

DIRECT TESTIMONY OF
DARIN BURK
PIPELINE SAFETY PROGRAM MANAGER
ENERGY DIVISION
ILLINOIS COMMERCE COMMISSION

Illinois Commerce Commission on its own motion

vs.

Central Illinois Light Company d/b/a AmerenCILCO

Central Illinois Public Service Company d/b/a AmerenCIPS

Illinois Power Company d/b/a AmerenIP

Citation for alleged violation of Commission rules regarding fusion process.

Docket Nos. 10-0399 – 10-0401(Cons.)

September 9, 2010

1 **WITNESS IDENTIFICATION**

2 Q. **What is your name and business address?**

3 A. My name is Darin Burk. My business address is 527 E. Capitol Avenue,
4 Springfield, IL.

5 Q. **By whom are you employed and in what capacity?**

6 A. I am employed by the Illinois Commerce Commission (“Commission or ICC”) as
7 Manager of the Pipeline Safety Program of the Energy Division. In my current
8 position, I oversee the day-to-day operations of the Pipeline Safety Program
9 which performs audits and inspections in accordance with the Guidelines for
10 State Programs issued by the United States Department of Transportation,
11 Pipeline and Hazardous Materials Safety Administration (“PHMSA”). The audits
12 and inspections are conducted to ensure that jurisdictional Illinois natural gas
13 system operators are meeting the minimum federal safety standards as
14 prescribed by 49 CFR Sections 191.23, 192, 193, 199 and by the Illinois Gas
15 Pipeline Safety Act (220 ILCS 20).

16 Q. **Please describe your education and experience.**

17 A. Prior to employment with the ICC, I was a Technician employed by Utility Safety
18 and Design Inc. and the Southern Cross Corporation. Both Companies provide
19 field consulting service for the natural gas industry. My duties at USDI included
20 natural gas leak detection, corrosion control monitoring, pipeline installation,
21 polyethylene pipe fusion, welding and fusion joint testing, and line stopping.

22 Since coming to work in the Pipeline Safety Program at the Commission, I have
23 received extensive technical training at the Transportation Safety Institute (“TSI”)
24 in Oklahoma City, Oklahoma, which is where state and federal pipeline safety
25 inspectors receive technical education relating to the application of and
26 enforcement of pipeline safety standards. My training at TSI included subjects
27 such as incident investigation, pipeline integrity management, operator
28 qualification, pipeline corrosion control, welding and joining of pipeline materials
29 and various other technical aspects of natural gas pipeline operations. At the
30 ICC, I held the position of Pipeline Safety Analyst for 17 years and was promoted
31 to Pipeline Safety Program Manager in January of 2007.

32 **PURPOSE OF TESTIMONY**

33 Q. **What is the purpose of your testimony?**

34 A. The purpose of my testimony is to present Staff of the Commission’s (“Staff”)
35 position. I have reviewed inspection reports and supporting documents and
36 participated in creating the reports that lead to the Initiating Order in this
37 proceeding. The Staff report for the Initiating Order is attached to and
38 incorporated into my testimony. (See Exhibit A)

39 **Regulatory and Enforcement Provisions**

40 Q. **What authority or jurisdiction does the ICC have in this matter?**

41 A. Authority for enforcement of the Minimum Federal Safety Standards is granted to
42 the ICC under an agreement pursuant to 49 U.S.C Section 60105 with the U.S.

43 Department of Transportation (“USDOT”) Office of Pipeline Safety. The federal
44 standards are codified under 49 CFR Sections 191.23, 192, 193, and 199 and
45 have been adopted by the State of Illinois pursuant to 83 Ill. Adm. Code 590.

46 Q. **What is the regulation covering the fusion process?**

47 A. The requirement to qualify individuals to perform fusion or joining of plastic pipe
48 is covered under 49 CFR Section 192.285(a) which states in part:

49 *Sec. 192.285 Plastic pipe: Qualifying persons to make joints.*

50 *(a) No person may make a plastic pipe joint unless that person has been*
51 *qualified under the applicable joining procedure by:*

52 *(1) Appropriate training or experience in the use of the procedure; and*

53 *(2) Making a specimen joint from pipe sections joined according to the*
54 *procedure that passes the inspection and test set forth in paragraph (b) of*
55 *this section.*

56 *(b) The specimen joint must be:*

57 *(1) Visually examined during and after assembly or joining and found to*
58 *have the same appearance as a joint or photographs of a joint that is*
59 *acceptable under the procedure; and*

60 *(2) In the case of heat fusion, solvent cement, or adhesive joint:*

61 *(i) Tested under any one of the test methods listed under §192.283(a)*
62 *applicable to the type of joint and material being tested;*

63 *(ii) Examined by ultrasonic inspection and found not to contain flaws that*
64 *would cause failure; or*

65 *(iii) Cut into at least 3 longitudinal straps, each of which is:*

66 *(A) Visually examined and found not to contain voids or discontinuities on*
67 *the cut surfaces of the joint area; and*

68 *(B) Deformed by bending, torque, or impact, and if failure occurs, it must*
69 *not initiate in the joint area.*

70 *(c) A person must be requalified under an applicable procedure, if during*
71 *any 12-month period that person:*

72 (1) *Does not make any joints under that procedure; or*

73 (2) *Has 3 joints or 3 percent of the joints made, whichever is greater,*
74 *under that procedure that are found unacceptable by testing under §*
75 *192.513.*

76 (d) *Each operator shall establish a method to determine that each person*
77 *making joints in plastic pipelines in the operator's system is qualified in*
78 *accordance with this section.*

79 Q. **When was 49 CFR Section 192.285 established and then adopted by the**
80 **Illinois Commerce Commission?**

81 A. 49 CFR Section 192.285 was included in Amendment 192-34 which became
82 effective on January 1, 1980. On September 16, 1983, the Commission adopted
83 93 Ill. Adm. Code 1800. The adoption included the standards contained in 49
84 CFR Part 192 and 193 as of January 1, 1983. Amendment 192-34 was included
85 in Part 192 at that time. 93 Ill. Adm. Code 1800 later became codified as 83 Ill.
86 Adm. Code 590.

87 Q. **Why is fusion qualification important?**

88 A. Prior to 1980, 49 CFR Part 192 did not include requirements for joining of plastic
89 pipe that would necessarily insure that sound joints were being produced. On
90 October 18, 1978, the U. S. Department of Transportation, Materials
91 Transportation Bureau ("MTB") issued a notice of proposed rulemaking regarding
92 establishing new safety regulations in Part 192 for qualifying procedures and
93 personnel to make all types of joints used in both thermoplastic and
94 thermosetting plastic pipe, including heat fusion, solvent cement, adhesive, and
95 mechanical joints. At that time existing requirements included in Part 192 did not

96 require that a joining procedure be qualified from the standpoint of making a joint
97 secure against anticipated “pull out” forces. Pull out forces, the tendency of the
98 pipe to pull out of the coupling, are triggered by expansion and contraction of the
99 plastic pipe due to temperature changes. The standards in place at the time
100 allowed each operator to determine the type of testing and proof needed to
101 qualify procedures to make sound joints. In absence of a standard test, the use
102 of different test methods yielded different results. The MTB based the need for
103 qualification of procedures and individuals on seven years of readily available
104 data collected between 1970 and 1976. The data, which included 64 individual
105 written reports of failures submitted pursuant to reporting requirements included
106 in 49 CFR §191.9 that involved plastic joints, demonstrated that the absence of
107 requirements in order for an operator to be qualified to make joints in
108 thermoplastic and thermosetting plastic pipes, resulted in a larger than
109 acceptable number of faulty joints. Section 191.9 requires all natural gas
110 distribution system operators to file a written report of any natural gas related
111 incident. The reporting requirement applies to any release of gas that results in a
112 death, personal injury requiring hospitalization, property damage in excess of
113 \$50,000 or an event that is significant in the judgment of the operator. All 64
114 written reports met the criteria.

115 Electro-fusion joints are subject to shear and longitudinal pull forces.
116 Polyethylene pipe expands and contracts with temperature change. The change
117 in ground temperature throughout the year is a factor in that expansion and

118 contraction. In the case of a coupling, used to join two segments of pipe or
119 tapping tee, used to connect a service line to main, pulling forces are
120 experienced as the pipeline contracts. Shear forces, which are forces that push
121 or pull the pipe sideways or up or down from its longitudinal axis, can be
122 experience as frost enters and leaves the soil. The majority of natural gas
123 distribution piping is installed at a depth of cover ranging from 12 to 36 inches. In
124 several regions of Illinois, frost depth reaches or exceeds the burial depth of the
125 distribution system piping. Fusion joints made under a tested and approved
126 procedure will resist both the “pull out” and shear forces. It is essential that the
127 operators verify that all joints are made according to the approved procedures by
128 individuals that have been qualified under those procedures, as required by the
129 CFR.

130 Q. **How was the test requirement established?**

131 A. The October 18, 1978 MTB notice proposed to require persons making any type
132 of joint in plastic pipe be qualified by having specimen joints made by such
133 persons subjected to the same test proposed to qualify joining procedures that
134 included both tensile and burst testing. Many operators at the time commented
135 that conducting tensile and burst testing on every specimen joint made by
136 individuals undergoing qualification testing was impractical. The MTB agreed
137 with the comments and, as a result, collected and reviewed alternative testing
138 methods that were being used to determine the integrity of plastic joints. The
139 MTB established that visual inspection of the entire circumference of the exterior

140 of completed heat fusion joints was a common method of determining joint
141 quality. By comparing the appearance of the joint being inspected with the
142 appearance of a joint that was known to be satisfactory, visible faults could be
143 readily detected. This method was easily understood, required little special
144 equipment, and produced quick results.

145 Q. **How does the visual inspection work?**

146 A. First the joints are visually inspected by comparing them with a satisfactory joint.
147 Joints passing the visual examination are cut into straps longitudinally across the
148 joint area. The cut surfaces of the joint area are then visually examined to detect
149 any voids or unbounded areas that may not have been readily detectable by the
150 exterior visual examination. In addition to examining the cut areas, the subject
151 straps are subjected to destructive strain. The strain can be applied by various
152 methods that include bending and torque testing. If defects in the fusion zone
153 are visually detected, or the joint fails during the destructive testing, the joint is
154 deemed unacceptable.

155 Q. **Are you aware of whether the companies operating in Illinois, owned by**
156 **Ameren, qualified individuals making plastic joints as required by 49 CFR**
157 **Part 192?**

158 A. I am aware that beginning in calendar year 2006, during the requalification
159 process, Ameren relied upon a simulation of electro-fusion rather than actually
160 conducting the fusion and test as required by 49 CFR 192.285(a) and (b). I do

161 not know when Ameren began using simulation instead of the actual fusion.

162 Simulation may have been used prior to 2006 as well.

163 Q. **How did you become aware that Ameren failed to qualify operators making**
164 **plastic joints as required by 49 CFR 192?**

165 A. On February 3, 2010, a Pipeline Safety compliance audit was conducted of the
166 plastic pipe joining qualification records maintained for individuals working for
167 Central Illinois Light Company d/b/a AmerenCILCO, Central Illinois Public
168 Service Company d/b/a AmerenCIPS, and Illinois Power Company d/b/a
169 AmerenIP (“Ameren”). The Pipeline Safety Analysts performing the audit
170 reported noticing a field on the form titled “Simulated Fusion.” The Analysts
171 performing the audit asked the Ameren personnel present during the audit to
172 explain the meaning of “Simulated Fusion.” The answer resulted in the Analysts
173 questioning if the process met the requirements of the CFR. The Analysts
174 requested, and received copies of randomly selected fusion qualification records
175 that included the “Simulation Fusions” field. The Analysts provided me with
176 copies of the documents and conveyed the explanation provided by Ameren
177 personnel.

178 I was then contacted by Mr. Jerome Themig the Ameren Manager of Training
179 and Compliance regarding the issues relating to the simulated fusion issue. Mr.
180 Themig explained that when “Simulated Fusion” was marked as the test method,
181 individuals performing fusion qualification did not actually complete the fusion
182 process. The simulation is used during the annual requalification testing. Mr.

183 Themig explained the simulation procedure as follows: the pipe and fittings are
184 prepared and assembled according to the fusion procedure. Once the plastic
185 components are assembled, the electric cables running from the fusion machine
186 are connected to the terminals on the electro-fusion coupling. The individual
187 performing the fusion goes through all of the required steps up to the point of
188 pressing the button that activates the machine and initiates the current flow to the
189 fitting allowing the coupling and pipe to be heated. No actual fusion takes place
190 and therefore the process is considered a simulation.

191 Q. **Please explain the electro-fusion process.**

192 A. Each operator is required to develop a qualified electro-fusion procedure. The
193 specific requirements vary. Basically, the process requires that the individual
194 performing the fusion is to assure that the ends of the piping being joined are cut
195 at right angles allowing proper alignment in the electro-fusion coupling. A
196 scraping tool is used to remove exterior pipe wall material in the area where the
197 pipe will enter the coupling. The scraping is required to remove oxidation from
198 the pipe material. The stab depth, the distance the pipe is to be inserted in the
199 coupling, is marked on the pipe wall. The pipe is then inserted into the coupling
200 and held in place using a clamping device. Electrical cables are connected to
201 electrodes incorporated into the electro-fusion coupling. The electrodes are used
202 to convey current from the cables to a heating coil contained in the electro-fusion
203 coupling. The opposite ends of the cables are connected to the electro-fusion
204 machine. The machine contains a computer capable of identifying the type and

205 size of coupling attached to the cables. Once the information on the electro-
206 fusion machine display is confirmed as correct, the person performing the fusion
207 process presses a button on the electro-fusion machine. The appropriate
208 amount of current is applied for period of time that is specific to the type and size
209 of coupling. The current is conveyed to the heating element inside the coupling
210 which causes the pipe wall and the coupling to heat and become molten. The
211 molten materials join together and fill the voids between the coupling and the
212 pipe wall. The electro-fusion machine discontinues the flow of current after a
213 predetermined time period. The pipe and coupling are allowed to cool to
214 complete the fusion process.

215 Q. **How is the simulation method different from what you just described?**

216 A. The simulation method ends after the electro-fusion machine connected to the
217 fitting. The button, to initiate current to the heating element, is never pressed.

218 Q. **Is the simulation method used for all fusion qualifications performed by
219 Ameren?**

220 A. No.

221 Q. **What other method or methods are used?**

222 A. The form used by Ameren to document the fusion qualification contains a form
223 field titled "Actual Fusion." This form field is used when the person performing
224 the fusion qualification completes the fusion procedure, including pressing the
225 button on the electro-fusion machine, applying the current to the coupling,

226 allowing the coupling and pipe to fuse, and thereby completing the fusion
227 process.

228 Q. **When is the “Actual Fusion” process used for qualification?**

229 A. The actual fusion process is used the first time an individual is qualified to make
230 fusion joints. It may be used for annual requalification in some instances.

231 Q. **Does the simulation method meet the requirement of 49 CFR Section
232 192.285?**

233 A. No. Section 192.285(a) prohibits a person from joining plastic pipe unless that
234 person has been qualified under the applicable joining procedure by making a
235 specimen joint that passes inspection and is tested in one of two methods. One
236 method is to examine the joint using ultrasonic inspection and verify that it
237 contains no flaws. An alternative method allows 3 longitudinal straps to be cut
238 from the pipe containing the joint. The 3 straps must then be examined and
239 found to contain no voids or discontinuities in the joint area. If the straps pass
240 the visual examination, they must be deformed by bending, torque, or impact and
241 experience no failure in the joint area.

242 When the simulation method is used, the fusing of the pipe to the coupling is not
243 achieved since no heat is applied to the coupling or pipe. Since the actual fusion
244 of the pipe and coupling is not made, the joint cannot be tested as required.

245 Q. **Did Staff identify records for specific individuals that used the simulation
246 method for annual requalification?**

247 A. Yes. I have reviewed retained joining requalification records for each of 44
248 individuals, for calendar years 2006 through 2010. I am aware of 15 employees
249 at AmerenCILCO, 14 employees at AmerenIP, and 15 employees at
250 AmerenCIPS that Ameren considered qualified using the simulation method.

251 Q. **Do the records reviewed represent 100% of the individuals used to perform**
252 **joining by Ameren?**

253 A. No. An Ameren letter to Staff estimates that approximately 550 individuals within
254 the three companies were scheduled for requalification in 2010. I have not
255 verified the exact number of individuals that used the simulation method during
256 the annual requalification.

257 Q. **Was Ameren notified of the violation?**

258 A. Yes. A Notice of Probable Violation was sent to Ameren on February 16, 2010.
259 (See Exhibit B)

260 **Conclusions**

261 Q. **What is your recommendation to the Commission?**

262 A. I recommend that the Commission find that Ameren has violated 49 CFR Section
263 192.285(a). Beginning calendar year 2006 and continuing through April 2010,
264 Ameren did not require individuals to make specimen joints as required under the
265 applicable joining procedure during their annual requalification process. Ameren

266 then allowed the same individuals to make fusion joints on the natural gas
267 system.

268 I also recommend that the Commission find Ameren in violation of 49 CFR
269 Section 192.285(b). Ameren did not test fusion joints under the test methods
270 referenced under 49 CFR Section 192.285(b) for the same period of time
271 identified above.

272 Q. **Under the Illinois Gas Pipeline Safety Act, what factors should be**
273 **considered in determining the amount of penalty?**

274 A. For purposes of determining the amount of penalty, Section 7(b) states:

275 *...the commission shall consider the appropriateness of the penalty to the size of*
276 *the business of the person charged, the gravity of the violation, and the good*
277 *faith of the person charged in attempting to achieve compliance, after notification*
278 *of the violation.*

279 Q. **How would you describe the size of Ameren?**

280 A. According to the data submitted on the calendar year 2009 DOT Annual Report,
281 the three companies comprising the Ameren utilities in Illinois serve a combined
282 743,607 service lines. This ranks Ameren as the second largest natural gas
283 distribution system operator in Illinois.

284 Q. **How would you describe the gravity of this offence?**

285 A. The proper joining of the pipeline material comprising a natural gas distribution
286 system is absolutely essential to the integrity of the natural gas system.
287 Improperly joined pipe can result in immediate or long term failure. The failure of

288 a pipe joint results in the unintentional release of natural gas. The fusion joints
289 on the natural gas system are located below ground. When a joint fails, the gas
290 escaping from the piping will migrate through the ground, traveling along the path
291 of least resistance. The unintentional release of gas can result in an ignition
292 and/or explosions resulting in injury to people and damage to property.

293 Q. **Has Ameren made a good faith effort in trying to achieve compliance?**

294 A. Yes. Once the Notice of Probable Violation was issued, Ameren responded to
295 the notification. Although they admitted using the simulation process for
296 approximately 10 years, Ameren agreed to revise the requalification process and
297 required 550 individuals that performed joining to submit specimen joints for
298 testing. (See Exhibit C)

299 Q. **What penalties may be assessed against Ameren?**

300 A. Title 49 Federal Regulation Chapter 60122, which was adopted by Section 7 of
301 the Illinois Gas Pipeline Safety Act, allows for civil penalties of not more than
302 \$100,000 for each violation, for a maximum of \$1,000,000. Both the Gas
303 Pipeline Safety Act and the federal regulations state that each day the violation
304 persists is also a separate violation.

305 Q. **In this situation, what would be considered a violation?**

306 A. Ameren allowed several hundred individuals to make thousands of fusion joints
307 on their natural gas system when those individuals were not requalified under the
308 applicable joining procedure as required by 49 CFR Section 192.285(a). Ameren

309 also listed those individuals as qualified to make joints that had not had specimen
310 joints tested as required by 49 CFR Section 192.285(b). Based upon just the
311 sample of 44 of the Ameren total of approximately 550 plastic pipe joiners at
312 Ameren, Ameren's records reflect that 195 re-qualifications were improperly
313 conducted between 2006 and 2010. Since 2006, only eight individuals in the
314 sample of 44 joiners had completed any requalification in compliance with 49
315 CFR Section 192.285. The violations existed at all three Ameren companies
316 operating in Illinois.

317 Q. **What is your recommendation as to what penalty should be assessed**
318 **against the Ameren companies?**

319 A. Each of the Ameren utilities was in violation of two sections of the CFR for five
320 years. This does not take into account the remainder of the joining qualifications
321 that were not reviewed by Staff. Ameren estimates a combined total of 550
322 individuals performing fusions on plastic pipe in the three companies. Staff has
323 only reviewed records for 44 (8%) of those individuals and each of them was in
324 violation of the CFR requirements during one or more years between 2006 and
325 2010. Reviewing the records of these 44 individuals revealed that 195 re-
326 qualifications were improperly conducted. Each time a company used the
327 simulation method to "qualify" an individual, a violation of Section 192.285
328 occurred. In addition, each time one of the improperly qualified individuals joined
329 a plastic pipe, a violation of Section 192.285 occurred. Each operating company
330 was in violation of two sections of the CFR every day for a period of five years.

331 Each company was eligible for the maximum penalty after ten days in violation
332 the first year. Given the magnitude and duration of the violation, I recommend
333 the maximum penalty be imposed upon each Central Illinois Light Company d/b/a
334 AmerenCILCO; Central Illinois Public Service Company d/b/a AmerenCIPS; and
335 Illinois Power Company d/b/a AmerenIP for violations of 49 CFR Sections
336 192.285(a) and 192.285(b).

337 **Summary**

338 Q. **Please summarize your position.**

339 A. Central Illinois Light Company d/b/a AmerenCILCO; Central Illinois Public
340 Service Company d/b/a AmerenCIPS; and Illinois Power Company d/b/a
341 AmerenIP should be found in violation of Commission rules and subject the
342 maximum penalty outlined above. Ameren, by its own admission, in a letter dated
343 March 12, 2010, confirmed that it was not in compliance with Commission rules
344 and has not been in compliance with Commission rules for years. Joining
345 qualification records confirm the admission contained in the letter. (See Exhibit
346 C)

347 Q. **Does this conclude your direct testimony?**

348 A. Yes, it does.

Staff Report
Ameren, Pawnee, IL
May 24, 2010

Subject:

Ameren Compliance-Related Activities

Introduction:

As authorized by Section 3 of the Illinois Gas Pipeline Safety Act (the "Act") [220 ILCS 20/3], the Illinois Commerce Commission ("Commission") adopted, in 83 Ill. Adm. Code 590, federal safety standards in 49 CFR Sections 191.23, 192, 193, and 199 as minimum standards for the transportation of gas and for gas pipeline facilities. 49 CFR Section 192.285 sets forth testing requirements to qualify and, where necessary, requalify persons engaged in the plastic pipe joining function to maintain compliance with 49 CFR Section 192.285 (a) and (b). The federal minimum safety standards require gas system operators to perform the complete fusion process in both the initial and requalification testing. On February 3 & April 21, 2010, the Commission's Pipeline Safety Staff ("Staff") conducted compliance record audits of Illinois Power Company d/b/a AmerenIP, Central Illinois Public Service Company d/b/a Ameren CIPS and Central Illinois Light Company d/b/a Ameren CILCO ("Ameren") natural gas plastic pipe joining records. Staff's review revealed that Ameren's procedures to requalify persons engaged in plastic pipe joint making were not in compliance with 49 CFR Section 192.285.

Compliance Issue:

Staff conducted reviews of Ameren's plastic joining records to determine compliance with 49 CFR Section 192.285. While reviewing Ameren's records, Staff noted that Ameren's program has permitted electro-fusion joints to be simulated in requalifications rather than being physically completed and tested as required.

49 CFR Section 192.285(a) requires that, in order for a person to make a plastic joint on a natural gas distribution facility, that person must be qualified and, where necessary,

requalified in accordance with the inspection and testing procedures set forth in 49 CFR Section 192.285 (b). Essentially, the procedures can be described as follows. Once the plastic pipe components are assembled, electric current (generating heat) is applied to the fitting by way of a machine connected to the fitting with electric cables, thereby fusing, or melting, the pipe into one solid piece. A test is then conducted to ascertain whether the fusion passed or failed in the fusion zone. In this regard, the procedures required to qualify and requalify persons are identical.

Ameren's process for initial qualification of individuals permitted to join plastic pipe requires each employee to properly complete a fusion by applying heat, as required under 49 CFR Section 192.285. Ameren then tests the completed initial qualification joints as required under 49 CFR Section 192.285 (b) using a method allowed under that Section.

During the compliance records audits, however, Staff determined that, unlike the procedures used by Ameren for initial qualification, Ameren has not been in compliance with 49 CFR Section 192.285 regarding plastic pipe fusion requalifications. For 108 of a total of 121 requalifications from 2006 through 2008 for a sample of forty-four individual plastic pipe joiners out of over 500 joiners employed by Ameren, records indicated that Ameren had only been simulating the fusion joining process during operator requalifications by preparing the pipe and fitting, and then inserting the two pieces together without the final step of applying heat to the fitting. And, for that same sample of forty-four Ameren employees, since 2008 only one had completed any requalification in compliance with 49 CFR Section 192.285. . The breakdown is: Ameren CILCO – 15 employees; Ameren IP – 14 employees; Ameren CIPS – 15 employees. Each of the individuals simulated the fusion qualification numerous times in the years reviewed.

49 CFR Section 192.285 (c) provides that requalification of a person is not necessary unless, in the preceding 12 month period, that individual has less than three fusions, or three percent of their fusions, whichever is greater, fail in that 12-month period. Ameren's records disclosed that this section did not apply to its practices.

Further Information:

Section 4 of the Act [220 ILCS 20/4] provides that the Commission, upon application, may waive, in whole or in part, compliance with any standard adopted by the Commission, if it determines that such a waiver is not inconsistent with pipeline safety. Ameren has neither requested nor been granted a waiver regarding plastic pipe joining qualification.

Discussions were held subsequent to February 23, 2010, with Jerome Themig, Manager, Compliance and Standards, Ameren, regarding the issues found as part of the February 3, 2010,

record audit. Staff informed Mr. Themig that Ameren was not conducting their fusion requalifications as required by 49 CFR Section 192.285. Mr. Themig stated that Ameren's current requalification practice has been followed for the past ten years as a cost-saving measure. Mr. Themig stated that an agreement permitting the practice had at one time been reached between Ameren and the Pipeline Safety Staff. Staff requested a copy of this agreement for further review. Mr. Themig could not produce any agreement. Staff also asked if an official waiver had ever been requested by Ameren from and granted by the Commission to Ameren to conduct the requalification as currently practiced. Mr. Themig stated that a waiver was never pursued. Mr. Themig reiterated that a verbal agreement was made between the Pipeline Safety Program and Ameren regarding this practice. Pipeline Safety has no record of the agreement and one previous Manager of the Pipeline Safety Program confirmed that no Ameren utility had ever been verbally or in any other manner permitted to deviate from required plastic fusion joint procedures

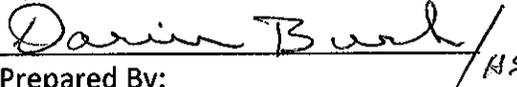
CONCLUSION:

Staff has found serious violations related to plastic fusion joint procedures where Ameren has disregarded the requirements of 49 CFR Part 192.

A record review conducted on April 21, 2010, confirmed that, beginning in calendar year 2006, Ameren's fusion qualification records stated that an electro-fusion was simulated during the requalification process. Staff reviewed the records for AmerenIP, AmerenCIPS and AmerenCILCO to determine if the violation extended to all three companies. The records confirmed that individuals from each company in the Ameren family had simulated a fusion as part of the annual requalification. When simulations were performed, the fusion was not conducted and tested as required by 49 CFR Section 192.285 (a) and (b). The actions taken by Ameren regarding joining requalification constitute a long-term course of intentional disregard of the standards and processes that each operator under the jurisdiction of the Illinois Commerce Commission must meet to maintain compliance with required federal standards.

Recommendation:

Staff recommends that a Citation Order be issued to initiate a proceeding to determine whether Ameren has failed to comply with 49 CFR Section 192.285 (a) and (b) and whether civil penalties should be assessed as allowed by Section 7 of the Illinois Gas Pipeline Safety Act [220 ILCS 20/7].


Prepared By:

Darin R. Burk
Pipeline Safety Program Manager
Energy Division


Approved By:

Harry Stoller, Director
Energy Division



ILLINOIS COMMERCE COMMISSION

February 16, 2010

Scott Glaeser
Vice President, Gas & Electric Technical Services
Ameren Illinois Utilities
370 S. Main St.
Decatur, IL 62523

Re: Notice of Probable Violation

Dear Mr. Glaeser:

During our Pipeline Safety Staff ("Staff") February 3, 2010, inspection of Ameren, our Analyst observed the following probable violation with reference to Part 192 of the Federal Regulations for the Transportation of Natural Gas. A Notice of Probable Violation ("NOPV") has been issued for the section of the Code of Federal Regulations cited. The NOPV was discussed with Charles Rayot on February 16, 2010. The violation is outlined below.

Ameren is in probable violation with reference to the following code section:

§192.285 *Plastic pipe; qualifying persons to make joints.*

(a) No person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure by:

- (1) Appropriate training or experience in the use of the procedure; and*
- (2) Making a specimen joint from pipe sections joined according to the procedure that passes the inspection and test set forth in paragraph (b) of this section.*

(b) The specimen joint must be:

- (1) Visually examined during and after assembly or joining and found to have the same appearance as a joint or photographs of a joint that is acceptable under the procedure; and*
- (2) In the case of a heat fusion, solvent cement, or adhesive joint;*

- (i) Tested under any one of the test methods listed under §192.283(a) applicable to the type of joint and material being tested;*
- (ii) Examined by ultrasonic inspection and found not to contain flaws that would cause failure; or*
- (iii) Cut into at least three longitudinal straps, each of which is:*

- (A) Visually examined and found not to contain voids or discontinuities on the cut surfaces of the joint area; and
- (B) Deformed by bending, torque, or impact, and if failure occurs, it must not initiate in the joint area.

It was determined during the audit that Ameren wasn't testing electro-fusions for qualification as required by 192.285.

Upon receipt of the NOPV, Ameren must suspend qualifying Ameren personnel utilizing their current method of qualification. Any heat fusions made from this date forward must be made by individuals qualified as stated in CFR Part 192.285. Ameren may submit to this office by March 16, 2010, in writing, evidence refuting the probable violation referenced in the NOPV or submit a written plan of action outlining actions to be taken to correct each issue of the violation, including a schedule and the date when compliance is anticipated. The response should include the steps Ameren has taken, or expects to take to prevent a reoccurrence of this situation.

Failure to respond and take corrective actions will result in the initiation of a Citation Order and subject Ameren to a penalty assessment as allowed under Section 7 of the Illinois Gas Pipeline Safety Act (220 ILCS 207).

If you have any questions concerning this matter, please contact Matt Smith at (217)720-0291 or I may be contacted at (217) 785-1165.

Sincerely,



Darin R. Burk
Manager- Pipeline Safety

DRB/ns



Gas Compliance
2125 E. State Route 104
Pawnee, IL 62558

March 12, 2010

RECEIVED

MAR 16 2010

Illinois Commerce Commission
GAS PIPELINE SAFETY

Mr. Darin Burk
Manager, Gas Pipeline Safety
Illinois Commerce Commission
527 E. Capitol Avenue
Springfield, Illinois 62701

Dear Darin,

The ICC Pipeline Safety Staff issued a Notice of Probable Violation ("NOPV") February 16, 2010 following an audit of Ameren Illinois Utilities (AIU) PE fusion qualification records. The violations outlined in the letter received from the Staff are below.

§192.285 Plastic pipe; qualifying persons to make joints.

(a) No person may make a plastic pipe joint unless that person has been qualified under the applicable joining procedure by:

- (1) Appropriate training or experience in the use of the procedure; and*
- (2) Making a specimen joint from pipe sections joined according to the procedure that passes the inspection and test set forth in paragraph (b) of this section.*

(b) The specimen joint must be:

- (1) Visually examined during and after assembly or joining and found to have the same appearance as a joint or photographs of a joint that is acceptable under the procedure; and*
- (2) In the case of a heat fusion, solvent cement, or adhesive joint;*
 - (i) Tested under any one of the test methods listed under §192.283(a) applicable to the type of joint and material being tested;*
 - (ii) Examined by ultrasonic inspection and found not to contain flaws that would cause failure; or*
 - (iii) Cut into at least three longitudinal straps, each of which is:*

- (A) Visually examined and found not to contain voids or discontinuities on the cut surfaces of the joint area; and*
- (B) Deformed by bending, torque, or impact, and if failure occurs, it must not initiate in the joint area.*

It was determined during the audit that Ameren wasn't testing electro-fusions for qualification as required by 192.285.

The Ameren Illinois Utilities (AIU) have been testing and qualifying employees on electrofusion for joining plastic pipe with an alternative process for approximately the past 10 years. AIU believed that the process was acceptable to the ICC based upon past discussions with Staff and prior audits results. The alternative process is approved by the Pipeline Hazardous Material Safety Administration (PHMSA) through waivers to operators in Kansas, Colorado, Nebraska and Iowa as an acceptable method of qualification. AIU does not have a waiver from PHMSA for the alternative process.

In early 2000, Ameren met with the ICC Manager of Pipeline Safety to discuss an alternative process for the requalification of employees on electrofusion that was being accepted by other State Commissions. The natural gas industry recognized that enhancements in electrofusion computer based technologies were replacing the manual heat fusion for pipe repairs. The electrofusion process involved assembly steps such as pipe surface preparation, alignment of the electrofusion fitting and pipe, and connection of electrical leads. Once these steps were complete, the computer processor determined the heat and time cycle required to fuse the pipe and fitting. When an electrofusion is completed there are no visual indicators of proper melt as there are with other heat fusion methods. Instead the integrity of the fusion is verified through the pressure testing of pipeline facilities. In early 2000, the acting ICC Manager of Pipeline Safety verbally agreed that electrofusion had been proven to perform in an acceptable manner, the mechanics of the assembly steps is similar to mechanical joining and the testing of an actual electrofusion specimen was not necessary for qualification. The existing Ameren companies of that time changed their qualification process following these discussions.

As early as 2002, PHMSA was asked by the Kansas State Commission to approve this alternate process for electrofusion requalification. PHMSA stated that, "given the automatic nature of electrofusion and mechanical joints, requalification by process review rather than by inspecting and testing a completed joint is considered a satisfactory measure of a person's ability to continue to make sound joints after initial qualification" and has approved waivers to 192.285.

AIU recognizes that a waiver will be necessary to utilize the alternative process and has changed its electrofusion qualification process at this time to meet the exact requirements of the code as required by the Staff. AIU is nearing completion of the 2010 refresher training and requalification program utilizing the alternative process for electrofusion for approximately 550 employees. Upon receipt of the letter from the ICC Staff, AIU immediately took additional steps to address Staff's concerns and is requiring each qualified employee to submit electrofusion specimens for further evaluation and testing as required by 192.285. This further evaluation and testing is expected to be completed by April 1, 2010.

Additional steps that AIU is considering to prevent reoccurrence of this situation include:

- Submitting a formal request to the ICC for a waiver to 192.285 (b). AIU hopes that the ICC Staff will support such a waiver request which has been granted to other utilities.
- Evaluate the feasibility and cost benefit of tracking failures under 192.285 (c) versus providing annual refresher training and requalification.
- Provide support to the Gas Piping Technology Committee in seeking a petition to PHMSA for a formal change to 192.285 to allow the alternative process for electrofusion.

In closing, AIU wishes to reassure Staff that AIU has taken swift action to modify its electrofusion process and believes that these steps will address Staff concerns with using the alternative process.

Please let me know if these actions are acceptable in closing this NOPV and don't hesitate to contact me if additional information is required.

Sincerely,



Jerome S. Themig
Manager, Gas Compliance

JST:sbb

cc: RPate
SGlaeser
SColyer
JVoiles