



SARNIA REFINERY

ELECTRICAL SAFETY

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STANDARD

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Document Owner: Manager, EH&S

Document Contact: Safety Advisor

SCOPE AND PURPOSE

This standard identifies controls required to reduce the risk to workers exposed to hazards associated with energized electrical equipment during activities such as installation, operation, testing, maintenance, and demolition. This standard focuses on risks associated with energized electrical equipment that is operating at 50 volts or more.

This document replaces the Hazard Control standard 'Arc Flash Control' as it now covers additional electrical risks and controls.

ROLES AND RESPONSIBILITIES

Employees and Contractors are accountable to this Standard and to follow operating procedures and work practices.

Refinery Leaders are accountable to ensure compliance to this Standard

Refinery Vice President is accountable to approve, maintain and ensure compliance to this Standard.

Electrical Reliability Specialists are accountable to conduct and maintain Refinery Arc Flash Analyses for required electrical work.

Operations Electrical Specialists (OES) are accountable to maintain electrical equipment warning decals and ensure current incident energy levels are documented on Electrical Hazard Assessments as per the Refinery Arc Flash Analysis.

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RISK CONTROLS

The Arc Flash Control standard has been expanded to now include two additional areas of electrical risk and methods of control. The Arc Flash Control standard addressed risks specific to exposure to arc flash hazards. This revised standard now includes 'Electric Shock Control' (addressing requirements to reduce the risk of Electric Shock), and 'Electrical Equipment and Tools' (addressing requirements for electrical test equipment, insulated tools and safety equipment).

The 'Electrical Safe Work Practices manual' has been developed as a 'how to' document, providing the detailed instructions we must follow to manage these electrical hazards. *(this work practice document can be accessed directly through the short link in the 'References' section at the end of this standard).*

Sections Included in The Electrical Safe Work Practices manual outline:

'Work Practices', describing what constitutes energized electrical work, electrical hazard assessment and the process for achieving an electrically safe work condition,

'Limits of Approach', outlines the safe approach distance for both 'qualified' and 'unqualified' persons are described, as well as the approach boundary control,

'Qualifications' identifies worker training for qualified persons, describes who are unqualified persons, and provides details on worker training and training documentation requirements,

'Arc Flash Control' outlines Arc Flash Hazard Analysis, Personal Protective Equipment for Arc Flash Hazards, and requirements for Arc Flash Levels above 40 cal/cm²

'Electric Shock Control' describes personal protective equipment for electrical shock hazards, hand protection, foot protection and rubber insulating equipment,

'Electrical Equipment and Tools' section provides direction on electrical test equipment, insulated tools and equipment and safety grounding equipment.

Additionally to the 'Electrical Safe Work Practices manual' the 'Electrical System Operations' standard details the division of responsibility for the operation of the Refinery Electrical System *(this document can be accessed through the short link in the 'References' section at the end of this standard).*

EXCEPTIONS

There will be no exception to this Standard without completion of a Management of Change review. Our Management of Change process will be employed to document mitigating actions, assign accountabilities and track the abnormal condition. The Management of Change document must be reviewed and approved by the VP, Sarnia Refinery before permission is granted.

REFERENCES

Electrical Safe Work Practices manual:

<http://ecmprd.network.lan/ecmlivelinkprd/livelink.exe/open/79548233>

Standard: Electrical Systems – Operations:

<http://ecmprd.network.lan/ecmlivelinkprd/livelink.exe/open/69212122>

Additional references:

- National Fire Protection Association 70 E Standard for Electrical Safety in the Workplace
- Canadian Electrical Code
- Ontario Electrical Code
- Canadian Standard Association
- Maintenance Electrical Procedures
- Flash Hazard Analysis

END OF STANDARD

REVISION LOG				
Date (MM/DD/YYYY)	Revision	Section	Comments	Editor (Name)
01/9/2009	0		Original issue.	
07/15/2009	1		Updates	
04/01/2010	2		'Arc Flash' standard re-written as 'Electrical Safety' standard, to include additional electrical risks.	
06/26/2012	3	All	Updated format, but content was NOT altered.	
07/24/2013	-	Header	Document Owner & Contact Updated. NO content change.	L. Lebert
04/10/2014	-	All Header Log	Reviewed and Updated. No content change. Updated Contact to Safety Advisor. Update log template.	D. Allen
07/04/2017	-	All	Review and Updated. No content change.	L. Nield

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The following individuals have approved and signed this document.

UserName: Todd Murray (toddmurray)

Title: Mgr EH&S Sarnia Refinery

Date: Wednesday, 12 July 2017, 09:56 AM Mountain Time

Meaning:

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