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| <u>1.1 SECTION INCLUDES</u> | .1 | Procedures to isolate and lockout electrical facility or other equipment from energy source.  |
| <u>1.2 RELATED WORK</u>     | .1 | Section 01 35 24 - Special Procedures on Fire Safety Requirements.  |
|                             | .2 | Section 01 35 29 - Health & Safety Requirements.  |
| <u>1.3 REFERENCES</u>       | .1 | C22.1-06 - Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations (Latest Edition).   |
|                             | .2 | CAN/CSA C22.3 No. 1-10 - Overhead Systems (Latest Edition).   |
|                             | .3 | CAN/CSA C22.3 No. 7-10 - Underground Systems (Latest Edition).  |
|                             | .4 | COSH, Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code (Latest Edition).  |
| <u>1.4 DEFINITIONS</u>      | .1 | Electrical Facility: means any system, equipment, device, apparatus, wiring, conductor, assembly or part thereof that is used for the generation, transformation, transmission, distribution, storage, control, measurement or utilization of electrical energy, and that has an amperage and voltage that is dangerous to persons. |
|                             | .2 | Guarantee of Isolation: means a guarantee by a competent person in control or in charge that a particular facility or equipment is isolated.  |
|                             | .3 | De-energize: in the electrical sense, that a piece of equipment is isolated and grounded, e.g. if the equipment is not grounded, it cannot be considered de-energized (DEAD).   |
|                             | .4 | Guarded: means that an equipment or facility is covered, shielded, fenced, enclosed, inaccessible by location, or otherwise protected in a manner that, to the extent that is reasonably practicable, will prevent or reduce danger to any person who might touch or go near such item.   |
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- .5 Isolate: means that an electrical facility, mechanical equipment or machinery is separated or disconnected from every source of electrical, mechanical, hydraulic, pneumatic or other kind of energy that is capable of making it dangerous.
- .6 Live/alive: means that an electrical facility produces, contains, stores or is electrically connected to a source of alternating or direct current of an amperage and voltage that is dangerous or contains any hydraulic, pneumatic or other kind of energy that is capable of making the facility dangerous to persons.

#### 1.5 COMPLIANCE REQUIREMENTS

- .1 Perform lockouts in compliance with:
  - .1 Canadian Electrical Code (Latest Edition).
  - .2 Federal and Provincial Occupational Health and Safety Acts and Regulations as specified in Section 01 35 29 - Health & Safety Requirements.
  - .3 Regulations and code of practice as applicable to mechanical equipment or other machinery being de-energized.
  - .4 Procedures specified herein.
- .2 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.

#### 1.6 SUBMITTALS

- .1 Submit copy of proposed Lockout Procedures.
  - .2 Submit documentation within seven (7) calendar days of acceptance of bid. Do not proceed with work until submittal has been reviewed by Departmental Representative.
  - .3 Submit above documents in accordance with the submittal requirements specified in Section 01 33 00 - Submittal Procedures.
  - .4 Resubmit Lockout Procedures with noted revisions as may result from Departmental Representative's review.
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1.7 LOCKOUTS

- .1 Isolate and lockout electrical facilities, mechanical equipment and machinery from all potential energy sources prior to starting work on such items.
  - .2 Develop and implement lockout procedures to be followed on site as an integral part of the Work.
  - .3 Use energy isolation lockout devices specifically designed and appropriate for type of facility or equipment being locked out.
  - .4 Use industry standard lockout tags.
  - .5 Provide appropriate safety grounding and guards as required.
  - .6 Prepare Lockout Procedures in writing. Describe safe work practices, work functions and sequence of activities to be followed on site to safely isolate all potential energy sources and lockout/tagout facilities and equipment.
  - .7 Include within procedures a system of worker request and issuance of individual lockout permit by a person, employed by Contractor, designated to be "in-charge" and being responsible for:
    - .1 Controlling issuance of tags to workers.
    - .2 Determining lockout duration.
    - .3 Maintaining record of tags issued.
    - .4 Designating a Safety Watcher, when one is required based on type of work.
    - .5 Ensuring equipment or facility has been properly isolated, providing a Guarantee of Isolation to worker(s) prior to proceeding with work.
    - .6 Collecting and safekeeping lockout tags, returned by workers, as a record of the event.
  - .8 Clearly establish, describe and allocate, within procedures, the responsibilities of:
    - .1 Workers.
    - .2 Designated person controlling issuance of lockout tags/permits.
    - .3 Safety Watcher.
    - .4 Subcontractors and General Contractor.
  - .9 Procedures shall meet the requirements of Codes and Regulations specified in clause 1.5 above.
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- .10 Generic procedures, if used, must be edited, supplemented with pertinent information and tailored to reflect specific project conditions. Clearly label as being the procedures applicable to this contract.
- .11 Procedures to be in typewritten format.
- .12 Submit copy of Lockout Procedures to Departmental Representative, in accordance with submittal requirements of Clause 1.6 herein, prior to commencement of work.

#### 1.8 CONFORMANCE

- .1 Ensure that lockout procedures, as established for project on site, are stringently followed. Enforce use and compliance by all workers.
- .2 Brief all persons working on electrical facilities, mechanical and other equipment fed by an energy source on requirements of this section.
- .3 Failure to perform lockouts in accordance with regulatory requirements or follow procedures specified herein may result in the issuance of a Non-Compliance Notification at Departmental Representative's discretion with possible disciplinary measures imposed as specified in Section 01 35 29 - Health & Safety Requirements.

#### 1.9 DOCUMENTS ON SITE

- .1 Post Lockout Procedures on site in common location for viewing by workers.
- .2 Keep copies of Request for Isolation submitted to Departmental Representative and lockout tags issued to workers during the course of work for full project duration.
- .3 Upon request, make such data available to Departmental Representative or to authorized safety representative for inspection.