

Operations Safety Management

Caerus identifies safety as one of its' core values and its employees take the topic and lifestyle of Safety seriously. Each employee goes to work and knows the impact of their roles on themselves and to others. That is taken into consideration in the work that is done. To that point, Caerus addresses Operations Safety through several different operational facets. While Caerus considers these facets to be critical, we will emphasize Change Management, Pre-Startup Safety Reviews and Data Management here, under guidance from the COGCC staff.

Change Management (MOC/CM)

The Change Management program has been a program in place at Caerus for several years and remains a priority for continuing evaluation and training. The process incorporates existing workflows and has been discussed directly with numerous teams, including the pre-startup safety review portion of operations (PSSR).

Given that Change Management and PSSR will vary from operation to operation, location to location, the specifics will not be discussed at length but are summarized below with our process flowchart (Image 1). For internally implemented changes or longer-term operations, the Change Management team will be notified and will assist the operations team in documentation and implementation of both Change Management and Pre-Startup Safety Review. The example Change Management Form is shown in Appendix A.

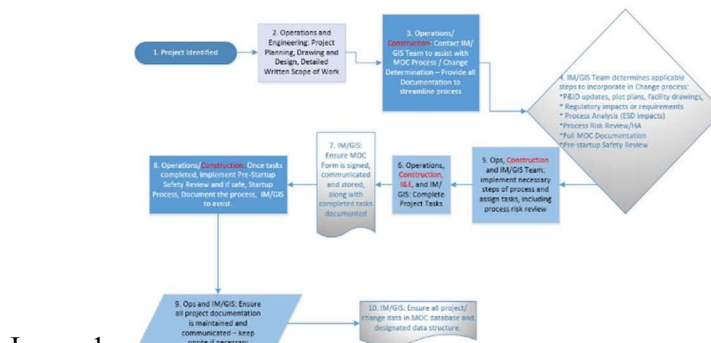


Image 1:

Pre-Startup Safety Review (PSSR)

The PSSR process incorporates subject matter experts into the review process of operations prior to implementation. Documentation of the PSSR process will be maintained and communicated to the appropriate parties. Caerus uses various checklists, depending on the change in question. An example checklist can be found in Appendix B.

Data Management

As operations continue to evolve, Caerus has placed an emphasis on data management and will continue to do so for the foreseeable future. Caerus continues to strive for improvement in data management, stretching across all aspects of the organization, which includes training and education, checklists where necessary to identify data to be managed and identifying tools to assist in improving the process. The data, depending on asset type may be stored in external Integrity Management Software or in our internal drives, which are frequently backed up for data integrity. Caerus has established a data retention policy of a minimum of 5 years for hard asset Change Management and PSSR forms, unless otherwise defined



Caerus Piceance LLC
1001 Seventeenth Street
Suite 1600
Denver, CO 80202

by regulations. Any Change Management documentation for major facilities and pipeline changes are distributed to a multi-discipline recipient group for enhanced communications. Records are updated either a) bi-monthly or b) as the forms are filled out, depending on the operation. Caerus can provide requested information to the COGCC within 2 months.

Operational Safety

Caerus will continue to drive the importance of safety of employees and contractors. Changes will be made to keep programs up to date and in line with current operations. There are plans in place to continue to add to and further define procedures around operational safety.



Caerus Piceance LLC
1001 Seventeenth Street
Suite 1600 Denver, CO 80202

Appendix A
Example Change Management Form

Page 1

	CAERUS OPERATING LLC CHANGE MANAGEMENT FORM [INCLUDES NEW CONSTRUCTION AND MODIFICATIONS]	Form No.	COG 0001F
		Revised	
		by/date:	BW 2/2013
		d	KLMS & BB
		by/date:	3/2013
		d	
		by/date:	BW 6/2013

Details

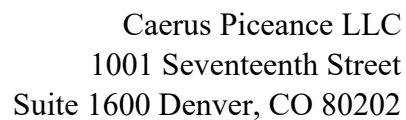
Project Name:		Project Manager:	
Project Location:		MOC Number	
Date		AFE & Cost Code	
		Permanent or Temporary?	

Describe details of project and changes, include specifications of old equipment vs. new equipment.

Describe any process changes associated with project.

What process/facilities will be impacted by this change? Have the groups been notified?

What is the driver for this change?

[illegible]



Caerus Piceance LLC
1001 Seventeenth Street
Suite 1600 Denver, CO 80202

Appendix B
Example PSSR Checklist Form

	Pre-Startup Safety Review (PSSR) Review & Checklist	Revision No.: Rev 4
		Revision Date: Oct 2020

FACILITY:			
MOC NUMBER:			
MOC TITLE:			
SECTION 1 – APPROVALS FOR STARTUP <i>Prior to start-up, individuals with accountability for these elements shall attest that these elements are ready for start-up. Post-startup actions should be recorded in Section 4.</i>		SIGNATURE OF ACCOUNTABLE PERSON	DATE
DESIGN	Equipment meets design specifications		
CONSTRUCTION	Equipment has been constructed and installed in accordance with design and specifications		
PSI	Process Safety Information is complete and in place		
HAZARDS ANALYSIS	The HA/PHA is <u>complete</u> and recommendations addressed		
PROCEDURES	Written procedures are in place		
TRAINING	Affected personnel are trained		
MECHANICAL INTEGRITY	The Mechanical Integrity Program is in place for critical equipment		
HSE	HSE and Regulatory Items are complete and in place		
Are there post-startup actions for this PSSR? <u>NO</u> <u>YES (see Section 4)</u>			
SECTION 2 - SUPPORTING CHECKLISTS			



Caerus Piceance LLC
1001 Seventeenth Street
Suite 1600 Denver, CO 80202

	Pre-Startup Safety Review (PSSR) Review & Checklist	Revision No.: Rev 4
		Revision Date: Oct 2020

<i>The following checklists may be used to facilitate approvals in Section 1. The PSSR team may use or include other relevant checklists as appropriate.</i>			
DESIGN DETAILS		YES NO N/A	RESPONSIBLE PERSON DATE
1	Major equipment installed meets design specifications, (size, design pressure and temperature, horsepower, metallurgy, connection location, electrical classification, etc.)		
2	Pipe, valves and fittings are consistent with defined specifications including design pressure, metallurgy, connection type, etc.		
3	Electrically classified areas have been determined per project specifications and/or industry standards, ex. API-500, and electrical equipment specifications are consistent with the area classifications.		
4	All instrumentation including safety instrumented systems meet engineering design specifications.		
5	Relief valves and de-pressuring systems meets design specifications and/or industry standards, ex. API-STD-510, ASME, etc.		
6	Safety systems, (ESD, Gas/Fire Detection, Fire Protection, etc.), meet <u>design specifications</u> .		
CONSTRUCTION DETAILS		YES NO N/A	RESPONSIBLE PERSON DATE
7	Structural steel installed to engineering design specifications.		
8	Piping is routed and valves are installed according to the P&IDs.		
9	All critical piping systems have hydro, pneumatic or non-destructive testing completed, and quality assurance documentation has been reviewed.		
10	Flange installations have been inspected for proper bolting and torque, gaskets, isolation kits, and restriction orifices.		
11	Proper installation and orientation of valves (process, instrumentation, utility...) have been verified.		
12	Piping, tubing and conduit has been properly supported		
13	High point bleeds and low point drains are installed.		
14	<u>PSVs</u> are installed in accordance with the P&IDs and set pressures are consistent with the protected equipment.		
15	Relief system piping, flare stacks, and vents are installed per construction drawings.		
16	Exhaust lines / vents are properly located away from air intakes, air conditions, fans, sources of ignition, etc.		



Caerus Piceance LLC
1001 Seventeenth Street
Suite 1600 Denver, CO 80202

	Pre-Startup Safety Review (PSSR) Review & Checklist	Revision No.: Rev 4
		Revision Date: Oct 2020

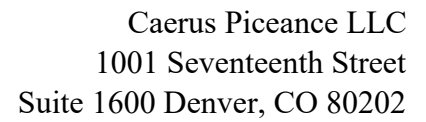
17	Equipment and piping <u>has</u> been painted or appropriate coating system applied			
18	Insulation and heat tracing has been installed where required.			
19	All permanent blinds are in place.			
20	All tubing and tubing fittings have been inspected for proper fit-up and leakage.			
21	All instrumentation has been installed per specification and is consistent with the P&IDs			
22	All control loops and alarms and PLC logic match the control narrative.			
23	All instruments have been loop checked and controller action verified.			
24	All electrical equipment has been installed in accordance with design, (motor control / circuit breakers, conduit and tray, appropriate wire pulled, wiring terminated, panel purge installed where appropriate, etc.)			
25	All explosion-proof boxes, conduit covers are properly <u>secured</u> and all electrical connections tightened and checked.			
26	All electrical seals have been packed and poured			
27	All equipment and structures have been grounded and grounding system integrity has been verified.			
28	Rotating equipment has been set, proper driver rotation verified, coupled, and aligned.			
29	Rotating equipment guards are installed.			
30	Seal Reservoirs have been <u>charged</u> , gearboxes / crankcases filled with appropriate lubricant.			
31	Filter elements have been installed, molecular sieve, carbon beds, mercury beds, etc. have been loaded per specification.			
32	Instrument calibrations have been completed and documented			
33	Safety system function tests have been completed and documented			



Caerus Piceance LLC
1001 Seventeenth Street
Suite 1600 Denver, CO 80202

	Pre-Startup Safety Review (PSSR) Review & Checklist	Revision No.: Rev 4
		Revision Date: Oct 2020

	<u>Health, Safety, Environmental Details</u>	YES NO N/A	RESPONSIBLE PERSON	DATE
34	Safety equipment, including fire extinguishers, safety showers and eye wash stations, first aid kits, have been inspected and reviewed for proper operation and location.			
35	Platforms, ladders, and handrails for safe access as well as equipment guards (rotating equipment and heat) have been constructed and installed correctly.			
36	All safety signs have been installed including but not limited to: DANGER, HIGH VOLTAGE, KEEP OUT, HEARING PROTECTION REQUIRED, CONFINED SPACE, UNIT STARTS AUTOMATICALLY			
37	Controllers and disconnects are labeled if the device being controlled is not obvious.			
38	Electrical panels, circuit breakers, etc. have been labeled as required to meet electrical arc flash requirements per NFPA 70 E.			
39	Any equipment and associated breaker panels not to be used or not available for use are out of service. All lockouts are flagged, tagged and listed.			
40	Equipment has been labeled per HAZCOM requirements			
41	Safety Equipment including chains, locks, tags, Pigtails, PPE boxes, etc. are installed and/or adequately stocked.			
42	Area has been cleared of construction equipment, surplus equipment, combustible materials, extraneous tools, unused parts, scaffolding and empty drums.			
43	All applicable permits and approvals have been received from regulatory agencies.			
44	All environmental compliance & regulatory compliance activities have been identified and action plans developed / assigned.			
45	All emission controls are in place & functional			
46	All regulatory notifications have been completed			
47	Risk Management Plan, (RMP), has been updated			
48	Perimeter / Security Fencing has been installed / Access Control			

[illegible]



Caerus Piceance LLC
1001 Seventeenth Street
Suite 1600 Denver, CO 80202

	Pre-Startup Safety Review (PSSR) Review & Checklist	Revision No.: Rev 4
		Revision Date: Oct 2020

SECTION 4 – POST START-UP ACTION ITEMS			
The following action items will be completed after Startup and pose no safety concerns for Startup.			
Action Item(s):	Person Responsible	Targeted Completion Date	Actual Completion Date

SECTION 5 – AUTHORIZATION FOR START-UP		
All Section 2 Signatures are complete.		
Facility Supervisor: (signature)		Date: