

Requirements Document

PRC-RD-SH-10972 Elevating Work Platforms

Revision 1, Change 2

Published: 07/13/11 Effective: 07/13/11

Project: CH2M HILL Plateau Remediation Company Topic: Occupational Safety & Industrial Hygiene

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Administrative Use



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CHANGE SUMMARY

AJHA: N/A
Periodic Review Due Date: 03/18/2015

HRB Date: N/A
Validation Date: N/A

Rev. 1, Chg. 2 PR#: PRC-50839 USQ Screen Number:

Excluded from USQ per 062 Table B-1

Description of Change

Rev 1-2, PRC- 50839 Editorial Change- Update T.A.

Rev 1-1 (6/30/10; PRC-50153)

Section 3.3.5: Clarify expectation relating to use of fall protection when operating manually propelled and self propelled platforms.

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1.0 INTRODUCTION

1.1 Purpose

This Level 2 Requirements Document establishes the minimum requirements for inspection, operation and maintenance of elevating work platforms.

1.1 Scope

The elevating work platforms within the scope of this procedure include both Site-owned equipment and units leased or rented from an off-site vendor.

1.2 Applicability

These requirements are applicable to CH2M Hill Plateau Remediation Company (CHPRC) Team employees involved in CHPRC scope of work subject to the occupational safety and health requirements found in 29 CFR 1926.453 (Aerial Lifts) and 29 CFR 1910.67 (Vehicle-Mounted Elevating and Rotating Work Platforms), ANSI/SIA Standards A92.2, A92.3, A92.5, and A92.6 (Vehicle-Mounted Elevating and Rotating Aerial Devices, Manually Propelled Elevating Aerial Platforms, Boom-Supported Elevating Work Platforms, Self-Propelled Elevating Work Platforms, respectively), and applicable equipment manufacturer specifications. The requirements herein exclude the following:

- Personnel hoists and manlifts (reference 29 CFR 1926.552 and 29 CFR 1910.68, respectively).
- Powered platforms for exterior building maintenance.
- Material hoists.
- Crane suspended or forklift supported work platforms.
- Suspended scaffolding.
- Vehicle mounted vertical lifts.
- Firefighting apparatus.

1.3 Implementation

This document is effective upon publication.

2.0 RESPONSIBILITIES

2.1 General-Equipment Owner

The "Equipment Owner" referenced in this section is the person or entity who has possession of the equipment by virtue of proof of purchase.

3.0 PROCESS

For the tables in this section under the requirement "type" column, "V" means verbatim and "I" means interpreted.

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3.1 General-Equipment Owner

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Where the Equipment Owner is tasked to inspect, maintain, repair, and modify the equipment, the Owner or Owner's employees shall be trained and qualified in accordance with manufacturer specifications.	1	ANSI/SIA A92.2, Sections 8.1/8.2; ANSI/SIA A92.3, Section 6.8; ANSI/SIA A92.5, Section 6.9; ANSI/SIA A92.6, Section 6.9
2.	Equipment inspection and testing intervals shall be established, based on manufacturer recommendations, and severity of exposure and use.		ANSI/SIA A92.2, Section 8.2.4; ANSI/SIA A92.3, Section 6.3; ANSI/SIA A92.5, Section 6.4; ANSI/SIA A92.6, Section 6.3
3.	Equipment inspections and tests shall be completed, and include all items/components specified by the manufacturer.	_	ANSI/SIA A92.2, Sections 8.2.3/8.2.4; ANSI/SIA A92.3, Section 6.3; ANSI/SIA A92.5, Section 6.4; ANSI/SIA A92.6, Section 6.3
4.	Results of periodic equipment inspections and tests, and maintenance, repair, and modification activity shall be documented, with written records maintained as a part of equipment history. NOTE: Excluded here are daily, pre-shift, or preuse inspections.	I	ANSI/SIA A92.2, Section 8.3; ANSI/SIA A92.3, Section 6.2; ANSI/SIA A92.5, Section 6.2; ANSI/SIA A92.6, Section 6.2
5.	A copy of the operating and maintenance manual(s) shall be provided and kept in a weather-resistant compartment on each piece of equipment.	I	ANSI/SIA A92.2, Section 8.11; ANSI/SIA A92.3, Section 6.8; ANSI/SIA A92.5, Section 6.9; ANSI/SIA A92.6, Section 6.9

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#	REQUIREMENT	TYPE V or I	SOURCE
6.	Equipment identified with any deficiency that constitutes a safety hazard shall be taken out of service and not returned for use until the proper maintenance is completed.	_	ANSI/SIA A92.2, Sections 8.2.3/8.2.4; ANSI/SIA A92.3, Section 6.3; ANSI/SIA A92.5, Section 6.4; ANSI/SIA A92.6, Section 6.3
7.	Modifications that could impact the stability or safety of the equipment shall be approved in writing by the manufacturer. NOTE 1: A qualified person may approve of such modifications when the equipment is not represented by a manufacturer (e.g., the manufacturer has discontinued its business). The intended modifications must be consistent with the manufacturer responsibilities defined within the applicable ANSI/SIA standard. A qualified person is one who, by possession of an appropriate technical degree, certificate, professional standing, or skill, and who, by knowledge, training, and experience, has demonstrated the ability to deal with problems relating to elevating work platform safety. NOTE 2: Only the Equipment Owner can request approval for a modification from the manufacturer.	_	ANSI/SIA A92.2, Section 8.5; ANSI/SIA A92.3, Section 6.13; ANSI/SIA A92.5, Section 6.14; ANSI/SIA A92.6, Section 6.14
8.	Operational and maintenance safety bulletin information (e.g., consumer product safety alerts, recalls) received from an equipment manufacturer or supplier shall be disseminated to the Equipment User organization and/or incorporated into the preventive maintenance program, as applicable.	_	ANSI/SIA A92.2, Section 8.10; ANSI/SIA A92.3, Section 6.14; ANSI/SIA A92.5, Section 6.15; ANSI/SIA A92.6, Section 6.15
9.	Prior to releasing equipment to the Equipment User organization, it shall be inspected, adjusted, and serviced as applicable based on manufacturer specifications.	-	ANSI/SIA A92.2, Section 8.2.1; ANSI/SIA A92.3, Section 6.2; ANSI/SIA A92.5, Section 6.3; ANSI/SIA A92.6, Section 6.2

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3.2 General-Equipment User

		TYPE	
#	REQUIREMENT	V or I	SOURCE
1.	Employees assigned to operate an elevating work platform shall be trained to safely operate the type or class of equipment assigned [e.g., technical instruction, on-the-job training (OJT), and on-the-job evaluation (OJE)].		10 CFR 830.122 (b)(1); ANSI/SIA A92.2, Section 8.13.1; ANSI/SIA A92.3, Section 7.6; ANSI/SIA A92.5, Section 7.6; ANSI/SIA A92.6, Section 7.6
2.	The proficiency of a qualified elevating work platform operator shall be assessed and documented (performance evaluation) by a qualified evaluator at least triennially to ensure that the operator retains and uses the knowledge and skills needed to operate the equipment safely. NOTE 1: A qualified evaluator shall have completed Course #003903, "Hoisting and Rigging On-the-Job Evaluator Qualification – Aerial Lifts," or equivalent. NOTE 2: OJE forms can be found on the Hanford Intranet. Keyword Search aerial lift.		10 CFR 830.122 (b)(1); ANSI/SIA A92.2, Section 8.13.1; ANSI/SIA A92.3, Section 7.6; ANSI/SIA A92.5, Section 7.6; ANSI/SIA A92.6, Section 7.6
3.	 The need for refresher training (e.g., full retraining, supplemental instruction, demonstration, operational exercise) of a qualified elevating work platform operator shall be determined when one of the following occurs: Refresher training is requested by the operator; Operator performance is observed to be diminishing (e.g., failed performance evaluation); A near miss or accident occurs in which operator error is determined to be a contributing cause; or, New or modified equipment is introduced into the workplace. 	_	10 CFR 830.122 (b)(2)
4.	A copy of the operating and maintenance manual(s) shall be maintained and kept in a weather-resistant compartment on the equipment.	I	ANSI/SIA A92.2, Section 8.11; ANSI/SIA A92.3, Section 7.2; ANSI/SIA A92.5, Section 7.2; ANSI/SIA A92.6, Section 7.2

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#	REQUIREMENT	TYPE V or I	SOURCE
5.	The equipment shall be used only for intended applications as defined in the manufacturer's operating manual.	_	ANSI/SIA A92.2, Section 8.13.2; ANSI/SIA A92.3, Section 7.7; ANSI/SIA A92.5, Section 7.7; ANSI/SIA A92.6, Section 7.7
6.	Equipment received for use shall be released for work only after the User organization initially verifies that there are no mechanical or electrical defects, or other safety deficiencies. [If equipment includes on-board receptacles to provide power for portable electrical tools and equipment, the wiring of all such receptacles shall be checked for proper configuration and grounding as part of the electrical inspection. Ground Fault Circuit Interrupters (GFCI), if provided, shall be tested for proper operation]. NOTE: Completion of a daily visual inspection and test operation can be used to help satisfy most elements of this receipt inspection. For multi-shift operations, the term "daily" is to be applied as "pre-shift".	_	ANSI/SIA A92.2, Section 8.2.1; ANSI/SIA A92.3, Section 7.3; ANSI/SIA A92.5, Section 7.3; ANSI/SIA A92.6, Section 7.3
7.	Equipment not in proper operating condition or identified with a deficiency that presents a safety hazard shall be removed from service until qualified repair/maintenance is completed.	_	ANSI/SIA A92.2, Section 10.6; ANSI/SIA A92.3, Section 7.3; ANSI/SIA A92.5, Section 7.3; ANSI/SIA A92.6, Section 7.3
8.	Warnings such as (but not limited to), signs, flags, roped-off areas, flashing lights, dedicated signalperson, or barricades shall be used when other moving equipment or vehicles are present in the vicinity of elevating work platform operations.	I	ANSI/SIA A92.2, Section 10.7; ANSI/SIA A92.3, Section 7.11.2; ANSI/SIA A92.5, Section 7.11.2; ANSI/SIA A92.6, Section 7.11.2

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#	REQUIREMENT	TYPE	SOURCE
		V or I	
9.	Where there is a risk to co-located workers of being struck by operating elevating work platforms, controls shall be implemented to protect those workers.		ANSI/SIA A92.2, Section 10.7; ANSI/SIA A92.3, Section 7.11.7; ANSI/SIA A92.5, Section 7.11.7; ANSI/SIA A92.6, Section 7.11.7
10.	A pre-job hazard survey of the worksite shall be completed as a part of the job hazard analysis to identify and control potential ground level and overhead hazards that may affect elevating work platform safe operation. Ensure spotter(s) familiar with emergency operating controls are assigned, as necessary. NOTE 1: Job site hazards may include drop-offs/holes at operating levels, inadequate operating surface support (e.g., untamped earth fill or unstable soil condition), ground level or overhead obstructions, weather conditions, falling objects, moving/mobile equipment, and other work activities in the area. NOTE 2: The need for a spotter should take into consideration the types of job site hazards in the work location and implementation of emergency response actions		ANSI/SIA A92.2, Section 10.7; ANSI/SIA A92.3, Section 7.8; ANSI/SIA A92.5, Section 7.8; ANSI/SIA A92.6, Section 7.8
	for unit malfunction.		
11.	Equipment shall be operated only after the User/Operator acquires a full understanding of safe and proper equipment operation (to include familiarity with the Operator's Manual) and successfully completes the required training.	I	ANSI/SIA A92.2, Section 8.13.1; ANSI/SIA A92.3, Section 7.7; ANSI/SIA A92.5, Section 7.7; ANSI/SIA A92.6, Section 7.7
12.	Where the Equipment User organization is responsible for periodic equipment inspection and maintenance, such functions shall be performed and documented by a qualified person at prescribed intervals in accordance with manufacturer instructions.	I	ANSI/SIA A92.2, Section 8.3 & 8.4; ANSI/SIA A92.3, Section 7.3; ANSI/SIA A92.5, Section 7.3; ANSI/SIA A92.6, Section 7.3

#	REQUIREMENT	TYPE	SOURCE
13.	Equipment in use shall be visually inspected and test- operated daily by a qualified person, in accordance with manufacturer instructions. NOTE: Results of daily inspection and test-operation may be documented, but such documentation is not required as record information for the equipment. For multi-shift operations, the term "daily" is to be applied as "pre-shift".	V or I	ANSI/SIA A92.2, Section 8.2.3; ANSI/SIA A92.3, Section 7.3.3; ANSI/SIA A92.5, Section 7.3.3; ANSI/SIA A92.6, Section 7.3.3
14.	Equipment shall be set-up and operated in accordance with the safe work practices prescribed by the manufacturer and the job hazard analysis. NOTE: Deviation from a manufacturer's recommended Minimum Safe Approach Distance to crane or hoist energized electrical bus bars (exposed or insulated) is permissible only when equivalent safety measures are established through a documented job hazard analysis, approved by this procedure's Interpretive Authority (IA), and implemented by workers who have full knowledge of the application. (This note does not apply to aerial devices governed by ANSI/SIA A92.2). Refer to "equivalent safety measure" criteria identified in Appendix A.	-	ANSI/SIA A92.2, Section 8.13.2; ANSI/SIA A92.3, Section 8.1; ANSI/SIA A92.5, Section 8.1; ANSI/SIA A92.6, Section 8.1
15.	Approved safe access shall be provided and used for ascending and descending the equipment's work platform.	-	ANSI/SIA A92.2, Section 8.13.2; ANSI/SIA A92.3, Section 8.6; ANSI/SIA A92.5, Section 8.6; ANSI/SIA A92.6, Section 8.6
16.	Work positioning and handling of tools/equipment in proximity to energized electrical conductors or overhead obstacles shall be controlled to prevent the possibility of contact.	I	29 CFR 1910.333, (c)(3)(iii); ANSI/SIA A92.2, Sections 8.13.3/10.7; ANSI/SIA A92.3, Section 7.8/7.9; ANSI/SIA A92.5, Section 7.8/7.9; ANSI/SIA A92.6, Section 7.8/7.9

#	REQUIREMENT	TYPE V or I	SOURCE
17.	Electrical Utilities (373-2321) shall be notified at least 48 hours before operating elevating work platforms within 20 feet of energized overhead lines (movable conductors).		29 CFR 1910.333, (c)(3)(iii); ANSI/SIA A92.2, Sections 8.13.3/10.7; ANSI/SIA A92.3, Section 7.8/7.9; ANSI/SIA A92.5, Section 7.8/7.9; ANSI/SIA A92.6, Section 7.8/7.9
18.	Equipment safety devices, controls, and interlocks shall not be modified, altered, overridden, or otherwise disabled.	I	ANSI/SIA A92.2, Section 8.13.4; ANSI/SIA A92.3, Section 7.11.4; ANSI/SIA A92.5, Section 7.11.4; ANSI/SIA A92.6, Section 7.11.4
19.	Occupant loading and platform loads on equipment shall be applied and weights distributed and configured within the manufacturer's capacity rating limits. NOTE: Apply only properly secured tools and materials which are evenly distributed and can be safely handled by a person(s) working from the platform.	I	ANSI/SIA A92.2, Section 10.5; ANSI/SIA A92.3, Section 7.11.6; ANSI/SIA A92.5, Section 7.11.6; ANSI/SIA A92.6, Section 7.11.6
20.	Railings, planks, ladders, or other devices shall not be used within or on the elevating work platform to achieve additional working height or reach. NOTE: Avoid leaning over or extending the upper body beyond the guardrail in attempts to achieve additional reach to access the work source or area.	I	ANSI/SIA A92.2, Section 10.3; ANSI/SIA A92.3, Section 7.11.1; ANSI/SIA A92.5, Section 7.11.1; ANSI/SIA A92.6, Section 7.11.1

#	REQUIREMENT	TYPE V or I	SOURCE
21.	Exiting or entering the platform while the equipment is in an elevated position shall be performed <u>only</u> after the following conditions have been met:	I	29 CFR 1926.502 (a)(2)
	 It is determined that workplace conditions do not make it possible to accomplish the access using less hazardous means, and conventional means are either more hazardous or not available. 		
	The step-off distance from the elevated work platform to an adjacent structure shall not be greater than 12 inches.		
	Manufacturer guidelines or instructions are followed.		
	 The elevated work platform fall protection anchor points cannot be used by an employee working outside of such platform. 		
	 Specific safe work controls are identified, understood, and implemented through the job hazard analysis process. 		
	 Exit and/or entry is planned through the gate, unless a hazard analysis reveals that this method will result in a greater hazard to the worker and a safer alternative has been determined. 		
	 When accessing a low slope roof, the employee must walk away from the platform to the required distance from the open edge (at least 6 feet per a fall protection plan, for roofing work; otherwise, at least 15 feet). 		
	 Fall protection controls are implemented during the entry/exit phase per the requirements of PRC-RD-SH- 8801, Fall Protection. 		

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3.3 Additional Process for Manually Propelled, Self-Propelled, and Boom-Supported Elevating Aerial Platforms

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Frequent inspections shall be performed by either the Equipment Owner or Equipment User organization on equipment that has been in service for three months or 150 hours (whichever occurs first), or has been out of service for a period longer than three months.	I	ANSI/SIA A92.2, Section 6.8; ANSI/SIA A92.3, Section 6.4; ANSI/SIA A92.5, Section 6.5; ANSI/SIA A92.6, Section 6.5
2.	Annual inspections shall be performed by either the Equipment Owner or Equipment User organization on equipment no later than 13 months from the date of the prior annual inspection.	I	ANSI/SIA A92.2, Section 6.8; ANSI/SIA A92.3, Section 6.5; ANSI/SIA A92.5, Section 6.6; ANSI/SIA A92.6, Section 6.6
3.	Equipment selected for use in a hazardous environment (potentially explosive or flammable atmosphere) shall be approved for use in such locations.	I	ANSI/SIA A92.2, Section 6.8; ANSI/SIA A92.3, Section 7.10; ANSI/SIA A92.5, Section 7.10; ANSI/SIA A92.6, Section 7.10
4.	Equipment outriggers or stabilizers shall be employed during use, when provided and required by the equipment manufacturer.	I	ANSI/SIA A92.2, Section 6.8; ANSI/SIA A92.3, Section 7.9; ANSI/SIA A92.5, Section 7.9; ANSI/SIA A92.6, Section 7.9

#	REQUIREMENT	TYPE V or I	SOURCE
5.	During use of manually propelled and self-propelled platforms, guardrails shall be installed and access gates or openings closed, or alternative means of fall protection established and utilized.	_	ANSI/SIA A92.3, Section 8.8; ANSI/SIA A92.6, Section 8.8
	NOTE 1 : Those platform models that are designed and supplied with lanyard anchorage tie-off points as standard equipment shall be used to provide fall protection when recommended by manufacturer instructions.		
	NOTE 2: When using fall protection, the use of an approved fall restraint system is prescribed, unless otherwise specified by the manufacturer. (Use of a fall arrest system is restricted, as the unit may not withstand the vertical and lateral loads caused by an arrested fall and a Worker's fall may cause bodily impact). When applying fall restraint , ensure that the work position <u>and</u> length of connecting device (e.g., lanyard) in relationship to the anchorage are arranged to prevent personnel from going over the handrail.		
6.	During use of boom-supported elevating platforms, personal fall protection shall be worn, with proper attachment of a lanyard to an approved anchorage point on the equipment at the platform position.	I	ANSI/SIA A92.5, Section 8.8
	NOTE : Fall restraint is the preferred method of protection. Refer to manufacturer instructions to determine if designed anchorage specifications will support a force imposed by a fall arrest event.		

Published Date: 07/13/11 Effective Date: 07/13/11

3.4 Additional Process for Vehicle-Mounted Elevating and Rotating Aerial Devices

NOTE: Such aerial lifts include extensible boom and articulating boom platforms.

#	REQUIREMENT	TYPE V or I	SOURCE
1.	The aerial device selected for performing work on or near energized conductors or equipment shall be designed and tested to provide the level of protection needed for the voltages to be encountered.	I	29 CFR 1926.453, 29 CFR 1910.67, Sections (c)(3)
	NOTE 1 : Category A, B, or C as defined by ANSI/SIA A92.2-1990, "Vehicle-Mounted Elevating and Rotating Aerial Devices."		
	NOTE 2 : Specific worker safety and training requirements are identified in PRC-RD-SH-11827, CHPRC Electrical Safety Program Requirements.		
2.	The equipment model of approved design shall be selected when planning aerial work under mobile operation.	I	29 CFR 1926.453, 29 CFR 1910.67, Sections (c)(2)(viii)
3.	The need to employ equipment outriggers for vehicle stabilization during use shall be determined. Firm footing/foundation for equipment use is established, with outrigger pads utilized when necessary.	_	29 CFR 1926.453, 29 CFR 1910.67, Sections (c)(2)(vii)
4.	The vehicle parking brake shall be engaged when the boom section is elevated, except during mobile operation.	I	29 CFR 1926.453, 29 CFR 1910.67, Sections (c)(2)(vii)
5.	Personal fall protection shall be worn during use, with proper attachment of a lanyard to an approved anchorage point on the equipment at the platform position. NOTE 1: Fall restraint is the preferred method of protection. Refer to manufacturer instructions to determine if designed anchorage specifications will support a force imposed by a fall arrest event.	I	29 CFR 1926.453, 29 CFR 1910.67, Sections (c)(2)(v)
	NOTE 2 : The typical aerial lift is designed so that personnel tie off to the bucket while they are in the bucket. Tying off to a lift bucket while working on an adjacent structure (e.g., a roof) constitutes usage "other than intended by the manufacturer" - which requires certification in writing by the manufacturer.		

Published Date: 07/13/11 Effective Date: 07/13/11

4.0 FORMS

None

5.0 SOURCES

5.1 Requirements

Title 10, Code of Federal Regulations, Part 830 (10 CFR 830), Nuclear Safety Management

29 CFR 1910.67, Vehicle-Mounted Elevating and Rotating Work Platforms

29 CFR 1910.68, Manlifts

29 CFR 1910.333, (Electrical) Safety-Related Work Practices, Selection and Use of Work Practices

29 CFR 1926.453, Aerial Lifts

29 CFR 1926.502, Fall Protection Systems Criteria and Practices

29 CFR 1926.552, Material Hoists, Personnel Hoists, and Elevators

ANSI/SIA A92.2-1990, Vehicle-Mounted Elevating and Rotating Aerial Devices

ANSI/SIA A92.3-1990, Manually Propelled Elevating Aerial Platforms

ANSI/SIA A92.5-1992, Boom-Supported Elevating Work Platforms

ANSI/SIA A92.6-1990, Self-Propelled Elevating Work Platforms

5.2 References

PRC-RD-SH-8801, Fall Protection PRC-RD-SH-11827, CHPRC Electrical Safety Program Requirements

6.0 APPENDIXES

Appendix A - Technical Authority (TA) Approval Criteria for Section 3.2.14 Deviation

Published Date: 07/13/11 Effective Date: 07/13/11

Appendix A - Technical Authority (TA) Approval Criteria for Section 3.2.14 Deviation

NOTE: Equipment shall be set up and operated in accordance with the safe work practices prescribed by the manufacturer and the job hazard analysis.

All of the following criteria must be met when a Project requests deviation from the manufacturer's recommended Minimum Safe Approach Distance to a crane or hoist energized electrical bus bar (exposed or insulated):

- Approved deviations are job-specific, and apply to a specific work order or work package.
 The deviation will expressly expire as agreed upon by the TA and the Project POC.
- It is not feasible to perform the work de-energized.
- It is not feasible to use a vehicle-mounted elevating work platform to perform the work.
- A job-specific work plan or procedure is developed which incorporates equivalent means of
 protection against worker exposure to an energized bus bar. Such plan or procedure
 includes an express description of the alternative means selected (e.g., insulating blanket,
 barrier, *safety monitor, etc.).
- The workers involved fully understand the work to be completed, the sequence in which to
 perform it, the location of the bus bar, and the method(s) of control to be used to mitigate the
 hazard. A pre-job meeting shall be conducted to communicate the necessary hazard
 information.

^{*}Where a safety monitor is assigned, this individual must be designated as Competent Person. He/she must be able to recognize the hazards within the defined hazard area and provide hazard warning to the worker(s), when warranted. The safety monitor must be located on the same surface as the worker(s) being monitored, be able to see them at all times, be close enough to effectively use verbal communications, and not have other duties that could distract him/her from the monitoring duties.