily living.~~
- ~~Workers supporting the construction of housing~~ Workers performing housing and commercial construction related activities, including those supporting government functions related to the building and development process, such as inspections, permitting- and plan review services that can be modified to protect the public health, but fundamentally should continue and ~~serve~~ enable the continuity of the construction ~~of housing industry~~ (e.g., allow qualified private third-party inspections in case of federal government shutdown).
- Workers performing services in support of the elderly and disabled populations who coordinate a variety of services, including health care appointments and activities of daily living.
- Workers responsible for the movement of household goods.

## HYGIENE PRODUCTS AND SERVICES

- Workers who produce hygiene products.
- Workers in laundromats, laundry services, and dry cleaners.
- Workers providing personal and household goods- repair- and maintenance.

- Workers providing disinfection services, for all essential facilities and modes of transportation, and supporting who support the sanitation of all food manufacturing processes and operations from wholesale to retail.
- Workers necessary for the installation, maintenance, distribution, and manufacturing of water and space heating equipment and its components.
- Support required for continuity of services, including commercial disinfectant services, janitorial, and cleaning personnel, and support personnel functions that need freedom of movement to access facilities in support of front-line ~~employees~~ workers.
- Workers supporting the production of home cleaning, pest control, and other essential products necessary to clean, disinfect, sanitize, and ensure the cleanliness of residential homes, shelters, and commercial facilities.
- Workers supporting agriculture irrigation infrastructure.
- Workers supporting the production of home cleaning and pest control products.