UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of:	*	
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THE EXPLOSION OF APARTMENT BUILDING 8701 OF FLOWER BRANCH APARTMENTS IN SILVER SPRING, MARYLAND ON AUGUST 10, 2016	*	Accident No.: DCA16FP003
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Interview of: JAMES D. MAZZULLO

NTSB Headquarters
Washington, D.C.

Monday,
August 29, 2016

The above-captioned matter convened, pursuant to notice.

BEFORE: RAVI CHHATRE
Investigator-in-Charge

APPEARANCES:

RAVI CHHATRE, Investigator-in-Charge
National Transportation Safety Board

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National Transportation Safety Board
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KALU KELLY EMEABA, Investigator
National Transportation Safety Boar
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Washington Gas
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Montgomery County, Maryland
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CHRISTOPHER WOODWARD, Vice President
Associates Plumbing, Inc.
Tel: [redacted]
[redacted]
(On behalf of Mr. Mazullo)

I N D E X

I N T E R V I E W

MR. CHHATRE: Good morning. Today is Monday, August 29th, 2016. We are currently at the NTSB headquarters located at 490 L'Enfant Plaza East, S.W., Washington, D.C. We are meeting regarding the investigation of explosion of building 8701 Flower Branch Apartment, Silver Spring, Maryland, that occurred on August 10th, 2016.

My name is Ravi Chhatre. I'm with National Transportation Safety Board located in Washington, D.C., and I am Investigator-in-Charge of this accident. The NTSB investigation number for this accident is DCA16FP003.

I would like to start by notifying everyone present in this room that we are recording this interview and we may transcribe it at a later date. Transcripts will be provided directly to the interviewee for reviewing and identifying any typographical errors. The transcripts may be posted in NTSB public docket.

Also, I would like to inform Mr. James Mazzullo that you are permitted to have one other person present with you during the interview. This is a person of your choice -- your supervisor, friend, family member -- or, if you choose, no one at all. Please state for the record your full name, spelling of your name, organization you work for, and your title, with contact information such as mailing address, and who you have chosen to be present with you during your interview.

MR. MAZZULLO: Okay. I am James D. Mazzullo,

M A Z Z U L L O. I am president of Associates Plumbing, Incorporated, located at 9630 Gerwig Lane, Columbia, Maryland 21046. I am the licensed plumber, registered master plumber, for Associates Plumbing. And today I have with me Chris Woodward, who is vice president of Associates Plumbing.

MR. CHHATRE: Thank you for that. Now, I would like to go around the room and have each person introduce themselves. Please state your name, spelling of your name, your title and the organization that you represent, your business contact information. We'll start from my left and go around the room.

MS. GUNARATNAM: Rachael Gunaratnam. NTSB Hazmat investigator. R A C H A E L, G U N A R A T N A M. My phone number is [redacted].

MR. EMEABA: Kalu Kelly Emeaba. K A L U, K E L L Y, E M E A B A, NTSB investigator. My phone number is [redacted].

MR. PRICE: Steve Price, division head for system operations, Washington Gas. My telephone number is [redacted]. Email [redacted].

MR. AMROLIWALA: My name is Rashmikant Amroliwala. R A S H M I K A N T, and last name is A M R O L I W A L A. Pipeline safety engineer working with state of Maryland Public Service Commission. My phone number is [redacted].

LT. OLIN: Lieutenant William Olin, fire and explosives investigator for Montgomery County, Maryland. My telephone number is [redacted]. My email [redacted].

MR. CHHATRE: Okay.

MR. WOODWARD: My name is Chris Woodward, vice president of Associates Plumbing, Incorporated. My phone number is [redacted]. My email is [redacted].

MR. CHHATRE: Thank you very much.

INTERVIEW OF JAMES D. MAZZULLO

BY MR. CHHATRE:

Q. Mr. Mazzullo -- is that correct?

A. That's fine.

Q. Just for the record, if you would, just tell us your educational background -- formal education, informal, training, how long you have been in the current position. Just, you know, experience.

A. Okay. I am -- I have a bachelor of science from Towson State College. I have formal training in plumbing that dates back to my first master's license in 1980. So my experience was prior to that. I have been in the position of president of Associates Plumbing since 2008, I believe.

Q. Okay.

A. And I -- as I stated earlier, I am the licensed master plumber for Associates Plumbing.

Q. Master plumber. Okay. Great. If you would, just tell us how -- what is your association with Kay Apartment Management?

A. We are -- we have an informal arrangement that has been longstanding, even prior to my involvement with Associates

Plumbing. So Kay is a client and we service them for the most part on an as-needed basis. We would receive a call and respond to their call for service.

Q. Okay.

A. That's usually on a time and material basis, although there are times when we will review a job in advance, give them a price for completion.

Q. Sure.

A. Contract, if you will.

Q. So Associates Plumbing, is it a privately owned company? You're a --

A. It is a privately owned company.

Q. And your, I guess, informal arrangement with Kay, is it for what kind of jobs?

A. Oh, anything -- plumbing, gas, backflow.

Q. Okay.

A. Anything that we normally provide in those three areas.

Q. Okay. And were you involved recently in doing any work in building 8701, 8703, in that order? The building at --

A. If I might -- a little clarification.

Q. Yeah.

A. Most recently, yes. Not in the buildings, but the surrounding buildings.

Q. Okay. Can you just go ahead and elaborate, tell us.

A. As the event of August 10th occurred, we were called on

August the 11th and asked to assist in the re-initiation of the gas service to other affected buildings. The fire department or some authority had shut off the gas to the immediate area surrounding the buildings to cut off the gas supply to that fire building, and we were asked to be on hand to reestablish the service to the other affected buildings.

Q. Okay.

A. So we responded with our personnel and I was on hand for much of that work.

Q. Okay. So did you do any work in the other buildings? How long you were there at the accident scene?

A. On the accident scene, we were there from Thursday through a full week.

Q. Okay. And did you do any work in that complex?

A. Well, yes. What we were required to do was to test each of the gas lines, as the particular layout is that this is a individually metered group of buildings. So when the gas was shut off our procedure and the code requirements are that we must prove the integrity of each of the lines before they can be reestablished. And therefore, what we would do is to isolate the fixtures from the gas line and we would perform a pressure test on the individual gas lines. And then we had those lines witnessed by the Washington Suburban Sanitary Commission, WSSC, inspector.

Q. Washington --

A. Washington Suburban Sanitary --

Q. Okay.
A. WSSC is their name.
Q. Okay. And how would you -- would you be doing, then, for the service lines or gas lines for the customer side of the piping?
A. Yes. From the outlet side of the meter inbound to the fixtures.
Q. Meaning the oven or range or --
A. There was an oven range and a furnace.
Q. Okay.
A. Are the two fixtures at each of the --
Q. Each apartment.
A. -- 14 -- generally, the 14 apartments at each of the entrances.
Q. Okay. And how will you do that? If you could educate us, how will you go about doing that?
A. As I may have mentioned, the first step is to actually cap off each of the fixtures. And then down at the meters, we would remove the meter swivel on the outlet side and we would install our gauge into the bank as it exited the meter. And we would individually pressurize the line.
Q. With?
A. With air.
Q. Air. Okay. So each meter assembly would -- swivel will be on the outlet side.
A. Yes.

Q. Then you put your gauge.
A. Yes.
Q. And then pretty much pressure test it to what pressure?
A. Generally what we call 6 inches of mercury, which is about 3 PSI.
Q. Okay. Okay. And did you encounter any problems in any of the lines?
A. We found some very minor matters that needed our attention.
Q. Okay. And I have a map here, if you want to -- if you don't have a map, then you can just tell me.
A. I do.
Q. So what kind of problems?
A. Minor leaks.
Q. In the pipe or appliances or --
A. Generally, after we had capped them we would find a line probably close -- for instance, we made many changes to the gas cocks themselves. It's our policy and the policy that we have developed with Kay over the years that whenever we do this we take out the old gas cocks -- the ones that -- particularly the ones that are spring-loaded and particularly the ones that are just square head without the lever handles. So we'll just, as a matter of standing policy, we'll change those out.
Q. Okay. Yeah, I've got to plead ignorant here. What is a, what is a gas cock? Where --
A. The valve. The actual control valve just before the fixture

itself.
Q. Okay. Each fixture will have its own --
A. Cutoff valve.
Q. -- cutoff valve?
A. Yes, sir.
Q. So you replace that as routine procedure?
A. In many cases --
Q. Many cases.
A. -- we would. In several we would not, because they meet the current standards.
Q. Right. Okay. So was the gas leaking at those valves? Or the appliances were leaking? Why --
A. No.
Q. You said there minor problems. I'm just trying to --
A. Okay. So to try to loop this together --
Q. Walk us through, if you would.
A. Okay. Let's just say with the number of units that we went through -- for instance, like in your map --
Q. Okay.
A. -- the immediately affected units -- 8640, 8642 and 8644 Piney Branch Road, and 8707, 8709, 8711 Arliss Streets -- were cut off at the time of the fire event.
Q. Okay.
A. Since they were interrupted -- again, it is policy that they would have to do a startup procedure, which includes testing each

of the individual lines, the full integrity of the line. For the most part, the most frequent change that we would make would be that the gas cocks to the individual appliances would be changed. We did find some that had leaks at T's or at the union -- actually, the union had already been taken out of the sequence. But we would find something at a -- close by to the fixture. And we would simply take that apart, clean it, re-dope the pipe threads, and reinstall the same pipe into that place.

Q. Okay.

A. There's only one or two where we actually changed a short piece of pipe to meet the need. Then, after those repairs, it would be tested again and then witnessed -- that test would be witnessed by WSSC.

Q. Okay. And do you remember which apartments this pipe was -- small sections were replaced?

A. We have a record. I did not have that.

Q. If you could just provide that to us, leisurely.

A. As I might state, just so -- for clarification, typically this 3 pounds pressure would be held for 10 minutes.

Q. Okay.

A. Most cases it was held for 40 minutes.

Q. Okay.

A. Because we were doing other things.

Q. Right.

A. We would come back and test those gauges. And if they

dropped anything that could be noticed on the gauge, which is quite accurate, we would go looking for those repairs. Sometimes it would be as simple as a little bit of tightening, which we would try first. Retest. If it passed, we probably would not even note that. Anything that we went further, to take apart and reapply the pipe thread sealant, and to retest it, we would show that on a ticket.

Q. Okay.

A. So we would -- we'll be able to provide that.

Q. And how do you test for the leaks? Will it be the soapy water, or --

A. In this particular case, no. We actually have the pressure -- oh, you mean to actually find the leaks?

Q. Right.

A. Yes. Then we have that leak liquid, leak detection liquid in a spray bottle and we would just go around looking for it.

Q. And then bubbles will show up, and --

A. Well, sometimes the bubbles are very slight, and that's what we would be looking. They're the harder ones to find. If it were to be an egregious leak, you'd sometimes hear it with the sound.

Q. Sound. Okay. But you didn't hear any sound?

A. We did not.

Q. Okay. And those leaks, were they in the customer housing unit or they were, like, the piping?

A. Yes. But as I might state, this is not the 8701 or 8703.

Q. No, I understand.
A. This is what we found in surrounding buildings.
Q. Yeah. I understand. But those were in the apartments themselves, not in the pipe sections in the basement?
A. In some case. For instance, like, one we found at a water heater which is in the basement.
Q. Okay.
A. But it was, again, a very --
Q. Minor leak.
A. -- minor leak. But, it was detected.
Q. Your report will have all that information anyway. Your document will have where the --
A. Just that a leak was located and repaired.
Q. Right. Well, it will have locations, right? I mean, where it --
A. Yes.
Q. I'll just bypass that, then. What about the 8701? Have you been to 8701 recently, before the accident?
A. No. The earliest -- or the latest that we had actually been in 8701 -- give me just a minute; I have to -- were plumbing repairs in January of 2015.
Q. Okay.
A. And quite honestly, that's all I have. January and May of 2015.
Q. Okay.

A. Two incidences of plumbing repairs.
Q. Plumbing. Do you -- does your document show where the plumbing repairs were made? Like water heater, or was it like in customer?
A. No. We would have to research that. But, for instance, at 8701 on January 15th -- or January 21st, 2015, there was a water valve leak in a storage room.
Q. Okay.
A. On May 29th, 2015, there was a leak in a bathroom in unit 11.
Q. Okay.
A. And that would be plumbing, water --
Q. Right.
A. -- or waste leak. But over the last 3 years -- I have a report here that we ran -- it shows no gas work in 8701.
Q. Okay. In the last how many years?
A. Three. That's --
Q. Oh, last 3 years.
A. -- that's what we were asked.
Q. Okay. So last 3 years, okay. Nothing.
Now what happens if you go to do a water repair but you smell gas? Would you be investigating or you have to report to Kay and then kind of get clearance from them before you investigate? Or --
A. Well, there are degrees. If there was a slight smell of gas we would investigate and make a quick look, see if there was

something we could determine.
Q. Right.
A. We would report that to Kay. If there was a significant sense of gas odor, then we would react to it very quickly to find what it is and even be able to shut off. We were authorized to shut off any gas if it were to be that. But there is no reports of that --
Q. Right.
A. -- at all in the last 3 years. There's no real reports of that at this property.
Q. And when you say you shut off the gas, are you guys able to shut off to all units themselves after the meter or you can just shut off the main gas coming in? I mean, like, near the regulators, that you can shut off the gas coming in or --
A. We would shut off, in this case, most likely, if there's something to be determined -- again, the scenario -- it's as big as the building. I mean, the extent at which a leak could be found. So if we could quickly determine -- for instance, if it were in a unit, then we would know to shut off that gas at its individual gas meter. If it were --
Q. On the outlet side.
A. On the -- well, the gas cutoff at that point is on the inlet side.
Q. Okay.
A. We are authorized --

Q. You're authorized to do that?
A. Yes, we are.
Q. Okay. Okay. And then, would you report to Kay or would you report to Washington Gas, if you had to do that?
A. Well, again, depending on the degree, we would report to Kay.
Q. Okay.
A. Let them know that it has been resolved. If needed, we would also have that further witnessed by WSSC.
Q. Okay.
A. Our involvement with Washington Gas is more hand in hand of having meters placed or obtaining service and such. But other than that, our direct working with Washington Gas is more on a professional level of inquiry of code and regulation, rather than side by side --
Q. Right.
A. -- work.
Q. Would you be examining the regulators to see if the regulator is not working properly? I mean --
A. Right.
Q. -- if you get a gas odor.
A. No, sir.
Q. You would not?
A. No. That is not our jurisdiction.
Q. Okay. So, you would not go to the regulator, or --
A. No, sir.

Q. What about the vent to the regulator? I mean, if you smell the gas will you check and make sure that the vent is clear, that it is supposed to be doing what it is supposed to do.
A. We haven't been called for any of that.
Q. Any of that? Okay. Okay. So nothing on the gas side 8701?
A. No, sir.
Q. More about plumbing. Okay.
A. This is our report for the last 3 years at that particular building --
Q. You -- sure.
A. -- 8701 and 8703.
Q. -03. Okay.
A. It's a short number of items.
Q. Just for the record, can we get a copy of that? Or I can make a copy and bring it back to you. I can do that. Somebody else take a turn.
A. That's your copy.
Q. Oh, great. And it goes to her.
A. Yes. If anybody else wants a copy, they can --
Q. No, they -- we will put it in the docket, if we need to.
A. Okay.
Q. Now, on the 8701, now have you done any work in the -- let me back up. Do you install the water heaters for Kay in the apartment buildings?
A. We do.

Q. Okay. And have you done that for 8701?
A. We have.
Q. Okay. Can you tell me when?
A. The water heater was changed to a new water heater around July 2nd of 2012.
Q. Okay. And who selects the water heater?
A. Pardon?
Q. Who decides which water heater to put in? Does Kay tell you to use a certain brand, certain water heater or you decide, as the plumber?
A. Generally it's something that we have already predetermined with them. But the brand in this particular case -- give me one second, I just want to get -- is a State water heater.
Q. Okay.
A. And the model of an SBD. And its BTU input is the 199,000 BTU input.
Q. Okay. And, I think, I told Chris, can I get a copy of that? Or --
A. Yeah, this is the --
Q. And I can, I can --
A. -- installation manual.
Q. -- I will step out -- can I make a copy for you?
A. That's your copy.
MR. WOODWARD: That's yours to keep.
MR. CHHATRE: All right.

BY MR. CHHATRE:

Q. So that was in July 2002, roughly?

A. 2012.

Q. 2012, July 2nd.

A. Yes, sir.

Q. Now, since the installation, did you -- you will have to go there to fix any problems with the water heater?

A. No, sir. The only time we returned was around July 12th to stand inspection with WSSC of its installation.

Q. Okay. That, I guess, by code, you are required to do with them.

A. We were required to obtain a permit and to have it inspected.

Q. Okay. And --

UNIDENTIFIED SPEAKER: That's July 12th of 2012?

MR. MAZZULLO: Yes, sir.

BY MR. CHHATRE:

Q. And any issues with the inspection, with the inspector?

A. Passed with flying colors.

Q. Passed, passed with flying colors. Okay. And but -- I mean, after July 12, were you ever called the water heater problem, water not heating properly or --

A. No, sir. There were some calls prior to that where we had worked on a pilot outage. And we would relight it, but apparently there was enough of a problem with them and age, that they requested we do a swap-out, that we change the water heater.

Q. Okay. The previous one was with the flame, continuous flame?
A. I believe that to be true.
Q. What about this, July 2nd, 2012, water heater? I mean, I think we have documents that -- was it electronic ignition or was it a flame or --
A. It's electronic ignition.
Q. Okay.
A. It's a pilot.
Q. Okay.
A. A spark to pilot.
Q. Just for the record, can you tell me how that thing works?
A. The logic -- the sequence is that the thermostat set at a temperature, would fall below that temperature, it would call for heat, which then would energize the logic of a spark ignition that would then light the pilot, which would then be sensed, which would then open up the main gas valve.
Q. Okay. When you say a light pilot, will that be a -- kind of a thermal --
A. Small flame.
Q. Oh, it will be a small flame?
A. Small flame first.
Q. Okay. And --
A. And then when the electronics in the control system of the State water heater determine that there is pilot established, it then has a sequence of time that it would go through and it would

open up the main gas valve, that would feed all of the burners.
Q. Just -- you know, I -- like, some will have a heating element that will become white hot or red hot and the gas will come. It's a flame for --
A. That -- there is a sensor in there that determines that. And that's described fully in the manual.
Q. Okay. Great. So, and do you know how often the water heater cycles? To be -- I realize it's --
A. On demand.
Q. -- going to depend on use, but --
A. On demand.
Q. Okay. On demand.
A. And that demand is a function of all the --
Q. Usage.
A. -- domestic water usage and standby losses.
Q. Okay. Now, as a master plumber, tell me, what can go wrong with a water heater. And I'm not saying something went wrong. Because we don't know what. I just want to -- from your experience, can you tell me what different things can go wrong with a water heater?
A. Well, it's an electromechanical device. Every component on it can go wrong.
Q. Okay.
A. Every physical component is a structure.
Q. Sure.

A. And all of that can fail. So I am -- from the bottom to the top or the top to the bottom, we could --
Q. Okay.
A. -- the pull out the drawing.
Q. I mean, it's a manmade machine, so it can go wrong.
A. Yes.
Q. If it -- something goes wrong, then what happens? Will the gas flow continue or the gas flow stop? Or how did that work? For example, if your spark is not working.
A. Oh, then it would not go through the logic -- the controller, the electromechanical -- the electronic portion of it would not progress through the sequence. And it either would continue to try to spark, go through some series and number of attempts, and I'm not exactly certain of this unit, how many attempts it would go through before it would stop attempting.
Q. To start the ignition?
A. Yes. So it would fail and shut off.
Q. Now the gas flow for the water heater, is it controlled by a valve or some sort or -- that can open or close?
A. Well, stepping back to -- there is that mechanical valve in the gas line, so -- that's a service valve -- so that it can be shut off. However, I think what we're discussing is beyond that. So that once service has been established --
Q. Right.
A. -- there will be an automatic gas valve that will open and

close to meet the demand of the thermostat.
Q. Now what about if the logic goes bad? Will it then trigger the gas flow irrespective of the spark?
A. If I might, to try to keep this succinct. It would fail closed. If there were to be a failure, the gas would remain closed at the gas valve.
Q. So even the logic would -- if the logic chip goes wrong, or goes bad --
A. Yes.
Q. -- it will not keep the gas flowing --
A. It would fail in the off position.
Q. If would fail, okay. But that is by design, so --
A. Yes.
Q. Okay. So if my electronic conks out on me, then there is no way (indiscernible).
A. Give you a for instance. If there would be a loss of power. Because, again, we need the power for that spark.
Q. Right. Right.
A. There would be no gas valve opening.
Q. Okay. So, again, I just want to make sure that the -- if the logic board goes bad -- like sometimes a computer will go bad. In that case, will the logic still work? I mean, will the gas flow continue then without your spark being ignited?
A. It would require the sequence of operation to be positive all the way through before it would energize the gas valve.

Q. So there is a safety built up in the logic that if anything fails --
A. Yeah, there are redundant safeties involved in that logic.
Q. Okay.
A. Yes.
Q. So, how do you -- you've got tremendous experience. Have you, in your experience, have you seen any electronic ignitions where either the logic, the valve -- something goes wrong and the gas flow will continue? In the electronic ignition.
A. The only time I have seen something like that is where those safeties have been circumvented.
Q. By design or by failure?
A. No, by intervention. Some person --
Q. Human -- this is human intervention?
A. Human intervention.
Q. Okay.
A. That's the only time I've seen it.
Q. Right. That's what I'm asking you, of course.
A. Other than that, I've --
Q. Yeah.
A. I've not been involved with many -- really any, that I can recollect.
Q. Okay. Now do you know how many water heaters in this particular complex are electronic ignition and how many are flame?
A. No, sir. I don't know that offhand. That would --

Q. Well, do you for sure that 8701 was electronic ignition?
A. Yes. Yes. Because of our records as to what water heater was installed.
Q. Sure. Okay. All right. That's all I have. Thank you so much.
A. Yes.
MR. CHHATRE: I appreciate all the help. Rachael?
BY MS. GUNARATNAM:
Q. I just had one. You mentioned the logic sequence and that there's redundant safeties involved. So in -- you said human intervention would have to override that logic, or -- to keep the gas flow going. Could you explain how someone could override those?
A. The answer is I do not know how they would do it.
Q. Oh, okay.
A. If you go through that, there is a logic sequence that was in there. So to jumper it or to, for instance, even bypass that and bring it in, pipe it in directly into the gas train, but then you would have -- the unit would be on constantly. And again, this is all -- it would be very difficult. The control valve is a sealed unit. And it's small, smaller than I can operate on.
Q. Yeah. So you would have -- and it would be pretty obvious someone tampered with it, if they did?
A. It would.
Q. Yeah. Okay.

A. It would.

MS. GUNARATNAM: That's all I have.

MR. CHHATRE: Okay. Kelly?

BY MR. EMEABA:

Q. Not much, myself. This is Kalu Kelly Emeaba. What can -- what situation or circumstance can make the valve to stop passing through gas?

A. We have to break that down basically into a process of elimination. You can have a mechanical failure. You can have an electrical failure. In most of our experiences, the loose wire syndrome or some type of corrosion on the gas valve or the wiring system itself, that would cause it to fail. I don't know of anything that would cause it to stay open, other than if in the piping there were to be some type of debris that would be transmitted. But again, there are a number of procedures and redundant procedures to prevent that.

Q. Like what?

A. A screen, primarily, just before the female threads to the gas valve itself, there is a screen in place. Prior to that, there is what is called the drip T, sediment trap.

Q. Okay. Do you know, based on experience, any manufacturer error that could occur to make a valve pass --

A. I'm not aware of any. Or I'm not aware that any reports are -- you know, certainly nothing at this property was reported to us.

Q. Okay. But from your experience, at any of the work location or something like that where you have installed the previous past or, you know, you have learned, have you received such information?
A. No, sir, I have not. I'm not aware of any.
MR. EMEABA: Thank you. That's all.
BY MR. PRICE:
Q. Good morning, Jim. Steve Price with Washington Gas. WSSC and their role with API, do they regularly inspect your work out at Flower Gardens?
A. Yes, when we obtain permits and we request the permit to be inspected. Yes.
Q. And the requirement for a permit -- what are the requirements for that?
A. One, it must be taken by the master plumber trading as and for the company. And then the requirements are that it meet all of the installation recommendations of the manufacturer and all of the plumbing code requirements that WSSC has adopted, and they have adopted some modifications of their own, and with that they have adopted the international fuel gas code.
Q. So would API need to pull a permit for any time they were on-site at Flower Gardens --
A. No, sir.
Q. -- or are there specific reasons why you --
A. There are requirements, and for our discussion, any time a

gas appliance is changed -- the furnace, the stove, the water heater -- we're required to obtain a permit and to stand inspection.

Q. And so, if I can explore that a little bit. So if you got a call of a problem in an apartment that involved an odor of gas and the work that you did did not include installing a new appliance, you would not require a permit for that work?

A. Correct. We would not need a permit for that.

Q. Only if you installed a new appliance would you require a permit?

A. No.

Q. Okay. I'm sorry.

A. There is a little bit more, but there are some qualifications. If we use the example of the water heater and then you can expand it with your questions after that. Since the water heater is located in a large room and we could make the changes to the gas line right at the water heater -- they have a 12 fitting rule, that if I am able to fix it in close proximity to the appliance and it's visible, then my license allows me to do this work, that I have seen it and I have made -- and this could be termed as a minor event, that -- a minor repair. By definition, their 12 fitting rule.

Q. Does the 12 fitting -- what does the 12 fitting rule in layman's terms mean?

A. If it's a minor leak, and as a licensed plumber I can fix

that leak and test it -- do a start-up, a safe start-up of that appliance, then I'm authorized to do it on my license.

Q. What is the 12 fitting referring to? Do you know? I mean --

A. I do. I'm just trying to put it into words --

Q. Explain it to me.

A. -- because I live it.

Q. I understand.

A. Okay. In the Washington Suburban Sanitary Commission's code, they have section -- in the 2015 code -- now I'll have to get -- look it up in here previously, and previous before that, but there are no marks indicating that it was changed in 2015.

Q. Okay.

A. It states, "Where an existing gas piping system is altered, repaired or extended, a soap test shall be permitted in lieu of a pressure test under the following conditions." Again, this is on a repair. If the -- there are other sections that if I change the appliance, then that requires a permit. But in this particular case, I'm -- this is an exception for a repair, that it would then be authorized under my license. "A maximum of 12 joints in the new and disturbed piping are allowed, excluding the equipment connector." So that isn't even part of the 12 fittings. "The new piping and any disturbed piping shall not be concealed" -- out in the open. "The developed length of the new piping shall not exceed 15 feet." So, as you know from your experience, to get 12 fittings in 15 feet, it's all fittings.

Q. Right.
A. Okay. "It shall be the licensee's responsibility to perform the required soap test prior to inspection and to ensure that the piping does not leak." And again, that's assuming that a permit is required. But, again, earlier, there are exceptions for repairs.
Q. Right. Did you do the actual installation of the water heater in 8701?
A. I did not physically do the installation. My company did. And the mechanic is Kelshall Ramroop, who will come in here later.
Q. Okay. So, Kelshall in that instance was working properly under your master gas fitter's license?
A. That's correct.
Q. Were you with him when he did that?
A. No, sir.
Q. You don't have to be with him?
A. I do not. He is a licensed journey.
Q. Did he do it by himself?
A. No. He had an apprentice with him.
Q. Okay.
A. And again, it was inspected later.
Q. On the 12th of July?
A. On the 12th.
Q. Understood. Who determines the design of the house line from the outlet side of the meter to the appliance in 8701?

A. Okay. In this particular case, it was existing. Our water heater was, for all purposes, a direct replacement. It may have been the same brand. It may have been a different brand.
Q. Okay.
A. But it was a direct replacement. It was in the same -- 199,000 BTU. So at -- let me guess the building's construction. The line is fairly close, if I might say from Rachael up to the ceiling across and maybe some turns and such down to you, is the location -- the distance from the house meter to the water heater in the buildings that I have gone into, which were the ones I enumerated earlier. I have not been in to 8701 or 8703. I'm not speaking directly, firsthand knowledge of what that distance is, but in the other buildings that I've seen, that's what I would expect to see at 8701.
Q. If it was similar, the design at least similar?
A. If it was similar.
Q. And that length of house piping and the fittings that you saw, to your understanding, would fit within the 12 fitting rule?
A. No.
Q. No?
A. No. The distance could exceed the 15 feet that I just mentioned.
Q. Okay.
A. But I think when we look at the ticket for the work that we did, the number of fittings that were replaced and the distance of

just pipe and nipples shows that we were within that specified distance of the 12 fitting rule.

Q. Okay.

A. And it was inspected. So actually, we would even be authorized with the permit to go all the way back and replace piping all the way back to the outlet of the meter. But at that point there would have been a test on it, and Kelly will be able to testify whether there was that much replaced or not. But our tickets indicate that it was all just a handful of fittings.

Q. Understood. The -- you were helpful in describing the valve functioning on the water heater itself. But, is it possible to actually loosen a union on that house piping before the valve on the water heater?

A. The answer is yes. Again, without coming up with a drawing, the piping arrangement is the gas valve attached to the water heater and then there's generally a short piece of pipe, a nipple, a union, a nipple, and then the sediment T.

Q. Uh-huh.

A. And it will go up to where there will be a gas cock. So generally, our direct replacements would be to possibly change the gas cock because of its age and construction, to bring all of this up to code and also correct the alignment so that it goes directly into the water heater. Is that your question?

Q. Yeah. I think, I think I'm just maybe asking for confirmation of what I think is clear to everyone, actually. But

if that house line between the outlet side of the meter and before the appliance is disturbed, either on purpose or by accident, that would cause a flow of gas out of that open house line. Correct?
A. Yes. If someone were to loosen, and possibly even disconnect the union -- a union is three piece assembly of piping materials so that you have two pieces drawn together by a locknut, and that locknut can be disconnected, using tools. I don't think there's hand strength ability.
Q. Special tools? Gas appliance tools?
A. Generally available hardware tools.
Q. Okay.
A. Channel locks, pliers.
Q. Would there -- and I'm recollecting a situation, at least, that we became aware of after the incident, on August 11th, where there was work being done in another meter room in a different building and it was somewhere in the relight procedure effort, and --
A. I'm aware of that.
Q. -- and a union was, I think, disconnected as part of the services to reinstate gas. I'm not sure of the reason. But are you aware of that?
A. I am.
Q. So can you describe that -- what occurred there?
A. There is a procedure to be able to purge the gas line. In this particular case that you're referencing, I know not which

building, but it was reported to me that they removed some of the piping because of the minor leaking at several of the joints. So they actually disconnected the piping. So going back in the sequence, the plumber --

Q. This is in the water heater -- this is in the water heater room?

A. The line from the public service meter over to the water heater.

Q. Okay.

A. And in that, we disassembled the piping configuration, cleaned off the threads, and re-doped, reconstructed the assembly. It now -- it had air in the lines, because we had tested the line. We had had that inspected. And now it was time to purge the unit. Because we used the old pipe in purging the air, some of the odorant was released with the air and a purge, by loosening the union and letting it slowly exhaust itself of the air to where it's replaced by the gas, is a procedure that is allowed. But again, the sensitivity at this particular site, after that event, was such that it was detected. Somebody smelled it. And there was an evacuation of the building.

Q. Okay. So it's permissible to purge a line like, in that manner, as you say. But in order to purge it, you still -- there still has to be house line pressure on the house line. Correct?

A. Yes.

Q. Right?

A. Now -- yes. And if I might say, that we're not talking about completely disconnecting the union. In this particular case, it was not the safe method. It was one that the technician utilized by just what we term cracking the union. Just loosen it enough so that you can get it to move a little bit faster than the -- than holding or pressing the pilot. He should have purged it by holding the gas control, mechanically holding it down, and allowing the small orifice to purge that. But it was --

Q. Understood.

A. There was an error.

Q. But if that permissible procedure is done at any time and then the union is reestablished -- I assume you'd have to tighten that union again?

A. Yes.

Q. That work would not have to be inspected by WSSC, if I'm understanding you correctly?

A. If I might break this down into two parts, the code was -- stated earlier in the book that, of course, all this work requires a licensed plumber to do this work. So if that work were performed by a licensed plumber, then it would not require a permit. It is not authorizing anyone without a plumber's license to do that work.

Q. All right. Or working under the authority of a plumber's license. Correct? Or no?

A. It's still requires a licensed plumber to do that work --

Q. Okay.
A. -- unless he's under my direct supervision.
Q. Understood. Okay. Do you know, with respect to installation of water heaters of that size and magnitude, whether there is a requirement to protect them with any kind of outside security fencing when you install them?
A. They have -- it's more from a prudent type thing. I don't know that the code would or could, should even, address that point. It's to the security and the nature of the water heater. For instance, a residential water heater does not have these requirements. A commercial doesn't necessarily need to be, other than for security purposes to see that it is not tampered. In the case of the ones that I saw in the addresses that I listed earlier, they were all caged in lumber and chicken wire screen locked door access, in a locked room.
Q. So just from the standpoint as an installer of these commercial units, and the one that was in 8701, is -- without respect to the caging, is there any requirement to bolt or anchor those water heaters to any permanent structure in the building? Or are they allowed to stand freely of their own weight?
A. They're allowed to stand freely. They're supported by their legs on a solid base. Those conditions are addressed by both the manufacturer and our plumbing code. It's basically structurally sound.
Q. In talking about the gas valve, you indicated something could

be circumvented by human intervention, and I thought you indicated you have seen that one time. Maybe I misunderstood you. Did --
A. No. I said I have not.
Q. Okay. So --
A. But it could be circumvented electronically. Someone would have to find a way to signal the gas valve to open. So the answer is yes, it could be because it is a mechanical device. But I am not in the business nor the practice of circumventing the controls.
Q. Okay. Did you get -- are you aware of any storage of gas appliances, new gas appliances in 8701, in the course of your work with Flower Gardens apartment?
A. Again, if you could clarify the question, Steve? Only because I have not been in 8701.
Q. Okay. But API --
A. Yes.
Q. -- does appliance installation for Flower Gardens apartment.
A. Yes.
Q. Correct? Are you aware of the storage of gas appliances in the storage room at 8701? Are you aware of the practice of that? And if not, that's fine.
A. I'm not aware of that -- that that's the case. But then again, if you're talking about storage of not connected -- for instance, like extra stoves or replacement stoves or something like --

Q. Exactly.
A. We see that in other locations, other properties and such. So to say that they have gas appliance is no different to say that they have faucet repair parts.
Q. Sure.
A. Okay.
Q. But my question was in particular to API, since this is our only opportunity to talk with you. If you had to install a new gas range, for instance, would it be placed upon your folks to go wherever they store it and move that gas range to the apartment that it's going to be installed in?
A. No, sir. It's our arrangement with Kay, the management, that they -- we disconnect the existing gas stove. They bring the new one, set it in place. We then anchor now the stoves because of their requirements, so that -- the anti-tip devices. We also make the gas connection. We will do our soap test on the stove and then we will have that inspected.
Q. Okay. Since the incident, are -- have you become aware of any information with respect to the Flower Garden -- Flower Branch apartment complex and the gas infrastructure or the gas house line and otherwise that in any way might be relevant to this investigation that you're aware of?
A. No. Other than what I stated earlier, is that each of the apartment units is fed by an individual gas meter and therefore an individual line to each of the apartment units that serves on

those two fixtures, the furnace and the range.

MR. PRICE: Okay. Thank you.

MR. MAZZULLO: Thank you.

BY MR. AMROLIWALA:

Q. Hi. Rashmikant Amroliwala, Maryland Public Service Commission. When you work inside the house for the house line, what's the requirement for pressure test for testing the house line? What does WSSC require there?

A. A few of the things that we have discussed earlier are that if we are doing an appliance change-out that we can do that work under the auspices of a permit and an inspection. If we change the piping beyond, let's just say, the visible -- anything that goes back into the wall, then that would require a pressure test to be witnessed by WSSC. If all of the work were on the outside of the wall, in the immediate proximity of the fixture, then the inspector would just have us soap test the exposed fittings.

Q. If it's a brand-new installation, if you install the -- from the outlet side of the meter up to the appliances, brand-new installation, how much pressure do you need to apply to pass with the WSSC requirement?

A. That would be 3 inches -- 3 pounds per square inch, on a gauge that is -- with small increments.

Q. Is it a 3 inches of water column?

A. No, sir. Three pounds, which is --

Q. Three pounds --

A. -- 6 inches of mercury.
Q. Okay.
A. And I'd have to do the math to figure out how many inches of the water column that is. But it's --
Q. And how long it should be?
A. They require a 10-minute test.
Q. Ten minutes.
A. And we always pretest, and we generally have it on much longer.
Q. And when you do the testing, you said the WSSC inspector is a witness all the time that the pressure is okay?
A. Yes, sir. Yeah. They will actually issue us -- in the case of a new installation, he would witness that and provide us a --
Q. A certificate?
A. -- a certificate, a meter -- allow us to get the meter, that it would be a tag that would then be hung at the meter rack so that Washington Gas would know that it's been approved and we would know that it's approved. We would have a record of that witness.
Q. Also, you attended calls January 15th, 2015, and May 25, 2015. The leak calls, what kind of leak calls were --
A. They were on the water or the waste. They were not relevant to gas.
Q. Okay. And do you attend the customer leak calls when they have an issue or when they find any leak, or when they smell gas?

Is that -- API attending the calls?
A. The answer is yes. But, you know, to further elaborate, if we receive a call in our office in Columbia, as compared to this particular property that's located in Silver Spring, we would ask if it is a serious leak or is it just the slight detection of the leak. If it is a serious leak, then it would be to hang up and call Washington Gas or call the fire department. If it's just slight, we're detecting it, it's something we don't know where it is, you know, will you come check it out; we will come check it out. Is that your question?
Q. You say light and serious. How you define serious?
A. Well, that's going to be the customer. They are there; it's their eyes, their nose that's in operation. And we will ask that --
Q. Do you have a leak detector to find the leak inside the home when a customer calls for leak?
A. We have electronic devices. We also have the spray soap.
Q. So when your technician, when they go to attend the call, do they keep that electronic device with them?
A. Generally, yes.
Q. So all these people they are trained how to detect the leak? Is that --
A. Yes. Or they're also trained that if it's significant to turn the gas off.
MR. AMROLIWALA: Okay.

BY LT. OLIN:

Q. Okay. Bill Olin, Montgomery County. So, when your guys -- your technicians go in and, like, work on a water heater, would they visually inspect, like, the meter rack at all in a storage room, that -- where the --

A. We don't have a procedure step by step. To answer the question in regards to Flower Branch, they would probably -- since they're -- particularly since they're going to be changing the gas valve, they will go over to the meter and shut off the public -- the house meter, public service meter.

Q. Uh-huh.

A. And their observation may be limited to that. They may also see the 14 other meters and the meter rack assembly. But we're not investigating or checking. If there's no smell of gas, if there's no indication of any problem, they would turn off the gas, do their work, and then reestablish --

Q. And that's just --

A. -- gas service to that water heater.

Q. And that's just the one meter that serves --

A. Yes, sir.

Q. -- that hot water heater?

A. It serves the water heater and possibly two driers. So it branches off to the water heater.

Q. Okay. In the units that have the laundry room in the same facility -- in that same room?

A. Yes, sir.
Q. Okay.
A. But it's my understanding that that's true of each of the entrances.
Q. All right. Well, 8701 doesn't have, doesn't have a laundry facility in it. It's --
A. It may not. But it has, it has the water heater.
Q. Yes.
A. Okay.
Q. Yeah. When you mentioned that the repair on -- in January, and it was in the storage room, do you know if that was the storage room -- meter room storage --
A. I don't.
Q. -- or do you know if that was the maintenance storage room on the other side?
A. I don't know.
Q. You don't know? Okay. And do you know who did that repair?
A. Not on hand. I have tickets for that in my office relative to that.
Q. So you were talking -- so I'm just trying to get your expert opinion, since they've been talking about leaks -- gas leaks at the gas valve on a hot water heater. At that point, that would be a low pressure leak; is that correct?
A. That is.
Q. Okay. In your estimation, how long would it take a low

pressure leak to like fill a room or -- like that storage room? Any idea?

A. I don't. Those are calculations based on the volume of the room, the number of air changes, but more importantly, the size, the magnitude of the leak.

Q. Uh-huh.

A. So I have no way of answering that.

Q. Would you estimate that -- or, I guess, could you provide any insight, that a leak -- a small low-pressure leak, will it migrate up through the building? Through voids, spaces and stuff?

A. Knowing the general construction of those other buildings that I attended, I would say that some of it would.

Q. Okay.

A. But I don't have any way of determining how long or what magnitude leak it would take to be able to become explosive in that room.

Q. Okay. All right. If one of your techs came in and saw -- was doing work, would they necessarily -- if they saw a vent line off from a regulator, disconnected, would that be a red flag? Would they -- or --

A. I don't know how to answer that, simply because we generally don't work on that.

Q. Okay.

A. I don't know that, that as a journey plumber, that they would look for that.

Q. Okay.
A. Again, the picture that I tried to illustrate was that a technician comes in, his assignment is to change a water heater --
Q. Focused on the water heater.
A. -- which is going to be 8 to 12 hours worth of work, that he is going to be involved with controlling the gas, doing the other work -- everything from, you know, draining the water heater to changing the flue to connecting the water pipes and connecting the gas -- all of this, the start-up procedures, any minor electric connection, and all of these tasks need to be completed. So he's probably going to be a little bit --
Q. Focused on the hot water heater.
A. Yes.
LT. OLIN: All right. Thank you. That's it.
BY MR. CHHATRE:
Q. Okay. This is Ravi, NTSB. Couple of quick follow-up questions, and what is really based on your experience. You mentioned about the assembly, the pipe coming into the water heater and coupling. Can you draw the picture for me?
A. Sure.
Q. I'm not a plumber, so --
A. And I'm not an artist.
Q. And we can just take a picture for -- in case of -- that will be helpful. And I don't know other people feel, but I'm a picture man, so I -- the drawing will tell me a lot.

UNIDENTIFIED SPEAKER: Do you have, do you have a marker?

MR. CHHATRE: There should be -- I'm sorry. Now we'll get one. There should be one in my -- let me get one.

MR. MAZZULLO: No laughing. I'm very sensitive. But I will sign it, and it'll be a Rembrandt, so --

UNIDENTIFIED SPEAKER: I've got a Sharpie.

MR. MAZZULLO: You've got a Sharpie? I was going to suggest the Sharpie, and then we will have to --

MR. CHHATRE: Then you will permanently state here.

MS. GUNARATNAM: Can I --

MR. MAZZULLO: I think in the future, anything that's like that --

UNIDENTIFIED SPEAKERS: You can always go with the dots and the arrows.

MS. GUNARATNAM: Can I ask him about the -- or do you want to --

MR. CHHATRE: Take your turn, and then to -- although the transcriber has to --

MS. GUNARATNAM: Yeah. This is Rachael, NTSB.

BY MS. GUNARATNAM:

Q. You mentioned the permit that was -- 2012. Do you guys get copies of that?

A. The answer is we keep copies of the permit form. We do not have the signed form. Sometimes we just leave that with the customer. Sometimes it doesn't make it back to the folder.

Q. Okay.
A. We have an electronic statement that it was inspected and it passed.
Q. Okay. Does Kay Management get a copy?
A. Let me say yes.
Q. Okay.
A. Maybe.
Q. All right.
A. No. I --
MS. GUNARATNAM: Okay. In the -- okay. Never mind. The markers are here.
MR. MAZZULLO: I'm going to use the dark colored, and we'll just do a straight line if we might -- to represent the gas water heater. We have the gas control valve.
BY MR. CHHATRE:
Q. Okay.
A. Which has the thermostat built into it that is immersed into the water. So in a straight line we will have coming out of the gas valve a nipple, a union, a nipple, and then a T. So this will go into here. And a cap at the bottom of it, that's the sediment trap. Above that someplace generally will be the gas valve; although the gas valve could also be placed in the horizontal line. Our tickets indicate that we replaced that three-quarter inch gas valve, which indicates to me -- and Kelly can tell us if it's any different -- that it would be in the vertical line.

Q. Do you mind writing gas valve or whatever, all the different things in there?
A. I'm going to go with the plumber's term. That's the gas cock --
Q. Okay.
A. -- as opposed to the gas control. And again, that's a multifunctioning device.
Q. Okay.
A. Controls the gas. It's the thermostat. It has wiring. It has the censor. It has the logic built into that.
Here we have a sediment trap. The union. Anything else we need labeled?
Q. No. No, I mean, so --
A. Water heater.
Q. So essentially we can turn the gas off here when you replace it?
A. Yes.
Q. At your gas cock?
A. But in this particular case we replaced that gas cock.
Q. Okay.
A. So to control it, if I might -- it goes up, over, comes down and into the meter.
Q. Okay. Right.
A. And this distance can be short. It can be long.
Q. So you cut off the gas supply --

A. Yes.
Q. -- at the meter? Out at meter --
A. No. It has --
Q. Inlet.
A. -- its own inlet of the meter which we are allowed to operate.
Q. Okay.
A. But that's just a control valve.
Q. Okay. Great. Okay. That, that helps. And one procedural question. Is your master plumber license current?
A. It is.
Q. Okay.
A. And it was at that time.
Q. And when --
A. When we did the --
Q. -- when it expire, your current license expire?
A. I'm going to cheat and look. 2018.
Q. Okay. 2018. So how long a license is valid? 2018, you said? Six years?
A. Uh-huh.
Q. Or 2 years.
A. Or, or -- no, no, it's longer than that. I believe it's 5.
Q. Okay.
A. Five, 7, 9 --
Q. Anyway, but it's expiring in '18, 2018, so it's current.

Okay.
A. Actually, September 30, 2017.
Q. Oh. So --
A. Yeah, but that isn't from when it was issued. So --
Q. Okay. Great.
A. I have 26 different licenses.
Q. And you say if you have a minor leak you can repair; major leak you have to call the gas company. Is that -- did I hear you correctly? If --
A. Well, I think that's overstated in the sense that if there were a major leak we -- other people would be involved before we're involved.
Q. Okay. Okay. And I guess my question really is for our own information as to what, what you would define major leak or just minor leak?
A. Let me back up to what we had said earlier.
Q. Okay. Sure.
A. If we're changing the appliance, that requires a permit, an inspection, and some type of a test. That test can be either a pressure test or it can be the leak detector test. Is that a little more succinct?
Q. No -- yeah, that's -- that will be fine.
A. Okay.
MR. CHHATRE: And I guess that's all I have. Any follow-up questions?

BY MS. GUNARATNAM:
Q. So, after a water heater is installed is there any follow-up inspections on it over the period of years, per requirements or --
A. No. There are no code requirements --
Q. Code requirements.
A. -- to that effect.
Q. Okay. Do you have a policy to go inspect water heaters after they're installed, or --
A. Again, our arrangement with Kay, for the most part, is on their demand.
Q. Oh, okay. What about normally? Like --
A. There are manufacturer's recommendations with the temperature relief valve. There are, of course, visual -- like, you know, check the operation, look to see that there's still sufficient combustion air for the needs of the water heater.
Q. Would that be --
A. So the answer is yes. And that should be in there. Yes, ma'am.
Q. Okay.
A. Yeah.
Q. And so maybe -- can you explain the codes in front of you, like how they're adopted, on what authority? Like, is it the county --
A. Okay. The Washington Suburban Sanitary Commission is the authority having jurisdiction of plumbing and gas throughout most

of Montgomery and Prince George's County. That is a Maryland public utilities article. It is an annotated code of Maryland provision. All of these are in the front of the book itself. We are regulated by WSSC and that's -- the first section is the administration, their definitions, and then where they adopt the international plumbing code and they adopt the international fuel gas code, which then goes further in the prescriptive installation procedures for plumbing and gas.

Q. Thank you. And you're saying -- well, that was for the tape recorder. But you -- at the time of installation, which years was in place for the codes?

A. We did the installation on the address 8701 in 2013. So, July 2nd -- as I sit here right now I have not investigated whether it was the 2013 code, which I highly -- oh, I'm sorry -- 2012. I'm sorry.

Q. Oh, okay.

A. So I have brought what I had off of my desk. What I was pointing out of the sections when we were discussing the 12 fitting rule, there were no black marks indicating a change. So I would need to go back to that date to find out exactly which code was in place at that time. But I think for our purposes, it is close to, if not the same, for the provisions that we've mentioned.

Q. And it was the 2012 fuel gas code that was --

A. Well, so the cycle before the 2012 is what I have to --

Q. Oh, it's -- okay.
A. -- do further checking to find out.
MS. GUNARATNAM: Okay. Thanks.
MR. CHHATRE: Kelly?
BY MR. EMEABA:
Q. Going back to the coupling or the connection that is made on the gas lines when water heaters are installed, which you mentioned for it to separate you need kind of a mechanical tool to make that happen. Could that hand step junction be defective by itself?
A. "Could be" has a wide latitude so the answer is yes. There could be defects in that. I have not seen to where a defective union has presented such a problem, but I'm not saying that is has not. Sure, it's -- again, it's a physical object.
Q. Can you -- if you look at a gas supply in a system building up a pressure of itself, which I think they call it gas packing -- in a gas fuel pipeline or internal piping --
A. Sure. Okay. Yes, sir.
Q. Yeah, which I think the Washington Gas people call it the packing of gas. Kind of --
A. Gas pressure?
Q. Gas pressure.
A. Okay. Okay.
Q. When it fills up a gas they call it pack.
UNIDENTIFIED SPEAKER: Line pack.

BY MR. EMEABA:

Q. Line pack. So what -- from your experience, can you tell what a pressure or line pack could be -- the effect it could have on a joint, a handmade joint that is not properly done?

A. Let me go back to what I know --

Q. Yes.

A. -- and then we'll try to fill in what you're asking. The pipe and the fittings are rated to 150 pounds pressure.

Q. Okay.

A. Their test pressure is generally 300 PSI. The pressure at which our gas lines operate at Flower Branch are roughly one-quarter of 1 pound. So to say that the line coming from the meter to where it drops down -- if I might go to the drawing --

Q. Yes.

A. I'm not certain. I know from Kelly's ticket -- Kelly Ramroop --

Q. Yes.

A. -- that we have half-inch connections to the gas valve. We have a three-quarter inch gas valve. But it could increase and be a larger pipe or it could be three-quarter inch over to the meter outlet.

Q. Yes.

A. So those are the physical parameters of what we're dealing with. I don't know what the actual sizes were at 8701.

Q. All right.

A. Other than Kelly's ticket, which indicates what I pointed out here.
Q. Okay. So using your diagram, from this end of the connection, could that be building pressure on this from gas that could affect this?
A. The answer is that you have standard gas pressure --
Q. Yes.
A. -- on that full line, rather -- let's say when it's not in operation. If it were even to come on, there still is gas pressure on that line. It's going to drop to a minimal amount -- or, minimally, that the gas pressure is going to still be very near one-quarter of 1 pound PSI.
Q. Thank you.
A. Did I answer you?
Q. Yes. More or less, you are looking at a reduced pressure at this point in time. But my question is --
A. Well, standard pressure.
Q. It's standard pressure.
A. I'm not reducing it.
Q. Okay. You know, the -- I know that this -- the connections here, from what you mentioned, they are normally handmade. To actually remove the connection, this tie bond, you actually need a mechanical tool to do the separation.
A. Yeah. On a union being the three parts --
Q. Yes.

A. -- with a locknut generally takes two tools.
Q. To separate?
A. To separate.
Q. Okay.
A. Because you have one to hold it in the place and the other to back it off.
Q. And when it was initially connected, it was handmade?
A. And then tightened with tools.
MR. EMEABA: And tightened with tools. Thank you. That's all my questions.
BY MR. PRICE:
Q. Jim, as part of the relationship you have with --
LT. OLIN: Steve Price.
MR. PRICE: Sorry. Thanks, Bill.
BY MR. PRICE:
Q. Steve Price. I'm notorious forgetting to announce my name. But as part of the relationship with Kay Management, do you maintain keys or access to any of the buildings? Does API maintain that?
A. Generally, no. Our technicians, our supervisors will go to their office to obtain keys, which are tightly controlled. So we sign out for those keys and we bring those back at the termination of our job.
Q. And you said generally. Was that the case with Flower Gardens apartment?

A. Kelly will be able to answer that --
Q. Okay.
A. -- a little more directly.
MR. PRICE: Thank you.
UNIDENTIFIED SPEAKER: No, that's --
MR. CHHATRE: Okay.
UNIDENTIFIED SPEAKER: Nothing. Thank you.
MR. CHHATRE: If not, thank you, Mr. Mazzullo for coming in, spending time with us --
MR. MAZZULLO: Thank you.
MR. CHHATRE: -- and educating us. I appreciate your time. Off the record.
(Whereupon, the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: THE EXPLOSION OF APARTMENT BUILDING 8701 OF FLOWER BRANCH APARTMENTS IN SILVER SPRING, MARYLAND ON AUGUST 10, 2016 Interview of James D. Mazzullo

DOCKET NUMBER: DCA16FP003

PLACE: Washington, DC

DATE: August 29, 2016

was held according to the record, and that this is the original, complete, true and accurate transcript which has been transcribed to the best of my skill and ability.

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Jane W. Gilliam
Transcriber