Pentagon Attack

Interview with Daniel J. Murphy November 28, 2001

Putney: This is an oral history interview with Daniel (Dan) Murphy. It is November 28, 2001, and we are in the Pentagon. Mr. Murphy is an electrical engineer with the Building Management Office. [The interviewer is Diane T. Putney, OSD Historical Office.]

The first question is an easy one: what are some of your key responsibilities here as an electrical engineer?

Murphy: I work with the operations and maintenance program to make sure that all the preventive maintenance, corrective maintenance, and operations of this Building's electrical system are done properly. I also support the renovation office, coordinating any of their electrical activities.

<u>Putney:</u> Before September 11 had you been part of any efforts in the Pentagon to protect the Building against some kind of threat of attack?

Murphy: I had worked with various agencies within the Pentagon and in support of the Pentagon to look at threat assessments of the Building, mostly dealing with the utility systems and ways of hardening them.

<u>Putney:</u> Had that been going on for a couple of years or a few months before September 11?

Murphy: Probably a couple of years. I had been involved in an exercise with the Joint Staff back in April. We were preparing to do another exercise in November of this year, but it was superseded by the attack.

<u>Putney:</u> These exercises, then, had certain scenarios about some kind of attack on the Pentagon, and you were part of the response team, as the Building Manager's Office responds to it?

Murphy: Yes.

<u>Putney:</u> You were here, then, on September 11th?

Murphy: Yes.

<u>Putney:</u> Would you describe what you were doing that morning and how you learned about the attack on the Pentagon?

Murphy: I had a doctor's appointment scheduled that morning out in Falls Church at 8:30. As I was leaving the office I saw on TV that a plane had hit the World Trade Center. While I was getting blood work done, the second plane hit the Center. My original plan had been to go home and catch the bus to the Pentagon, my normal way of getting here, but after seeing that, I decided that we would probably be on a higher state of alert and came here directly. I was walking across the Corridor 2 pedestrian bridge, about to enter the Building, when I heard the plane, heard the crash, and felt the shake. My initial impression was that it was likely an F-15 flyby. I had heard the engines whine, and thought I was hearing the sonic boom that was associated with it. I went into the Building, saw the smoke, and heard the people leaving. Because of my duties of working with the operations group, I went down to our newly built Building Operations Command Center (BOCC) to support whatever was needed. I went from

there out into A&E drive by Corridor 4 to check on the status of one of our transformer vaults in the crash area and see if it was still active and safe to be active. I found out that one of our electricians, Matt Morris, had already gone in and opened up the highvoltage disconnect in order to safeguard the equipment and personnel. After that I helped escort people through A&E drive out towards the center courtyard. At that point, when I was actually in line waiting to go into the crash site to help people out as well, when I noticed there were no lights in there. I realized that we had not only lost the normal power feed but the temporary generator station located outside the Pentagon where the plane had entered. I later found out that the plane hit the generator before it hit the Building, which was why there were no lights in that particular area. So instead of going into the site I decided to come back here, 1B253, to get flashlights that would help the rescue effort. I stripped off my dress shirt, because people were dipping their shirts into A&E drive, which at that time had ankle-deep water from the burst pipes and sprinkler systems, and using them as filters to go in and help people. I handed my shirt to the man in line behind me and ran to get flashlights. I went back to that area and gave the flashlights to various personnel, DPS and others, who were helping escort people through. At that point they weren't allowing anyone else to go into that area of the Building. I went back to the command center and found that there was a problem with the pressurization of the water lines. Due to the break we had lost so much water. the chilled water lines supporting the National Military Command Center, the sprinkler systems, and the rest of the Building were too low on water. Don Kuney had called over from the heating and refrigeration plant and wanted us to close some valves in order to allow them to repressurize. Steve Carter directed me down to the 1-2 apex.

center courtyard tunnel to close the valves down there to help pressurize the system. I went down there, there was smoke, and did what I could there. Steve and I went back to the command center. They were calling in that another plane was in the area, and we tried to shut down as much as we could with the controls that we still had active in the area before we left. We were getting calls on our internal radios that the plane was coming—that it was five minutes out, that it was two minutes out. At two minutes we left. Steve and I had hooked up as part of the buddy system that nobody was ever left behind by himself, so he and I were together at that point. We ended up running down the hallways to get to the other side of the Building. We got to the center courtyard by the 1-2 apex, and at that point no one could tell which direction the plane was heading, so we had no idea in what direction to run, so we just stood there in the center courtyard to wait and see. After a while there was no plane, so the center courtyard started to fill up with rescue workers. Some people from Di Lorenzo, the Tri-Care Health Care Clinic, and others had come in with stretchers and were preparing to help rescue people. We tried to support people in that effort. At one time they had taken a lot of stretchers away, and a nurse said they were heading back to the clinic to get more stretchers up on the fourth floor of the area. I noticed a stretcher on the ground in the center courtyard, and I got it, and with Yung Kim from our control shop and Chad Henson from Johnson Controls, we went up to the fourth floor. It was a wall of smoke, and we couldn't see a foot in front of our faces. We called out trying to find if there was anybody there who needed help and ran around the apex and out the corridors a bit before we started coughing heavily. We didn't hear anyone, so we went back down to A&E drive where there were others waiting to see if there was any need to go into that

area. We waited with them. Eventually they cleared us to leave that space, too, and we went out to the center courtyard. Around that time they began rescue work from the heliport side and there wasn't as much being done on the courtyard side. We were in communication with the fire department, and they were going through trying to take care of their stuff. Bill Thomas from our electrical shop had gone out and de-energized the electrical systems from Corridor 3 to Corridor 6 to ensure that firefighters going through the area could cut through the walls or do whatever they needed to do without fear of getting electrical shocks. From time to time we heard they were still finding live circuits when they were going door to door doing their search and rescue efforts. We recognized that it could have been the emergency systems that were still active in those areas. Two gentlemen from our generator shop went and found the areas that were being served and de-energized their backup systems. But to ensure that there were no other problems, Russell Taylor of our electrical shop and I went down to the Army Operations Command Center in the basement and up Corridor 7. I knew that they had a backup power system that was being supported from a different source, and that they supported loads throughout the Building as well. I thought they might also have some loads in that area that caused some live circuits. They told us they didn't have anything at that time. At some point during that morning I had to go talk to Mike Bartos, the facility manager from the National Military Command Center (NMCC), to deliver a key, one of our electronic keys, that would allow him to access any of our mechanical rooms so he could keep his systems operational. I informed him at that time that we had shut off the chilled water system to help reenergize it. He was unaware of that and had to get his backup chiller system operational so that it could

help as well. After that we just did whatever we could. I found time to call my family and tell them I was all right. I helped support Matt Skowronski, our industrial hygienist, who was going around checking smoke, making sure carbon monoxide was not rising too high, and putting some indoor air quality meters throughout the Building, including the NMCC, to make sure that nobody was working in an area that would be considered unhealthy. The day went on, and I stayed throughout the night until 5:00 a.m. the next morning. At 2:00 a.m. Mike Bartos and I had to venture into the crash site to do an evaluation of an electronic circuit. There was some communication gear in that area that needed to be kept alive. It was currently working off of a battery system that would die around noon the next day, and we had to find a way to keep it going. The fire department supported us in that effort. They got us gear, and we had to suit up and walk into that area with their escorts. We did an evaluation of the system, saw some problems and some things that could be done, and went back out and helped them work up a plan on what to do. At around 6:00 on that Tuesday, I called a contractor at Dominion Virginia Power to send some personnel to support us the following morning. At 6:00 Tuesday night we had assumed the fire would be out by midnight, and the next morning we could start testing and de-energizing some of our electrical gear, but due to the smoke and water damage we wanted to make sure that everything was safe before we tried to reenergize. That's why we called Virginia Power to come the next morning to do it. As it turned out, the fire had not been extinguished by that time, so we had to let those people leave because there wasn't anything they could do. I left to go home around 5:30 Wednesday morning. I showered, went to bed around 6:00, and they called me at 8:30 to come back to take care of other issues. On Wednesday morning

we got a call that the rescue workers were still finding live circuits in where the Navy Command Center had been in Wedge 1, that was in the C and D rings from Corridor 4 to 4 1/2 in the actual crash site area. Somebody realized that they had an uninterruptible power system (UPS) with batteries attached to it. Without having a load to draw the batteries down they could still be charged and causing problems. They needed someone to go in and deactivate it. Matt Morris, John Robinson, Bill Thomas from our electrical shop, and Bobby McCloud, who used to work with our shop and is currently employed with the Leased Facilities Division of RE&F, came back to help us. So we went into that area to check out the gear and see if anything was still alive. John Robinson and I were actually climbing over the rubble of the command center looking for UPS to see if anything could have been causing trouble to the search and rescue workers. We eventually found it. It had been drained already, but there was a light on the security panel that was being fed by a nine-volt battery. They had seen a light and assumed there was power from someplace. We climbed over a lot of the rubble. I think I was lucky, because I had forgotten to bring a flashlight with me. John Robinson told me after the fact that I had climbed over some bodies, but because I was trying to find firm holds, I wasn't looking at other things, therefore, I didn't see any myself. That would have been tough. The rest of that day we were analyzing areas of the Building to determine what we could start to bring back and coordinating with the FBI to find out what areas they would allow us to go back into. We worked with the fire department to make sure that everything was structurally sound and that there were no fires in different areas. At one point on Thursday we did a walk-through and were able to bring up some of the electrical circuits over at Corridor 6, because the Secretary of the Army

wanted to get back in. Everybody was saying that they had a war to fight and needed to get back into the Building. We had to get the systems back on line. We were working with a number of companies, like ServiceMaster, who were phenomenal and helped us clean the Building, working around the clock to make sure everything was clean. There was so much smoke throughout the Building they had to clean ceilings. corridors, and everything. I provided escort through certain areas because we had to get people in. A lot of people were helping to support that effort. A lot of people from the Real Estate and Facilities group were doing what they could. We brought back the power to Corridors 6 by the C, D, and E rings by the 13th, Thursday morning. On Friday I was going to do a walkthrough of the electrical vault that supports the A and B ring on Corridor 6, but it was still behind the FBI crime scene fence. I had to go to the heliport to meet with the FBI and wait about three hours to get an escort. A man named Mike Anderson was eventually able to walk with me so we could get into that area to analyze what circuits we had to activate and find a way to route them from some other location. We ended up eventually bringing that entire vault back on line, but at the time we thought it would be too much of an effort to do that, so we had to come up with a temporary solution. We ended up with a good permanent solution instead. Since then I have done whatever has been necessary, working with getting power up in different areas, getting temporary support to different locations that needed to be brought up. I just came from a meeting about relocating the Navy Command Center, and I provided review comments and coordination efforts with that.

<u>Putney:</u> Are you back to normal yet, with quotation marks around that, a "normal" schedule and activity?

Murphy: For the first month after, we needed 24-hour coverage of everything. Dave Brown, the chief of the Operations and Maintenance Group for PBMO, and Juan Rodrigues, the deputy, were working 12-on and 12-off to provide 24-hour coverage at that level. Weekends, Matt Skowronski and I helped fill in and did 8-hour shifts with them so that they could have time off for R&R. That lasted for about a month. Then we were back to normal coverage requirements, but the workload is still so high we have not been able to go at a normal pace. We are getting in early and staying late.

<u>Putney:</u> To backtrack, when you came into the Building and went to the BOCC and to the first vault, was that hit at all or was it just close to the impact site?

Murphy: It wasn't hit, per se, but when I got there, smoke and fire were billowing out of it. One of the interior walls was shared by the Navy Command Center, and it had blown in. People were using that as a means of egress to get out of the area.

<u>Putney:</u> Is that dangerous for people to come through an electrical vault?

<u>Murphy:</u> If Matt Morris hadn't de-energized it, it would have been. We found out afterward that there weren't any shorts in the equipment, but an explosion of that size moved transformers off their pads, and there could have been live electrical equipment that was dangerous for people coming through. So it was dangerous for Matt to go in, but once he de-energized it, it became a safer zone for people to get out, but still a problem.

<u>Putney:</u> How big is one of these vaults? Are the transformers actually in the vault?

<u>Murphy:</u> Yes, there are four transformers in the vault. The vault is about 20 by 30 feet in size. The four transformers are each about 6 feet long by 6 feet high by 4 feet wide.

<u>Putney:</u> Did you actually see into the command center when you were there, did any people come out, or had they all come out, who were able to, by that time?

Murphy: I did see people still coming out when I was there. I was there within 3 to 4 minutes after impact.

Putney: Can you state specifically where that particular vault was?

Murphy: It was located adjacent to A&E drive at C ring and Corridor 4. It is no longer there.

Putney: Is there only one A&E drive?

Murphy: A&E drive encircles the entire Building between B and C rings. It's a roadway that is open, for the most part, all the way up from ground level to the roof. It's covered between 7th Corridor to 2nd Corridor, but for the most part it is open.

Putney: At some point, can you go toward the E ring and exit?

Murphy: Corridor 4 could be used. There is a doorway at the first floor at Corridor 4 out to the heliport area. It was full of smoke, as well. Some people were coming out of there and going down towards the center courtyard to exit.

<u>Putney:</u> When you first got to the BOCC, do you remember who was there?

<u>Murphy:</u> Steve Carter, Kathy Greenwell, John Ash, and I believe Chad Henson, from Johnson Controls.

<u>Putney:</u> When you noticed there were no lights, did that surprise you because you knew there was a backup generator for that impact area?

Murphy: I knew about the generator, it was just something I noted and realized what caused it, that the backup and normal power had both been lost to that area of the Building. I wouldn't say I was surprised.

<u>Putney:</u> You mentioned that later on you learned that the plane had actually hit that back-up generator, could you explain what that looked like? Do you suppose that in some way slowed the plane down?

Murphy: No. This was about the size of a tractor-trailer. It was a little burnt and twisted thing, knocked out of the way with no impact on the plane.

<u>Putney:</u> Do you think it got hit by the wheels?

Murphy: I think the wheel had never actually come down, it might have been the engine hanging off of one of the wings that clipped it. It was sitting on top of a tractor trailer itself, so it wasn't even mounted to the ground.

<u>Putney:</u> Do all the wedges have back-up generators like that or was this only for Wedge 1 because it had been renovated?

Murphy: This was a temporary one for Wedge 1 until the permanent life safety backup could be connected to the rest of the Building. That would be coming from the Remote Delivery Facility. When Wedge 2 got renovated, the pathway would be there to tie it in. This was only supposed to last for 1 1/2 or 2 years, until that permanent source had been provided.

<u>Putney:</u> When you were helping to rescue people, people were wetting their shirts and going in, could you describe the smoke, and what it felt like to be so close to the impact area?

Murphy: We could see the fire coming out. The smoke was heavy and black. It was coming out heavily, and by the time it got up to the fifth floor it was taking up all of A&E drive, so there was very dim light coming through, like a twilight.

Putney: Blocking the sunlight.

Murphy: Yes. It was amazing to see everyone getting in line to do whatever they could, going into the dangerous locations. The fire was still raging. No one was exactly sure what had happened. We assumed it was a plane because the planes had hit the two World Trade Center Towers. With the jet fuel and everything else it was very dangerous. Watching military and civilian people alike going in, willing to do that without knowing what damage could happen to them, was amazing.

<u>Putney:</u> Then the call came in from Don Kuney about the importance of turning off the water. Can you explain the importance of chilled water and why it was essential to find those valves and turn them off?

Murphy: The Building has five sides, that's [?] million square feet. It is the headquarters of the military. While a lot of people did leave the Building, not everyone did. The Army Operations Command Center continued to function. The NMCC continued to function also, so we needed to provide them with the utilities to keep them fully operational. Part of that is the chilled water to keep the areas cold, keep the air conditioning going, and everything else. When the pipes got hit, they started losing pressure, so to repressurize the system, they needed to shut down the valves and pump it full of water again so they could reopen the valves and get everything working again. To help that out we needed to close the valves, allow them to repressurize, and then open the valves in certain locations to feed the valves that needed to be fed.

Wedge 5 or 1 weren't as critical for that, so we didn't worry so much about getting those areas up. The immediate concern was for the command centers.

<u>Putney:</u> Ordinarily you don't deal with water valves, right?

Murphy: Right.

Putney: So you were with Steve Carter?

Murphy: I work for Steve Carter.

<u>Putney:</u> You were his buddy at this point, and he knew it had to be turned off, and you were there, so you were it.

Murphy: We actually split up at that point. He took one set of valves, and I took another set. We met up again back at the command center. I closed one right valve and one wrong valve, he told me after the fact. When I talked to Don Kuney and showed him which ones I had done, he said he would never send an electrical engineer to close valves again! He also said that even though I didn't close the correct valves, the ones I did close accomplished the same thing. One valve I thought I missed and had incorrectly chosen to close, with the other valves everyone else was closing did what it was supposed to do.

<u>Putney:</u> Could you describe where the valves were that you closed and how close they were to the impact site?

Murphy: I closed the valves at the basement level, at the apex of 1 and 2 in the center courtyard below the roadway that goes around center court. These are 36-inch lines, and the valves themselves have wheels of about 2 feet diameter that you have to close.

<u>Putney:</u> Bigger than the steering wheel on a car.

<u>Murphy:</u> Yes. You just have to keep turning the wheels until they close the valve forward.

Putney: Was it hard to see down there?

Murphy": There were lights down there. Some were lost because of the impact.

Where I was there were still some there, and a lot of smoke also. It was hazy.

Putney: Was it wet?

Murphy: It eventually got wet because of all the water seeping around. When I was there it was not very wet. Eventually it got ankle-deep, mid-shin deep in some areas.

Putney: You were able to close the valves by yourself?

<u>Murphy:</u> We decided after the fact to put some controls on them to motorize them so they could be closed remotely as opposed to needing to send someone down into those areas.

Putney: The BOCC was in Wedge 1, a rather modern command center for the utilities. What were you able to do from an electrical standpoint from right within that center?

Murphy: Nothing. We were working on bringing some of the controls back there, but at that time nothing had been brought back. Also, electrical systems, due to their very nature, can be opened remotely, but it should never be closed remotely, because you never know if someone is there or if there is a short or a problem and someone could be injured or equipment damaged. You need to actually see the equipment to make sure it's clear before you try to re-energize.

<u>Putney:</u> Was there capability to open the electrical systems from the BOCC before the impact?

Murphy: No. We are going to be able to do that in future, and we were working to do that, but we had not done it at that point.

<u>Putney:</u> When you say bring them back, what do you mean?

Murphy: There are local controls at various points within the Building. Bring it back means tapping into those controls and bringing them to the BOCC so we would have them there as well.

<u>Putney:</u> Were you here in this office when you got the call at 2:00 a.m. to go to a certain area and keep a system up and running?

Murphy: I was in center courtyard just checking on stuff, and Mike Bartos was there as well. He asked for my assistance. I guess he wasn't sure whether I was still around or not. He asked for my help, and you don't say, "no."

Putney: So you gear up?

Murphy: You put on the full fire department suit, the facemask, and the air tank on your back.

Putney: Did you have any previous training for breathing with an air tank?

Murphy: I had back in 1993 been trained on it, but I hadn't had the refresher since then. I wasn't feeling fully trained, but it was good enough, and I had to do it.

<u>Putney:</u> Can you describe what it looked like? The fire was still burning. Were firefighters not actually in the Building?

Murphy: They were still fighting it. Due to the weight of the equipment, the breathing apparatus, and the heat, they were working shifts. There were firefighters from Maryland, Virginia, D.C., and the military, all working around the clock, coming on and going off. There was a firefighter waiting and also the Arlington County Fire Marshal there, he was running the show. We told him we needed to go in, and he gave us the rules of carbon monoxide (under 35 parts per million) and sent in an escort with us with sensoring equipment to test us so we could do what we had to do.

<u>Putney:</u> Were you able to see?

Murphy: The area we went into was not as bad as some. It was on the B ring, first floor, between Corridors 4 and 4 1/2. It was right up along A&E drive. Part of the wall

that separated that room from A&E drive had blown in. There was a large hole going out into A&E drive. The room was hazy from smoke. The fire wasn't burning there, but there was water all over the floor, the lights were off, we were using flashlights. We inspected the panel boards and the switching equipment to determine if it could be brought back on. We were just doing a quick assessment of the equipment.

<u>Putney:</u> Were you able to keep that system?

Murphy: Yes, we never lost that circuit.

<u>Putney:</u> So you just went to check it out.

Murphy: We gave the criteria for the problems there to DISA, the Defense information Security Agency, and they brought in a generator and were able to tie it in and provide temporary backup in addition to the battery power they had before. They had to get all that stuff done before they needed to do anything.

<u>Putney:</u> Were either one of you injured?

Murphy: No. Actually, I cut my arm earlier that day, but I don't even know how. At one point my hand was covered in blood, and I had to get the health workers to clean me up. I decided to keep the scar as a reminder. It's just one of those things.

<u>Putney:</u> It's very evident right there. You had no idea when it happened?

Murphy: No. I had been wearing a dress shirt and khaki pants, and by the end of the day I was in a T-shirt, smoke-covered and with blood on it from my arm and others. My pants had large holes in them from going into different areas. It was just one of those days. At 3:30 a.m. I was asking the firefighters what they needed, and all they wanted was coffee. I went into south parking where the Salvation Army had set up a van and got coffee and snacks and took them to the firefighters. Then I went back and told the

Salvation Army to bring additional food and equipment in for them—coffee, sodas, Gator aids. They had gotten us all reflective vests and we walked around, with flashlights and pens stuck in various corners. We were constantly picking up water from the Salvation Army to stay hydrated. We stuck power bars or Nutra-grain bars in our pockets because we were never sure when there would be time to stop and eat to provide some nutrition.

<u>Putney:</u> That was a warm day, too.

safe.

Murphy: That was another thing I remember doing, the firefighters were getting dehydrated. We were breaking into soda machines, before the Salvation Army got there. Eventually we had bottles of water by the truckload.

Putney: Is that UPS system a piece of the computer system to keep it up and running?

Murphy: It's a battery system that can keep anything up, but mainly used for computers to give you enough time to shut them down before the power goes off. These were designed to keep them running for about a half-hour and also until the generator kicked in. The design for that half-hour was depending on the load of equipment they were supporting. When the equipment got blown up there was no load for them to support, so those batteries that were keeping the charge never had to dissipate it so there was concern that they could still be alive and could injure someone working in that area.

Putney: Were you aware of any firefighters that were injured by live lines?

Murphy: No. I think we were able to isolate it as quickly as we could to keep them

Putney: When you were waiting with the FBI for escorts, who did then escort you?

Murphy: At that time it was the FBI. They got one of their special agents to take me in to their crime scene to check out that one specific piece of equipment.

<u>Putney:</u> Your understanding was that you needed an escort just so you didn't disturb the crime scene?

Murphy: Right. They were still gathering evidence at that point. I think they had just found the black box earlier that day, but had not gathered all the body parts and needed to protect the integrity of the crime scene until everything had been recovered.

Putney: Was it important to know where certain remains were found? We are going to talk to the FBI, I suppose it's important not to move things around, to reconstruct what happened.

Murphy: I don't know, I guess that's part of the way they do it. Part of it was still behind the line they had drawn.

<u>Putney:</u> Did they show up with respirators and appropriate garb for smoke-filled areas?

<u>Murphy:</u> It all depended on the area, this particular one was not a concern. There were other areas where they had concerns about biological hazards. The EPA was out there and their agents were going through and checking, wearing Tyvek suits and full respirators in certain areas. The area we were going into did not require that.

<u>Putney:</u> Did you have any contact with other agencies? FEMA was there, the MDW was involved.

Murphy: Pentagon Renovation was the one I had to coordinate with. I helped the FBI where I could. The Salvation Army, Red Cross, Matt Skowronski, industrial hygienist, was coordinating and going to meetings dealing with the safety and the occupants.

There was a lot of concern about mold and bacteria throughout the Building due to the water and smoke. They were testing to make sure everything was okay.

<u>Putney:</u> We are going to be writing an account and hope to get a book out in about a year and a half. I think these are important stories about people like yourself that kept the Building up and running to show the world that the leadership is here and that the terrorists weren't going to shut it down. Could you then describe, in summary form, what it took to close down the electrical systems? In how many different areas around the Building? Is it done in sequence, depending on the priority of where you wanted the power shut off?

Murphy: These were five main power vaults that were shut down, as well as a few secondary back-up systems that were fed from other areas. Bill Thomas was taking care of a lot of that. What we mainly had to do was with large breakers like light switches, the bar itself is about a foot and a half long. You have to pull it down to open the disconnect. He went around and disconnected everything to be sure that the rest of the Building was safe. We then went down to the next level up in the system, in the basement, and opened the cables there as well to make sure that no accidental damage could have happened to the distribution system as well. We went through it over and over and over again to make sure we could do what had to be done.

<u>Putney:</u> Certain areas still had electricity, where the secretary was and the command centers, and you were checking to make sure nothing would interfere with the electricity flowing to those sites.

Murphy: Right. We had to segregate their systems and keep them up and running and look for anything that could have been damaged to safeguard the firefighters and

rescue workers, to disconnect that and keep the rest of it running and make sure no problems from one would affect the other.

Putney: About how many electricians work for the building manager?

Murphy: About 25 to 30.

<u>Putney:</u> Do you usually work in shifts?

Murphy: Under normal circumstances there are two shifts. Since September 11 we have been on a three-shift rotation.

<u>Putney:</u> Since September 11 have you been thinking about or writing up lessons learned?

Murphy: We do have a lot of lessons learned collected. Steve Carter has been working with the various agencies and groups to help consolidate all of that into one document as opposed to having multiple ones around.

<u>Putney</u>: From your perspective has anything good come from this tragedy?

Murphy: The only thing I can think of that is positive is how proud I was of how well everyone worked together and the way it showed how good those connections worked.

I gained a lot of respect for a lot of individuals I saw working throughout all those days.

There was a kind of camaraderie born from it. Nothing that would actually take the place of it <u>not</u> happening.

<u>Putney:</u> Is there anything else you would like to add to this tape?

Murphy: Not at this time.

<u>Putney</u>: I talked to Steve Carter, Mr. Irby and Mr. Haselbush about documents. If you think of anything—photos, logs, or documents of any sort that would account for time

and describe damage, we are collecting those things. When I give you the transcript we would appreciate anything like that.