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P R O C E E D I N G S

CHIP CAMERON: All right. We are going to start off this morning. We are going to talk right off with Frank Congel, from the NRC. Frank is going to talk about dealing with terrorists. Frank is the Director of Incident Response Operations. He reports directly to our Executive Director for Operation. His group coordinates agency wide capability to respond to incidents and accidents at NRC licensed facilities. I am going to turn it over to Frank.

FRANK CONGEL: Good morning. I have addressed this group in the past on various topics. I am happy to be here this morning again. This morning's topic is a reflection of an evolving program, one that has taken on higher and higher significance nationally as well as locally. My group is just one of the components of the agency that is responding to nationwide initiatives. These are initiatives to increase our capabilities to respond to a wider range of potential terrorist threats to our society.

Since the -- the basis of the response of the agency is the -- we are just the preparedness infrastructure. The key component for my group is to implement it. I have to say that in the past we have had various components in the agency that

we interact with, the FBI, other law enforcement groups, National Security Council. The efforts, that I will describe to you in a few minutes, are now being integrated in a different way and hopefully will improve our effectiveness in a world that is responding in a more determined way to a wider range of threats.

Let's give -- a quicky overview is what I hope to accomplish this morning and I will go through it. Like I said, I have been here before. We know each other very well and our state programs. We are sort of an extended family and I will certainly except questions, comments, or anything from time to time.

What I will do is give you a background and a chronology of the recent, as well as the historicals. I believe that it places it in context of how we got where we are and where we are right now. I will tell you where we are headed, what we have accomplished this past year and what is on the planning horizon.

Next slide, please. The key of the actual written direction that we have had as an agency and across the federal government are summarized by these PDD. These are Presidential Decision Directives. Presidential Directives of this type

legally apply to agencies with in the executive context. We as an independent agency aren't legally obligated to follow these, but of course NRC is part of the federal family, associated with legislature following these, we are swept up. Just on the basis of knowing what is necessary for us as a country to withstand any kind of or as many or wide of range of potential things that can happen to us. We have an important role. The fact that we have that role is one that has been a driving force for us throughout.

Just as an aside, although we interact in this context a lot, we are really not as an agency at large. We have about three thousand people totally. We have a budget that is literally within the round- off of the bigger budgets, such as DOE and FBI. We have to make sure that the other bigger agencies that have principal and prior responsibilities are particularly aware of our existence. We -- we have had a real basic challenge just to begin with.

If you will bear with me a few minutes, a story. In meeting with the various agencies and in particular the FBI, I was meeting with one group, the Richmond, Virginia office. I meet with the person in charge of the office. I introduced myself and a said one of the purposes that I am here is to

introduce us, tell you what our agency is, what it does. Some people think that we are just a part of DOE. He said, your not? So, I had just accomplished something in terms of spending the time to go down there. It really is the way things are.

These Presidential Decision Directives, you can see, are all within the past five years or so. There is a history associated with them. In fact, the history begins with things that most all of you here are familiar with, some of almost originally with.

Beginning with the Civil Defense Concept following World War II and the Cold War. The original one, in terms of Executive Orders, that initiated this whole process, was back in 1952. Back when Truman was still President. He issued Executive Order 10346, that one simply made all the agencies responsible for insuring the capability to continue in light of a major attack on our infrastructure, basics of civil defense.

That stayed in place for many years until the early '80's, when we had the unfortunate incidents of the bombing of the Marine barracks in Beirut, the hijacking of TWA 47. It lead President Reagan at the time to form a group called the Vice-President's task force on combating terrorism. That lead

to another -- what is called a National Security Decision Directive. It was called the U.S. Program for Combating Terrorism.

That led ultimately to the issuance of an Executive Order by President Reagan 12656, in November of '88. It assigned the National Security of Emergency Preparedness Responsibilities. In that, all the federal agencies were directed to look into the programs for dealing with issues of National Security Preparedness. It excluded natural disasters and specifically focused to what they saw as a worldwide evolution, principally a new way to waging war. Now, it was everywhere. It could be in our homes and in our institutions.

All the agencies, including the NRC, responded to it and began to identify central functions that would be continued or be restored as quickly as possible given a severely disruptive event. We had to interact with DOE, for example, because there is so much overlap with the agency in terms of dealing with strategic materials. I won't go into too much detail about it, but we did issue our own internal manual chapter that implemented it. It principally was associated with what we called the Continuity Federal Program or Continuity of Operations. It was revised the last time about

eleven years ago. It essentially implements that Executive Order 12656.

Of course, in the '90's we had some other tragities occur, our World Trade Center bombing, and the Tokyo subway gas attack, and then culminating by the true disastor in Oklahoma City. It was just a few months after the Oklahoma City bombing that PDD 39 was issued.

PDD 39 basically upped the ante from that National Security Directive. It officially defined National Security as being threatened by these kinds of acts. So, we as a nation again had to jack up and put together a manner in which we could plan to deal with these types of things. The highest priority was assigned to another series of initials, WMD, Weapons of Mass Distruction. It was another, NBC, Nuclear, Biological, and Chemical Forms of these terrorists.

The State Department was assigned to lead anything associated with International terrorism and response. The FBI was to lead on the domestic. FEMA was to manage the consequences of anything that may happen. It also directed all of the agencies to reduce the vulnerabilities for the facilities. It came up with a plan that determined the speed with which we would recover and be handling our essential

functions again. As a part of this, we have an internal plan and a back up capability for a whole series of horrors that can happen to our headquarters office, how the regents could take over. Some of that is classified. At this point, it is enough to say that we spent a lot of time in handling this.

Also following the PDD 39, late that year, late 1995, early 1996, there was a study organized and sponsored under FEMA to determine just what capabilities we had in place at that time to respond to a series of events. The report hypothosized a nuclear, biological, and a chemical event.

Then they looked at how we as an agency responded to it. A report was prepared. It was to be delivered to the President. There was a lot of time and effort spent on it. It provided a basis for us to see just where our weaknesses were.

It never, to my knowledge, were made public, partly because of its content, partly to what I call political. 1996 was an election year. No one wanted to hear any bad news at that time. Nevertheless, it provided insights to all the agencies when they were following up on the plans to implement such as to help themselves presurve the integrety of our society as we know it.

Rapidly after that, as you can see, PPD 62, 63, and

67 came quickly. The headings provide some explaination of the context. They key is that each one built on the other. Each added another twist.

62 is the first time that cyberterrorism was actually mentioned as another potential in road for us to experience a major disruption in our society, the manner in which we do business.

63 specifically brought out aspects of cyberterrorism and what requirements were on our part to respond as an agency with systems that we had internally, electronic systems that we base our everyday operations on. How they were to be protected. How they were to isolated. How were they to be upgraded, enhanced. That is on the way. Some of our systems are already have reached the level that we feel meet the requirements of the intent. We are not there yet.

The PDD 67, the grand daddy of them all, was also issued in that same year, 1998. It put a big wrapper around all the PDD's. It has a long list of both classified and non-classified aspects of what levels of protection are required out of all the agencies, to be prepared to the widest possible range that the government could think of, even given that they occur, a very rapid recovery time to minimize the

long term consequences. We as an agency are in the process of completing some aspects of 67 and in the process of just beginning.

There are unclassified versions of summaries of this available. As documents themselves, they are classified, because of the thing that are said in them. I am trying to be very careful because it is easy to slip on one side. It is very important, in terms of our continuation as a society when you see, think, and plan for the types of things that can happen out there.

In a fashion, I don't want to play on my own cynacisms when it comes to federal programs, but these PDD's were issued without a regard and probably even an understanding of the infrastructure that exists already. Clearly the NRC has had a relationship with the FBI and other law enforcement agencies for many many years.

We do know from the old ADC days even that the FBI is in charge of handling any crimes associated with any nuclear materials. With the influences of these PDD's there are other aspects that are brought into bear. As I told you, the very first PDD up here made the FBI the lead federal agency for crisis management. How does that fit in with the existing

federal response plan, the existing FRERP, Federal Radiological Emergency Response Plan? Well, that wasn't recognized or understood. Now we have this interlacing thing. How do we make this all work?

The second thing that happened is that there is a very heavy emphasis on agencies with very large capabilities. That is natural. One of the PDD's specifically mentions six key agencies to handle these kind of responses and determinations. We weren't one of them. We are not listed.

The story with the FBI is one that I can extrapolate to. I have find out that a lot of the federal, and the state bretheron that we have out there, just don't know a lot about us.

Even though we are not specifically pointed out, the second thing that happens, when you are not recognized, is the key to everything, that is a budget item, money to deal with all of these requirements. The kinds of funds that were given to the key agencies are rather enormous and we have had to carve out our efforts in this area from our existing infrastructure and ensure that we have our place within all the structure here with all these other agencies. We do that so that we can effectively carry out these requirements just as

well as anybody else. That has been the challenge. That is what we are in the middle of.

Read the definition of lead federal agency and you look at what we have had as our basis of operation and response. We have to make sure that these don't collide, because the school is intergration. FLA, defined in the FRERP, very clearly. FLA which is defined here, same term, but slightly different use and no clue in the writing as how they are suppose to mesh. What is crisis management? What is consequence management? How does it fit into the exercises that we have at plants every other year? It is very -- it has been challenged.

What we are doing is looking with our existing documents and modifying them, enhancing them, and looking for opportunities as soon as possible to implement them. We have had over a -- beginning with March of last year the FBI reached the commission in closed session discussing some of their activities in this area. It became apparent at that meeting to both parties that things were not tied together between the two agencies as well as they should. We briefed the commission on what we know, what our plans are, and what we have already accomplished, that was done July of last year. It was followed

by a commission directive to jack up the effort, get in a circumstance where we can actually drill with these other agencies as soon as possible. That is the basis on which we have been operating since the departments memorandum came out last August.

The staff responded back with a schedule that was probably realistic. I can say that in terms of the wonderful cooperation that we have gotten from our federal agencies, also the state and local law enforcement, we have been able to accomplish more and more quickly than we even promised. That is not a very common occurance, so when it comes to writing schedules -- I would say we are doing that.

What we are doing is enhancing our own concept of operation in responding to terrorism. The component that we have for our internal protection, the continuity of operation is part of this, that is complete. The part where we are dealing with other agencies to handle these kinds of things with our licensees is ongoing.

We had, May of this year, our first intergrated exercise. It involved law enforcement, our licensee, and other state and local departments. It was held in Lynchburg, Virginia. We had a tabletop, an arrangement very similar to

this. We talked about how we may go about dealing with an incident at a licensee site like that one that we used for our example plan. We talked about the written procedures and processes that each of the table brought to it and we talked about how they worked. From that we had some very good experience in getting to know our counterparts.

It lead to an actual field exercise that was held in Erwin, Tennessee, just a little over a month ago. That was one where we had a -- basically a criminal activity on a licensed site with the potential for radiological consequences. It should have fit under our MOU with the FBI a decade ago, it had aspects in it that were expanded from what we did a decade ago. There were lessons learned. It was very strongly participated in by the NRC, as well as the other agencies. We went all out and that was also true with our counterparts.

We are just in the early stages of planning another similar event at a power plant, Palo Verde plant. Our intents there are still under discussion, but this one -- by virtue of the fact that our counterparts at the FBI intend to have the full deployment of their capabilities at this practice, it includes well over two hundred agents participating. It is a rather substancial effort on their part. It is going to take

-- we have six, seven months to prepare for this, but this will be the first time that we have ever responded with law enforcement at that scale. It should prove to be interesting and illuminating.

We want to build on as much of the existing infrastructure as possible. We don't want to reinvent the wheel. We want to make sure that all the ties that you people have in place are maximized and used as much as possible. We know them. We know that they work. People know each other very well. We know how to interact. The real key is now adding this other component in the most effective and efficient way possible.

The term of Crisis Management is something new. We never had that term before. We also have the definition that SDFBI show. How does that fit in with the federal agency concept under the FRERP when one of our licensee has a problem? That is a key issue that we have to work out. How do we coordinate? We still have a joint operations center. We still have a joint information center, but the parties in those centers are now going to be expanding.

The management structure in my picturing of this would be no different, except for the addition of another

principal party with another perspective to bring to the management team that will determine the matter in which that response to that event takes place. Both parties come to the table with the LFA across their forehead.

I don't believe that the consequence management term with FEMA as the designated lead is quite as difficult to impliment. I don't picture it as very different than what we do now. It is already well coordinated with FEMA and EPA handling issues like reentry and so on.

In any case, let me just point out that we intend to make use, as much as we can, the existing structure. The biggest challenges is in the initial phases. We are concentrating on the first part. We have interaction with the FBI with small events. It is the big scale things that I am more interested in. Let's -- let's skip some slides and go to the last one.

We all will be effected ultimately by this. We are continuing our program with the FBI. We are learning the FBI functions. They have fifty-six field offices that are very autonomous. We are trying to link in with headquarters and trying to train as many of them as possible. That takes some time and effort, but it is working very well. I apologize for

going a little bit longer than I intended. Thank you.

CHIP CAMERON: That is okay. Thank you for that overview, Frank. I think that the states are going to be interested in some of the implementation and how it effects them. We will go to Aubrey Godwin for first comment.

AUBREY GODWIN: From a state perspective you need to recognize that your local special agent in charge determines largely how you are going to interact with the FBI. We have had two since they started this program. One was very very pro state and local set up. The one that we have currently is not so pro. It is very difficult to understand how they are going to operate. They prefer to have their joint information center from the one that is called for in the plan for the response for other emergencies. It is not clear whether there is going to be a joint operation between the state and the FBI or whether it is going to just be the NRC and the FBI. So there are somethings that you need to be aware of when you get into these things. There are some rough edges that we sort of smoothed over.

FRANK CONGEL: There definitely are some. One thing that I wanted to mention, the FBI like the NRC recognizes one very very important fact. The initial response and in the mass

majority of the circumstances that I can imagine the initial response is done by the state, locals, and the licensee. If that is all done well and effectively, we, as the federal guys, come in and help with the aftermath. Lots of times we will push the event to get a more active involvement, but the reality is that the initial response is the most important and the most likely time that true lifesaving takes place. That has not changed.

CHIP CAMERON: Bill Kirk, Pennsylvania.

BILL KIRK: A couple of years ago we had a three day terrorist exercise called Vigilant Lion. It was planned by the Pennsylvania Emergency Management Agency. It included EPA, DOE, and I believe the Region One NRC was there. This was the first time that I have run into the FBI. It was one of these things were skincane curies of stridium were used for terrorist purposes, contaminated a bunch of people. They were threatening to contaminate and blow up a bunch of other things.

One problem that we had, the minute that the FBI came in and became lead federal agency, the emphasis shifted from radiation protection to preserving a crime scene. They were far more interested in preserving a crime scene then preventing further radiological efforts.

FRANK CONGEL: They are different agency perspectives. They need to be intergrated. It is another challenge.

CHIP CAMERON: Bill, maybe you could elaborate on what the implications are that you saw for public health and safety from changing that perspective. Does anybody have any comments on that? You think about that and we will go to Stan. I think that he does have something to say about it.

STAN MARSHALL: I have been quite for a couple of days, but I will speak now. Not at the CRCPD representative, nor as a OAS officer or representative, but just as a state, I have had the burden as well as the privelege to participate for the last three years -- two to four times a year for three years now at an activity in southern Nevada where a number of agencies come together. I think that I can call it nuclear training that the DOE sponsors. It is an activity where sixty-five to seventy-five people come together to talk about terrorism involving radioactive materials.

DOE and the contractors are there, the Department of Justice, FBI, the Department of State, there is everybody imaginable. The purpose for my involvement has been invitation to participate on a local and state panel to help portray to

these federal agencies the local and state impact of a federal response. If under the federal plan the EPA is the lead -- it might change where NRC becomes the lead, it might change to where the FBI becomes the lead. The intent of this local panel is to help the federal family understand the instant command system that kicks in at the local level, where state response, maybe even you as a public health agency are involved, and the intent is to help educate them that they need to understand and honor a governor's intent, a public health agency's intent, a radiation control intent. As things swing away from a public health agency, from a health inspection perspective, it can role into a crime scene protection scenerio.

To me it has been a rude awakening for me. I hope an honest learning curve for them, that there is a lot to be understood. There is a lot to be organized among the federal family. They originally had this local panel on the third day of the three day class. They now have moved it to the first day, because these folks don't understand the local and state impacts that you and I are involved with.

Many of you with reactors are ahead of us, without reactors because you have your annual exercises. To me it is still -- I am hopeful that we are all in the growth curve. It

will be interesting to watch the continuing participation. I would ask any of you that if you have the chance to attend the class.

CHIP CAMERON: Let's go to Bob, who has had his card up for a while and then we will go to Ed.

BOB LEOPOLD: Bob Leopold, Nebraska. I think that this is a case where the state are in a different circumstance than the NRC. The Nuclear, Biological, and Chemical Weapons of Mass Destruction Act provides a lot of funding. It funds a hundred and twenty communities in the state, in each state. In each of these events you have to put together a plan. It is going to take our state about eighteen months and we are in the middle now of putting together the plan, so that we will be eligible to spend the money.

The plans have to be done by your emergency management agencies. So, if you are not involved in this, you have to get involved. That is the only way to make sure that you are included. That is the only way that your resources are identified as either being available or that you need some more.

The FBI is indeed in charge of the crime scene, but one of the things that you have to do in advance is sit down

with them and help them understand the difference between the crime scene and providing emergency care and radiation safety. If you wait until these events, you will get chaos. So, if you are not in contact with your emergency management agencies, you need to do that immediately.

CHIP CAMERON: Great. Ed?

EDWARD BAILEY: I am glad that you reminded me of that. We got a request the other day for a list of all the facilities. The way the words are written, nuclear materials facility. So, do they want a copy of the two thousand something licenses that we have? We have gone back for clarification. Somebody -- the words that they call for in the plans are not defined and open to a lot of interpretation.

BOB LEOPOLD: They have very little time. They are under a very tight time constraint. They want to get the money and spend it.

EDWARD BAILEY: It has boiled down to now that if you have plutonium on your license, even if it is a 5 micro curie source, they want that identified as a nuclear facility. We have had some experiences with the FBI. I think that I told you a few years ago about the weapon of mass destruction that occurred in California. The FBI came in and arrested a college

researcher.

We also had one where an object was found at these meetings that they have between the FBI and the HAZMAT or emergency response people. The emergency people said we found this thing and described it. The FBI came running into one of our offices and virtually held that office under lock and key for three days. We assured them that there was no radiation hazard from this device. They could not take it from us. It was like four days before they finally got somebody to come and pick it up. They kept the office guarded around the clock.

CHIP CAMERON: Thanks, Ed. I think that Don Cool wants to add something.

DON COOL: I just wanted to follow up on the question that actually got started by Bill Kirk, which is the ease in which you can be distracted from radiation safety, radiological controls, and contamination controls. In the event, exercise that we did at NFS Erwin, that really came to like because it was extremely difficult as we went through that exercise, for those of us who were doing the protective measures part of it, to attempt to try and get data, and get that data to get the same degree of resignition.

The focus of bad guys, guns, terrorism, in fact

played out in sort of a frustrating way as we found out after the fact. When they constructed the scenario, they had the bad guys have a criticality, but they forgot to consider the fact that the criticality would result in some contamination at off-site exposures. So, when we went looking for it we were never able to find anything, much to everybody's chagrin. Just another reminder that while maintaining safety has other pieces of aspects, it is very very easy to get distracted from the issues of contamination in individuals and radiation.

CHIP CAMERON: Good. Thanks for adding that, Don. Frank do you have anything to add onto what Don said.

FRANK CONGEL: There is a lot going on. What I am listening to actually is that there is more than one other effort parallel with this with law enforcement agencies to develop what we call a medical strike team. There are a number of areas that are involved here. All I wanted, and had time for this morning, was to talk about how we are trying to intergrate the existing infrastructure for emergency response.

EDWARD BAILEY: Can I add one thing? These -- they are spending a lot of money on equipment. My take on it is that they are creating a new set of civil defense people out there with meters that are harder to operate and they

understand less. There is no way that the people that they are training are ever going to see enough material to keep current. I mean, if the meter does anything they panic.

CHIP CAMERON: Let's go to Stan and then we will go to Ray.

STAN MARSHALL: Mine is a quick commercial. Some of you attended the tenth annual National Radiological Emergency Preparedness Conference that was in Reno in April of this year. I believe that the next conference is in the year 2001. It is in Harrisburg, Pennsylvania. It is a good opportunity. I think that NRC will be there, as they were in April. There is -- the attendance last year was about three hundred and fifty. It was comprised of radiological control types and emergency preparedness people from the states.

It is a specialty conference, kind of like this one. The topic is just emergency preparedness. A lot of discussion about reactor response, but they are trying to get off the reactor response theme to deal with other stuff.

CHIP CAMERON: Okay. Thanks, Stan. We are going to go to Ray and then Aubrey.

RAY MANLY: Ray Manly, Maryland. I am curious. Most of your examples up there you indicated were all licensed

facilities. In Maryland, earlier this spring, we had a terrorist drill dealing with an explosive device spreading material all over the local terrain. Does the NRC -- it appeared to be absent from that particular drill in their own backyard. Does the NRC have plans for participating in non-license facility events?

FRANK CONGEL: It depends on how things evolve. That is a good example of a lack of coordination quite frankly. In fact, this event that is unfolding was originally an FBI idea. We were casually invited. We have a long way to go at this intergration.

CHIP CAMERON: Let's go to Aubrey. Then we will finish up with Bill.

AUBREY GODWIN: You should be aware of a few things that the FBI may or may not bring. They will not have film badges. They will not have potassium iodine. None of their people will be instructed in the hazards of radiation. They may or may not be HAZMAT qualified to enter a hot zone. And, they are going to be in charge.

Ed is quite right they are buying instumentation. They are buying expensive instrumentation, possibly better than you have. They are not buying calibration services. They are

not buying any training, because they have money for instruments and equipment. They go and get it. Later they try to figure out how to use it.

FRANK CONGEL: Aubrey, before you make any conclusions about what they are going to do and what they are not going to do, I think you better wait. The reason that I say that is that right now some NRC guys are meeting with the FBI guys in Quantico about putting the scenario together. The kind of conclusions or at least the statements that you are making may not come to pass.

BOB LEOPOLD: But over half of a hundred and twenty communities have already spent their money.

FRANK CONGEL: I understand that. We are mixing a couple of concepts here. The money that you are talking about is not part of the FBI.

CHIP CAMERON: Okay. When we do break, if there is further comments about that you guys can talk about that. I want to get Bill on and then we do have a final comment from Commissioner Dicus.

BILL KIRK: I didn't get too deeply involved in what went on with that exercise, but it involved something along the order of three or four hundred people, starting out at the very

lowest local level, in the hospitals, fire departments, county sheriff's, Pennsylvania State Police, and so on. In all told there were probably a dozen and a half agencies involved by the time that we got done. I think that the biggest lesson of it is planning for communication is absolutely essential.

It was a Chinese fire drill for a while. I have rarely seen anything so screwed up. People had a hard time knowing who was suppose to get what and it was hard to get the information there. It demostrated how confused things can get.

CHIP CAMERON: Okay. Thank you. Greta?

GRETA DICUS: I just want to underscore many of the things that I heard today. As Frank mentioned, our meetings with the FBI were illuminating. The FBI was clueless about who we were and what we did. They were also clueless on what kinds of issues they might encounter when they went into the radiological scene. What I would like to underscore is that to the extent that you can get through your buracracies to make your field office aware of situations.

In Region Four there are twenty-seven field offices. We are dealing with headquarters. I think that we have them trained, part of them. But, what about your field offices? They are really autonomous. So, to the extent that you have

the ability -- Aubrey is shaking his head yes, and it's true. You can make them aware of who you are and what you do. In all probability they are going to go rushing into the scene to preserve the crime scene with total disregard for the radiological consequences to what they are doing. At the commission level, this does have a very high priority and we are dealing with it very much.

CHIP CAMERON: Thank you, Greta. Roland?

ROLAND FLETCHER: I just have a comment. This is an example of why a national radiation alliance, that is well publisised and known, is so needed. I am just finding out that there are a hundred and twenty communities that need my help. We aren't in a position to give it, because many of us are just finding out what they are doing. We need to do something to make sure that people know who to go to when they have situations like this.

CHIP CAMERON: Thank you. Thank you, Frank, for stimulated that discussion.

(Recess.)

CHIP CAMERON: Joe Klinger, the Chief of the Division of Radioactive Materials with the Illinios Department of Nuclear Safety. I am going to turn it over to Joe to talk

about the Tritium Guy.

JOE KLINGER: Thank you. Can everybody Hear me? All right. Thanks. I hope you all in the back can see my slides. I have been sitting back there a couple of days and either my eyes are going bad or it is just not good back there.

What I would like to do before I get going on the Tritium Guy, facinating guy, I have something else on my mind that I have to share with you. We have been talking about the warm fuzzy alliance and everything. It is really important to me and I totally believe in it, but I had a situation just the other day that kind of bothered me.

I received some e-mails and some phone calls recently that said have you looked at the recent publication of Inside NRC. Now, keep in mind, I am the Chairman of the E-34 Committee. Greta Dicus mentioned how important that it is to her. I said no, I haven't. What is going on? They said, well, there is an article in there and you need to take a look at it.

I looked at it and it said, "NRC staff unhappy with progress on National Ergon Source Program". It didn't help that warm fuzzy feeling with the alliance right there. The first thought that came to mind was, my God, the NRC is

criticizing for some organization for being slow? That would be like Ed Bailey criticizing someone for having bad slides. Come on.

Then I read the article. After that I thought well it is not that bad, except that the reporter keyed on a couple of ambiguous phrases in an Executive Report that was released recently. Really he miss charactorized and kind of maligned our efforts on the E-34. It really bothered me. I am kind of seething of it, but it is really at the reporter, not so much anybody else.

I just kind of wanted to set the records straight before I talk about the Tritium Guy and just highlight was is going on with the Ergon Source Group. We haven't been sitting on our thumbs, which is really what is implied in this article. Most of you have probably recieved this brochure, which is of the little guy in the yellow thing on the picture. We have been working on the pilot program. We went out to Colorado -- I would like to take this opportunity to commend Jake Jacobi. Jake Jacobi hosted our group in March. It was a great meeting. He had Tim Bonzer from his staff meet with us.

We nailed down all the specifics on the pilot program. That is really the key program right now. We have

taken care of almost everything else, but the pilot program is essential. We have got to demonstrate that we can actually handle all of the ergon sources, not just give people directions on what they can do and then make them pay for it, but actually disposition sources. That is what we need to demonstrate. If we can do that, NRC has got some money budgeted for next year. If they buy into our program, we can take it nation wide. That is essentially where we are.

Right now, for the past few months, we have been bogged down in contractional issues between CRCPD and the State of Colorado. Which at first I was real frustrated with, but I realized that that is part of the pilot. We have to work out that kind of liability, legal, contractional issues before we can go nation wide. It is an essential part. You can not go national with out resolving these problems. So, it is frustrating. It is being delayed, but there is progress. It is our highest priority. I just wanted to set the record straight on that.

Okay. The Tritium Guy. Okay. Tritium. Who cares about tritium, right? Most people would think it's no big deal. Well, this came about from a generally licensed exit sign. We have all seen generally licensed exit signs. They

are safe. They are important. In case of fire, they illuminate the egress routes. They are inexpensive. They need very little maintainance. They are everywhere. In Illinois alone we estimate that there are twelve thousand of these. Throughout the country, an estimated three hundred and fifty thousand.

They are manufactured and distributed under a specific license. These are generally licensed devices. They are glass tubes, gaseous tritium. A pure beta emittor. 18.6 KEV. Half life, 12.3 years. Biological half life, ten days. That is real important. Phosphurous zincsulfite. It glows due to the beta interactions with the phosphur. So, it is a very simple thing, but it serves a purpose.

That is what it looks like. It is just like any other exit sign that you see. There are no wires going into it. It is low maintainance and that is why we sell quite a few. Those are the tubes. There are four tubes in this particular sign. This is a broken tube. I will get into the details of what happened. In that particular sign, there are four tubes. 5 curies -- 5 curies of tritium in each tube.

Problems: multi curie quantities of tritium. The GL's are not required to be specifically licensed or to be

registered with us in any way. That is in our state. I don't know how your state is, but I suspect that it is the same way. The people that have these are not aware that they are in possession of any radioactive materials. They are not aware that they are regulated. They are not aware of the proper disposal. They labeling could be much improved.

Okay. On these signs, what I know is -- they have all this other stuff on here. Everything, plus talking about anything that is radioactive. So, it anybody is not familiar with these signs look at it they would say that thing is not radioactive, because the labeling for the sign that we got involved in are on the back of the frame. You have to take the whole mount of and that is where the label is. So, that became a problem. If you look on the back there is some labeling there. It says that it is tritium and it has some of the basic information. You have to look very carefully to see that.

Now, on the tube itself, and this became part of the arguement with the general licensee later, they said this things weren't labeled at all. I wasn't sure if they were labeled, the tubes. But later on, we looked and each of the tubes, at the end, are actually labeled. But you have to look very carefully. Okay?

Next slide. Okay. Problems: they are safe and effective unless you have the inquisative, the intelligent, and the most dreaded of all, tritium guys. We had a tritium guy in New Jersey.

I remember being up in New Hampshire and John Fenney was giving a presentation about these tritium signs. I didn't pay much attention. If fact, I left the room and fiddled around. Who cares? I am not going to have anybody stupid enough in my state to do that. I am serious. I remember he said that there were twenty-three agencies -- his paper was about how many agencies does it take to respond to an exit sign. In his case, it was twenty-three agencies, $100,000 in contractual costs, and all kinds of problems. It was a liteny of errors and it was just a horrible mess.

Well, not only did they have one, and that particular one was kind of amusing. It was a teenage kid who came across one of these signs. While he was eating some sesame seeds, or something, sunflower seeds and he is putting this tritium, the phosphur on a swimsuit poster in his bedroom, thinking this is going to be neat. I am going to have this gal showing up in the dark. He is eating these sunflower seeds and he is going -- hey, maybe this isn't good. Somehow he realized that this

could be a problem.

They had another one where it was a child at a treatment center. The kid threw a tantrum. He broke a tritium sign, contaminated the area. That one cost $200,000 to clean up. It also had all kinds of agencies involved too.

So, what happened in Illinois? Our experience wasn't that dramatic. Our tritium guy was a very interesting person. He works at MINWAX in Flora, Illinois. I didn't even know where Flora was. It is in central Illinois. He is a scanenger there.

It's a Sherman-William's Paint place. Whenever they have anything left over there and they are about to take it to the trash, they call the tritium guy over and say is there anything here that you would like. He is a tinkerer. He is a scavenger. He takes everything. Well, they asked him and they had these tubes and he thought, oh my God, what can I do with these. I bet that would be something neat. If this thing glows here, I'll bet that I can put this in my gun.

So, he takes it to this garage. Usually there are like six kids running all around and everything. He takes it into the garage. It is a nice garage. Luckily no one is living upstairs yet. He was going to put his son and wife up there

pretty soon, but luckily they weren't up there now. This happened in November of last year. So, he takes this thing in.

Next slide. It doesn't look too bad. Next slide. Not too bad. Now the next slide. Now, inside it was a disaster. So, he takes it in there and he decides -- how am I going to get this stuff out. Well, he decides that he will take a big hammer, and take a tube, and -- POW. And, he kept hitting it and he kept hitting it. He said, you know, that wasn't easy either.

It wasn't easy, but he did it and he broke it open. All of a sudden -- sniff -- what is that smell? The zinc sulfide with the tritium got this odor and he goes this is awful. Maybe I ought to look into this?

What he did then after the tritium and everything is all over the place, he took a look at the tube apparently and saw the labeling on it. It said tritium. He didn't know what tritium is. It didn't say that it was radioactive. Luckily he did contact the poison control center. The poison control center contacted RACS. They told him -- you know, take a shower, bag up all your clothes, do this and that. Then when we finally heard about this we wondered -- you know, this guy isn't too dumb. He knew to bag up his clothes and do all that,

but that was because, I found out later what had happened.

He did it right there at that drawer. That is where he broke it open. So, that whole area was contaminated. So, he had tritium contamination throughout that whole area.

Next slide. Again, this is more of the same. There are just parts everywhere. It was a mess to clean up.

Next slide. So, we went out there -- we sent some people out. Luckily, inside the house, where people were living, the only contamination was around the phone books and the phone. It wasn't too bad though. But inside the garage here it was like 300,000 pCi. So, it was a bit high. So, we had to take some action.

Now, the contamination assessment was -- wipe samples are the only effective means with tritium. We really don't have any really good portable monitors for it. So, then urinalises. So, right away we took urines from the guy, from the family, and everything. We had to take the urine down to our lab in Springfield.

So, contamination methods: 340 Appendix A, that is similar to 1.86 -- 1,000 pCi/100 cm2 that is an average. 5,000 maximum. 150mrem. Those are the standards. Those are in our rules. That is what we have to live by right now.

We did surveys all the time and over a period of time -- now we had the benefit of just letting the stuff disapate over time just by ventilating. So, we took surveys and we have the measurements here. We are trying to get everything to be green, that is all that tells you. We are trying to get everything to be green or yellow, 'cause that means that it is clean. The red areas up there around the workbench -- that is really where the workbench is, right there. That is where the contamination, the heaviest contamination was and that was no surprise.

So, over a period of about five months or so we kept taking samples. We finally got down to the point where we had to do something, because it wasn't going to take care of itself. Next slide. This shows the spread sheet. Next slide. Again, some of the -- let's just pick one, the one there is a 110,000 pCi in November and then 57,000 -- went down to 6,000. Then we cleaned it and well -- we got it down to 6,000 and it kept dropping after that. Okay?

Okay. So, like I said, we had the benefit of the garage. No one was living there. We had time. Most of the source was initially removed. When we sent our people in -- they had the broken tube and they removed that. It acted kind

of like a particular. We were very lucky there. We had the equipment, supplies, and the man power.

In New Jersey, they pay contracts. We thought, you know, we have the training. We have the expertise. Let us have a shot at this one. We wanted to do it. So, we did.

Next. So, how did we do it? Basic methods -- HB contamination, rotated duties, a non-phosphate detergent. We used that so that it wouldn't have any interference with detectors. Lots of Iso-propyl alcohol. We thought that it would bind with the tritium. It did. That worked really well. We washed it down, and air dried, ventilated, and heated. We heated it to help viotilized it and ventalate.

Then for the small items we came up with this neat thing. We had all these parts, bolts, screws and thing. If they are contaminated and we throw it all up, you are just adding bulk to your waste. There has to be a better way. We came up with a vegetable collander. We simply put the bolts in there and put in the iso-propyl alcohol mixture. We shook it. We did all that and then we collected the fluid. We wipe tested those parts and if they were clean we were satisfied. That worked out really well. It was a good little trick that we came up with.

So, that is what we did. We suited up, laid out the area there, and started scrubbing. We started wiping the areas, we started decontaminating the areas that we knew were the -- were above our limits, those red dots on our spread.

Next. Again, that is our -- coming out of the door there is some of our equipment, our clean line outside and all that. This is what it looked like afterwards. It was really grunt work. It was just cleaning. Then these are some heaters that we used. We cleaned all the area out. We thought we would just have to throw that wooden bench out, but it turned out that we did not. We had all -- the equipment on the shelves over here, all these bolts and stuff, we went through every one of them. We dumped them out, used the collanders, cleaned them, and put them back. More of the same.

Okay. Now, afterwards, after we did our wipe test, that is our results. Everything is green and yellow. Green and yellow is releasible. It meets our guidance and so -- so it all worked. It took us really two days, two days and there were three of us that did it. Okay? Again, that is just more details on the spreadsheet.

Next. Oh, here is -- it went from 110,000 on November 1999 and we got it down to thirty-four, 34 pCi. So,

we are pretty happy. Final dose estimates -- you would say, tritium guy, he inhaled some of this. Our initial estimates were 250mrem, using NCRP 65. But using a plasma physics lad, a guy named George Asyon there, has a -- it is called the REMedy program. If you have a problem with tritium, that is a good program to use. It is specific to tritium. Next one. It integrates ICRP-30 biokinetics models and the TEDE is based on average years for 24 hour periods. The spouse and the daughter were very very low, using that model again. They were much higher using -- 65.

Next. Okay. Costs: we did it ourselves. Staff time, including decontamination, meetings and travel. $31,000. We bill at $110 an hour to give you an idea. So, bioassay analyses -- wipe tests, those -- for every little dot that you saw that spread sheet and every time that we took at sample that is $90. That is what we charged. That really added up. Every time that we take these wipes, you know, that is sixty wipes -- that is a lot of money. Someone is going to pay for it, hopefully not us. Okay. So, in total we generated four drums of waste and it came to $4,000 for disposal costs. So, $64,000. That is the total. Keeping in mind that New Jersey was $100,000. $200,000 -- that was with contractors and they

didn't count their staff time in those costs.

Okay. So, what are some recommendations? New Jersey came out with recommendations when Tim gave that paper. I just resurrected some of the same ones and agree totally. I should have been listening, because that paper really helped us out with some of the decontamination methods.

Labeling Improvements: I think that they can do a better job. So, if you are responsible for the licensing of the specific licensees, these manufacturers and distributers -- if you would take a better, closer look at the labeling requirements and improve those that would be very helpful. Instead of having it on the back of the frame -- when they are damaged sometimes they don't -- those come out seperately. So, maintanance people look at it -- they don't know anything is radioactive, it goes out with the trash.

Okay. Sales Literature: if you look at the sales literature, which I did, and the catalogs there is no indication whatsoever that there is anything radioactive associated with these products. They say put them up and forget about them for up to twenty years, ten, twenty years. That is why people love them. The problem is that they do forget about them.

Next. Discourage proliferation simply to avoid electical wire. Install protections to avoid damage to the exit signs. The exit sign that I showed earlier, there was damage all around it. You can see where forklift have been hitting all around the thing. I think that you need to protect it. There are probably a lot of facilities out there that are cracked up with tritium right now that we don't even know.

Revisit acceptable surface contamination levels, NRC reg guide 128.6 under related documents. We are going to revisit it, because they are probably too low. Why do we have to clean up to those levels? You know? Well, we debated that. We looked at all the alternatives. One was burn the place down. Just burn it. Why can't they just have a fire? Well, I don't think that is too good. And so, we talked about all different things. We said, well I think those levels are too low.

But, then if local media gets involved, and stuff, and says are cleaning this up to a certain level. Yeah. Well, what is that level? Well, it is the level in our rules. Now, if we were to say well no. The rules say this, but we are going to just let it go. Trust me. I don't think that would work. So, we are kind of stuck. Maybe in the future, if we

revise those guidelines, which is in our que to do, then maybe we will do it.

Possible Technological Improvements: we could solidify our mix of phosphur, so that it would be easier to clean up in these events.

Last, watch out for tritium guys in you neighborhood. It happened to me. It could happen to you. All right. Thanks.

CHIP CAMERON: Thank you, Joe. Any questions, comments? I don't know if Don Cool wants to add anything? Let's go to Bill.

BILL DUNDULIS: Joe -- Bill Dundulis, Rhode Island. Joe, one of your other things that you said about, you know, maybe mixing it with a matrix, what about the possibility of, instead of gas, sometype of Lexain or something that they use on street lights covers or a jet cockpit. You know, at least then you would need a bigger hammer to get it open.

JOE KLINGER: That is right. That sounds like a good idea. Those of you that are responsible that are responsible for the licensing there of -- of the manufacturers may consider something like that. That is a good idea.

MIKE BRODERICK: In Oklahoma, we have the privilege

of getting involved in this, even before last Friday. I suspect that the way we got involved will effect a number of you if you are aware of it. On most Army posts that were there during the World War II era or before, they have these old -- these crummy old World War II temp -- they built temporary barracks in World War II for use for the duration of the conflict. They were still using them up until the last few years.

At Fort Sill in Oklahoma we had several cases -- initially they tore down several of these barracks with the tritium signs, the exit signs, still in them. After we educated them about this, they went and surveyed. They found that in several of their barracks, when soldiers were about to go home from the Army -- they used that. They would rampage through the barracks and destroy the exit signs. We had a couple of the barracks with destroyed signs in them.

We worked with NRC region Four on it. In our case, they ended up -- with one of them we actually made them go with it as low-level waste. Some of the others where the contamination wasn't so bad -- they have something that is called what is called a construction demolition landfill. It is used for building rubble. They had one of those on federal

property that they wanted to use. We agreed. If you do that they will try to play your solid waste people against you. They will probably go to the solid waste people and say, well they said it was okay.

CHIP CAMERON: Thank you. Bill Kirk has something to say and his comment sort of ties into his next talk.

BILL KIRK: In the course of following up some allegations of illegal dumping of radioactive waste in one of our landfills we chanced to take a bunch of sample of landfill. Low and behold, 100,000 pCi per liter of tritium in the landfill. Labeling the methane coming out. It is causing all sorts of hate and discontent in the local activist groups. I wouldn't be surprise -- I saw an article that said over half the landfills in England, when they tested them, they had levels of tritium up above 10,000 pCi per liter. The notion is probably dumping signs. You don't know what you might have out there.

JOE KLINGER: It is just a good thing that it is not a low-level waste disposal site down there.

RUTH MCBIRNIE: Ruth McBirnie, Texas. I just had a quick question, Joe. Did the state obsorb the cost?

JOE KLINGER: Ah! A very important part. Okay. No.

They have not. We went back to MINWAX the general licensee. We just billed them. I had some interesting conversations with the plant manager. He happened to be the former brother-in-law of the tritium guy. I told him, I told him that he is the general licensee and he is responsible. He said we didn't even know that the thing was radioactive. I said you are the general licensee. He said but it wasn't labeled. Then I showed him the picture of the tube that was up here with the labeling. He said damn, I feel victimized. He hasn't paid it yet, but it is a big company. It is Sherman- William's and I think that $64,000 for them is not that big of a deal for them. He has already talked to his lawyers and all that stuff. We haven't heard anything negative back. So, I am assuming that they will pay that, but that is a key point. Thanks.

CHIP CAMERON: Okay. Don?

DON COOL: Well, seeing how you asked me. I guess there are a couple of things to just know. I very much agree with the recommendations that Joe has up there. The GO rule that the commission is approving is currently at OMB. It does contain some provisions with regards to clear labeling. Not withstanding what you think, the provisions like that do apply across all the generally licensed devices.

So, that moves in the right direction, but where the rubber will really meet the road is that when you do the individual reviews for the distributors, manufacturers, and interacting with them, not only on their manufacturing, and on their labeling. Take it apart and look at that as part of the review. Take a look at the sales literature and those sorts of things. The point that Joe made is something that we have also tripped over, which is that you get this less than full disclosure sorts of sales literature. We ran into several other cases where -- that was -- those sorts of words, buy it, throw it up, forget about it. It really misleads people and literally sets them up for contamination. They don't know. They weren't told. There was no accountability. The person that probably purchased it was probably in the purchasing office twenty years ago and has now retired to Florida.

CHIP CAMERON: Ed?

EDWARD BAILEY: I think that Joe mentioned in his talk -- hey, it is just tritium. That is one of the problems that we face in trying to set up a registration fee for these licenses. We look at them and say this is no big hazard in these things. It is just tritium.

We met with the tritium light people a few years ago.

We were proposing that -- when they sent us the quarterly report, one thing that we asked them to do was give us a name. Manager is not a name. Maintanance foreman is not a name.

The other thing that we have proposed to them, which we have not implemented yet, but perhaps will, is that the manufacturer, the distributer pay a fee of like five dollars per device to sold. That money would then be used for things like this, particularly when you don't have a good responsible party.

The other thing that needs to be done on generally licensed devices of all types is -- the -- the distributer should be required, in my opinion, to take those devices back. We have a lot of people who are very conciencous and want to do the right thing on disposal. They can't get the manufacturer or distributer to take them back. They come to use and they are told that it is going to be a $1,000 for that waste, to get rid of it.

CHIP CAMERON: Great. Joe, thank you very much. All right. We are going to go to Bill Kirk now. He is the Chief of the Radiation Control Division in Pennsylvania's Bearue of Radiation.

BILL KIRK: When I looked at this schedule and saw

that I was on last I didn't know whether to be grateful that they gave me time to wake up or not like it because everybody is in a hurry to get out of here.

I am going to tell you a story that sort of illistrates the law of unintended consequences. Pennsylvania has a lot of landfills, a lot of solid waste facilities. We are either first or second in the country for excepting more solid waste from outside its borders than any other state in the country. If it wasn't for that commerce clause in the Constitution, we would be accepting a lot less waste than we do. Any how, we have fifty-one municiple landfills, forty-seven private landfills, seven construction and demolition landfills, seventy-three transfer stations, a couple of incinerators, composting facilities, and several other things. We also have some waste energy facilities.

A very short aside, a couple of weeks ago we were dealing with four cezium sources that went through one of these incinerators and wound up in an ash recycling facility. Then it went out to a -- we had alarms in two different -- two in Pittsburge and one in Delaware resulted from these things. They were little 2 millicurie cezium sources. Amazingly enough they ahd gone through the incinerator and were intact. They

were leaking a little bit, but two of the four were totally intact and two were leaking just a little bit. No one has a clue where they came from.

Some years ago -- I wrote the first landfill policy then, in 1995. The reason that we wrote it was that in 1987 Pennsylvania passed its Low-Level Radioactive Waste Act. Amongst the many wise words in the act is something to the affect of thou shall not place low-level radioactive waste at any facility in Pennsylvania other than the licensed low-level waste site, which we don't have. I don't know if we ever will.

Any how, some liberal types reached the conclusion that radioactive material equals low- level radioactive waste. They started writing into landfill permits conditions that said they can't take anything radioactive. It took me two or three years to make the landfill people realize that they were all operative illegally, because almost everything in their landfill was radioactive.

Some of the landfills started playing CYA, or whatever, and installed monitors. We started responding to alarms at these landfills. They got up to about a hundred or so a year. We decided that we wasting an awful lot of resources chasing around after various and sundry things in

landfills. We decided that we aught to write a guidance telling these people how they should operate their monitors, what levels they should be set at, and what sort of things they should do with it after they get the alarm.

What we wanted to do was to make sure that their responses were appropriate from a public health and environmental stand point. I remember that when we were sending a bunch of people out -- it was usually good for a day or two every time one of these things went off. Most of the alarms were things that were perfectly legal to go into the landfill. They were adult diapers and so on.

Next. The people who had this stuff had no idea what to do with it. They were legally responsibility for dealing with this stuff, but they really didn't know what to do with it, so they called. The cost was really very high if long life stuff got in and shouldn't have, particularly if it was classified as rad waste. Who was going to pay for it? The hauler and the solid waste facility had to pay for it, if the originator can't be identified.

One of the issues that is causing this is that most of these landfills had a citizen's monitoring group associated with it. I don't know if you have these in your state or not,

but we have a lot of them. Every landfill has got -- not gun toting ususally, but we have concerned citizens watching everything that goes into the landfill. They are all thinking that people are going to disposing of low-level waste.

One of the big problems, and I am sure that you have realized and had a problem with it, is that we really don't have a legally acceptable definition of what level of radioactivity do we have to worry about. A legal definition of radioactive. We have the usual definition that anything that emits alpha beta or gamma radiation it is radioactive material. Obviously we don't want to deal with everything that emits alpha beta or gamma radiation or we would be dealing with ourselves all the time.

So, we decided that we were going to come up with some guidance. We require each of these landfills to come up with an action plan. We provided them with -- ah -- I keep getting ahead of myself.

Most of the time in the facilities these things are in control in the medical facilities, but when the patient is allowed to go home, then we have all these things getting into the trash. We have had alarms from everything under the sun, even kitty litter. Anything that touches the patient, hygiene

items, wipes, towels. At home those things are likely to get into the trash and go out to the landfills.

Radium sources are a problem. We keep picking up radium sources all over the place. You would think that they would have disappeared from the world by now. We found a radium-berylium source about two or three months ago in one of the landfills.

For some of these things these alarms are not going to detect, because they not emitters. Part of the action plan that these people are required to do is training their people to recognize -- ah --

Primordial materials. Pennsylvania has an awful lot of radium and uranium bearing rock. We have places in Pennsylvania where you can get 500mR h-1 from standing by a rock. The average background at these landfills is from 5 to 25mR h-1, some of them are considerable higher. Lots of potassium in the rocks. And, of course, the usual transergenicnuclide. TENORM, the whole long list, I am not going to read that one.

Consumer products. Some of the big thick radium detecting watches set off alarms. Smoke detectors. Most of this stuff is not going to set off alarms though. Optical

lenses. Porceline welding rods.

So, we decided that we had to do something about this. The original idea was just to provide guidance, just for municipal landfills. Well, it was decided that if it was good for municipal landfills, it should be good for residual landfills, waste energy facilities, composters, medical incinerators and a whole flock of other things.

Then it wasn't decided that it wasn't good enough to have guidance, because guidance was just guidance. It didn't have to be obeyed. It had to be regulations. So, it was then -- all the goals got incorporated into regulations.

We just started out to conserve our resources. We didn't want to have to go out all the time. We wanted to tell these people, after such and such a level, deal with it your self. At above that level we come out and help. Well, we have created a monster in that respect.

The lawyers came up with the words -- that is about the solid waste regulations, basic limitations. Next. The following radioactive materials controlled under specific, or general license, or order by any federal, state, or other government agency shall not be processed at the facility, unless specifically exempted from disposal restrictions. Okay.

Next. The following radioactive material shall not be disposed or possessed at the facility unless approved in writing by the Department of Disposal, processing does not endanger the health and safety of the public and the environment. Our lawyers love that phrase.

Short life radioactive material from a patient undergoing public procedure -- okay. So, we came up with the guidance that supports the regulations. All the rules were also in the regs. We had the guidance which provides that each of these facilities has to write an action plan which has in it personnel training, monitoring, awareness of items containing ram, initial response to detection, notification of DEP and BUP, charactorization of what is there, disposition, what they can reject, what they can't reject, and record keeping. We gave them detailed instructions on how to put together an action plan. It has been called the health physicist full employment act of 2000.

We are suggesting that they, unless they have such talent aboard, that they go out and hire a health physicist to write their action plan. We provide them with a list of all the certified health physicist in Pennsylvania that are practicing.

They have to have a plan summary posted for the people and for their customers. They people have to be trained to respond to the plan and we have to -- customers and waste haulers have to be aware of what is going to happen. They have to have a trained person on duty.

This next slide is a part that we argued about for the better part of a year. We decided that we were going to have two action levels. Action level one, below which nobody had to do anything. They could just dispose of it. Action level two, which is way higher than the DRP and whatever alphabetical agencies we would need to assist. In between their action plan would have to spell out exactly what they were going to do.

This started out in the originally version as 30 mR h-1 for level one. The second version was 50 mR h-1 for level one. The third version was three standard deviations above background which amounted to about 1 mR h-1 as level one. We finally settle on 10 mR h-1 as being the level above which the something had to be done. I am not convinced that it is going to work very well. We will try it for a couple of years and see what happens.

Action level two is set at DOT level 50 mR h-1at any

surface of the truck and 2 mR h-1 in the vehicle cab, we put that one in. In between the landfill's action plan has to provide for exactly what they are doing. They system must be set up to alarm at 10 mR h-1 above background. If the background in the area is actually above 10 mR h-1they need to shield the detector to protect it.

We recommend that the facility acquire fixed probe monitors, handheld instruments and probes, including Nal and "pancake" GM, and portable MCA's. We require annual calibration and preformance tests.

These action plans would be facility specific. The action plan that worked for a landfill would not work for a waste energy facility.

We are allowing people to dispose of isotopes with a half life <65 days. The assumption being that most of this stuff is going to be patient excreta. They can build into their action plans that they are going to accept this sort of material and put it in landfill.

Above action level two, then they isolate the truck and call us. We will help them figure out what to do. They are not to allow the truck driver to go back on the road until the proper action is determined. One thing they can always do

is refuse to accept. We are not telling them that they have to accept. They can't let it go back on the road without a DOT exemption. Then we would notify wherever it was going. New regulations require that each facility to have a designated area where the vehicle may be isolated until such a time that action is determined.

One of the things that we are emphasizing in the training part of this is that people should keep eyes out for radioactive material notices of any kind. Maybe we can keep some of these tritium sources out of the landfill.

This is just a few of the many isotopes that could possibly be there. About seventy-five percent of several hundred that I looked at have been iodine.

On this position of TENORM -- this wording is sort of peculiar -- <50 mR h-1 @ 5cm. <5.0 pCi/g radium and less than one cubic meter. The term FUSRAP came up a couple of times when this was being drafted and I am not sure why.

Higher levels can be approved by the bureau director -- pathways analysis demonstrates the those with <10mrem per year in air or 4mrem per year drinking water or 25mrem per year for total of all exposure pathways. Those words came primarily from waste energy facility considerations. I already went

through a lot of those. The slides from this presentation and the copies of the guidance are on the back table. You are welcome to them.

I had the pleasure of writing the comment response document on this guidance. The guidance is forty-five pages. The comment response was about eight-one pages. So, I think you for the opportunity to talk on this. I will answer any questions.

CHIP CAMERON: Thank you, Bill. Let's go to Pearce.

PEARCE O'KELLEY: Bill, you have touched on a subject that is near and dear to a lot of our hearts. We have wrestled with this issue in our state and as you said when you release criteria it is going to increase. The thing that really bothers me or puzzles me is that -- I think that this was even mentioned in informational letters that were sent out by the NRC -- licensee can follow all regulations and let people be released from their facility, but then when that stuff shows up at an incinerator or a landfill they can also be held accountable for following regulations. Actions can be taken against them for improper control of materials. It seems like we are putting our licensees in between a rock and a hard place.

One of the issues that I have heard is that it is almost impossible to require or request these facilities, the disposal sites or incinerators, to have people there that could actually be trained to handle these situations. We have heard that we can't even train them to use a GM. I am curious as to what success you have had?

BILL KIRK: Highly variable. BFI in Pennsylvania put policy like this into affect several years ago. They are already doing it and aren't a lot trouble. I think that they are at least going to have to have some in depth training from a consultant or something like that.

CHIP CAMERON: All right. Let's go to Bill and Roland and then come back over to Bob.

BILL DUNDULIS: Is this document available on your web site? This is only the odd number pages.

BILL KIRK: Oh, Lord. It is available on the web site. The web site is www.dep.state.da.us. When that comes up there will be at the top of the page a button called participant. That will take you to a page that lists regulations and guidance. Under recently finalized guidance you will find this.

BILL DUNDULIS: Thanks, Bill.

ROLAND FLETCHER: I think that I have mentioned this before. When we were responding to these alarms at landfills repeatedly we developed a program where we notified, particularly the hospitals, of the fact that it would really start costing them money, because we weren't going to respond anymore. We were going to have a consultant respond. It has been fairly successful.

BILL KIRK: Most of our hospitals do have monitors for the trash going out.

BOB HALLISUI: Did I miss something in your presentation? Do the action plans require the facilities to notify you of the shipments that they refuse to accept?

BILL KIRK: Yeah. We have to issue the DOT forms. They are required to hold it there until we issue that form.

BARBARA YOUNGBURG: Bill, the levels that are set in the guidance. Are those enforceable then?

BILL KIRK: They are also written in the regulations.

CHIP CAMERON: Okay. Anybody else? Okay. Thank you very much, Bill.

(Whereupon, the meeting was concluded.)