

**LETTER OF CONCERN**

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

July 28, 2000

Mr. David L. Johnson  
Vice President Pipeline Safety - Operations & Technical Support  
Northern Natural Gas Company  
333 Clay Street, Rm 3188  
Houston, TX 77002-7361

CPF No. 3-2000-1003C

Dear Mr. Johnson:

Between July of 1999 and November of 1999, representatives of the Central Region, Office of Pipeline Safety (OPS), Minnesota Office of Pipeline Safety, Iowa Utility Board, and the Michigan Public Service Commission, pursuant to Chapter 601 of 49 United States Code, conducted onsite pipeline safety inspections of Northern Natural Gas Company's (NNG) pipeline facilities in Kansas, Nebraska, Iowa, Michigan, and Minnesota.

During the inspection, several items came to our attention that caused some concern. We hope that you will give these items your attention.

- A) The field work in several inspection units found that there were several areas with low cathodic protection (CP) potentials (below -0.85v). They are as follows:
- 1) In Michigan, the CP monitoring of the Marquette mainline in the vicinity of the LS&I Railroad indicates that the CP potential appears to fall below the required minimum level every other year, and was below the required level when inspected during the field audit. A -0.78v pipe-to-soil potential was obtained.
  - 2) In the Holcomb, Kansas area, low potentials were noted during the field audit at Highview Acres town border station (-0.773v) and at the test point located at mile post 228+04 (-0.772v). During the records review, it was noted that these readings during the previous years

were always above the required reading of -0.85v. NNG personnel indicated that they had used a different criteria to evaluate this area of the pipeline (100 mv shift) this year and felt there was no problem. Although this is allowable, the previous years' readings had always met the -0.85v criteria. This year, the readings dropped, which would be indicative of a problem. It is suggested that NNG evaluate the area to ensure that another problem does not exist.

- 3) In the Clifton, Kansas area, deficient potentials were noted at the following locations:
  - a) valve setting 4 at M.P. 24.57 (-0.722v)
  - b) test station at M.P. 17 (-0.83v)
  - c) valve setting 2 at M.P. 10 (-0.754v)
  - d) Clifton Compressor Station (-0.80v)
  - e) Tescott Compressor Station (rectifier was down)
  - f) Valve setting 5 - Line "c" (-0.84v)
    - Line "d" (-0.81v)
    - Line "e" (-0.74v)
  
- B) In Minnesota, there were several areas that were identified as having bad or missing coating where the piping transitioned from above-ground to below-ground. The areas noted were Redwood Falls, Morris, Glenwood, Alexandria, Farmington 1B, Minneapolis 1Q, St. Paul 1Q, Rosemount #4, Eagan #1, Eagan #6, St. Paul #4, Hastings 1C, and Elk River #1.
  
- C) Also in Minnesota, at the Farmington compressor station, the engine relief stacks for Units #1, 2, and 3 were supposed to have "weep" holes at the bottom of the stacks to allow drainage of any snow or rain that may enter the piping (which extends vertically, and is exposed to the atmosphere). This was identified during a MnOPS audit in 1995, and was supposed to have been corrected. However, during the field review, there were still no "weep" holes installed in those stacks. Since then, the "weep" holes have been added, per your correspondence dated January 14, 2000.
  
- D) In the Michigan area, at the Ironwood #2 Sales facility, it was noticed that the discharge vent for the relief valve was piped in a configuration such that should the relief vent, the pipe could spin as the gas was discharged. NNG re-piped the vent to ensure that the vent was higher than the height of an individual, however, no additional bracing was added

to ensure that the relief vent piping would not spin.

- E) In the Michigan and Minnesota areas, there appeared to be a discrepancy regarding the setpoints of relief valves. In Michigan and parts of Minnesota, the setpoint was recorded as the point at which the relief valve was full open and full capacity was achieved. However, in the other areas of the company, the setpoint is recorded as the pressure at which the relief valve is starting to open. There are certain relief valves that require considerable build-up of pressure above the setpoint to achieve their rated capacity. The setpoint of these relief valves must allow for the required build-up of pressure. NNG should ensure that all employees performing this task are aware of this requirement.
- F) We understand that the Company's O&M manuals were inspected by an inter-regional joint team in May 1998. However, during the systems inspections, there were several deficient items noted that require additional attention. Those issues are as follows:
- i)** NNG's procedure number 40.102 section 3.4 indicates "*When using form 2954-G, consider a pipe "exposed" when excavation allows access to the pipe for inspection and the area of the pipe surface that is available for observation is at least 1/4 of the pipe's circumference and one diameter longitudinally or 12 inches, whichever is longer....*" This procedure allows an existing buried pipeline to be exposed without inspection of the coating or pipe. The procedure should be revised to require inspection whenever pipe is exposed, per §192.459.
  - ii)** NNG's procedure number 40.101 section 5.2.1 indicates that NNG personnel will "*Inspect all noninsulated and uncovered aboveground onshore piping every three (3) years with intervals not exceeding forty (40) months....*" §192.481 does not allow for the extra 4 month grace period.
  - iii)** During the inspection, several exposures identified by the aerial pipeline patrol were noted up to five (5) years ago. These exposures were not re-buried and continued to remain as exposed pipe. NNG's procedures do not address adding these above-ground facilities to the atmospheric corrosion control survey required by §192.481, nor do they address adding line markers to the area, as required by §192.707.

**iv)** NNG's procedure 40.000 for cathodic protection remedial actions does not define "prompt". The manual indicates that a one year time frame is acceptable for remedial actions. However, this would be unacceptable for defective rectifier and bond issues.

**v)** NNG's procedure 80.411 does not provide adequate instructions to employees regarding the test pressure and length of test, when preparing an uprating plan for a segment of pipe or a facility.

If we can answer any questions or be of any help, please contact me or my staff at (816) 329-3800. Thank you for your staff's cooperation during this scheduled inspection.

Sincerely,

Ivan A. Huntoon  
Director, Central Region  
Office of Pipeline Safety