

SECTION 01 35 29 - HEALTH AND SAFETY MANAGEMENT/EMERGENCY RESPONSE PROCEDURES

1.01 SCOPE: The Contractor shall implement plans, systems, and procedures to meet the requirements specified in Section 01 35 23 (*Health and Safety Requirements*) and to maintain the health and safety of the Contractor's Personnel, the public, and the Employer's Personnel. This Section establishes only the minimum requirements with respect to health and safety management and emergency response.

- A. The Contractor shall ensure that the procedures in place for the control of health and safety during the execution of the Works are such that they achieve the following.
 - 1. Comply with specified and national standards for health and safety applicable to the construction industry. In the event of any apparent discrepancy between standards, those issued by the ACP (see 1.02 A.) shall be given first priority, with the OSHA standards (1.02 B.) next.
 - 2. Encourage the establishment and maintenance of a responsible disease- and injury-prevention approach to the welfare and safety of the Contractor's Personnel, the public, and the Employer's Personnel during the course of the design, execution, and completion of the Works.
 - 3. Ensure that all necessary steps are taken to safeguard the health and safety of Contractor's personnel, the Employer's Personnel, and other persons in the vicinity of the work, including members of the public who may be affected by the execution of the Works.
 - 4. Allow the Employer's Personnel to monitor and audit the implementation and effectiveness of the procedures.
- B. The Contractor shall implement a health and safety management system (see 1.04) for the execution of the Works to meet these objectives and in accordance with the principles laid out in these requirements.

1.02 ^{A16}REFERENCES: ^{A16}

- A. **Autoridad del Canal de Panamá (ACP):** In addition to the documents explicitly referenced below, the Contractor shall comply with all the applicable safety, health, and marine regulations of the Employer, which can accessed through the following shortcut: <http://www.pancanal.com/eng/legal/reglamentos/security/index.html>.

^{A17} 2600SEG-103	Norma de Planes de Desalojo de Edificios, Oficinas y Otras Áreas de Trabajo, por Emergencias.
2600SEG-109(R1)	Norma de Seguridad Sobre Protección Contra Caídas.
2600SEG-126(R1)	Norma de Investigación de Accidentes e Incidentes.
2600SEG-127	Norma de Análisis de Trabajo Seguro.
2600SEG-129(R2)	Norma para Contratos.

2600SEG-133	Norma de Seguridad para la Operación de Plataformas de Trabajos Aéreos.
2600SEG-141	Norma de Seguridad de Andamios.
2600SEG-248	Norma de Protección Intrínseca.
2600SEG-290(R3)	Manual de Prácticas Seguras en Espacios Confinados. ^{A17}

B. Code of Federal Regulations (CFR):

29 CFR 1910	Occupational Safety and Health Administration (OSHA), Department of Labor - Occupational Safety and Health Standards.
29 CFR 1926	Occupational Safety and Health Administration (OSHA), Department of Labor - Safety and Health Regulations for Construction.
Title 30	Mineral Resources.

C. National Fire Protection Association (NFPA):

241-04	Standard for Safeguarding Construction, Alteration, and Demolition Operations.
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1.03 SUMMARY OF MAJOR REQUIREMENTS: The following are some of the most important requirements covered in this Section, many of which are explained in greater detail later on and are cross-referenced accordingly.

- A. The Contractor has sole responsibility for planning and implementing compliance with all requirements for Site safety. This shall be achieved through a health and safety management system (see 1.04). Safety requirements and safety procedures shall be superintended by a health and safety manager as specified in 1.04 B.1.
- B. ^{A16}The Contractor shall promote safety, hold safety meetings in accordance with 1.09, properly train new personnel, and monitor Site safety via inspections (see 1.05 E.2.) during each day’s work shift(s).^{A16} In addition and in conformance with 1.04 C.2., the Contractor shall correct and report any safety violations and attend the investigative meetings of the Employer’s Representative that follow accidents designated as serious by the Employer’s Representative.
- C. No construction or other work activities shall commence until the safe work plans for the specific activities concerned (see 1.06) have been approved by the Employer’s Representative.
- D. Construction work shall not commence until the Contractor’s health and safety manager, supervisors, and representatives (see 1.04 B.) have been submitted to and approved by the Employer’s Representative in writing and are physically on the Site (where they shall remain represented for all work activities). As a minimum, the health and safety manager, a safety supervisor, or a safety representative shall be present on the Site whenever physical work is being performed.

- E. Contractor's Personnel shall not work on Employer's property until they have attended the required Contractor safety orientation (see 1.08) and training, which is Site specific for this Contract. ^{A16}Compliance with health and safety management system provisions shall be a mandatory requisite for continuing employment with the Contractor and all Subcontractors engaged in the Works. ^{A16}
- F. **Interfaces for Health and Safety:** The measures adopted by the Contractor to meet his obligations with respect to health and safety shall be aligned with those of the Employer and of any organization(s) having a legislative or statutory role with respect to health and safety.
- G. **Emergency Action Plan Implementation:** Should an emergency occur, the Contractor shall immediately secure the area, implement the emergency-rescue plan, and notify the Employer's Representative. Information regarding the emergency shall be provided only to the Employer's Representative and any regulatory agency responding to the emergency. The press and media shall be referred to the Employer's Representative for information. (See further guidance in 1.04 C.3.)

1.04 HEALTH AND SAFETY MANAGEMENT SYSTEM (HSMS): The Contractor shall provide a HSMS to establish and implement health and safety policy and objectives and to reflect its commitment to those policies and objectives. The HSMS shall ensure compliance with the requirements expressed in Subparagraph A. and elsewhere in this Section, shall be administered by the health and safety organization described in Subparagraph B., and shall be formally documented in an HSMS manual (see Subparagraph C.).

A. **General HSMS Requirements:**

- 1. ^{A16}The Contractor is responsible for the establishment, supervision, maintenance, enforcement, dismantling, and removal of all measures and arrangements for ensuring the health and safety of Contractor's Personnel and Employer's Personnel (whether on-Site or off-Site at other premises where the Works are provided or being provided), all Site visitors, and the public when on Site or when affected by work or operations related to the design, execution, or completion of the Works. ^{A16} In addition, the Contractor shall take measures to ensure that his safety precautions extend to any other contractors or others occupying or traversing the Site.
- 2. The Contractor shall comply with requests from the Employer's Representative and other authorities to secure the working environment on Site and within any other area required by the Contractor to provide the Works, so that such areas are properly safeguarded throughout the duration of the Contract.
- 3. In case of an accident or breakdown in connection with the execution or completion of the Works, the Contractor shall adhere to the instruction of the relevant authorities. The Contractor shall immediately notify the Employer's Representative and the relevant authorities and provide all details regarding the circumstances and events.
- 4. The Contractor shall comply with NFPA 241.

- B. **Health and Safety Organization:** The Contractor shall establish and designate a separate part of his organization to deal with all aspects of health and safety. A detailed description of the organization, including its structure (complete with an organizational chart), shall be included in the HSMS manual (Subparagraph C.).

1. **Health and Safety Manager (HSM):** ^{A17}The Contractor shall appoint HSM to administer the HSMS.^{A17}
 - a. ^{A16}The HSM appointed by the Contractor shall be assigned full-time and exclusively to the Works from the Commencement Date until completion of the Works (including the remedying of defects). His sole responsibility shall be the management of all specified health and safety matters.^{A16}
 - b. ^{A16}The HSM shall report directly to the corporate officer and not be subordinate to Contractor’s personnel on the Works.^{A16}
 - c. ^{A16}The HSM shall design a structure to establish the main persons responsible for specific health and safety matters (such as safety representatives, safety supervisors, and health representatives), as needed to manage the system effectively, and shall supervise all such personnel.^{A16}
2. **Qualifications and Approval of HSMS Staff:** See 1.07 for separate requirements for first-aid facility staff and 1.14 for related submittal requirements.
 - a. ^{A17}The HSM shall have not less than 10 years of safety-related experience managing a safety and health program in large scale construction projects and shall be familiar with, and able to identify risks in, the type of work being performed, such as earth moving, handling explosives, heavy construction equipment, concrete work, steel erection, cranes, demolition works, etc. The HSM shall also have experience in developing and delivering training programs, leading accident/incident investigations, and a proven record of controlling accidents and incidents through engineering controls, administrative programs, and personal protective equipment as well as safety systems involving both management and workers. An individual certified by the Board of Certified Safety Professional or equivalent is preferred.^{A17}
 - b. The HSM, as well as all supervisors and representatives, shall have successfully completed the 30-hour OSHA course on construction health and safety (29 CFR 1926). The Employer’s Representative may accept other safety certifications or safety training in lieu of the foregoing.
 - c. The proposed HSM, safety supervisors, and safety representatives shall maintain current certifications in first aid and CPR.
 - d. Safety supervisors shall be familiar with the work being performed.
 - e. The Contractor shall not change the approved HSM, the safety supervisors, or shift safety representatives without prior written consent from the Employer’s Representative. Any replacement must be at least equal in terms of qualification and experience to the person who will be replaced.
 - f. **Industrial Hygienist (IH):** ^{A17}The Contractor shall provide an IH with no less than 5 years of industrial hygiene experience in anticipating, identifying, preventing and controlling factors and stresses specific to the heavy construction industry in a tropical setting, such as particulates, noise, vibration, biological vectors, heat stress, etc. The IH shall

provide enough data to demonstrate successful prevention and control of IH risks related to the construction industry using engineering controls, administrative programs, and personal protective equipment. The IH shall have experience in developing and delivering training programs.^{A17} The data shall be documented and not inferred. References and related experience will be verified by the Employer's Representative prior to any such person commencing duties.^{A17} An individual certified by the American Board of Industrial Hygienist or equivalent is preferred.^{A17}

3. ^{A16}**Safety Coverage.** It is imperative that effective safety coverage be provided for all work activities, including all shifts. There shall be one safety representative at each work Site when simultaneous work is being accomplished^{A16}.
- a. ^{A16}With multiple shift work, the HSM shall primarily work on the day shift in order to be available to the Employer's Representative and for activities or meetings that may require his attendance and participation. The HSM shall have safety supervisors or safety representatives assigned to work on all other shifts while work is in progress. The HSM may find it necessary to overlap his time and duties into another shift as needed in order to communicate the Contractor's safety plans, aid in safety coverage, and/or assist with compliance issues in conjunction with the safety supervisors, safety representatives, or crew of the overlapped shift.^{A16}
 - b. Failure to have the HSM, a safety supervisor, or safety representative on the Site when any work is being performed may result in a stoppage of work (any resultant delay will be the responsibility of the Contractor) until the HSM, safety supervisor, or a representative is physically on the Site. ^{A16}Within 7 days of any such occurrence, the Employer's Representative shall receive a written report, prepared by the Contractor's Representative, which explains the reason for Contractor failing to provide the safety representative.^{A16}
 - c. A designated safety representative (DSR) may be used as follows.
 - 1) **Sick, Personal, or Emergency Leave:** The Contractor shall inform the Employer's Representative immediately upon the absence of the HSM, safety supervisors or safety representatives and shall provide a copy of the alternate safety coverage request indicating the approved person who will act as DSR during the absence. If the sick, personal, or emergency leave is to extend beyond 14 days, the Contractor shall provide a qualified safety supervisor or representative.
 - 2) ^{A16}**Vacation Leave:** No less than 7 days prior to the planned absence, the Contractor shall provide a copy of the alternate safety coverage request indicating the approved person who will act as DSR.^{A16} If the vacation extends more than 14 days, the Contractor shall provide a qualified health and safety manager or safety supervisor.
 - 3) **Termination or Resignation of HSM, Safety Supervisors, or Safety Representatives:** In the event that the HSM, a safety

supervisor, or a safety representative is either terminated or resigns, the Contractor shall immediately inform the Employer's Representative, assign a DSR, and provide a copy of the alternate safety coverage request.

- 4) **Small Work Crews (for Weekends, Holidays, or Irregular Shifts):** A DSR may be substituted for the regular safety personnel only where a small crew of 15 persons or less, including all supervisory and Subcontractor employees, is involved in work on an extended shift, weekend work, or irregular shift work and only provided the following conditions are met.

- a) Prepare a safe work plan as described in 1.06 and explain how the DSR will provide adequate and appropriate safety coverage.
- b) ^{A16}No less than 4 working days prior to the planned work, submit the Safe Work Plans (SWPs) and provide a copy of the alternate safety coverage request indicating the approved person who will act as DSR during the work. ^{A16}

4. **HSMS Responsibilities:**

- a. Health and safety responsibilities — including emergency responsibilities — for all Contractor's Personnel shall be clearly defined in the HSMS manual (Subparagraph C.). Management responsibility shall be clearly documented, with specific references to the HSMS responsibilities of the Contractor's Representative and other members of the project management team in their job descriptions, which shall be published in the manual, along with the job descriptions for the following personnel.

- 1) The HSM, safety supervisors, safety representatives and employees designated as competent persons. See references to competent persons in Section 01 35 23 (*Health and Safety Requirements*).
- 2) All medical personnel employed by the Contractor, including doctors, nurses, medics and emergency medical technicians. (See related reference to first-aid staff in 1.07).
- 3) The industrial hygienist referred to previously in point 2.f.

- b. ^{A17}Upon discovery of an unsafe condition, the Contractor or the person designated by him shall order the work to be stopped and the unsafe condition immediately corrected. ^{A17} They shall, at a minimum, also be responsible to:

- 1) Produce the HSMS manual and enforce its provisions covering all procedures for carrying out work activities (see Subparagraph C.).
- 2) Maintain a safety library including, at a minimum, a current copy of all references mentioned in 1.02, other ACP safety

standards/regulations, the HSMS manual, information on the Contractor's corporate health and safety program, each Subcontractor's health and safety plan, and a material safety data sheet (MSDS) for each substance to be handled.

- 3) Perform and document daily safety inspections of the jobsite(s) and public areas contiguous and adjacent thereto, as per 1.05 E.2. Initiate immediate corrective action(s) to eliminate unsafe acts and/or conditions.
- 4) Provide relevant material for use in conducting weekly worker safety meetings (see 1.09). Review and maintain files of the weekly worker safety meeting reports to ensure adequacy of training as well as subject matter. Periodically attend or conduct these meetings.
- 5) Coordinate and participate in the development of safe work plans (see 1.06), ensuring quality and timely submittals. Coordinate the training of work crews and first-line supervision affected by each such plan.
- 6) Conduct accident and incident investigations and preserve accident/incident sites until the investigation is completed (C.2).
- 7) Develop and implement effective safety-training programs for supervisors and Contractor's Personnel.
- 8) Ensure that Contractor's Personnel receive prompt medical treatment for occupational injuries or illnesses.
- 9) Obtain or perform industrial hygiene monitoring/testing applicable to the hazards, potential or otherwise, that may be encountered on the Site. Written records of such tests shall be kept at the Site and made available to an authorized representative of the Employer upon request.
- 10) Maintain a record of equipment certifications and testing.
- 11) Ensure that all Subcontractor employees at any tier comply with jobsite safety rules and regulations and that each Subcontractor's health and safety reports are completed.
- 12) Review emergency action plans (see C.3) monthly to ensure that Contractor's Personnel are familiar with the proper actions to take and that emergency telephone numbers are current.

C. ^{A16}**HSMS Manual:** ^{A17}The HSMS developed by the Contractor's health and safety organization and endorsed by the Contractor's top management, and the details concerning that organization, shall be described in a health and safety manual.^{A17} The manual shall record the HSMS commitment and objectives for the Works and include the entire HSMS plan (see 1.04 D.).^{A16}

1. **Risk Assessment:** The manual shall identify major hazards and shall include risk-assessment and mitigation measures, as well as external expertise for risk assessment. All aspects of the Contractor's operations shall be considered in the risk-assessment process. Methods of all construction work shall be assessed so

that the hazards and risks associated with the construction work are managed to comply with the following criteria.

- a. The Employer’s requirements for ongoing commercial operations during the construction of the work.
- b. The lowest acceptable frequency rate of accidents applicable to the type of work involved in the operation.
- c. Personal injury severity classifications required under the most restrictive international standards for such classification.

2. **Accident and Incident Notification and Assessment:**

- a. The Contractor shall immediately notify the Employer’s Representative of accidents, incidents and injuries in accordance with notification procedures, transmitting copies of the required accident investigation report to the Employer’s Representative within 24 hours of each accident or incident. ^{A17}The Contractor shall notify the OCIP insurance broker immediately and cooperate fully with investigators and adjusters. The Contractor shall also comply with ACP 2600SEG-126.^{A17}
- b. ^{A17}In the event of a serious accident, the health and safety manager shall convene an accident investigation team for the purpose of determining the cause of the accident and actions to prevent a reoccurrence.^{A17} The Employer’s Representative shall be notified and permitted to attend this meeting, along with other Employer’s Personnel.
- c. A serious accident shall be defined as follows.
 - 1) Fatality.
 - 2) Spinal cord injuries.
 - 3) Burns to 10% or more of the body.
 - 4) Amputations or crushing injuries.
 - 5) Eye injuries resulting in partial or total loss of sight.
 - 6) Injuries resulting in loss of hearing.
 - 7) Severe head injuries.
 - 8) Any occupational disease.
 - 9) Any injury resulting in more than 24 hours of hospitalization.
 - 10) Any accident resulting in more than \$5,000 in property damage.
 - 11) Any accident involving the public.
- d. **Notification Procedures:** Notification of the Employer’s Representative is required for the following accidents and/or incidents.
 - 1) Any event deemed to be an emergency that requires a report to the Contractor’s emergency-response system, a “911” agency, or equivalent system or the intervention of emergency responders

such as fire, rescue, or ambulance services (other than ambulance services for a non-occupational personal illness).

- 2) Any injury or illness resulting in a fatality, in-patient hospitalization, ambulance transport, or medical treatment beyond first aid.
- 3) Any lost-workday injury or illness case.
- 4) Any illness resulting from job-related exposures that could worsen significantly.
- 5) Any electrical shock.
- 6) An explosion or violent uncontrolled chemical reaction or a fire that requires trained firefighters to extinguish it.
- 7) ^{A16}Exposure to toxic materials, harmful physical agents, or radiological events — including personal contamination cases in excess of regulatory standards and/or penetrating radiation exposures greater than the limits for the Works. ^{A16}
- 8) Near misses / near hits, including any event where the potential for an injury or death existed had the conditions changed slightly.
- 9) ^{A17}Any excavation collapse where Contractor's Personnel or equipment were exposed to potential injury or damage, any confined-space incident where Contractor's Personnel were injured or exposed to chemicals, or any fall from elevations greater than 1.8 meters (6 feet). ^{A17}

e. **Accident and Incident Investigations:** ^{A19}All accidents/incidents/near misses shall be thoroughly investigated without delay. The incident-investigation procedure shall include a decision chart for identifying root causes. Results of all investigations (including root cause analyses and corrective actions) shall be shared with the Employer at the Employer's Representative request. ^{A19}

- 1) The Contractor shall issue standing orders to all supervisors directly in charge of operations that the scene of an incident shall not be disturbed, except for rescue or other emergency measures. Contractors' Personnel, either witnessing or party to the incident, shall be detained at the Site to provide detailed accounting of the facts in the form of a written, signed statement. All statements as well as a preliminary investigation into the facts conducted by Contractor management personnel, including drawings and pictures, shall be provided to the Employer's Representative within 24 hours of the incident.
- 2) The Employer's Representative may conduct an independent investigation of serious incidents and injuries. All Contractor's Personnel, regardless of rank, shall make themselves available to

- the Employer's Representative at the Employer's Representative's convenience for interviews regarding the incident under investigation.
- 3) The Contractor shall preserve the incident scene in an undisturbed condition until advised by the Employer's Representative that work may continue.
 - 4) **Analysis and Corrective Action:** Corrective action can only be taken when specific factors of an incident have been accurately determined and the resulting recommendations have been disseminated to responsible persons. In preparing written reports of an incident, statements and comments shall be confined with facts.
- f. **Accident-Reporting Procedure:** The Contractor shall provide a form through which every accident will be reported to the Employer's Representative within 24 hours of an incident. The form shall have a section for acknowledgment of receipt by the Employer's Representative. For reference purposes, see the information reported by Employer's Personnel in Form 5029, "Informe de Incidentes por el Supervisor".
- g. Photographs shall be taken in conjunction with investigations of any incident involving serious personal injury to those participating in the Works, any type of injury to other parties, substantial property damage (including motor vehicle damage), equipment or material failure, and all incidents that may, even remotely, involve third-party action. Photographs shall be sufficient in number to adequately reflect the general area as well as pertinent details from a variety of angles. Photographs shall be taken as soon as possible following the incident. Each print shall be identified on its reverse as follows: name of injured (if equipment damage, type; if property damage, location); date of incident; photographer's initial; time photograph taken (date if different from occurrence); direction facing; and brief description of photo.
- h. **Telephone Reports:** The Contractor shall designate a responsible person to make emergency calls. ^{A16}Should a serious incident result in damage to public or Employer property or bodily injury to, Employer's Personnel, Subcontractors, or the population at large, it shall be reported immediately by phone to the Employer's Representative. ^{A16}
3. **Emergency Plans, Procedures, Training, and Communications:**
- a. **Emergency Plans:**
 - 1) **Contingency Plans:** The Contractor shall develop, implement, and maintain plans for procedures that address all potential emergency situations during all phases of construction, including fire, explosion, energy outage, heart attack, etc. **These plans shall include procedures to safeguard the Contractor's Personnel, Employer's Personnel, and other persons entitled to be upon the**

Site and in areas near the Site; shall include procedures to safeguard the Contractors' Equipment, Employer's Equipment, other Employer's equipment (such as apparatus, machinery and vehicles), and third party equipment entitled to be upon the Site and in areas near the Site. These plans shall, also, include procedures to safeguard the Employer's facilities nearby the Site.

- 2) **Evacuation, General Alarm and Fire Drill:** An evacuation plan shall designate one or more assembly areas for personnel and ensure that each person is accounted for in case of fire or other such emergency. The routes and sites for evacuation shall be clearly indicated. The plan shall include an audible signal for general alarm and evacuation, as well as for an emergency fire drill, to be conducted once before any cleaning or painting work begins.
- 3) Safe and effective medical care shall be provided for routine and emergency cases for the Contractor's Personnel, the Employer's Personnel, and other persons entitled to be upon the Site and in areas near the Site. Emergency medical services shall cover first-aid treatment (including all necessary qualified personnel and supplies), as well as ambulance service or other standing arrangements for the immediate transport of injured workers for medical treatment at hospitals or similar facilities. ^{A17}Planning shall include proposals for continuous first-aid education for Contractor's Personnel. ^{A17}
 - a) Provisions shall be made for all types of weather and working conditions that may be encountered on the Site.
 - b) A list of emergency telephone numbers that identify the proper numbers to call for all emergencies including fires, police matters, medical cases (hospital, clinic, and ambulance), and the release of contaminants into the environment. The Contractor shall identify the location of all telephones available for emergency notification.
 - c) Workers shall be treated within reasonable periods of time in order to prevent irreversible, serious medical consequences. A map of local routes to medical treatment facilities shall be included. The standard of service for medical and life-threatening emergencies shall not be below the one used at the Employer's facilities.
- 4) Emergency action plan shall be compatible with local police and fire department procedures and shall address all foreseeable emergencies including, but not limited to, injuries, property damage, fire, slides, floods, natural disasters, exposures to hazardous substances, and bomb or terrorist threats. These plans shall include procedures to safeguard the Contractor's Personnel,

Employer's Personnel, and other persons entitled to be upon the Site and in areas near the Site; shall include procedures to safeguard the Contractors' Equipment, Employer's Equipment, other Employer's equipment (such as apparatus, machinery and vehicles), and third party equipment entitled to be upon the Site and in areas near the Site. These plans shall, also, include procedures to safeguard the Employer's facilities nearby the Site. The Contractor shall demonstrate the effectiveness of the plans by carrying out trials acceptable to the Employer's Representative, who shall be advised by relevant authorities in this respect. ^{A17}Emergency action procedures shall be practiced at least every 6 months thereafter.^{A17}

- 5) All vessels, vehicles, and movable equipment shall be marked on both sides for easy identification with numbers and/or letters readable at a distance of 100 m. Contractor's Personnel shall wear clearly legible identification.
- 6) The Contractor shall monitor forecast weather conditions by means of lightning detectors for electrical storms and shall take necessary precautionary measures to ensure the safety of the Works at all times. Advance warning of deteriorating conditions that could become threatening or notification concerning an emergency shall be given as soon as possible to all potentially affected operations, relevant authorities, and emergency services. ^{A17}Warning signals shall be compatible with those used by the Employer and shall comply with ACP 2600SEG-106.^{A17}
- 7) The Contractor shall implement a system to identify all personnel who are in any underground part of or in enclosed or confined spaces within the Works at any time.

b. Emergency Rescue Procedures:

- 1) ^{A17}Written descriptions of the procedures in English and Spanish or other applicable language shall be posted in a visible place and made available in working areas.^{A17}
- 2) Emergency rescue equipment and facilities shall be appropriate for the work conditions and shall meet the following minimum requirements.
 - a) The working area shall have a properly equipped emergency and first-aid station, which shall be clearly identified and visible within the work site.
 - b) Communication equipment shall include portable radios and a nearby emergency telephone station with posted telephone numbers of ambulance and fire departments and other services proposed by the Contractor. The emergency telephone station shall be properly identified and in a visible location outside the hazardous area.

- c) Protective clothing and respiration-protective devices for rescue shall be located in a safe area adjacent to the entry to a confined space where any type of work is being performed and to areas where overexposure to solvents, heat, or other harmful environmental conditions might occur.
 - d) Rigging or rescue equipment for removing an affected person from a confined space or a high working area shall be provided.
- 3) **Evacuation Procedure:** During emergencies, all personnel except trained and properly equipped emergency teams shall be evacuated from the area.
- 4) ^{A17}Work in confined spaces or at heights shall not be permitted unless a properly identified, trained, and equipped emergency team is present at the work site. An emergency team shall consist of at least 2 employees of the Contractor not assigned as standby persons and not working in the confined space or at heights at the time.^{A17}
- c. **Emergency Rescue Training:** Contractor's Personnel who will be on the emergency team or who will be assigned as standby persons shall be trained by the Contractor in emergency and rescue procedures and in the proper use and operation of equipment and protective devices. Procedures shall be reviewed with these Contractor's Personnel whenever modified. The Contractor shall provide a list of names of Contractor's Personnel who have or will receive this training, including those who will be assigned to standby duty. At the end of the training, the Contractor shall provide the Employer's Representative with factual evidence that the required training has been given.
- d. **Communications for Dealing with Emergencies:**
 - 1) The Contractor shall arrange a communications system for dealing with emergencies, including communicating with rescue services, the Employer's Representative, and the other offices of the Employer's organization, as indicated by the Employer's Representative. This system shall be designed to function effectively under the adverse conditions of an emergency. At any offshore, remote, and underground working areas, a radio or mobile telecommunications system shall be available for and capable at all times of making emergency calls and communicating with rescue services.^{A17} These requirements shall also apply to work within deep excavations and Crossunders.^{A17} Breakdown of the emergency equipment shall be prevented by emergency backup equipment and by emergency power generators for possible power failure.
 - 2) The system shall comprise radio or mobile communication system equipment, in full working order at all times at each work

site, for making emergency calls and for communication with rescue services. This equipment and the bandwidth and frequency utilized shall comply with all local requirements for telecommunication equipment. The radio system shall be available and operable wherever the Contractor is operating. Breakdown of the emergency radio communication system shall be prevented by backup equipment and by emergency power generators in the event of power failure. These shall be in duplicate and shall be checked at the beginning of each shift and hourly thereafter to ensure their working condition. ^{A17}The Contractor shall comply with ACP 2600SEG-248. ^{A17}

- 3) The Contractor's work radio system shall also serve as a backup system for emergencies and shall comply with the same requirements as outlined above.
4. Other issues that shall be addressed in the HSMS manual include the following.
 - a. Applicable legislation and rules.
 - b. Plant and equipment.
 - c. Security.
 - d. Environmental assessment and performance records.
 - e. HSMS performance.
 - f. Health and safety records (see details in 1.12).
5. The manual shall be organized as follows:
 - a. A cover page with name of Contractor, title of Contract, and Contract number. The revision number, date of revision, and the name and signature of the health and safety manager shall also be included.
 - b. A table of contents listing each section and clearly identifying the revision number and date of each section and exhibit.
 - c. ^{A16}A policy statement signed by the Contractor's Representative. The policy shall reflect the HSMS commitment and objectives for the Works. ^{A16}
- D. ^{A16}**HSMS Plan:** The Contractor shall prepare a health and safety plan for the Works, which shall encompass all plans mentioned in this Section. ^{A16} It shall include a series of task-specific safety plans and conform to all appropriate local laws and listed standards for health and safety for all types of activities required for the execution of the Works, including those relevant to higher-risk operations — such as blasting; diving; winching; piling; deep excavation in slopes or retained fill; lifting (heavy or otherwise); erecting; work at heights; conveying; pumping; testing; quarry crushing; transport; electrical and mechanical work; work adjacent to rotating or moving machinery; stockpiling; forming embankments; pre-stressing; work with hydraulic systems, high-pressure air, or compressed air; work with hazardous substances; loading and unloading of transport

railcars, trucks, and vessels; running adjacent transport rail wagons, trucks, or equipment; work in unventilated areas; handling bulk materials; and the like.

1. The plan shall address the following periods.
 - a. ^{A17}The period following the Commencement Date and before any construction activities start.^{A17}
 - b. The period during which construction takes place.
 - c. The period during which commissioning and testing takes place.
 - d. ^{A16}The period following taking over until issuance of the Performance Certificate.^{A16}
2. The health and safety plan shall describe the risks associated with design and every activity of construction, as well as the mitigation measures to be taken.^{A16}This health and safety plan and related procedures and instructions shall be approved by the Employer's Representative and subject to continuous review throughout the Works in order to benefit from specific experience gained.^{A16}This shall involve a risk-assessment / risk-mitigation cycle, generating continuous improvements in health and safety. The revised parts of the health and safety plan shall be included when a change is introduced or at least every 90 days and shall be published immediately following approval. The following subjects shall be addressed.
 - a. Comprehensive safety policy for all aspects of the Works.
 - b. Management's commitment to the plan.
 - c. Qualified and adequate resources for implementation of HSMS policy.
 - d. Procurement of HSMS critical items.
 - e. Required HSMS procedures.
 - f. Personnel protective equipment.
 - g. Full HSMS training of Contractor's Personnel. Training programs for staff, including induction training linked to commencement of employment and ongoing task-specific training for each sector of Contractor's Personnel at specified intervals. See 1.06 G. and 1.08 for related information.
 - h. Coordination of safety across different trades and activities to prevent any activity that may be safe in itself from causing a danger to others.
 - i. Staff employment continuity linked to observance of safety requirements, as per 1.03 E.
 - j. Incentive schemes for achievement of safety targets.
 - k. Work-force involvement.

- l. Safety inspections, reviews, audits, information, meetings (see 1.09), and reporting (see 1.11).
- m. Management of Subcontractors.
- n. Coordination with other contractors on safety.
- o. ^{A16}Efforts of Contractor and Subcontractors to have safety standards consistent with the standards required for the Works. ^{A16}
- p. Company medical service.
- q. ^{A17}Substance abuse policy and program ^{A17}

1.05 CONSTRUCTION HEALTH AND SAFETY PLAN (CHSP):

- A. As part of its general HSMS plan, the Contractor shall develop and maintain an effective Contract-specific construction health and safety plan to protect the lives and health of all persons, prevent damage to property, and avoid work interruptions due to accidents.
- B. The HSM shall participate in the development of Contractor's CHSP, review/approve the plan (evidenced by his signature) for use on this Contract, continually monitor Contractor's adherence to the plan, and review and revise the plan on a yearly basis or more often if needed.
- C. The CHSP shall include sketches and/or samples showing the design and location of accident-prevention signs.
- D. Each Subcontractor shall agree to (in writing) and be required to comply with the Contractor's approved CHSP and to take corrective safety directions from the health and safety manager, safety supervisors, or safety representatives.
- E. The CHSP shall be generally organized as follows, including but not limited, to:
 - 1. An organizational chart of Contractor and Subcontractor personnel responsible for implementing the CHSP and their duties and responsibilities. The chart shall show the reporting relationship and integration of the HSM with all personnel (including top-level managers) responsible for implementing the CHSP.
 - 2. A site inspection procedure to ensure that a walk-through of the site is conducted daily for each work shift and recorded in a daily safety report. A copy of the report form shall be included.
 - 3. The disciplinary procedures for violations of safety rules.
 - 4. The safety-orientation described in 1.08:
 - 5. ^{A16}**Health and Safety Rules and Procedures:** This shall include Site-specific health and safety rules and procedures for the performance of the Works, as well as all applicable general safety regulations. ^{A16} The Contractor shall ensure that written programs are included to address all relevant issues, such as the following examples.

- a. A written HAZCOM program, including a description of the training program to be given to all Contractor's Personnel and other steps that will be followed.
 - b. A written hearing-conservation program.
 - c. A written respiratory-protection program.
 - d. A written confined space program, including written procedures for entry/exit of confined spaces and for working in confined spaces
 - e. A written lockout/tag-out program.
 - f. A written plan for the use and storage of compressed gases.
 - g. A written fall protection plan.
 - h. Plans for safe ingress and egress.
 - i. Traffic-control plans.
 - j. Public protection.
 - k. Workplace ergonomics and back-injury prevention program.
 - l. Written procedures for performing housekeeping and cleaning, for handling spill or leaks, and for waste collection and disposal.
 - m. Written personal hygiene practices to be followed by the Contractor's Personnel.
 - n. Fire prevention and protection.
6. **Technical Information:** The CHSP shall include the following technical information:
- a. A list of all hazardous or potentially hazardous products to be used, with an MSDS for each listed products.
 - b. Technical information regarding personal protective equipment, including protective clothing; safety boots; gloves; heat protection; and eye, face, and head protection.
 - c. Sketch showing the type, size, number, and location of the required fire extinguishers. Description of other fire-prevention precautions.
 - d. **Emergency and First-Aid Facilities:** This shall include a sketch showing where they will be located, a list of the facilities and materials that will be at each station, and the names and qualifications of persons who will administer first-aid treatment.
 - e. Sketch of location of the sanitary facilities that will be used.
 - f. Sketch showing the location of an eye washer and washing/showering facilities for Contractor's Personnel.

- g. **Accident-Prevention Plan:** This shall result in a program to prevent/minimize accidents, including those that may result from heat stress.
- h. ^{A19}(Reserved)^{A19}

1.06 SAFE WORK PLANS (SWPs):

- A. SWPs are written work plans to be prepared by the Contractor. They shall identify tasks to be performed, the method of work for performing each task, the associated work hazards, and the corresponding equipment and methods that will be used to prevent accidents. ^{A17}The Contractor shall comply also with ACP 2600SEG-127.^{A17}
- B. Each SWP shall define and summarize the steps of the activity, the hazards, the controls, and the procedures and measures to be used to protect the workers involved. Each SWP shall define a plan of action for each identified hazard including comprehensive methods to prevent the exposure of workers, the public, property, and the environment. Before any of these activities begin, a documented review meeting with the workers concerned shall be held in order to clarify doubts and ensure understanding. The health and safety manager shall approve and keep numerical records of these analyses; he shall make them available for the Employer’s Representative when requested to do so. It is understood that no person shall be permitted to determine his own safe / health behavior or criteria; everybody shall comply with the use of personal protective equipment and the procedures and the requirements of this document.
- C. As a minimum, each SWP shall include the following parts.
 - 1. **Scope:** Shall include a description of the work, sequence of operations, location, duration of work, shifts to be worked, preparation, etc.
 - 2. **Hazard Evaluation:** Shall include a list of all actual and potential hazards, including actions, conditions, and possibilities that could lead to an accident or a health or environmental hazard.
 - 3. **Hazard Controls:** Shall include actions or procedures necessary to eliminate, minimize, or safeguard against each hazard, as well as necessary controls (such as engineering, administrative, and PPE protection), with a list and description of each control procedure and safety equipment required (such as a drawing of the ventilation setup).
 - 4. **Crafts:** Shall include a list crafts involved and the training and certification requirements for each craft.
 - 5. **Tools, Materials, and Equipment:** Shall include a list of tools and equipment needed for each step and how they shall be used, complete with required grounding methods, setup procedures (such as cable routing or safeguards), maintenance schedules, and inspections. A list of all hazardous materials required, the MSDS for each, and how they will be used shall also be provided.
 - 6. **Housekeeping:** Shall address plans to keep the Site and working areas in a proper and orderly condition, as well as waste disposal including, but not limited to, methods and disposal sites.

7. ^{A16}**Coordination:** Shall address procedures for clearances to perform the Works including, but not limited to, coordination with the Employer, Subcontractors, and others. ^{A16}
 8. **Emergency Procedures:** Shall be based on the activity and hazards and shall address how to initiate rescue, communication methods, evacuation procedures, standby duties, etc. (See also 1.04 C.2.)
- D. ^{A17}Based on the current programme (refer to Section 01 31 00 (*Project Management and Coordination*)), the Contractor shall prepare SWPs for the upcoming major tasks. ^{A17} When drafting an SWP, the Contractor shall obtain input from the supervisor who will be responsible for the work involved. ^{A19}Each SWP shall be reviewed by the health and safety manager and submitted to the Employer's Representative in accordance with Paragraph 1.14. ^{A19} Work on the task shall not commence until the SWP is reviewed and accepted.
- E. The Contractor shall take immediate action to prevent the reoccurrence of any incident or accident. The SWP shall be reviewed and, if necessary, revised to address the corrective action necessary to prevent any such reoccurrence.
- F. At the start of any operation requiring the submittal and approval of an SWP, the Contractor shall review the SWP at the daily toolbox meeting or at a special worker safety meeting. The purpose is to inform the affected personnel of the potential hazards and the preventative and/or abatement procedures that shall be utilized to eliminate the identified hazard(s) in performing this work including, but not limited to, the following.
1. Operations or tasks involving new equipment, machinery, or procedures.
 2. Operations involving environmental remediation.
 3. Operations that have resulted in a significant incidence of accidents or near misses.
 4. Dangers of striking against or being struck by objects.
 5. Potential injury from burns, including those from chemical, thermal, and radiation exposure.
 6. Potential oxygen-deficient environments and limited access or exit conditions.
 7. Potential of being caught in, on, or between objects.
 8. Potential injury from strain by pushing, pulling, or lifting.
 9. Potential exposure to toxic/radioactive gases, vapors, mists, dusts, heat, cold, or other physical-stress agents.
 10. Potential for property damage or loss of functions (e.g., critical lifts, power outages, etc.).
 11. Potential injury from striking high-voltage cables in the surrounding areas with equipment.

12. Any change in processes or procedures that effect operations.
 13. Potential fire hazards.
- G. **SWP Training:** Specialized raining needs shall be addressed during the development of each SWP, and general training shall be carried to familiarize all personnel with the contents of the SWPs before the initiation of the corresponding work. Each SWP shall describe the experience and certification requirements (e.g., cranes or material-handling equipment, confined space competent person, CPR, first aid, etc.) for the work involved. The SWP serves as an operating procedure and shall be made available to all personnel performing the Works. A copy of the accepted SWP shall be provided to all supervisors and carried by the foreman performing the work. Personnel involved with the operation shall be informed of the prevailing hazards and instructed in the methods required to eliminate the hazards, including emergency action to be taken in the event of an accident.

1.07 FIRST-AID FACILITY AND STAFF:

- A. The Contractor shall provide at each complex site and other agreed-upon working areas at least a Type I first-aid facility meeting, but not limited to, the following requirements.
1. The location, size, furnishings, and equipment shall have the acceptance of the Employer's Representative and be capable of providing quiet, private communications, as well as adequate ventilation, light, A/C, hot and cold running potable water, toilet facilities, electrical outlets, and telephone(s).
 2. ^{A16}The first-aid station shall be staffed with licensed medical personnel trained in advanced first-aid and cardiopulmonary resuscitation techniques and shall be equipped with at least the following: an automated external defibrillator, medical oxygen, a first-aid kit suitable to service the number of personnel assigned to the Works and acceptable to Contractor's physician, paper towels and paper cups, a blood pressure cuff and stethoscope, a cot or an equivalent resting place, and other items as required by Contractor's physician. ^{A16}
 3. First-aid stations and clinics providing care to a work force greater than 500 employees shall have a full-time physician and at least one nurse on every 8-hour work shift.
 4. First-aid supplies shall be available and kept in a weatherproof container with individually sealed packages for each item type. Supplies will be monitored by the Employer's Representative. Supplies will be checked at least weekly to ensure that expended items are replaced.
- B. The Contractor shall provide the necessary emergency medical technicians (EMTs) for the Contract duration. EMTs shall be certified by an approved certifying agency. The EMTs shall maintain contact with the Employer's Representative and Contractor's health and safety manager.
- C. Contractor and Subcontractor supervisors, first-line supervisors, and 2 other Contractor's employees in each working area and shift shall have up-to-date certification in first-aid, CPR and automated external defibrillator.

- D. On-Site medical treatment of Contractor's Personnel injuries shall be performed at medical facilities acceptable to the Employer.
- E. The first-aid facility and all of the Contractor's Personnel assigned to the first-aid facility (e.g.: physicians, nurses, EMTs, and first aid/CPR certified employees, etc.) shall be available at all times to provide attention to the Contractor's Personnel, the Employer's Personnel, and other persons entitled to be upon the Site.

1.08 SAFETY ORIENTATION: ^{A17}Before working on the Site, each employee of the Contractor, and all Subcontractors shall undergo the Contractor's detailed safety orientation program.^{A17} Each safety orientation shall be documented, including a list of all participants. The orientation shall include, as a minimum:

- A. Description of the work;
- B. Review of safety policy statement;
- C. Discussion of general safety rules, with a copy of the rules distributed to all Contractor's Personnel;
- D. Location of first aid and medical facilities;
- E. Training requirements;
- F. Specific Site hazards and safe work practices;
- G. Review of public safety concerns;
- H. Attendance requirements at worker safety meetings/briefings;
- I. Personal protective equipment requirements;
- J. Substance abuse policy and program;
- K. Fire-prevention requirements;
- L. Review of hazard-communication program;
- M. Housekeeping requirements;
- N. Construction equipment safety;
- O. Vehicle safety;
- P. Warning devices and safety postings;
- Q. Disciplinary procedures;
- R. Safety award program;
- S. Plans for preventing workplace violence by prohibiting harassment, intimidation, fights, verbal abuse, or other forms of aggressive behavior.
- T. Requirements for safe work plans.

- U. Incident/Injury reporting policies
- V. Authority to stop work

1.09 HEALTH AND SAFETY MEETINGS:

- A. **Health and Safety Conference:** After approval of the CHSP, but prior to the start of construction work, a health and safety conference shall be conducted. At this meeting, evidence shall be shown by the Contractor that Contractor’s Personnel are fully prepared and equipped to satisfactorily perform the work following the minimum health and safety requirements of the specifications.
- B. **Worker Safety Meetings:**
 - 1. Worker safety meetings shall be held weekly, at a minimum, in accordance with the requirements of the CHSP. All Contractor’s Personnel and each Subcontractor working at the Site shall attend these meetings.
 - 2. An employee of the Contractor failing to attend a worker safety meeting shall not be permitted to perform any work that requires the safety precautions discussed in the meeting until receiving the same instruction.
 - 3. ^{A17}The Contractor shall make records available to the Employer’s Representative of each worker safety meeting.^{A17} A record of each worker safety meeting, including the topics covered and a signed list of attendees shall be maintained by Contractor’s health and safety manager.
 - 4. Each worker safety meeting shall include instruction and discussion of safe working methods and applicable rules required for the safe performance of the upcoming work. Subject matter shall cover specific safety procedures pertinent to the crew’s ongoing activity, including procedures outlined in the SWP.^{A17} Additionally, subject matter shall include lessons learned from past incidents.^{A17} Topics shall also include proper use and care of PPE, location of safety equipment and supplies, emergency action plans, and specific emergency/evacuation procedures. The Employer’s Representative may direct the Contractor to cover additional safety-related information in these meetings.
 - 5. ^{A17}The worker safety meeting shall be conducted by the health and safety manager, a safety supervisor, safety representative, Contractor’s supervisor, or by a supervisor of a Subcontractor or other employee under the guidance of a supervisor.^{A17} The health and safety manager shall approve the content of each Subcontractor worker safety meeting.
- C. **Pre-Construction Safety Meeting:** The Employer’s designated health and safety representative will conduct a pre-construction safety meeting before construction work commences on the Contract. ^{A16}Required attendees are Contractor’s Representative, health and safety manager, safety supervisors, and a representative of each Subcontractor.^{A16}
- D. **Safety Briefings:** A safety briefing shall be held at the start of each work shift to instruct all persons in safety precautions applicable to that day’s work. Safety briefings shall be documented.

- E. **Management Safety Meeting:** The Employer's Representative will conduct a monthly management safety meeting either as part of another regularly scheduled meeting or as a separate meeting, as safety concerns warrant. The Contractor's Representative, superintendent, and health and safety manager shall attend.

1.10 HEALTH AND SAFETY BULLETIN BOARD: The Contractor shall maintain bulletin board in an area near Contractor's field offices that are accessible to all workers. Items such as, but not limited to, the following shall be posted on the bulletin board.

- A. Emergency action plans, including emergency/evacuation procedures (see 1.04 C.3.).
- B. Emergency phone numbers.
- C. ^{A17}Safety statistics.
- D. Safety wards.
- E. Upcoming safety training. ^{A17}

1.11 PERIODIC SAFETY REPORTS:

- A. **Monthly Job Hour and Injury Summary:** ^{A19}Shall be prepared and submitted to the Employer's Representative in accordance with Paragraph 1.14. ^{A19} The hours shown on this report shall be based on the Contractor's (and Subcontractors') weekly certified payroll reports.
- B. ^{A17}**Weekly Safety Report:** A weekly safety report shall be prepared by: the health and safety manager, the safety supervisors and each safety representative, which shall include the elements described below. The reports shall be delivered on a weekly basis to the Employer's Representative. ^{A17}
 - 1. A header stating:
 - a. Title of Contract and Contract number,
 - b. Date,
 - c. Time of shift,
 - d. Work area(s) inspected,
 - e. Weather conditions, and
 - f. Number of accidents or near misses (details to be provided as described below in 2, 3, and 4).
 - 2. An entry for each safety deficiency that includes:
 - a. Location, severity, and nature of the deficiency.
 - b. Time noted.
 - c. Names of persons and firms that were notified of the deficiency and the time each was notified. (Notification shall include at a minimum the

parties exposed to the safety hazard, the parties responsible for creating the deficiency, and the parties responsible for correcting the deficiency.)

d. Time and nature of corrective action(s).

3. An entry for each deficiency on the prior shift's daily safety report that was not corrected (this entry shall be repeated until the deficiency is corrected).
4. A notation of each accident, incident, or injury reported, including the name of the injured party or affected property owner; the time of accident, incident, or injury; and a description of the accident, incident, or injury.
5. A notation of safety meetings conducted and attended, including the type of meetings.
6. A notation of visits by safety representatives of the Employer, including name and phone number of representative, time of visit, department or authority represented, and results of visits (i.e., citations, penalties, etc.).
7. Printed name and signature of person completing the report.

1.12 ^{A16}**MAINTENANCE OF SAFETY RECORDS:** The Contractor shall maintain the following safety records for the Works on site for the duration of the Contract and make them available for review by the Employer's Representative upon request. ^{A16} These records shall be maintained for 6 years after final completion of the Contract.

- A. Contractor's CHSP.
- B. SWPs.
- C. ^{A17}Weekly safety reports. ^{A17}
- D. Worker safety meeting records.
- E. Training records and certification cards, including safety orientation and all other training provided to Contractor's Personnel;
- F. Submitted and approved competent-person designations.
- G. An MSDS for each applicable substance.
- H. Accident/incident reports, including injury and accident-investigation reports.
- I. Written notice of citations, suits, or complaints.
- J. Other compliance records as required by laws and regulations.

1.13 **CONTRACTOR'S DOCUMENTS:**

- A. The Contractor's Documents related to HSMS shall be as included in the HSMS manual. See submittal requirements in 1.14.
- B. The following documents shall be prepared and shall be made available to the Employer on request in DVD (or on the latest optical-disc storage-media format approved by the

Employer's Representative) and hard copy (paper), with 2 copies in each format. Each DVD shall be properly labeled and shall include Contractor's name, date, project name, Contract number, and description of contents.

1. A schedule of health and safety tours, inspections, and audits.
2. Work instructions for special work.
3. Documentation of:
 - a. Health and safety tours,
 - b. Workplace inspections,
 - c. Task risk assessments, and
 - d. Training records.
4. Records of accident and incident investigations.
5. Audit reports.
6. An audit schedule.
7. An HSMS action item list.
8. The HSMS-relevant parts of subcontracts.

1.14 SUBMITTALS:

- A. **Submittal Schedule:** The table on the following pages highlights the submittal requirements for the submittals described. DVDs or electronic submissions shall be labeled as indicated in 1.13 B.
- B. **Other Submittal Requirements and Related Information:**
 1. ^{A16}**Duty Tours:** The Contractor shall submit, to the Employer's Representative for review, the proposed duty tours showing how the Contractor proposes to schedule the health and safety manager, safety supervisors, and safety representatives to provide the required safety services. This information shall accompany the resumes required in accordance with the first two rows of the Submittal Schedule that appears at the end of this section. ^{A16}
 2. **CPR Certificates:** ^{A17}Copies of the current certificates (refer to Subparagraph 1.07 C.) shall be provided to the Employer's Representative for review 28 days in advance of any pertinent work. ^{A17}
 3. **Dive-Safety Program:** ^{A19}Within 28 days of the Commencement Date, the Contractor shall submit, to the Employer's Representative for review, an outline of the dive-safety program to be used in the Works. ^{A19} Written procedures to govern the program shall be submitted for approval at least 28 days before any work involving dives.
 4. **Forms:** The Contractor may use the ACP standard forms located at <http://www.pancanal.com/eng/legal/reglamentos/security> or a similar form approved by the Employer's Representative.

Submittal Schedule

Submittal details	Time for submission
<p>HSM: The Contractor shall confirm that the person proposed as HSM and submitted with the Contractor’s Proposal has not changed. If the Contractor intends to propose a different person, he shall submit, to the Employer’s Representative for approval, a resume documenting the qualifications of the newly proposed individual. The candidate’s resume must include a description of the duties, responsibilities, accomplishments, and safety record of preceding assignments from which the candidate has gained a solid safety-engineering experience within the past 10 years. The Employer’s Representative, prior to approval, may interview the proposed HSM.</p>	<p>^{A16}Within 28 days after the date of the Letter of Acceptance^{A16}</p>
<p>^{A16}Safety supervisors and safety representatives: The Contractor shall, for approval, submit resumes of proposed safety supervisors and safety representatives. The resumes shall show a minimum of 5 years of safety-related experience as heavy-construction safety representatives, with a description of the duties, responsibilities, accomplishments, and safety records (including statistical data) of preceding assignments from which the candidates have gained safety-engineering experience.</p>	<p>^{A17}Within 28 days of the Commencement Date^{A17A16}</p>
<p>^{A19}Industrial Hygienist (IH): The Contractor shall, for approval, submit resumes of the proposed industrial hygienist. The resumes shall show a minimum of 5 years of industrial hygiene related experience, documenting successful prevention and control of industrial hygiene risks related to the construction industry using engineering controls, administrative programs, and personal protective equipment. The IH shall have experience in developing and delivering training programs. Also include description of the duties, responsibilities, accomplishments, and records of preceding assignments from which the candidate has gained IH experience.</p>	<p>Within 28 days of the Commencement Date^{A19}</p>
<p>^{A16}HSMS: ^{A19}An initial outline shall be submitted to the Employer’s Representative for review as indicated here.^{A19} Complete details shall be included in the HSMS manual to be submitted within 42 days of the Commencement Date (see below).</p>	<p>^{A17}Outline within 28 days of the Commencement Date^{A17A16}</p>
<p>^{A16}SWPs: The Contractor shall develop and submit to the Employer’s Representative for approval a complete SWP for each activity that could involve serious hazards or imminent-danger conditions, using a form approved by the Employer’s Representative. Each SWP shall cover all concerned persons and be reviewed by the HSM.</p>	<p>^{A17}Not less than 28 days before the programmed start of the corresponding task^{A17A16}</p>
<p>^{A16}Emergency plans: Information on emergency plans shall be included in each SWP to be submitted by the Contractor within 28 days of the Commencement Date. A complete compilation shall be submitted to the Employer’s Representative for approval in the HSMS manual.^{A17}The emergency action plans shall follow ACP 2600SEG-103 and shall be revised/updated as Site conditions change.^{A17A16}</p>	<p>See SWPs and HSMS manual</p>

<p>^{A16}HSMS manual. The Contractor shall provide, for approval by Employer's Representative, 15 hard copies (on paper) of the manual, in addition to 2 copies on DVDs (or other approved format).</p>	<p>^{A17}Outline within 28 days of the Commencement Date.^{A17} Manual within 42 days of the Commencement Date, with updates as indicated for HSMS plans.^{A16}</p>
<p>^{A16}Training program for health, safety and environmental requirements. The Contractor shall provide complete details, to the Employer's Representative for approval, on all shall programs, submitting 4 hard copies (on paper of the information) and 2 copies on DVD or another approved media format.</p>	<p>^{A17}Outline within 28 days of the Commencement Date.^{A17} Complete details within 42 days of the Commencement Date.^{A16}</p>
<p>^{A16}HSMS plan. The original plan submission shall include an implementation program. Both the original submittal and the updates will be included in the HSMS manual for approval by the Employer's Representative. Emergency plans and SWP for initial activities shall be submitted as previously indicated.</p>	<p>Within 42 days of the Commencement Date. and every 3 months thereafter^{A16}</p>
<p>CHSP: The complete Site specific CHSP shall be submitted by the Contractor to the Employer's Representative for approval as indicated, in conformance with applicable safety requirements. All revisions shall be submitted to the Employer's Representative as soon as practicable once they are made.</p>	<p>^{A16}Within 42 days of the Commencement Date.^{A16}</p>
<p>Risk assessment: The risk assessment methodology shall be submitted to the Employer's Representative for review as part of the HSMS manual.</p>	<p>^{A16}Within 42 days of the Commencement Date.^{A16}</p>
<p>^{A19}Periodic Safety Reports: A monthly job-hour and injury summary shall be prepared and submitted to the Employer's Representative</p>	<p>on or before the 5th day of the following month</p>
<p>Safety Reports: Shall be prepare and submitted as described under 1.11 B.</p>	<p>weekly^{A19}</p>

END OF SECTION

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