

	BYPASSING SAFETY SHUTDOWN DEVICES WCB-HSE-PRC-183	Retention Code: CG01 - CA
		Revised: <i>January 2015</i>
Owner: <i>BU and Functional Departments as applicable</i>	Approved By: <i>Manager, Operations Excellence & Operating Integrity</i>	Review Frequency: <i>Five years or less</i>

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1.0 Purpose

The purpose of this Procedure is to establish minimum requirements for bypassing safety shutdown devices across ConocoPhillips Canada (CPC) Western Canada Business Units (WCBU) operations.

2.0 Hazards to Mitigate

- Hazards include, but are not limited to, the following:
 - Equipment failure or injury due to equipment operating outside of design specifications (i.e. over pressuring, explosion and hazardous atmospheres).
 - Job task may defeat the proper working of protection circuits.

3.0 Procedure-Specific Roles and Responsibilities

3.1. Supervisors

- Ensure risk assessments have been completed prior to authorizing bypasses requiring approval.
- Determine a schedule to regularly review the area bypasses to ensure compliance with this process.
- Follow determined review schedule.

3.2. Workers

- Perform a hazard assessment prior to bypassing devices.
- Obtain appropriate approvals prior to performing bypasses.

4.0 Procedure

The following table lists common examples of critical systems included within the scope of this SOP:

Critical Systems	Examples	Associated Critical Devices
Locked Normally Open/ Lock Normally Closed Valves	Car seal or Maintenance Lock Lists	PSVs, Presco, high pressure shutdown bypasses, inlet ESD bypasses
Gas and Fire Detection	H ₂ S and LEL (lower explosive limit) detection, water and deluge systems	Shutdowns, alarms, programmable logic control (PLC) and detection heads, hydrants, activators, PLC and fire-water pumps
Emergency Shutdown (ESD) and PSD (Pressure Shutdown Device)	Inlet headers, sales points and compressor blowdowns	Valves, switches, distributed control system (DCS) solenoids, relays and PLC
Call-Out/Call-Down Systems that inhibits critical shutdown system (when deemed appropriate by area leadership)	1-800 #s, radio systems, etc.	Emergency procedures, alarms at remote facilities, on-call systems (foreman to determine and document what are critical alarms and call-outs and appropriate response)
Pressure/Vacuum Relief	Tanks, piping, vessels	Pressure safety valves and rupture disks, thief hatches, pressure regulators
Protection Instrument	Local shutdown panels or specific devices that protect equipment	PLC, temperature S/D, pressure S/D, safety sensitive end devices (HLSD)

Critical Systems	Examples	Associated Critical Devices
HVAC	Ventilation or evacuation fans in hazardous locations for LEL reduction	Links to an ESD system, fans that supply fresh air
Flashback Protection	Flame arrestors and continuous purge	
Containment	Any system that protects facilities or reduces consequences of unexpected releases of fluids	Berms, spill-containment dikes, firewalls, drains, weirs and siphons that allow flow out of a system

4.1. Normal Operating Conditions

- Under normal operating conditions, safety devices must not be in bypass mode or position.
- Where valves are in place to bypass or isolate safety systems, they must be secured in their normal operating position (normally open or normally closed – NO/NC) when referenced in the table above.
 - See PSV, Critical and Operational Valve Program (WCBU-AOI-PRC-319) for further guidance.

4.2. Normal Operating Conditions

- Prior to completing a bypass, complete a review to identify:
 - Alternative approaches to the work activity that does not require system bypasses.
 - The combined risk of other bypassed, inhibited, or defeated safety protection devices as required.
 - Additional procedures that will be utilized to offset increased risk.
- All critical systems or device bypasses must be communicated to effected workers, including oncoming shifts as required for ongoing bypasses.
- Only authorized workers may bypass or disable a safety protection device or piece of equipment via a distributed control (DCS) system (e.g., plant computer or shutdown logic system).

4.2.1. Attended Critical System Bypass

- An attended critical system bypass is a situation where a competent CPC representative is on-site monitoring the equipment to ensure the equipment is operated within designed parameters.
- The CPC representative must be aware of all shutdown and isolation procedures utilized during the shutdown bypass.
- The operating limits to be maintained must be included within the appropriate hazard assessment and communicated to the effected workers.
- Complete Part A and B of the Bypass Control Form for all critical systems or device bypasses (WCBU-HSE-FRM-2032).
 - Completed Bypass Control Forms must be forwarded to the area production foreman for review and retention.

4.2.2. Unattended Critical System Bypass

- This is when a critical system is bypassed and a CPC representative is **NOT** on location monitoring the equipment.
- The following additional requirements must be met prior to performing an unattended bypass:
 - Complete a pre-job hazard assessment and determine risk based upon the CPC Risk Matrix (CPC-ALL-HSE-FRM-2022) and document in Part C of the Bypass Control Form.
 - Obtain appropriate approvals as indicated in the Approval Guidelines for Risk Acceptance table contained in the risk matrix.
 - If a designated individual cannot be physically present, verbal approval is acceptable provided the details of the notification are noted on the control sheet, including name, contact number and date/time the approval was obtained.
 - Approval authorities may be designated to another qualified supervisor if documented in accordance with the Risk Management Program.
 - Identify bypassed critical systems to provide indication to workers that the system is not functional.
 - All staff must be aware of the method used to identify the bypassed critical systems.
- Completed permits/hazards assessments and Bypass Control Forms must be forwarded to the area production foreman for review and retention.

Note: The unattended critical system bypass process is a temporary short-term measure only, covering a finite time period. Bypass conditions that extend beyond the intent of this Procedure must be addressed via the Management of Change (MOC) process.

5.0 References

- ConocoPhillips Life Saving Rules Minimum Requirements, Issue 1

6.0 Document Retention

Records must be retained in accordance with ConocoPhillips’ Document Retention Schedule.

Record	Owner	Classification	Retention
Bypass Control Form	Business Units	HE11 - CA	2 years

Appendix A – Definitions

Terms that are important to understanding the Bypassing Safety Shutdown Devices procedure are defined below:

Attended Bypass

A bypass situation where a competent CPC representative is on-site monitoring the equipment to ensure the equipment is operated within designed parameters.

Unattended Bypass

A bypass situation where a competent CPC representative **NOT** on-site monitoring the equipment to ensure the equipment is operated within designed parameters.

Appendix B – Revision Record

October 31, 2014	Previous Information	Risk Assessment
Reformatted document		Low
Add - Normal Operating Conditions – Normally Open and Normally Closed valves.	None	Low – audit finding
Add - A log or register of bypassed critical systems or devices must be available listing all safety device bypasses.	None	Low – Life Saving Rules requirement
Add - Only designated workers may bypass or disable a safety protection device or piece of equipment via a safety instrumented system (via a computer or logic system).	None	Low – Life Saving Rules requirement
Add - Bypass Control Forms will not be required for attended bypasses when the bypass is controlled by an automated timer and the bypass is managed via the PJHA process.	None	Low – clarification of operating practices and risk managed via the PJHA process
Add - Identify bypassed critical systems to provide indication to workers that the system is not functional. All staff must be aware of the method used to identify the bypassed critical systems.	None	Low – Life Saving Rules requirement