

SPECIFICATION SECTION 01500

PROJECT SAFETY

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SPECIFICATION SECTION 01500 - PROJECT SAFETY

1. DESCRIPTION

This Specification Section prescribes the requirements for planning, implementing and maintaining the safety measures to be applied by the Contractor for the Works.

The following definitions shall be referred to for proper interpretation of this Specification Section:

Contractor's Safety Plan:	The document that shall be prepared and submitted by the Contractor in compliance with the Contract (herein referred to as Safety Plan). It shall consist of a complete plan for implementation and monitoring of safety measures applied; at the Works, on the Site and at all the related facilities such as Contractor's Equipment, quarries, roads, etc.
Program and the Schedule:	As defined in Specification Section 01300 Program of Work

2. REQUIREMENTS

2.1 General

- a) The Safety Plan shall be considered as one of the key elements of the Program as described in Specification Section 01300 Program of Work.
- b) The requirements established in this Specification Section are intended to be mutually explanatory with and read in conjunction with the provisions in the following subclauses of the Conditions of Contract:

Subclause 4.8, Safety Procedures;

Subclause 4.18, Protection of the Environment;

Subclause 6.7, Health and Safety;

Subclause 8.7, Delay Damages;

Subclause 8.8, Suspension of Work;

Subclause 18.2, Insurance for Works and Contractor's Equipment;

Subclause 18.3, Insurance against Injury to Persons and Damage to Property;

Subclause 18.4, Insurance for Contractor's Personnel.

- c) The requirements established in this Specification Section are intended to read in conjunction with and be mutually explanatory with the provisions stated in the following Specification Sections:

Specification Section 01600 Maintenance and Protection of Traffic and

Specification Section 01700 Environmental Control and Protection

and related Specifications dealing with safety.

- d) Failure by the Contractor to comply with the requirements of this Specification Section shall be considered as a serious default in meeting his contractual obligations under subclause 4.1 of the Conditions of Contract. Should this situation arise, the Engineer will adjust the value of the work in the Interim Payment Certificate(s) as foreseen in subclause 14.6(b) of the Conditions of Contract.
- e) Defaults in complying with the requirements in this Specification Section by the Contractor will be taken into account by the Engineer in estimating the respective compensations that will be determined in accordance with the applicable provisions of subclauses 2.5, 3.5, and clause 17 of the Conditions of Contract.
- f) The Contractor shall; as a priority in all his activities, undertakings and endeavors, ensure continuity of the safety measures for the public and all persons directly or indirectly associated with the Works.
- g) The Contractor shall instruct and require the project manager, safety manager and his Site representative responsible for the Contract execution to be directly accountable in all matters concerning safety.
- h) The Contractor shall comply with all safety and industrial health legislation including but without limitation to; the Rules and Regulation of the Socialist Republic of Vietnam and the Authorities having jurisdiction on safety.

2.2 Contractor's Safety Plan

- a) The Contractor shall prepare and submit to the Engineer, for review, the Safety Plan, which shall be incorporated in the Program, implemented during the work execution and shall be monitored on a daily basis.
- b) The Safety Plan shall include but not be limited to, the following:
 - (i) Safety Organizational Structure: The organization classified into subdivisions that can be technically and effectively managed and described in a safety organizational chart identifying the subdivisions, responsibilities and tasks of the personnel and supporting staff, all of them engaged solely and specifically for safety issues (including the Contractor's safety manager who will be responsible for all safety issues at the Site). Moreover, the criteria for appointment of principal staff shall also be described.
 - (ii) Lines of Communication: The organizational structure shall show direct lines of communication and reporting between the safety manager, the Contractor's project manager and the Contractor's Site representative responsible for the Contract execution.
 - (iii) Safety Table: A table showing the names, addresses, e-mail addresses and telephone/facsimile numbers of all the personnel named in the safety

organization chart (this shall be displayed in all the Site offices and distributed among all the personnel employed on the Works).

- (iv) **Interaction and Communication Procedures:** The procedures defining the communication system between the Contractor's construction personnel and the safety assurance staff, including radio communication facilities, regular communication and reporting system. Moreover, the frequency, coverage and intent of Site safety meetings shall also be clarified.
- (v) **Safety Training:** The methods for promoting awareness of Site safety and industrial health amongst all persons directly or indirectly associated with the Works. This shall include; a program for Site publicity and training courses for the workmen on the Site and at all levels of supervision and management, incentive schemes for the promotion of compliance with safety measures and other similar measures. The said program shall be discussed with the Engineer and shall be applied in a practical and reasonable way that will not affect the normal progress of the work. This shall also include the powers vested in the safety staff which would enable them to take urgent and appropriate and direct action to make safe the Site and prevent unsafe working practices or other infringements on the safety, or statutory regulations.
- (vi) **Subcontractors' Safety Plan:** The means by which safety and industrial health matters and requirements will be communicated to subcontractors of all tiers and their due compliance with safety and all relevant statutory regulations is ensured. This shall also include the procedure for reviewing the safety plan proposed by subcontractors, confirming that it is prepared in due compliance with the statutory regulations and in accordance with the Safety Plan requirements and the method to incorporate the subcontractors' safety plans into the general Safety Plan.
- (vii) **Safety Equipment and Clothing:** The safety equipment, rescue apparatus and protective clothing which will be required for the Works, including the quantity, source, standards of manufacture, storage provisions and means of ensuring proper utilization by all workmen and staff employed directly or indirectly by the Contractor and repair to or replacement of damaged equipment. Such equipment shall include but not be limited to, goggles and other eye protectors, hearing protectors, safety harnesses, safety equipment for working underground and in confined spaces (e.g. sewers, drains, etc), rescue equipment, fire extinguishers, first aid equipment, ropes, hard hats and where appropriate, associated shock absorbers, chest harnesses.
- (viii) **Safety Inspections:** The means by which safety equipment, scaffold, guardrails, working platforms, hoists, ladders and other means of access, lifting, lighting, signing, and guarding equipment shall be regularly

inspected, tested and maintained and the standards below which such items shall be removed from the Site and replaced.

- (ix) Supervision and Auditing: The means by which the established safety system will be supervised, monitored and audited by the safety manager to ensure due compliance with the principles and objectives of the Safety Plan at all levels of construction. This shall also include the procedure for updating the Safety Plan.
- (x) Records: To be prepared and maintained by the safety manager and the staff for safety, and the communication procedures to be adopted by the safety manager such that the Engineer and others associated with the Works (e.g. subcontractors) are kept fully informed throughout the period of the Contract on matters relating to site safety and industrial health regulations.
- (xi) First Aid and Rescue: A description of the operation and equipment of the specified first aid base, the emergency and rescue procedures and their associated equipment. In addition, the method for protection of visitors to the Site shall be stated.
- (xii) Health Hazards: An appreciation of the industrial health hazards likely to be associated with the Works and proposals for minimization of the risks associated with such hazards. The means of minimization of the effects of climatic exposure (heat, wind and moisture) and an exposure to noxious substances.
- (xiii) Safety regarding Construction Methods: Proposals to ensure that construction methods do not compromise the Contractor's commitment to the Safety Plan or his compliance with statutory regulations.
- (xiv) First Aid Base: A description of the first aid base to be established in the Site and maintained until the issue of the Taking-Over Certificate. This shall include a description of the measures to be taken for first aid and medical services.
- (xv) Others: In addition, the following items shall also be included:
 - A description of the security norms to be applied in the offices, shops, construction plant, etc.,
 - A description of the hygiene measures in eateries, cafeterias, work areas, etc.

2.3 Safety Manager

- a) The Contractor shall appoint a safety manager whose duties throughout the period of the Contract shall be entirely connected with the safety activities on the Site.
- b) The safety manager shall be bilingual (Vietnamese/English) and shall be a suitably qualified and experienced person who shall prepare, supervise and monitor the Safety Plan and shall, in particular but without limitation, carry out auditing of the

- operation of the safety plan in accordance with a rolling program to be submitted, from time to time, to the Engineer for his consent.
- c) The appointment and designation of the safety manager shall be subject to the Engineer's approval.
 - d) Unless specifically agreed in writing by the Engineer, the Contractor shall not undertake any work on the Site until the safety manager has commenced duties on Site.
 - e) The Contractor shall not remove the safety manager from the Site without the express written permission of the Engineer. Within fourteen (14) days of any such removal or notice of intent of removal, the Contractor shall nominate a replacement safety manager for the Engineer's approval.
 - f) The Contractor shall provide the safety manager with enough supporting staff in accordance with the staffing levels set out in the Safety Plan. The supporting staff shall include at least one (1) deputy safety manager whose appointment shall be subject to the Engineer's approval. The deputy safety manager shall be capable of assuming the duties and functions of the safety manager as contained in the Site Safety Plan whenever necessary.
 - g) The Contractor shall empower the safety manager and his staff to instruct employees of the Contractor, or of its Subcontractors, of any tiers to cease operations and take urgent and appropriate action to make safe the Site and prevent unsafe working practices or other infringements on the Safety Plan or the statutory regulations.
 - h) The Contractor shall ensure that the safety manager maintains a daily Site diary, comprehensively recording all relevant matters concerning Site safety inspections and audits, related incidents and the like. The Site diary shall be available at all times for inspection by the Engineer.

2.4 Special Requirements for Safety

The Contractor shall comply with the following special requirements:

- a) **Safety of Public:** The Contractor shall be responsible for the safety of the public passing through the Site. All excavations, plant or items of potential danger to the public must be barricaded and signposted to the satisfaction of the Engineer and the Contractor must provide sufficient watchmen to ensure the safety of the public at all times. All existing pedestrian routes shall be maintained in a safe condition unless an alternative route is provided to the satisfaction of the Engineer.
- b) **Temporary roads in the Site:** The traffic lanes shall be clearly marked by safety cones, barricades and guide signs to prevent accidents and to ensure quality control of constructing roads.

- c) **Availability of Safety Related Documents:** The Contractor shall comply with the Engineer's requirements insofar as displaying in each of its site offices, workshops and canteens a copy of such safety and industrial health posters and keeping on the Site copies of safety and industrial health regulations and documents. The minimum regulations and most important documents (selected by the Engineer from the approved Safety Plan) shall be translated into languages which are understood by the operators engaged by the Contractor or subcontractors and such translations shall be displayed or kept alongside those in Vietnamese and English languages.
- d) **Safety Reports:** The Contractor shall submit regular safety reports to the Engineer as a requirement of the Safety Plan. A summary of this report shall be included in each monthly progress report. Safety reports shall comprehensively address all relevant aspects of site safety and industrial health regulations and, in particular, shall report on all Site safety audits undertaken during the period covered by the report.
- e) **Safety Information:** The Contractor shall ensure that safety, rescue and industrial health matters are given a high degree of publicity to all persons regularly or occasionally on the Site. Posters, in both Vietnamese and English, drawing attention to site safety, rescue and industrial health regulations shall be made or obtained from the appropriate sources and shall be displayed prominently in relevant areas of the Site.
- f) **Safety Meetings:** The safety manager of the Contractor shall perform regular safety meetings in accordance with the Safety Plan, with the participation of the Engineer (or a representative delegated by him for the purpose) and representatives of Subcontractors if so requested by the Engineer. All safety meetings shall be notified to the Engineer at least 3 days in advance. Minutes of all safety meetings shall be taken and sent to the Engineer within three (3) days of the meeting.
- g) **Fire Extinguishers:** In addition to the safety equipment identified in the Safety Plan the Contractor shall provide, in particular, wall mounted hand fire extinguishers of all types; nitrogen pressured, dry chemical type. Moreover, fire extinguishers shall be provided at each Site office and other facilities, during the execution of the Works. Individual fire extinguishers shall also be provided in all the vehicles being used in the Works.
- h) **First Aid Base:** The Contractor shall, at his own expenses, establish and maintain a fully equipped first aid base as described in the approved Safety Plan satisfying the following conditions:
 - (i) The first aid base shall be located at the Contractor's principal work area and shall consist of a treatment room fitted with; a wash hand basin, two treatment couches, sterilizing equipment and lockable cupboards with sufficient medical supplies for the Contractor's workforce, the Engineer's

site supervisory staff and any visitors to the Site. In addition, six stretchers shall be available for instant use. The first aid base shall contain a recovery room that shall be furnished with six chairs and six footrests. The first aid base shall be air conditioned, complete with cooling equipment capable of maintaining the temperature inside the building at 20 °C; under all ambient conditions.

- (ii) A qualified nurse and nurse's aid shall be in attendance at the first aid base at all times when work is being undertaken on the Site, including work by any Subcontractor and periods when only emergency activities are being undertaken, such as during times of inclement weather.
- (iii) The first aid base will be stocked with medicines, medical equipment and consumables .
- i) Qualified Personnel: Suitably qualified personnel shall operate all Contractor's Equipment used on or around the Site or off the Site.
- j) Notification of Accidents: The Contractor shall notify the Engineer immediately when any accident occurs whether on Site or off Site in which; the Contractor, his personnel or his Construction Equipment, or that of his Subcontractors is directly or indirectly involved and which result in any injuries to any persons. Such initial notification may be verbal and shall be followed by a written comprehensive report within 24 hours after the occurrence of the accident.
- k) Assistance to the Engineer: The Contractor shall provide the Engineer with full co-operation and assistance in all safety surveillance carried out by the Engineer or the Employer.

3. MEASUREMENT AND PAYMENT

The planning, implementing and maintaining safety measures for Project Safety in accordance with the provisions and requirements of this Specification Section is defined as Indirectly Paid Work shall neither be measured nor paid separately and shall deemed included in the rates and prices for other main items or distributed among all the pay items listed in the Bill of Quantities. No separate payment will be made for these items.

Any work not specifically identified in this Specification Section but which is necessary for Project Safety shall be deemed to be Indirectly Paid Work, which shall neither be measured nor paid separately and shall be deemed included in the rates and prices for other main items or distributed among all the pay items listed in the Bill of Quantities.