

# GENERAL NOTES DEER CREEK STATION

## HYDROSTATIC TEST NOTES CONT.

23. ONCE THE LAUNCHER BARREL IS DRAINED, OPEN THE 12" CLOSURE ON THE LAUNCHER AND INSERT A DOUBLE DISHED POLY PIG AND CLOSE THE CLOSURE ON THE LAUNCHER.
24. OPEN THE CLOSURE ON THE LAUNCHER AT THE NORTHERN BORDER INTERCONNECT SITE AND INSURE THAT THE WATER IS FLOWING INTO THE DE-WATERING STRUCTURE.
25. OPEN THE 12" VALVE ON THE LAUNCHER AT THE DEER CREEK STATION PLANT SITE AND "LAUNCH" THE POLY PIG TO DISPLACE THE WATER IN THE PIPELINE.
26. ONCE THE PIG HAS REACHED THE TEMPORARY LAUNCHER AT 199TH STREET ON THE SOUTH SECTION OF THE PIPELINE, TURN OFF THE AIR COMPRESSOR AND DISCONNECT THE "2" INTERCONNECTING HOSE BETWEEN THE SOUTH AND NORTH SECTIONS OF THE PIPELINE. ALLOW THE NORTH SECTION OF THE PIPELINE TO DRAIN UNTIL ALL "FREE DRAINING" WATER IS REMOVED.
27. START COMPRESSOR TO LAUNCH THE PIG IN THE NORTH SECTION OF THE PIPELINE.
28. ONCE THE PIG HAS REACHED THE LAUNCHER AT THE NORTHERN BORDER PIPELINE INTERCONNECT TURN OFF THE AIR COMPRESSOR AND REMOVE THE PIG.
29. CUT THE TEMPORARY LAUNCHERS OFF BOTH THE NORTH AND SOUTH SECTIONS OF THE PIPELINE AT 199TH STREET, WELD THE SECTIONS TOGETHER AND X-RAY THE WELD.
30. ONCE THE WELD PASSES X-RAY INSPECTION, LAUNCH A DE-WATERING PIG FROM THE DEER CREEK STATION PLANT SITE LAUNCHER TO FORCE THE REMAINING WATER OUT OF THE PIPELINE.
31. WHEN THE POINT IS REACHED THAT THE DE-WATERING PIGS ARE NO LONGER REMOVING WATER, BRUSH AND LOW DENSITY FOAM PIGS WILL BE BLOWN THROUGH THE PIPELINE UTILIZING HEATED AIR UNTIL DUST CONTAMINATION HAS CHANGED TO A LIGHT GRAY IN COLOR, DUST CONTAMINATION IS MINIMAL, A DESIRED PENETRATION LEVEL OF ¼" ON THE FOAM PIG IS ACHIEVED AND A DEWPOINT READING OF -40° F IS REACHED.
32. REMOVE BLIND FLANGES ON 4" VALVES ON VERTICAL STACKS ON LAUNCHERS.
33. ONCE THE NITROGEN TESTS ARE COMPLETED ON THE REGULATOR STATIONS PIPING, RELIEVE THE PRESSURE, REMOVE BLIND FLANGES FROM BETWEEN LAUNCHERS AND VALVES AND RECONNECT FLANGES.
34. INSURE THAT 4" VALVE IN VERTICAL PIPING ON LAUNCHER AT THE DEER CREEK STATION IS CLOSED.
35. INSURE THAT THE REGULATOR STATION OUTLET VALVE AT THE PLANT SITE IS CLOSED.
36. CONNECT THE NITROGEN GAS FILL LINE TO THE 2" VALVE ON THE BOTTOM OF THE LAUNCHER AT THE PLANT SITE.
37. INTRODUCE NITROGEN GAS TO THE PIPELINE AND PURGE THE PIPELINE OF AIR.
38. RAISE THE PRESSURE IN THE PIPELINE TO 15 - 20 PSIG.
39. LEAK CHECK ALL FLANGE CONNECTIONS TO INSURE NO LEAKS ARE PRESENT.

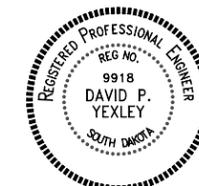
40. CLOSE THE 2" VALVE ON THE LAUNCHER AT THE PLANT SITE AND DISCONNECT NITROGEN GAS FILL LINE.
41. MAINTAIN 15-20 PSIG NITROGEN PRESSURE ON THE PIPING UNTIL THE PLANT IS READY TO BE PLACED INTO SERVICE.
42. ONCE THE TAP ON THE NORTHERN BORDER PIPELINE LINE IS COMPLETED AND READY TO SUPPLY NATURAL GAS OPEN THE 4" VALVE ON THE VERTICAL STACK ON THE LAUNCHER AT THE DEER CREEK STATION PIPELINE AND RELIEVE THE PRESSURE.
43. OPEN THE 12" CLOSURE ON THE LAUNCHER AT THE NORTHERN BORDER STATION AND INSERT A POLY PIG.
44. CLOSE THE 12" CLOSURE ON THE LAUNCHER AT THE NORTHERN BORDER PIPELINE INTERCONNECT.
45. OPEN THE 6" VALVE ON THE INTERCONNECTING PIPING BETWEEN NORTHERN BORDER PIPELINE AND THE DEER CREEK STATION PIPELINE AND INTRODUCE NATURAL GAS BEHIND THE POLY PIG.
46. ONCE THE POLY PIG ARRIVES AT THE DEER CREEK STATION LAUNCHER, CLOSE THE 10" VALVE ON THE LAUNCHER, RELIEVE THE PRESSURE IN THE 12" SECTION OF THE LAUNCHER, OPEN THE 12" CLOSURE AND REMOVE THE POLY PIG.
47. CLOSE THE 12" CLOSURE ON THE LAUNCHER AT THE NORTHERN BORDER PIPELINE INTERCONNECT.
48. PURGE NITROGEN GAS FROM THE PIPING ON THE OUTLET OF THE LAUNCHER THROUGH ALL REGULATOR RUNS AND THE BY-PASS UP TO THE OUTLET OF THE DEER CREEK STATION.

5. REMOVE THE TWO INCH (2") RELIEF VALVE ON THE OUTLET OF THE REGULATOR RUN AT THE PLANT AND INSTALL 2" BLIND FLANGE.
6. INSURE THAT ALL 4" AND 6" VALVES ARE IN THE OPEN POSITION.
7. INSURE THAT ALL ½", ¾" AND 1" VALVES (EXCEPT THE NITROGEN FILL VALVE) ARE CLOSED.
8. NITROGEN WILL BE INTRODUCED INTO THE PIPELINE THROUGH THE 1" BALL VALVE LOCATED ADJACENT TO THE 8" INLET VALVE (INTERCONNECT) OR 1" BALL VALVE LOCATED ADJACENT TO THE 6" INLET VALVE (PLANT SITE).
9. NITROGEN TEST SPECIFICATIONS/PRESSURES:
  - a. TEST MEDIUM- NITROGEN
  - b. HOLD TIME- 8 HOURS (4 HOURS IF ALL PIPING IS EXPOSED)
  - c. MINIMUM PRESSURE- 2160 PSIG
  - d. MAXIMUM PRESSURE- 2400 PSIG
  - e. MATERIAL TEST LIMITS- 2400 PSIG
  - f. CLASS LOCATION- 3
10. ONCE NITROGEN TEST IS COMPLETED ON REGULATOR STATION AND THE HYDROSTATIC TESTS ARE COMPLETED ON THE PIPELINE:
  - a. RELIEVE PRESSURE
  - b. REMOVE BLIND FLANGES FROM BETWEEN LAUNCHERS AND VALVES
  - c. RECONNECT FLANGES
  - d. REMOVE SPOOL PIECES
  - e. RE-INSTALL REGULATORS
  - f. RE-INSTALL 2" RELIEF VALVE
  - g. REMOVE PRESSURE RECORDER AND TEST GAUGE
11. INSURE THAT THE VALVE LOCATED BETWEEN THE REGULATOR STATION AND THE CONNECTION TO THE PLANT PIPING AT THE PLANT SITE IS CLOSED.
12. REFER TO HYDROSTATIC TEST NOTES STEP 34 AND PROCEED FROM THERE.

## F. NITROGEN TEST NOTES

1. NITROGEN TEST AND PROCEDURES SHALL BE IN ACCORDANCE WITH MDU GAS DISTRIBUTION STANDARDS. MINIMUM AND MAXIMUM NITROGEN TEST PRESSURES GIVEN BELOW ARE BASED ON MATERIALS SPECIFIED IN MATERIAL LIST AND ANY SUBSTITUTION OF LESSER STRENGTH MATERIALS IS NOT ALLOWED. TESTING THROUGH EQUIPMENT MUST BE APPROVED BY MDU.
2. BLIND FLANGES WILL BE INSTALLED:
  - a. BETWEEN THE 12" BARREL AND THE 4" BALL VALVE ON THE LAUNCHER
  - b. BETWEEN THE FLANGE ON THE LAUNCHER AND THE 8" VALVE (AT INTERCONNECT) OR 6" VALVE (AT PLANT SITE)
  - c. BETWEEN THE 8" INLET AND 6" OUTLET FLANGES ON THE FILTER/SEPARATOR AT THE PLANT SITE
  - d. ON THE INLET FLANGE AT THE INTERCONNECT
  - e. ON THE OUTLET FLANGE OF THE 6" OUTLET VALVE AT THE PLANT SITE
3. PRESSURE TEST GAUGE AND CERTIFIED PRESSURE RECORDER WILL BE INSTALLED ON THE REGULATOR RUN.
4. REMOVE THE REGULATORS AND INSTALL SPOOL PIECES IN PLACE OF REGULATORS.

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NO.	DATE	BY	REVISION
1	10/12/10	GB	UPDATED NOTES
 			
GENERAL NOTES SHEET 2 OF 3 DEER CREEK STATION			
SCALE	DATE	DRAWN BY	APPROVED BY
NONE	6/2/10	CASSIE PETER	DAVE YEXLEY
DCS-GI-ONG-0003			