CENTERS FOR DISEASE CONTROL AND PREVENTION

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

ADVISORY BOARD ON RADIATION AND WORKER HEALTH

PINELLAS PLANT WORK GROUP MEETING

THURSDAY, JANUARY 29, 2026

The meeting convened at 11:00 a.m., EST

with Bradley Clawson, Chair, presiding.

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Members Present:

Clawson, Bradley, Chair

Anderson, Henry, Member

Beach, Josie, Member

Martinez, Nicole, Member

Ziemer, Paul, Member

Registered Participants:

Roberts, Rashaun, Designated Federal Officer

Adams, Nancy, NIOSH Contractor

Barton, Bob, SC&A

Behling, Kathy, SC&A

Brock, Denise, NIOSH

Buchanan, Ron, SC&A

Cook, Madeline, NIOSH

Chalmers, Nancy, NIOSH

Guido, Joe, NIOSH

Holzberger, Malia, Department of Health and Human Services (HHS)

Hughes, Lara, NIOSH

Mangel, Amy, SC&A

Marion-Moss, Lori, NIOSH

Nelson, Charles, NIOSH

Ostrow, Steve, SC&A

Rolfes, Mark, NIOSH

Ulsh, Brant, NIOSH

Registered Members of the Public:

Ehlers, Del

Ehlers, Cathy

DeGarmo, Denise

Edgar, Jack

Hand, Donna

Kenly, Patricia

Silver, Ken

Ursiny, Unknown

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PROCEEDINGS

(11:01 a.m. EST)

WELCOME AND ROLL CALL

DR. ROBERTS: So, I have 11:01 Eastern, so I wish everyone a good morning. I'm Rashaun Roberts, and I'm the designated federal officer for the Advisory Board on Radiation and Worker Health. This is a meeting of the Pinellas Work Group.

I just want to welcome everybody. All of the materials for today's meeting are posted on the NIOSH website. And if people can, put themselves on mute, I'm hearing some noises. Thank you. And I'm still hearing some typing, so if people can check their -- their mute button.

MEMBER BEACH: Yeah, there's about 20 people not muted.

DR. ROBERTS: Okay. Okay. I don't hear the noise anymore, so I'll go on. All of the materials for today's meeting are posted on the NIOSH website for the program under schedule of public meetings. You would need to go to calendar year 2026 from the pull-down menu at the top of the page and click on the tab for January to find the materials. If you're participating by telephone, you can go to the website to access all of the materials, and you can follow along with the presentations. The materials were provided to work group members and to staff prior to this meeting.

Now I do want to apologize, which was -- for something that was probably an oversight on my part, but the agenda for this meeting wasn't posted until this morning. And I really thank DCAS staff for getting the agenda posted as soon as we realized that it wasn't there. So, because

members of the public may not have had a chance to look at the agenda fully, I do want to make you aware that there's an agenda item for Petitioner remarks. So, if you submitted comments to the Board ahead of time, or even if you didn't submit any comments, please know that there is an opportunity, as there has typically been in the past, for petitioners and/or their advocates to address the work group during this meeting.

Okay. I'm hearing some interference. Okay. This meeting is being conducted by telephone and by Zoom. On the website, there's also a Zoom link, which would enable you to hear and watch the presentations through Zoom. If you've chosen to receive audio through Zoom, you should be able to speak to the group and hear the presentations. If you're not speaking, please make sure that you select and stay on mute by muting the microphone on your screen.

If you have dialed in, you will only be able to speak and hear the presentations through the telephone line. So, please make sure your phone stays muted unless, of course, you need to speak. If you don't have a mute button, press star six to mute. If you need to take yourself off mute, press star six again. Also, if you're participating by telephone only, we're unable to see you or your name, so please identify yourself before providing your comments or questions.

So first off, I do want to address conflict of interest before I get into the roll call, and I'll speak to that. With regard to the members that sit on this work group, they have been determined to not have any conflicts of interest, so they don't need to address that in the roll call, but others should. So, with that, let me move into the roll call for members of the Board on the

work group, and we will start with our chair who we're welcoming back, and then go in alphabetical order. Clawson?

CHAIR CLAWSON: Here, no conflicts with Pinellas.

DR. ROBERTS: Anderson?

MEMBER ANDERSON: Present.

DR. ROBERTS: Beach?

MEMBER BEACH: I'm here.

DR. ROBERTS: Martinez?

MEMBER MARTINEZ: I'm here.

DR. ROBERTS: And Ziemer?

MEMBER ZIEMER: Here.

DR. ROBERTS: Okay, thank you. Let's get into roll call for others. And again, as you register your attendance, this is directed to staff, please be sure that you acknowledge or make known any conflicts relevant to the working group, and, of course, recuse yourself from discussion accordingly. So, let's start with DCAS ORAUT.

MS. MARION-MOSS: This is Lori Marion-Moss with NIOSH and no conflicts.

DR. NELSON: This is Charles Nelson with NIOSH. I have no conflicts with Pinellas.

DR. ULSH: Brant Ulsh with NIOSH; no conflicts at Pinellas.

MS. COOK: This is Maddie Cook with NIOSH; no conflicts.

MS. HUGHES: This is Laura Hughes with NIOSH; no conflicts.

MR. GUIDO: This is Joe Guido with ORAUT Team; no conflicts with Pinellas.

MS. BROCK: Denise Brock, NIOSH; no conflicts.

DR. ROBERTS: I'm sorry, can you repeat that?

MS. BROCK: Yes, I'm sorry. Denise Brock with NIOSH; no conflicts.

DR. ROBERTS: Okay. Thank you.

MR. ROLFES: Good morning. This is Mark Rolfes with NIOSH. I have no conflicts of interest.

DR. ROBERTS: Thank you. Anyone else for DCAS/ORAUT? Hearing none, let's move to SC&A.

DR. OSTROW: Steve Ostrow, no conflict, and I just want to say also Kathy Behling intends to sign on soon. She had some reason she couldn't be here immediately, but she should be here any minute.

DR. ROBERTS: Okay.

MS. MANGEL: Amy Mangel, no conflicts.

DR. BUCHANAN: Ron Buchanan, no conflicts at Pinellas.

MR. BARTON: Bob Barton, no conflicts.

DR. ROBERTS: Anyone else for SC&A? Okay. Let's move on to folks that are with HHS or contractors.

MS. ADAMS: Nancy Adams, NIOSH contractor.

MS. HOLZBERGER: Malia Holzberger, HHS, OGC, no conflict.

DR. ROBERTS: Any other folks with HHS or contractors? Okay. Is there anyone with the departments here today, Department of Labor, Department of Energy, others? Okay. Hearing none, let's move to members of the public who'd like to register their attendance.

MS. AYLERS: Dell and Kathy Aylers.

DR. ROBERTS: I'm sorry, can -- can you repeat that? You were a

little faint?

MS. AYLERS: Dell and Kathy Aylers.

DR. ROBERTS: Okay. Thank you.

MR. EDGAR: Jack --

DR. DEGARMO: Denise Degarmo.

DR. ROBERTS: I'm sorry, and I got Denise DeGarmo. Who was the other person?

MR. EDGAR: Jack Edgar.

MS. KENLY: Patricia Kenly, K-E-N-L-Y.

DR. ROBERTS: Okay. any other members of the public would like to register attendance?

(Whereupon, multiple participants speak simultaneously.)

MR. Ursiny: -- U-R-S-I-N-Y.

MR. SILVER: Ken Silver, still in the pipeline to join the Board. I'll be listening with (indiscernible).

DR. ROBERTS: Okay, good. Okay. Anyone else?

Well, welcome, again, to you -- all of you. Before we officially start the meeting, just a reminder to keep things run -- running smoothly throughout the meeting, please check your phone and keep it on mute unless you need to speak. The same -- and if you don't have a mute button, press star six to mute. If you need to take yourself off mute, press star six again.

For those of you on Zoom, same thing, make sure that your microphone is muted if you're not speaking. And I just would ask that everybody periodically check phone and computer to ensure that you're on

mute. Sometimes it can inadvertently come off mute, so just please periodically check.

And as we discovered yesterday, please don't press hold either if -- whether you're on Teams or by phone. Oh, I think I said Zoom earlier. I meant Teams. Apologies for that. But please make sure you don't press any hold button, because that creates a whole other set of technical difficulties. So, thanks so much in advance for helping out with that.

So, with that, let's get started. And I'll turn the meeting over to our Chair, who we have recently welcomed back. Brad.

CHAIR/SC&A REMARKS: OVERVIEW AND STATUS OF PINELLAS PLANT WORK GROUP

CHAIR CLAWSON: Thank you, Rashaun. Could you -- could you put down the agenda so that I can see where everybody's at? Okay. There we go. Thank you so much.

Well, it's been a long time since we've met. It's been a little bit over a year. There's been an awful lot of paperwork that has gone out. SC&A has -- has made a report and so has NIOSH. I will be truthful, I was a little bit disappointed, because I don't think that you guys really looked into it as deep as what should have been, but we'll discuss that. We've just received in the last week/week and a half a paper from Dr. DeGarmo that kind of streamlines all of the information that she'd sent to us a year ago, and we'll discuss that a little bit later.

But I do want to welcome you all here. It's good to be able to see you all again. This work that we're doing is very important, and we need to keep

up on it.

SC&A PRESENTATION: "SC&A SUPPLEMENTAL REVIEW OF SEC-00256 PETITION EVALUATION REPORT OR PINELLAS PLANT"

CHAIR CLAWSON: With that being said, I'll turn it over to SC&A to be able to give their presentation and go over what they have found, and we'll go from there. And then the next up will be NIOSH. I believe that's you, Maddie.

MS. COOK: Yes. Yep.

DR. OSTROW: Okay. I guess it's my turn. Steve Ostrow from SC&A, I'm going to put my presentation on the share, so let me -- give me a second to do this. Nope. This may take a minute. I -- I think that worked. Can everybody see my slides?

CHAIR CLAWSON: Yes, --

MS. MARION-MOSS: Yes, we can see them.

DR. OSTROW: I'm impressed. It worked. All right.

CHAIR CLAWSON: Miracle -- miracles never cease.

DR. OSTROW: I know, really. I cross my fingers every time I do this. The report's easy. It's getting it on the screen that's...

Okay. Anyway, so good morning, everyone. The -- just mention that we've been looking at Pinellas for a long time. In fact, we first started looking at Pinellas -- by "we," I mean the collective we here -- in 2004. So, that's been, you know, over 20 years since we first started on this.

NIOSH published their evaluation report for SEC-00256 in 2021, and that's when things really heated up with the Work Group and so forth to look

at the -- the SEC evaluation report. The -- so I'm gonna be talking today -- the -- SC&A has done a series of reports, which we'll talk about in a minute. The latest that we've done is a supplemental review report that you can see is on the screen there.

And the supplemental -- the actual report itself, if people are interested, it has a details in Table 2, which gives the details of all the meetings that the work group has had and different papers and things like that. Okay. So, we'll move on here. Now -- okay.

Background. This report, the supplemental review report from April 2025 augments the report that we had done about two years later, in 2021 -- '23, the interim review report of the SEC petition. And the reason we called the original one interim and this one supplemental is that, you know, we continue to look at new things and receive new material, so none of them are the final report, no definitive on everything.

In the earlier interim review report, we had made four -- four -- no -- 13 observations, and in this current report, the supplemental, we made four additional observations, which are number 14 to 17, which we'll get to later in this presentation. At the November 2023 Work Group meeting, SC&A was tasked in general to evaluate newly received petitioner material, respond to areas of particular concern to the Work Group, continue identifying and examining other relevant documents, and issue a report to supplement our initial review report. So, this is that which summarizes what we had.

All right. This slides are a little bit misleading, as was pointed out to me, it was too late to do anything about it. Okay. That we recognize that evaluation -- the Petitioner evaluation report remains a moving target. And

I'll clarify what we mean by moving target, that we're -- we continue to receive new information all the time, such as that just submitted by Dr. DeGarmo, and also by Ms. Hand, who submitted something just yesterday, that we -- that we have to look at, NIOSH has to look at, and the Work Group has to look at. So, that's what we mean by moving target. It's not done.

Another clarification, I'd say misspoke here, final decision coming from the Board. Well, the final decision is not from the Board. The -- the Board -- the Work Group reports to the Board, and the Board makes a recommendation to the HHS Secretary, which makes the decisions on -- on SECs. And the -- so, that -- the -- so, that's the clarifications.

And just keep in mind, I didn't put this on the slide -- and I've said this before in other presentations -- why are we doing all this anyway? I mean, in general. And we're looking to assess -- the goal is to assess whether worker exposures to radiation can be adequately and scientifically reconstructed. That's the goal. It's not to make an -- an encyclopedia of a particular plant, just not -- not just Pinellas, but any of the plants we're looking at. We want to see, is the dose reconstructions valid. Can you do with these dose reconstruction. That's the goal.

All right. A little background. Just -- we have some new members and so forth, so just -- I thought, this is -- I'd just go through this quickly about Pinellas. Detailed information is in our various reports and NIOSH's various reports, especially in the Pinellas TBDs.

So, Pinellas, built by General Electric in 1956 on a 100-acre site, which is located near Clearwater, Florida. It's -it's not there anymore, the plant.

Their primary operations: manufacture tritium containing neutron generators. These are miniature neutron generators. And they produce neat -- neutrons through fusion reactions.

After about 10 years, the plant expanded its scope to manufacture other electronic components. And there's many, many electronic components, very specialized ones. The ones that we're concerned about here that could produce radiation are the radioisotope thermal electric generators that contain plutonium heat sources. So, these are the two main things we're concerned about, the -- for the radiation, neutron generators and RTGs.

The site consisted of one large building, building 100, which contained many different areas and subareas, and there were 17 smaller buildings that also contained different areas and rooms. At its peak, the plant employed about 2,000 people. The number of people that they employed went up and down over the years, but 2,000 was around the maximum. And it can be divided, the operational period -- or the period can be divided in three different periods here.

It operated from 1957 to 1994, at which time it began decommissioning and decontamination in 1995 to about 1997. After they was D&D'd, the remediation period, which basically turned it back to a Greenfield site, 1999, it paused for a couple of years, and it was finished in 2008 and 2009. The one period, which I didn't write down here, the SEC period is defined here from -- ha, where is it? Ah, 1950 -- oh, 1957 to 1990 is the period that's under consideration right now.

Why 1990 and not 1994? As you might know, Tiger Team did a review

of the site in 1989-1990. At the time, DOE was doing Tiger Team reviews of many of the weapons production sites. And there were recommendations. The Tiger Team report, one of the findings was that Pinellas was doing better than it had before with the various health physics programs, so they decided to terminate the SEC period in 1990.

Just a brief review of what we're considering here: radiation sources, and we categorize them into two categories. Radioactive material is always giving off radiation. Radiation-generating devices only give off radiation when they're on. When you turn them off, there's no more radiation. For example, like, you know, dental X-ray machine, once you turn it off, it's no more radiation.

So, radioactive material, main two, tritium and plutonium. Tritium targets the neutron generators. And the RTGS, we have a plutonium oxide heat source in the RTGS. There were other things, radioactive materials. For example, borosilicate glass structures contained uranium and they also stored tritium. The tritium was stored very often on uranium, which was a getter and to -- to remove the tritium, you know, it was heated, and the tritium came off.

There are lesser sources of radiation. The leak detection systems, various ones, use Krypton-85 as a indicator gas, and Carbon-14 was used as a radioactive label and some lab solvents. Finally, in addition to that, there were a bunch of other small sources that were in the radio chem labs and HP, health physics labs, which are characteristic of any radio chem or HP Labs, calibration sources, check sources small quantities of other radioisotopes. We expect a lot of these sources were so-called NRC exempt

sources. That means they're below a certain activity so that they can be freely handled in the lab. All -- all radiation labs have these things.

As far as radiation generating devices, you had the neutron generators, ion accelerators for ion input -- implant -- implantation, target assessment, material analysis, and so forth. X-ray diffraction, electron beam equipment, and finally, you had medical X-ray equipment that were there. The -- we covered before, in the -- our previous report, the interim report, mentioned that photon sources, X-rays, gamma rays, in the neutron generator production area, the RTG production area, and the HP and chem labs.

Electrons, tritium is the primary source by far, Krypton 85 leak detection, Carbon-14 for tracer insolvents. And neutron sources, neutron generators produced neutrons when they're activated. And RTGS, since they have plutonium in them, produce some neutrons, very low level. Potential internal sources -- those are all external -- tritium is the main external source. Well, it's an internal source, but it could be -- they had uranium, plutonium, and we have looked at before other sources like Carbon-14, Krypton-85, Strontium-90, Cobalt-60, Thallium-204, which we looked at and discounted for various region -- reasons.

Okay. So, it gets us to our first observation that we had. We looked at sources of -- additional sources of radiation exposure. We looked at other -- many other documents since our interim review report in 2023, and we report now that we have not found any additional sources of radiation exposure or intakes that would require extra monitoring measures beyond those already used to monitor for radiation exposures from the sources

already known at Pinellas. Let me amplify a little bit.

Pinellas was a plant that dealt with radiation all over the place. They had -- they had a health physics program that routinely did monitoring and tested for exposures to radiation. And the -- they did personnel monitoring, bioassays, area monitoring, stack monitoring, etc., a full HP program.

And the present -- we didn't find any additional sources of note. But the present -- if there were presence of additional sources, that does not imply that their exposures were unnoticed. So, if you have a health physics program and you have monitoring and you bring in some additional source, it's expected that the -- that would be noticed by the monitoring equipment, by the HP program, but we didn't find anything. We looked at the government contracts that Pinellas had, there were a lot of them, for activities that could possibly have introduced new or different radiation sources at Pinellas, and we did not identify any requiring additional and new monitoring practices.

Details of radiation monitoring, our interim review report summarizes Pinellas's internal and external radiation monitoring in Section 4, and slide shows some details where you can find the different types of monitoring. All right. So, that brings us to -- excuse me. Okay.

That brings us to Observation 15, radiation monitoring sufficiency. So, after issuing our interim report, we did a lot of further research using documents for transuranic radionuclide sampling, both inside the plant and outside. It's environmental for outside the plant. The -- we located urinalysis -- that's not spelled right, is it -- bioassays -- urinalysis, bioassays, air sampling, and environmental sampling for Plutonium-238 and

239 during the plant's operating history.

The -- just a brief note on environmental, recently, since we issued the -- this report that we're talking about, we've done a great deal of additional research lately on environmental presence of plutonium. The --does any environmental presence indicate that the plutonium came from the plant or possibly from background plutonium that's in the soil or from radiation fallout? We didn't -- we have -- so, we have a lot of additional information, and nothing indicates that any environmental plutonium came from the plant.

So, we looked at data for indication of potential worker intakes, above normal background exposures, and fallout concentrations. We examined approximately 100 samples, and results did not indicate the uptake or the potential for uptake of plutonium or other transuranic radionuclides arising from plant operations.

Government contracts, the authorized petitioner representative, Dr. DeGarmo, sent us a whole bunch of information -- a lot of information on about 200 government contracts that Pinellas had. These weren't focused on radioactive stuff. It's all the government contracts they had. These could be cat -- cat -- categorized as research and development, and we searched for any related documents that contain -- also for related documents that could contain information concerning government contracts relevant to potential radiation exposures or intakes at Pinellas.

We found that most of the contracts were for nonradiation-producing projects. Pinellas was a big site. They did R&D. They did lots of stuff. They did a lot of research on metals, ceramics, testing, analysis, etc., that most of

them, or a lot of them, were for nonradiation purposes.

We identified a few that could potentially have relevant information for radiation. And we looked at -- we ended up with nine projects we looked at in more detail. Those are on the next slides.

Okay. And this was -- this was the first five; electron-beam impulse heating, design of a lab neutron generator, nondestructive determination of density, and tritium content of tritided tritium -- trident -- I can't pronounce it. I give up. Anyway, erbium films with tritium, hydrogen isotope measurements for neutron tube targets, and the ion accelerator facility.

Some more: uranium bed oxidation vacuum process, pulse neutron generator for logging. Can use some neutron generators, for example, for oil well logging. Pulse neutron generator, and finally, application of nuclear reaction analysis to metal hydride films. So these were -- these were nine that looked somewhat promising for further identification.

And our Observation 16 is, we looked at contracts for anything that would require additional health physics monitoring. And we -- this is -- this sort of repeats what we concluded before. We didn't find anything unusual or likely new to the Pinellas site in the -- in these contracts. Pinellas routinely handled tritium and neutron-producing devices as part of its main product line. So, the fact that you're doing some R&D on something or other doesn't mean that the existing health physics program wouldn't cover it.

The documents we looked at -- the contracts didn't directly address radiation exposures from these projects. That wasn't the purpose of these documents. But there were no potentially abnormal or unusual external and

internal exposure conditions that their routine Pinellas health physics module would not have covered.

This slide shows -- get on -- NIOSH responded to our interview (sic) report, which was -- NIOSH's response was in October 20 -- 2023, and our interim review report was in June of 2023. That -- this is to see were there any loose ends here. We had no findings in that report and 13 observations. That's summarized the executive summary section of the interim report.

NIOSH responded to our report in October 2023 and presented its response to the Work Group in November of 2023, and NIOSH concurred with most of our observations. They concurred in all important ways, several -- I'll just note that several responses commit NIOSH to update the occupational internal dose technical basis document. That's enough -- that's a response to an observation. That didn't mean there was anything wrong. It just means that in the future, updates the -- of this TBD, NIOSH will, you know, include some of the -- their responses in that.

So, SC&A reserves further assessment until the revised TBD is available. This also calls for a clarification. The -- this is intended to refer to the process of evaluating new materials becomes available from, for example, the authorized petitioner representative. So, that's what we mean by preserving further assessment, that as material comes in and as discussions go on, we'll look at it further.

We looked at -- okay. We considered carefully petitioner material. The interim review report looked at petitioner material up through January 2023 or so, and in the different -- section six or different sections, we looked at different category -- categorizations of the -- of the issues.

So, Observation 17, petitioner documents, we examined all the documents submitted by the authorized petitioner representative, including -- or especially those of particular interest to the Board. And I mentioned, or I have noted here, that we had, my rough count, including the ones we got two weeks ago, we have, I think, 428 addition -- documents that were submitted by the APR. So, there's a lot of stuff there.

We looked at everything. General comment, many of them are not -- either nontechnical, do not contain new, relevant information related to dose reconstruction or are duplicates. The third bullet is important. Of all the stuff that was submitted, some of them provide a deeper understanding of activities at the plant that can help interpret and clarify other documents and dose reconstruction guide -- guidance. So, the stuff we're getting from the petitioner representative, including the one that we got two weeks ago, have good material in it that we look at and take seriously.

We're looking deeper into some of the documents, we continue to, but we haven't yet identified any that suggest that doses are not bounded by NIOSH's dose reconstruction approach, which is the goal, as I mentioned earlier. Finally, -- I don't know if this is finally, but there were four issues of particular interest to the Board that we looked at, and it's reported in our supplemental report. As I mentioned, the APR submitted over 400 documents, about 428 actually. And by my rough count, 96 of them had to do with contracts, 56 with plutonium, 28 with tritium, and 12 with neutron generators. So, as I mentioned before, there's a lot of material that's relevant that we looked at.

We looked -- and just emphasize, over 60 documents specifically

concerned plutonium. The supplemental review report addresses several areas related to plutonium raised by the APR and particular interest to the Board and members. And there are four things that we'll go through in the slides here: the Heather Project, which is interesting; bioassays; air monitoring; and RTG models. And we'll go through one by one.

Heather Project, as I mentioned, this is an interesting project. It was -- it's a classified project, so we only examined unclassified documents that are available either a -- that NIOSH had on their website, you know, in their data set that we could look at, or through open source. A lot of them you could find if you look for it carefully enough.

So, the Heather Project was part of an overall project related to nuclear weapons, and Pinellas was a part of that, mainly with neutron generators, which is part of a nuclear weapon. The Heather Project specifically refers to a glass component as part of the tritium delivery system in a nuclear weapon. The project -- the Heather Project began around in 1956 as part of the Poseidon submarine launched nuclear ballistic missile program and ran to around 1970.

If people are really interested, a good summary of the project was in the "Pinellas Headliner," which is a newsletter that the plant put out. And they devoted a special issue to Heather in a 1991 issue. And they stated that due to the classification of the product, Building three -- 300 was constructed and used solely for this product line. All the processes required for fabrication of its piece parts and processing of them were performed in that building, and access was strictly controlled. So, as I mentioned before, the main building of Pinellas was 100 -- building 100 and there were a bunch

of other buildings. 300 was just for Heather.

We looked at the documents that was provided by the authorized petitioner representative. We also looked in the NIOSH project documents and noted that the evaluation report Table A2-2 refers to doc -- refers to the documents that NIOSH examined relative -- related to Heather and attachment 2 states that NIOSH reviewed each of the additional documents for information pert -- pertinent to dose reconstruction feasibility. None of the review documents indicated difficulties that could hinder or impede dose reconstruction to the class of workers, and none of the documents pertain to radiological exposures, lack of dosimetry information or any other condition that would negatively impact dose reconstruction from the class of workers under evaluation. So, basically saying that NIOSH did its own investigation into any potential sources of radiation, including Heather, and didn't find that any of them would affect dose reconstruction.

So, what did we conclude? We concluded, in general, at none of the NIOSH documents, including the TBDs, exclude any of the areas where there was a potential for personnel exposure to radiation, because it would have been detected by the overall plant's health physics programs, such as internal and external monitoring, area monitoring, contamination control. Hence, there's no basis to expect that the rooms housing the Heather Project and the personnel working in them would not be similarly covered.

This is sort of repeating what I had said a few times before. If there's anything radioactive at the Pinellas plant, because they dealt with radiation all the time, it would be monitored. There wouldn't be any reason to exclude one particular area from its radiation monitoring.

Okay. Another area of concern that the Board was concerned about was bioassays. Expressed interest in how many plutonium bioassays were performed and whether any were positive. Okay. We looked into it further. Pinellas conducted Plutonium-238 and 239 urine bioassay -- bioassays while plutonium was present at Pinellas, confirmed that workers were not being subjected to plutonium intakes, and we found data sources. And the last bullet said we found 45 bioass -- plutonium bioassays from three different years.

Also, note that some of the bioassays that were taken, other ones for plutonium, were rejected by the health physics people as being invalid. I think they -- they said they were contaminated or something. So, but there were valid ones that we looked at.

Now, the evaluation report, this is from the SEC evaluation report, notes: NIOSH considered plutonium because the Pinellas plant imp -- implemented a bioassay program to ensure that there was no internal exposure resulting from RTG work with the triply encapsulated plutonium sources. The program confirmed there was no internal exposure resulting from plutonium at the Pinellas plant. It says, The plutonium used at the Pinellas Plant in RTG production from 1975 through 1990 was not a potential source of internal exposure. The RTG heat source containment rendered the plutonium nondispersible, and there was no plutonium contamination within the facility. However, out of an abundance of caution, the Pinellas plant performed plutonium bioassay.

This is -- the ER is also repeating what's been said in the number of Pinellas documents. They had no indication of any plutonium contamination

or exposure, but they have an abundance of caution. They went ahead and monitored it anyway.

The -- in Work Group discussions, the Work Group concluded that it does not consider the potential for personnel internal dose from activities involved in plutonium is credible. Therefore, an internal dose reconstruction methodology for plutonium is not necessary. This was one of the Work Group meetings that's actually referenced in our full report.

Just note that the -- the sort -- the plutonium heat sources were triply encapsulated, and they were swabbed on the outside for potential contamination on the outside, and there wasn't -- they never found any.

Air monitors, this is another concern the Board had. Their concern inquired whether -- the Board inquired whether they were plutonium air monitors in-plant, especially in the 100 and 400 areas, those are the building designations. We determined that there were air monitors in several locations in the plant which sampled for plutonium contamination. For example, one Pinellas report describes air monitoring systems in Building 400 which included monitoring for plutonium. A data source presented 42 sample results, and other presents their monitoring data as well as gives the locations of monitors and filters, including maps of where they are. And we haven't seen any documentation to indicate that plutonium was ever present in Building 100, which is the main building.

And finally, for Board concerns, the Board wanted to know how many RTG models were there, actually. It's not -- this was actually surprisingly difficult to determine, you know, what the actual -- how many different models they had. We looked at dozens of documents provided by the APR,

NIOSH documents and other primary sources of information, such as from Los Alamos National Laboratory, LANL, concerning its milliwatt generator project, which ran from 1986 to 1996. And after exam -- examining, especially the LANL reports, and looking at model numbers, we believe that there are three different plutonium heat sources, and we listed them there.

Notice that we have a 2893 and 2893A sources. And they powered three different RTG models, 2730, 2730A, and 3500. The heat sources produced either 4 watts or 4.5-watt thermal power. And it's stated in the LANL document, the heat sources for milliwatt RTGs are identical, except for the amount of plutonium oxide granules contained in the 4 watt and 4.5-watt models. So, the -- they were producing the same heat sources but depending on how much plutonium oxide granules are inside of it, that determines the electric power output.

Okay. So, what's our conclusion with the RTG models? We concluded that there's no material distinction for the purpose of assessing the ER and the underlying dose reconstruction methodology between the models with and without the A suffixes. So, in any event, we find that the number of different RTG models, it's either two or three, depending, is not relevant to dust reconstruction or assessment to the ER in any event. So, the RTG models were basically the same, and whether any minor differences between one model and the other is not really relevant anyway with dose reconstruction.

A summary: We evaluated -- this is from our supplemental review report. We evaluated petitioner material received since the June 2023 interim view report, we evaluated several areas of particular interest to the

Work Group. We made four observations with a common theme: that SC&A hasn't identified any additional sources of radiation exposure or intakes that would not be detected by routine health physics practices at the plant or that could not be bound by the NIOSH dose reconstruction approach.

That said, we -- the evaluation report assessment remains ongoing as new information becomes available. When we get new information, we will look at it and talk about it. A short clarification here, that the Board doesn't have to wait until the -- you know, that all the I's are dotted and T's are crossed to make a recommendation to HHS at any point in the process.

This is -- this slide, which was done a while back -- it takes forever to get things done through production here, so that it's actually finished -- this is a preview of NIOSH's presentation right after this. NIOSH hadn't issued it at the time -- that NIOSH issued a response paper to our supplemental review report, which is going to be talked about right after mine, and NIOSH concludes -- I hope I'm not giving away the -- NIOSH's conclusion here -- they concur with the four observations on the supplemental review and notes no response is required. We'll hear more from that -- from NIOSH shortly.

Before we get to the questions, just mention that SC&A has looked a lot of things, a lot of detailed material in draft form since the supplemental review report pertaining primarily to plutonium and environmental issues. We haven't issued it, but we have it. And we have to evaluate recent material that was submitted by the authorized petition -- petitioner representative, which we've taken a look at -- look at, but haven't had a chance to go through in much details.

So, do we have any questions? Don't forget to unmoot -- unmute if you have questions.

MEMBER BEACH: Yeah. Hi, Steve. This is Josie. Hey, on --

DR. OSTROW: Hi, --

MEMBER BEACH: -- your --

DR. OSTROW: -- Josie.

MEMBER BEACH: -- report -- good morning. On your report, on slide eight, you talked about urinalysis and the bioassays, and then --

DR. OSTROW: I'm going to it.

MEMBER BEACH: -- again -- no, no, go to -- then again on slide 20, --

DR. OSTROW: Twenty is good?

MEMBER BEACH: Yeah, it's -- it kind of doubled up there. So, you talked about the positive Pu bioassays, and I'm wondering -- okay, so I had the question back on slide eight. And then you talked about how many, which is what I was going to ask you, how many plutonium bioassays. So, 45 in three years. And so, I kind of got a two-part question.

You have 45 samples. How big is the workforce there, and do you feel like that's adequate for the -- that time period? And in addition to that, what about the years prior to '87? Like in the -- in the later '70s.

DR. OSTROW: Well, okay. So, first -- first of all, there were about 2,000 people maximum at the plant. A lot of them were in areas that didn't have any exposure to plutonium, because they weren't in -- the only place that plutonium was the RTG areas. The details, I don't recall offhand. I don't want put them on the spot, but is -- Ron Buchanan, are you on the line here? I think you looked at this. Maybe you could say something. Ron, you

on the line?

DR. BUCHANAN: Yeah, yeah. This is Ron Buchanan, yes. I couldn't respond to that right now. I don't recall the details. It's been a while. They were looking for general indication of probably doing random sampling since there's 45 to show, to prove, that there wasn't any or detect if there was any uptake in plutonium. But I don't have the figures at this time. I'd have to look at that.

MEMBER BEACH: Okay. Thank -- thanks, Ron. I know this goes back a ways.

And then I have one more quick question, and I'll -- I'll get off here. Did you do any worker interviews, Steve, or was SC&A involved in any worker interviews?

DR. OSTROW: I didn't, personally, and I don't know the history before I started working on this a couple of years ago, if SC&A actually participated in any of the worker interviews.

MS. COOK: This is Maddie Cook. I can confirm that SC&A did participate in interviews back in 2012.

MEMBER BEACH: Can you tell me --

DR. OSTROW: Thanks, Maddie.

MEMBER BEACH: Thank you. Can you tell me how many worker interviews were done?

MS. COOK: I don't know that number off the top of my head.

MEMBER BEACH: Okay. Thank you.

CHAIR CLAWSON: Hey, Maddie, while you're on there, though, why don't you help me with the -- the shards that were used in the RTGs. Where

did those --

MS. COOK: (Indiscernible) --

CHAIR CLAWSON: -- where did those shards --

MS. COOK: Okay. Yeah, go ahead.

CHAIR CLAWSON: -- come from?

MS. COOK: I don't know what shards you're referring to. Would it be the plutonium heat sources?

CHAIR CLAWSON: Yes.

MS. COOK: Yeah. So, those were triply encapsulated, sent from Mound. And if you'll recall back to my technical overview presentation, Pinellas had a procedure for receiving those in a glove box. They were surveyed. If contamination levels exceeded 200 DPM, they were immediately repackaged and sent back to the manufacturer.

CHAIR CLAWSON: They were triple encapsulated?

MS. COOK: Yes.

DR. OSTROW: Well, can I clarify? Steve, again. The shards that they're referring to were in the triply encapsulated heat sources. The -- I make a point that the plutonium was not in the powder form. It was in a shard form, you know, pieces of it, which was, I think, also a precaution that if in any -- if -- in any potential event, the sources were ever breached, the heat sources, that it wouldn't become an airborne contamination, because they were actual physical, you know, chunks of plutonium, not -- not powder. But -- but they -- but they received triply encapsulated and never loose.

CHAIR CLAWSON: Where -- where does it say that they were triple

encapsulated? I haven't read that. You say it, but where is the documentation for that?

MS. COOK: We can provide that to you. It's in our site research database, and again, that was gone over in my technical overview presentation, so I can get you that reference.

CHAIR CLAWSON: Okay. Because -- because we actually have worker interviews that discuss having to modify the shards to be able to get them in the heat source. So, that's -- that's -- the triple encapsulation comes many years later, but we'll -- we'll get into that in a little while there.

So, I just -- I would like to have that, Maddie. You'll probably have to send it to me FedEx till I get everything up and running and stuff like that. But I would appreciate that.

MEMBER ZIEMER: Brad, this --

CHAIR CLAWSON: So, Ron, are --

MEMBER ZIEMER: Brad, I have --

CHAIR CLAWSON: -- or Steve?

MEMBER ZIEMER: -- a question for Steve.

CHAIR CLAWSON: Sure.

MEMBER ZIEMER: This is Ziemer.

CHAIR CLAWSON: (Indiscernible.)

MEMBER ZIEMER: Yeah. Two things, actually. And Steve, I don't know if you'll have this information, but on the Heather Project, are we able to identify which workers were involved in the Heather Project and whether or not they also worked in other parts of the plant? That's -- that's the one question. And the other is, were there routine leak tests on the plutonium

sources, since there were sealed sources?

DR. OSTROW: Okay. To answer the first question about which people were actually there, I haven't seen that. Maybe NIOSH has, but I didn't actually see it. The documentation we've seen that NIOSH had didn't go into details about which worker was working on Heather, and whether they worked in other places. It was a classified project, so I'm not sure if that information even exists.

As far as -- I know that they the routinely when they receive the triply encapsulated sources, things were -- they -- they're swabbed for contamination, as Maddie just said. They were rejected if they had any contamination on it.

Maddie, do you have any idea what -- if there's any list of which personnel worked in the Heather Project?

MS. COOK: We have some documents in the SRDB that name a couple of names, but in terms of a comprehensive list of Heather Project employees, I don't believe we have that.

DR. OSTROW: Okay.

CHAIR CLAWSON: Well, Paul, --

MR. BARTON: This is Bob Barton. Just real, real quick, I guess, 10,000-foot view, I think a big part of this that is being lost is that Tiger Team analysis audit that they did at Pinellas in the late '80s-early '90s. And maybe that just predates what they were doing with Heather, or maybe overlaps with it, but they really came out with positive reviews of how their health physics program was being run. Now, that doesn't mean that later on, projects changed, and we certainly are open to looking into that and any

new information, like we just got a few weeks ago, we'll certainly be looking into. But I think a lot of this -- I mean, in this program, we depend on those early '90s Tiger Team audits. And I -- I think those are very important to keep in perspective.

MEMBER ZIEMER: Yeah, I think the Tiger Team audit was probably '90 or '91. The first Tiger Team went to Rocky Flats, and that would have been like '89, so the others followed between '90 and '93.

MR. BARTON: I -- I -- I -- I agree. I think those have significant merit, not all of the information, but should be considered when we're talking about being able to sufficiently reconstruct doses and how the health physics program was being run.

CHAIR CLAWSON: Well, this is -- this is Brad. So, was Pinellas Dole lab certified?

UNIDENTIFIED SPEAKER: (Indiscernible.)

CHAIR CLAWSON: Because that was in -- that was in the '80s there that they were -- everybody was getting certified and stuff like that for Dole lab.

MS. COOK: DOELAP?

MR. BARTON: I'm sorry, I don't have any information on when they got lab certified for how they were running their operations. I can only reflect what the Tiger Team found when they went to Pinellas. And, you know, looking at how they found other things and other sites, to think that they didn't -- they gave Pinellas a break is -- well, it all has to be taken in context.

CHAIR CLAWSON: Well, and I understand that.

So, Maddie was speaking a little bit earlier there about receiving these, and if they were over 200 counts or whatever else like that, they were shipped back. So, do we have that smear data?

MS. COOK: Yes, --

CHAIR CLAWSON: (Indiscernible) --

MS. COOK: -- we do. We do. And I also wanted to point out that I don't believe the DOELAP certification was a thing in the '80s. And then also, I've been reminded that you guys have access to our references in the SRDB, and the one for the triplely-encapsulated sources is number 12787.

CHAIR CLAWSON: Okay. So, Maddie, I need you to send those to me, because we can't get on that system. And especially I can't either. So, you're going to have to send those to me, FedEx, or disc, whichever works best for you.

MS. COOK: Sounds good.

CHAIR CLAWSON: So, --

MS. COOK: Oh, and we just looked it up, and the Dole lab certification program or accreditation program began in 1986, just as an FYI.

MS. COOK: Okay. And for an FY, for you guys, Pinellas failed, and they continued to work on Dole lab certified into the '90s.

MS. COOK: Could you provide us with that --

CHAIR CLAWSON: Sure.

MS. COOK: -- reference?

CHAIR CLAWSON: Yeah, it's -- it's in the paperwork we gave you that Dr. DeGarmo put in there, so.

MS. COOK: Yeah.

CHAIR CLAWSON: We'll -- we'll -- we'll push it out to you and make sure that you get a hold of that too, and that we -- we pull that up, so.

Okay. Is there any other questions that anybody has? Steve, I do have one thing. You keep -- you keep telling me about the health physics program. How many people were involved in that?

DR. OSTROW: Oh, I don't know offhand. It might be in the documentation somewhere, but I don't know offhand about that.

CHAIR CLAWSON: Because the only thing I found through all of this paperwork, except for the early years -- it was somebody else, it was a Weaver.

DR. OSTROW: Yes.

CHAIR CLAWSON: And he addressed -- there's a -- there's an inner memo that we came across that he was concerned with the plutonium area and the way things were being done in there. So, that's -- that's one reason why I was wondering. I just -- I know that we can -- we can all say that we had a robust grad con program and stuff like that, but when -- sometimes it doesn't appear the way that it really was. But we'll -- we'll get through that and be able to go from there.

Anybody else have any questions for Steve at this time?

MEMBER ANDERSON: My only question was, do we know how many people would have worked in Building 300 at any given time? How -- how large was the workforce? It's a bit different question than who worked there.

CHAIR CLAWSON: Well, yeah. And, you know, they -- they do rotate back and forth and stuff like that, so.

MEMBER ANDERSON: Yeah.

CHAIR CLAWSON: And 300 was strictly Heather and Helix, --

MEMBER ANDERSON: Yeah.

CHAIR CLAWSON: -- I -- and there was crystal (ph) clock came out in there, and there was quite a few of them too, but -- but yeah. Well, I'll -- we'll chat here in a little while and be able to go from there.

So, anybody else? Going once, going twice. Okay.

NIOSH/DCAS PRESENTATION: "NIOSH RESPONSE TO 'SUPPLEMENTAL REVIEW OF SEC-00256 PETITION EVALUATION REPORT FOR PINELLAS PLANT'"

CHAIR CLAWSON: Okay. Maddie, it's -- I believe it's up to you now.

MS. COOK: All right. Can you see my slides?

CHAIR CLAWSON: Yes, we can.

MS. COOK: All right. Hello, everyone. This is Maddie Cook. I am the health physics lead for NIOSH for the Pinellas Plant SEC Petition-256, and I have what should be a brief presentation here going over NIOSH's response to the supplemental review of the evaluation report that SC&A just went over. I'd like to thank my ORAUT counterparts, Joe Guido and Pat McCloskey, and get into the response overview.

NIOSH is in agreement with all four SC&A observations and notes that they identified no findings. To summarize the supplemental review observations, SC&A found no additional sources of radiation exposure, found no potential for uptake of plutonium or other transuranics, identified no contracts indicating the need for additional health physics monitoring, and

they noted that the authorized petition representative submitted some additional documentation, and although it provided some useful background, it did not indicate anything to suggest worker doses cannot be adequately bounded. In conclusion, NIOSH concurs with each observation, none of which contradict the conclusions presented in the SEC-256 evaluation report. SC&A's review is consistent with NIOSH is position, which is that dose reconstruction for Pinellas Plant workers is feasible.

With that, we recommend closing these four observations. Thank you.

CHAIR CLAWSON: Thank you. I appreciate that. So, Maddie, in your personal opinion, and this is -- this is just your feeling of -- because the reason why I'm asking this is -- so, I've been with Pinellas for over 20 years, and one of the things that I always had a problem with is I could never really get my hands around what Pinellas's main process was, and what -- what they were actually there for. But I know that you've had an opportunity to be able to look into this. And this is just your personal opinion. This is nothing that -- NIOSH stand or anything else like that.

But what do you think Pinellas was there for, and what did they -- what was their main purpose?

MS. COOK: Brad, I have a professional opinion, which is to manufacture components for nuclear weapons.

CHAIR CLAWSON: Okay. And several different ones, right?

MS. COOK: Yes.

CHAIR CLAWSON: And part of that was different RTGS?

MS. COOK: Correct.

CHAIR CLAWSON: Okay. So, I -- that -- that's one of the things --

and I appreciate your professional opinion on that.

So, -- so, is there any questions for Maddie at this time?

MEMBER BEACH: Yeah, this is Josie, Brad.

Maddie, I just was wondering if you could just describe what the RADCON program was. I -- I keep hearing it was robust, and there was a lot of RADCON, and I'm just curious.

MS. COOK: Yeah, so --

MEMBER BEACH: Can give me an idea of the numbers? Thank you.

MS. COOK: In terms of an idea of the numbers, we have monthly reports, so we have the highest contamination survey results for tritium for each month, for all years of operation. In the plutonium areas, they did radiation monitoring, continuous air monitoring, we have bioassay data for both tritium and some plutonium, and they also did stack monitoring for plutonium in the RTG areas, and then, as well, out of an abundance of caution, they did an entire environmental monitoring program.

MEMBER BEACH: Do you -- do you know how large --

CHAIR CLAWSON: Well, it --

MEMBER BEACH: -- the program -- how many people worked in RADCON, within Pinellas?

MS. COOK: No.

MEMBER BEACH: The department?

MS. COOK: I don't have that number on the top of my head.

MEMBER BEACH: Okay. I was just curious if it was one or 10, or -- or how big their department was.

MEMBER ZIEMER: Let me, --

MEMBER BEACH: Okay. Thanks.

MEMBER ZIEMER: The -- the structure should be easy to find in the documents. All -- all of the DOE facilities at that time -- well, actually throughout their existence -- had organizational charts which indicated numbers of people in various groups and subgroups. So, I would think that information would be fairly easy to come by.

MEMBER BEACH: Yeah, thanks, Paul. I was looking through all the documents the last few days to see if I could come up with that, but I -- I haven't been able to. That's why I thought I would ask.

CHAIR CLAWSON: Steve, are you talking, because you're muted?

DR. OSTROW: Yeah, I was talking, but I didn't have the microphone on. I didn't pay too much attention to it, but I think we have, or I've seen org charts for Pinellas for all sorts of different organizations. I mean, all the different subgroups they had. And I think that they had the RADCON group listed also. So, it's probably -- if someone did the digging, could probably get some idea of what size their health physics RADCON group was.

CHAIR CLAWSON: Well, Steve, that sounds like a good job for you to do.

DR. OSTROW: Did I just volunteer to do something?

CHAIR CLAWSON: Yes.

DR. OSTROW: I didn't mean --

CHAIR CLAWSON: You did.

DR. OSTROW: I didn't mean to do that. Okay. I'll take a look.

CHAIR CLAWSON: Well, --

MEMBER ZIEMER: Well, this is Ziemer. I -- I think we're not always

looking at the org charts, but I think the org charts will tell you more than numbers. They probably give you names as well.

CHAIR CLAWSON: Yeah. Well, this is -- this is something I found interesting about Pinellas. If you look at how many different scientists and everything else on that, it -- it -- it's pretty -- it's pretty interesting.

So, are there any more questions for Maddie or Steve? If not, I'm going to take a few minutes, and I -- I'm going to talk a little bit, because I -- I've got some concern.

And here's what my issue is: So, it triple encapsulated heat sources came from Los Alamos to Pinellas were a special heat source. And those heat sources only went to the milliwatt RTGs. Now, you need to understand that these RTGs were not your normal RTGs. These went to the PAL system. They had nothing to do with the weapon itself, except for the PAL, the permissive action links.

They were tasked under contract, in that contract set that you go through, to be able to build these this was, I believe, Gen. three or four of the PAL systems. Every weapon in the arsenal that we had, had to have a PAL system on it. This was one of Pinellas's major jobs. This is -- this is basically why -- why 400 ended up coming in the way that it did. Because it was above and beyond all the other tar -- RTGs that they were building.

This is all in the contracts. And I'm going to tell you something. Pinellas has always eaten at me for years, because there was so much there. There was so much different stuff going on. The reason why I asked Maddie what I did was because when I first started going into this, NIOSH kind of portrayed Pinellas as this little lull plant out there not doing much, not doing

anything. As I started going into the contracts and stuff, I started to come to find out that they were doing a heck of a lot more than that. They were R&D for everything.

To me, they were the think tank for DOE. And looking into the contract that -- it kind of showed that, because they had some just -- just phenomenal stuff. Now I've only been able to look at the Los Alamos, Sandia contracts. I know that I saw other contracts coming in from Savannah River, Mound. We got a couple from Mound. We get all of the different plants to be able to work problems.

I want you to understand that these PAL RTGs, these triple encapsulated ones from Los Alamos, are totally separate from the weapons RTGs. And we have evidence that goes to show that they were actually making the heat sources at Pinellas. That's why you see the Plutonium-238 coming in, in bulk, which came out in this letter.

They were building RTGs for the Army. They were building RTGs for Naval propulsion. They were building RTGs, the big boys, for NASA. That's where the plutonium oxide comes into this. They were doing an awful lot there, plus they were building the majority of RTGs for the weapons themselves.

I don't know if you guys know it or not, but something that come out -- that popped up, that we come to find out is Pinellas actually was the one that perfected the heat source ceiling. And in that paperwork that was sent out to you earlier, it has the little story about that, because what they had to do is actually super heat the heat source before they welded on the lid to it, to seal in the plutonium. They had a press there to be able to take and put

everything back into size, because everything else, it -- it -- it had to be -- it -- after heating it up like this and welding it, it started to become unformed. So, they had a press down there to be able to press everything, be able to get it put back in.

Matter of fact, there is a petitioner that even spoke about the heat sources coming in. And these are the PAL ones, not -- not the other ones. The PAL ones that would come in unformed they'd have to take and repress them to be able to get them to sit in the heat source. When I first started into this, I really had a hard time. I -- I -- I wasn't understanding a lot of the stuff of why the -- all the different -- different RTGs and everything else like that and why was -- why was the out -- Los Alamos one so different and stuff, until we did pull up the paper in the contract that calls it out for the PALS, the permissive action links.

And for you that know, the permission action links kind of put a third person into being able to arm these weapons. And in the early years -- in the early years, they -- they had some different systems for it. But especially when some of these start -- somebody needs to mute.

Hello? HQ, would you please mute? Well, at least we've got music for this. There we go. 85, thanks.

So, it took me a little bit a while, because I've been out to pasture, like a lot of you know, so I didn't have a lot -- a lot of other stuff. And so, I was really interested, and I really dug into what was going on at Pinellas. I think you're going to come to find out they did it far, far more than -- than what we're giving them credit for. There are different RTGs. There are several different RTGs going through the systems. You can take the number of the

RTG, and I'm not talking -- I'm not talking PALs, I'm talking the RTGs for the weapons, and you can actually tie it to which one of the weapons it went into. And there were absolutely thousands.

Maddie said that they would get over 3,000 RTGs in the 10 -- 10 years that they were there doing RTGs. And this is the PALS, again, which we come to find out was a little bit closer to 2,600 per year, per the contracts. They have to get all of these systems up and have the PAL systems in them. That's -- let alone why they have to be able to keep producing RTGs for the weapons themselves, and they were making those at Pinellas.

I -- I think that we've got to really take a closer look at this. And I'll -- I'll tell you something. I found it really interesting. I don't know if you guys can see this or not. This is a book. It's called "Contracting for the Atoms." It's a very rare book. I was lucky to be able to find one, and it's absolutely fascinating what we get into when we start looking at the contracts.

I know this one is not like all the other programs, because you guys had so much more data. And I know that the RADCON -- the health physics program here, and stuff like that, yes, they did have one. To what extent, you know, I don't think that it really was. I've run across an awful lot of letters from the health physicist Wiemer (ph) with a lot of different concerns and so forth like that. And they were quite interesting to be able to read.

But right in the 1990s, we run across the security form of a alarm and people breaking a security barrier in area 400. The guards came out. They stopped the people. They called the plant manager. They had been evacuated because of a radiation alarm inside. And the president of the company told them, well, you need to get a hold of Weaver so that he can --

he can tell us what's going on there. It took three-and-a-half to four hours to finally get a hold of Weaver to be able to come back out and silence the alarm.

He said that there -- there wasn't a problem, they could return to work. That's going to show me you -- you didn't have RADCON people there. They weren't -- they weren't participating in this.

Pinellas has been a very interesting system to be able to start getting into, and I have not been able to do it as any of the other plants, because there is not that much information to be able to get out there. The only way that I was able to find a lot of this, and I thank Dr. DeGarmo for a lot of it, because she showed me in the contracts some very, very interesting stuff. And that's when I started to go down the rabbit holes to find out what was really there.

It's my opinion personally, and the Work Group's going to be able to discuss this, but the bottom line is, as we show two shipments, shipments of 238, 239 in bulk, coming into Pinellas. We show bioassay uptake for plutonium. We show elevated samples around the area. There was a problem, and we don't have the proper data to be able to cover that. We don't have the proper monitoring, in my eyes.

So, that's why I'm going to try to push for the SEC for Pinellas, and I just want you to know that. Now, we're going to be able to have an awful lot -- be able to look at this new information that's come in, be able to go from there. We can also look at the uranium that was being used in Heather and Helix. I -- I believe -- and it was -- it was U-308. And I'd seen that one, yellow cake. That one was interesting to me. That came out of a

Weaver letter that was going on with that.

So, I just want you to know what my personal opinions are, and we're going to be able to discuss this as a Work Group, but I don't think we really have sufficient monitoring to be able to even classify what went on in this facility. They were doing thousands of RTGs, besides the Los Alamos ones. You've got to always take and separate those from the other ones that are being done, because those that were coming in, they were -- they were triple encapsulated. From a interviewer, when we said one in 70 were leaking, he says it was -- it was a lot less than that, but it was not uncommon. And that's where he also said it was not uncommon to be able to have to take and put it back into the press and be able to get it rounded out so that it would fit into the system. Very interesting engineer to be able to talk with.

So, with that said, I'm open to any questions, or if anybody wants to be able to -- we've got a question period that we can go on down and be able to go from there. But Paul, I see you're there.

MEMBER ZIEMER: Yeah, I wanted to ask, Brad, are you indicating that there's some documents that NIOSH or and/or SC&A, have not seen yet that you have seen?

CHAIR CLAWSON: I have -- I am -- I'm going to be right honest, Paul, when I got this report from SC&A and also NIOSH, I was a little bit disappointed that they didn't --they didn't dive in a little bit closer. I know

that -- I know --

MEMBER ZIEMER: The other -- other quick question, Brad, the -- I was trying to understand the link that you made between the plutonium and

the PAL system. The PAL -- PAL system was really -- actually, the early ones were just box (sic) to prevent --

CHAIR CLAWSON: Yeah, they were, that was Gen. one, two --

MEMBER ZIEMER: -- we're -- we're -- we're talking about the ability of people to actually weaponize the -- the bomb, who could do it individually, or whether -- you know, anyway. But how -- how were you linking that to the plutonium itself? I didn't quite understand what you were saying there, if you can, clarify it for me.

CHAIR CLAWSON: The contracts between Los Alamos and Sandia with Pinellas call out the exact milliwatt RTGs that went into the PALS, and those -- those were the only ones that went in there. And those were the ones -- so, there is contracts that tie those. And I believe it was -- we were starting in '75 with this PAL system, and it -- it showed evidence that they were having a hard time keeping up with it, and that's when 400 was built.

And at the very beginning of 400, it was split with a thermal mass one, and they were just doing that. In '85 with the upgrade, they actually took over the whole building to be able to keep up with this. So, that was -- and this all comes out of the contracts. And -- and -- and I understand -- I'm going to be honest, you know, when you're a carpenter, you look at everything like it's a nail and you've got a hammer. Well, with health physicists, you look at everything that it's a -- I want dose rates, this and that, and everything else like that.

And you guys know that I've said this for years and stuff like that, you got to understand what was really going on at that site to be able to understand it. And I will be quite honest; Pinellas was very hard to be able

to get into. Until I got into the contracts. I didn't understand anything that was going on. It -- it just seemed really vague.

But these contracts that I'm talking about -- and they're between Los Alamos and Sandia -- it's one of the first ones where I see that the heat source is actually being provided, and there is a contract with Los Alamos to provide these heat sources, and to be able to be brought to Pinellas, build these RTGs, and then Sandia had the building of the PAL system, the PAL itself to be able to go into the weapons. And think about this, they had to have every one of these in the nuclear arsenal overseas and here with one of these in them by the '90s.

And -- and if you guys want to just read -- well, to see and understand, there -- on YouTube, there is a couple of really, really excellent -- DOE put together explanations of what the PAL systems were and why they went through -- and actually, in '75 is the first time the PAL system actually had an RTG in it. And that's when this all started to come through for Pinellas and to be able to bring this down and their workforce going forward.

MEMBER ZIEMER: Well, ---

CHAIR CLAWSON: ...from what I have found.

MEMBER ZIEMER: Well, my --

CHAIR CLAWSON: I would --

MEMBER ZIEMER: -- question at this point is, are there things -- is this information new to NIOSH, or NIOSH is this something you're looking at already?

MS. COOK: Hi, yeah. This is Maddie Cook. Brad, I don't know if you

answered Dr. Ziemer's question. Is this information that you've looked at separate from what's already been submitted to the rest of us, or is this the letter from Dr. DeGarmo that she submitted recently?

CHAIR CLAWSON: This information was already sent to you. You know -- you remember you guys talking about that big dump that they gave? This was inside the contracts. It was not as clear as what I would have -- what I'd like to see. This first -- this next page that Dr. DeGarmo gave out, I'd call it a white paper, brings this all into effect.

You may have to be able to dig a little bit more into the contracts, be able to see exactly what we were talking about with the amount of RTGs that were being done and everything else like that part of it. But yes, this is -- this is new information coming into you, mainly in the white paper.

MS. COOK: Okay. And I had --

CHAIR CLAWSON: But I had -- but you've had the information.

MS. COOK: Yeah, I --

CHAIR CLAWSON: It's been there in that dump.

MS. COOK: Yes, you are correct. We have been aware of plutonium at Pinellas and would just like to note that we have records and have reviewed them, and there's been no evidence of an intake, contamination event, or release from Pinellas.

CHAIR CLAWSON: Better read that white paper then.

MS. COOK: The most recent white paper?

CHAIR CLAWSON: Yep.

MS. COOK: Yes, so I did. Have you had the opportunity to review the primary sources?

CHAIR CLAWSON: Primary sources is what?

MS. COOK: The primary references that Dr. DeGarmo provided in that white paper?

CHAIR CLAWSON: Somewhat, yes. Like which one? Which sources are you speaking?

MS. COOK: So, the one that gives a total amount of plutonium sent --

CHAIR CLAWSON: From Mound?

MS. COOK: Yes, correct. I did have the opportunity to review that reference, and that number represents the entire amount of plutonium sent from Mound for that year, which includes Pinellas along with 18 other sites. So, that's not indicative of the total amount of plutonium that Pinellas had received.

CHAIR CLAWSON: Well, I'd like to look at that. Did you happen to look at what Hanford shipped?

MS. COOK: We can take a look at that, but again, I think that would be a similar case.

CHAIR CLAWSON: Well, okay. I'd like to see that, because I don't see in that reference where that's at. But -- but this is what we're here for. This is what we're to get to the bottom of. This is what we're --

MEMBER ZIEMER: Well, clearly --

CHAIR CLAWSON: -- (indiscernible) --

MEMBER ZIEMER: -- clearly, the subcommittee or -- or the Work Group needs clarification on all of this information for -- I guess several of us is probably new. I haven't had a chance to look at any of that.

CHAIR CLAWSON: Yeah, right.

MS. COOK: Well, and --

UNIDENTIFIED SPEAKER: Paul, --

MEMBER ZIEMER: And I'm new on the Work Group, so I'm getting up to speed.

MEMBER BEACH: Yeah, and this is Josie. I was just going to say I have reviewed a lot of the documentation, but it is -- there's a lot to it, and so to be able to pinpoint where different sources of that information would be helpful for the Work Group, for sure.

CHAIR CLAWSON: Oh, we're -- we're gonna have to. There -- there's no question. Bob and everybody's going to be able to have to look at that. But I also just want to make sure that we need to look at this as a lot -- lot bigger spectrum than -- than just dose rates and everything else like that. I'd like to be able to see -- because of all these contracts, one of the things that I started to see is that Pinellas played with a lot more plutonium than what they're saying.

You know, there -- there was reference in there that -- well, it was -- I believe they called it the mortality study and everything else like that. And I found it so interesting that Pinellas was with all the major big players for plutonium.

MS. COOK: Yeah, Brad, we -- this is Maddie. We've looked into that, and that study was revised later on to remove Pinellas due to its very low potential for plutonium exposure.

CHAIR CLAWSON: Oh, so that -- you've got documentation that says that's why they dropped it, not because of the later years?

MS. COOK: That is --

CHAIR CLAWSON: (Indiscernible) --

MS. COOK: That is why Pinellas was removed from that mortality study. And again, Pinellas having plutonium is not an indication of our inability to reconstruct dose. We're not denying that Pinellas had plutonium.

CHAIR CLAWSON: Well, and I understand that, and we've dealt with this too. Maddie, and isn't that -- with those papers that you were going to send me, I'd like to see how many actual plutonium bioassays that you actually have, because I've requested that, and I have never got that. So if -- if you could also send that with it, I would appreciate it.

DR. ULSH: Brad, this is Brant Ulsh.

CHAIR CLAWSON: Oh, go ahead, Brant.

DR. ULSH: How you doing?

CHAIR CLAWSON: Good.

DR. ULSH: So, I can tell that you've done a lot of research, and there are a number of topics that you're concerned about. We're not really in a position to comment on the stuff that Dr. DeGarmo has sent within the past few days. We're going to need some time to look at it. But if there are -- if we -- I think it would really help push this process along, if you have specific questions that you could send to us and be as specific in, you know, what you're looking at that would inform those questions, we'll be happy to take a look at them. It's just very hard for us to address, you know, general concerns that we can't really put our arms around and go -- you know, go get it. So, as specific as you can be in your questions, that would really help us to help you.

CHAIR CLAWSON: Okay. I can -- I can do that. And I'll -- I'll send

them out to ask -- Bob, you go ahead, too. I'm sorry. You need to unmute though.

MR. BARTON: That's okay, Brad. No, I think we're zeroing in on where we need to be with this Work Group. I mean, I think the main concern is was there unencapsulated plutonium that was available for uptake to -- to members of the Pinellas work cohort. I mean, that's the main question. I -- I think we've nailed down tritium for the most part, and some of these other radionuclides.

It's plutonium. Did they have plutonium there that could be available for uptake? I think that's really the most important point for this site. Now, we've gotten some more recent materials. I -- I -- I agree with my colleague, Brant, that we need a little bit of time to really dig into them and see what's what. But that is the issue at hand for me, for this site, it's -- it's plutonium. I mean, if they have plutonium there, they're monitoring for it, and maybe not monitoring adequately. We need to look into that. But that -- that's really the question.

CHAIR CLAWSON: It is, and -- and, you know, I guess -- I guess you've got to look at it kind of from back at my point of it and -- and to Brant, I -- I know that you were kind of gone during the time that a lot of these Work Groups were put together, but -- but see, it was thrown out to ask that all of this plutonium is triple encapsulated, there's no worries, there's no this, there's no that. We had really not got a lot of information on Pinellas. And while I was out to pasture, and I had time to really dig into stuff, I found a lot of interesting stuff. And 90 percent of this stuff that I've run across has come through the contracts. And it's interesting to be able to

go there.

And I -- by no means Maddie or Brant -- I'm not saying that you've got to make an opinion there. I know that this new information is coming to you, and that you need to be able to look at it. Same as SC&A. And I -- I -- this one is going to be a different one to be able to go down, because the only way we're going to be able to get to a lot of this, I'm going to be honest, is through the contracts. And the contracts tell us an awful lot about what they were doing.

I really -- I -- I was amazed to be able to start finding out how many -- how many classified operations were actually there. And -- and due to my past at Pantex and Nevada Test Site, I -- I picked up on a lot of the code words that were in the contracts to be able to do. And it was quite interesting to me. And there are a few of those that I won't even -- I won't even shake a stick at because I know the importance of them.

I'm not saying in any way that we need to come to a resolution right today, but what I am telling you is -- is that we need to take a look and evaluate these be able to get to the bottom and go from there.

Nicole.

MEMBER MARTINEZ: Hi, thank you. I have a logistical question about the agenda. Are we going to have another discussion at the end, or is this our discussion period?

CHAIR CLAWSON: Yes, we are. We just -- they just wanted to clarify some things with me, Nicole, and then we'll -- we'll have one at the end. I believe Dr. DeGarmo has got a presentation that she wanted to do. And then there will be a question and answer, and then we'll -- then we're going

to get to the real discussions at the end of this of the path forward and what we want to be able to do.

MEMBER MARTINEZ: Okay. Perfect.

CHAIR CLAWSON: This was just kind of -- right.

MEMBER MARTINEZ: I'll save my questions. I'll save my questions for then. Thank you.

CHAIR CLAWSON: Okay. Sounds good. So,

MEMBER ZIEMER: Brad? Brad, could I --

CHAIR CLAWSON: -- hop over to -- what?

MEMBER ZIEMER: Oh, Brad, Ziemer. Can I make one other quick comment? We know --

CHAIR CLAWSON: Sure.

MEMBER ZIEMER: -- from some of the other sites and experiences that many times there have been contracts that have actually not been carried out for one reason or the other. So, sometimes on these contracts, we need to have some independent way of -- of determining that they actually were -- were carried out. For example, a contract to send something, did it really arrive or was -- did somebody change their mind or the budget change or something. So, there's two parts to that. The contracts --

CHAIR CLAWSON: I -- I --

MEMBER ZIEMER: -- themselves don't always tell what the -- what the reality is.

CHAIR CLAWSON: And actually, Paul, in a lot of that, I know exactly what you were talking about. A lot of those stipulate that. There was a

large -- Los Alamos has a very large documentation of all of their -- Sandia is kind of interesting. I haven't looked it into the -- the other sites because I just did not -- didn't have the availability or anything else like that. So, I didn't go into --

MEMBER ZIEMER: Sometimes that --

CHAIR CLAWSON: -- but that --

(Whereupon, Member Ziemer and Chair Clawson speak simultaneously.)

MEMBER ZIEMER: -- plan B, they're gonna do this if something happens, but if it doesn't, they don't do it.

CHAIR CLAWSON: Right. And I understand that.

MEMBER ZIEMER: Yeah.

SEC PETITIONER COMMENTS

CHAIR CLAWSON: I'm sorry. I'll let Dr Garmo go, and we'll have our discussion at the end. Sorry that I got us a little sidetracked there. Thanks.

DR. ROBERTS: Sorry, Brad, can I chime in here? I just wanted to say that for the petitioner remarks section, obviously, it's optional to the petitioner whether or not they want to address the Work Group, but I do want to note that Donna Hand had submitted some comments to the Board, as was mentioned earlier that she submitted those yesterday, and they've been forwarded to the Work Group, SC&A, and NIOSH, and just want to make sure that she's off -- offered the opportunity to remark, and anyone else, whether they submitted comments or not, are welcome to remark during that item as well.

CHAIR CLAWSON: I understand. Thank you, Rashaun.

Okay. Dr. DeGarmo.

DR. DEGARMO: Good afternoon, everybody. Bob is going to help me with my presentation since I couldn't load it, and I'm hoping -- I don't see it, so --

MS. COOK: This is Maddie. I was just wondering if this would be a good time for a comfort break.

MEMBER BEACH: Yeah, I think that's probably a good idea.

CHAIR CLAWSON: What? Maddie, (indiscernible) my God, I can't believe you'd say that. No, I -- I'm very sorry. I should have thought about that. And how about -- so, how about a 15-minute break? Would that be good?

MS. COOK: That's fine by me.

CHAIR CLAWSON: Ten, 15? Okay. So, that would be, what? What you guys's time? It'd be 1:00?

DR. ROBERTS: 1:15.

MEMBER BEACH: It's 1:05. Oh.

MS. COOK: 1:05, yeah.

DR. ROBERTS: 1:05.

CHAIR CLAWSON: Okay. We'll -- we'll come back 1:05. Thank you, everybody.

DR. ROBERTS: I have 1:05 Eastern, so I will go ahead and do the roll call. Okay. Starting with Clawson, are you back?

Okay. I think someone is still off mute, maybe Dr Degarmo? Okay.

Clawson, are you back?

CHAIR CLAWSON: Yes, (audio break.)

DR. ROBERTS: Okay. You're breaking up.

CHAIR CLAWSON: Okay. Can you hear me?

DR. ROBERTS: Yes, I can hear you better. Thank you, sorry.

DR. ROBERTS: Oh, no problem.

Anderson?

MEMBER ANDERSON: I'm here.

DR. ROBERTS: Beach?

MEMBER BEACH: I'm back.

DR. ROBERTS: Martinez?

MEMBER MARTINEZ: I'm here.

DR. ROBERTS: And Ziemer?

MEMBER ZIEMER: I'm back.

DR. ROBERTS: Okay. Great. Brad, over to you.

CHAIR CLAWSON: Thank you. Glad everybody had a pleasant break. I -- I think it's all good.

So, Dr. DeGarmo, if you are ready, we'll turn the time over to you.

DR. DEGARMO: I am ready. I hope that everyone can hear me.

MEMBER BEACH: Yes, --

UNIDENTIFIED SPEAKER: Yes, we can --

DR. DEGARMO: Okay. Great. Before I get started, I wanted to clarify a couple of points. I had not intended to do this, but I think it's really important to make sure that we're all on the same page.

But first of all, I want to thank Dr. Ostrow for recognizing all my research as kind of a form of encyclopedia, because for me, that means that

I'm actually an authoritative voice on the Pinellas Plant, and I've never been called that before. So, thank you.

The second point I wanted to make is about the DOE lab and when that actually was approved. And according to records that I FOI'd on the SRDB materials that you have in your possession, those are out of a discussion of Adam Weaver's papers where he is having to rewrite all of the procedures and policies because of their inability -- the -- Pinellas's inability to actually meet the qualifications right off the bat, especially in terms of the Tiger Team. So, I -- if I'm correct, I believed you asked us to send that information to you, but you already have it, so it should be readily available.

The other things that I need to clarify is that this discussion about the shards. If you do background research on RTGs in general, the shards definitely came from Mound, but they were never used in the RTGs for the permissive action links. Those materials, as we have acknowledged, did come from Los Alamos. They were in a powdered form. They were shipped as Plutonium-238 02, and so forth. So, the shards did not go into the permissive action links. They were -- I just wanted to kind of back Brad up on this -- they were used for other sets of RTGs.

Additionally, Ms. Cook, I wanted to point out you said that the information we had sent in the white paper about the shipments from Mound were collective about all of the shipments that went everywhere, and what I would like to caution you to do is to go back and look at that document, because every facility has its own symbol. And if you pay attention to the symbols, you can find out exactly what plutonium material was sent to what facility. So, the record of what we have being shipped for Mound went only

to Pinellas. So, if you have a problem with that, let me know, and I can point that out to you to clarify that point. It's very confusing. So, I just wanted to mention that.

And Dr Ziemer, in terms of your contracts, in many of the cases, your question is a good one about how do we know that they were actually completed and so forth. A lot of the contracts that were not mentioned by Mr. Ostrow, but have to do specifically with RTGs, you can tell by the work that was being done where that contract comes into play and how it was then executed. So, that's information I'm happy to go through if you need it.

So, on now to the white paper. And this really has to do with the weight of evidence for a special exposure cohort class at the Pinellas Plant. Over the past 18 months -- and this is the amount of time since -- I believe, since Pinellas last met, I have had the ability to conduct extensive, extensive research, beyond what I've already done with the Pinellas Plant. And these results of the research are captured in the white paper and that you all received and had a chance to look at and are kind of summed up in this particular presentation.

So, Bob, if you would, go ahead. Okay. So, we acknowledge the primary radionuclide of concern through Pinellas Plant operations is tritium in both gas and vapor, and we certainly agree that there's sufficient tritium bioassay to bound the doses from tritium. There are still lingering questions about being able to positively dose sufficiently special tritium compounds and whether or not they can be bounded.

However, through more extensive research and through lots and lots

of intro -- information you already have in your possession, we -- I have been able to determine that there are additional radiological sources and more details about some of the processes that were actually conducted at Pinellas, and whether -- given the lack of documentation available regarding them, whether or not they can actually be characterized and -- verified as to whether they can actually be properly characterized.

And then I wanted to insert something here that isn't on the slide, but one of the issues of concern has to do with the fact that Dr. Ostrow said that everything was being monitored, but the documentation and evidence actually tells us that that's not true. There was no internal monitoring plant wide other than for tritium. So, that becomes a problem in and of itself.

Next slide, please.

Okay. So, Plutonium-238 was used for the RTGs. However, we have two unaccounted for shipments of 238, totaling 91.4938 kilograms that were shipped from Mound to GEND. And as I mentioned previously, this can be -- this can be confirmed by looking at those little symbols that are based on the shipping manifestos from Mound.

Pinellas has no record of these shipments, nor does it identify any projects or work for which this particular shipment of Plutonium-238 was used. The Plutonium-238, if it had been used for the permissive action links, would have been shipped as Plutonium-238 oxide, as we know from other shipping manifestos. So, there's no accountability for this information.

And then through worker interviews, we also know that -- that when some of the materials that Mound shipped, and they did ship some Plutonium-230 02, in oxide form -- so, there is a differentiation -- often had

to be opened and converted to ceramic form. And this is somebody who spent several years working in Building 400 with the RTGs. And as he says, Plutonium-238 was shipped to Pinellas in powder form, and the material was processed into a ceramic form for use in NASA's radioisotope power system. So, the secure transport would back a truck up, and they would unload these five-gallon buckets of Pu-238. I would put them in the press.

Next slide.

In 1976, we also have a shipment for a Mound where we have Plutonium-239, totaling about 1 kilogram. There are no records of this shipment, nor does it identify, nor did Pinellas -- any documentation associated with Pinellas identify any project or work for which it was used. So, what was it used for, and were there other shipments for which we have not found records yet?

I have received several data dumps for Mound. I've also received some additional ones from LANL. It is potentially very possible that there are more records, but we don't have them. We know it -- it was shipped, but we don't have any more information about what its use was.

Additionally, the activity of Plutonium-239 is more than is typically used for a plutonium beryllium source. And further, there is no documentation of a plutonium beryllium source being used at Pinellas Plant. It's much more than the 7 grams that was received in 1957, and the individual who worked with RTGs in Building 400, he -- one individual has an uptake that is nine times higher than the minimal detectable level.

When this uptake was monitored, there is no -- no recorded Plutonium-238 exposure with it. So, seems to me that we have a

Plutonium-239 problem. Otherwise, how would someone have received such a high dose if it had been controlled, as has been claimed by both NIOSH and SC&A.

Excuse me. Pinellas Plant staff also reported in 1976 positive results of Plutonium-239 in soil for both on-site and off-site sampling. NIOSH has provided no documentation or data to back up the assertion that these positive results are attributable to global fallout. There's the assertion there, but we have yet to see specific evidence that would back up this assertion.

In 1977 Pinellas Plant found positive Plutonium-239 at twice the minimal detection level in water samples. Certainly, it is likely that some airborne plutonium might have remained from above-ground testing, but a concentration of 2.9 microcuries per milliliter is a high level of radioactivity in water that is highly unlikely to be caused by typical environmental fallout. The maximum concentrations observed in water from extensive fallout events are many orders of magnitude lower.

Next side -- slide, please.

Indeed, the Heather Project is definitely classified. However, there is quite a bit of information available in the public domain from which I acquired quite a few insights. So, Heather was a gas transfer system that had a special component that acted as a gas filter, known as the Helix. We know that the system was -- was worked on there from '66 through closure 1997-1998. Due to the classification of this particular product, Building 300 was constructed and used solely for the product line. And uranium was a key compound of both Heather and Helix. Tritium was absorbed into uranium at room temperature, as was uranium, which was later heated.

Next slide, please.

We know that Heather was produced from borosilicate glass doped with triuranium octo -- octoxide, U308, also known as yellow cake, according to a health physicist from Pinellas Plant. The borosilicate glass was doped with U308 using a special -- a special hydrogen blowtorch at the Pinellas Plant. And once it was doped, it was formed into glass tubing and then cut with the lathe to meet length requirements necessary to act as a funnel for tritium discharges for the Heather system.

The glass blowers clearly stated that they use uranium powder to dope the glass themselves. This photo I acquired from one of the glass blowers who has recently passed, and it provides evidence of the employee doping uranium glass in Building 300, and she is not wearing any protective equipment to prevent exposure to U308.

Next slide.

We also have something on another isotope unaccounted for, and that is thorium. What has been overlooked -- and I admit this was kind of interesting when I actually found a linkage -- there was a link between the GE X-ray division pilot plant in Milwaukee, who was involved in developing processes like thorium densification and high temperature calcination using X-ray technology.

In 1966, all of these activities regarding these thorium processes were moved to Pinellas Plant in Building 100. When we tried to -- when I tried to make sure -- or where it might have been located, we have mention of thorium nitrate being used in Building 100, Area 55, which was the chemistry lab that included an engineering chemistry lab. While

documentation on this exact work has not been located, calcification typically involves heating thorium compounds to temperatures between 400 degrees centigrade and 900 degrees centigrade to convert them into solid granular thorium oxide powder.

Excuse me. This releases volatile radioactive materials that create fine, inhalable dust, which is a major health hazard. And there is no evidence of any type of monitoring of thorium or its associated isotopes available in this location or amongst any of the potential workers who were associated with it.

Next slide.

There has been a lot of discussion about Pinellas and the special tritium compounds, the metal tritides. And based on the evidence, I do not agree, and the evidence does not agree with the assertion that NIOSH can bound doses to unspecified organically bound tritium compounds into scandium tritide, erbium tritide, titanium tritide, and using the assumptions and equations given in one of your technical bulletins. Furthermore, NIOSH totally dismissed any dose from uranium tritide, as they assert uranium tritide was enclosed in glass. The weight of the evidence report shows how that assertion is questionable.

So, what about the dose from the OBT compounds? There is also a question of whether all incidents involving special tritium compounds were identified and considered. As an example, this statement was given in a December '59 Mound laboratory health physics report, which notably, I think it's important to recognize Mound often provided health physics support to Pinellas Plant, especially in the early years, which refutes NIOSH assertions

that titanium tritide was easily controlled. Quote: During this quarter, the salt recovery operation required very close survey. The processing of the titanium tritide materials of the Pinellas Plant led to several contamination spread incidents. This material is very difficult to contain in the hood system.

Next slide, please.

Americium -- the following statement appears in one of the occupational external dose reports from ORAUT: In approximately 1988, the Pinellas Plant acquired a 10 Ci Americium-241, source for unknown reasons. However, in the next sentence, the author states the source was an encapsulated americium beryllium neutron sort -- source which was likely used as a calibration source. However, the document that states this has no attribution. In other words, there is no author, there's no date. We have no idea other than this showing up in the SRDB that that information actually came from anyone and who it came from.

So, what is the basis of the author's assumption that this americium is associated with an encapsulated neutron source of americium and beryllium? If that was the case, then why would they first acknowledge that they did not know the purpose of this acquisition? There's also no evidence to support the assertion that this isotope arrived as an encapsulated source. So, there is no evidence describing the process by which an americium beryllium source is disposed or how americium would be disposed overall, and so we can't even assume that it was disposed of safely without supporting documentation.

Next slide, please.

We note the following, or I note the following additional radionuclides that were on inventory. It's possible some were check sources and sources used for laboratory work, but we do not have information on the form, the quantity, or activity or monitoring for most of these. Most of these -- most of the information on these are made from assertions rather than from factual documentation.

Okay. Next slide.

So, in conclusion, what has been found is that there is a much more complex radiological source term at Pinellas Plant than just exposures to tritium. There's unencapsulated Plutonium-239, there's limited exposures to Plutonium-238, there's uranium compounds, there's possible exposures to thorium and americium, special tritium compounds. I will note americium is most likely, from what I can tell thus far, is what's used in the Heather Project. There's no bioassay to reconstruct doses from these materials and dose models available to no -- to NIOSH that that require knowledge of a source term form and some indication of radionuclide quantity.

So, the weight of the evidence presented questions statements and assertions made by NIOSH and shows a much more complex radiological environment that has previously been discussed, described, or investigated. It is also one that has not been fully monitored. And as a result, not all occupational doses of radiation were monitored or even known. This petition fulfills the necessary criteria for it to be approved for a special exposure cohort. And that's it, my friends.

CHAIR CLAWSON: Thank you --

MEMBER BEACH: Brad, do you --

CHAIR CLAWSON: Yeah?

MEMBER BEACH: Do you mind if I ask a question, or did you have a comment?

CHAIR CLAWSON: Well, no, I was just gonna -- I guess it'd be good to go ahead right now, but remember, we just got a question time at the end. But I understand why it's important to do it now. I just want to give Donna Hand, if she wants to read her letter into the record or whatever --

MEMBER BEACH: Okay. Well, let me -- let me ask Denise a question pertaining to her presentation, if you don't mind. It'll be quick.

CHAIR CLAWSON: Sure.

MEMBER BEACH: Denise, first of all, I want to say thank you. A very organized, well-presented set of facts here. Can you get -- I know this is a big ask, but can you provide a reference source to your point so that we can go back into the documents that you sent us? Because for me, not being a researcher, it's hard to find all this stuff. Is that a possibility for -- do you have a resource document?

DR. DEGARMO: I (indiscernible) --

MEMBER VALERIO: -- references?

DR. DEGARMO: No problem. I'm glad you asked that. I do. Most of it is documented in the white paper, and if not, I can definitely put together a bibliography for you. I do have that on hand, or I could do both. Or I could --

MEMBER BEACH: And I did -- and I did read the white paper, but I didn't really look at -- and there -- is there a reference page there?

DR. DEGARMO: No, it's --

MEMBER BEACH: Oh. Okay.

DR. DEGARMO: Because I'm not -- because I'm a social scientist, per se, rather than a hardcore scientist, as some people have described me. We tend to use footnotes.

MEMBER BEACH: Okay. I did see the footnotes when I was reviewing.

DR. DEGARMO: So, I --

MEMBER BEACH: But it would be nice to be able to go back and look at this -- particular documents.

DR. DEGARMO: I would be happy to provide that to you. That is not a problem whatsoever.

MEMBER BEACH: Oh, Denise, thank you.

DR. DEGARMO: Yeah. And I can also include -- although some of them may not be available. Yeah, everything is in the -- I'll take care of you. Yeah, it's all in the footnotes, but there are some of the materials that what you need to let me know is, do you need copies of those? A lot of them are already in the --

MEMBER BEACH: No, no.

DR. DEGARMO: -- SRDB.

MEMBER BEACH: I have -- I have the documents. It's just to be able to look at and pinpoint where that pertinent information came from.

DR. DEGARMO: Absolutely.

MEMBER BEACH: I would be helpful. Yeah.

DR. DEGARMO: Okay. Not a problem.

CHAIR CLAWSON: Thank you, Josie. If there -- if there's anybody else that just has a short question on -- on this, or whatever, if they want to

wait until we have our question-and-answer period at the end, it'll be okay. Is there anybody that has anything pressing that they need to have? Not hearing anything.

So, it's -- you don't have to, or whatever, but Donna Hand, you sent in a paper to us. I was wondering if you wanted to read that into the record, or if you'd like to speak. Donna, if you're --

MS. HAND: Hello.

CHAIR CLAWSON: -- on the line. Yep. Hello?

MS. HAND: Can you hear me now?

CHAIR CLAWSON: I can --

MS. HAND: Hello?

CHAIR CLAWSON: -- hear you now.

MS. HAND: Okay. I would just like to make sure that it goes into the record as proffered. And really some of the issues that you were talking about, it's -- it's been -- you and I, Brad, have been -- and been going through this since 2008. And there was -- there's documentation that -- where there's 28 radionuclides at the Pinellas Plant, and five of them exceeded the allowable curie limit. And they were k3, americium, Cesium-137, tritium, a plutonium-238, 239, a Plolonium-210. You also have to realize that in Building 100, there was radioactive materials management area. I mean, that whole area could not be combined with radio -- and it had radioactive materials and emissions that were not combined in that whole area.

You also have to know that 300 was separate up until 1978. In 1978, three -- Building 300 was added on to Building 100, and that happened over

several years. And during that timeframe, all the radiation doses and monitoring was -- was all inadequate, because you had the dust and everything from construction as well, because the product still went on.

You have to realize also that the tritium beds and everything, like area 107, 108, and 109, they only ceased production in 1996. So, stopping the SEC in 1990 is not adequate for the definition of sufficient accuracy. And this is from Lockheed Martin special project says right there, that areas 107, 108, and 1 -- ceased production in 1996. And the last tritium bed was shipped from the plant on June 19, 1996.

You know, so, it's -- you really need to look back. And something was mentioned about that they have the monthly reports, that NIOSH and DCAS had the monthly reports, that was addressed several years back, because SC&A said, yes, you have it, but when we look at it, we see that there's months missing. The -- there's -- the data is not all there. Even though you said you have it, it's -- it's not adequate because you don't have it all there.

The Pinellas Plant was designated a tritium facility around in 1992 according to the Albuquerque Federal Records Division and the Albuquerque office. And so, you've got other -- and the workers physically handled the RTGs. They were directly contacting it to make sure that the heat output was there.

And the other one, like the one has been -- already testified that there was two sizes, and they did open them up and redirect them. And so, that's fits in there. The plutonium bioassays were only conducted annually, and there's no uranium bioassays at all.

So, where is -- how come then, I have two claimants that in their

records it shows a positive plutonium bioassay, so there must have been an incident, as well as on the guards' desk on Building 400, it was contaminated. So, what was it contaminated with? The radioisotopes that it was contaminated with. So, there's no locations that has been known in Building 400 that was contaminated.

The class -- the Heather Project, which is still classified to my knowledge, increases the uncertainty. How can you do the internal dose, you know, or sometimes even the external dose, when you don't have all -- access to the exposure data. And SC&A said that they said that they did not look at classified data. So, again, you're missing a lot of information. And there was -- no monitoring occurred during major construction, like I said.

Again, these are a lot of procedural defects, and really administrative procedure-type defects, as well as the statute defect, because you're supposed to be sufficient accuracy and not use default values. Again, I'm not going to read the entire paper. I hope that each member does, and I wish that this would be added into it. Thank you.

CHAIR CLAWSON: Thank you, Donna, I appreciate that.

With that -- with that being said, let's -- let's move into the Work Group discussion. I know, Nicole, that you had some questions --

And what?

DR. ROBERTS: I'm sorry, Brad, just if you can offer if there's anyone else, any -- any other petitioners or members of the public who'd like to make remarks at this time?

CHAIR CLAWSON: I'm sorry, Rashaun, okay. That -- that's good. Is there any other members of the public or anybody that wanted to make any

comments at this time? Okay. Not hearing any, -- hello?

DR. DEGARMO: Excuse me. Mr. Clawson, I just --

CHAIR CLAWSON: Yes?

DR. DEGARMO: -- noticed that one of the -- one of the Pinellas folks, made a comment on the chat Board, and I wanted you to ask if that person would like to make that public.

CHAIR CLAWSON: But that -- that's good. I haven't -- I don't see that. I guess there is a chat Board up there.

DR. DEGARMO: It's D. Merens, --

CHAIR CLAWSON: Okay.

DR. DEGARMO: -- who worked at the facility in 1984.

CHAIR CLAWSON: Okay. Would -- would you like to -- to make a comment at this time? I -- I now see the chat Board here.

DR. DEGARMO: Okay.

CHAIR CLAWSON: Okay.

DR. DEGARMO: Can we -- can we read that in anyway?

CHAIR CLAWSON: If you -- I can't see the full thing here. Maybe I'm --

DR. ROBERTS: I can, Brad, --

CHAIR CLAWSON: -- messed up here.

DR. ROBERTS: I can read it. I can read it if the --

CHAIR CLAWSON: (Indiscernible) --

DR. ROBERTS: -- petitioner prefers not to -- to make the comment. But it says, When I started working at the plant in 1984 Building 300 was attached to and under the same roof as Building 100. A main hallway from

the far west side of Building 100 ran all the way to the far east side of Building 100, which was Building 300 and became the east entrance to Building 100 from the parking lot.

CHAIR CLAWSON: Okay. Yes, is there --

MR. BARTON: This is Bob Barton. I can verify that's exactly what he typed.

CHAIR CLAWSON: Okay. Thank you. I -- mine's cut off. I'm sure there's some way that I could get it moved over, but it's kind of cut off. Okay. One more time for any of the public that would like to make a comment, please let your voice be known.

WORK GROUP DISCUSSION AND PATH FORWARD RESUMED

Okay. That being said, let's go into the Work Group time. I know that Nicole -- Nicole had some questions that she wanted to have answered, so I'll let Nicole -- if you want to go first.

MEMBER MARTINEZ: Hi. Thanks, Brad. That was thoughtful.

Actually, a lot of my questions, and one of the reasons I held them, I thought someone else might ask them for me, and indeed, most of them were. So, I had a question about the contracts, which was discussed a bit. And I actually also had a question, a more general question, not just related to this project, but about if -- what happens if we run into classification issues? So, that was touched on a little bit, but it seems like we have, or there is, you know -- we can look into a lot of publicly available data. And then I also had a question about monitoring that I think was largely answered. But thank you.

CHAIR CLAWSON: Okay. Nicole, I can clarify the clare -- the classified information.

MEMBER MARTINEZ: Great.

CHAIR CLAWSON: There's -- there's several of us on the Board that still hold a DOE Q clearance. We have all access and been granted by DOE to be able to go into any of the classified documents that we need to be able to do. Sometimes we have to travel to certain areas to be able to do it. Mark, correct me if I'm wrong, but we used to have a library in Germantown that they have downsized, but they still did keep several of the classified documents there, and those of us that have clearances can go back and read those in those areas.

MEMBER MARTINEZ: Okay. Thank you.

CHAIR CLAWSON: You bet.

Hey, Mark, this is Brad. Are you still on the line?

MR. ROLFES: Yes, sir, I am, Brad.

CHAIR CLAWSON: Hey. So, how much do we still have in that library there? I know that you sent me some information about -- that we were downsizing quite a bit of it and sending a bunch back, but it's been -- it's been really a year since I've -- I've been able to really look at anything. So, where are we add on that?

MR. ROLFES: I would have to check, because there was some -- there was a big push to downsize some of our holdings at Germantown. And I did go through and make an initial review. And then I believe SC&A also went and reviewed many of the documents, but I do not believe that any of those documents have been sent back to the site originator or been destroyed at

this point. Those that we said we didn't need were from earlier evaluations that had been essentially closed. And the documentation that is still there is information that we might have that support our basis to put an upper bound on individuals' radiation exposures.

CHAIR CLAWSON: Okay. Well, and you -- you'd sent me some, and I'd made some comments on that too. So, okay. I appreciate that update.

Okay. For any of the Work Group members, I guess, I'd -- if there's -- if you -- any of you have questions at this time.

If not, I'd like to be able to discuss our path forward on this. I know that there's been a -- a -- I -- I see that Donna Hand put something in the chat meetings there. Again, I can't -- let's see, where is it?

MEMBER ANDERSON: (Indiscernible.)

CHAIR CLAWSON: Right there. Okay. Rashaun, okay. Would the documents be sent -- would the documents be sent to the National Archives? No, Donna, they would not, because they're classified.

Henry, you've got your hand up?

MEMBER ANDERSON: Yeah, I was just one -- I mean, one issue I was wondering is there's only so much we can do with the documents, and some of the information came from worker interviews. I'm just wondering if -- given those were quite a while ago, I think, so is that something might be useful to do more, or should we just work with finding the documents that have been referenced and being sure that they're providing what we need.

CHAIR CLAWSON: Well, Henry, and that -- that's interesting that you bring that up. We -- we do have quite a few worker interviews. I don't think that each side has all of the different worker interviews, but I've been

saying for years, if we do hold the meeting down in Pinellas, our first meeting back, I would really like to be able to go down there and do -- because I understand how much classification there is in this facility. And it's -- it's quite amazing to me. It's -- being at Pantex, all these other different places -- this place has an awful lot of classified operations going on, and people won't -- won't discuss that.

But I would like to try to -- if we get to Tampa, I would like to go down, possibly before or after and do some worker interviews.

Rashaun, you put your hand up?

DR. ROBERTS: Yes. I'm sorry, Brad.

I'm just -- kind of wanted to ask if petitioners or members of the public would please not post questions in the chat. And also, the period of petitioner remarks has closed at this point. So, you know, we're not entertaining questions or -- or comments, you know, for the rest of the agenda. Thank you.

CHAIR CLAWSON: What -- what (audio break).

MEMBER BEACH: Brad, you're breaking up again.

CHAIR CLAWSON: Oh. I don't know what's going on there.

Paul, go ahead.

MEMBER ZIEMER: All right. Well, I'm thinking that we need a couple things on moving ahead. One is that you'll need to prepare a report for the full Board in the upcoming meeting. And the other is that it seems that we'll need to do some tasking for SC&A. I assume that NIOSH will also do some follow-up on both of the documents that we got from Dr. DeGarmo and from Donna Hand, and -- in relation to the discussion, particularly that you raised,

Brad, after the paper. So, it seems to me there's some follow-up needs for clarifying some of the issues that have been raised.

CHAIR CLAWSON: Okay. So, yeah, we'll -- we'll go ahead and if -- if there's no more questions, --

Bob, go ahead.

MR. BARTON: No, I agree. I think this is an ongoing discussion. Obviously, the plutonium aspect, I mean, that is the -- well, that's the key ingredient right here. If we have plutonium available for uptake, then we need to really discuss that, and we will address that officially. So, I would certainly like the opportunity for our team to take -- take a look at any new material that is coming through, and some of it is the same, but some of it is new. And so, we needed to take a look at it, and we need to report back to the Work Group and the Advisory Board as a whole.

CHAIR CLAWSON: Okay.

MEMBER ZIEMER: And if I could add to that. This is Paul again. If someone can take a look at the americium issue, I -- I -- my comment that americium is almost always used with beryllium as a gage, including home smoke detectors, which use americium beryllium smoke -- in the smoke detectors as an ionization source. So, it -- I -- it's -- be very unusual for americium to be used unless they were looking at it for some other purpose.

In other words, is there some research thing that they were doing with americium? But it's very commonly used with beryllium in all kinds -- all kinds of industrial gages, very common. And of course, --

MR. BARTON: Yes, and --

MEMBER ZIEMER: -- and it would be very common for them to have

an americium beryllium gages there in the facility.

MR. BARTON: And Dr Zimmer, this is -- this is a very similar issue that we found at the DeSoto facility, where they found americium in the drain lines. So, it is not inconsistent with some other investigations that we're doing for the other sites. And americium, obviously, is a very bad, bad actor. I'll put it that way, so.

CHAIR CLAWSON: I -- I appreciate your input there, Paul. And --

MEMBER ZIEMER: Well, the thorium too. The thorium issue should be addressed as well.

CHAIR CLAWSON: Yeah, the -- how could I put this without -- well, we'll -- we'll get into it, but you're going to hit a pretty big roadblock on the -- the 239 and the thorium. I can tell you right now that there's -- there's something going on there, and it's -- it's -- it's pretty deep. So, anyone -- I'm -- I -- when you go into --you'll probably find these things.

Josie, you had your hand up --

MR. BARTON: And Chuck.

MEMBER BEACH: I do.

MR. BARTON: And Chuck.

MEMBER BEACH: So -- so, is there a way -- I know that Denise has provided a lot of the contracts, but I did believe I heard that that is not all the contracts through this Pinellas time period. How do we get our hands on all the contracts so we can see what went on between Pinellas and these other sites? Is it -- is it something that can be researched, and who would research that?

CHAIR CLAWSON: That's -- most of those contracts were already sent

to us in the first data dump.

MEMBER BEACH: Okay. I thought I heard that there were still more contracts out that --

CHAIR CLAWSON: She -- she mentioned that she has gotten a couple more data drops from Mound. Dr. DeGarmo, you're gonna have to help me, because my mind -- from Mound and, I believe, Los Alamos.

DR. DEGARMO: Am I allowed to talk?

CHAIR CLAWSON: Yeah. Yes. Yeah. I'm asking you a question.

DR. DEGARMO: Okay. Almost all the contracts have been provided to you all through one of the data drops. What I said, Josie, was that there were several ones I pulled out that were pertaining to the RTGs in -- specifically. I do have a list of all the contracts, but yes, I just received a huge data drop from LANL and from Mound, and I have not had a chance to go through them yet. So, I'm hoping that more information will -- relevant information will be available to you all.

Thanks, Brad.

MEMBER BEACH: Okay. And thanks. That clears that up for me. I appreciate it.

CHAIR CLAWSON: Hey, Dr. DeGarmo, with this data drop, where we're in the research and development of this, if you find any of those that would add to this, if you would, please send them to Rashaun for distribution, I would appreciate it.

DR. DEGARMO: Absolutely. I will be more than happy to provide any information relevant to -- to the items I certainly discussed today and to the contracts. No problem.

CHAIR CLAWSON: I understand.

Okay. Chuck?

DR. NELSON: I actually raised my hand for Brant. We're sitting in the same room.

CHAIR CLAWSON: Now wait a minute, you guys. Are you tag teaming us?

DR. NELSON: Heck yeah, we are.

CHAIR CLAWSON: Okay. Go ahead, Brant.

DR. ULSH: Well, I just wanted to -- since we're in the part of the meeting where, you know, we're looking at the path forward, I just wanted to request again that, you know, of course, we'll take a look at the material that Dr. DeGarmo and Dr. Hand -- or Ms. Hand sent. We'll take a look at that. But Brad, would really help us if you send us the specific questions, and, you know, the specific documents that you have questions on and the pages so that we can respond directly to them.

CHAIR CLAWSON: Okay. A lot of those, Brant, came out in -- in this -- came up out of this white paper. There's -- I will -- I will put together questions and -- and where we're at, and I'll do the best that I can and be able to ship them to you, be able to go from there.

DR. ULSH: Sounds great. Thank you.

CHAIR CLAWSON: You bet.

Maddie, is -- is -- is everything -- have you got any questions of your path forward or anything? I know that you'll take it from Brant and stuff, but I just want to make sure where you're the point of contact, that we get any of the questions that you need answered.

MS. COOK: Yeah, I'm all set. Thank you, Brad.

CHAIR CLAWSON: You betcha.

Okay. So, Bob, how about -- how about you, do you have any questions on our path forward? You're going to review the data and go from there. I -- I -- I would -- I would request that if -- timeliness on this, because we're -- we're getting into 20 years now, and I'd like to be able to get things pushed as fast as we can. I know that there's -- you've got a lot of work to be able to do on both sides, but time is of the essence. Okay?

MR. BARTON: I understand, and I think we can juggle a little bit to -- to get this thing moving forward as it should be.

CHAIR CLAWSON: (Indiscernible) --

MR. BARTON: We do -- we just got this material within the past two weeks or so, and --

CHAIR CLAWSON: Somebody's been in Mexico.

MR. BARTON: Hey.

CHAIR CLAWSON: I -- I --

MR. BARTON: (Indiscernible) all right.

CHAIR CLAWSON: I -- I do have to ask a personal question for both sides, especially NIOSH and SC&A. I do not have my government email up yet. You may have to transport these through Rashaun to be able to be sent to me, but I would like to be able -- to be able to see the documents and stuff as they're going or if there's any questions.

MR. BARTON: I cannot comment on that at this time. I mean, we'll try to do what we can.

CHAIR CLAWSON: Well, I just want you to realize that if you send it

to my -- my -- my -- my government address, my CDC address, I won't be responding. So, you kind of have to contact me through a different sort. You can -- you can just go from there, but I think we can work something out there. Okay.

Rashaun, is there anything else that --

MR. BARTON: We'll (indiscernible) that -- we'll play with the rules.

CHAIR CLAWSON: Okay.

DR. ROBERTS: Hi. Nothing further from me.

CHAIR CLAWSON: Okay. I appreciate everybody's ability today to be able to -- to talk, to be able to bring these things forward. I think that we've got a good path forward. I -- I've discussed the timeliness that I'd like to be able to do. I -- but I'm held by what we can do too. Brant, I understand that. I'll send you and Maddie the questions indirect, especially -- I would request one thing from you. I covered an awful lot of stuff in my rant. If -- if there are something specific that you wanted, it would be somewhat easier for me to be able to address that to you -- but I'll do my best of being able to put things together for you and go from there.

DR. ULSH: Yeah, really, Brad, it's just about helping us understand what you want us to respond to, that's all. So, --

CHAIR CLAWSON: I want you to tell me all the -- the cool stuff in there, because this -- this plant's pretty interesting. I -- I -- I do -- I want to get to the bottom of plutonium, everything else. I think a lot of this is going to come out of the valuation of Dr. DeGarmo's letters, and we'll go from there. And if there's something we need to do, I'll -- I'll do that.

Work group members, are there any questions of our path forward?

And are you satisfied with our path forward?

MEMBER MARTINEZ: Brad, this is Nicole. Did you mention something about potentially, if approved, all -- all of the caveats, an in-person meeting? Did you --

CHAIR CLAWSON: They are -- Rashaun would have to mention to this, but we had -- we talked about an in-person meeting, like in November time period, or something -- somewhere in that area. And it was -- it was set up. Now, it's not cut in stone. I'm not --

MEMBER BEACH: It's actually in August.

DR. ROBERTS: Yeah, --

CHAIR CLAWSON: August?

DR. ROBERTS: -- Brad, it's --

MEMBER BEACH: August.

DR. ROBERTS: -- yeah, August. August.

CHAIR CLAWSON: Okay.

DR. ROBERTS: Yeah. And again, all of these meetings, whether they be virtual or face-to-face, are subject to a number of approvals. So, all of that is tentative at this point. But yes, we did tentatively schedule a full Board face-to-face meeting in Pinellas for late August, I believe it was.

MEMBER MARTINEZ: Okay. It's probably in my calendar. I just couldn't remember.

CHAIR CLAWSON: I understand. We're trying to do the best thing -- really, I really would like to get face to face. We haven't had one for numerous years.

Rashaun, if we do -- if we do go forward, I -- I would like to try to

arrange some interviews when we go down there, if possible. I -- I don't know what the new criteria is or anything else, but I can discuss with that with you offline.

DR. ROBERTS: Yeah, that would be great. Thank you.

CHAIR CLAWSON: Okay.

DR. ROBERTS: And just to clarify, the Board meeting that we're -- the Work Group has prepared for is in April. Is -- is that I know Dr. -- Dr. Ziemer had talked about a report for the full Board. There is a full Board meeting in April, but it's -- it's virtual.

CHAIR CLAWSON: And I understand that --

MEMBER ANDERSON: Don't we have one -- don't we have one on the 19th of February?

DR. ROBERTS: That's a -- that's a teleconference to talk about --

MEMBER ANDERSON: Oh, yeah. Okay.

DR. ROBERTS: -- the agenda.

MEMBER ANDERSON: Yeah.

CHAIR CLAWSON: You -- you were right, Rashaun. If we do get anything, I may be able to give a -- a -- a brief update, but it depends on what SC&A is able to provide. But if anything, it would just be a -- bringing the full Board up to -- up to speed of kind of where we're at.

DR. ROBERTS: Okay.

MEMBER ZIEMER: Brad, this is --

CHAIR CLAWSON: All I --

MEMBER ZIEMER: -- Paul. I would --

CHAIR CLAWSON: Yeah?

MEMBER ZIEMER: Yeah. I was just talking about doing a status report for the full Board.

CHAIR CLAWSON: Right.

MEMBER ZIEMER: It wouldn't necessarily be, you know, asking for any action at that point, just to let them know what we're doing and where we're going.

DR. ROBERTS: Great.

CHAIR CLAWSON: Correct.

So, with that being said, if there's no other further business to come before us, I could give it to Rashaun to close, or I could say it's been good to see everybody, and I appreciate your input today. And with that being said, meeting's closed.

(Whereupon, the meeting was adjourned at 2:01 p.m. EST.)