

	PIPELINE PIGGING SPECIFICATION ALL-HSE-SPEC-180	Retention Code: <i>CG01 - CA</i>
		Revised: <i>March 2015</i>
Owner: <i>HSE Performance Assurance</i>	Approved By: <i>Manager, HSE Performance Assurance</i>	Review Frequency: <i>Five years or less</i>

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1.0 Purpose

This Specification establishes the minimum requirements to be included when developing business unit (BU), functional group or site specific pigging procedures across all ConocoPhillips Canada (CPC) operations.

2.0 Hazards to Mitigate

- Hazards include, but are not limited to, the following:
 - Exposure to toxic, flammable materials
 - Exposure to high pressure (i.e. bodily injury due to launcher or pig traps opening under pressure)
 - Hydrates
 - Stored energy
 - Line of fire due to pig exiting the receiver under pressure
 - Pigs trapped in ball valves
 - Poor access and egress

3.0 Procedure-Specific Roles and Responsibilities

3.1. Supervisors

- Implement the requirements of this specification when designing business unit, functional group or site specific pigging procedures.
- Ensure worker responsibilities are defined within the business unit, functional group or site specific pigging procedures.

4.0 Specification

Each business unit (BU) must develop pigging procedures appropriate to the risks and equipment used within the BU. A single procedure may be utilized so long as sufficient detail is provided for the workers completing the task.

Each procedure developed must include the following specific requirements:

- Ensuring the operator in charge of the pigging operation has a full understanding of the specific pigging procedure.
 - Only trained personnel, as validated by the company's competency assessment process, are permitted to operate pigging facilities.
- Ensuring body placement does not place the worker in the line of fire.
 - Workers not directly involved with the pigging operation are not allowed in the immediate area of operation.
 - Where the cap is not secured to the receiver or launcher, ensuring the operator is in a position out of the trajectory of the pig or cap in case unsuspected pressure is present when the cap is removed.

- Where the cap is secured through a hinge arrangement, ensuring the operator is not positioned within the swing of the cap in case unexpected pressure is present.
- Characteristics of the products contained within the system.
- Number of workers required for the task.
- Requirements for pigging systems containing sour products, including use of positive pressure breathing apparatus.
- The identification of hazards associated with pigging operations and control measures needed to eliminate and/or control those hazards.
- The identification of required PPE and safety equipment when performing pigging related activities.
- The process for marking of pigs and logging of launching/receiving times.
- The identification of proper pigging tools for cap removal/tightening and for retrieval or insertion of pigs.
- Actions needed to ensure an effective and safe means of isolation and de-pressuring of pig launchers and catchers/receivers as well as specific steps to follow when additional isolation is required for worker safety.
- Approved methods to follow for verification of sender/receiver line up marking (e.g. visibility, placement, etc.).
- Approved methods to follow when confirming that drain/vent lines, valves, fittings, and gauges are working properly and not blocked (e.g. sediment, wax, hydrates, sand, ice, etc.).
- Approved methods to prove flow through the barrel during isolation
- Approved methods to follow when ensuring there is no trapped pressure in neck area of pigging equipment between isolation valve and the pig barrel. Approved methods can include:
 - Reading of pressure indicators in neck area of pigging equipment if available.
 - Methods required to prove flow through the barrel during isolation
 - Use of a mechanics mirror to confirm that the pig has fully entered the pig receiver barrel.
 - Bleeding of pressure indicators in neck area of pigging equipment, if available.
 - Using a double bump/opening method to help remove any potential trapped pressure before final bleed off and opening.
- Approved methods of recognizing scenarios and signs that would indicate a lack of adequate depressuring and what actions to take when signs are noted (i.e. caps turning hard, hissing or bleeding of gas through bleed ports on cap, drain line opened and nothing coming out).
- Approved methods for retrieving stuck pigs.
- Methods for disposal of waste from the system.

5.0 References

- Alberta OHS Code, Part 15, Managing the Control of Hazardous Energy
- CAPP Information Bulletin, Isolation of Pigging Equipment

6.0 Document Retention

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

Record	Owner	Classification	Retention
Pigging Procedures	Business Unit or functional group	CG01 – CA	Completion/Closure/Expiration/ Obsolescence + 10 Years

Appendix A – Revision Record

Page#	March 13, 2015	Previous Information	Change Assessment
	Changed to specification		Low – specific procedures exist within business units or functional groups