UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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In the Matter of	
	Docket No. 72-22
PRIVATE FUEL STORAGE L.L.C.	ASLBP No. 97-732-02-ISFSI
	Deposition Of:
(Private Fuel Storage Facility)	**WILLIAM M. WALLNER**

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Deposition of **WILLIAM M. WALLNER**, taken at the law offices of Parsons, Behle & Latimer, 201 South Main, Suite 1800, Salt Lake City, Utah, on the 11th day of May 1999, at the hour of 9:00 a.m., before David A. Thacker, a Certified Shorthand Reporter, Registered Professional Reporter, Utah License No. 22-105417-7801 and Notary Public in and for the State of Utah.

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Q. Do you believe that a rocket motor explosion at the Tekoi facility would pose a significant hazard to the PFS facility?

A. I really have no way of saying yes or no to that.

Q. I want to ask you about one of the requests for admissions that was filed by PFS as a discovery request. This is Request for Admission No. 2 in the Utah K. And it said, "Do you admit that potential explosions of the rocket engines tested at the Tekoi Rocket Engine Test Facility, assuming that the rocket engines did not escape their moorings while being fired, would pose no significant hazard to the PFS or the ITP?" And the state's response was, notwithstanding their general objection, "Admission No. 2 is denied on information and belief." Did you supply any information that would be grounds for denying that request?

A. It's more an issue of at this point about actually running the numbers, you're not going to--you're not going to know for certain whether or not there is a risk. You're looking at a potential detonation of--I believe that Tekoi can do test firings of motors as large as the shuttle.

Q. How big would that be, do you know?

A. I think that's close to a million pounds of propellant. The largest motor that they're currently making is the Titan, and that is over 500,000 pounds.

Q. That's Alliant who is manufacturing the Titan?

A. Right. And those are calculations that I haven't made.

Q. Do you know of anyone who has?

A. I would guess that Alliant Tech Systems has.

Q. Have you seen any--have you reviewed or seen any such calculations?

A. No, I haven't. No, I haven't.

Q. So would you have any reason for saying that the Tekoi, that the potential for explosion at Tekoi, would pose a hazard to the PFS facility?

A. I would say that there is a potential that that hazard exists.

Q. Based on--

A. Based on my knowledge of open burn, open detonation operations from waste disposal.

Q. And how do those operations pose hazards to structures or facilities that are some distance away?

essentially the entire document to really know for sure.

MR. GAUKLER: Give him the entire document to read.

MR. BARNETT: This is it here. It's really not that long.

(Whereupon, a short break was taken.)

Q. (BY MR. BARNETT) Do you have reason to believe that the description in Exhibit 3, in the May 1974 incident, was correct?

A. No. I don't have any other knowledge as far as just personal conversations.

Q. And with anyone other than the person that you mentioned?

A. There have probably been other individuals at Alliant, but I don't recall who it was.

Q. Do you know of any studies or investigations that have been done of the potential for rocket motors to escape test stands at facilities like Tekoi?

A. No, I don't.

Q. Have you done any calculations or assessments?

A. No, I haven't.

Q. Do you know whether rocket motors have

escaped test stands at facilities similar to Tekoi?

A. I don't.

Q. Do you know if, hypothetically, if a rocket motor were to escape a test stand at Tekoi, do you know the likelihood that it would fly to and strike the PFS facility?

A. A number, no.

Q. Do you have, based on your professional knowledge, do you have an idea?

A. I would say that the potential exists.

Q. But would you know whether the potential was high or low?

A. I would say that the potential wouldn't be something that you would commonly expect to occur. It would be an unlikely or--well, I guess I would say it would be an unlikely event. It would be something that would disrupt the operation and shut it down while the industry would do an investigation of why it happened.

Q. The operation would shut down. It would shut down--

A. It would shut down the testing operation.

Q. I was referring to the likelihood of whether or not the motor would strike, any motor that escaped, would strike the PFS facility.

goes with it, I can't say that I've ever really seen a motor that's been strapped down to it. I've seen it.

Q. Do you know anything about the design of the carriage and how that would be done to reduce the likelihood of a motor escaping?

A. There's a lot of reinforced concrete there to use as a thrust block.

Q. And where is that located relative to the motor?

A. That would be located in front of the motor. The motor would be pointed into that thrust block.

Q. And are you aware of anything else?

A. Not really.

Q. Are you aware of any procedures, test procedures, that are used to prevent a motor from escaping or to reduce the likelihood that a motor would escape?

A. No.

Q. You mentioned the thrust block. What's the purpose of that?

A. The thrust block is primarily what they use to measure the thrust, the stress and strains that they're collecting during the test firing.

Q. And how does that work?

A. It's a lot of concrete, some of it sticks above ground, a large portion of it sticking below ground, in an effort to secure, to have a fixed point that they can measure the force on that point.

Q. Is that point on the block--is that a point on the block?

A. I believe so. I'm not real sure.

Q. And the rocket, which way is the rocket oriented, the rocket motor, when they fire it?

A. They can be oriented either horizontally or vertically.

Q. When they're oriented vertically, are they pointed nozzle up or nozzle down?

A. I would say that the nozzle would be up.

Q. So that the rocket motor would tend to go down, the thrust from the nozzle would tend to drive the motor down?

A. That would be my guess.

Q. Going back to the question of rocket motor explosions at the facility. I'd like to introduce another exhibit. This is Exhibit No. 4, and it's a letter dated 26 June 1997 from Alliant Tech Systems, Bacchus Works, Magna, Utah, to Stone Webster Engineering Corporation.

(Exhibit No. 4 marked.)

Q. (BY MR. BARNETT) This document was produced by PFS during discovery. It's Bates No. 03122. Have you seen this before?

A. No, I haven't.

Q. Could you look at the last page of the letter, table two. Table two is entitled Buffer Zone Distances. And it has an explosive quantity in pounds on the left-hand column, and then distances with pressures in terms of p.s.i. across the top of the chart. Do you see one of the entries in explosive quantity is 1.2 million pounds, and the chart indicates a buffer zone distance of 7,970 feet for 0.5 p.s.i. overpressure. Does that sound like a reasonable estimate, based on your knowledge of relationship between explosive quantity and distance? Does that sound like a reasonable distance?

A. Yeah, I have no reason to believe it wouldn't be.

Q. And if the explosive quantity used at Tekoi were limited to 1.2 million pounds or less, do you believe that 7,970 feet would provide a safe offset distance?

MR. NELSON: I'm going to object, lack of

foundation.

Q. (BY MR. BARNETT) Could you answer that?

MR. NELSON: You can go ahead and answer.

THE WITNESS: Okay. I would say that from the standpoint of overpressure that may be the case. From going back to this document, one of the things that they talked about also was material being kicked out in a detonation. That would have a much wider range than actual overpressure in some instances.

Q. (BY MR. BARNETT) So do you believe that materials being kicked out from an explosion would pose a greater hazard, a hazard at a greater distance, than overpressure?

A. That I don't know.

Q. Looking at the other quantities of explosives on the table and the other distances given for offset. Do you believe, based on your experience, that those distances are reasonable? Do you have reason to believe that those distances are wrong?

A. I wouldn't expect that Alliant would supply false information.

Q. But based on your professional knowledge of open burn and open detonation?

A. Without going back and looking at the equations used to calculate that number, I really have no way of answering that question.

Q. And have you looked at those equations that you mentioned regarding the relationship between safe offset distance and explosive quantities, have you looked at that for--

A. I have looked at that from the standpoint of open detonation for waste disposal operations.

Q. Have you looked at that from a standpoint of Tekoi from a rocket motor explosion?

A. No.

Q. Setting aside for the moment rocket motor explosions and rocket motors escaping the carriage at Tekoi.

A. Uh huh (affirmative).

Q. Are there any other activities at Tekoi that you believe would pose a significant hazard to the PFS facility?

A. I don't think so. The only other activity out there is they do do some detonation testing of explosives.

Q. And what do they do?

A. They will do quantities of up to 50 pounds I think is what Alliant said years ago.

transported from?

A. Most of these would be transported from the Bacchus Works.

Q. And what route would they take to Tekoi, do you know?

A. My guess is Highway 111, and then from there probably jogging by Kennecott and out to I-80. But that's just guessing.

Q. Is there any other route that you know of that they would take?

A. They could also ship things by rail.

Q. And how would they get to Tekoi ultimately by rail?

A. They would have to offload somewhere along I-80 and then transport by truck to Tekoi.

Q. Is it possible that rocket motors could be transported through Johnson Pass from Bacchus Works to Tekoi?

A. I would say it's possible.

Q. Other than the transportation of rocket motors, do you see any other activities that take place at the Tekoi site as posing a significant hazard to the PFS facility?

A. Not other than already was mentioned.

Q. Other than the potential for explosions and

other than the potential for a rocket motor to escape its test stand.

A. Right.

Q. Going back to what you did to provide information for the discovery responses. You said that Brad Maulding also provided information for those responses. Is that correct?

A. No. Brad reviewed what we had drafted up and then sent it on to Connie.

Q. You say we. Is that you?

A. Myself for Tekoi, and Bronson Hawley is also in Brad's section.

Q. So you drafted material, and who else, Bronson Hawley?

A. Those probably would have been the only two that Brad looked at, to my knowledge.

Q. Did he do any independent analysis or calculation or assessment of hazards, do you know?

A. I wouldn't expect him to.

MR. NELSON: When you say he, you're referring to Brad Maulding?

MR. BARNETT: Yes. Yes. Yes.

MR. NELSON: Thank you.

Q. (BY MR. BARNETT) The First Request for Admission regarding Contention Utah K filed by PFS

read, "Do you admit that activities or materials at or emanating from the Tekoi Rocket Engine Test Facility, other than potential rocket engine explosions or rocket engines potentially escaping their moorings while being fired, would pose no significant hazard to the PSF, ISFSI and the ITP," and the ITP is the Intermodal Transfer Point at Rowley Junction. And the state replied, "Notwithstanding the general objections stated on page 19 and 20," they objected to the phrase activity and materials emanating from, and then notwithstanding these objections and the qualification described in the introduction, "Admission No. 1 is denied based on information and belief."

Do you agree with that denial on the basis of information and belief, of the request for Admission No. 1?

A. I don't follow you.

Q. The request for admission number one read that, "Do you admit that activities or materials emanating from Tekoi, other than potential rocket engine explosions or rocket engineers potentially escaping their moorings while being fired, would pose no significant hazard to the PFS facility."

A. Yeah, I think there is a potential hazard here. Those instances, and quite possibly transporting the motors in and out of the facility.

Q. So when the request asks for hazards other than those posed by rocket engine explosions or rocket engines potentially escaping their moorings, that would leave what, in your--

A. That would leave transporting motors to and from the facility. Or transferring motors to the facility and from the facility they shouldn't have any propellant in them.

Q. Request for admission No. 2 on the same page read that, "Do you admit that potential explosions of the rocket engines tested at Tekoi Rocket Engine Test Facility, assuming that the rocket engines did not escape their moorings while being fired, would pose no significant hazard to the PFS, ISFSI or the ITP." And the answer read that, "Admission No. 2 is denied on information and belief." Do you agree with that?

A. Yes.

Q. Do you have any information regarding rocket motor explosions that you--in addition to what you discussed today?

A. No.

Q. Request for admission No. 2 beginning on the same page and continuing on to the next page read, "Do you admit that activities or materials at or emanating from the Tekoi Rocket Engine Test Facility would pose no significant hazard to the PFS, ISFSI or the ITP? " And the answer read, "Not withstanding the objections, the State denies the request on information and belief." Do you agree with that denial?

A. Yes, I do.

Q. Do you have any information other than what you discussed today, regarding the hazards potentially posed by the Tekoi facility to the PFS facility?

A. No, I don't.

MR. BARNETT: I don't have anything else.

MR. GAUKLER: Take a break.

MR. BARNETT: Why don't we take a break.

MR. NELSON: Yes.

(Discussion held off the record.)

(Whereupon, a 5 minute break was taken.)

Q. (BY MR. BARNETT) Back on.

What investigation or inquiry or assessment did you perform in response to the discovery requests to provide information to answer the

discovery requests?

A. Just my personal knowledge of the operation.

Q. So you did not do any separate calculations or assessments or research?

A. No, I did not.

Q. You mentioned that calculations or the relationship between quantity of explosives and safe offset distance.

A. Uh huh (affirmative).

Q. Would you consider that, based on your experience and knowledge, to be a standard calculation that's used in the industry?

A. Yes.

Q. That's a standard relationship that the industry practice would rely upon?

A. Yes. It's either DOD--DOD has requirements, ATF has requirements.

Q. ATF being--

A. Alcohol, Tobacco and Firearms. And then the explosive manufacturing industry has their own.

Q. And do you think--are they generally the same or are they different?

A. I'd say they're similar.

Q. They would produce similar offset, safe

offset distances, for a similar quantity of explosives?

A. Right.

Q. Turning to one of the State's answers to interrogatories. Do you have a copy of that? This would be--this is interrogatory No. 1 on Utah K.

MR. NELSON: What page are you at?

MR. BARNETT: Page numbered 34 at the bottom.

Q. (BY MR. BARNETT) The interrogatory reads, "To the extent the State does not admit admissions 3, 18, 24 and 28 above, identify the specific activities or materials (specify type and quantity) at or emanating from the Tekoi Rocket Engine Test Facility," and then it lists other facilities as well.

On page 35, and this is letter E, the answer reads, "Incidents related to the testing of military weapons or rocket motors at or emanating from the Dugway Proving Ground, Utah Test and Training Range, or the Alliant Systems Tekoi Rocket Test Facility, such as accidental explosions or detonations of propellant, explosives, or rocket motors, a misfire weapon hitting the ISFSI of," I think that should be or, "ITP, or potential

electrical problems caused by smoke and particulate from a rocket motor test fire."

Do you believe that potential problems could be caused from particulates from smoke from a rocket motor firing?

A. I don't know.

Q. From PFS to the rocket motor facility?

A. I don't know.

Q. Do you know who suggested that that might be a problem?

A. I don't know that answer either.

MR. BARNETT: That's all I have. Paul?

MR. GAUKLER: Look at his documents.

MR. BARNETT: We'd like to look at the documents you brought.

MR. NELSON: Let me see those.

THE WITNESS: Okay.

(Discussion held off the record.)

MR. GAUKLER: You're free to go, Bill.

(Whereupon, at 10:35 a.m., the deposition was concluded.)

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