National Transportation Safety Board
Office of Railroad, Pipeline, and Hazardous Materials Investigations
490 L'Enfant Plaza East, S.W.
Washington, D.C. 20594

Reference: NTSB Accident No. DCA-14-MP-002, East Harlem, NY.
Your Interview conducted on August 5, 2014.

I have reviewed my interview transcript from the above referenced accident and:

---------- (A) I have no comments to make.

---------- (B) My comments are submitted herewith.

---------- (C) My comments are marked on the attached copy.

[redacted]

Joseph Madia

December 8, 2014.

Date

MR. McKAY: My name is Doug McKay. E-mail is [redacted] I'm an attorney with Con Edison.

MR. SINGH: Leonard Singh, L-e-o-n-a-r-d, S-i-n-g-h. Chief Engineer, Gas Distribution Services; NTSB party rep representing Con Edison on this team. [redacted].

MR. STOLICKY: Chris Stolicky, S-t-o-l-i-c-k-y. I am the New York party rep. I'm Utility Supervisor with the New York State Department of Public Service. E-mail address is [redacted].

MR. CHHATRE: Thank you.

INTERVIEW OF JOSEPH MADIA

BY MR. CHHATRE:

Q. Mr. Madia, for the record, can you give us some educational background, formal/informal, your experience with Con Edison, and your description as to what you do at your position?

A. Yes. My educational background is I went to Columbia University School of Engineering & Applied Science. Graduated with a bachelor's of science in 1982 and a master's of science in 1983. I am a licensed P.E. engineer in the state of New York.

I joined Con Edison as a management intern in 1983, had various different capacities in the engineering department for the first 15 to 17 years. And then from there I moved on to a senior planning analyst position in energy management of Con Edison, predicting, forecasting electric load. And from there I joined the Con Edison gas department in the year 2005 as a ~~planning~~

senior
~~analyst and then~~ engineer, and then managing the gas development lab, my present position.

Q. Okay. And as a manager of the lab, what do you do? Or what does your group do?

A. Yes. Okay, as a section manager of the gas development lab, the gas development lab is tasked with various different activities: principally, test and acceptance of new product for the gas delivery system, pipes, fittings and valves; failure evaluation of various components on the gas delivery system; prefabrication of specialty piping components, particularly the polyethylene piping systems; and then, of course, live tapping of the gas mains in the gas delivery system.

Q. Okay. So can you tell us how many gas service tee failures your lab have investigated?

A. On the average, we get about, maybe one or -- once a month we get one. So approximately 12 on the, on that for a year.

Q. And what does a typical component looks like when it come to you in your lab?

A. Yeah, the actual -- sometimes we get the actual tee. Sometimes we get the tee with the main. And it looks like the -- we basically see the failure of services between the tee and that which is on the main, and we make a visual observation and we may conduct tests as needed.

Q. Okay. Who does that work?

A. Our gas development lab team itself.

GIS web to send the product to the lab for examination.

Q. What is the title of the person who sends you the sample?

A. It could be as simple as a mechanic.

Q. Okay.

A. It could be an operating supervisor.

Q. Okay. And how does the sample comes to you?

A. It -- usually delivered by either a supervisor mechanic. It's --

Q. So hand delivered?

A. Hand delivered, yeah. There's ~~not~~ no interoffice mail.

Q. And is there a protocol issued by your lab as to how to handle the evidence? Or you just look at it, whatever -- whichever way it comes to you?

A. Yeah, we -- there's no particular protocol. It comes to our senior engineer technician. He looks at it and renders -- takes a series of photographs and renders a data sheet with the analysis.

Q. And what is the typical findings? If there is a typical finding.

A. For the most part, in my experience, installation error is a typical finding.

Q. Can you elaborate any more?

A. Installation error could be that the fitting or pipe fitting valve was not put properly together. For example, if a

photographs.

MR. MADIA: Okay.

BY MR. CHHATRE:

Q. And do you use -- does the lab select or identify the qualified vendor for the plastic pipe or service tee or any of that things?

A. Yes. That's part of our test and acceptance.

Q. And how do you do that?

A. We do it through a series of tests and review of their literature, examination of their product, make sure it's usable in the field. And then we make a -- we render our conclusion.

Q. Okay.

A. We also run our own tests in the lab as well, which --

Q. Okay, to qualify the product?

A. -- extended testing. To qualify the product. We have a -- we can do burst testing, sustained tank. We do tensile pulls. Whatever we need to do as an ~~extended test to~~ extension of the industry tests that were done, to convince ourselves that the product is safe --

Q. Is safe.

A. -- and has integrity on our system.

Q. And does the lab also develop the procedure to do the fusion welding, or you just take the procedure from the manufacturer?

A. We take the procedure from the manufacturer, yes.

Q. And does the lab verify it to make sure it's correct, or

A. Yes. After it -- there are instances, and if you -- those instances where if the piping is subjected to external loads, forces and moments, it can fail. You can have a failure. You know, you can pass a pressure test, but if the piping is subjected to external loads severe enough, you can fail the PE. After all, the yield stress is only 3600 psi.

Q. 3600?

A. Yeah.

Q. Okay. So the result of the failure, will it be as a result of the external load or will it be as a result of the fusion?

A. The external load.

Q. The external load?

A. In my opinion, yeah.

Q. It will have nothing to do with the fusion --

A. No.

Q. -- joint itself?

A. It's the external load.

Q. Okay. And have you considered the pressure placed on the joint during the cut when a service tee is installed on a main and the tapping occurs when the blade go through? Prior to it cutting through, have you examined the pressure that is exacted, is put between the two piece?

A. No.

Q. Okay. That's all I want to ask you. Thank you.

earth loading, you can start imposing deleterious and large strains on the pipe and stresses that could begin imposing and approximating the yield stress of polyethylene.

Then, of course, third-party damage. That has always been a bane with --

Q. What about the fuse itself? What about --

A. The fuse?

Q. I mean, the Con Ed procedure requires 500 plus or minus 25 degrees.

A. Right.

Q. Have you experimented with temperatures and/or pressures outside of your current procedure to see what would happen in test fittings?

A. Yes, we have.

Q. And what have --

A. And there is latitude. There is no definitive -- I can't put a definitive finger on what's the optimal temperature range is. You go to PPI, there's a certain range. Con Edison has used 500 for decades. It appears that there is latitude and forgiveness in the act of plastic fusion. If you get a high strength, high integrity joint across different temperatures, provided it's done per the manufacturer's procedure.

Q. S, when you test a new fitting, do you automatically go to the manufacturer's suggestion and just test it that way, or do you test a series of fuses to see what would work best for Con

Q. Okay.

A. From the M&S plate.

Q. Does any of the components come to you during the installation itself? Like somebody is trying to install a tee, the first thing fails, try to install again, second thing fails, and they want to find out what happened?

A. Right. We do --

Q. Does that happen?

A. We do get some investigations. Typically, they'll send us a butt fusion joint to see how well --

Q. Butt fusion.

A. -- to see how well their butt fusion joints are doing. So, they, they might just -- the inspector over there has -- any inspector has the power to say send that to the lab.

Q. Okay.

A. So we get it, we'll run a simple tensile pull on it to see how well it did.

Q. Okay.

A. Bend test, whatever is necessary.

Q. Okay. So your report, when you send the report back, has the information about this component and where the component came from, the location --

A. It will be a simple e-mail response to the inspector or the person interested in how ~~did~~ the fuse ~~do~~ performed.

Q. Okay.

MR. NICHOLSON: Yeah, it's not a steel head. I understand.

MR. MADIA: It's a 3 pound -- it's something you hold in your hand.

BY MR. NICHOLSON:

Q. And I just want to clarify, I thought I heard two things. Originally when you were asked about qualifying products, I thought I heard you say you test to the manufacturer's recommendations. Is that correct?

A. Yes.

Q. You do? But then later I thought I heard you also test to Con Ed's procedures. So help me --

A. With regard to the fusion itself. If you have to fuse a product, you have to use the temperature cited in our fusion specification.

Q. Okay.

A. Right? So, for example, the --

Q. So when were you using --

A. -- for example, the Central Plastics 8 by 2 tee has three numbers on it: ~~190.095.~~ 190psi; 0psi; and 95psi. You have to use -- that's --

Q. Okay.

A. -- those are the numbers that we use by the manufacturer. Then we use our own fusing procedure, the 500 degrees, to take the temperature -- to get the proper temperature and fuse properly.

You mentioned that the training center creates our procedures. The training center doesn't create our procedures.

MR. CHHATRE: No, I think he clarified that.

MR. SINGH: Yes. Right. But I just want to --

BY MR. SINGH:

Q. Joe, so a new -- so, let's take an example, for instance. Tomorrow, Tasos, Inc., creates a new tee. How does that tee get onto our system and into our procedures?

A. We first have to take the tee --

Q. Who is we?

A. Oh, the gas development lab.

Q. What does the gas development lab do?

A. We take the tee and all the information associated with it, and try to see -- understand how it was fabricated and to what specifications in industry that it conforms to -- ASTM 2513; what testing the manufacturer has done. We may even call on other sister utilities to see how well this tee has done.

Then we'll take the tee and fuse it using our procedures, and make sure it fuses to our various different host pipes -- Performance Pipe, JM Eagle, ~~MDOT~~ ENDOT -- to make sure it fuses to our pipes. Because this is where it's going.

And once ~~we've~~ we're done, that we will take a sample, put caps on the ends of the pipe and it, pressurize it, and put it in our sustain tank and run it for -- I think it's a 1,000-hour test. And just to see how it ages, okay? And once that is done, then

A. Um-hum.

Q. Who do the testing?

A. That's the operator qualification program at the learning center.

Q. Okay. Now, there's an ~~ELE~~ annual requirement. Was that in effect at the time of accident, that you will do the ELE test in your lab?

A. The?

Q. ~~ELE~~ Annual requal, if you want to call it.

A. In the lab itself?

Q. Yeah.

A. No, that was in the learning center.

Q. The learning center.

A. That was -- no, it wasn't in the lab. It was the learning center.

Q. The learning center. But now it is in the lab?

A. As a satellite, overflow.

Q. Okay. Oh, you overflow?

A. Overflow.

Q. Okay.

A. As things go back to normal, it will go to the normal, it will go to the learning center, where it belongs.

Q. Yes. Okay. Now -- let me phrase the question properly here. Why there is no requirement that each failure has to come to you?