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November 13, 2009

TO: Jurisdictional Gas Pipeline Operators

RE: 2010 Pipeline Inspection Plan

Dear Operator:

We plan to make the following changes to our inspection program for 2010:

- We will focus on records and field inspections for the standard Part 191 and Part 192 inspection.
- We will not conduct a complete review of operating and maintenance manuals for several years.
- We will rotate inspectors. For example, Stacy Splittstoesser will inspect this year if I did last year and visa versa.
- We will conduct inspection visits of your drug and alcohol collection sites.
- Please see the attached spreadsheet for the complete list of inspection topics for each operator.
- We will switch to a risk based inspection program with the allotment of our 85 required inspection days based on the risk analysis on the attached spreadsheet. See below for an explanation of this analysis.
- We will also share any future changes with you in detail as part of our efforts to maintain a transparent inspection program.
- We will no longer accept GIS based maps for data review. If you converted fully to the use of GIS maps regarding location of patrolling, leak surveys, etc., we now require you write a report. The report must allow a printable version of the data under review. If this is not done, according to SDCL 49-34B-7 we will write a notice of probable violation for not providing data in a usable format.
- We will also require that basic DOT reports from databases be available in PDF format at the start of the inspection

The calculation of risk analysis on the attached spreadsheet was done through the use of risk indicative ratios. The risk indicative ratios are derived from publicly available data on the 2008 Form 7100 pipeline annual reports for South Dakota operators. The data for each ratio was analyzed and assigned a relative likelihood of failure (LOF)

rating from 1 to 5, lowest to highest, respectively. Next, the relative consequence of failure (COF) of each pipeline was rated from 1 to 5 based primarily on relative operating pressures, pipe diameters and the resulting potential size of an explosion. To obtain the risk rating, the LOF was multiplied by the COF to obtain the risk score. The 85 inspection days were first ratioed based on miles of main to adjust for data and facility quantity, then adjusted for risk based on each facilities ratio of risk to the average risk. Finally, data was adjusted for reasonableness including travel time, known time to inspect data, etc.

The risk ratios selected are below with an explanation of what each risk represents.

Ratio ID	Risk Ratio	Calculated from	Risk represented
A	Precode pipe: total pipe	Miles of pipe installed prior to 1970 / total pipeline miles within SD	Inherent higher risk of older pipe due to natural deterioration and less stringent standards
B	Corrosion leaks : miles main	# of corrosion leaks on mains / miles of main	Corrosion leak density is one representation of explosion risk due to leaks.
C	# of services : miles main	# of services / miles of main	Population density risk for distribution lines
C	Miles HCA : total pipeline miles	Miles of HCA / total pipeline miles	Population density risk for transmission lines
E	# of excavation leaks : miles main	(# of main excavation leaks + # of other outside force leaks on mains) / miles of main	This ratio is one representation of third party damage risk to mains
E	Unprotected + cast iron miles main : total miles main	(Miles of unprotected steel pipe + miles of cast iron pipe) / total pipeline miles	Inherent higher risk of cathodically unprotected pipe and older cast iron pipe
F	# excavation leaks : # services	(# of service excavation leaks + # of other outside force leaks on services) / # of services	Excavation leak density is one representation of risk due to leaks.

If you have any questions or concerns about these program changes, please do not hesitate to contact me.

Sincerely,

Nathan D. Solem

Nathan D. Solem
Pipeline Safety Program Manager

attachment

2010 Pipeline Inspection Program
SDPUC
Version 11-13-09

	Basin Grotton	Black Hills Power	Crooks Municipal Gas	Garretson Municipal Gas	Humboldt Municipal Gas	Mid-American Energy	MDU	Namamy's Subdivision	NorthStar Energy	NorthWestern Energy	South Dakota Intrastate Pipeline	Sioux Falls Sanitary Landfill	Watertown Municipal Gas	Xcel Angus Anson	TOTAL
2010 SDPUC Pipeline Inspection Risk Based Plan															
2010 Inspection Items for your Company)															
O & M and Emergency Plan Updates	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Emergency Plan Training Records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PHMSA reporting records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Pressure test records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Transmission field repair records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Welding procedure qualification records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Welder qualification records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
NDT records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Joining procedure qualification records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Joiner qualification records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MAOP records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Regulator records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Relief device records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Relief capacity records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Pipeline repair records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Public awareness plan							X								
Public awareness baseline survey	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Public awareness records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Damage prevention records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Damage prevention initiatives	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Drug & alcohol field plan		X				X			X	X			X		
Drug & alcohol field records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Drug & alcohol headquarters plan															
Drug & alcohol headquarters records	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Collection site visits	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Risk Factors															
A: Ratio of precode pipe to total pipe	0	0	0	0	0	0.241	0.22			0.214	0	0	0.305	0	
B: Ratio of corrosion leaks to miles main	0	0	0	0	0	0.01	0			0	0	0	0	0	
C: Ratio of # services to miles main or Ratio mi HCA to total mi	0	0	21.6	22	22	58.3	43.5			30.5		0	43.5		
D: Ratio excavation leaks to miles main	0	0	0	0	0	0.035	0.04			0.005	0	0	0	0	
E: Ratio unprotected + cast to total	0	0	0	0	0	0.028	0			0	0	0	0	0	
F: Ratio excavation leaks to # services	0	0	0.003	0	0	0.002	0.002			0.001	0	0	0.0004	0	
Likelihood of Failure:															
A: Ratio of precode pipe to total pipe	1	1	1	1	1	3	2			2	1	1	3	1	
B: Ratio of corrosion leaks to miles main	1	1	1	1	1	5	1			1	1	1	1	1	
C: Ratio of # services to miles main or Ratio mi HCA to total mi	1	1	2	3	3	5	4			3	2	1	4	5	
D: Ratio excavation leaks to miles main	1	1	1	1	1	3	3			1	1	1	1	1	
E: Ratio unprotected + cast to total	1	1	1	1	1	2	1			1	1	1	1	1	
F: Ratio excavation leaks to # services	1	1	5	1	1	4	4			2	1	1	1	1	
Consequence of Failure:															
A: Ratio of precode pipe to total pipe	5	5	5	4	4	4	4			4	5	2	4	5	
B: Ratio of corrosion leaks to miles main	5	5	5	4	4	4	4			4	5	2	4	5	
C: Ratio of # services to miles main or Ratio mi HCA to total mi	5	5	5	4	4	4	4			4	5	2	4	5	
D: Ratio excavation leaks to miles main	5	5	5	4	4	4	4			4	5	2	4	5	
E: Ratio unprotected + cast to total	5	5	5	4	4	4	4			4	5	2	4	5	
F: Ratio excavation leaks to # services	5	5	5	4	4	4	4			4	5	2	4	5	
Risk Level = LOF x COF															
A: Ratio of precode pipe to total pipe	5	5	5	4	4	12	8			8	5	2	12	5	
B: Ratio of corrosion leaks to miles main	5	5	5	4	4	20	4			4	5	2	4	5	
C: Ratio of # services to miles main or Ratio mi HCA to total mi	5	5	10	12	12	20	16			12	10	2	16	25	
D: Ratio excavation leaks to miles main	5	5	5	4	4	12	12			4	5	2	4	5	
E: Ratio unprotected + cast to total	5	5	5	4	4	8	4			4	5	2	4	5	
F: Ratio excavation leaks to # services	5	5	25	4	4	16	16			8	5	2	4	5	
TOTAL RISK SCORE	30	30	55	32	32	88	60	8	52	40	35	12	44	50	568.00
Average Risk	40.57	40.57	40.57	40.57	40.57	40.57	40.57	40.57	40.57	40.57	40.57	40.57	40.57	40.57	568.00
Risk Adjustment	0.74	0.74	1.36	0.79	0.79	2.17	1.48	0.20	1.28	0.99	0.86	0.30	1.08	1.23	
Miles Main	12	2	34	13	12	1295	1269	0.250	20	1528	178	14	223	13	4613
# inspection days ratioed on mileage	0.214	0.037	0.626	0.240	0.221	23.865	23.375	0.005	0.368	28.156	3.280	0.258	4.109	0.247	85
Risk Adjusted inspection days	0.158	0.027	0.849	0.189	0.174	51.764	34.568	0.001	0.472	27.760	2.829	0.076	4.456	0.304	124
Rounded inspection days adjusted for reasonableness	1.0	0.5	0.5	0.5	0.5	34	22	0.5	1.0	18	3.0	0.5	4.0	0.5	86.7
Inspector Nathan Solem		0.5	0.5	0.5	0.5		19	0.5		18.0		0.5	4.0		44.0
Inspector Stacy Splittstoesser	1.0					33.6	4		1.0		3.0			0.5	43.1