Guidance on the Essential Critical Infrastructure Workforce: Ensuring Community and National Resilience in COVID-19 Response

Version 1.1 (March 23, 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 guidance and accompanying list are intended to support State, Local, 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 guidance to State, local, tribal, and territorial jurisdictions and the private sector 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.

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, as well as State and local government officials, regarding strategies to limit disease spread.
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.
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, separating staff by off-setting shift hours or days and/or social distancing. These steps can preserve the workforce and allow operations to continue.

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.

6. In the modern economy, 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.

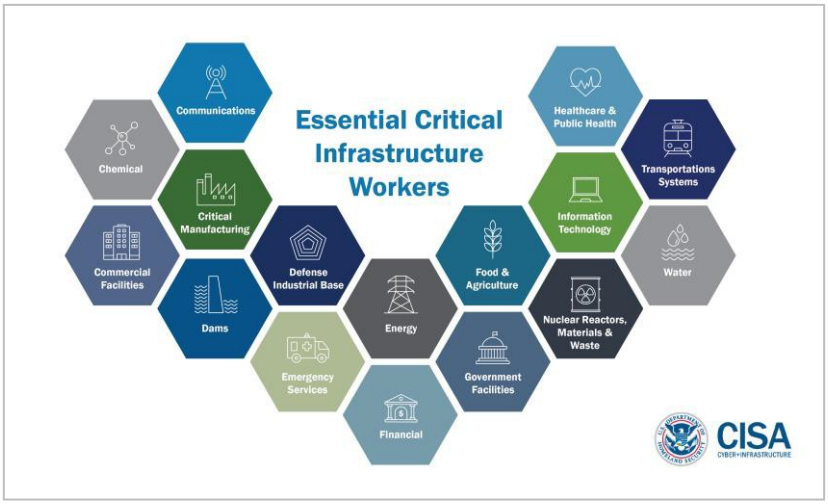
7. Government employees, such as emergency managers, and the business community need to establish and maintain lines of communication.

8. When government and businesses engage in discussions about 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.

9. Whenever possible, jurisdictions should align access and movement control policies related to critical infrastructure workers to lower the burden of workers crossing jurisdictional boundaries.

IDENTIFYING ESSENTIAL CRITICAL INFRASTRUCTURE WORKERS

The following list of sectors and identified essential critical infrastructure workers are an initial recommended set and are intended to be overly inclusive reflecting the diversity of industries across the United States. CISA will continually solicit and accept feedback on the list (both sectors/sub sectors and identified essential workers) 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. We ask that you share your feedback, both positive and negative on this list so we can provide the most useful guidance to our critical infrastructure partners. Feedback can be sent to CISA.CAT@CISA.DHS.GOV.



HEALTHCARE / PUBLIC HEALTH

- Workers providing COVID-19 testing; Workers that perform critical clinical research needed for COVID-19 response
- Caregivers (e.g., physicians, dentists, psychologists, mid-level practitioners, nurses and assistants, infection control and quality assurance personnel, pharmacists, physical and occupational therapists and assistants, social workers, speech pathologists and diagnostic and therapeutic technicians and technologists)
- Hospital and laboratory personnel (including accounting, administrative, admitting and discharge, engineering, epidemiological, source plasma and blood donation, food service, housekeeping, medical records, information technology and operational technology, nutritionists, sanitarians, respiratory therapists, etc.)
- Workers in other medical 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, Organ Pharmacies, Procurement Organizations, Psychiatric Residential, Rural Health Clinics and Federally Qualified Health Centers)
- Manufacturers, technicians, logistics and warehouse operators, and distributors of medical equipment, personal protective equipment (PPE), medical gases, pharmaceuticals (including materials used in radioactive drugs), blood and blood products, vaccines, testing materials, laboratory supplies, cleaning, sanitizing, disinfecting or sterilization supplies, 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 of the organizations that operate and manage related activities
- Workers that manage health plans, billing, and health information, who cannot practically work remotely
- Workers who conduct community-based public health functions, conducting epidemiologic surveillance, compiling, analyzing and communicating public health information, who cannot practically work remotely
- Workers performing cybersecurity functions at healthcare and public health facilities, who cannot practically work remotely
- Workers conducting research critical to COVID-19 response
- Workers performing security, incident management, and emergency operations functions at or on behalf of healthcare entities including healthcare coalitions, who cannot practically work remotely
- Workers who support food, shelter, and social services, and other necessities of life for economically disadvantaged or otherwise needy individuals, such as those residing in shelters
- Pharmacy employees necessary for filling prescriptions
- Workers performing mortuary services, including funeral homes, crematoriums, and cemetery workers
- 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/behavioral health services to the family members, responders, and survivors of an incident

LAW ENFORCEMENT, PUBLIC SAFETY, FIRST RESPONDERS

- Personnel in emergency management, law enforcement, Emergency Management Systems, fire, air medical, and corrections, including front line and management
- Emergency Medical Service Technicians
- 911 call center employees
- Fusion Center employees
- Hazardous material responders from government and the private sector.
- Workers – including contracted vendors -- who maintain, manufacture, or supply digital systems infrastructure supporting law enforcement emergency service, and response operations.

FOOD AND AGRICULTURE

- Workers supporting groceries, pharmacies, convenience stores, and other retail that sells human food, animal/pet food, and beverage products
- Restaurant carry-out and quick serve food operations - Carry-out and delivery food employees
- Food manufacturer employees and their supplier employees—to include those employed in food processing (packers, meat processing, cheese plants, milk plants, produce, etc.) facilities; livestock, poultry, seafood slaughter facilities; pet and animal feed processing facilities; human food facilities producing by-products for animal food; beverage production facilities; and the production of food packaging
- Farm workers to include those employed in animal food, feed, and ingredient production, packaging, and distribution; manufacturing, packaging, and distribution of veterinary drugs; truck delivery and transport; farm and fishery labor needed to produce our food supply domestically
- Farm workers and support service workers to include those who field crops; commodity inspection; fuel ethanol facilities; storage facilities; and other agricultural inputs
- Employees and firms supporting food, feed, and beverage distribution, including warehouse workers, vendor-managed inventory controllers and blockchain managers
- Workers supporting the sanitation of all food manufacturing processes and operations from wholesale to retail
- Company cafeterias - in-plant cafeterias used to feed employees
- Workers in food testing labs in private industries and in institutions of higher education
- Workers essential for assistance programs and government payments
- Employees 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 pesticides, herbicides, fertilizers, minerals, enrichments, and other agricultural production aids
- Animal agriculture workers to include those employed in veterinary health; manufacturing and distribution of animal medical materials, animal vaccines, animal drugs, feed ingredients, feed, and bedding, etc.; transportation of live animals, animal medical materials; transportation of deceased animals for disposal; raising of animals for food; animal production operations; slaughter and packing plants, renderers, and associated regulatory and government workforce
- Workers who support the manufacture and distribution of forest products, including, but not limited to timber, paper, and other wood products
- Employees engaged in the manufacture and maintenance of equipment and other infrastructure necessary to agricultural production and distribution

ENERGY

Electricity industry:

- Workers who maintain, ensure, or restore, or 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, reliability engineers and fleet maintenance technicians
- Workers needed for safe and secure operations at nuclear generation
- Workers at generation, transmission, and electric blackstart facilities
- Workers at Reliability Coordinator (RC), Balancing Authorities (BA), and primary and backup Control Centers (CC), including but not limited to independent system operators, regional transmission organizations, and balancing authorities
- Mutual assistance personnel
- IT and OT technology staff – for EMS (Energy Management Systems) and Supervisory Control and Data Acquisition (SCADA) systems, and utility data centers; Cybersecurity engineers; cybersecurity risk management
- Vegetation management crews and traffic workers who support
- Environmental remediation/monitoring technicians
- Instrumentation, protection, and control technicians

Petroleum workers:

- Petroleum product storage, pipeline, marine transport, terminals, rail transport, road transport
- Crude oil storage facilities, pipeline, and marine transport
- Petroleum refinery facilities
- Petroleum security operations center employees and workers who support emergency response services
- Petroleum operations control rooms/centers
- Petroleum drilling, extraction, production, processing, refining, terminal operations, transporting, and retail for use as end-use fuels or feedstocks for chemical manufacturing
- Onshore and offshore operations for maintenance and emergency response
- Retail fuel centers such as gas stations and truck stops, and the distribution systems that support them

Natural and propane gas workers:

- Natural gas transmission and distribution pipelines, including compressor stations
- Underground storage of natural gas
- Natural gas processing plants, and those that deal with natural gas liquids
- Liquefied Natural Gas (LNG) facilities
- Natural gas security operations center, natural gas operations dispatch and control rooms/centers natural gas emergency response and customer emergencies, including natural gas leak calls
- Drilling, production, processing, refining, and transporting natural gas for use as end-use fuels, feedstocks for chemical manufacturing, or use in electricity generation
- Propane gas dispatch and control rooms and emergency response and customer emergencies, including propane leak calls
- Propane gas service maintenance and restoration, including call centers

- Processing, refining, and transporting natural liquids, including propane gas, for use as end-use fuels or feedstocks for chemical manufacturing
- Propane gas storage, transmission, and distribution centers

WATER AND WASTEWATER

Employees needed to operate and maintain drinking water and wastewater/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
- Operational staff for water distribution and testing
- Operational staff at wastewater collection facilities
- Operational staff and technical support for SCADA Control systems
- Chemical suppliers for wastewater and personnel protection
- Workers that maintain digital systems infrastructure supporting water and wastewater operations

TRANSPORTATION AND LOGISTICS

- Employees supporting or enabling transportation functions, including truck drivers, bus drivers, dispatchers, maintenance and repair technicians, warehouse workers, truck stop and rest area workers, and workers that maintain and inspect infrastructure (including those that require cross-jurisdiction travel)
- Employees of firms providing services that enable logistics operations, including cooling, storing, packaging, and distributing products for wholesale or retail sale or use.
- Mass transit workers
- Workers responsible for operating dispatching passenger, commuter and freight trains and maintaining rail infrastructure and equipment
- Maritime transportation workers - port workers, mariners, equipment operators
- Truck drivers who haul hazardous and waste materials to support critical infrastructure, capabilities, functions, and services
- Automotive repair and maintenance facilities
- Manufacturers and distributors (to include service centers and related operations) of packaging materials, pallets, crates, containers, and other supplies needed to support manufacturing, packaging staging and distribution operations
- Postal and shipping workers, to include private companies
- Employees who repair and maintain vehicles, aircraft, rail equipment, marine vessels, and the equipment and infrastructure that enables operations that encompass movement of cargo and passengers
- Air transportation employees, including air traffic controllers and maintenance personnel, ramp workers, aviation and aerospace safety, security, and operations personnel and accident investigations
- Workers who support the maintenance and operation of cargo by air transportation, including flight crews, maintenance, airport operations, and other on- and off- airport facilities workers

PUBLIC WORKS

- Workers who support the operation, inspection, and maintenance of essential dams, locks and levees
- 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, and other service providers who provide services that are necessary to maintaining the safety, sanitation, and essential operation of residences
- Support, such as road and line clearing, to ensure the availability of needed facilities, transportation, energy and communications
- Support to ensure the effective removal, storage, and disposal of residential and commercial solid waste and hazardous waste

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, undersea cable landing stations (including cable marine depots and submarine cable ship operators), Internet Exchange Points, and manufacturers and distributors of communications equipment
- Workers who support radio, television, and media service, including, but not limited to front line news reporters, studio, and technicians for newsgathering and reporting
- Workers at Independent System Operators and Regional Transmission Organizations, and Network Operations staff, engineers and/or technicians to manage the network or operate facilities
- Engineers, technicians and associated personnel responsible for infrastructure construction and restoration, including contractors for construction and engineering of fiber optic cables
- 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
- Customer service and support staff, including managed and professional services as well as remote providers of support to transitioning employees to set up and maintain home offices, who interface with customers to manage or support service environments and security issues, including payroll, billing, fraud, and troubleshooting
- Dispatchers involved with service repair and restoration

Information Technology:

- Workers who support command centers, including, but not limited to Network Operations Command Center, Broadcast Operations Control Center and Security Operations Command Center
- Data center operators, including system administrators, HVAC & electrical engineers, security personnel, IT managers, data transfer solutions engineers, software and hardware engineers, and database administrators
- Client service centers, field engineers, and other technicians supporting critical infrastructure, as well as

manufacturers and supply chain vendors that provide hardware and software, and information technology equipment (to include microelectronics and semiconductors) for critical infrastructure
- Workers responding to cyber incidents involving critical infrastructure, including medical facilities, SLTT governments and federal facilities, energy and utilities, and banks and financial institutions, and other critical infrastructure categories and personnel
- Workers supporting the provision of essential global, national and local infrastructure for computing services (incl. cloud computing services), business infrastructure, web-based services, and critical manufacturing
- Workers supporting communications systems and information technology used by law enforcement, public safety, medical, energy and other critical industries
- Support required for continuity of services, including janitorial/cleaning personnel

OTHER COMMUNITY-BASED GOVERNMENT OPERATIONS AND ESSENTIAL FUNCTIONS

- Workers to ensure continuity of building functions
- Security staff to maintain building access control and physical security measures
- Elections personnel
- Federal, State, and Local, Tribal, and Territorial employees who support Mission Essential Functions and communications networks
- Trade Officials (FTA negotiators; international data flow administrators)
- Weather forecasters
- Workers that maintain digital systems infrastructure supporting other critical government operations
- Workers at operations centers necessary to maintain other essential functions
- Workers who support necessary credentialing, vetting and licensing operations for transportation workers
- Customs 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, if operating under rules for social distancing
- Hotel Workers where hotels are used for COVID-19 mitigation and containment measures

CRITICAL MANUFACTURING

- Workers necessary for the manufacturing of materials and products needed for medical supply chains, and for supply chains associated with transportation, energy, communications, food and agriculture, chemical manufacturing, nuclear facilities, the operation of dams, water and wastewater treatment, emergency services, and the defense industrial base. Additionally, workers needed to maintain the continuity of these manufacturing functions and associated supply chains.

HAZARDOUS MATERIALS

- Workers at nuclear facilities, workers managing medical waste, workers managing waste from pharmaceuticals and medical material production, and workers at laboratories processing test kits
- 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 process and maintain systems for processing financial transactions and services (e.g., payment, clearing, and settlement; wholesale funding; insurance services; and capital markets activities)
- Workers who are needed to provide consumer access to banking and lending services, including ATMs, and to move currency and payments (e.g., armored cash carriers)
- Workers who support financial operations, such as those staffing data and security operations centers

CHEMICAL

- Workers supporting the chemical and industrial gas supply chains, including workers at chemical manufacturing plants, workers in laboratories, workers at distribution facilities, workers who transport basic raw chemical materials to the producers of industrial and consumer goods, including hand sanitizers, food and food additives, pharmaceuticals, textiles, 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, 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 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 but are not limited to, aerospace; mechanical and software engineers, manufacturing/production workers; IT support; security staff; security personnel; intelligence support, aircraft and weapon system mechanics and maintainers
- Personnel working for companies, and their subcontractors, who perform under contract to the Department of Defense providing materials and services to the Department of Defense, and government-owned/contractor-operated and government-owned/government-operated facilities