

## **2600SEG129 CONTRACT STANDARDS**

### **1.0 PURPOSE**

The objectives of this standard are: to provide the basic requirements to protect the safety, health, and environment of all persons working for Panama Canal Authority (ACP) contractors; and to establish the stipulations to be followed in the management of contracts for the purpose of:

**1.1** Preventing accidents, illnesses, and harmful effects to the health of workers resulting from work related to construction activities;

**1.2** Ensuring the execution of construction projects;

**1.3** Informing all contractors regarding the requirements to be complied with, pertaining to safety, health, environment, and work; taking into consideration the processes, construction activities, use of technologies and operations, and taking appropriate steps in the planning, control, and compliance with safety measures.

### **2.0 BACKGROUND**

This Standard is new, and is based on an existing legal framework, complemented by other Safety Standards and Requirements implemented by ACP. (See other standards incorporated by reference in APPENDIX A) .

### **3.0 SCOPE**

This standard applies to all contractors, subcontractors, and their independent or autonomous workers, under civil works and related contracts, and extends to all construction works for ACP grouped into: (See other examples in APPENDIX C) .

**3.1** Construction activities that consider:

**3.1.1** Building, including excavation and construction, structural changes, renovations, repairs, maintenance (including cleaning and painting), and demolition of all types of buildings or structures.

**3.1.2** Civil engineering, including excavation and construction, structural changes, repairs, maintenance, and demolition of, for example, docks, moorings, dams, water mains, erosion control, drilling, and work related to power generation and supply, communications, drains, geology towers, roads, public roads, viaducts, waterways, locks, bridges, tunnels, dams, beam-ducts, water systems, drainage, water knockouts, environmental controls, and the like.

**3.1.3** Erection, demolition, or disassembly of buildings or prefabricated structures.

**3.1.4** Manufacture of structural elements prefabricated on the construction site.

**3.1.5** Manufacture and erection of infrastructures, on land or water, including their construction in contractor and subcontractor shops and facilities, as well as their independent and autonomous workers.

### **4.0 LEGAL FOUNDATION**

**4.1** Agreement No. 12, of the ACP Organic Law.

**4.2** Current Labor Code requirements.

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**4.3** Other applicable laws of the Republic of Panama and the ACP, as well as any new laws related to Safety and Health.

**4.4** Conditions and requirements of the Specifications, amendments, and pertinent contract agreements.

**4.5** Panama Canal Authority Locks Manual on Safety and Occupational Health.

**4.6** ACP unit manuals. (And others, such as environmental and health manuals.)

**4.7** ACP Safety and Industrial Hygiene Unit Regulations and Requirements.

**4.8** Internal contracting procedures and contracting regulations of the ACP and ACP units.

### **5.0 DEFINITIONS**

See APPENDIX C.

### **6.0 GENERAL**

**6.1 Project Information.** Before initiating any work, all ACP designers and owners (ACP units) are responsible for submitting, for the consideration of the ACP Safety and Industrial Hygiene Unit or designee, an advance summary report of all the work, in order that the contract manager or ACP unit coordinator may make pertinent recommendations. Subsequently, and through the unit responsible for managing the contract, they must submit the following information for preliminary evaluation:

**6.1.1** Summarized contents of the contract, and a brief list of activities that are components of the construction stages, also, describe relevant jobs involving new technology or equipment if they are to be utilized.

**6.1.2** Principal activities and professions that may be utilized in the works.

**6.1.3** Resumes of contract coordinator or individuals authorized to deal with all related safety and health matters, during the execution of the contract, also, the names and addresses of the point of contact, ACP engineer, unit representative, etc.

**6.1.4** Exact location of the contract area, and tentative area to be used by the contractor for operations.

**6.1.5** List of all known hazards, typical to the areas and activities, which related to the existing conditions, in which the work will be carried out. (See Annex IV.)

**6.1.6** Plans and preliminary drawings and / or illustrative diagrams.

**6.1.7** Necessary observations by the owner, or end user of the possible known contract related activities, regarding safety, health, and other requirements.

**6.1.8** Health, safety, and the environmental requirements exclusive to the contract.

**6.1.9** Listings of the equipment that may be used in the contract activities, including specialized and safety equipment, and their respective specifications. For floating equipment, the

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contractor shall submit charts, drawings, certificates, patents, licenses, and proof of the latest dry dock hull inspection.

**6.2 Contract Information.** Once the contract is approved, and awarded, and at least one month before the work activities are initiated, the final ACP unit, owner of the contract end product, shall complete and submit to the ACP Safety and Industrial Hygiene Unit the following information:

**6.2.1.** Identification information of contractors, subcontractors and selected autonomous workers (and as the work progresses, of any subsequent workers, at least one week before they are incorporated into the, contract activities).

**6.2.2.** Duration of the contract: Anticipated beginning and termination dates, as well as the extension dates or authorizations for additional or subsequent jobs as they may arise.

**6.2.3.** Estimated number of employees by work stages or phases that will be employed, and a description of their professions.

**6.2.4.** Anticipated number of employees by profession. Information of other contractors, subcontractors and their representatives, and autonomous workers to be employed in the contract, with a description of their professions, by work stages or phases.

**6.2.5.** Type of jobs to be performed, and all corresponding activities, as well as the Scheduled programming of these activities.

**6.2.6.** Comments and safety and health contributions, relative to the design, drawings, specifications, and amendments.

**6.3 Contractor Submissions Applicable to Minor Works Projects:** In addition to the compliance with the submission of all documents required by the contract and other conditions, the contractor shall submit to the ACP unit managing the contract the following information:

**6.3.1** Advance and comprehensive list of the jobs that involve special risks, as well as their respective hazards controls, and activities.

**6.3.2** List (in Job Safety Analysis format) of the highly dangerous activities and the controls to be used to protect the health and safety of workers (see Annex V).

**6.3.3.** (Complete) Job Safety Analysis including environmental hazards.

**6.4 General Principles Applicable to Projects Activities, in Excess of B/.25,000 (twenty-five thousand balboas) with a Duration of More than 30 Workdays:**

**6.4.1** It shall be required to the contractor, and included in the ACP (default) estimate, a budget of all anticipated expenditures for the application and execution of the safety and health program based on a study, and for the use of hazards controls, for the total amount, as well as the estimated unit values of the elements (with reference made to the price table used for its calculation). It shall (in such price table) the estimated items in the cases of elements or operations which are difficult to anticipate, but not of those normally expected or encountered.

**6.4.2** The study shall be part of the execution plan of the project or, depending on the cases study shall be coherent with its content and include the adequate preventive measures for the risks involved in its execution, such as inspections, personal protection equipments, special equipments, engineering controls and training.

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**6.4.3** The safety and health study budget, including the necessary resources for controlling all known and predictable hazards, shall be entirely incorporated into the budget of the main contractor. Covering also subcontractors and their independent or autonomous workers

**6.4.4** This budget shall not include the required costs for the normal, proper and professional execution of the jobs, which are required to be in compliance and in accordance with the Republic of Panama's laws, standards, requirements, and regulations in effect, and the generally admitted technical criteria set forth by specialized organizations and safe work practices.

### **6.5 Binding Force of the Safety and Health Study on Works**

Contractors containing any of the following assumptions in excess of B/.25,000 (twenty-five thousand balboas), with a duration of more than 30 workdays, and/or including the hazardous activities pointed out in Annex V, are obligated, before initiating activities and during the phase immediately following the project award, to develop and submit, for the approval of the ACP contracting unit, a thorough and specific safety and health study pertaining to the part relevant to all the activities involving special risks (see Annex V) in jobs:

**Note:** See exceptions to **minor contracts**, paragraph 6.8.4.

**6.5.1.** That the estimated labor volume, which is understood to be the sum of the total workdays of the works' employees, is more than thirty (30) days.

**6.5.2** That it pertains to works having at least one job or activity posing special risks to the safety and health of its workers, subcontractors and their independent or autonomous workers, or ACP personnel (see APPENDIX E).

### **6.6 Safety and Health Plan Considerations**

All contractors under major works in excess of B/.25,000 (twenty-five thousand balboas) shall prepare a works Safety and Health Plan, in which the precautions contained in the specifications are analyzed, studied, developed and complemented in accordance with his/her own work execution system. Such Plan shall include, as appropriate, the alternative preventive measures proposed by the contractor, as well as pertinent technical justifications. However, they shall not imply a decrease in the protection levels anticipated in the study or basic study, or those which are required by law.

**Note:** See exceptions for **minor contracts**, paragraph 6.8.4

**6.6.1** In developing the Plan, the following shall be taken into account:

**6.6.1.1** The overall and environmental conditions in which the works will be performed. (See APPENDIX D) .

**6.6.1.2** The types and characteristics of the materials, substances, and elements that are to be used.

**6.6.1.3** Determination of the construction process.

**6.6.1.4** Execution order of the contracted work.

**6.6.1.5** Technical equipment and auxiliary means that shall be used, or which are foreseen to be used.

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**6.6.1.6** Identification of the work-related risks which can be prevented, indicating the pertinent technical measures required for their prevention.

**6.6.1.7** Evaluation of possible Interference with ACP activities.

**6.6.1.8** A complete paper describing the safe working procedures, based on a safe work analysis.

**6.6.1.9** Relation of labor risks that cannot be eliminated in accordance with the above, specifying the preventive measures and technical protection that tend to control and reduce such risks, and means of evaluating their effectiveness, especially when alternative measures are proposed.

**6.6.2** As regards to the work areas, the Safety and Health Plan constitutes the basic instrument for the arrangement of the activities to be identified, and, as appropriate, evaluation of the risks, compatibilities, and planning of the preventive activity. This Safety and Health Plan shall be frequently utilized by the contractor, revised, and at all times put into practice by the main contractor.

**6.6.3** Suggestions and alternatives resulting from the changes that arise during on different contract stages (by the owner of the works, the coordinator, the point of contact, a specialist, or an engineer who are in one way or another connected to the contract) shall be formally submitted to the contractor for his/her consideration and inclusion in his/her Safety and Health Plan of the contract, (). In addition, the contractor shall immediately notify the contract coordinator (on safety and health matters during the contract execution) and shall also notify employees of these changes, as well as implement them.

**6.6.4** Plans related to safety and health shall be reviewed in detail (as pertains to presentation, sequence, and required content) first, by the ACP coordinator, inspector, and engineer assigned to the contract; and, subsequently, if necessary and on request, by a specialist authorized by the Safety and Industrial Hygiene Unit. Then, the approval by the ACP Contract Manager shall be required before initiation of the contract or stage. Such revisions shall later be evaluated and conformed to ACP requirements by the contractor and, when necessary, during contract execution.

**6.6.5** When there is a change of contractor. Under this assumption, the “incoming” contractor is obligated to develop his/her own Safety and Health Plan for the works, which shall be presented for the approval of the coordinator or the managing authority, as appropriate. The new contractor can not use the documents or plans submitted by the previous contractor, or initiate activities until his/her proposals in compliance with 6.6.2 to 6.6.4, have been approved by the Safety and Industrial Hygiene Unit (RHSH), of ACP safety specialist assigned to contract quality control unit (IACC).

**6.6.6** The Safety and Health Plan shall take into account, as appropriate, whatever type activity is performed on the worksite, and shall locate and identify the areas in which such work shall be executed.

**6.6.7** The Safety and Health Plan shall be prepared by one or more experienced individuals, the competent employee designated by the contractor manager and main workers who shall have continuous responsibility for the performance of the jobs

**6.6.8** When one or more coordinators on safety and health matters are needed during execution of the contract, such coordinators shall have the responsibility for developing the Safety and Health Plan for that specific part, or they may delegating its development to someone else, but still under their coordinator responsibilities. The Plan shall take into consideration any other type

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activity necessary to carry out the jobs, and it shall contain specific hazard control measures relative to all workers included.

**6.6.9** The Safety and Health Plan shall consider the precautions and useful information to perform the proper and regular inspections in due course, within the worksites or the jobs activities, it shall ensure that the safety and health conditions are safe and healthy and well maintained, as well as those anticipated for future works.

**6.6.10** When the designation of a person responsible for safety is not required, the contract representative in charge of the work jobs shall assume the duties attributed in full provided he/she has the authority and all necessary resources of the contractor.

**6.6.11** The Safety and Health Plan can be modified by the contractor only to improve it, as it pertains to the contract execution process, work progress, and possible events or modifications that may arise throughout the contract progress, but always, with the express approval of the unit inspecting the contract, via the Safety and Industrial Hygiene Unit (RHSH), of ACP safety specialist assigned to contract quality control unit (IACC).

**6.6.12** All employees who take part in the contract execution as well as persons responsible for accident and injury prevention matters, and the workers' representatives shall be allowed to submit, in writing and in a reasonable manner, the suggestions and alternatives they consider appropriate. For such purpose, the Safety and Health Plan shall be permanently available at the worksite for those interested.

**6.6.13** When, during the contract execution process, the contractor modifies the procedures previously established in the <sup>1</sup> contract Safety and Health Plan that he/she developed, the contractor shall proceed with the modification to such Plan, once received the approval from the Safety and Industrial Hygiene Unit (RHSH), of ACP safety specialist assigned to contract quality control unit (IACC).

**6.6.14** All Safety and Health Plan modifications shall be submitted to the ACP Safety and Industrial Hygiene Unit for approval, and should have resulted from, among other causes, the following: change of contractor, change of the accident and injury prevention organization, changes in materials, change of the terrain characteristics, significant changes of the design, foundation changes, structural changes, equipment changes, changes in auxiliary means to include work methods, and any other type of change involving modifications of the initial hypotheses established in the Safety Plan, as well as key employees, supervisory or managerial changes; in the case of new employees, the contractor shall communicate to new employees the Safety and Health Plan and specific contents whenever necessary; and for this purpose, the entire Safety and Health Plan shall be resubmitted for the approval from the Safety and Industrial Hygiene Unit (RHSH), of ACP safety specialist assigned to contract quality control unit (IACC).

**6.6.15** All subcontractors and independent workers are obligated to comply with the Safety Plan submitted by the contractor and approved by the ACP. The contractor, in turn, is responsible for ensuring that all subcontractors are familiar with the approved Safety and Health Plan, and obligated to comply with it.

**6.6.16** Based on the types of work, resources and activities required for its execution, the hazards typical to the work area, and the surrounding conditions, the Safety and Health Plan shall contain the work plan, and, as a minimum, a description of the sanitary conditions to include potable water, lavatories, waste disposal, etc., with which the work areas shall be equipped, as well as the cleaning and other personal hygiene facilities according to the number of workers who are to utilize them.

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**6.6.17** The enforcement of these requirements shall be mandatory and of total compliance by the main contractor, subcontractors, and all independent workers who participate in the contract

**6.7** Advanced Safety and Health Study

**6.7.1** The Safety and Health Study of a particular contract is a requirement with which each contractor must comply with, only, in the event of contract costs in excess of B/.25,000 (twenty-five thousand balboas) and having a duration of more than 45 workdays, and jobs that include activities which are primarily hazardous (pointed out in Annex V). This Study shall include details regarding such hazardous activities, and shall:

**6.7.1.1** Be a document proportional to the magnitude of the contract, specifically coherent to the work and activities to be performed, and a document that must be sequentially followed using the information, guides or instructions provided.

**6.7.1.2** Contain all the required preventive and control measures, and technical protection to accomplish the jobs in acceptable safety and health conditions.

**6.7.1.3** Consider in detail, all activities anticipated for the accomplishment of the work. For example: crane installation, rigging and operator certification; scaffold assembly and installation, installation of high-altitude fall protection system, NEC electrical installation for the work areas, employees training requirements and certifications, etc.

**6.7.1.4** Consider all contract specification requirements, and all required Safety and Health plans.

**6.7.1.5** These requirements shall complement one another by using the available information as basis, and including, if not complete, the contractor's criteria and organizational procedures, necessary coordination with ACP representatives for ensuring safety and health aspects; necessary follow-ups on safety matters, and project and Safety and Health Plan updates, as the work progresses the continuous evaluation of risk controls, allowing skillfully jobs advancement and, for each phase of the contract, the establishment of definite and quantified preventive and protective measures required for the accomplishment of different jobs.

**6.8** Work Place Minimum General Provisions:

**6.8.1** OF THE WORK SPACE

**6.8.1.1** **Stability and Solidity:** An effort shall be made to assure the adequate and safe stability for materials and equipments, in general, and of all elements, which if displaced, may affect workers' safety and health.

**6.8.1.2** Particular risks and surrounding hazards exposures.

**6.8.1.3** Illumination for safe work conditions.

**6.8.1.4** Approved power supply and distribution installations, including electrical extensions, GFCI protections, protected outlet boxes, etc.

**6.8.1.5** Safe material handling facilities, docks and/or ramps.



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**6.8.1.6** Safe doors and gateways (not closed while employees are at work).

**6.8.1.7** Working temperatures which correspond to normal environment conditions.

**6.8.1.8** Ventilation to activities without natural ventilation, or if the temperature or activities exceed the previous established condition.

**6.8.1.9** Signs and barricades of dangerous work areas, identification and maintenance of walkways.

**6.8.1.10** Maintain emergency, exit roads and accesses free of obstructions.

**6.8.2 OF INTERIOR AND EXTERIOR PREMISES.**

**6.8.2.1** Clear and safe access to all exits or emergency doors.

**6.8.2.2** Approved Scaffolds and ladders, properly installed, secured, with all components, in safe condition.

**6.8.2.3** Approved elevator apparatus, which are mechanically in safe condition.

**6.8.2.4** Fences, doors and gateways, or equivalent security for shops, premises, and facilities.

**6.8.2.5** Maintain control of exposure to specific and surrounding hazards.

**6.8.2.6** Work area dimensions that allow for safe work execution, and work areas with sufficient air volume (or required ventilation, which exceeds the environmental conditions).

**6.8.2.7** Hoisting of cargo and material handling equipment, which is not altered, and are maintained in safe conditions.

**6.8.2.8** Safe working equipment with all original components.

**6.8.2.9** Personal Protection Equipment that is approved, in good condition and that corresponds or offers the necessary protection to workers.

**6.8.2.10** Safe ladders and scaffolds to work on elevated altitude

**6.8.2.11** Stability and firmness of working surfaces.

**6.8.2.12** Stability and firmness of all working platforms and floors.

**6.8.2.13** Safe and complete working tools.

**6.8.2.14** Approved and safe power distribution facilities.

**6.8.2.15** Portable hand lamps, windows, or openings for illumination.

**6.8.2.16** Adequate protection to weather elements.



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**6.8.2.17** Approved employee's protection from, atmospheric, ergonomic and other hazardous conditions.

**6.8.2.18** Approved employee's protection against specific and surrounding hazards.

**6.8.2.19** Approved employee's protection against vehicles, machinery, earthmoving and material handling equipments.

**6.8.2.20** Approved protection of facilities, machines, equipment, and components.

**6.8.2.21** Approved employee's protection for other specific jobs, which are hazardous.

**6.8.2.22** Approved and complete employees protection in cases of earthmoving, excavations, pits, underground work and tunnels.

**6.8.2.23** Approved employee's protection that is in good condition to prevent fall of workers from heights.

**6.8.2.24** Approved employee's protection that is in safe condition to prevent any type of objects from falling on workers.

**6.8.2.25** Approved employee's protection that is in safe condition to prevent injuries, from metallic or concrete structures, form or heavy prefabricated parts from falling on workers.

**6.8.2.26** Approved separation and/or isolation of equipment that produces high levels of harmful noise or heat.

**6.8.2.27** Premise and facility floors, walls, and roofs with approved rated capacity and strength required for the tasks

**6.8.2.28** Environmental temperatures or ventilation for normal work.

**6.8.2.29** Safe walkways to access work areas or exit them for emergency reasons.

**6.8.3 Designation of Coordinators on Safety and Health Matters.** The designation of safety and health coordinators shall be mandatory for all contractors and subcontractors, administrator or (ACP unit) owner shall not be exempt from all work responsibilities relative to safety and health.

**6.8.3.1** On minor construction and maintenance jobs, and for those of short duration, the contract manager, owner (ACP units) shall designate one of their employees, as the contact person (or authorized coordinator), with the required resources and authority to resolve, in an effective and timely manner, all matters and nonconformities that concern safety and health, during the accomplishment and preparation of the contract project.

**6.8.3.2** On other construction jobs, by which their magnitude, cost, number of employees, working days, multiple hazardous activities, or, because of special hazards, and those which are not minor maintenance jobs, the contract manager, or (ACP unit) owner, shall designate at

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least one of its own employees as the auxiliary person (for each shift, and for each work area, when there is a substantial distance from one another), with authority and sufficient resources to perform, as a priority, all coordination duties on safety and health matters.

**6.8.3.3** On their part, all contractors shall have and keep a safety coordinator on all minor projects under B/. 25,000 (twenty-five thousand balboas) that are to be performed for ACP by contractors (or such others); additionally, if there are subcontractors, there shall be a designated person for each of them, who shall be obligated to support the main contractor Safety and Health coordinator in all his/her efforts.

**6.8.4 Minor Projects** (having no more than four employees in total, a duration of less than 30 days, and a value under B/.25,000) to be performed for ACP, contractors (or such others) shall not be obligated to submit a Safety Study or the Safety Plan, provided that it is all in the interest of ACP and is not repetitive, and that the following requirements are also met:

**6.8.4.1** As long as the ACP owner of the said contract, or its contract manager and the contractor agree, in a formal documented manner, providing the collaboration and help on safety and health items, that are equivalent to assuring compliance on the part of the contractor during the duration of the contract, with all the applicable requirements established in paragraphs 6.8.6 to 7.4, and contents of paragraphs 9.0 to 9.19.

**6.8.4.2** That the contract shall not include any of the hazardous activities (pointed out in APPENDIX E).

**6.8.4.3** That the person responsible for the work, or the supervisor, acts as the authorized safety coordinator, remains on the work site, and conscientiously performs his/her duties (see contents of paragraph 6.8.3.6),

**6.8.4.4** And that this does not imply that a concession is made for neglecting the safety of the contractor or ACP workers.

**6.8.4.5** That the ACP owner of the said contract, in mutual agreement with the contractor, ensures that documented safety orientation is given to all of the contractor's workers.

**6.8.4.6** That the contractor shall comply with the performance of his own regular inspection, maintenance of equipments, and use of the basic personal protection equipment.

**6.8.4.7** That the contractor shall comply with the Safety and Health regulations established by the ACP, the Panamanian Labor Code and other local laws.

**6.8.4.8** That the contractor keeps an updated Social Security roster (Caja del Seguro Social or CSS), of all his/her employees, and that salaries paid correspond, with the laws, and the work performed in that area.

The above does not apply to minor contractors, who work within ACP for a main contractor, as he/she, shall be incorporated into the Safety Plan, and the main contractor shall comply with, and other measures required by the contract and other conditions approved by ACP.

**6.8.5** Before initiating the work or as soon as such circumstance is verified, when more than one company, or a company with autonomous workers, or various autonomous workers participate in the execution of the construction project, the ACP Contract Manager or the unit owner, of the said contract, shall designate a person that will participate and solve safety and health issues

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that arises during the entire project. Each subcontractor company shall have an authorized employee, who shall act as his safety and health coordinator.

**6.8.6** The designation of the safety and health person, or the safety coordinator shall be of the responsibility of the authorized person, with all the necessary resources, to resolve safety and health matters during the development and execution of the contract project; the designation of the authorized person or the safety coordinator, could be the same person, provided that all work aspects are in fact being accomplished always at the complete satisfaction of ACP.

This individual shall have among his/her principal duties and priorities:

**6.8.6.1** Anticipate Safety and Health problems.

**6.8.6.2** Eliminate or reduce problems he/she detects, or that arise, or that are pointed out to him/her.

**6.8.6.3** Participate in proactive manner to correct unsafe or unhealthy conditions.

**6.8.6.4** Maintain effective hazard controls in operation.

**6.8.6.5** Perform frequent and documented safety inspections.

**6.8.6.6** Check compliance with the approved plans and documents.

**6.8.6.7** Accomplish corrective actions and maintain all work safety and health matters up-to-date.

**6.8.6.8** Coordinate the application of general prevention and safety principles.

**6.8.6.9** Make technical and organizational decisions for the purpose of planning the different jobs or phases, which shall be simultaneously or successively performed.

**6.8.6.10** Reasonably estimate the required duration for execution of the different jobs or work phases, in order to avoid unnecessary pressure or stresses on employees assigned to them.

**6.8.6.11** During hazardous tasks or activities coordinate the activities of the jobs to guarantee that the workers coherently and responsibly apply the principles of preventive measures during the execution of the jobs.

**6.8.6.12** Organize and coordinate the activities related to worker's safety and health, the weekly talks, new employee orientations, equipment testing, and certifications.

**6.8.6.13** Coordinate the controls and duties for the correct application of safe work procedures.

**6.8.6.14** Establish and enforce measures so that only competent and authorized individuals have access to the jobs.

**6.8.6.15** As per previous paragraph, the contractor's responsible person shall comply with these duties, when the designation of a coordinator is not necessary.

### **6.8.7 General Requisites for Contractors**

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**6.8.7.1 Initiation of Activities:** Jobs activities shall not be initiated in parts or subparts, until such time that all contract requirements are submitted by the contractor for approval by the ACP, those requirements contained in the Specifications or in the contract, and others stated in this standard or in its updates and revisions, or which may arise during the development of different jobs and its activities, the contractor must be granted a period of 15 to 30 working days to prepare and submit his/her proposals, not more than one week, in which the contractor has to resubmit them with the observations made.

**6.8.7.2 Working Schedules:** Hazardous activities involving safety and health aspects shall not be performed outside the authorized regular working schedule or during nonworking days, or without the presence or authorization of the ACP contract unit or inspector. Having been suspended due to noncompliance with the safety and health requirements and until all necessary corrective actions have been applied, these activities shall not be reinitiated.

**6.8.7.3 Compliance:** It is mandatory that all contractors know, apply, and comply with the requirements of this standard and its references. The ACP reserves the right to partially or totally interrupt jobs or activities, and to cancel, without prejudice, the execution of a contract or jobs, if the contractor does not adhere to the letter and spirit of this standard and all its references.

**6.8.7.4 Additions:** Jobs, and activities not originally considered in the project or the contract or part of it, that due to ACP needs or unforeseen events are required to be performed, before initiating them, the contractor shall comply with this Standard and other that are pointed out or required.

**6.8.7.5 Changes or Cancellations:** In the case of changes or cancellation of contractor or subcontractor services occur, all safety and health related matters shall be updated and submitted by the new contractor, for approval by the Safety and Industrial Hygiene Unit, and / or reviewed by the Safety Specialist assigned to ACP's Contract Management unit, before he/she initiates activities in the ACP.

**6.8.7.6 Routine Obligations:** Those described in this Standard and in the ACP Safety and Health Manual.

**6.8.7.7 Emergency Procedures:** The contractor shall know and **put into practice** the **ACP's units emergency procedures**, and shall comply with those approved for all locations where work is being performed for the ACP. The contractor shall inform his workers **and ensure that** they comply with all emergency procedures.

**6.8.7.8 Dirty Work and Protective Clothing:** Contractor's employees performing duties that involve cleanup, dirty work which could permanently or temporarily affect their skin, body parts, and working clothes, shall be protected, the contractor shall provide them with protective clothing as required by MSDS of the products handled (disposable waterproof overalls that enable perspiration – Reference Standard 2600SEG213), respirators, safety shoes and covers, gloves, and other protective equipment, the Inspector, by the Safety Specialist, and the activity itself.

**6.8.7.9 Work with Hazardous Contaminants:** Activities involving surface finishing with solvents, sanding, surface preparations (metallic, concrete, or wooden), those containing lead, welding, those which generate silica dust, as in the case of concrete demolitions, those associated with fiberglass, cabinet, shall be performed off the common work area; if unable to do it in such a manner, then they shall be located at a safe distance, where their emissions or contaminants are effectively contained with extractors, barricades, curtains, or other effective controls and separation methods.

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**6.8.7.10 Cleanup with Chemical Products:** When cleanup with chemical products, dangerous materials or contaminants are required; workers shall be provided with protective equipment, as required by the MSDS to insure their protection against the corresponding hazards

**6.8.7.11 Definition of Responsibilities:** The contractor shall be the principal and sole person responsible for all safety and health activities, to include his/her employees, subcontractors, and shall assign specific responsibilities at the different levels of supervision in matters related to the integral protection of personnel, and of workers, from the beginning of their work, as well as for activities to be executed during contract. For example: The Hazardous Materials Information Program is continuous and shall be followed throughout contract execution.

**6.8.7.12 Information:** The contractor shall be responsible for informing all employees of the foreseeable hazards they could face. For example: Those described in the latest version of the Material Safety Data Sheet (MSDS) for hazardous chemicals.

**6.8.7.13 Inform Employees of Other Hazards** and possible injuries resulting from exposures during work, if they fail to comply with approved safety procedures, safety equipment, personal protective equipment, response procedures during accidents, etc.

**6.8.7.14 Accident Investigations and Reports;** All contractors shall exert the corresponding accident investigation efforts in a manner that is formal, based on a complete and specific accident / near miss investigation, and submit a full report to the ACP Inspector or Coordinator, who, in turn, shall verify and submit it to the Safety and Industrial Hygiene Unit (RSHS) through his/her Occupational Safety and Health specialist within a 48 hour-period.

**6.8.7.15 Discipline:** When the workers do not correct their unsafe practices or conditions, the contractor shall apply disciplinary measures (without abuse or discrimination), in order to maintain the control of safe work practices by his/her workers, including subcontractors and independent workers.

**6.8.8 Preventive Action Requirements that shall be applied by Contractors During the Execution of the Work.** The following principles of preventive action shall be applied during execution of the work and, in particular, during performance of the following tasks or activities:

**6.8.8.1** The orderly and segregated storage of incompatible products, and the frequent elimination or disposal of waste and rubbish.

**6.8.8.2** To maintain good housekeeping in all work areas. The contractor is responsible for disposing of wastes produced, as a minimum, on a daily basis, or more frequently, in order that there are no obstruction or other hazards.

**6.8.8.3** With the purpose of correcting errors that could affect worker safety and health.; equipments, tools, machinery and other resources shall be properly maintained, inspected prior to use, at start-up, also a periodic control documented, of equipments, and the contractor shall have adequate facilities, tools and devices required for employees execution of the work,

**6.8.8.4** The contractor shall make adjustments, in the real-time period that shall be spent on different jobs, or work phases, and according to the evolution of the contract, in order to avoid unnecessary worker exposure to hazards or unhealthy conditions due to the pressures caused by poor planning, lack of appropriate resources, lack of time assigned in the planning stage, or due to uncontrolled work delays.

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**6.8.8.5** The continued cooperation between contractors, subcontractors, and autonomous workers.

**6.8.8.6** The delimitation and conditioning of the storage and deposit areas for the different supplies, particularly in dealing with hazardous materials or substances.

**6.8.8.7** The safe selection and preparation of the job areas and stations, taking into account access routes and the identification of traffic and circulation ways.

**6.8.8.8** The handling of the different materials and utilization of auxiliary means.

**6.8.8.9** The immediate collection, cleanup of all hazardous materials spills, and demolished material, which would expose workers or ACP employees to hazards.

**6.8.8.10** The control of possible hazardous interactions and incompatibilities with any other type work or activity, being performed, in the jobs stations or near the location of the work area.

**6.8.8.11** To safeguard the safety and health of workers, in an imminent danger condition which may arise at any time on different jobs; every employee has the authority to request that his/her immediate supervisor inspect or temporarily interrupt the affected work or, that the entire job be stopped. In addition, the contractor's authorized representative shall inform all other workers and subcontractors that may be affected by the interruption of activities as well as workers' representatives.

**6.8.9 Information, Consultation and Participation of Workers.**

**6.8.9.1** The contractors and subcontractors shall assure that workers obtain adequate information pertaining all measures that need to be adopted with regard to hazards controls and exposures, required cooperation, levels of safety, hygiene, and health measures that need to be observed at the jobsite.

**6.8.9.2** The information shall be presented in a manner that is understandable to all workers, and shall be documented with the signatures of potentially affected employees.

**6.8.9.3** Whenever a new, unusual, recently designed, or other unknown activity presenting serious hazards to workers.

**6.8.9.4** Whenever an incident occurs, or a situation arises that could result in an injury or accident, the contractors and subcontractors shall thoroughly investigate the event and submit a written report to the inspector within a period of 48 working hours, detailing the actions taken and pending to be taken to avoid a similar situation.

**6.8.9.5** The consultation and participation of the workers or their representatives shall be performed in a true, mandatory, and clear manner on all matters that could affect them, as well as handling of the information for affected workers. This information shall be understandable and documented with the signatures of all potentially affected employees.

**6.8.9.6** When necessary, considering the high level of risk and the importance of certain jobs, the consultation and participation of workers or their representatives at the site shall take place with adequate coordination.



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**6.8.9.7** The approved Safety and Health Plan, together with pertinent notes and possible modifications, shall be available, followed and accessible at all times so it may be known and followed up, and shall be provided by the contractor to the representatives or workers who request it at the work stations.

**6.8.10 Routine Obligations of the Contractor and Subcontractor.** The activities of the coordinator, administrator or others do not exempt the main contractors, subcontractors, or their independent employees from their safety and health responsibilities.

**6.8.10.1** During the execution of the different job activities, and until its completion, the contractor is, without exception, exclusively responsible for ensuring compliance with the Laws and all the requirements herein, and for establishing and maintaining control of the hazards in all works areas and activities. Additionally, he/she is responsible for ensuring compliance during execution of the jobs, with the minimum obstructions and noncompliance with safety, health, and environmental stipulations established in the Specifications.

**6.8.10.2** The contractors, subcontractors, and their independent workers shall be obligated, among other matters, to:

**6.8.10.2.1.** Comply and insure compliance by his/her personnel with the stipulations of the Safety and Health Plan, Specifications, and recommendations resulting from safety inspections.

**6.8.10.2.2.** In case of **DOUBTS REGARDING THE SAFETY** of an activity or works, or part of one, the work shall be interrupted and not resumed until all controls that guarantee worker protection have been secured.

**6.8.10.2.3.** Comply with all the requirements that pertain to prevention of work-related risks, taking into account, as appropriate, the needs and required supervision during the works.

**6.8.10.2.4.** Inform and provide adequate instructions to the workers on the measures to be adopted regarding work safety and health.

**6.8.10.2.5.** Follow the indications and comply with the safety coordinator and specialists' instructions on safety and health matters during the execution of the work.

**6.8.10.2.6.** Correctly apply the preventive measures described in the Safety and Health Plan regarding safety and obligations for which they are directly responsible, or as appropriate, for which their contracted workers are directly responsible.

**6.8.10.2.7.** Follow the action principles, or those indicated in the Safety Plan, particularly during performance of the tasks, and continue with efforts to comply with the principles and instructions given.

**6.8.10.2.8.** Respond with solidarity to the consequences of noncompliance with the measures described in the Plan.

**6.8.10.2.9.** The contractor must add any circumstance that requires special attention to his/her list of evaluation of previous hazards, including his/her specific comments, highlighted from the rest of the documents he/she is required to submit.

**6.8.10.2.10.** Maintain a daily and cumulative roster of all workers that he/she uses in the works, and submit a true copy to the works inspector monthly or more frequently.

**6.8.10.2.11.** Document routine worker activities, including those that are autonomous and independent.

**6.8.10.2.12.** Apply the principles of preventive action indicated in the approved Plans including notes, in particular when developing the tasks or activities indicated in the approved Safety Plan for hazard control.

**6.8.10.2.13.** During execution of the work, comply with the safety and health provisions established in the Specifications.



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**6.8.10.2.14.** Comply with the provisions regarding risk prevention set forth in the Republic of Panama Labor Code.

**6.8.10.2.15.** Adjust his/her Safety Plan according to the tasks, implementing any particular measure established.

**6.8.10.2.16.** Utilize work equipment according to Specifications and the approved Plan establishing the minimum safety and health conditions for the protection of workers who operate the work equipment.

**6.8.10.2.17.** Select, maintain, and insure the adequate utilization of individual protective equipment approved for the worker protection.

**6.8.10.2.18.** During the execution of the work, observe all instructions and safety warnings and comply with the coordinator or managing authority's instructions on safety and health matters, as appropriate.

**6.8.10.2.19.** The autonomous workers shall comply with the established Safety and Health Plan.

### **6.8.11 Incidence Log Book**

**6.8.11.1** An incidence notebook, register, or safety log book, for control and follow-up of the Safety and Health Plan, Specifications, and Inspection Citations shall be available at each construction site.

**6.8.11.2** The contractor shall provide the incidence notebook or safety log book, which shall always be kept at the work site, and under the control of the contractor's authorized safety representative.

**6.8.11.3** Access to such notebook shall be available to the ACP contract manager, contractors and subcontractors, inspectors and autonomous workers, individuals responsible for the safety and hazard prevention of companies which take part in the works, workers' representatives, and ACP technicians and safety and health specialists.

**6.8.11.4** Each entry in this notebook shall include the name, signature or (identified) initials, of the individuals making the entry, and the date of the entry. The information indicated shall not be omitted from the entry.

**6.8.11.5** Once the incidence is entered in the notebook, the safety and health matters coordinator shall be obligated to notify the affected contractor and his/her workers' representative during the execution of the work.

**6.8.11.6** When during the execution of the work, the contract quality control unit inspector or the safety and health specialists, observes noncompliance of safety and health measures, he/she shall alert the contractor, and the contractor, in turn, shall include the corresponding entry in that notebook.

**6.8.11.7** The field memos, accident investigations, inspections, meetings held, and all the other activities relating to safety and health shall be registered and firmly attached inside the notebook by date.

**6.8.11.8,** Safety Specialists, engineers, or inspectors shall be able to document in this notebook or log all failures to comply, initiatives, improvements, and achievements by the main contractor.

**6.8.11.9** Upon the termination of each contract, and at least three days prior to the contractor withdrawing from the contract areas facilities, this notebook shall be returned to the area specialist or to the Contracts Division, which shall serve to develop a record of safety measures taken by each contractor for each Contract.

## **7.0 TRAINING AND CERTIFICATION RESPONSIBILITIES:**

At least 15 days prior to initiating certain activities, all contractors shall process, comply with, and provide the training and attain certification approvals required to initiate and maintain his/her contract

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up to date; in addition, a program of weekly lectures and necessary orientations shall be effected for new employees, as well as those needed to inform and educate workers.

Contractors for each work front shall hold, as a minimum at least once a week, a 30-minute meeting with all their workers to discuss safety issues or matters, and shall meet as many times as necessary to maintain their employees in a state of alertness; or, other meetings shall be held regarding agreements reached with ACP representatives regarding hazards, their control, and use of safe working practices.

**7.1** The contractor is obligated to arrange or provide the training required by all initial employees and those newly hired; as well as to continuously alert them of hazards, controls, and important safety aspects. The above also applies to subcontractors and autonomous or independent workers hired.

**7.2** All contractor actions on these matters shall be duly and appropriately documented in the safety incidence notebook or log.

**7.3 Competent Personnel.** All contractors shall only employ in the jobs competent supervisors, technicians, operators, helpers, and workers.

**7.4 Certifications, Tests, and Documentation.** All contractors shall comply in a competent and timely manner with all requirements on these aspects which they have to comply with either prior to or during the execution of the work.

## **8.0 WORKS OWNERS, DESIGNERS, SPECIFICATION DEVELOPERS, ENGINEERS AND QUALITY CONTROL INSPECTORS**

The application of these considerations involves significant and short-term changes at the time of planning, specifying and developing the projects, as it entails that the contractor make decisions concerning the necessary organization and the works execution systems.

Such application shall be extended in order to reasonably estimate the safe and effective duration of the works or work phases. This is the principal reason to make known that a project execution period is dependent on the attention given to the following considerations:

**8.1** The project shall integrate the prevention of accidents at its roots, by anticipating hazards, environmental conditions, and considering the contractor's compliance with: Specification requirements, current law, Safety Plan and other plans.

**8.2** Since its initial stage, the project shall contemplate, estimate, and define in detail, and as far as practicable, how the job is going to be performed (i.e., the equipment and procedures which shall be used, including technical means, programming, use of different human resources and supplies) as established in the execution plan.

**8.3** The general principles of prevention in matters of safety and health matters shall be taken into consideration in the stages of conception, study, and development of the project and job specifications, in particular:

**8.3.1** In making the technical and organizational decisions for the purpose of planning the different jobs or work phases that shall be simultaneously or successively developed.

**8.3.2** In estimating the required duration of the execution of the different works or work phases.

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**8.3.3** In including all the considerations of the possible hazards peculiar to the job environment.

**8.3.4** In having available information relative to the environmental hazards, and anticipate to them, based on past experience, in order to prevent recurrence of dangerous events or situations that have come up in previous and similar jobs.

**8.3.5** All associated safety and health elements must be contemplated in the proposed design, specifications in the solicitation package or contractual agreement, for the contractor to take them into account before initiating his/her activities, and include them in his/her jobs plans and development and in his/her budget and considerations, keeping always in mind the general principles of safety and health.

**8.3.6** The contractor must become familiar and conform in a safely and healthy manner to the environmental conditions and designs.

**8.3.7** That he must provide the worker with necessary safe means, to rely on the physical conditions (resources, equipment, tools, and accessories) that will allow him/her to do his job safely. Examples: Spaces, conditions, dimensions, and other physical requirements necessary to carry out the work; anchoring on protective systems against falls; allowance for use of scaffolds, and access to high altitude positions.

**8.3.8** Provide, to the extent possible, the estimates and basic needs required by the contractor to make its job easier, and allow the adequate selection, inclusion and necessary personnel provision, use of equipment for hoisting, safety, personal protection, material handling, scaffolds, and other equipment for work at high altitudes or in confined spaces, tools, storage areas, hazard material cabinets, devices for spill controls, fire-fighting equipment, equipment for emergencies, and other needs.

**8.4** Based on all of the above, the contractor shall be obligated to estimate and include in his/her lists of requirements, and in his/her bid, all the equipment, techniques, work and production methods, as well as methods to reduce harmful effects on the health and safety of the workers. For example, the contractor shall have easy access to, or be provided in detail with, the location and number of anchoring points and components of fall protection systems, suggested approved equipment specifications, and the adequate quality of personal protection equipment, size and quantity of ventilators, illumination levels, lightning detectors, and equipments, specifically designed for the work, minimum safe electrical installations (temporary arrangement that conforms to NEC and to other requirements known and applied in ACP).

### **8.5 Technology Evolution.**

**8.5.1** The contractor shall plan, with prevention always in mind, to look for a coherent package that incorporates the best available technology, organization of the work so as to best conform with the project; the actual conditions of the geology of the grounds, as well as the condition of the environment and those inherent to the job, as adequate supplies, work methods, and safest equipments.

**8.5.2** Adopt measures that give preference to collective instead of individual protection, and to life, health and safety of all parties involved in the contract, instead of looking for extreme savings or noncompliance with requirements, laws and standards.

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**8.5.3** Match the work with the people, especially respecting the use of the different professions that shall participate in the jobs, taking into account the level of education and training, and the limitations and culture of the workers required by the contractor.

**9.0 Basic Responsibilities of the Contractor:**

**9.1.** Provide cold drinking water in hygienic closed containers and disposable cups.

**9.2.** Comply with all contract requirements and ACP standards, decree and laws of the Republic of Panama, and the provisions of the Labor Code on matters of health, hygiene, safety, maternal jurisdiction, and others.

**9.3.** Ensure the early detection and control of incipient fires, and be prepared to safely and fully fight them.

**9.4.** Have and put into practice, specific contingency plans that determines and indicates to employees what to do in the event of an accident or emergency.

**9.5.** Have an emergency plan or an equivalent (that is equally effective), define and have accessible meeting points, and keep a body count. Keep at hand first aid supplies and kits; and have at least one recently certified Red Cross person at the work site and remote areas.

**9.6.** Always have available and in good condition all rescue resources and means of communication and transportation in the event of emergencies.

**9.7.** Provide sufficient toilets and keep them clean at all times.

**9.8.** Provide trash cans with covers for organic waste.

**9.9.** Provide sufficient drinking water and lavatories or showers (as appropriate for the required job) for workers personal cleanliness.

**9.10.** Provide appropriate facilities equipped with sufficient seats, as well as enclosed areas for workers to change their clothes, eat, clean up, etc.

**9.11.** Hire and keep at the worksite at least one authorized person trained in first aid, and the have the necessary resources (a well-stocked first-aid kit) available.

**9.12.** Have and maintain equipment, machinery, accessories, supplies and working tools in good condition (entails that they are approved, listed, and in the manufacturer's original safety and operational conditions).

**9.13.** Provide clean change areas, clean eating areas, and rest areas protected from bad weather and insects.

**9.14.** Keep under control all insects, animals, and other plagues that pose a problem for the workers.

**9.15.** Provide approved personal protective equipment that is in good condition and conforms to, or offers, the required protection for workers.

**9.16.** Prohibit any type of employee conduct that could place other workers or persons in danger.

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**9.17.** Effectively control, employee's medicine intakes that may affect behaviors and reaction times, and prohibit drug or alcohol use.

**9.18.** Monitor in a frequent manner the state of self-control and behavior of workers.

**9.19.** Monitor and prevent employees in any way disabled by drug abuse or medications that may impair their faculties or state of alertness, or who perform activities that could place themselves or other workers in danger, from causing accidents, material losses or interrupting work.

**9.20.** For floating equipment, the standards described in 2600SEG306, 2600ESEG309, 2600SEG310, 2600SEG311, 2600SEG312 y 2600SEG313 of the section on Maritime Safety shall be complied with.

### **10.0 INQUIRIES**

All information or clarification regarding the contents or application of this Standard shall be requested in writing to the Safety and Industrial Hygiene Unit (RHSH).

### **11.0. EXCEPTIONS**

Deviations or temporary exceptions, or other considerations to achieve compliance with this Standard shall be requested in writing to. Safety and Industrial Hygiene Unit (RHSH).

### **12.0.TERM**

This Standard shall remain in force until amended or revised.

### **13.0 APPENDICES:**

**13.1** APPENDIX A Standards incorporated by references.

**13.2** APPENDIX B – Examples of work performed in the construction.

**13.3** APPENDIX C– Definitions.

**13.4** APPENDIX D – Environmental hazards.

**13.5** APPENDIX E – (Non-comprehensive) list of work involving special risks to worker health and safety.