**Docket No. SA-534**

**Exhibit No. 2-F**

# NATIONAL TRANSPORTATION SAFETY BOARD

**Washington, D.C.**

PG&E RETIREE INTERVIEW

(44 Pages)

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of: *
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PACIFIC GAS & ELECTRIC COMPANY *
SEPTEMBER 9, 2010 ACCIDENT * Docket No.: DCA-10-MP-008
SAN BRUNO, CALIFORNIA *
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Interview of: FRANK MAFFEI

Marriott Hotel
San Francisco Airport
1800 Bayshore Highway
Burlingame, California 94010

Wednesday,
January 5, 2011

The above-captioned matter convened, pursuant to notice.

BEFORE: RAVINDRA CHHATRE
Investigator-in-Charge

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# I N D E X

I N T E R V I E W

MR. CHHATRE: Good afternoon, everyone. Today is Wednesday, January 5th, 2011. We are currently in Burlingame, California, at the San Francisco Airport Marriott. We are meeting in regards to the investigation of pipeline rupture in San Bruno, California that occurred on September 9th, 2010. The NTSB accident number for this investigation is DCA-10-MP-008.

My name is Ravindra Chhatre. I work for National Transportation Safety Board in Washington, D.C., and I am Investigator-in-Charge of this accident.

I'd like to start by notifying everyone present in this room that we are recording this interview for transcription at a later date. All parties will have a chance to review the transcripts when they are completed.

Also, I'd like to inform Mr. Grapati -- how do you pronounce? My mistake.

MR. MAFFEI: Maffei. Not Mafia, Maffei, M-a-f-f-e-i.

MR. CHHATRE: Okay. I'd like to inform Mr. Maffei that you are allowed to have one person present with you. You're allowed to have one person present with you.

MR. MAFFEI: Yeah.

MR. CHHATRE: During the interview.

MR. MAFFEI: Fine.

MR. CHHATRE: And that person is of your choice.

MR. MAFFEI: Yeah, fine.

MR. CHHATRE: Your friend, family member, whoever you choose.

MR. MAFFEI: A civil engineer brought me down and he would like to say something, but they probably won't allow me in, but --

MR. CHHATRE: You could choose him and we could ask him --

MR. MAFFEI: No, no, I'd rather have him.

MR. JAQUES: Nice try though.

MR. CHHATRE: So for the record would you please spell your full name.

MR. MAFFEI: First is Frank, F-r-a-n-k.

MR. CHHATRE: Okay.

MR. MAFFEI: Middle is Leo, L-e-o. Last is M-a-f-f-e-i.

MR. CHHATRE: Okay. Can you give us your contact information, like your telephone number, email address, postal address?

MR. MAFFEI: Address is ----------, all one word, ---------- ---------- 94947-4836.

MR. CHHATRE: Okay.

MR. MAFFEI: Want my Social Security?

MR. CHHATRE: No.

UNIDENTIFIED SPEAKER: Keep that secret.

MR. MAFFEI: Army serial number? I have that. I

remember that.

MR. CHHATRE: The more information you give me, the more I have to redact.

MR. MAFFEI: All right.

MR. CHHATRE: Whom have you chosen to be with you during this interview?

MR. MAFFEI: Mr. Dane Jaques.

MR. CHHATRE: Thank you for that. We'll go around the table here, everybody identifying themselves, spelling, contact information, starting with the city.

MR. CALDWELL: My name is Geoff Caldwell. I work for the City of San Bruno.

MR. DAUBIN: Brian Daubin of PG&E. My information is on the card provided.

MR. FASSETT: Bob Fassett with PG&E. Information is on the card provided.

MS. JACKSON: Connie Jackson, City of San Bruno.

MS. FABRY: Klara Fabry, City of San Bruno and the information is on the card.

Mr. SHORI: Sunil Shori with the California Public Utilities Commission. My information is on the card.

Mr. KATCHMAR: Peter Katchmar with United States Department of Transportation, Office of Pipeline Safety.

Mr. GUNTHER: Karl Gunther, NTSB, Operations Group Chairman, karl.gunther@ntsb.gov. Phone (202) 314-6478.

Ms. MAZZANTI: Debbie Mazzanti, International Brotherhood of Electrical Workers, Local 1245.

Mr. SPERRY: I'm Joshua Sperry of the Engineers and Scientists of California, Local 20, IFPTE. My contact information has been provided.

Mr. NICHOLSON: Matthew Nicholson, NTSB Engineer, M-a-t-t-h-e-w, N-i-c-h-o-l-s-o-n. matthew.nicholson@ntsb.gov.

MR. CHHATRE: Ravindra Chhatre. I'm with National Transportation Safety Board. That's R-a-v-i-n-d-r-a. Last name C-h-h-a-t-r-e. My email is ravindra.chhatre@ntsb.gov. Telephone is (202) 314-6644.

Mr. NARVELL: Good afternoon, Mr. Chhatre. My name is Rick Narvell. I'm a Human Performance Investigator with the NTSB of Washington, D.C. My telephone is (202) 314-6422, email is narvelr@ntsb.gov.

Mr. JAQUES: Dane Jaques on behalf of the witness and my information is on the business card I provided.

MR. CHHATRE: Mr. Maffei, if you don't hear anything when somebody asks you a question, please tell them to speak loud. Most of us speak loud anyways. If you have any trouble hearing, just let us know. Are you ready to start?

MR. GUNTHER: Yes.

INTERVIEW OF FRANK LEO MAFFEI

BY MR. GUNTHER:

Q. When you were working for PG&E, what was your job title?

A. I started with PG&E August 16th, 1955, as a laborer. I had a total time of 16 months with general construction. I bid out of general construction in December of ’57 and went to division in Claremont. We worked on the pipeline -- I guess I had about ten months with the company as a laborer, then helper.

Then as a -- I can't think of -- Miscellaneous Equipment Operator B, all in that ten months -- 16 months.

Q. Okay. So were you around when the line by the San Bruno Line, the 30-inch transmission, was built?

A. The relocation?

Q. Yes.

A. Not the original line in 1948.

Q. No, the relocation, not in ’48.

A. Yeah, but there was other jobs in the Crestmore area. We were doing other jobs also in Rollingwood. You know what Rollingwood is? North of Sneath Lane. Also Mills Estate, Millbrae, quite a few guys, but I was going back and forth to a pipeline we’re talking about.

Q. Okay. What do you remember about that job?

A. The thing I remember most is myself and another member crawled through the pipe before they tied it in, to look for debris, welding rods, tools, old lunches, jackets, wild pigs, anything you --

UNIDENTIFIED SPEAKER: I’ve seen pingpong balls.

A. Let me backtrack a little bit. Everything comes back

once in awhile. When I was helping one of the welders when they were welding the pipe that was on Glenview, south of Earl Street, going up the hill, and I asked him, “How come you don’t weld it on the inside?” And he says, “It’s not required.” You know, and why did I ask him that? Let’s go back to 1940 or ’41.

Q. Mm-hmm.

A. The City of San Francisco built a water trunk line from Crystal Springs to Lake Merced and to Sunset Reservoir. And as a kid -- I was nine, ten years old. It was a massive pipe, 48-inch or 60-inch, and I watched them weld on the outside, and one of the guys said, “Don’t watch the weld, it’s bad for your eyes.” You know, but then I seen the welder get inside and weld, and that’s what I asked the PG&E welder, “How come you don’t weld it on the inside?” And he said, “It’s not required.”

Q. Are we talking about the girth welds or --

A. The girth welds.

Q. -- along the --

A. The seam welds come from the factory, obviously.

Q. Right. Right. What do you remember about the pipe, anything?

A. I only had ten -- you know, pipe was pipe, but --

Q. Yeah.

A. A lot of -- most of the time I was helping a acetylene welder weld two-inch pipe, block after block after block, and that’s where I learned how to weld. All right. But then they

needed more people on the transmission and odd jobs, helping the welder. In those days they didn't have automatic grinders that cleaned the welders off, with the low hammer and the wire brush. But it was all timed, you know. They would have one welder on one side and one welder on the other side. Why would they do that? Well, why would you have one welder on one side and let the other side cool, so you had two welders, keep it warm. Keeping a pipe hot was benefit to the welding. It would be one welder on one side, a helper on one side, and then another welder on the other side, where the welder would weld and then the helper would clean the -- well, wire brush it and get it good and clean and the welder would continue to weld.

Q. And so it was multi-pass welding?

A. What's that?

Q. They did multi-pass welding?

A. I don't know how many passes, but enough to cover the top.

Q. Mm-hmm.

A. I done some arc welding. I passed the test that I made foreman and so forth and so on, but when I acetylene weld, I used to weld with a high crown and the guy would test it, say you don't need that high crown. Well, he'd call it a crown but I called it a truss, so the way they tested the welds, they cut out a coupon, when you took the test, not actual weld on a pipe. What they do is put it on a jack. They would bend it from the inside outward

into a U.

Q. Right.

A. And if it cracked, well, you didn’t pass. But with my crown, I never failed. Okay?

Q. Do you remember if they used fittings like used to call them tube turns? Did they use weld fittings?

A. Did you have my picture that I took in ‘56?

Q. Yeah, I saw two tube turns.

A. Well, you can see two tube turns.

Q. Yeah.

A. And for the two tie-ins, I don't think they used both tube turns, because at the south end on San Bruno, I wasn’t in on that tie-in, but I asked for a plat sheet of the job, the whole job. Somebody said you don’t need it. I just wanted to check myself how they had done it on the south side, but I was on the north side when they tied it in, and that was a compound offset, which is more difficult.

No, I think they used one-and-a-half tube turns, only on the tie-ins. Everything else was miter welds. If I remember the, what do you call it, book of standards, the Gas Department -- it’s two inches thick, and if I remember the rule, you can’t go no more than five degrees on a miter weld. All right. And in that territory everything had to be a miter weld.

As a matter of fact, I just thought of this the other night. They had quite a few welders on the project. Now, I

wasn't there all the time. They had one guy, full-timer. He done the trimming, okay. They had the big excavator. I guess you seen the picture of it.

Q. Mm-hmm.

A. They use it to put -- hold the pipe and put it in a ditch after the ditch was loaded with sand, you know, because the terrain is pretty rough, and he would trim the pipe, because it's not -- it's not flat, but no more than five degrees. They would butt the pipe up, the existing pipe, butt the pipe up and that would be a gap on top or down or what -- and he'd measure and he'd trim a little bit of each pipe, so you had a perfect fit, but about a 16th of an inch gap.

Q. Right.

A. For the first run of the weld. Then they would put a lineman clamp on it, and he would tack it in certain spots. They would remove the line-up clamp and the two other welders would continue to weld, finish the weld. The guy that trimmed it would go to the next piece. I think they put in three pieces at a time, so they'd have all the welders, you know, working instead of just doing one piece at a time.

Q. Did they ever use backing rings? Backing rings?

A. Backing?

Q. Yeah. For welders it's like a ring that goes around the outside and then you just do a fillet weld on each side?

A. No. You're talking about 56 years ago -- 40 years ago,

and --

Q. Yeah, just --

A. As far as -- I mean, they didn't rush or anything. Joe Buck was the foreman, my foreman. There was other foremen, and he didn't push the welders or else they'd tell him to take a hike. I think they done a Class A job, as far as I'm concerned.

Q. When they did these miter welds, did they use like short pieces of pipe to --

A. No, this is on the -- this is south of Earl Street on the long run up --

Q. Okay.

A. -- Glenview to the south tie-in. Then after that at Earl Street and north of Earl Street, I wasn't there. Then I remember the foreman -- I need your help to get some sewer pipe, because on the north end to excavate there was an existing site sewers for the homes that were going to be built. The only thing there was the foundations of the homes. I think they were a little late doing this job, but anyway they went right through the sewers, you know, and I told the foreman, I says, "What's the reason for this?" You know, destroying the sewers, and he says, "It's faster and cheaper to excavate, get the sewers out of the way, and lay the pipe in." You're not talking about three-quarter pipe. You're talking about 30-inch.

Q. Thirty-inch.

A. You just can't slide those things back and forth.

Q. Did you see any welding on short pieces of pipe?
A. No, not at all.
Q. Did you see anything like that?
A. I wasn't there. None at all.
Q. How about --
Mr. JAQUES: Let him finish.
MR. MAFFEI: Go ahead.
BY MR. GUNTHER:
Q. Did you look inside the pipe? Did you see anything --
A. Well, when I crawled through it, I had to look inside the pipe, when it was finished before they tied it in.
Q. Yeah. Did you see anything unusual in the weld seam?
A. Out of curiosity, we crawled through -- there was about -- what is it, 1,000, 1200 feet that in installed? Am I correct? What is the total, does anybody know?
UNIDENTIFIES SPEAKER: Seventeen hundred feet.
MR. MAFFEI: Well, we crawled through 1700 feet of pipe. We started at the north end and naturally come out at the other end. There was no abrupt turns. Everything was smooth, and couple of times stopped to rest and two or three times I took a gander at the weld, at the bottom, and it looked perfectly filled to me. That I remember.
MR. GUNTHER: No more questions.
MR. CALDWELL: Jeff Caldwell, City of San Bruno. No questions for you, just to thank you for coming in.

MR. MAFFEI: Well, you don't want to know about the tie-in, the hot tie-ins?

MR. CALDWELL: Maybe I do.

MR. MAFFEI: That's not done anymore. They leave -- to tie in the new sections with the offsets, they obviously bring the pressure down to inches. Anybody know what I mean about inches?

MR. CHHATRE: Yes, sir.

MR. MAFFEI: Twenty-eight inches in a pound. They bring it down to ten inches or less. Then they get a cutting torch and start -- first they get a cherry picker and hold a pipe that's going to be cut stable. Then the welders start cutting with gas in it, but they also have a stack, four-inch stack, off the existing pipe to control the pressure on the inside. Anyway, and as they start cutting they put this asbestos packing that's wet right after they cut, all the way to the top. Then they start lifting the piece out and as they go out, they put a wet canvas where they cut, so none of the gas escapes. Then they tie it to the pipe they're going to weld to, and the pipe that was cut, they put a canvas over that so no existing gas in the pipe that the band-aid comes out. Then they put the new piece in with wedding bands, take the canvas out and bring the wedding bands over with chain clamps, tighten it up.

But before they start welding they -- there's gas coming out now, and they ignite the gas, but there's no big flames. It's one foot or two feet high, and then they start welding at two

o’clock and at ten o’clock. There’s eight welders, four welders in each hole, and four helpers. I was one of them. And they start at two o’clock and at ten o’clock, one at each side, and weld it with -- they’re almost finished, they weld the top, which is easier to weld obviously, but there was a general foreman from general construction. He was on the radio all the time. If the flame starts disappearing, which you don’t want -- if you’ve got flame, you’re home safe, but if that flame disappears into the pipe, it’s good-bye Jack, and he would radio “A little more gas” and the flame would come out, and he’d weld it and that was it, but it got pretty hot in there. That’s what I remember. But they don’t do that anymore. That’s not allowed.

Q. Yeah, that’s not really approved by Safety.

A. But that was then. Now they cut the valves off and inject nitrogen, and so it’s dead, and then they cut the pipe out and they also have on each end where the valves are, somebody with a flame pack. You know what a flame --

MR. CALDWELL: Yeah.

MR. MAFFEI: See if there’s any LEL creeping through the valves. If there’s anything coming through, they notify -- well, anymore questions, when I crawled through the pipe?

UNIDENTIFIED SPEAKER: Isn’t anybody going to ask him what he found in the pipe?

MR. MAFFEI: Nothing.

MR. SHORI: Sunil Shori, California PSE.

BY MR. SHORI:

Q. What did you find in the pipe?

A. Well, I was looking for lunches, but I didn’t find any. Nothing, clean all the way through.

Q. Just a couple quick questions and again, like everyone here, I appreciate your coming in, making yourself available.

A. Wish I could add more.

Q. You’re still being very, very helpful and we appreciate it.

As far as -- this was a relocation project, so some of the pipe that was pulled out of the ground, are you familiar with what was done with any of the --

A. You mean the pipe that was abandoned?

Q. Well, you had pipe abandoned; then you had pipe perhaps salvaged. What would have been meant by pipe salvaged and how would that have been done?

A. Well, if you look at the picture I took, you can see exactly the pipes that was abandoned from one tie-in to the other. I guess after it was killed, they grated that and they cut it up and I have no idea what they done with it. Maybe it was -- the developer that cut it out or PG&E, I don't know. But it had to be evacuated of residual gas before they cut into it, but I wasn’t there for that.

Q. And then again, after abandoned pipeline, but would there have been any process of removing pipeline and reusing it?

A. I don't know. Probably in removing it, the wrapping, the tar wrapping would get damaged. They might have used it for drain pipes or something, but I don't think they would have used it for piping again. At the end of my career I was an inspector when they contracted out an eight-inch job from the top of Daly City to the San Francisco county line, and the electrical contractor got the contract and I had the project, and I was the inspector, and the engineer said, “Order 3,000 feet of double-wrap eight-inch pipe, Code 02-123,” and that’s what I ordered. It’s up to Engineering. Whatever the engineer says, order this kind of pipe, we order it and use.

Now, if it was -- what do you call it? Seamless pipe? I don't know. But it was only a 50-pound system. Pipe with seam would work out just fine, 50 pounds.

Q. In regard to seamless, do you know if there’s anything else in SMLS was ever used for or if it’s good for anything that --

A. No.

Q. What would you have interpreted that acronym as?

A. As what?

Q. What would you have interpreted --

MR. JAQUES: Why don’t you ask him if he knows what it means?

BY MR. SHORI:

Q. Do you know what SMLS would stand for or what that

means?

A. I probably had it in the manual, but I don't remember, no.

Q. And one last question. Do you recall from pipe segments back then in terms of any kind of potentially, maybe holes in the pipe at 90 degrees or on ends of pipe for whatever reason, do you recall seeing any kind of pipe like that?

A. No.

Q. Thank you very much.

A. I don't know what holes you're referring to, but --

Q. Just if you're looking at the end of a pipe, just maybe on the inside edge from the edge of the pipe, maybe like right about here, any kind of a hole or maybe so many degrees apart?

A. You mean like somebody anchored something on it or -- no, no.

Q. Just if you saw any kind of pipe like that.

MR. SHORI: Thank you.

MR. KATCHMAR: Peter Katchmar, U.S. DOT.

BY MR. KATCHMAR:

Q. You mentioned when you were crawling through the pipe that you saw some seams on the bottom.

A. A girth weld, as you call it.

Q. Not girth welds, long seam?

A. No, no. You didn't have that much room and your head was down and I always looked to the bottom of the weld, right at

my knees.

Q. Oh, I see what you're saying.

A. The girth weld.

Q. I'm sorry, the girth weld.

A. What we had was a flashlight, a whisk broom, and a gunnysack.

Q. Oh.

A. So I --

Q. You didn't want to hit your knees on that.

A. No, no. Out of curiosity, I looked at the welds.

Q. Got ya.

A. I was a little anxious to get out of there.

Q. In your recollection, sir, I know workers back in the day were very innovative when they --

A. Oh, yeah.

Q. -- when they needed a new tool or something, they might have just -- something into the new tool and said, "This will work." Do you remember seeing anything unique that you might not have seen before on the job for any purpose? You know, maybe, you know, did you see them pulling any pipe out of the ground?

A. No.

Q. Because this was a relocation.

A. Well, the only pieces I seen them pull out of the ground, we had the tie-in hole, you know, ten feet long.

Q. The one you had to cut?

A. If you look at my picture again, you'll see that right at the bottom of the picture the existing pipe, and it still had that white glaze to it that they spray on to reflect sun while it's in storage so it's pretty clean pipes from 1948.

Q. Okay. Did you see any of the original 1948 pipe?

A. Well, the piece that we took out, yeah, for the tie-in.

Q. Okay. But that's the only one?

A. That's the only one, yeah.

Q. Okay. So you didn't see a whole like excavation of that?

A. No.

Q. Of the original pipe, okay. All right.

A. Like I said, I was not there all the time, on and off, occasionally.

Q. Yeah. All right. And you said that you climbed through pretty much the south section from Earl --

A. From north of Earl, from the north tie-in hole, all the way to the south tie-in hole, 1700 feet.

Q. This whole replacement?

A. The whole works.

Q. Okay.

A. All I know is that it was a gentle slope from north of Earl. What is the street, about a five -- four or five percent drop. Then it gently leveled off and that's where I stopped and looked at the welds probably, and then it started going up

Glenview. That was about an eight-percent climb, if I remember right.

Q. And you just don't have any recollection of any short sections?

A. No.

Q. I mean, they were all 40 feet --

A. They done a hell of a job on it.

Q. Grisweld --

A. I would assume that at the bottom, you have the plan view of the relocation, but I'm assuming this. At that section, they would have a profile view, and for the welders that cut certain pieces, the short stubs, whatever you call them, they would have stakes in the ground and the surveyors would designate exactly where these pups go, so that welders wouldn't have to monkey around trying to think, you know, where to cut and what have you. It was all planned and all the welders had to do was cut the pipe and put it together with this planned view. It had the depth, you know, where the welds would go. I'm assuming this.

Q. Okay.

A. I've seen other jobs like this.

Q. All right. You mentioned trimming the pipe.

A. Yeah.

Q. Somebody would trim the pipe. How did they do that?

A. Cutting torch.

Q. Oh.

A. Like going up Glenview, it wasn't perfectly -- it was a slight hump, so naturally the pipe -- you can't stick it, but --

Q. It's like this, you can't stick it -- you have to trim a little bit.

A. You have to trim it.

Q. Okay.

A. Like I previously said.

Q. And they would use a cutting torch?

A. They would butt the pipe up. There was a gap, say an inch gap, the welder would cut half-inch at the bottom or top, whatever, and then --

Q. Clean it up?

A. Clean it up, butt it up, because you don't want to weld three or four lengths and then sit it in a ditch and have it, you know, in a tight -- having it bent, it would put a heck of a strain on the welds.

Q. Right.

A. Those things weighed two tons each, I guess.

MR. KATCHMAR: All right. Thank you, sir. Appreciate it.

MR. GUNTHER: One more question. Karl Gunther, NTSB.

BY MR. GUNTHER:

Q. What kind of pressure test would you do when you guys were done?

A. Once, after I crawled through it, I didn't go back for

about a week or two. I don't know if they'd hydride it or what.

Q. Okay.

A. But GC, I remember, had in later years end caps where they could inject water, and then the air pressure. As a matter of fact, when I was at San Francisco Division, I laid 200 feet of two-inch and three-quarter service to an industrial area, off of a transmission main. And it required hydrostatic tests, and put it all together, but the welding onto the transmission main was done by certified welder, you know. Once the service tap was put on, they also put a big section of steel over that to support the service tap.

Then we put water in it and I pumped it up to 550 pounds and hydrous test, and we had to put -- I put a recorder on it for an hour to see if it would drop, and it dropped. While I was pumping it up, the guy says, "I'm not going to stand next to that thing," but I had to do it, but we put it at 550 hydrostatic pounds, two-inch, so I don't know if they done that at this particular place we're talking about.

MR. GUNTHER: No more questions.

MS. MAZZANTI: Mr. Maffie, when did you retire from PG&E?

MR. MAFFIE: November 1, 1993.

MS. MAZZANTI: No other questions.

MR. MAFFEI: At that time the company was cutting back and it was me and another foreman about the same age, the same

time, and they added three years, if we would retire, they added three years to our time, so that gave me 41 years. I retired at November 1, 1993, at the age of 62, and the next day I was 63, so I retired. Now I understand they're trying to bring retirees back for instruction.

UNIDENTIFIED SPEAKER: You want a job?

MR. MAFFEI: I could have went back after I retired because I was --

UNIDENTIFIED SPEAKER: You did, you're here.

MR. MAFFEI: I was familiar with Chinatown when I rebuilt that, Grand Avenue on Chinatown. That was a nightmare. There was three cast iron mains on Grand Avenue, and occasionally leaked and a lot of times I went down on Grand Avenue and try working on Grand Avenue with all that traffic and what have you. I could give you all kind of stories as far as leaks.

MR. SPERRY: No questions for me.

MR. NICHOLSON: No questions.

MR. CHHATRE: Ravindra Chhatre, NTSB. Thanks for coming. Appreciate it, second time talking to you.

MR. MAFFEI: I talked to you weeks ago, if I remember.

MR. CHHATRE: Yes, sir. I distinctly remember you asking me, are you really with NTSB, and can I send you an email? I remember that.

MR. MAFFEI: I told you about that other transmission main that --

MR. CHHATRE: Yes, sir, you did. You did.

BY MR. CHHATRE:

Q. You mentioned the small pieces that the -- were cracked and put together and you said you had seen that at other jobs. Do you recall what those jobs would be?

A. Say that again.

Q. Okay. You mentioned earlier that at the rally, if you would.

A. Yeah. I wasn't there for that. I wasn't there at all, but I assume they had the profile and the welders cut prefab pieces for the dip.

Q. Right. But you mentioned that you had seen other jobs, and I'm just trying to find out which other jobs you have seen that.

A. Not on -- Division doesn't do all that big work. It's GC. As a welder of four-inch, on offsets obviously you had to make short pieces, but I mean to go over other utilities, you know, but nothing that big.

Q. Do you recall if any of those welds were inspected on x-ray?

A. I forgot. That's -- I was helping -- it all comes back. I was helping one of the welders on Glenview and the south weld was done, and I asked the welder, I said, "What's that guy doing?" He, I'm sure, was on his job. Just like I told you, because I'm sure, because they don't x-ray everything. He says, "Oh, he's x-

raying the welds." So where else would I x-ray -- on the big stuff, I'm pretty sure they x-rayed the welds. He says, "He's x-raying the welds." I said, "Oh." And also, another thing I -- after the pipe was installed, the surveyors would come and put their rod on the pipe and I said, "Well, what are they doing?" "They're pinpointing the depth, the location of the pipe as it sits."

Q. Now, who told you they did an x-ray on the welds, do you recall?

A. I talked to my former supervisor a couple nights ago, and I says, "I remember that." He says, "Yeah, they x-rayed the big stuff." The big stuff, meaning 30 inches, 36. Eight-inch, I don't think, you know, the big stuff, the transmission main.

Q. And you told us you crawled that line and anxious to get out. The question I had --

A. I don't know if you record -- when we got to the end, old Joe Bunk said, "They're taking too long, let's put the cap on." Well, they put the --

Q. While you were in there --

A. So they put the cap on. I said to myself, "I know they're kidding." And the other guys turns around, he says, "Frank, do you think they're kidding?" I said, "I think they'll be enough oxygen until a.m. but not to --

Q. Going back to your crawling again, did you see any seam weld at the bottom while you were coming out?

A. Seams?

Q. Yeah, at the bottom. Did you see any?

A. I definitely have to say I don't recall seeing any seams.

Q. Okay.

A. On that big pipe -- after you get beyond eight-inch, I think the seam is on the outside, and what my boss and I recall that, the smaller the pipe, the seam is on the inside, and I says -- I asked one of the welders a few nights ago, he says, “Yeah, the seam was on the smaller pipe up to four, six-inch, when they put a stopping unit to stop gas, they call them Mueller 2’s and Mueller 4’s, put the solid rubber stopper into the pipe. If there’s a seam, there’s difficulty in stopping all the gas and you’d have to cinch a lot more to stopping. But that had nothing to do with what we’re talking about in San Bruno.

Q. No.

A. Anybody have a shot of the map, plat map of Glenview?

UNIDENTIFIED SPEAKER: We might be able to get you one after.

MR. MAFFEI: I’m curious myself of how they tied it in at the south end. I know what they did at the north end. It said -- one of the lawyers said it’s irrelevant but anyway.

BY MR. CHHATRE:

Q. Now, you mentioned a couple of names of the people you worked with, several welders you worked with.

A. Welders, yeah.
Q. I think you gave me one name --
A. Charlie Lepo.
Q. Yes. I believe --
MS. JACKSON: He has passed away.
BY MR. CHHATRE:
Q. He has passed away.
A. He did? It's been about ten years I went to a PG&E function. He was younger than me, I think. No, maybe a little older. Did you ever hear of a Joe Bunk?
Q. No, I did not.
A. I think he's still living. He was my foreman but he lives in Pennsylvania.
Q. Oh, that's okay. We are not that far from Pennsylvania.
A. I brought that name up quite a -- he was the supervisor on the job, Joe Bunk, B-u-n-k.
Q. Great. The name you gave me was Mike Novacell.
A. Novacell. He was my supervisor in Division.
Q. He was from Lincoln, California.
A. He lives in Lincoln, California.
Q. And I think I passed that information on to you.
A. He wasn't on --
Q. He was --
A. He wasn't on that job.
Q. Oh, he wasn't on --

A. He started way after me.

Q. I was maybe interested in the people who were with you on Line 123 job.

A. I just talked to another general construction retiree, but he wasn't on that job.

Q. Okay. Do you, with all the years of service there, do you recall any other welder's name during that era?

A. Just Charlie Lepo and there was a Paul Getty, Paul Getty, G-e-t-t-y, but this retiree told me he was just an acetylene welder, but not an arc welder.

Q. Okay.

A. The only arc welder on that job, on the tie-in was Charlie Lepo.

MR. CHHATRE: Thank you so much. I really appreciate you coming in and taking time to talk to me twice.

MR. MAFFEI: Well, give me a call and --

MR. CHHATRE: Any names -- I realize it's difficult to recall all the names when people ask questions, but if you recall anybody's name that you recall --

MR. MAFFEI: Just Joe Bunk and that's it.

MR. CHHATRE: I got that name already.

MR. MAFFEI: This might sound funny, but there was a Darby on the tie-in, a Darby. I forget, but a Darby. When I heard the name Darby at the CEO, it can't be one of those guys but there was a Darby, D-a-r-b-y, but he was a foreman on one of the

projects in Crestmore and that was all level -- I mean, open ground, but on a tie-in you have quite a few people there.

MR. CHHATRE: Like I said, again, if any name pops up, just give me a call, and you can call me collect if you want.

MR. MAFFEI: Maybe you better look at the obituaries.

MR. CHHATRE: I hope not.

UNIDENTIFIED SPEAKER: I'd like to thank you, as well. It's been nice talking to somebody who has had -- I spent my first life was 31 years in a utility, and I tested many, many welders and I know about the B trick on a gas weld.

MR. MAFFEI: But that's -- I'll tell you how I learned. Like on a two-inch block after block, and what I had was a 24-inch pipe wrench with a cheater on it, and I'd slowly roll it and he'd weld it. His name was Al McNorny, another Visano, and block after block, in Rollingwood mostly in some in Crestmore, and one day he says, "You want to try it?" You know, I says, "Sure." So this would have been an active main, so I done just exactly what he did and he says, "Hey, that's damn good, you'll make a good welder." So we continued on the whole block and after it's welded, the wrappers would come in and wrap. He says, "We'll leave this one there, when we put the air test on it, we'll go back and air test it. You know, with 120 pound, so the day we put the air pressure at night, come back the next morning, see if she dropped any. And then we went back and sud tested it very carefully, no leak, and that weld is still in the ground.

In my days of welding, you know, you have the soapy water and you test -- you don't see any bubbles, but I was a little more cautiously -- I would look what I called the fuzz leaks, infinitesimal little tiny bubble, but you have to stare a while. I hope I'm not taking your time up.

UNIDENTIFIED SPEAKER: Not at all.

MR. MAFFEI: When I was inspector on this eight-inch job, this contractor had, with the first couple hundred feet they had a pipeline welder, oil pipeline welder. Now, he left, so they had a table top welder and they welded pipe only on, you know, had his own shop, so they hired him for a while. I hope I'm not taking your time. So they hired him and pipeline welder would get right in the ditch and melt right through the pipe and weld.

Well, this guy -- the whole thing is on an offset and I watched him and he gets in a ditch and he's fidgeting, you know, not used to welding in a ditch, so he welded the offset, got across the street. I said I want to test it before we backfilled it so we go to test it and pumped it up to 120 pounds and my boss comes out, Mike.

UNIDENTIFIED SPEAKER: Mike, okay.

MR. MAFFEI: He goes -- I won't say the terminology. How come you're testing already, you're not even a third of the way. I says, you've got this table top welder, you want to wrap this thing back on it, and then if you've got a leak, you don't know where it's at. So I got down there myself and carefully

tested it. So I was very -- inspector, you know, my John Henry is going on the job so --

UNIDENTIFIED SPEAKER: Absolutely.

MR. MAFFEI: Okay, sorry to take so much time.

MR. CHHATRE: I have a couple questions, if you don't mind.

BY UNIDENTIFIED SPEAKER:

Q I'll make it short, if you don't mind. You mentioned something about the seam on large diameters on the outside and small diameters on the inside.

A. Yeah.

Q. Can you explain what you meant by that?

A. On the large pipe -- let's backtrack a little bit. I have a cousin, a mechanical engineer, degree from Stanford, mechanical engineer, and he worked -- I mentioned this already. He worked for Western Pipe and knew exactly how the pipe was made with the seam on the outside. And I think it was explained -- couple of lawyers had called him and he told them exactly how it was made. What was the question again?

Q. In terms of large diameter, you only knew the seam to be on the outside. Could the seam be on the outside and inside?

A. I never seen seams on the inside on large diameter, always on the outside. And these two engineers from PG&E -- of course, my cousin, he's 88 years old -- how it was welded, the seam and he explained how it was welded. Maybe some other

manufacturers welded on the inside, but at Western Pipe, where he was engineer, they would roll the pipe, a piece of flat pipe, of steel, roll it, and hold it together, and they would put a copper rod, big copper rod underneath the seam and they'd have what they call it, robot -- automatic welding. Stringer weld and then a bigger weld for the seam, and the idea of the copper rod was to keep the weld in place and cool it as soon as it hit the copper rod.

Then they would pressurize the pipe to make it 30 inch or 36, with about 5,000 psi of hydraulic pressure through the pipe. That would also test the seam.

If you want to talk to my cousin, somebody has --

BY MR. CHHATRE:

Q. I was going to ask you that question. Ravindra Chhatre, NTSB. You said your cousin worked for Western Pipe?

A. Western Pipe, yeah.

Q. In --

A. In the 50's.

Q. Wonderful. Do you know how we could get ahold of your cousin?

A. How old is he?

Q. No, how do we get hold --

A. I gave Alicia the phone number and they called him. Not Alicia -- I can't think of the last name. Colabos?

Q. And who is Alicia, for the record?

A. What's that?
Q. Who is Alicia?
A. She's a PG&E lawyer. The black lady that was here.
Q. Okay.
UNIDENTIFIED SPEAKER: We could get his information from her.
BY MR. CHHATRE:
Q. Do you know if she called your cousin?
A. When? Two weeks ago.
Q. Okay.
A. Cavalos, or something like that, PG&E lawyer, called and she didn't know what he was talking about, so she got two engineers and they talked to him for an hour.
Q. Oh, they did? Okay.
A. And he explained exactly how it was manufactured.
Q. Okay.
A. At Western Pipe, which was consolidated with other companies in South City.
Q. How do you get hold of your cousin? Where does he live?
A. Carmel Valley.
Q. Carmel Valley?
A. I don't think --
Q. Can you give us his phone --
A. I don't have --
MR. JAQUES: He doesn't have it now.

UNIDENTIFIED SPEAKER: But you've got it at home; right?

MR. MAFFEI: I think I remember it.

MR. CHHATRE: We can call you at home, that's not a problem.

MR. MAFFEI: Let me see. ----------. The reason I remember the ----, that was the last steam engine that pulled the commuters down the peninsula.

MR. CHHATRE: Okay.

BY UNIDENTIFIED SPEAKER:

Q. One last follow-up. As far as the tie-in on the north end for this segment, were the foundations for the homes already laid when that pipe was put in or the homes --

A. In my picture you can see the foundations of the home, and that sidewalk -- I thought the north tie-in was a little further north. That's why I'd like to see the plat sheet.

Q. And the sewer line for that area, the sewer was included?

A. The sewer that they went right through. Site sewers through -- the homes that were going to be built.

Q. Okay.

A. I remember distinctly. Go right through them and then replace the sewer pipe.

MR. CHHATRE: Mr. Maffie, if you don't mind, just a couple of questions from this side.

UNIDENTIFIED SPEAKER: Mr. Maffie, I thank you again

for coming in. It's been very informative and historical, and I do appreciate -- extend my thankfulness for you coming in.

BY UNIDENTIFIED SPEAKER:

Q. Based on the discussion here today, I'd like to have just two areas, and I'll keep this brief, I promise. Talking about inspections -- now, you talked about a fellow that was x-raying, you actually saw that?

A. Like I said, "I asked a welder, "What's he doing?" "X-raying the welds." And I have a faint recollection of that, because it was just a split second, you know.

Q. Right.

A. I said, "What's he doing?" "He's x-raying the pipe."

Q. I'm sorry. Were there any other inspection activities that you were aware of at that time?

A. No. Like I said, on and off there. Go from one job to another one.

Q. Who would typically come down? Is it someone from PG&E or was it someone from the State or do you know?

A. You mean the --

Q. Inspector. Do you know who he worked for?

A. You talking about the x-ray?

Q. Yes, we'll start with that.

A. I would assume it was contracted out through a --

Q. Okay. But beyond the x-ray there was no other inspection process that you recall from back then, a visual or

anything, any other inspectors for any other activities?

A. If there were, I wasn’t --

Q. Okay.

A. But I don't know what they would look for, because the inspectors were the welders themselves.

Q. Okay.

A. They knew what they were welding.

Q. I see.

A. I mean, they wouldn’t cheat on anything, you know.

Q. Sure, I understand. Last question. By any chance, do you remember the name -- was there a name in this area of Earl and of the pipe? Was there a name on the pipe, a company name? For example, Western Pipe?

A. No, because it’s all wrapped.

Q. Right.

A. No bare pipe.

Q. Never saw a company name on any of this? Okay.

A. Who bought the pipe would be the warehouse.

Q. Right.

A. And they -- obviously engineering would tell the warehouse what to purchase.

Q. I see. All right. Thank you again, sir.

A. The pipe yard was in Decoto, next to Mel Peters, Decoto Pipe Yard. They would get the bare pipe and PG&E would wrap it themselves to their specifications.

Q. Okay. Well, based on that would that company -- would that be the company that would put it here in this area, or do you know?

A. I don't know. Like I said, the clerk orders specific pipe. The code given to them by the engineer.

Q. I understand.

A. Just what I done, code --

UNIDENTIFIED SPEAKER: Thank you again, Mr. Maffei.

MR. MAFFEI: Okay.

MR. KATCHMAR: Mr. Maffei, Peter Katchmar with DOT again.

BY MR. KATCHMAR:

Q. Not about this particular job, but in your career with PG&E did you hear about problems with 30-inch pipe, seam problems or any problems with 30-inch pipe?

A. Well, I found one, a leak on another --

Q. On a 30-inch?

A. On a 20-inch or 24-inch.

Q. No, I'm talking just 30-inch pipe, sir.

A. Just 30-inch?

Q. Just 30-inch.

A. No, no.

Q. Historically you just don't remember having your stories --

A. I was in Division the majority of my time.

Q. And that's what, distribution or --

A. Mostly maintenance. We don't some installing but most of my time was on a cast iron system in the city, which was -- they had a 25-year plan, which is almost over, replacing everything cast iron.

MR. KATCHMAR: Thank you.

MR. CHHATRE: Mr. Maffie, before we let you go --

BY MR. CHHATRE:

Q. The pipe segments you saw people go to welding it, they already have a coating on it; is that correct?

A. Yes. Oh, yes. Forty-foot length, I think.

Q. And you --

A. I didn't see them weld the little puffs.

Q. But you could see the agents with the two pieces welded together?

A. Yeah.

Q. Could you not? Would your recollection be -- what is your judgment, those look like a new pipe or was it a re-used pipe?

A. Whatever was stored at Decoto Pipe Yard, whatever they delivered. It might have had a little brown on it, what this engineer called microscopic rusting.

Q. Okay.

A. You could probably rub your finger on it and remove it.

Q. Okay.

A. But once the gas hits it, there's no more rusting.

MR. CHHATRE: Thanks. Again, thank you so much for coming. We appreciate your time. Actually I would prefer to let you talk all afternoon, because the more you talk, the more names I get.

MR. MAFFEI: Well, I've got a lot of stories.

MR. CHHATRE: If you recall any names, just give me a call. Thank you so much for coming.

MR. MAFFEI: All right. I hope I didn't take too much time.

(Whereupon, the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

| | |
|---|---|
| IN THE MATTER OF: | PACIFIC GAS & ELECTRIC COMPANY<br>SEPTEMBER 9, 2010 ACCIDENT<br>SAN BRUNO, CALIFORNIA<br>Interview of Frank Maffei |
| DOCKET NUMBER: | DCA-10-MP-008 |
| PLACE: | Burlingame, CA |
| DATE: | January 5, 2011 |

was held according to the record, and that this is the original, complete, true and accurate transcript which has been compared to the recording accomplished at the hearing.

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Sandra K. Ledford
Transcriber