

**National Institute for Occupational Safety and Health (NIOSH)**  
**Worker Outreach Meeting for Texas City Chemicals, Inc. (Smith-Douglass)**

**Meeting Date and Location:** Thursday, October 18, 2007, 2:00 p.m., International Union of Operating Engineers Local 564 hall, Texas City, Texas

**NIOSH Worker Outreach Team:**

Thomas Tomes, National Institute for Occupational Safety and Health (NIOSH), Health Physicist

Christopher Miles, Oak Ridge Associated Universities (ORAU) Team, Quantaflux, Lead for Special Exposure Cohort Evaluation Report Team

Mark Lewis, Advanced Technologies and Laboratories (ATL) International, Inc., Senior Outreach Specialist

Mary Elliott, ATL, Technical Writer/Editor

**Proceedings:**

Mark Lewis opened the meeting by thanking the attendees for coming to meet with the NIOSH Worker Outreach Team. Mr. Lewis explained that he had come to Texas City at the beginning of the week to locate former workers from Texas City Chemicals, Inc. (aka Smith-Douglass). He expressed his gratitude that so many of them were present.

Mr. Lewis introduced Victoria Shupe of the U.S. Department of Labor (DOL) Division of Energy Employees Occupational Illness Compensation (EEOICP); Galveston County Commissioner Stephen Holmes; Alicia LaChapelle, an aide for U.S. Representative Nick Lampson (22<sup>nd</sup> District, TX); and Tom Tomes, Chris Miles, and Mary Elliott of the NIOSH team. He asked the former workers to introduce themselves before turning the meeting over to Mr. Tomes.

Mr. Tomes also thanked the attendees for their time. He stated that NIOSH is the federal agency that is tasked with performing radiation dose reconstructions under the Energy Employees Occupational Illness Compensation Program Act (EEOICPA or “the Act”). Under Subtitle B, the Act provides compensation for eligible former workers who have become ill with cancer (or their survivors) as the result of their occupational exposure to radiation during their employment in the nuclear weapons complex.

Texas City Chemicals, Inc. extracted uranium oxide from phosphate ore under contract with the U.S. Atomic Energy Commission (AEC) between January 1, 1952 and December 31, 1956. Employees who worked at the plant after the contract period may also be eligible for compensation for cancer due to residual radiation exposure.

Mr. Tomes explained that Mr. Miles is the lead for the team that is evaluating the Texas City Chemicals Special Exposure Cohort (SEC) petition for NIOSH. The Act mandated the SEC as an additional means of compensation when there does not appear to be enough information available to perform dose reconstructions for a certain class of workers. The Texas City petition was filed on behalf of all workers at Texas City Chemicals between January 1, 1952 and

December 31, 1956. If the petition is approved, a worker in the class must have been diagnosed with at least one of twenty-two (22) types of cancer and have worked at the facility for at least 250 days during the covered time frame. NIOSH requested this meeting with former workers to find additional information about the daily operations and safety procedures that may assist in the petition evaluation process. A list of questions was submitted to some of the former workers prior to the meeting, and again to meeting attendees (see Attachment). The petitioner's designated representative (name withheld) joined the meeting by telephone.

**Comment from Former Worker #1 (name withheld):**

I don't think that all the facts are right. You said that 1969 was the deadline, right?

**Mr. Tomes:**

The contract work was during the early to mid-1950s.

**Response from Former Worker #1:**

We were still working for Texas City Chemicals for a year after they took over. I have check stubs at home that show that. I worked on the SFF on the precipitator that was outside. We mixed that stuff up, got it running through the "precip" and then ran it through this filter. Then we hauled it away in a dump truck. This has never been mentioned that I know of, and it went on for years. I put in 20 years there.

**Comment from (name withheld), the son of a former worker:**

The timeframe of the operation seems unclear. I believe the petition says that the uranium extraction took place between 1952 and 1956 when it ceased. This gentleman's testimony is that the operations were still there after that time. We want to make it clear that the facility has never been cleaned up. Everything that was radioactive at the time is still there. I think that the communication back to NIOSH is that the information they have contradicts what the employees are saying. We have another gentleman who would like to speak.

**Comment from Former Worker #2 (name withheld):**

I went to work for Smith-Douglass in 1959. The Recovery Building was still there. All the plate frame filters and all the extracting equipment was still in that building. Later, we tore it all out and took it away. After that, the building was used for storage. But all the equipment was still in the building in 1959 when I started working.

**Mr. Miles – Question for Former Worker #2:**

When you started in 1959, were there still active operations in the Recovery Building?

**Response from Former Worker #2:**

No, there were not active operations in that building at that time.

**Response from Former Worker #3 (name withheld):**

There were in 1957. That is when I went to work there.

**Comment from Mr. Miles:**

The dates for active operations are 1952 through 1956.

**Response from Former Worker #3:**

That is when Texas City Chemicals was running it. They closed it down because they declared bankruptcy. When Smith-Douglass bought the plant, they had to operate it under 'Texas City Chemicals' name for one year. After one year, they changed the name to Smith-Douglass.

**Mr. Tomes to Former Worker #3:**

Do you know what year that was?

**Response from Former Worker #3:**

I went to work there in January 1957. I was either the fifth or ninth man hired when Smith-Douglass took over the plant operations.

**Response from Former Worker #1:**

That was 1957. We were still hauling out to the gyp pond in that old dump truck.

**Response from Former Worker #3:**

I'm not going to say that they reclaimed any uranium, but we ran stuff through that building and we hauled the sludge from it to the gyp pond.

**Mr. Miles:**

The residual contamination extends to 1977, so NIOSH recognizes that you still had contamination there.

**Response from Former Worker #3:**

The EPA (Environmental Protection Agency) condemned the land and wouldn't even let Amoco build a storage facility there. Amoco sued Smith-Douglass to try to get their money back for the land. They lost the lawsuit because Smith-Douglass claimed that they were ignorant to the fact that it was contaminated. Smith-Douglass doesn't claim any part in the contamination.

**Mr. Tomes:**

NIOSH has records showing that Texas City Chemicals went into a contract with the federal government to build a fertilizer plant in 1952. They were building the recovery plant at the same time. In December 1953, there was a shakedown operation when they started up the uranium extraction at the recovery plant. At that time, Texas City Chemicals delivered several hundred pounds of uranium to the federal government. NIOSH also has documentation that shows that the plant did not deliver any uranium for the next few years because they were making modifications. The U.S. Department of Energy (DOE) defines Texas City Chemicals as a nuclear weapons site through the end of 1956. Although there are no records past 1956 on the uranium operations, EEOICPA still covers the radiation exposures until 1977 for any residual exposure.

**Response from Former Worker # 4 (name withheld):**

Anyone who worked there was in that building anywhere from one to one thousand times.

(Several former workers concurred that the building was still standing at that time. Mr. Tomes requested that everyone speak one at a time in order to ensure that all the comments could be tracked.)

**Question from (name withheld) to Former Worker #5:**

(Name withheld), would you please state the condition of the Recovery Building when you worked at the plant? Do you recall whether there were employees going in and out of the Recovery Building?

**Response from Former Worker #5 :**

I don't think that there was a single employee who wasn't in there at some time. I worked there for 20 years. Everybody was in and out of there at some time.

**Mr. Tomes – Question for Former Worker #5:**

What years did you work at the plant?

***Response from Former Worker #5:***

I worked from January 11, 1957 until November 1977 – 20 years.

**Mr. Miles – Question for Former Worker #5:**

Was the Recovery Building still there in November 1977?

***Response from Former Worker #5:***

(Name withheld), who was my immediate boss, and I were the last two Borden-paid employees there. He was the plant superintendent and I was the maintenance superintendent. We stayed on with the contractors to tear out the equipment that Smith-Douglass wanted to keep. We loaded it on barges and on flat cars and shipped it out to Norfolk, Virginia. The Recovery Building was still there in November 1977 when I left. I know they didn't tear it down the next week.

***Response from Former Worker #6 (name withheld):***

All that dust and dirt from the building is probably still there.

***Response from Former Worker #5:***

I could walk in there and put my finger on it right now.

**Mr. Tomes:**

I would like to clarify. When NIOSH gets a claim from DOL, we are not able to say that a person did or did not work in that building. NIOSH will assume that if you worked at Texas City Chemicals, you were in that building.

***Response from Former Worker #4:***

We all had to pass through that building.

**Comment from Former Worker #5:**

I was in there dismantling that building – pumps, motors – along with some pipefitters. I was a machinist. We were all union. They did the pipe work and the machinists did the mechanic work.

**Mr. Tomes – Question for Worker #5:**

Do you know anything about the uranium equipment and what was done with it?

***Response from Former Worker #5:***

I don't know anything about it. When I went to work there in 1957, whatever was going on in there was still going on in there. They didn't tell us anything and we didn't want to know anything.

***Response from Former Worker #2:***

I can tell you what kind of equipment was in there. There were plate frame filters that were put together in layers like sandwiches. There were filter cloths in them and they would pump that slurry into them under high pressure and create a cake and dump that out. But I don't know how they extracted uranium. The equipment on the second floor was plate frame filters and big wooden vat storage. It was still there when I went to work in 1959.

***Response from Former Worker # 4:***

I don't recall any radiation signs in the Recovery Building.

**Comment from Former Worker #6:**

I went to work with a contractor in 1954. We went there to help them set up pallets, and do sandblasting, and took the dump truck out to the gyp pond when it got full. Then we came back to get another load and did it all over again.

**Question from (name withheld) to Former Worker # 6:**

Were there any signs placed around the plant to warn you that you were working near radiation or any other kind of contamination? Were you issued any special equipment or told of any safety matter that you should be careful of?

**Response from Former Worker #6:**

No.

**Question from (name withheld) to Former Worker #4:**

Your testimony was that you did not see any signs that said radioactive.

**Response from Former Worker #4:**

That is correct. There was never a sign in the Recovery Building. The only time I ever saw a radiation sign was when the fertilizer was going into the dryer. Every once in a while you would see a sign that said beware of radiation.

**Response from Former Worker #2:**

A flowmeter on the fertilizer unit had a radiation sign on it. That is the only one I ever remember seeing in the plant.

**Question from (name withheld) to Former Worker #7 (name withheld):**

Can you recall any safety equipment that you were issued by the company, other than rubber boots? Did you have some type of special breathing apparatus?

**Response from Former Worker #7:**

No, there was none at all. I started working in 1957 and worked just about until the plant closed down. I remember (name withheld) very well. We weren't told what we were working in. We weren't given the proper protective gear to work in it, those of us that worked in there. Sometimes the dust was yellow, sometimes it was gray, and sometimes I don't know what color you would call it. Then when you started breathing hard and went to the men's room to blow your nose, there would be mud coming out of your nose. They never did tell us what we were working in.

**Comment from (name withheld):**

Thank you for that testimony. *To Mr. Tomes:* You can proceed.

**Mr. Tomes:**

I would like to acknowledge that the reason this program (EEOICPA) exists is that people were exposed, and sometimes not adequately trained or monitored for exposure to radiation. That is the reason that we are here. The government created this program to evaluate people who could have been exposed. We are here for you to tell us what you know about what you were exposed to. We have no argument that some people were exposed and not aware of it.

**Comment from Former Worker #4:**

We were lucky that we got boots and rubber gloves, but that was just about it. They gave us a clothing allowance for six pairs of blue jeans and four shirts. If you walked in one unit and walked out, you'd be naked. That was what that sulfuric acid could do. I'm good proof of what

that sulfuric acid can do to you.

**Comment from Former Worker #1:**

Ask the girls in the office how many pairs of nylons they bought because of their walk from the gate to the office.

**Comment from Former Worker #8 (name withheld):**

My name is (name withheld). There were no signs. You had to go on your own and not look. I didn't ever see any signs. And they didn't want you to see any signs. They would tell you to quit looking and go do some work. And we worked. This is my work record. I worked there from 1959 to 1964. I suffer from Parkinson's and I'm doing the best I can.

**Comment from Former Worker #3:**

They were talking about the radioactive sign at the end of the fertilizer unit. I ran that unit for a total of about five years. I don't know where they came up with that radioactive sign, because I never did see it.

**Response from Former Worker #2:**

I saw them a lot of times because I installed them. They were there where they pumped the phosphoric acid into the fertilizer unit. After the fertilizer unit, it went through an instrument. On the outside of that instrument, they had radiation signs. There was more than one.

**Response from Former Worker #3:**

I didn't see the signs. All I ever did was change the charts. I didn't see that.

**Response from Former Worker #2:**

Trust me, they were there. That has nothing to do with what we are talking about.

**Response from Former Worker #1:**

This is what he is talking about. Outside that building, there was a tank that was probably 30 feet in diameter, maybe 40 feet, where they made up the solution from the phosphate rock. It was pumped through a precipitator with a lead top and carbon tubes to the filter inside the building. All that liquid was filtered out into the mud. The waste slurry was dropped down into a dump truck and hauled across the road. That was the procedure from outside to inside.

**Mr. Tomes – Question for Former Worker #1:**

Are you referring to the Recovery Building for the uranium or to one of the other buildings?

**Response from Former Worker #1:**

I'm talking about where the SSF filter was. The fertilizer unit was here, the shop was here. And to get there you had to go through this unit unless you want to go way around outside. We knew of nothing that was hazardous.

**Question from (name withheld) to all the former workers:**

Did your contaminated clothing and the material that was on it go home with you?

**Response from Former Worker #2:**

We took the clothing home for our wives to wash in the same machines that they used to do the family's laundry. My wife has Parkinson's and several other health problems.

**Question from (name withheld) to Former Worker #5:**

I would like to ask you a question with reference to some of your health conditions, if it is alright to reveal some of them. You have made statements about going to M. D. Anderson Health Clinic to have some cancer treatment for your tongue and palate. Your wife and son have also

had cancer, and your grandson has a physical deformity.

***Response from Former Worker #5:***

I had cancer in 1977. My wife had a lung removed. My son just came here two days ago to go to M. D. Anderson with cancer. His son, my grandson, is deformed. That is four of us in one family. My grandson was born in 1977. I don't know if it has anything to do with working there, but I had cancer while I was there.

**Comment from the son (name withheld) of Former Worker #5:**

I worked out at Smith-Douglass from 1977 to 1978. The company I worked for was Cemco. They demolished, took out, and cleaned the tanks. We opened up one tank that was covered in a green phosphorescent material. The gentleman (name withheld) that we were working for had been an employee out there. He told us to be careful because there were things in that tank. We opened it up and this green stuff got into (name withheld) boots. He died of cancer about five years later of leukemia. Cemco went out there with a rad counter. After that, five of us were given special suits when we went in there to clean out the tanks. I don't know the difference from one radioactive suit to the next, but I know these were very heavy and bulky and they made you sweat.

**Comment from (name withheld):**

I would like to mention an employee named (name withheld). They called him (name withheld). He had seven different forms of cancer. His wife died from leukemia, as did his daughter. There seems to be a common incidence of cancer among these families here. We are not saying that it came from the Texas City Chemicals plant, but the exposure level seems to be high. (Name withheld) has cancer. His daughter has cancer.

***Response from Former Worker #4:***

So does my daughter. She just finished the treatments.

**Comment from (name withheld):**

Generally, that is going to be the call that everybody can make. My mother had cancer. I am the son of (Andrew Wilson) who worked there.

**Mr. Lewis:**

Next month at the public meeting would be a better time for this type of conversation to take place. My sympathy is with everyone here. I am from a nuclear site, too. But these gentlemen have come a long way to hear from workers about the conditions at Texas City Chemicals.

**Question from (name withheld):**

Can anyone recall where they took the equipment from the Recovery Building when it was demolished?

***Response from Former Worker #5:***

The equipment that came out of there went to a dump site out across from the "gyp" pond. What was usable stayed in the Recovery Building for storage until it could be used somewhere else in the plant. If there was a motor we could use somewhere else in the plant, we used it in the elevator or wherever else it could be used.

**Mr. Tomes:**

You are talking about prior to 1977. Is that correct?

***Response from Former Worker #5:***

Yes. I went to work in 1957. When we tore everything out of the Recovery Building, the junk went out to where we called “on the hill.” If it was usable, the rest of the stuff that was taken out of service was stored in the Recovery Building until it was needed for use throughout the plant.

***Response from Former Worker #4:***

You can see that hill from Grant Avenue.

**Mr. Tomes:**

The “hill” is the gypsum pile, correct?

***Response from Former Worker #4:***

Yes.

**Question from** (name withheld):

Was it possible for anyone to go out to that area? Was it restricted to all employees – other than maintenance and tear down?

***Response from Former Worker #1:***

When Amoco bought that property, they took me over to the dump site and asked me, to the best of my memory, where the “gyp” pond was, what was pumped out there and what we had taken out there. I did not know why they restricted it and they told me it was 5% uranium, I believe. They wouldn’t let Amoco build anything in that area and they still have not to this day. Amoco bought a lemon.

**Comment from Former Worker #2:**

After Hurricane Carla, we shipped boxcar load after boxcar load of that stuff down to South Texas for use on ranches to try to recover because it had a certain amount of P<sub>2</sub>O<sub>5</sub>. I don’t know about the uranium.

**Comment from Former Worker #3:**

There was a rice farmer in Bay City who used to send us 10 to 20 gondolas (railroad cars) and we put anywhere from 50 to 75 tons of this gyp on those gondolas to ship down there. He put it on the rice fields to break up gumbo. I’ve probably got 100 tons of it behind my house. I used it for field sand for 15 years. You can dig down below my barn and it’s just as white as this right here.

**Comment from Former Worker #4:**

I think the State of Texas even bought some of it to use on the highways.

***Response from Former Worker #3:***

The road base for 90% of the roads in Bayou Vista contains that gypsum. They set up an asphalt mixing plant on the gyp pond. They would bring out five or six single axle dump trucks. They had an old tank car out there filled with asphalt. They would mix the asphalt with the gypsum and send it out to pave the roads. You can go to Bayou Vista right now and find probably 10,000 tons of it down there. It’s all over.

***Response from Former Worker #4:***

It’s a wonder it hasn’t blown all over Texas City. Most people don’t even know about it.

***Response from Former Worker #3:***

I don’t know what (name withheld) used to pour his garage, but lots of us used it for sand as a base for cement. I used to use it where I kept my calves because you could throw some of it out

there and after the calves had walked on it for a while, it didn't get all muddy and bog down any more.

**Response from Former Worker #5:**

But would you have used it if you had known that it was full of uranium? If they had told you it was?

**Response from Former Worker #3:**

I can't honestly tell you that. I might be lying if I did.

**Question from (name withheld):**

I would like for (name withheld) to tell us about the incident when the soil had been removed and you had been sent down there to a cooling tower to do some cleanup work?

**Response from Former Worker #9 (name withheld):**

I went to work at Texas City Chemicals in the latter part of 1957. I worked in the fertilizer plant in shipping. We got caught up one day and the lead man told me to go over to the fertilizer bin and if you see any trash, pick the chips up and put them in a certain place. We have a man that will come by and pick them up. So I walked over there and started cleaning up. The machine shop was to the northwest of that building. This guy kept watching me and finally came to ask me what I was doing. I told him that my lead man sent me out to clean up. He said, "I don't want to see you back here any more. Do you know where you're standing?" I told him I was standing right here, just like him. He told me that they had made a 25-foot deep hole with a dump truck and a Caterpillar getting the gunk out of the ground. After a while it was so hard getting the truck in and out they just buried it and backfilled the hole. This might have been the atomic stuff coming out of the ground. I told him I didn't know anything about it. He told me he didn't want to see me back there any more.

**Mr. Miles:**

Was this the "gyp" pond area?

**Response from Former Worker #9:**

That's right. It was beside the Recovery Building where the fertilizer is. They had a fertilizer bin there. On the other side, to the northeast, was this unit, because we poured a big slab there for the cooling tower. I happened to be back there cleaning up. I didn't know anything about it because they didn't have any signs up about contamination. I took him at his word and went back and told my lead man that I wasn't going back over there.

**Question from (Roy Wilson):**

Are there any employees here who would like to state the condition of the ground around the local work facility? What did it look like? Was it damp, wet? Was it mud or solid?

**Response from Former Worker #4:**

It was mud and sludge.

**Response from Former Worker #3:**

(Name withheld) can tell you this. We used to work in the Machine Shop. At one time it was level, but after a few years it was angled like this – the ground was just raising up. The north side of that building was raised up two and a half feet.

**Question from (name withheld):**

Would it be fair to say that the conditions of the ground were acidic – that if you took off your rubber boots you would essentially be standing in acid?

***Response from Former Worker #5:***

A pair of leather shoes wouldn't last three weeks.

***Response from Former Worker #4:***

The company had to buy a pickup truck every other year, because it wouldn't last any longer than that.

***Response from Former Worker #1:***

They had quite a bit of fertilizer on the deck. It was bad. It was real bad.

***Response from Former Worker #5:***

As we get into this discussion, it makes me wonder. People all over the world and especially the United States go to Wal-Mart to buy gypsum in a bag to put in their gardens. Could that still be contaminated? Could there be uranium in that?

***Mr. Tomes:***

I can't answer that. I don't know where Wal-Mart gets their gypsum.

**Question from (Roy Wilson):**

Is there anybody else who would like to tell something that happened to you on the jobsite while you were working there?

***Response from Former Worker #1:***

Weigh this out. I went to work in January 1957. After three weeks I had a terrible pain in my chest. I ended up in (sounds like) Jaycee Hospital with an abscess in my lung. They removed my lower left lung. I was sick for four months. They held my job there for me and the men took up collections to keep my family going. That is the reason why I never balked when they said that we couldn't refuse overtime. The company told you that you would lose your job if you didn't work it. That is the only thing that happened to me when I was working. Now I'm legally blind, I'm on oxygen 90% of the time, and I'm on dialysis for a lost kidney. You name it, I have it. I have hearing aids, too.

***Response from Former Worker #4:***

After about an hour on the graveyard shift, I ended up on the ground because these lines that they told us were supposed to have been empty were still full of fertilizer because it gets hard. I don't know what happened. All I know is that I ended up in Jaycee Hospital for about five months.

***Response from Former Worker #10 (name withheld):***

In the late 1970s, I was working with two or three other men tearing down the hoppers. It was a contractor from East Texas. I can't remember the contractor's name, but the supervisor's name was (B. L. Lonnegan). We had to tear all the hoppers down and put them on a truck. I don't know where they shipped them. The enclosure was made of some kind of plywood and you couldn't hold it in your hand because it was so sticky.

***Response from Former Worker #9:***

I would like to add that there was no protective clothing or respirators to wear around this stuff. Sometimes you had to use your handkerchief around your face. We did have hardhats, rubber gloves and boots, but no protective clothing, no sufficient masks like the masks that they have now. If you put on those little paper masks they gave you, you would be slobbering like a mad dog because you would be sneezing and everything.

**Comment from Former Worker #1:**

Two of the guys who worked with us (names withheld) died when they were in their 40s. They

actually blew up internally. I don't know whether this was caused by something they worked in, but they were two of the oldest employees out there. They were in there for the longest time. We never did hear what actually happened, except that (name withheld) stomach actually blew up. If you go down the line, you will find a lot of the guys who have ailments that shouldn't have them.

**Comment from Former Worker #5:**

Almost every employee who has died didn't go from a heart attack. It was from cancer or respiratory problems. For some reason, an awful lot of people have died from cancer from one little bitty plant.

**Comment from Former Worker #6:**

My wife passed away from cancer. My daughter and I have had cancer, too.

**Comment from Former Worker #11 (name withheld):**

Four of my brothers worked out there and died from cancer. So did my mother and my sister.

**Comment from (name withheld):**

There seems to be a trail leading back to Texas City Chemicals as far as the ailments there. But we want to try to keep our focus on what actually happened inside the factory, especially the work conditions. The work conditions are important, whether it is where the equipment went, what you did out there. Do you think that you were exposed while you were working out there? If you do think that any of that fits your bill, we would like to hear your testimony about that.

**Comment from Former Worker #7:**

The reason why we are getting seemingly two sets of testimony is that one group came from the operators. The other group came from the workers who were dealing with another segment of the same work. But all of us were exposed, just the same. If you would go into any of those buildings, the metal was just rusted out. The wood parts would just fall apart and wouldn't even hold the metal parts like the screws and nails. They changed the location of the "gyp" pond so many times. If you walk out there, you might not come back out because it's like sinking sand. It's terrible out there.

**Comment from Former Worker #4:**

We replaced all the conveyor belts in the area where they were bagging the fertilizer. We were repairing a roller and a carpenter fell through the roof.

**Comment from Former Worker #7:**

I forgot to mention that I have cancer, too. I have been to M. D. Anderson Hospital. They told me that no medication and no surgery would change it, so I just live with it until I die, I guess.

**Comment from (name withheld):**

I have heard many stories. There seem to be particular types of cancer to qualify for this stuff. That seems unfair to me because of the situation there at the plant. I did not work there. I am just the sibling of one of the employees. It just seems unfair to pick a particular disease after the ballgame has been played. I want to get that on the record. It is very unfair to the workers who helped extract this uranium in a time when the nation needed it. I think this statement reflects the feeling of the entire group. That is the main statement that has come out at some of these meetings. They feel like they have been slighted and now it is time for some type of recovery. That sentiment has been conveyed to me time and again at the more than 25 local meetings we have held on this matter. Now I think we need to direct the meeting back to our guests. If there is any key information that they need to get from us, we need to focus on that so maybe they can

help us with that.

**Comment from Former Worker #4:**

It is my understanding that there is someone here from the Department of Labor (DOL). Back in 2004, there was an article in the paper that said that anyone who had worked at Texas City Chemicals during the uranium period should notify them. All I ever got back was questions about whether I did this or that. After a while, I got disgusted and just gave up.

**Comment from** (name withheld):

I think it is like everything else that we file for. Even when you file for Social Security, you go through a lot of red tape at first. I encourage everyone to mail in anything you get. Discuss it with as many people as you can. Shared knowledge is wisdom. Let's do that and continue on. Don't give up. Keep filing your papers and keep appealing until we can get some resolution.

**Mr. Tomes:**

We handed out some questions at the beginning of the meeting. I would like to just go down through the list and try to keep focused on the questions. I would also like to introduce Mike Gibson. Mr. Gibson is on the Advisory Board on Radiation and Worker Health (ABRWH) that does the oversight for this program. I'm just going to start with Question 1. Some of this may be repetition, but I'm just going to go down the list.

The first question: NIOSH has information that they started extracting uranium in December 1953, but did not ship any uranium to the government in 1954 or 1955. We don't know about 1956 or 1957. Does anyone have any specific information about what was going on at the plant during the 1954-1956 timeframe?

**Response from Former Worker #5:**

You have a statement from (name withheld) that says that he worked there from 1952. He was working there during this period and they didn't shut down.

**Response from Former Worker #3:**

They shut down for a while in 1957 because they filed for bankruptcy.

**Response from Former Worker #1:**

Texas City Chemicals operated under Smith-Douglass for a year, but retained their name during that time. That is who my check came from.

**Mr. Miles:**

That statement is consistent with that of a gentleman I spoke with on the phone. I asked him that exact question about whether the plant had shut down. He had worked there from 1952 to 1955. He said there were some brief intervals when a piece of equipment may have been down, but there was never a long period of time when they didn't go to work. He indicated that there was really never a closing. It may have been possible for some part of the recovery operations to have been shut down and it didn't affect the rest of the plant.

**Response from Former Worker #5:**

I think that this meeting clearly shows that everybody disputes what was going on from 1952 to 1956 in the recovery operations.

**Mr. Miles:**

If I understood correctly, someone mentioned that there was a year after 1956 that they continued with the recovery operations. It sounds like after that time, it sounds like the building was there

and there were activities there, but there weren't uranium recovery operations taking place.

***Response from Former Worker #1:***

It was like (name withheld) was saying. It was part-time. They would operate for a while then something would shut them down and they would stay shut down for a week. I know one time I had them down for a week on the precipitator. I had the unit shut down for repairs. I was a lead burner.

**Mr. Miles:**

At some point, the uranium operations came to a halt. I don't know when that might have been. Do you think it was after 1957?

***Response from Former Worker #5:***

Whatever they were doing in there was still going on in 1957 when I started working. The fertilizer plant was in a completely different location from the Recovery Building. The fertilizer was made in this part of the plant and whatever they made was done in another area. When the recovery area shut down, that was the end of it.

**Mr. Miles:**

When do you think it shut down? Was it still there in 1960?

***Response from Former Worker #5:***

I went to work at Texas City Chemicals in January 1957. I was in Maintenance. I went into the Recovery Building to change filter cloths. I went in there if a pump messed up and quit running. Whatever happened in there, Maintenance went in there to repair it and then went right back out.

**Mr. Tomes:**

Were there any security requirements in the Recovery Building?

***Response from Former Worker #5:***

There was a security guard at the door when I came to work in 1957. (Name withheld) was in Security in that building. He called me today to say he isn't feeling well, but he will try to make the meeting tonight. Whatever was going on there, they weren't making fertilizer like the rest of the plant. I don't know what was coming out of there.

**Mr. Tomes:**

Do you know when the operation stopped?

***Response from Former Worker #5:***

To the best of my memory, something was still going on there after I came to work.

**Mr. Miles:**

That was 1957. What about 1958? It sounds like you were in and out of the building on a daily basis.

***Response from Former Worker #5:***

I went in there dressed just like I am now. They were still making something in that building when I went to work. I have no idea how they shipped it.

**Mr. Tomes:**

That is consistent with what you all have indicated regarding the agreement where the plant was maintained as Texas City Chemical for one year after the bankruptcy.

***Response from Former Worker #5:***

I know I worked when it was still Texas City Chemicals (followed by a chorus of: "We all did!")

**Comment from** (name withheld):

In an affidavit taken two days ago, (name withheld) stated that, as part of his duties as security guard at the Recovery Building, he was instructed to unlock the door at regular intervals and check on the two employees who were working in the building to make sure they were alright. If they were alright, he would lock the door again and go on with his regular duties. *To Mr. Tomes:* The testimony is in the affidavit that I gave you.

**Mr. Tomes:**

I will go on to the fourth question if that is okay with everyone. We have already discussed the topics in the first three questions. Question 4 is: "What building(s) were used in the uranium process? What was it used for after 1956?" I have a set of plans here and an aerial photograph, maybe the same one you have. I was wondering if someone could identify the location of the Recovery Building. It might help the discussion a little bit. I'm going to assume this is the "gyp" pile here. Can you come up here and point it out?

**Response from Former Worker #5:**

This is the Recovery Building and these were ammonia tanks. The sulfuric acid was here. This was the phosphoric acid plant and the shop – both in this big building. The fertilizer plant was right here. The only thing they did here in the Recovery Building was extract uranium until they completely shut it down. Then they used it for storage. This was the rock mill where they ground the phosphoric rock, and then they pumped it over here where they dumped the sulfuric acid into it with a (inaudible) that broke it up. Then it was put into the filter table where they pumped the phosphoric acid out of it. After that they dumped the cake out and pumped it out to here.

**Mr. Tomes:**

They pumped it out to the slurry?

**Response from Former Worker #5:**

That's right. I worked 16 hour shifts out there on that place unplugging lines. But this is the Recovery Building right here. These are sulfuric acid storage tanks. We pumped that down here. They concentrated the phosphoric acid.

**Mr. Tomes:**

Thank you. That will help us understand things better. Question 5: How were the raw materials handled and moved to the uranium building? If you could just describe how you received the rock and the flow of how it was moved from here to there.

**Response from Former Worker #1:**

I can give you a little light on it. It was hauled from the dock down here. I don't know who started hauling it, but (name withheld) had the contract. He hauled it and dumped it into a hopper. It went up into a silo – you had the rock over here. Then we had the rock mill – just a big hammer mill. It had solid steel rollers on it that were 14 inches across. They had a solid metal ring that was 14 inches deep. This rock was fed in through a (sounds like) star valve that had keyways in it. If a piece of rock was too big, it would break the keyways and you would have to put a new keyway in.

**Mr. Tomes:**

You had all sizes of rock – big and little?

***Response from Former Worker #1:***

Yes, anywhere from powder size to baseball size. It was ground up and then blown into another

silo on the other side of the rock mill. Then it was blown about 500 feet into a 200- to 300-gallon tank where it was mixed with an agitator into 99% Bombay sulfuric acid. Then it came down a chute into a digester.

**Mr. Miles:**

So this was all indoors.

**Response from Former Worker #1:**

Yes. It went through a series of six digesters and then went onto a vacuum filter table – the last one we had out there was 60-feet across. The filter table had three different stages: the first stage took the weaker acids out of the slurry; the next was a vacuum stage that got another grade of acid out; and the third stage would get the best grade of acid out of the mixture. These filter tables would dump.

**Mr. Tomes:**

Were there any other chemicals added?

**Response from Former Worker #1:**

There was nothing added to it besides sulfuric acid. It made phosphoric acid. At times they would take that “gyp” and run it back to the Recovery Building. Other times it would be dumped into another digester and there were sludge pumps that pumped it to the “gyp” pond.

**Mr. Tomes:**

Do you mean that the acid was pumped over to the Recovery Building?

**Response from Former Worker #1:**

No. The acid was pumped into a tank outside. This man (name withheld) ran the concentrator. They had 3 grades of phosphoric acid. They had manometers to check the strength of the acid. They took the strongest grade of acid and cooked it down – just like making syrup. It started out at maybe 65% and he would concentrate it down to 40%. That acid would be mixed with potash, anhydrous ammonia, and sulfuric acid in another digester. That is what made the fertilizer. All of our fertilizer was liquid to start with.

**Mr. Tomes:**

You don't recall the part where it was pumped over to the Recovery Building?

**Response from Former Worker #1:**

It wasn't pumped. They had a conveyor belt to take some of the “gyp” to the Recovery Building after the phosphoric acid had come through it. They mixed the rest of it with water in another tank.

**Mr. Tomes:**

My understanding of the process is that the uranium would have been in the acid, too.

**Response from Former Worker #1:**

To my knowledge, they didn't put any of the acid in the Recovery Building. Someone else may know more than I do. The first job I had out there was operating the phosphoric unit.

**Question from (Roy Wilson) to Former Worker #12 (name withheld):**

When did you operate that concentrator?

**Response from Former Worker #12:**

I worked from 1957 to 1977, the same as him. I ran the concentrator and also the SSF filter. It was a little drum that filtered out the acid from the “gyp.” The would back dump trucks up and

sell that to a company called Chemcon (sp?) that made rat poison.

***Response from Former Worker #3:***

They made calf feed from another by-product. I used to take it home, mix it with bulk feed, and give it to my calves.

***Response from Former Worker #4:***

(Name withheld) had the dump trucks. When they would get loaded up and leave, we would have to go over and clean up what fell out of the trucks.

***Response from Former Worker #5 and others:***

That was raw material – before it had even been crushed. All of the phosphoric rock came out of Plant City, Florida. It was barged up here. It was loaded with shark teeth. We used to go over there and pick the shark teeth out of it.

**Question from (name withheld) to Former Worker #12:**

What happened to the acid that you extracted from the gypsum?

***Response from Former Worker #12:***

It went into the storage tanks and was used in the phosphoric acid unit that (name withheld) operated.

***Response from Former Worker #2:***

It went into the fertilizer. It went into a pump mill with a certain amount of dry recycle in there. Then it went through a dryer to make those little pellets. Then it would go over to the warehouse.

***Response from Former Worker #3:***

They used liquid ammonium sulfate and potash in the fertilizers.

***Response from Former Worker #2:***

Nitrogen, potash and sulfuric acid – that's how you got your numbers on the fertilizer bag: 12, 24, 12. The rest of the fertilizer came from slurry that they just used for filler.

**Comment from (name withheld):**

Sometimes when my dad came home there were these little green pellets in the cuff of his pants. He worked in the bagging area. Did it get in anybody else's clothing? My mother used to fuss about it getting all over the place when she did the wash.

***Response from Former Worker #2 and others:***

That was the finished product. We called it (sounds like) pelleform. It was shipped out in bags and bulk form. It got in everybody's clothing. It would eat up a washer. It went home with you. This was before OSHA.

**Question from (name withheld) to Mr. Tomes:**

Is that where the uranium would have been – in the acid content?

**Mr. Tomes:**

That is my understanding. We will have to look at that more. I have studied another plant that produced uranium from phosphate rock. Their process was different. They extracted the uranium out of the acid. When they put the sulfuric acid on the rock to produce phosphoric acid, some of the uranium would go on the "gyp" pile, but most of it would go with the acid.

**Mr. Miles:**

The radium would go in the gypsum in the other plant, so the gypsum tended to be more radioactive.

***Response from Former Worker #3:***

We had a contractor who came out five or six years before they shut down in 1977. He ran a gypsum board plant. They had agreed to sell him that “gyp” for two dollars per ton. He took samples out of the “gyp” pond and told us later that it had too much acid in it – that we hadn’t washed it well enough. He said it had too much P<sub>2</sub>O<sub>5</sub> in it.

**Mr. Tomes:**

I wasn’t saying that the gypsum wasn’t just radioactive. We were just talking about which chemicals were at each place.

**Comment from** (name withheld):

We have testimony from the case that Amoco filed with the Fifth Circuit Court in New Orleans. The case was under review after the sale of the land. They testified that in 1987, the land was still “highly radioactive” out there. They said it was “unusable” and would have to be removed down to 30 feet and packed with clay before there would ever be possible for it to be used for a certain application. Those documents are in the discovery where Amoco bought the land for \$1.8 million. That is why they are trying to keep people from going out there right now.

***Response from Former Worker #4:***

They never did tell us that there was radiation work going on back in that area in the 1950s.

***Response from Former Worker #3 and others:***

That’s the first time I have ever heard that information. I didn’t realize there was that much. After Amoco bought the property, we had to recover the waste water pump out there on Grant Avenue. Amoco had to replace that pump for a year or two. We changed it every week – it burned it up. When it rained, the water ran off the “gyp” pond and down into this ditch. We had a recovery pump that brought the water back in the plant to be reused. We had to go check it every morning. The city rated it. At one time, they shipped it to Carbide.

**Question from** (name withheld):

Was that on the effluent ditch?

***Response from Former Worker #3:***

If you turned down Grant Avenue toward the tin smelter at Smith-Douglass, it was about 100 feet from the parking lot on the right-hand side.

***Response from Former Worker #4:***

The pump that they changed out was on a float out there because that’s how deep that ditch was.

**Mr. Tomes:**

You described the process of how the phosphate rock was handled. There was no calcining involved, no furnace that you put the rock in before it was dissolved in the sulfuric acid?

***Response from Former Worker #3:***

No, not until it went in to where they made the fertilizer. Then it went through a dryer. The phosphate rock was grayish-white gravel when it went into the rock mill.

**Mr. Tomes:**

You described the chemical process up until it went into the Recovery Plant. We know that it went through a bank of presses as slurry. I am still looking for more information on the chemical

process inside of that area. Do you know how the material was packaged in the Recovery Plant and shipped to the government?

***Response:***

The attendees responded that they did not have any information regarding shipping and handling of the uranium product.

**Mr. Tomes:**

What happened to the uranium waste after it left the Recovery Building?

***Response from Former Worker #4:***

It went to the “gyp” pond. If I’m not mistaken, you can probably still find a lot of that waste on the ground over there.

**Mr. Tomes:**

Do you know if anyone ever wore a dosimeter badge when they were working with the uranium?

***Response:***

No.

**Mr. Tomes:**

Does anyone recall ever giving urine samples?

***Response:***

No. You were lucky to even get a flu shot from the plant. They wanted you to work whether you were sick or not.

**Mr. Tomes:**

Did you have physicals?

***Response:***

We had a physical when we went to work, but that was the only one.

**Question from an unidentified attendee:**

When did the EPA come into being?

**Mr. Tomes:**

I think that it was around 1969.

**Comment from (name withheld):**

According to the documents that were submitted to the 5<sup>th</sup> Circuit Court, the EPA standards that we have today for radiation and other contaminants weren’t the same as when Texas City Chemicals was in operation. The air quality didn’t have to be upheld. That type of litigation came along later, after a lot of the city started experiencing smog and different things going on around the community, such as when they had to buy out the homeowners across from Union Carbide. That type of discovery – for instance, the depth of the water table and the contaminants in it – came along after the era when Texas City Chemicals was in operation. The Court determined that the company hadn’t done anything illegal according to the laws that were on the books at the time. They knew that the radiation level was harmful. One of the things that came out in discovery – the question was whether or not the contractor was contaminated. In all of my research, I haven’t found anything about radiation caring if you have on a contractor’s badge. It just kills you. It doesn’t matter if you were with the company or not. The contractors were exposed to the same things that the company employees were. Maybe even sometimes at higher

exposures, because the safety practices that the plant workers observed may not have been observed by the contractors. Safety just wasn't what it is today.

**Comment from Former Worker #5:**

The only thing we were told is that there were trace amounts (of radiation) – the same amount of radiation that you might get from the brick on your house. I am finding out now that that isn't true. If it is still reading that high today, it was a lot higher back in the day.

**Comment from** (name withheld):

I am not sure where the case (*Amoco v. Borden Chemical*) stands now. "Trace amounts" was the term that was used. The testing that they did showed that it was within "legal limits." It is considered highly radioactive at this time.

**Mr. Tomes:**

I have looked at a lot of data about the amount of uranium in phosphate rock. It is a very low amount of uranium. What makes it more hazardous is that when it is processed chemically, you are changing the chemical properties. That is the reason they were able to extract uranium from the rock.

**Comment from Former Worker #5:**

After the uranium work in the Recovery Building stopped, it was never washed, swept out, cleaned, or decontaminated. It stayed the way it was from the time they shut the operation down until they tore it down. Nothing was ever cleaned up in that building.

**Mr. Tomes:**

Did you all wear rubber boots? Was that a daily practice?

**Comment from Former Worker #3** (name withheld):

I used to call the rubber boots my steel-toed cowboy boots. (Name withheld) can tell you that after he was burned with that sulfuric acid, the only safety gear that was required was a slicker suit and a face shield when you were working with the sulfuric acid. That is the only safety gear we had. The only time you had to wear that was when you were pumping sulfuric acid back to the fertilizer unit. That wasn't required until after he got burned.

**Comment from Former Worker #4:**

When I got burned, the safety shower under the deck was not working. I understand that it was fixed the day after I got burned.

**Comment from** (name withheld):

Were any of the other phosphate plants using safety equipment or badges?

**Mr. Tomes:**

There were many facilities. There were facilities that had very hazardous radioactive materials, and those generally had a lot of monitoring. The government let out many small contracts. I have researched this full time and from what I have seen – especially from the 1940s and 1950s – some of the smaller operations were not monitored as well. There was a lot of monitoring at the larger facilities.

**Comment from** (name withheld):

A facility like Rocky Flats would be monitored more strenuously than Texas City Chemicals.

**Mr. Tomes:**

That is right. That is as it should be because the work there was more hazardous.

**Comment from Former Worker #5:**

In the early 1950s, there weren't even safety glasses available. The company didn't furnish them.

If you wanted safety glasses, you had to buy them yourself. The company would issue the slicker suit and paper masks. That's it.

**Mr. Tomes:**

Those are all the questions I have. I used to work at a uranium processing plant in the chemical side of the plant, so I find this interesting.

**Comment from** (name withheld):

I would like to thank everybody for their attendance and cooperation. Please share the information you have from this meeting with others that you know. We appreciate your coming here today.

**Mr. Lewis:**

Please make sure that you have put your contact information on the sign-in sheet as legibly as you can. We will be using that to contact you with the particulars of the NIOSH Town Hall meeting at the Nessler Center next month.

**Mr. Miles:**

I am particularly interested in the uranium extraction process in the Recovery Building. If you know anyone who worked there during the contract period, maybe you could give that name to Mr. Lewis. It would be very helpful to get more information from that period.

**Comment from an unidentified attendee:**

The only one I can think of is (name withheld).

**Mr. Lewis:**

We have a statement here from him.

**Comment from** (name withheld):

I have one request. At the earliest time possible, we would like to have a copy of the minutes of this meeting. As the co-petitioner for the SEC, along with (name withheld), we would very much like to have a record of this meeting as well as the one tonight.

Mr. Lewis noted the request, thanked the attendees for their time, and adjourned the meeting at approximately 3:30 p.m.

**Attachment:** Questions about Texas City Chemicals

## **Attachment:**

### Questions about Texas City Chemicals

Here are some questions that the National Institute for Occupational Safety and Health (NIOSH) is looking for information on.

Anything you can tell us about even one question will help. Don't worry if you don't know about most of these.

Texas City Chemicals started up a uranium process in December 1953. But they did not ship any uranium during 1954 and 1955. We understand that this was due to modifications to the main plant.

What work was going on at the plant in 1954 and 1955? Do you know of any plant operations, modification, or uranium work at this time?

What was happening at the plant in 1956? We understand that it may have shut down for a while.

Texas City Chemicals filed for bankruptcy in 1956. The plant was later bought by Smith-Douglass. Do you recall anything about this?

What building(s) were used in the uranium process? What was it used for after 1956?

How were the raw materials handled and moved to the uranium building?

Can you describe the uranium work?

How was the uranium packed for shipping? Was it dried and packaged?

What happened to the waste from the uranium plant?

What protective gear did people use in the uranium process?

Did people who worked in the uranium process wear radiation badges?

Did the company ever collect urine samples from them?

Do you have any other information about radiation at the plant?