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1.0 Persons Affected

This Standard Operating Procedure (SOP) affects:

- All SaskPower personnel and contractors working under the direction or coordination with Transmission Operations and Maintenance.
- All personnel within Transmission Operations and Maintenance involved with:
 - Switching operations.

2.0 Purpose

This SOP provides:

- The standard when performing switching operations. It is critical to have a reviewed/approved switching plan in place prior to commencing any work and personnel must wear appropriate PPE and maintain limits of approach at all times.

3.0 Rationale

This SOP ensures the following:

- Major safety steps that must be performed or considered when switching.
- All personnel, including issuing authority, permit holder and switch-person(s), must be fully qualified and have been trained in a comprehensive understanding of rules and directives as outlined in the SaskPower Standard Protection Code.

4.0 Scope

In-the-Scope of the Procedure

- The procedure includes the following:
 - The steps to be followed for switching operations.

Out-of-the-Scope of the Procedure

- The procedure does not include the following:
 - SaskPower personnel or contractors negating from their responsibility to perform a Hazard and Risk Assessment or identify safety steps that are not covered in this SOP.

5.0 Policies and Regulatory Requirements

This SOP is a result of the following policies, regulations, industry standards, and corporate directives and standards:

Policies:

- Job Hazard Assessment Policy

- Personal Protective Equipment Policy

Regulatory Requirement(s)

- none

Other

- SaskPower Standard Protection Code
- Hazard & Risk Assessment Standard
- Gloves of Insulating Material Standard
- Safety Rulebook

6.0 Roles, Responsibilities and Prerequisites

In-the-Scope of the Procedure Role(s)	Quantity Required	Responsibilities	Prerequisites
Out-of-Scope Supervisor	1	<ol style="list-style-type: none"> 1. Ensure all SaskPower personnel & contractors are aware of the proper methods for switching. 2. Ensure all SaskPower personnel & contractors have the proper equipment to fulfill the tasks. 3. Provide assistance for any related questions or concerns. 4. Coordinate the activities of the SaskPower personnel & contractors. 5. Ensure the SaskPower personnel & contractors are able to and understand their roles and responsibilities as outlines in this SOP. 	
In-Scope Supervisor	1	<ol style="list-style-type: none"> 1. Ensure all personnel are performing the tasks outline in this SOP. 	
SaskPower Personnel & Contractors	1 or more	<ol style="list-style-type: none"> 1. Understand and follow the procedures as outlines in this SOP. 	<ol style="list-style-type: none"> 1. SaskPower Standard Protection Code Training 2. Qualified Electrical Worker

7.0 Tools and Equipment

Tools and Equipment and Quantity Required:

- FR Clothing
- Hot Stick
- Protective Gloves

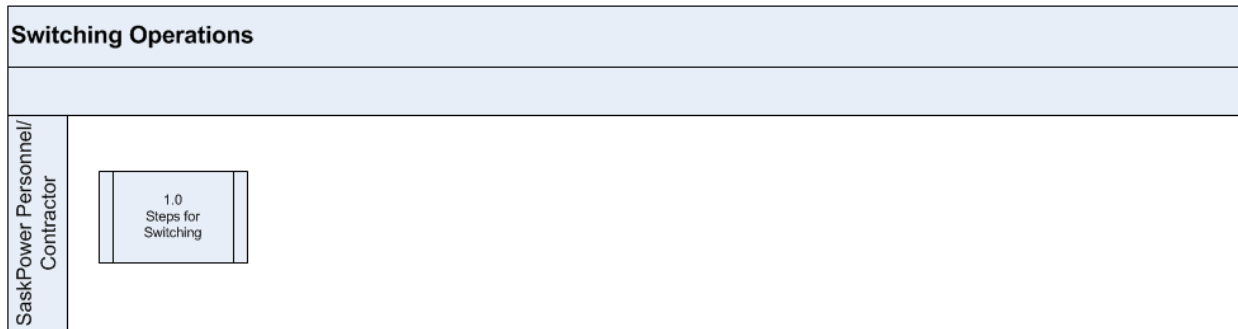
8.0 Planning and Preparation Checklist

Things to Check Before Starting the Procedure:

- Complete Hazard and Risk Assessment
- Approved switching plan
- Applicable Personal Protective Equipment (PPE) is available and in good condition
- Reviewed SaskPower Standard Protection Code and related permits
- Reviewed work practices: limits of approach, testing for absence of potential and proper grounding procedures
- Reviewed and understand how to enter all incidents or near misses

9.0 Procedure

High Level Flowchart



The Procedure

1.0 Steps for Switching

1.1 Prepare for Switching

1.1.1 SaskPower personnel/contractor shall review, approve, and sign the Switching Plan;

- *The Switching Plan must be reviewed, approved, and signed by the issuing authority, permit holder, and all switch persons.*

Note: *This is a critical element that safeguards both the people and equipment involved. Carefully review the Switching Plan keeping in mind current system conditions including voltage levels, direction and amount of power flows, in service and out of service apparatus, and any other condition that could alter how switching could most safely take place.*

- 1.1.2 SaskPower personnel/contractor permit holder shall complete hazard and risk analysis;
- *Perform hazard and risk analysis of all related duties regarding the switching plan and its relationship to associated apparatus being operated. Choose adequate preventative barriers to put in place prior to the switching.*
- 1.1.3 Inspect identified barriers and put in place;
- *All SaskPower personnel/contractor who are switch-person's and the permit holder shall wear PPE.*
 - *Refer to Arc Flash Tables on SafetyNet to ensure the proper category of FR clothing is used*
 - *Inspect all tools that will be used to carry out the Switching Plan to ensure their proper function and that they are not out of date.*

Note: *Do not use any hot sticks, gloves, or any other equipment on which test dates have expired.*
- 1.2 Inspect Apparatus, Switches, and Grounds to be used in the Switching Plan or following Permit
- 1.2.1 All SaskPower personnel/contractor who are switch-person's and the permit holder shall inspect all devices;
- *Inspect all devices to be operated during switching operations for signs of cracked porcelain, mechanical breakdown, sufficient bonds to ground, frost jacking or any other dangers that may affect their safe operation.*
 - *Take corrective actions to repair before operation when dangerous defects are detected.*
 - *Verify all system grounds, working grounds, or temporary grounds being utilized for the permit are of adequate size to withstand potential fault current levels and are in good condition.*
- 1.3 Proceed with Switching
- 1.3.1 All SaskPower personnel/contractor who are switch-person's and the permit holder shall proceed with switching;
- *Proceed with switching under the direction of the issuing authority,*
 - *Adhere to the step-by-step switching plan.*
 - *Maintain Limits of Approach at all times.*
 - *Where practical, prior to a close operation of any switch partially operate the switch while observing its movement to determine parts and bearings are moving freely and will align upon closing.*
 - *Test all grounds used for absence of potential.*
- 1.4 Obtain Permit

- 1.4.1 SaskPower personnel/contractor permit holder shall obtain permit;
- Obtain permit in accordance with SaskPower's Standard Protection Code.

10.0 Acronyms, Definitions and Symbols

Acronyms and Abbreviations

FR - Flame-Resistant

Definitions

Apparatus:

All equipment pertaining to the generation, transmission, distribution, and the use of electrical energy. Some examples are lines, transformers, breakers, pumps, motors, valves, relays, etc.

Flame-Resistant:

The property of a material whereby combustion is prevented, terminated, or inhibited following the application of a flaming or non-flaming source of ignition, with or without subsequent removal of the ignition source.

Flame resistant can be an inherent property of material, or it can be imparted by a specific treatment applied to the material.

Ground:

Reference for zero potential. (CAN/ULC S-801)

Issuing Authority:

A person authorized to issue Standard Protection Code Permits.

Permit Holder:

An authorized person to whom Standard Protection Code permits are issued.

Qualified:

Means possessing a recognized degree, a recognized certificate or a recognized professional standing and demonstrating, by knowledge, training and experience, the ability to deal with problems related to the subject-matter, the work or the project.

Switch-Person:

A person authorized to perform switching operations for permits.

Symbols

none

11.0 Components

The following is a list of components for this SOP which can be accessed through the SOP System:



Switching Operations

Standard
Operating
Procedure

Component Name	Component Type	Component Description	Location of Component
Switching Operations Flowchart	Flowchart	High level and mid-level flowchart for the procedure.	SOP Online - SOP Bundle - Switching Operations

12.0 Owner

Owner

Director, Transmission Services

13.0 References

none