UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
***
BRIEFING ON MATERIAL CONTROL OF
GENERALLY LICENSED DEVICES
***
PUBLIC MEETING
***

Nuclear Regulatory Commission
Commission Hearing Room
11555 Rockville Pike
Rockville, Maryland

Wednesday, January 21, 1998

The Commission met in open session, pursuant to notice, at 2:05 P.m., the Honorable SHIRLEY A. JACKSON, Chairman of the Commission, presiding.

COMMISSIONERS PRESENT:
SHIRLEY A. JACKSON, Chairman of the Commission
GRETA J. DICUS, Member of the Commission
NILS J. DIAZ, Member of the Commission
EDWARD McGAFFIGAN, JR., Member of the Commission

STAFF AND PRESENTERS SEATED AT COMMISSION TABLE:
ANDREW G. SHARLEY, III, AISI
JAMES F. COLLINS, SMA
JILL LIPOTI, CRCPD
ROLAND FLETCHER, OAS
CARL PAPERIELLO, DIRECTOR, NMSS
DONALD COOL, DIRECTOR, DIMNS
JOHN LUBINSKY, CO-CHAIR, NMSS
FRANK CONGEL, AEOD

P R O C E E D I N G S

[2:05 p.m.]

CHAIRMAN JACKSON: Good afternoon. The Commission has requested that this briefing be provided to assist the Commission in its review of the staff's proposal for improving NRC's control over and licensees' accountability for generally licensed and specifically licensed devices.

To provide for additional points of view on this issue, the Commission, in addition to our own staff, has also requested that representatives be invited of the steel

and metal manufacturing and recycling industry, and present today are Andrew Sharkey, president and CEO of the American Iron and Steel Institute; James F. Collins, president of the Steel Manufacturers Association; and Michael Mattia, director of risk management for the Institute of Scrap Recycling Industries, Inc.

In addition, in the role of fellow regulators who must deal with this issue, the Commission has requested input from Chairman Jill Lipoti of the Conference of Radiation Control Program Directors, and Chair-Elect Roland Fletcher of the Organization of Agreement States.

So welcome to all of you, and I thank all of you for taking the time to address the Commission today.

So unless my fellow Commissioners have any opening comments they would like to share, I always assume the one

sitting in the center would like to make the opening remarks, and therefore Mr. Sharkey, would you please begin and then we'll go down.

MR. SHARKEY: Good afternoon and thank you for this opportunity to appear before you today.

My name is Andrew G. Sharkey III. I'm the president and CEO of the American Iron and Steel Institute, a non-profit trade association whose 49 member companies account for approximately 70 percent of the raw steel production in the United States.

I'm here today to present AISI's view on the NRC staff's recommendation for improving the Commission's control over and licensee's accountability for radioactive devices, and I might add I'm here also to send a very strong message that this is not a problem for just one segment of the steel-producing industry, it impacts all steel producers.

This is an important issue for AISI because its member companies operate basic oxygen furnaces and electric arc furnaces in which scrap metal is melded. When NRC control over and licensee accountability for radioactive devices are inadequate, as they have been in the past, too many of these devices wind up in the recyclable scrap stream. They can then make their way to steel mills and other metal smelting and recovery operations where, if not

detected, then may be placed in the furnaces and melted.

Through a combination of prudent actions and good fortune, large integrated steel mills have avoided a radioactive melt thus far, but they clearly remain at risk.

Others have been less fortunate. From 1983 through June of 1996, there were 40 confirmed meltings of radioactive sources, 25 of these occurring in the United States. During that same period, there were almost 1900 discoveries of radioactivity and scrap metal.

I might add, spending the better part of the day yesterday with one of our companies that's a member of both our organizations, they showed me documentation of eleven alarms between March 4th and December 20th of last year. Two involved drivers who had recently undergone medical tests. Three were determined to be NORM, and six were determined to be contaminated material, principally oil and gas pipe.

So the problem clearly is both real and serious and it needs to be addressed effectively and expeditiously.

The consequences of such an incident can be very severe. At many mills, the cost of decontamination disposal and shutdown losses have reached $23 million in a single

incident, with the average cost falling in the range of $8 million to $10 million.

The cost of dealing with a radioactive melt at a

large integrated steel mill is estimated to run as high as $100 million or more because of the scope of the facilities. These estimates do not include the consequences of exposures that potentially may occur whenever devices are lost, abandoned or otherwise enter the public domain.

In its report of July 2nd, 1996, the NRC Agreement State Working Group outlined what we believe is the proper course of action to deal with this important issue. The working group recommendations called for enhanced regulatory oversight of general and specific licensees possessing devices exceeding designated activity thresholds; increased responsibilities and obligations for licensees and device vendors; significant penalties for lost devices; and a program for handling and disposing of orphaned devices.

In its present recommendation, the NRC staff claims to agree with the working group's analysis of the problem and for the most part with its proposed solution. Toward that end, the staff proposes to develop and implement a registration program for general licensees of devices containing at least ten millicurie of Cesium-137.

While we applaud the staff's determination to proceed down this path, we do have several concerns about its proposal.

First, we think the registration program should not be limited to general licensees of devices containing

Cesium-137. Coverage under the program should depend on the activity level of the device, not on the licensee's status.

All licensees of devices that exceed the designated thresholds should be included in the program as well. Moreover, the program should not be limited to devices containing Cesium-137. Those devices are important and they should be covered, but other isotopes, particularly Cobalt-60, have been involved in melting incidents as well and have entered the public domain.

The working group went through a very deliberate exercise of identifying the particular isotopes and associated activity levels that warrant increased regulatory oversight and accountability. While the staff agrees with the working group's assessment, it proposes a much more limited program due to resource constraints.

Given the severe consequences of a loss of accountability, we support the working group's recommendation regarding the scope of the coverage, and we believe it should be possible to secure the necessary resources.

For example, if the registration program is funded through fees imposed on licensees, as the staff recommends, the expanded coverage will result in additional funds -- in additional fees to fund the program.

As licensees, AISI member companies would not

object to paying reasonable fees -- for example, five to ten dollars per source, not to exceed $500 per license -- if they are used for this purpose, and we are also willing to ask members of Congress to provide the NRC with additional funds needed to accomplish this important goal.

Second, we are concerned about how the program proposed by the staff will be structured. The core

requirement would be annual registration by covered licensees. Under one regulatory option, there would be follow-up by the Commission in cases where the licensee fails to register or cannot account for the device. Under another option, there would be no such follow-up.

The possibility that the Commission might adopt this second option is troubling. While it is useful to identify devices that cannot be accounted for, that alone is not sufficient. The Commission also must attempt to find out why the devices cannot be accounted for to determine their fate.

As the working group emphasized, an active role by the Commission in comparing annual inventories and transfer reports and resolving any discrepancies is a critical component of an effective oversight and accountability program.

While an active follow-up role will add to the cost of the program, we believe these costs can be funded

through additional fees or penalties levied on those licensees whose shortcomings make the follow-up action necessary. This approach would be consistent with current NRC practice.

Third, various aspects of the program recommended by the working group, including responsibilities of licensees and device vendors, are not explicitly addressed in the staff's recommendation. This does not necessarily mean that the staff has rejected these aspects of the working group recommendation. The staff may simply view these as details to be developed as part of the rulemaking proposal.

We hope this is the case because these elements of the working group recommendation, such as obligations of vendors to report transfers of devices, to provide proper disposal information to customers, and to ensure that the device is being transferred, carry a clearly visible and durable identification and warning label, are an important complement to a registration system.

Fourth, we are concerned about scheduling. Under its plan, the staff would forward a proposed rulemaking package to the Commission in October 1998 and a final rule in October 1999. That means the final rule would not be promulgated until the year 2000 and the registration program would not take effect until the year 2001 at the earliest.

Given the importance of the problem and the working group's estimate that an average of 1.5 radioactive melts occur each year, we believe the staff should accelerate the rulemaking.

Since most of the spade work has already been done by the working group, it should be possible to publish a proposed rule this summer and to issue a final rule in the summer of 1999 so that the implementation of the registration program could begin by January 1 of the year 2000.

Finally, we are concerned about what appears to be a lack of sufficient urgency in the staff's approach to dealing with the problem of orphaned devices. While the universe of orphaned devices will shrink progressively once a registration system is implemented, such devices are a significant concern today and will remain so for the immediate future.

Under the current system, a person who finds himself in possession of an orphaned device is an innocent

victim of inadequate oversight who may nevertheless be saddled with very substantial costs for handling and disposing of radioactive material.

This really creates a disincentive for non-licensees to screen for radioactive devices and an incentive for them to simply pass the device on to others without

notification when they are found.

From the standpoint of accountability and public health, this is a perverse incentive structure. It should be reversed as soon as possible.

Non-licensees must be encouraged to look for orphaned devices in the materials they handle and to take appropriate action when such devices are found in their possession. This means that the responsibility, including the financial responsibility, for handling and disposing of orphaned devices must be delineated clearly among DOE, EPA, the Commission, and state radiation control authorities.

Agency funding for the disposal of orphaned devices must be made available, through new legislation if necessary, and non-licensees who are likely to come into possession of orphaned devices must be given guidance on the risks involved, the means to identify lost devices, and what to do when such devices are found.

We believe the Commission should move forward on each of these fronts promptly and, to the extent feasible, concurrently.

In closing, let me return to where I began. Lost, abandoned or intentionally discarded radioactive devices represent a serious problem for steel-makers, metal recyclers, potentially exposed workers, and members of the general population. It is a problem that the Commission can

and should address promptly and effectively.

The staff's recommendation is a good starting point, but it does not go far enough or fast enough. We believe the NRC has an opportunity to take critical steps to prevent a serious over-exposure incident involving American workers and the local community. We hope the Commission will recognize the urgency of the problem and act accordingly.

Thank you very much.

CHAIRMAN JACKSON: Thank you very much.

Let me just ask you a question. Do you believe that it's important in whatever choice the Commission makes that there be the opportunity for enforcement and imposition of civil penalties?

MR. SHARKEY: Yes.

CHAIRMAN JACKSON: Okay. Thank you.

Mr. Collins.

Oh, you had a question? I'm sorry.

COMMISSIONER McGAFFIGAN: The Tuscaloosa experience that you describe, it sounds like almost all of it was NORM because the six examples of piping from the oil and gas industry, it sounds like it's probably the accumulation of NORM material, it's not a device that was lost in the piping. So in that particular case, it sounds -- you know, we do a good job of passing the buck around

here, but it sounds like it's Ms. Lipoti's counterpart in Alabama that probably has, you know, most of the problem.

Is that a correct reading of that?

MR. SHARKEY: I can't comment on those particular

incidents. You may, in fact, be correct. I'm sure Mr. Collins will cite other examples that will perhaps be more compelling.

COMMISSIONER McGAFFIGAN: No, I fully understand that it's an integrated problem with NORM and the things we control, and that's why Ms. Lipoti is at the table.

MR. SHARKEY: Right.

COMMISSIONER McGAFFIGAN: But I'm trying to bound it.

The other issue, and this may not be fair, maybe to Mr. Mattia, when you get one of these devices in a mill, if it's 9.9 millicuries and it gets melted, is it not a problem, or -- I mean, the 10 millicuries is what the working group recommended, and I'm not trying to enlarge a problem that's already thus far more than we can handle, but what was the rationale in the working group report for 10 millicuries, and is a steel mill at risk if it's less than 10?

MR. MATTIA: Jim, do you want to comment on that?

MR. COLLINS: First of all, the steel companies have set their devices at such a low level of tolerance in

order to discover sources of radiation that -- let me describe this. One truck driver had a physical, took a barium inhalation, and it rang the detector. They couldn't find any scrap on the truck.

So the answer is, whether it's NORM or whether it's the device, the radiation detector will ring, it will stop the ingress of scrap either on a truck or on a railcar, and that whole load has to be inspected to determine what set it off.

So every -- most mills have zero tolerance for radiation coming into their mills, and whether it's NORM or whether it's the device, they still have to inspect, and often when they inspect they find it's NORM, and often when they inspect they find the device.

COMMISSIONER McGAFFIGAN: But that raises the issue, if we did a perfect job of taking the staff's -- the working group's recommendation and get all of the devices, general and specific, 10 millicuries and above and had them all accounted for, and the states did something similar, although I'm not exactly sure what that would be for NARM and NORM, would you all -- you all would still have to spend money, assuming perfection, you would still have to spend money for the categories of devices that are lower that still may be a problem for you; is that correct?

MR. COLLINS: Well, if the Cesium-137 device

volatizes and goes up into a baghouse in the form of vapor that is captured by the dust, that dust, if it's above two picocuries per gram, cannot be disposed of by the steel company.

COMMISSIONER McGAFFIGAN: That's right.

MR. COLLINS: And the cost of disposing of the dust can be upwards of two to three thousand dollars per ton, and there are thousands of tons of this dust in railcars behind steel mills across the country who have melted either sources or certain kinds of background radiation that has caused the dust to be come higher than two picocuries per gram.

So most steel mills, whether it's NORM or whether it's --

COMMISSIONER DICUS: Is that the 10 millicurie cutoff, then, below that? And maybe Dr. Lipoti can address

this, but I think, if I recall, somewhere in this neighborhood, there is a cutoff where it's unlikely that if a source were melted, there's going to be exposure impact on the workers together with the concentration of the baghouse dust.

DR. LIPOTI: The working group in an appendix had looked at a whole range of various sources, and in fact, they did not mention a specific cutoff for -- when they mentioned cutoff for the registration program, they said

Cesium-137 at greater than 10 millicuries, Cobalt-60 greater than one millicurie, Strontium-90 greater than .1 millicurie. So it really depends on the source and the radioactivity involved.

They did a ranking based on what they felt would be the sources of concern, but the risk assessment which the staff has agreed to undertake would do a better sort of all of the sources which might be involved, and that was one of the working group recommendations as well as the staff recommendations that you do a risk re-ranking, and certainly something that I support and I'm sure that the steel manufacturers would be grateful to have better guidance --

MR. SHARKEY: Yes.

DR. LIPOTI: -- on exactly that point that you bring up.

CHAIRMAN JACKSON: So are you saying in the end that the issue is not to focus in on the specific threshold of ten millicuries --

DR. LIPOTI: That's correct.

CHAIRMAN JACKSON: -- but to wait and have a more informed way of making the judgment based on a risk assessment.

DR. LIPOTI: I'm not saying wait. The wait word was not mine. I'm saying start with what the working group recommended, which was several sources at varying ranges,

and then proceed with the risk ranking for the additional sources that you would want to include and be more informed about your next step. But the first step -- I thought it was pretty clear we should take that first step.

CHAIRMAN JACKSON: Okay. I think that for orderliness of process, because there are at least five presenters before we even get to the staff, I think it's important to just -- let's just walk through and have each person make -- and we don't mind if you make an abbreviated statement that kind if hits the high points, and then we can have a more robust discussion.

MR. COLLINS: I'm James Collins of the Steel Manufacturers Association. We have 59 steel companies in our membership with 48 in U.S., seven in Canada, and four in Mexico. We accounted for 43 percent of U.S. steel capacity in 1997. We're the primary trade group of the electric furnace steel producers, who are the largest recyclers in North America, probably the largest recyclers in the world. We recycled 42 million tons of various scrap last year, and by weight, I don't think anybody else gets up that high.

Unfortunately, this scrap contains radioactive sources and other sources of radioactivity. Sources are regulated by the NRC and typically come from spent or lost gauges used in manufacturing facilities and hospitals, military facilities that have been downsized, et cetera, and

they represent a problem for steel companies, a major

economic problem for steel companies, for the environment, the health and safety of steelworkers and the general public.

We're obviously unhappy about the lack of progress in doing something about these loss sources in the scrap supply.

Two examples we used in our statement are the one down in Texas where a Cobalt-60 source got lose. It was in a camera weighing approximately 1600 pounds, containing a 35 and a half curie source of Cobalt-60, and in a second camera weighing 600 pounds containing an 8.6 curie source of Cobalt-60.

The net result, after these sources were bounced around amongst some scrap dealers, one finally having found through radiation detection that this particular source was radioactive, was that the source was sent back to another dealer and in the process, the capsule containing the cobalt fell out from under a truck and resulted in the exposure of twelve adults and two children with pretty severe doses of radiation. The truck driver suffered severe radiation blistering from handling the source, and five police officers also received low doses of radiation.

The next example is an SMA member company in Kentucky melting two Cesium-137 sources. The steel company

sustained a $10 million loss. Today it has on site twelve railcars full of low level contaminated baghouse dust resulting from the incident. It has an additional one million pounds of dust in storage containers, 10,000 cubic feet of protective equipment that was used during the clean-up, and 15,000 cubic feet of contaminated gravel and soil. All this eventually has to be disposed of, and the costs are going to be horrendous.

There have been 26 known incidents, as Andy Sharkey has just indicated. We have listed the companies in our membership where those incidents have occurred.

The NRC staff we believe incorrectly portrays the radioactive source problem as only an economic problem for steel companies. We believe that there are health and safety factors here that warrant the attention of the Commission as well as the economic. We don't mean to minimize the economic impact, but that there are dual factors involved here, both health and safety of our workers, the general public, and certainly the economic impact is a major one.

We believe that -- we don't have an exact number, but we believe between 100 and 150 million dollars of cost has already been incurred in steel companies, and that does not include the disposal costs of all those railcars full of dust behind these steel plants that have to be taken care of

eventually, so you're probably look at at least $300 million of cost over a ten-year period of time.

The U.S. Congress enacted the AEC Act establishing the Atomic Energy Agency, now the NRC, to protect the health and safety of the public. We believe that the risk of lost radioactive sources in U.S. scrap supply were unanticipated when the act was passed, but the mounting losses of these source, however, show that the current regime for licensing and maintaining an accurate inventory of generally licensed sources has not been effective.

We're sort of dismayed and we're really puzzled and a little angry that the NRC staff, instead of immediately initiating a rulemaking to solve the problem,

proposes to do further study and wait until the year 2001, which from the inception of the advisory group, the working group, would be probably six years before something might happen.

All our members have installed highly sophisticated radiation detection systems to monitor the incoming scrap, and they believe, and I think honestly so, that they are the innocent victims of insufficient control of radioactive sources in the economy.

Radioactive scrap is one of the highest priorities for our member companies. They're doing everything reasonable to keep radiation out of their mills, and they

have had frequent visits with the NRC Commissioners and staff and EPA and members of Congress to try to explain the problem and determine if something could be done as rapidly as possible.

We do not believe that a course of action to do additional study given the fact that there is already a wealth of data out that we published, that the states published, that the Conference of Radiation Control Program Directors publishes on incidence, will prove anything other than to be a waste of time, and we think further study is unnecessary and we would like to see some action implemented to impose A) a strong monitoring program to assure accountability for these sources amongst the source holders, and we fail to understand why this is controversial.

3M was on the advisory group, was on the working group, and 3M has 1,500 sources within its corporate structure, and 3M said, we'd be glad to engage in a more strict monitoring program for the sources we hold and a reporting program to report the status of those sources to the NRC, and they, as a responsible company, they have taken this position because they recognize that it is not in their long-term interest to lose these sources and have the loss of the sources attributed back to them.

On the other side of the equation, if there is either an inadvertent loss of a source or a negligent loss

of a source, we think a $2,500 fine is meaningless. You could impose a $25,000 fine on an inadvertent loss and a $100,000 fine on a negligent loss and possibly capture the attention of the source holders with that kind of a program, but you're not going to do it with a $2,500 fine.

MR. SHARKEY: True.

MR. COLLINS: We think the staff proposal to initiate a licensing program to cover only Cesium-137 sources over 500 millicuries is inadequate. We picked up sources below 500 millicuries that -- at steel companies through their detection system equipment, and we know that if those sources below 500 millicuries were taken into the furnace, that we would have contaminated electric furnace dust, we would have contaminated furnaces, we would have to stop production to clean up, and you're talking about millions of dollars of losses. So we don't understand the cutoff.

We think that something ought to be done about orphaned sources so that kind of a situation that occurred down in Texas does not reoccur where people are footballing source back and forth because they don't want to hold it because they know that disposition of that source is going to cost them money. We think a federal program should be implemented to do that.

In closing, I would like to express my

appreciation to you, Chair Jackson, and to Commissioners Diaz and Dicus and McGaffigan for having this hearing. We think it's important, we think the issues should be addressed and addressed quickly by the Commission.

Thank you.

CHAIRMAN JACKSON: Thank you.

Mr. Mattia.

MR. MATTIA: Good afternoon, Madam Chairman, Commissioners. My name is Mike Mattia, I'm the director of risk management for the Institute of Scrap Recycling Industries, and like my fellows at this table, we want to thank you for the opportunity to address you today.

I am representing approximately 1,600 companies, most of them small businessmen who are in the business of recycling scrap material. You name it, we recycle it.

Primarily the problem here is with the scrap metals, the iron, the steel, the aluminum, the copper, the stainless. These are metals that have value. These are metals that continue to have value, and oftentimes, these metals compose the housing that protect devices, material that contain radioactive contaminated material or radioactive sources.

It's because of the value of the material, the metal, that these sources come to scrap recycling facilities. They're not brought their intentionally.

Oftentimes the demolition contractor or the peddler has no idea when he's bringing in a load of scrap. Also the scrap recycler doesn't realize that the material that's being brought to his facility contains possibly deadly amounts of radioactive material.

When that material gets to a scrap recycling facility, it generally undergoes a very, very rigorous process of cutting, bailing, shearing, shredding to conform the metal so that it can go to the various steel mills for remelting. The problem is that those type of rigorous scrap processing can not only breach a housing, it can disintegrate it, and now you have radioactive material that is out in the clear.

This is where the problem starts for the scrap recycler -- unknowingly receiving material, putting it through a tremendously rigorous process. Imagine being able to take an automobile and shred it to fist-size pieces in a matter of seconds. You can imagine what that can do to the housing of a radioactive source.

To date, to the best of our knowledge, the consequences on our members of improperly controlled radioactive material has been purely economic, but it's been hefty economic. There's been millions of dollars that have to have been spent to install radiation monitors, to decontaminate land and equipment, and to transport and

dispose of contaminated material, contaminated byproducts.

How often has this happened? The numbers literally change daily. As of the writing of this report, there were 2,400 detections, and 270 recovered sources and the smelting of 31 sources of radioactivity. It's our knowledge and belief that that number represents a very small fraction of what is actually out there and what our members, the members of my cohorts and the general public are being exposed to every day.

Now, as we mentioned, to date, these occurrences

have only caused economic hardships. However, the potential for physical harm is tremendous. That there has yet been reported in the U.S. a death or a serious threat to health of either a person working in a scrap recycling facility or a steel mill or in a community that surrounds these facilities can be chalked up to only two things: one, the diligent efforts of the individuals that represent the companies at this table and their companies in monitoring and in sheer luck.

Generally, our industries every day play a game of Russian Roulette. We get -- sources are out there, they're coming in, and so far, other than economic, our luck has held up. However, how long do we play such a deadly game before our luck runs out, before we shred or shear a source and cause main contamination in a facility or in an outlying

community or both?

The working group that is spoken of issued a very thorough report and we wholly endorse all of the elements in that report. The elements that we particularly are concerned about is the increased regulatory oversight of the various amounts of the stated isotopes, more stringent civil penalties, and a program for handling orphaned devices.

The NRC staff has commented on that working group's report, and I would like to just talk about for a brief few moments their report.

In terms of the registration program, first there is the concern of the rulemaking process. It's been mentioned here already several times that it's a lengthy rulemaking process. If a rulemaking process is, indeed, necessary, I echo everyone else at the table that the Commissioners do whatever is possible to expedite that rulemaking process so that it indeed goes farther quicker.

However, would there need to be a rulemaking to simply ask all licensees that fall within the parameters of the working group a simple question: Do you still have what you're supposed to have?

Should the staff not use currently available resources to conduct a mailing that asks that question? Then you would have information that would tell you the true scope of the problem -- what is now under proper control?

And the response from this mailing could then determine what was needed in terms of a registration program to assure that all devices eventually come under proper control.

The working group's recommendation was for increased regulatory oversight of the various isotopes at the various limits, and since each of these has found their way into scrap recycling facilities at one point in time or another, we wholeheartedly endorse those parameters.

However, the staff had indicated that its current budgetary resources would only allow, for example, for it to do a complete registration and follow-up of the 500 millicurie sources of Cesium-137 in terms of numbers. If they were to go any further, they could do a registration but they could not do a follow-up. Is that prudent?

The other question that comes back to the problem of what we think would be a good census is that suppose we take several years and ultimately we follow the staff's recommendations and we go out and we find out that all of the cesium sources of 500 millicuries are fine, we have just taken a tremendous amount of time and effort to find that we're safe from those, but we have no idea what the hazard

is to the rest.

So what we propose that this Commission look at is, number one, that we go and find out what do we know of the sources that are supposed to be under the care and

custody and control of individuals who have either a general or specific license to have those in their possession. Then we can use that information as the basis of a rulemaking to determine what do we really need to go out and control, and also as part of the rulemaking, to ask if there are limited resources, and we understand that it's a reality, what should be the hierarchy of the sources that are known to be missing that we should go after and find and try to control.

Finally, we understand that the working group has indicated that labeling and identification of sources should be improved, and we didn't see specific recommendation of that in the staff's report, but that's very important. while we and everyone at this table will continue to expend tremendous resources on identifying material using source device detection, one of the best ways still is visual identification.

Oftentimes, you can take a very potent source, put it in a large railcar full of scrap metal, and the most sensitive detection device won't pick it up because the scrap metal itself causes more shielding. So if there were better ways of identifying sources permanently so that if the mechanical detection fails, we can follow it up hopefully with visual detection.

There were recommendations for penalties for lost devices, and as I hear everyone at this table will clearly

agree that $2,500 to lose a gauge that could cause significant threat to health or life is far from being appropriate.

So we ask the Commission to look at the penalty system as a two-phase, first that the Commissioners consider increasing the fine for the loss of a device that is identified before it can cause any damage to two to three times the cost of authorized disposal. However, if the handling of the device causes human suffering or contamination of equipment, grounds or product, the fine against the identified party responsible for the device should reflect the actual cost of full cleanup and the loss of business revenue.

Further, we ask that the Commissioners consider using these fines to create a fund that avoids the burden today to the private company, out-of-pocket expenses for the decontamination disposal and loss of business revenue.

Finally, there is the issue of orphaned devices. Both the NRC staff and the group agree that there are various state and federal agencies that have various amounts of authority, and that an understanding and a working relationship should improve. Yet very often, even though there is authority out there, in many cases, our members, when they find a source or have a problem, they'll go to an agency, that agency will refer them to the second, the

second to the third, and the third will refer them back to the first one, and if there is ever a direct answer, generally that answer is, "You have it, it's your problem."

We understand generally the problem is because of limited funds, and it's also been expressed that as long as a device is there and the shielding is intact, then it can stay in a scrap yard, it can stay in a steel mill because it

doesn't pose an immediate threat. Again, we ask is that prudent? We're not in the business of handling devices, of receiving them; we shouldn't be in the business of storing and disposing of them either.

We agree that the various federal agencies should determine how best to dispose of these devices, but we ask that if a device is found in a scrap yard or a steel mill, that it be removed from that venue, it be placed under an appropriate venue in a federal or state agency, and then figure out how to dispose of it, but get it out of the private sector.

Again, we would like to thank the NRC staff for all of their work. We have had a wonderful working relationship, and it's this relationship that has increased the understanding in our industry and it's going to continue.

We're not going to slack off regardless of regulations. We will continue to monitor, we will continue

to install detectors, and we will continue to aggressively pursue this issue. But we need help, we need the cavalry, because we cannot keep playing this game of Russian Roulette, because if something serious happens, if we have a serious, serious contamination, a serious breach of a source, then as we all know, it is out of all of our hands. It becomes the purview of the press, it becomes the purview of knee-jerk reaction.

We're concerned with the health and safety of not only our workers, but our communities if that should happen, and we would like to see that that hopefully not happen.

Thank you.

CHAIRMAN JACKSON: Thank you.

Mr. Fletcher.

MR. FLETCHER: Chairman Jackson, Commissioners, NRC staff, fellow presenters and members of the public, first of all, I am honored to represent the Organization of Agreement States as its chair.

As many of you know, the agreement states number 30, and currently license and regulate about two-thirds of all the byproduct material, radioactive material that is licensed.

I'm also very pleased to have this opportunity to make this presentation before the Commission to further emphasize the bond that exists between the NRC and the

Organization of Agreement States. It's more than -- a bond that has been strengthened over more than 35 years, and I look forward to helping to further strengthen that bond.

I'm here to speak today initially about the report of the working group on the regulation of generally and specifically licensed devices, initially from the standpoint of OAS support, and our support is for the working group report in that it, we believe, demonstrates the need for the regulation of all licensed devices, and our particular concern, as it is the concern of those who presented before, is the oversight of GL devices.

This increased oversight that we feel is necessary stems from instances that have occurred in virtually all of the 30 states I represent. These instances vary depending upon the kinds of situations and materials we encounter, but they have involved emergency responses to reports of contamination at landfills, scrap yards, incinerators, and ofttimes frequently these responses are caused by

contamination produced from GL devices.

I must admit as a program manager that I suffer from a little bit of regulatory paranoia when it comes to devices that I know very little about as far as their location, as far as their activity, as far as what the reporting requirements are.

I have a feeling that many of my fellow program

managers suffer from the same ailment, and what we would like to see very much is a program of regulatory responsibility with respect to generally licensed devices.

If something happens to a licensee who has been issued a specific license, we feel very confident that we can trace from cradle to grave or we should be able to trace from cradle to grave everything that has happened to that material and everything that a facility has done to maintain radiation safety.

We have no idea and we're very uncomfortable with the fact that there are a number of GL devices in various areas that we have no idea about their location, whose managing them, what the management practices are, et cetera. So we would support very strongly that these devices be brought under control and that they be -- that some level of responsibility -- that a level of responsibility that gives comfort to the public as well as the regulatory agencies be followed, and I believe that the working group report itemized very well how that should be done.

We want to further emphasize the need for the regulation of all licensed devices, from a program of consistency more than anything else. The Agreement States have a broad requirement for regulation. We regulate not only materials, of course, but all sources of radiation to varying degrees depending upon the states.

I realize there is a great deal of controversy regarding what to do about naturally occurring radioactive materials and devices that contain this material, but I don't see how we can be a consistent regulatory body, particularly in the eyes of the public who don't understand all that we do or don't do, I don't understand how we can continue to pursue our goal of radiation safety across the country without taking into account the need for the regulation of these devices, and I believe very strongly that the opportunity is being presented here with the institution of the national registry to bring all radiation producing devices under some form of control.

As you'll note in my comment, I see this initially as being a national program, but it has the potential of some degree of worldwide benefit, and as this becomes a smaller and smaller planet, I believe that's going to be a greater and greater necessity.

So from Agreement State perspective, I'm here to reinforce the recommendations made by the working group. The working group process, as we mentioned in instances before, we believe is a very beneficial process because of the way various agencies and various individuals are brought together to discuss these problems. So I believe that more attention and more care should be given to their recommendations than has been at this point.

I'm going to take the liberty at this point to just mention -- I realize that these weren't primary subjects, but to just mention two other areas that the Agreement States do have some concerns about, hopefully for

future discussions.

One of those is the recent proposal to transfer responsibility of formerly licensed sites to the Agreement States. This is a very, very controversial and very, very distressing subject which we will be providing -- some of the states are individually providing input, but we will be providing further discussion. This is, we believe, outside of our agreement. Secondly, we need to address the current status of DOE contractors.

Once again, I bring these subjects up because they are very, very controversial, they are very, very bothersome to many of the member states, and I hope that we have the opportunity to discuss them further at some time in the not too distant future.

Once again, I appreciate this opportunity to discuss these subjects, and I hope that you will take these comments in your discussions and give them the attention that the Agreement States would like them to have.

Thank you.

CHAIRMAN JACKSON: Thank you very much.

Dr. Lipoti.

DR. LIPOTI: Chairman Jackson, Commissioners, I have provided formal notes, formal testimony, but I'm not going to speak from that testimony, I'm just going to talk to you and then you can ask questions.

I'm very pleased that you have convened this meeting because it's important for you to take action on the staff's recommendations to have a registration program for GL devices. The states have been dealing with this issue for quite a while, and it's wearing sort of thin.

CRCPD supports the recommendations of the NRC Agreement State Working Group based on the consequences of the loss of accountability of the material.

In terms of the risk assessment, we very much look forward to the comprehensive risk assessment of all the material currently in use to restructure the current licensing and inspection programs, and I understand that's due to be finished in October of '98 and I'm very pleased to see that going forward.

We recommend that for the GL devices, that you consider the economic consequences as well as health risk because I think that will assist you in coming up with a second tier of GL devices that might be subject to a registration program. So we very much support and look forward to that risk assessment.

In terms of the universe of regulated facilities,

we recommend that the registration program apply to the sources as delineated in the working group's recommendations: Cesium-137, greater than 10 millicuries; Cobalt-60, greater than 1 millicurie; Strontium-90, greater than .1 millicurie; and transuranics, greater than 1 millicurie.

Of course, CRCPD stands ready to work with you with our suggested state regs so that we can go forward on a parallel rulemaking so that the states will be ready to adopt in an expedited fashion.

I have to say that I believe that NARM sources must be regulated to the same degree and based on the same risk and the same kinds of risk assessment that you are doing with your AEA materials. So I would like to charge our suggested state reg committee to incorporate

requirements for both AEA and NARM material, so that would expedite the adoption of those regulations by the states.

The difficulty will be in coming up with a risk assessment for all of the NARM sources, and if funding is available, I would like CRCPD to take that on, but I'm not sure we're going to be able to do that. That could be fiscally constrained.

On the issue of implementation, I think when you design your automated system, it should be big, it should take into account the universe of at least the 30,000

sources that are recommended by the working group, if not bigger, and not just design an automated system for the first 500 and then try and make it bigger later. When you design some automated system, it's important to account for growth.

The rulemaking should also be for the entire group of working group recommended sources, but you may need to phase in additional sources based on your risk assessment. I think that if you spread the costs over the larger universe of sources, that the cost might be able to go down for each licensee. I thought the cost was a little high per licensee.

One of the things that the staff didn't include was the vendor responsibilities, and some of other presenters have mentioned that. I certainly support that recommendation in the working group paper, and I think it's extremely important for the vendors to inform their customers that registration fees might be charged, that the material is radioactive.

I saw the literature, the sales literature, the tritium signs -- I've had a lot of tritium sign problems lately -- and the sales literature never mentions that tritium is radioactive, and I don't think that it's universally known.

The cost for disposal should be included up front

on the information that someone receives if they're going to purchase one of these devices. They should be warned that there is substantial cost for clean up if that device becomes involved in an incident, and that there are penalties for non-compliance. I would just suggest that you convene a group of vendors and you gain their input into what they might incorporate into their sales literature.

It's important also to have information available for non-licensees so that the finders of these sources have some direction what they should do when they find them.

I would like to talk just briefly about the CRCPD's orphaned source initiative because I'm not sure that all of you were aware of this initiative. EPA has provided funding to CRCPD in the amount of $200,000 and the goal is to develop and facilitate implementation of a dynamic nationwide system that will effectively manage orphaned sources.

CRCPD has named a committee with Joe Klinger as the chair, Jim Yusko, Bob Free and Cheryl Rogers as members. Jim Yusko is here today. And they're meeting next week to start on their charges. One of their first charges is to define the roles and responsibilities and the procedures for the major stakeholders. I think some of the testimony presented here has shown that the roles are not clear yet between various agencies and their authorities, so that

becomes a very important issue.

The CRCPD's committee is also developing a materials management program which will describe brokerage facilities available, direct disposal, and will provide outreach to manufacturers for recycling options, so that when someone finds one of these sources, they can have a flow chart for how to get rid of it.

We intend to put forward an outreach program which would include outreach to finders of the sources as well as the other stakeholders involved. We wish to maintain an incident database. NRC staff participates. They provide staff input to this committee, as does the Department of Energy.

I think what you have for generally licensed sources is this regulatory net, but there are holes in this net where these sources are getting through, so then there is this secondary net which has been put in place and kind of tagged together by the steel manufacturers and the recycling industries and states, and this secondary net is wearing thin, and that's why we're here today, to tell you how important this is.

I'm starting to see evidence that people are trying to hide these sources when they put them in the scrap metal. In November, one of my staff went out on a scrap metal alarm incident and when he came back, he said, Jill, I

think you should know about this one because it was interesting. The source was in a coffee can and there was chain wrapped around the coffee can and some sort of rudimentary shielding. They kind of hoped it would get past the detectors. It didn't this time. So we start to see evidence of people trying to evade the second net, which isn't even regulatory, it's just a safety net, and I think that our staff is distracted form their normal duties when they have to respond to alarms, and there's a lot of them, it's more than one a week.

So we're ready for new options, and we want to proceed forward on this, and that's why I didn't say wait.

Thanks.

CHAIRMAN JACKSON: Okay. Thank you very much.

Commissioner Dicus.

COMMISSIONER DICUS: Thank you. I don't have any questions right now. I will have some questions for the staff, and I think they have a feeling what some of those might be, but a couple of comments, and one of them is on rulemaking.

Granted, sometimes our rulemaking process is a little extended, but at least part of that is due to the process we must follow, and we can't go outside of and general counsel would probably address this much better than I can.

The other issue on the cost of the program and particularly the cost per licensee, I choked a little bit when I saw those costs, and one of the things we'll ask the staff to do is explain where those costs come from. But they may be close to valid and it's just one of those problems that we have to factor into what we're doing.

CHAIRMAN JACKSON: Thank you.

Commissioner Diaz.

COMMISSIONER DIAZ: Just a quick comment. It seems to me like when we covered all the subjects, there was an area that was really prevention, and, you know, we -- that sounds loud and clear to us.

The other area was the mitigation area, and I heard some things about, you know, orphaned sources and so forth. I think one area that, you know, sometimes we have to deal with is the stream of contaminated materials which are not radioactive enough to be considered as orphaned sources and what happens to those materials, whether they're NORM or NARM and so forth.

I understand from the presentation of Mr. Collins that there are enormous amounts of materials with a slight amount of contamination that are not being dealt with, and that will be an important consideration.

Thank you.

CHAIRMAN JACKSON: Commissioner McGaffigan.

COMMISSIONER McGAFFIGAN: Mr. Mattia, you mentioned the possibility of just sending out a mailing and trying to find out what the scope of the problem is.

As I understand it, we don't know in the case of generally licensed devices who to send the mailing to because we don't keep track of generally licensed devices. Am I wrong on that?

MR. MATTIA: Well, it was my understanding from the staff that anyone who purchases a generally licensed source that the manufacturer submits their information to the NRC, and so there is a start of a database that if I brought a generally licensed source in 1975, and I listed an address, that that would be the first point of contact: Are you still at this address and do you have the licensed source?

COMMISSIONER McGAFFIGAN: And then if it isn't, we have a -- okay. So I understand, what you're saying is we would use -- for the specific licensees, we should have their addresses. For the general licensees, we would use the addresses that were given to us by the manufacturers and see if the people have them. That's your proposal. Okay.

In the case of radium -- in the case of NARM and NORM, you mentioned, Ms. Lipoti, that over 50 percent or about 50 -- a lot of the cases involve Radium-226 that end up in these folks' mills. Do you have a curie level that

you would, if you're doing the state regulations today, that you would propose to your fellow states, like the 10 millicurie or the 1 millicurie or the .1 millicurie that we had for the other substances?

DR. LIPOTI: I don't. I think a risk assessment is very much needed in that area and has not been done.

COMMISSIONER McGAFFIGAN: Okay. The last item, and most of these questions, I agree with Commissioner Dicus, go to the staff, but I do think, having listened to this debate for the last 14 months, we may have to take some of you up on your offer to help us on funding, because I think that the staff's reluctance is partially funding, that they see large resources and they're not quite sure -- maybe having more people paying fees would be one way to solve the problem, but you get into some inequities, some fairness issues.

I also think this economic issue is pervasive, the question of whether it's strictly a public health and safety job, and that may be what the Atomic Energy Act requires -- I'll defer to counsel on that -- and the degree to which we can take into account under our current framework these large economic costs that accrue to non-licensees.

But those seem to me -- I mean, if you're trying to figure out why the staff is proposing something less than

what the working group proposed, I think it is partly a fee

issue and then it's partly how much do I take into account these large economic costs that are being accrued by folks.

It also comes up in the orphaned device thing. The reason you have everybody pointing to the next person at the table is that -- and I'm not sure that's our responsibility since we don't have a place to put them, but I tend to think, having listened to the discussion, that somebody should be willing to take the -- some federal official, not just on an imminent danger to public health grounds but as a matter of fairness should be willing to take some of these things off of people's hands once they're in their hands.

But the problem seems to be, again, whose responsibility that should be and should there be a criterion other than just imminent danger to public health, but some sort of recognition that this is a public policy program problem that we're dealing with, and there's a fairness issue to the innocent victim.

But I'll take any comment you want to make.

MR. COLLINS: On the question of fairness, during the working group meetings over a period of 18 months or so, there was no comment from any holder of a device, and I'm talking again using 3M as a case in point, a company which has 1500 of these devices, that a nominal registration cost and annual fee for the holding of these devices is not in

order. Steel companies themselves use these devices. There is such a proliferation of these devices across this economy that all kinds of industries and all kinds of service groups like medical establishments have these devices, and more and more are coming on line.

A nominal fee certainly seems to us to be a better approach to funding the program on the part of the user than a huge economic impact on the part of a number of unfortunate companies that can't shield these devices from going into their operation.

COMMISSIONER McGAFFIGAN: May I just ask another question?

CHAIRMAN JACKSON: Go ahead.

COMMISSIONER McGAFFIGAN: $480 per device times 1500 -- you're sure 3M would make the same statement having heard the staff's estimate per device?

MR. COLLINS: Well, I --

COMMISSIONER McGAFFIGAN: Even a hundred dollars. Even if it's a hundred dollars, which is what Oregon achieves, 100 times 1500 is $150,000.

MR. COLLINS: You're talking about a device that costs -- it can cost upwards of two or three hundred thousand dollars, and a $100 registration fee for such a device or a $200 fee is a very nominal cost to run a radioactive device in the American economy, yes.

Absolutely.

CHAIRMAN JACKSON: Dr. Lipoti and then Mr. Mattia.

DR. LIPOTI: I had some thoughts. I also puzzled over the fact that costs cannot be considered for regulatory actions necessary to ensure adequate protection of health and safety of the public, and I thought about it, and then I came up with, but costs can be a factor in those cases where there's more than one way to achieve a level of adequate protection, and in this case, one of your adequate

protections of the public is really the steel manufactures and the scrap metal people having these alarms on their facilities.

So I think that you need to consider that another way of providing adequate protection might be a stronger regulatory program, and then there, maybe the economic consequence -- the economics could be factored in. So I would want to talk to that general counsel a little bit about how that might be factored in.

CHAIRMAN JACKSON: Well, she's sitting at the table.

MS. CYR: There's nothing under the Atomic Energy Act -- I mean, the Atomic Energy Act provides that we may take action to minimize damage to property. Where we have taken it into account is -- the only place where we have limited it is, as you said, in -- when we're going to beyond

adequate protection in reactor space have we placed any limits on our ability to do that vis-a-vis backfitting considerations. But the Act clearly provides that the agency has authority to take action to minimize danger to property.

CHAIRMAN JACKSON: Well, that's an interesting comment, and I'll just then interject a comment, and maybe it's from a strategic point of view in terms of if you ever have occasion to present again, notwithstanding what the general counsel said, it seems that you missed an opportunity to talk about it from an environmental protection perspective in terms of a device that gets broken apart or whatever ending up in a scrap metal stream and ending up therefore being propagated beyond the boundaries of your property and having some adverse impact, as well as a focus on the worker.

MR. COLLINS: I did mention in my statement the impact on the environment.

CHAIRMAN JACKSON: You did mention that? Right. But I'm just saying in terms of highlighting it as opposed to how many dollars it's costing you. I mean, there is an implied -- we accept Dr. Lipoti's point of view, you know, secondary regulation where there is some cost for you, but I really think, from the point of view of where our responsibilities lie, I think the issue of worker protection

and the issue of environmental protection is an important consideration.

MR. COLLINS: The states are very concerned about the carloads of irradiated electric furnace dust in rail cars that are behind the string of steel plants that have no home, no place to go. Very concerned.

CHAIRMAN JACKSON: Okay.

DR. LIPOTI: I want to make one more point. You might consider taking the penalty money for people not complying and putting it in a revolving fund that could be made available for disposal of some of this.

CHAIRMAN JACKSON: Well, these sorts of issues have come up in the past about what to do --

MS. CYR: That would require legislation.

CHAIRMAN JACKSON: -- yes -- with our civil penalties, and that's not so straightforward. But it's an interesting idea.

Mr. Mattia.

MR. MATTIA: Yes, thank you.

I wholeheartedly agree with Commissioner McGaffigan. There is a reality here that there are

restraints. We would have loved nothing more than to come to you and say please register everything effective -- take a couple months to implement it, and if you need a dozen FTEs, we'll run up on the hill and get them for you. We

would love that to happen, but the reality is the sources are out there, they're showing up at the facilities, and maybe what we need to do is find out what the most effective way of combatting this problem short-term is.

I mentioned the fact that in the staff report, they talked about let's go after the 500 millicurie cesium sources. Well, granted, these are the most dangerous, but if we spend several years, get to the end of that road, and find out they're all safe and sound, what have we accomplished except we have assured that we're not in danger from those but probably from everything else. So go out and find out what's really the scope of the problem, work to find what resources are truly available and hone them in on where we can stop the leaks in the dam as quickly as possible and then start to expand the coverage area to hopefully someday include everything.

CHAIRMAN JACKSON: Mr. Sharkey.

MR. SHARKEY: Just briefly, I would like to respond to Commissioner McGaffigan.

I think the steel manufacturers here would be much more interested in devoting our energy and resources to addressing the funding issue than going out and conducting additional surveys. I think it's an urgency issue, it's a matter of time. I think Jim and I agree on the fact that we would rather get our arms around how we can make this thing

work from a funding standpoint than doing more surveys.

CHAIRMAN JACKSON: Okay.

I think at that point, we will draw this part of the briefing to a close and ask the NRC staff to come forward. Let me thank each one of you for a very informative set of presentations.

MR. MATTIA: Thank you.

MR. FLETCHER: Thank you.

CHAIRMAN JACKSON: Thank you.

Mr. Thompson, please proceed.

MR. THOMPSON: Chairman Jackson, thank you very much. I guess I wish I had this morning's meeting rather than this afternoon's meeting.

CHAIRMAN JACKSON: Why, because we're too nice?

[Laughter.]

MR. THOMPSON: Well --

CHAIRMAN JACKSON: Be very careful.

MR. THOMPSON: Be kind.

[Laughter.]

MR. THOMPSON: You've already heard the presentations from the steel industry concerning the consequences they face when licensees lose radioactive material and their comments on the staff's action plan. In addition, you have heard the concerns of the representatives of the state radiation control programs and their

recommendations for improving accountability of devices and their comments on the staff action plans and, obviously, there are wide ranges of suggestions and some important elements that we certainly have considered. I think each of those items that they've talked about we have certainly considered.

I guess I would want to respond to kind of one issue and that dealt with the issue of Russian roulette. I think the concerns there, and they are not to be downplayed, that there are devices out there that can be deadly and have a sufficient amount of radiation that could cause death, those are not the devices that we're talking about today in the generally licensed devices. Those are specifically licensed devices. For example, the one in Texas that was the large cobalt device, it was a specifically licensed device and they are under a regulatory scheme for which both us and the agreement states have inspection procedures, they're licensed, we know about those devices ahead of time.

But that is not to minimize the concerns that even if they are stolen and they end up in a scrap metal area, I don't want to minimize that there are concerns by both us and the states and anyone who deals with those. But that is not the type of devices that we are looking at.

The staff has evaluated the recommendations of the NRC agreement state --

CHAIRMAN JACKSON: Excuse me a second.

Did you have a comment on that?

COMMISSIONER McGAFFIGAN: No.

MR. THOMPSON: But he concurs fully with that argument.

[Laughter.]

CHAIRMAN JACKSON: Let's let him finish his opening comments.

COMMISSIONER McGAFFIGAN: I just want to get educated on where -- on cesium 137, how much can it be before it is specifically licensed or before a specific license is required? How many, how many Curies do you get and does it depend on the device and the amount of shielding it has or how does that work?

MR. THOMPSON: It is that but I'll turn to, I guess --

CHAIRMAN JACKSON: For coherence here, I think that it's important that we finish and then --

COMMISSIONER McGAFFIGAN: I just was trying to follow up on that point.

CHAIRMAN JACKSON: No, I understand.

COMMISSIONER McGAFFIGAN: Public health and safety. My understanding from Rita Aldridge about a year ago is that some of these devices that are generally licensed mishandled can be a problem and I just wanted to

refresh my memory about that.

MR. THOMPSON: And we did have one proposed rulemaking, you may recall, that was a device that we looked at if an individual put their head in a particular area, that could be a high level radiation. I don't remember that being a deadly, a lethal dose but that's just my current memory.

COMMISSIONER McGAFFIGAN: I'll come back to it.

MR. THOMPSON: In any event, we've looked at the NRC agreement state working group that examined the issue of control over and accountability for the devices that we've talked about. The staff submitted an action plan, including its evaluation of the working group's recommendations to the Commission on November 26, 1997, SECY 97-273.

That paper was submitted to the Commission in the context of our efforts to be both risk informed and consistent with the resources that were available to the staff and our operating plan and the budgets that we had and

that was the options that we laid out to the Commission and we tried to take that in what we would say a risk-informed to look at the devices that would pose the largest risk and address those first.

I would now like to introduce Dr. Don Cool, Director of the Division of Industrial Metal and Nuclear Safety. Dr. Cool will discuss the staff's action plan for

improving the NRC control over and the licensees' accountability for licensed devices. Also at the table with me today are Dr. Carl Paperiello, Director of NMSS; John Lubinsky who served as the NRC co-chair of the working group; and Frank Congel from AEOD.

I would now like to turn the program over to Dr. Cool unless there are some other questions.

CHAIRMAN JACKSON: Before Dr. Cool launches into his presentation, can one of you give an answer succinctly to Commissioner McGaffigan's question.

DR. COOL: I will try to do so.

In fact, you will find that there is a range of a couple orders of magnitude in terms of the Curie quantity of cesium where it could be generally licensed or specifically licensed. The maximum Curie quantity in a generally licensed device is something on the order of 5 Curies, a relatively significant quantity of material.

You will find lots of sources considerably smaller than that also in specific licenses. So in fact, at the moment, the regulatory regime is not a neat and tidy box based on activities or quantities of materials. And, in fact, there are a number of devices which, depending upon how they have been packaged or sold, may be specifically licensed in some circumstances or may, under other circumstances or very slight modifications, obtained and

used under a general license.

CHAIRMAN JACKSON: Can you lay out for the Commission what the criteria are, the main ones that you really use in determining whether something should be a specifically licensed device, generally licensed?

DR. COOL: The criteria for generally licensed devices and the types of tests that it would have to meet are laid out in Part 31, which is the actual laying out of the general license for devices. And the associated criteria and tests that have to be passed for a specific source or a specific kind of device in Part 32.

CHAIRMAN JACKSON: Can you list for us today what some of those are?

DR. COOL: Actually, I am going to turn, if you don't mind, to John who can give you, I think, probably a little more accurate description of some of those tests in Part 32.

MR. LUBINSKY: As Don was saying, in Part 32 is the criteria for what would meet the general licensing requirements. It is very much a performance-based requirement in that it does not look at actual Curie content but looks at the normal use conditions as well as accident conditions and puts a limit on a maximum dose, maximum dose being 500 millirem during normal use to any worker and then under accident conditions where it is unlikely, such as

explosions or fires, where it could be as high as 15 rem to an individual from a generally licensed device.

Many of these fall much lower than this limit. As

Don was saying, there are some in the 5 Curie range for cesium that are under a general license. The performance testing would look at actual conditions of use that are provided by the manufacturer of the device.

The manufacturer would come in, request that the device be allowed or authorized for use under a general license, would demonstrate what type of testing conditions that the device has gone through so that it would meet the normal conditions of use and the performance-based criteria of the 500 millirem during normal use and the 15 rem.

CHAIRMAN JACKSON: Commissioner.

COMMISSIONER McGAFFIGAN: I may be -- if -- is an accident condition one of those scrap folks who is shredding the thing somehow and you have a 5 Curie source, it's generally licensed, and whatever they do to get a car down to a couple handfuls of metal, that happens to that thing by accident. Would there then be a significant exposure to potentially the workers in the yard?

Again, I am trying to follow up on Hugh's comment at the outset that there is no public health and safety risk.

MR. THOMPSON: I didn't say "no," I said,

"deadly." I thought --

COMMISSIONER McGAFFIGAN: Oh, okay, deadly.

MR. LUBINSKY: The rule itself does not talk about loss and the consequences associated with loss. It talks about accident and uses a, for example, explosion or fire. Under those types of conditions, you are talking about internal as well as external exposures. And the scenarios typically for an accident condition would include unshielded material but typically when a manufacturer provides this information to us, the scenario does include information that there has been a release of the material.

So therefore the time frame in which the material is released to the public before there is some type of intervention is taken into consideration. When you get into areas where it is in the public domain and could be at the scrap facility where the container is broken open or that the dispersion has occurred of the material, the time may be more than what the manufacturer originally estimated in the dose assessment that he provided to us.

You do need to look at the fact that, as many have said already, the devices are labeled and they have some identification. So when this does occur, after damage occurs, it is likely that someone is going to see this labeling and take the proper precautions to keep that time frame down. But once it reaches the public domain, there is

nothing to say that it would definitely be identified in a timely manner.

CHAIRMAN JACKSON: Yes, Dr. Cool?

DR. COOL: If I could add one thing? I think it may be important to note that an accident condition is something that is recognized and you go through the analysis. So you assume that an explosion has occurred and therefore you have some recognition and then perhaps some activities dealing with the event.

An alternate scenario which is, I don't believe, John, correct me if I'm wrong, part of the nominal process, is assuming that it is undetected and an accident occurs, a shredding or other material, where there is no detection and no information and things just progress without recourse. The accidents are assuming that I've got it here and

something happened here, the steel overflowed and melted it or an explosion occurred which ripped it apart or various other activities.

CHAIRMAN JACKSON: What you're really saying is that your "design basis accident" assumes a certain accountability program and a certain accountability for the device.

DR. COOL: That's correct.

CHAIRMAN JACKSON: If it propagates in the public domain that no longer exists.

DR. COOL: That's correct.

CHAIRMAN JACKSON: Let's go down the line here.

Commissioner Dicus?

COMMISSIONER McGAFFIGAN: We will eventually let them make their presentation.

COMMISSIONER DICUS: Well, maybe.

Back to your opening comment, and I tend to perhaps agree that at least we are not dealing with sources that we don't anticipate, an acute deadly exposure, but that's not to say that we could not have exposures that have a health effect, potential health effect and potentially a serious health effect so we need to make that distinction. We are dealing with sources that can in fact do that.

MR. THOMPSON: That's right. And we are dealing, I think, in the neighborhood of just NRC a half a million sources. Of a half a million sources, there are very few numbers that reach this level like that.

We talked about I think in the working group there may be something on the order of 25,000 sources that are of concern, at least as kind of identified by the working group. So it goes -- this is just from NRC and of course you have heard, I guess, the presentation today. A number of the detections really deal with NORM and NARM type material. So if you look at the types of devices and the likes of detections out there, there are millions of these

types of devices, both in agreement states and NORM type of activities. So it is not a small subset of issues that we are addressing.

COMMISSIONER DICUS: And one more, addressing the issue of labeling. And it was brought up I think by the industry as well, that sometimes the labels simply are obliterated. Some of these devices are in industry, in plants, have been there for years and, for any number of reasons, there's not a label on it anymore. I've encountered those devices.

I think one of the issues that was brought up is to look at labeling and are we, in fact, labeling them well enough or in a manner that probably would sustain some pretty rough handling, which some of them are designed to do. But maybe not the labeling.

CHAIRMAN JACKSON: Commissioner Diaz.

COMMISSIONER DIAZ: Yes, very quickly. This is purely driven by the intention of putting Mr. Thompson in deep waters.

[Laughter.]

COMMISSIONER DIAZ: And no other intention.

But looking at prevention, if a specifically licensed device, significant or possibly deadly, you know, radiation doses can get into the main stream, like the Texas one, what does that say about prevention for those that are

not so well kept and labeled?
MR. THOMPSON: I'm sorry, you mean for --
CHAIRMAN JACKSON: His basic point is that, you know, to have a focus on prevention and you talked about specifically licensed devices which presumably have a better accountability program associated with them. And if they can end up like --
COMMISSIONER DIAZ: That's right. I don't think we have a program for which we can have criminal acts that we can prevent, even where we have resident inspectors --
CHAIRMAN JACKSON: I don't think that's his point.
COMMISSIONER DIAZ: No. I'm talking about probably of occurrence and the consequences and how to prevent them. And you wouldn't prevent a specifically licensed device to enter public life even if it would be very large and therefore that says that the other generally licensed devices needs to have proportionally maybe larger preventions measure because they don't have the same benefits of registration and accountability and so forth.
CHAIRMAN JACKSON: Let me put it crudely.
MR. THOMPSON: That will get me.
COMMISSIONER DIAZ: That was intentional.
[Laughter.]
CHAIRMAN JACKSON: If you can't prevent a specifically licensed device from ending up in a situation

where you can have a potentially -- an exposure that has public health and safety consequence, what confidence should we have that the generally licensed devices --
MR. THOMPSON: You don't. And that's exactly right and, in fact, when you look at our analysis with respect to what we would be able to prevent, we don't guarantee and in fact we say you cannot guarantee a hundred percent.
If we implement this program perfectly, you know, with every device, there are still devices. The registration, some will slip through the system by human error, not by intent. Or there may be, as we heard Dr. Lipoti talked about there will be some that will find themselves disguised, even though they may have been registered. People may be willing to --
CHAIRMAN JACKSON: I still think you're missing the point.
COMMISSIONER DIAZ: You're missing the point.
MR. THOMPSON: I certainly am. I'll take my lessons later.
CHAIRMAN JACKSON: Let me make sure he's finished now.
COMMISSIONER DIAZ: No, I'm finished.
CHAIRMAN JACKSON: Okay, Commissioner McGaffigan?
COMMISSIONER McGAFFIGAN: Just on this issue of --

and I have been looking in Parts 31 and 32, they're long, to find this 500 millirem and 15 rem standard -- but the -- is that an ICRP recommendation? Is that unique to this country? How do we differ from other countries in defining specific versus general licensed devices?
DR. COOL: That is something that we best maybe sit down in your office because it will take a long period of time.
What you will find is that there are considerable variations internationally. You will find that a registration or a registration style program is used by folks like the U.K. for lots of devices, including a lot of

the things that we specifically license, including radiography. You will find that the control of these devices on the other end of the spectrum in many countries the IAEA has as member states simply doesn't exist at all and we have been part of efforts with IAEA to try and establish sort of minimum programs that some of those member states should deal with.

In fact, internationally, the control of these sources, the trafficking is a term that has been used occasionally, is a significant and ongoing condition, not just because of the breakup of the former Soviet Union but because, in fact, sources continue to move around.

CHAIRMAN JACKSON: I think though this is too much

Washingtonian-itis, because I thought the question was, how do we arrive at our standards and to what degree do they report with existing international standards?

DR. COOL: Our standards were, in fact, derived well before ICRP-26. The dose for a member of the public, you noted we quoted was 500 millirem. Since then, Part 20 has been revised to 100 millirem. So that no longer comports with the international recommendations.

The accidental dose of 15 goes back I'm not sure how far, you will find a range of values in terms of accident scenarios and what might or might not be acceptable, some of them above, some of them below.

COMMISSIONER McGAFFIGAN: So this is somewhat off the subject but is there any intention to ever go back and bring this all into conformity with ICRP recommendations? Because, you know, in all honesty, when we talk about decommissioning, we cite ICRP. I think we have a hard time picking and choosing among ICRP. And when we are in a dispute with another agency, we say ICRP is good and when it's inconvenient to us or maybe there's backfitting issues, I don't know. But we don't know in and change down to 100 millirems. I don't know whether that would make some of these devices that are specifically licensed -- generally licensed today specifically licensed right off the bat. So is that part of an overall program in the staff's view at

some point?

MR. THOMPSON: That's part of our risk assessment approach. As I recall, part of the whole purpose was to look at the devices that are generally licensed now and decide which of those should be specifically licensed or come under a registration program, as well as there may be some devices we specifically license right now and, when we do a risk assessment on them, that they don't need to be specifically licensed. Again, that's the effort to have our resources applied on those types of devices based on the risk that they present.

CHAIRMAN JACKSON: Why don't we move along.

MR. THOMPSON: Don?

DR. COOL: Okay. I guess now I come back and say, good afternoon, Chairman Jackson and Commissioners.

[Laughter.]

DR. COOL: I will go directly to slide two and we will try to move through this with all expeditious speed. I think you are probably very familiar with the background. This has been ongoing for a long period of time.

We will go ahead and go to slide three.

What I want to touch on briefly today is the activity associated with orphaned devices and you have

already heard from Dr. Lipoti a number of the activities going on. Briefly, what we are doing in the risk assessment

arena in response to the Commission's strategic setting issues and then the registration program itself.

Go ahead and go to slide four.

As you have already heard and which we agree, a number of folks have identified the orphan source issue as a significant issue. We have been pleased to work with the conference in their efforts and the meeting which already took placed and we will be participating in a meeting next week with the group as they come off, start this particular process to work through that activity.

In addition to that, there is a longstanding relationship both programmatically and in our emergency response arena in terms of dealing with situations where a source is identified. There are relationships with the Department of Energy and understanding of the kinds of questions that we will ask and then get the Department of Energy involved in terms of whether or not there is, in fact, a measure of safety if a device is identified in the public domain, if there is a method for dealing with that within the existing regulatory structures in state or another licensee, whether or not there is someone who may wish to have that device.

In fact, CRCPD for a number of years has had a list of people who are interested in using a device and that has proved useful on a number of occasions where something

is identified and we are able to get them that has and them that wants together. And then situations where all of that fails where we have been successful in engaging the Department of Energy to provide assistance in picking up and actually providing radiological support for surveys or control of sites, for taking and dispositioning sources, particularly americium sources. Those activities are ongoing.

We recently had an exercise called Lost Source Exercise up in our Region I that included EPA, several states. It was very useful in identifying who is going to call whom, under what circumstances. And we continue to pursue a whole variety of those sort of situations.

CHAIRMAN JACKSON: So to what extent -- you are basically saying everything is being handled on an ad hoc basis at this point?

DR. COOL: At this point, we are operating on an ad hoc basis.

CHAIRMAN JACKSON: And you mentioned here the agencies are continuing to formalize the procedures in an MOU between the agencies. Does such an MOU really exist?

DR. COOL: The draft of the MOU was sent to the Department of Energy. We received in late December the Department of Energy General Counsel's markup of that memorandum. We are working with folks in our general

counsel's office now to see whether or not we can move forward, take the next step and actually have an MOU that can be signed. So there is --

CHAIRMAN JACKSON: What kind of time line are you --

DR. COOL: -- actually draft language being moved back and forth.

CHAIRMAN JACKSON: Are you operating on a time line to have that done by a certain point?

DR. COOL: I would like to have that done in a matter of a few months. Unfortunately, that has been going on a lot longer than I would like it to be.

CHAIRMAN JACKSON: I understand all that but you don't have an agreement with the Department of Energy or any other agency at this point in terms of a time by which you need to have this formalized?

DR. COOL: That's true.

CHAIRMAN JACKSON: Yes, Commissioner.

COMMISSIONER DICUS: Dr. Lipoti was somewhat critical of this and indicated that perhaps there is still a passing of the buck among the federal agencies, which I think goes to the heart of some of the Chairman's questions. And likewise, you are talking about with DOE, which is accepting some of these sources for disposal, but EPA is likewise involved.

Where are we with that? Do you agree with Dr. Lipoti's assessment?

DR. COOL: I, in fact, agree with Dr. Lipoti's assessment. There are a number of circumstances where it takes a while for the federal family to figure it out and that is a frustrating process, having been on a number of those calls at all hours of the day or night, because a lot of times what happens is we've got a source, nobody knows what the source is. Something has alarmed or someone has found something.

In that kind of circumstance, if you go through the Federal Radiological Emergency Response Plan activities, EPA is in the lead. If it is identified as being AEA material, then NRC would have the federal lead. Recognizing in all of that, in fact, the state is in the forefront and we are moving back and forth.

So I agree with Dr. Lipoti. It can be very frustrating as it all sorts out. Sometimes it is not terribly satisfying and sometimes it takes a relatively protracted, perhaps days, period of time.

COMMISSIONER DICUS: Or maybe weeks.

A followup question then, in the MOU, and what we are working, is it designed to correct this problem, that we get the call until the federal family figures out who is in the lead? Somebody is going to go get the source and get it

out of the public domain or assist the state in getting the source on a temporary basis to get it out of the public domain?

DR. COOL: In fact, no, not completely. This memorandum is to formalize the relationship and process steps by which we can get DOE to accept a source. It does not deal with some of the procedural issues and jurisdictional issues between EPA, NRC, DOE --

CHAIRMAN JACKSON: How do you intend to get at that?

DR. COOL: I actually think the best approach is where CRCPD is going right now and that is exactly, and I agree again with Dr. Lipoti's comment that she made to you about the fact that the relationships and jurisdictional issues is one of the things they have asked the working group to identify on early on in the process to try and provide some better definition.

CHAIRMAN JACKSON: Yes.

COMMISSIONER DICUS: Okay, one last. I'm sorry. And then you've got the floor.

COMMISSIONER McGAFFIGAN: No, that's fine.
COMMISSIONER DICUS: If CRCPD seems to be the instrument that is going to work, try to work this problem out I guess for the federal family and then, of course, with the states as well, who is funding them to do that? I mean,

how is that being done? Is that the funding the EPA is providing?
DR. COOL: EPA has provided funding to the CRCPD. And I don't know the extent or duration, at least for this year, for this group to be considering these and try to pull together some program.
MR. LIPOTI: Some of the 200,000 goes into next year.
CHAIRMAN JACKSON: Okay.
COMMISSIONER McGAFFIGAN: Can I clarify this issue of getting out of public domain? Because in talking to Mr. Mattia last week in my office, it sounds like when oftentimes whatever fed decides they are in charge finally shows up, they will do a survey and say, not a danger, your problem, see you later because there isn't an imminent danger to public health and safety. And then this person is left with the courts and maybe -- how do you deal with these folks in the scrap yards who aren't our licensees.
Say it's an Atomic Energy Act material but it's a very small device. Is it a possible answer under this MOU you are dealing with DOE on that DOE would say, this is too small for us to accept and it's up to the finder to dispose of it?
How -- I'm asking whether this MOU is going to solve the problem of the small scrap person.

DR. COOL: The MOU is not based so much on the size of the source as a series of questions associated with whether or not there are control mechanisms or mechanisms to place it under control. I think you would probably find the answer would be at least somewhat unsatisfying.
CHAIRMAN JACKSON: So the point is, why is there not effort to address what happens on the ground, you know, in terms of jurisdiction, who is going to take it, who is going to do what? You know, why are you working on that MOU that doesn't address those issues? Is there, you know, a reason for that?
MS. CYR: Well, there is an authority question, I think, in some circumstances. It is not clear what NRC's authority is in all circumstances to take possession of material.
CHAIRMAN JACKSON: No, no, no, I understand that.
MS. CYR: I mean, and DOE may be in the same circumstance.
CHAIRMAN JACKSON: That's Commissioner McGaffigan's point.
MS. CYR: I mean, they are working on an MOU in the constraints of what has sort of been their traditional operation in terms of where DOE is willing to take it.
COMMISSIONER McGAFFIGAN: The point I'm trying to make really, and I think it came up earlier, if there are

authority issues either for us or DOE and therefore legislation required, I think that has to be identified as an option so that just we and DOE or EPA, whoever is involved, we get the authorities clear in statute and then maybe the problem gets a little easier.
But at the moment, writing MOUs to limited

authorities, my fear is you will expend a lot of energy and not have actually produced a satisfying result, which I think is the word you were using just a moment ago, Dr. Cool.

COMMISSIONER DICUS: One more thing --

MS. CYR: That's not to say there's not value in clarifying those circumstances in which you can at least get that much done. I mean, there may be additional efforts that need to be undertaken.

COMMISSIONER DICUS: I just -- I think it's the last comment on this slide.

CHAIRMAN JACKSON: Oh, my god.

[Laughter.]

COMMISSIONER DICUS: Well, we have 11 more minutes.

I hear a lot, you know, and we've said it, a lot of comments about the bureaucracy and they're important and we do have some legal issues to get over. But let's not lose sight of the fact that we have to protect the public's

health and safety and we have got to cut through the bureaucracy to be sure we do that, in the final analysis.

MR. THOMPSON: And I think that is, in case, what happens. In fact, often we will show up, even though EPA is the nominal lead for those activities, and work with the state and used to -- NRC, I think, used to be much more proactive on unidentified sources. EPA called us and said, you have no authority, you know, we will be the responding authority for unidentified sources, and that goes back to the issue on the authority where that has really been an impediment at times.

MR. CONGEL: Could I add just a little? I believe the issue is primarily most difficult when it comes to the actual cleanup in getting rid of the source. I want to emphasize that we have been involved with a number of significant events ranging from spills of tritium to sources in the environment and we have never had any difficulty in getting cooperation from the other federal agencies, particularly DOE and EPA and DOT if it's a transportation device -- or accident, rather, when it involves the public health and safety.

The difficult part comes afterwards when the situation is stabilized and then we try to find out who is going to be responsible or who can take care of the cleanup or disposal. Then we get into the issues that we're talking

about. But there have been a number of remarks made here that say, well, while they sort out who the responsibility is, I would like to make it clear that that never, during my experience --

CHAIRMAN JACKSON: In the imminent phase, it's not a problem.

MR. CONGEL: It's not a problem. There's an enormous amount of cooperation and I think Hugh was actually getting at it.

I, really, and the other agents don't care whether it's identified, unidentified, licensed or not. Let's make sure that we have the public health and safety first.

I have never had a difficulty with that and they're not even the stereotype Washingtonian bureaucrats saying, well, you know, that's yours. No. DOE provides rap teams, any capabilities that we ask for, very quickly. But the next step is -- so I just want to make sure we focus on

what I really think is the issue but not the first step.

CHAIRMAN JACKSON: I think it strikes me from what you have already said that there needs to be some clarification in two baskets. One has to do with just what is the MOU meant to clarify and cover and provide that information for the Commission. But more importantly or as importantly is to then clarify, you know, in a follow on way, you know, where the problems are that relate to what

we've been discussing here in terms of interagency jurisdiction, et cetera. And what, in your best judgment needs to happen in order to bring clarity to it, if it's legislation or if it's just further negotiation between the agencies or whatever.

We need to understand that because, to have this discussion in a vacuum, risks making us as frustrated as some of the other people who, you know, we've already heard from because it doesn't help us in terms of decisionmaking.

MR. THOMPSON: Right.

CHAIRMAN JACKSON: Okay, why don't you go on.

DR. COOL: Okay, slide five. We will talk briefly about the risk assessment that my group has undertaken. This is a fundamental reexamination of the activities conducted in byproduct material, that is, Parts 30 through 39 of the Code of Federal Regulations. It includes these kinds of devices. Radiography, well logging, irradiators, all of those kinds of activities.

I have asked the group to step back, look at the various kinds of systems, you could put that in quote, or radiography is a system. They have identified something on the order of 40 or so systems, gauging devices being a system. I asked them to take a look at that in terms of a number of risks, doses to members of the public, doses to workers, doses under accidental conditions, doses on it

getting out somewhere and some consideration of what, for lack of a better way to place it, is the outrage factor. That is, if something actually happens with that device, what is the reactivity level that either the NRC or the federal family or the states then use in terms of trying to deal with those devices and the situations that occur in the environment.

There is a fair amount of actual data which is out there because these devices have been used over a long period of time. Asked them to take a look at that, the various data that is in our NMED, Nuclear Materials Event Database, and other databases, to use quantitative criteria. Some probabilistic risk assessment or similar sorts of methodologies which have been done for certain kinds of systems, not completely in the way that you would expect a reactor situation to be. And qualitatively in terms of other kinds of processes and examinations.

I have asked them to have that process completed by the end of this fiscal year and my expectation would be that then come next fall we would be able to provide for you the results of that and some potential recommendations about whether or not there would -- this analysis suggests changes to the kinds of touches that we do, the kind of license, piece of paper or registration or other type of program, the kinds of things that you do in terms of inspection and

followup and the system as a whole.

CHAIRMAN JACKSON: How does this play into the options that you have laid out in the paper before the

Commission?

DR. COOL: This plays out as being the recommendations or specifically moving and starting to lay the basis of a registration program is to lay the framework for that which I believe will be a bin that the risk assessment will suggest a number of things, including a number of things that are now specifically licensed might well fall into. Because if the fundamental issue is accountability, and that will certainly be the case if it is a gauging device and is specifically licensed.

If that is the appropriate approach for dealing with that kind of material and accountability is a key or the major component in dealing with the risk, then perhaps it ought to be in that bin and this would lay the framework and, if we were moving forward in rulemaking, would already be underway in terms of developing and establishing that bin into which we could in some organized manner add other groups.

CHAIRMAN JACKSON: Have you got a comment?

COMMISSIONER DICUS: On this risk assessment, and I've got, I think, maybe three questions, quick ones, on it. I'll ask them now. If you want to wait and answer them a

few slides on --

CHAIRMAN JACKSON: Why don't you go ahead.

COMMISSIONER DICUS: The questions are, during the risk assessment, and I am talking about now only on generally licensed devices, this aspect we have under discussion at the moment, our definition of risk in the agency is a probability times a consequence. How are you getting a handle on consequence for the generally licensed devices?

And prefacing, before you answer, I don't know that we know what all the consequences are. How are you going to deal with risk when part of the formula may be missing?

DR. COOL: Through a combination of modeling and the events that have been seen. We are taking the fact that there have been smeltings of material. I am asking them to take a look at and try to model, and this is kind of a deterministic worst case approach, because there is not a good way to do some maybe perhaps more satisfying or more accurate consequence of doses to individuals if you shred it and if it got out into the domain.

So it is a combination of using actuarial and experienced data where that is available along with deterministic or modeled kinds of approaches where that isn't available.

COMMISSIONER DICUS: Okay, and what are the complications, particularly when a source is in the public domain? In some cases, I think in one case a source was found in some gravel with no idea how long it had been there, no idea how many people may have walked by, been involved, or even how it got there and how many people might have been exposed. So there is this tremendous unknown. It makes it very difficult to do this and where we simply have to walk into it knowing this.

The second part, the second question is, our database is incomplete. I am using the nice word. It is, in fact, flawed. And the data we have may represent a fraction of what has happened. How are you going to deal with that.

DR. COOL: And the answer to the first question is, yes, I agree with you. There is an enormous uncertainty. There is no mathematical construct other than to try and at least set boundaries on worst cases and otherwise to try and deal with that.

The answer to the second case, yes, the database is undoubtedly flawed. There have been other things that have undoubtedly happened. The number of occurrences, while that may change probabilities to some extent, may or may not change the range of uncertainty that you have in terms of the potential consequences.

CHAIRMAN JACKSON: If you're looking at consequences, are you looking at worker protection?

DR. COOL: Workers, members of the public, routine, accidental --

CHAIRMAN JACKSON: And are you looking at environmental contamination?

DR. COOL: And environmental issues, the material gets outside of the facility.

COMMISSIONER DICUS: And then are --

DR. COOL: I have asked them to consider all of those.

COMMISSIONER DICUS: Are you looking at protection of property?

DR. COOL: I have asked them to specifically look at that, which goes above and beyond the kinds of analysis we've done previously; that's correct.

CHAIRMAN JACKSON: Commissioner McGaffigan?

COMMISSIONER McGAFFIGAN: Protection of property, economic consequences, the melt that occurs and having to deal with all the carloads of material that sit outside these steel mills. Is that a consequence you are looking at?

DR. COOL: Yes, sir.

CHAIRMAN JACKSON: Okay. Why don't you move on.

DR. COOL: The next slide, which would be slide

six, is something that we have presented previously.

Under NRC jurisdiction in the generally licensed device realm, there are close to 500,000 devices. As you can see, nearly three-quarters of those constitute tritium exit signs and a variety of other percentages, just by way of background.

If I can go ahead and go to the next slide --

CHAIRMAN JACKSON: From a radiological standpoint, what is the largest activity source here or category source?

DR. COOL: you're going to find the largest activity devices in that piece of the pie that says fixed and portable gauges. There may be a few sitting over in the other category.

The exit signs will have fairly high numbers in terms of Curies of tritium but, radiologically speaking, the dose that can be delivered, that does not have the same consequence as the cesium devices.

CHAIRMAN JACKSON: Okay.

DR. COOL: Go ahead to slide seven.

I have tried to lay out schematically where we would be in this process. I think perhaps it is intuitive, obvious, but it is sort of interesting to look at it in the event tree, fault tree kind of format where presuming you've got it under control and then potential for losing it, whether or not it gets in or out of the public domain or

whether it is continuing to sit in the facility. Does it get in the scrap stream or get buried or some other consequence? Is it detected? Does that second safety net that Dr. Lipoti referred to catch it or not?

You have already heard the quoting of a lot of statistics on some of these end points in terms of number detections and number of melts.

A registration program, the kinds of things that everyone has been discussing here, is influencing the percentages you would put on that very first branch. Whether or not they have it accounted for and know where it is or not, that's where all of the influence of this particular program goes into in terms of that very first piece of the process.

CHAIRMAN JACKSON: Yes.

COMMISSIONER DICUS: On this chart, I think you have an event tree missing and that is what about loss of source integrity before smelting? And that has happened once.

DR. COOL: Um-hum.

COMMISSIONER DICUS: I think you have to put that in, in this event tree.

DR. COOL: That and, in fact, a number of others if I wanted to get to a greater level of detail, I agree with you.

CHAIRMAN JACKSON: Well, I'm only assuming --

DR. COOL: This was for illustrative purposes to indicate where registration influences the process.

COMMISSIONER DICUS: This is not the event tree --

DR. COOL: This is not the ultimate event tree. It is not intended to be the ultimate event tree. You are very right, there are lots of other things in there, lots of other branches.

COMMISSIONER DICUS: Given that clarification, we can go on.

DR. COOL: The current program, in fact, requires a whole series of things. It requires the vendor to provide the general licensee with a copy of the regulations. The regulations require testing, reporting, some recordkeeping. Vendors are required to notify the NRC of the distribution of their devices in answer to the question which Commissioner McGaffigan asked.

Furthermore, general licensees are supposed to be reporting transfers and disposal of their devices. They are not charged fees and we don't ever interact with them except under a circumstance where something has shown up and we are backtracking. So we are in event response mode.

Based on the information which comes into and is recorded in my general license database, we in fact have a database which we put in all of the reports from the vendors

and those reports which we receive of transfers. It's fairly apparent to me that we are not getting all the transfers and otherwise because of the number of reports that we get from the user saying I have transferred this or that is a very small number. We get some but it clearly does not match up with, I would believe, a priori, are the things going on out there.

Nevertheless, that database does exist and, in fact, has on a number of occasions proved very useful in terms of backtracking. One of the cases on point, which I think at least some of you are probably familiar familiar

with, was in fact the shredding of an americium source and DOE was very useful, picked up the source, took it down and found the serial number. We were able to back track through the manufacturer and the general license database to the licensee.

CHAIRMAN JACKSON: Is there an enforcement mechanism to use against the general -- general licensees who fail to properly transfer or dispose of their devices?

DR. COOL: There is. And, in fact, the case I just cited is in that process right now.

CHAIRMAN JACKSON: Yes?

COMMISSIONER DICUS: On this database that may be a little flawed but do we ever review it for indications of program trends and weaknesses beyond what you've just

discussed?

MR. CONGEL: We are in the process of updating that. I was going to say something a few minutes ago when you mentioned it but Don kindly answered for me.

But the program itself is still in an evolutionary stage and we are still probably, I would say, about five years into a very strong updating and improvement ranging from incorporating in a better way the agreement states' information to working with our counterparts in Carl's office for a better quality assurance and quality control of the data.

CHAIRMAN JACKSON: It took you five years into --

MR. CONGEL: I certainly didn't want that to sound like -- maybe it's Washington-itis again. But it was about five years ago that I would say there was increased attention being paid on it. And there have been a number of subsequent and consecutive improvements and feedbacks on this database.

COMMISSIONER DICUS: But it's still a troublesome area?

MR. CONGEL: There's parts of it where we're learning and, indeed, we have had our exchanges of info.

CHAIRMAN JACKSON: Commissioner McGaffigan?

COMMISSIONER McGAFFIGAN: Could you use this to do what Mr. Mattia proposed, to send off to the -- not all the

tritium sites but the 48,000 gauge folks that were in that previous chart, send off a letter saying, do you have the device still? Is it up to that?

MR. CONGEL: Imperfect and yes. It would in fact be the base line upon which we would start this process.

And, in fact, there was a survey that was conducted back some --

MR. LUBINSKY: 1989-1990 time frame.

MR. CONGEL: Which resulted in some significant adjustments, some information that was found. You could start that process. There are pros and cons to surveys.

You go through the OMB clearance process and certainly that could be done. Part of the process is if you were doing that with the explicit intent of moving into a registration program, you would in fact being engaging in an activity which the General Counsel, at least at this point, has indicated to me would be de facto a registration program and which I really should have done rulemaking for prior to --

MS. CYR: As long as you're doing a one-time survey. And you also have a proposed rule on the street that constitutes a registration program and I think you've got to discuss how that differs from whatever you might be

proposing otherwise, too.

There was a rule proposed in 1991 to create a

registration program which was never finalized. But it is still out on the street as a proposed rule.

CHAIRMAN JACKSON: Fascinating.

MS. CYR: It does not cover fees, which is a big issue, and it specifically said it would not address the fee issue. But you need to sort of, I think --

CHAIRMAN JACKSON: Thank you.

Now, how does that -- what is the story there with that rule and how does that play against your options that you've laid out in this paper?

DR. COOL: Thank you for jumping me head about three pages.

To quickly answer your question, in fact, one of the alternatives that we have been exploring is the extent to which the revival and, perhaps, publication of a piece of that rule which has already been proposed would move more quickly than the base line which was laid on this paper of a rulemaking package.

That rule did, in fact, propose a requirement which would have allowed us to go and do a registration program. That rule did not get to some of the technical issues such as labeling or fees or some of these other things. So it is not a one-to-one match with that which the working group has recommended and otherwise but may, in fact, be a mechanism.

We are having a long chat with Stu Treby now.

CHAIRMAN JACKSON: It's not in the paper we have before us.

DR. COOL: That's correct.

MS. CYR: It was proposed to register everybody, I think, wasn't it?

DR. COOL: It was a proposal to register all devices.

MR. THOMPSON: That, again, was one of the rules held in abeyance because of the resource levels to implement such a rule and there, again, comes the tension that we've had in agencies where we have declining resources, we had looked to the areas that had the highest risk to public health and safety, not we -- we were not focused on protecting property at that time and therefore that rulemaking has been held in abeyance since then to do the working group study and other things with the appropriate risk focus on it.

CHAIRMAN JACKSON: Yes, Commissioner.

COMMISSIONER DICUS: You heard the industry say that there may be a greater role for vendors and their responsibilities. Do you have any comments on that?

DR. COOL: One of the things we looked at very hard was whether you could do this by placing that burden on the vendor. There are certainly some pros in terms of not

needing as resource intensive program here. There are also some cons in terms of placing the vendor essentially in double jeopardy of having to report on that to whom he is also trying to sell some other jurisdictional issues.

The working group, in fact, during their discussions, examined that particular issue and the working group also concluded that that was not the most favored approach. But, yes, we have looked at that. One of the

other alternatives was that but there were some significant cons to placing it all out there.

CHAIRMAN JACKSON: Commissioner McGaffigan and then we're going to move on.

COMMISSIONER McGAFFIGAN: Two very quick questions.

The 1991 rulemaking, did it come out of this '89-'90 survey that you mentioned? Is there a history there where you did a survey, you discovered a problem and then you started a rulemaking that we never finished?

MR. LUBINSKY: As Don was saying, we have been looking at this a long time and that was part of it. There was a survey and there were studies performed that said, let's go forward with this rulemaking. A lot of the estimates on resource requirements as far as to follow up on licensees who do not respond were initially based on that 1990 survey. It included about 3,000 general licensees and

it was a voluntary survey. It was not a mandatory survey.

That started the rulemaking process or helped support the rulemaking process in '91 and also since we're going through the history, after the rulemaking was put on hold in '93, the Commission came back to us and said, you put the rule on hold and what are you going to do now.

That was when we came back and put the work group together to look at this from a national perspective and the basis for the registration was based on a lot of the same detail in that initial rule.

COMMISSIONER McGAFFIGAN: And then this issue of labeling that comes up in the working group report and you say you agree with and all that. I'm looking at danger of putting the rules in front of a commissioner here but 3251 says at the moment each device bears a durable, legible, clearly visible label or labels approved by the Commission which contain a clearly identified and separate statement, et cetera.

Why is that not enough to make sure that these devices are today, you know, couldn't we by reg guide or something say what we mean by --

CHAIRMAN JACKSON: Have we been implementing this?

COMMISSIONER McGAFFIGAN: Clearly visible, it's durable. Durable means it's got to be etched or whatever?

MR. LUBINSKY: We have been interpreting the word

"durable" the same way we have looked at the criteria for doses in 3251. That is, durable during the normal and likely conditions that you will see during use and likely accident conditions.

Of course, during the explosion, you would not expect any labeling to survive. But as part of that, it did not look at what happens when this gets into the public domain because that is not an expected condition or was not an expected condition for this rulemaking.

CHAIRMAN JACKSON: At that time.

MR. LUBINSKY: So therefore durable and legible would be during normal use. If it's used in a laboratory facility where it sits on a tabletop all day, you're not talking about etching or embossing labeling for it to meet 20 years' of use in that type of environment.

CHAIRMAN JACKSON: I think we need to just go on.

COMMISSIONER McGAFFIGAN: Would it be a new rule to go back and clarify, in light of what we learned, durable now should be interpreted as follows? Or does that require a rulemaking or does that require just a statement?

CHAIRMAN JACKSON: Maybe Karen can answer that.

MS. CYR: I think it probably would require -- we would have to look exactly at what you're trying to do but I think you really are probably changing the basis under which your rule was adopted and you probably would have to go

through some kind of a notice and comment period.

CHAIRMAN JACKSON: I think I am going to dictate that the last slides be gone through without any questions so we can come back.

DR. COOL: And then we'll come back and do it in one fell swoop.

The next slide on the registration program is up on the screen. An ideal registration program which is the basis of the staff's recommendation would still be a process by which the requirements would be in the regulations. There would be some additional requirements. We would go back and look at some of the durability issues, probably specifically require serial numbers and other things to be part of that so you could have a better tracking if you found it. A number of those sorts of things.

The process would require that the licensee register the device with the NRC and that there would be an annual touch which would include both an accountability, we believe you have X number of devices. Come back to me and say, yes, we also have X number of devices, we have touched and inventoried them on a quarterly, monthly basis which would have to be specified in the regulations, we have seen them, they are labeled, the labels are present and clearly visible, intact, the sorts of things that are required there, and the submission of the fee.

To get to one of the questions and, I hope, read your mind perhaps, at least a little bit, I was not terribly happy with the cost either but it is driven by your assumptions about how far and how many you are going to chase in the initial years of the program. Our assumption is that we would be trying to follow up on roughly 15 percent and went through and did the mathematics associated with that. It has the overhead built in, which is used by the comptroller's office in terms of dealing with the fee billing applications and at least some measure of where you might be in terms of allocation, enforcement and other sorts of management activities if you assumed after a few years of this you had it settled down that you were maybe doing only, say, two or three percent that you were having to do follow up and you then looked at the resource that would be needed to do that, you would find that the price would be something on the order of $200.

It scales very much to the kind of resource needed to do the initial file -- followup and accountability with those devices which, obviously, will be the greatest during the first year or two of conduct. That's why you have a number which is disparate from the kind of numbers that you see in the states which have been running programs which have, for the most part, gotten over that hurdle.

The process would, in ideal circumstances, be

following up, are you still there, do you still have them, where did it go. For perhaps some of them, contractor support in terms of skip trace, you're not there, those sorts of things.

Next slide, please.

In terms of the startup activities, the rulemaking in order to get that process into place and the coordination with the states and the upgrade and development of the automated system, the computer system necessary to support this. The general license database is an old mainframe system, not terribly useful but a good starting point upon which we would then generate those. That's more or less a fixed cost without regard to necessarily specifically the kinds of licensees you would be touching.

We can go ahead to the next slide on implementation activities then.

You do the registration. Once you had the rulemaking in place, you could run the actual letters, send them out, get it back, entered into the database on a -- what I have listed on the slide as a scale factor, about a third of an FTE and $67,000 or so per thousand. So figure out the number of licensees you want to touch and that's roughly the cost. The dollars associated with probably a contractor doing a lot of the maintenance and running of the computer system rather than having my staff people doing all

of that input itself.

And then the followup activities in terms of going out, resolving discrepancies, doing reactive inspections on the order of 1.5 FTEs per thousand licensees that are out there. Again, somewhat of a scaling factor.

The paper provided alternatives based on the resources available that are within the operating plan and budget which I presently have to do the job right, that is to touch them and do the followup would mean that we could get those licensees who have cesium on the order of 500 millicuries or more. If you didn't want to do the job right, you could for the same resource touch a larger quantity in terms of mailing it out and getting it back.

I think you have heard from a number of folks and I think I would agree that that is not a preferred approach. It doesn't go all the way down the line; it stops half way.

From there, alternative three is an alternative which picks up the other cesium devices that were in the working group report. What we have tried to do is provide you with a unit cost factor such that if we wanted to go with yet further resources and touch all of the devices that were in the working group recommendation, you could go through and very quickly do that. That would be on the order of eight or nine FTEs and associated dollars multiplied out on a per licensee basis. The working group

recommendations would encompass something on the order of 6,000 licensees and on the order of 25 or so thousand devices.

With that, I'm done with the presentation and would be glad to try and answer some additional questions.

CHAIRMAN JACKSON: Let me ask you a couple of questions.

Are there currently specific licensees who are not physically inspected?

DR. COOL: No, but some of them have inspection frequencies of five to seven years.

CHAIRMAN JACKSON: Okay. So, de facto?

DR. COOL: De facto, they are not touched for relatively long periods of time.

CHAIRMAN JACKSON: If that's the case, would they be candidates for registration program, also?

DR. COOL: I personally believe that they would

be, without pre-jumping my registration program. Those are the kind of folks that sort of look and smell like a lot of these kinds of devices and, a priori, if this is the right kind of approach for them, what's good for the goose should also be good for the ganders.

CHAIRMAN JACKSON: And you mentioned the startup costs in terms of registration, automated registration system. Since there are automated registration systems that

currently exist in several states, is there an opportunity to go the other way, to scale up, you know, their systems for use by the NRC and could that afford us some time saving and cost saving?

DR. COOL: Perhaps. The fact that we have a database sort of indicated to us that scaling up and bringing that existing database into the client server system of the Agency was perhaps yet the quickest system because that data already exists and if you matched fields you could --

CHAIRMAN JACKSON: But did you look at it? Did you look at it, that possibility?

DR. COOL: I don't know that the group explicitly looked at trying to buy one of the existing state systems.

MR. LUBINSKY: During the working group we talked about that possibility. The one concern there was that most of the states were dealing with a smaller number of licensees and devices. We're talking about on the order of 500,000 devices, so you're talking about a large number of records. Where the states were dealing with much smaller databases.

CHAIRMAN JACKSON: I agree. But that's separate than an actual examination of what they have to look at whether there is some scalability.

MR. LUBINSKY: While the examination was looking

at the scalability from the work -- this was during the working group. It wasn't believed that we could actually just scale those up because of the life cycle requirements that we're looking at within our C-type systems and by the time we finish going through building that system up to what we really need, it would be more cost effective to convert the general license database over to a client server system.

CHAIRMAN JACKSON: Did you actually go through developing user requirements for the use to which -- for the kind of database system and automated registration system that we would need?

MR. LUBINSKY: We are going through now and we have developed a draft statement of work for what the requirements would be for the new system and that would be more from an efficiency standpoint of performing the mailings and collecting the data and updating the system.

CHAIRMAN JACKSON: So I would argue to you that until you have developed those user requirements and then you've in fact template overlaid them to what states, say look at the larger states, have, you really can't answer the question of whether or not the system is sufficient?

DR. COOL: Not completely. Correct.

MR. THOMPSON: That's correct and, Chairman, also we would certainly coordinate with the CIO because there may be other commercial off-the-shelf products.

CHAIRMAN JACKSON: That was going to be my next piece. Exactly.

And then for the last question I have, if I look at alternative two, there doesn't appear to be any incentive for general licensees under that alternative to register. Is there some hidden incentive, such as the threat of enforcement action, against those who don't register if devices are found as a result of incidents?

DR. COOL: As we mentioned, I thought in the paper, part of what we would be looking at would be enforcement alternatives, potential incentives which would apply, irrespective of whether you were trying to do a complete followup or the incomplete followup.

CHAIRMAN JACKSON: You may have mentioned it in the paper but you didn't mention it this afternoon.

DR. COOL: I'm sorry.

In fact, one of the things that we have discussed, in fact in fairly great depth, with Jim Lieberman, Director of Office of Enforcement, is the kind of approaches we could take and the possibilities of automating or simplifying an enforcement process to minimize our resources to take specific actions. And, in an incentive basis, whether or not we would wish to defer enforcement if they were cooperating with us and gaining accountability. Almost perhaps an amnesty program for the first year or two to try

to get them captured before bringing in the penalties which would make it somewhat of an incentive to et the job done now and get them captured, as opposed to us find you a couple of years down the road.

CHAIRMAN JACKSON: Okay, Commissioner Dicus.

COMMISSIONER DICUS: You have answered most of my questions so I have very few more. More in the form of comments.

One thing, you addressed it in your oral presentation, it was not in the paper, the fact that starting up the program and initially going out to find where there are problem areas will be a spike FTE load but that should go down. And that was not reflected in the paper which caused us some concern.

I don't agree with your cutoff of what sources, devices should be looked at in terms of the Curie content. I think it should be on a broader basis and I think you have heard significant reasons why today that I feel that way and perhaps others as well.

That's not to say, with all the questions and comments we've had on the product that we got and had to review, that I don't appreciate the work that's been done and I want the staff to recognize that. I think from my perspective I think the work has been too limited in its scope and what was considered important and perhaps some of

the bases used for your analysis or your points to get from A to B might not have been as appropriate to use or as clear or as well founded as they should have been and I have several recommendations or comments. You will probably see those when the vote on this issue, when my vote on this issue surfaces.

Just let me say that I think in the reactor side of the house, we have a very aggressive regulatory program and, certainly, on the materials side of the house we have areas that we have aggressive regulatory programs but I think we have areas where our regulatory program is not as aggressive and perhaps not as effective as it should be. And clearly from the data that we have documented, the places where members of the public or even radiation workers

are more likely to receive an unnecessary or even overexposure of radiation is in the materials side of the house and not in the reactor side of the house.

I am not saying necessarily that, gee, we don't have to worry about reactors; certainly we do. But materials safety in my view is certainly no less important than reactor safety and I think the Commission's regulatory actions should reflect this and I think perhaps you've heard that today.

That's all I have.

CHAIRMAN JACKSON: Commissioner Diaz?

COMMISSIONER DIAZ: Yes, I think what I needed to say has mostly been said by Commissioner Dicus.

I would like to, you know, hammer on it. I think when I came here, it seems like a long time ago, one of the very first things that we had was a meeting on these issues. At the time, I was full of innocence. Now I am full of scars. And what I have not seen in that time is that this issue has progressed with the same speed and the same due consideration to the difference on public risk that I think it has.

I believe we do great work when we have localized sources and try to become risk informed. Distributed sources are a completely different issue and it is kind of tentative or not really fully accountable to be risk based, I think. I think risk informed will still leave us room to make determinations that propose a much more aggressive program. I think this is a case which is obviously needed and I would recommend that the staff stops for at least a brief period of time being totally concerned with resources.

We would like to hear, at least I would like to hear, the best of the stuff and then allow the Commission to look at the resource issue because I think this has been here too long. It is an issue that can be better managed and it requires a very aggressive program and my vote will reflect that.

CHAIRMAN JACKSON: Commissioner McGaffigan.

COMMISSIONER McGAFFIGAN: A couple of questions.

The staff, on this issue of penalties for lost devices, in the paper it basically agrees. But then it says, for specific licensees, we will consider increasing the civil penalties. How quickly is that consideration going to be done and do you agree with the numbers in the working group report with regard to how much they need to be ramped up to actually be a deterrent?

DR. COOL: I changed to the enforcement policy and I suspect that Mr. Lieberman is somewhere in the audience and might be able to answer this a little more quickly. Could probably move fairly quickly.

The numbers in terms of having the penalties more accurately correspond to or have some measure of correspondence to the costs of disposing the device, I think, are reasonable kinds of numbers to approach. There were some things thrown out today that we would have to go back and think about in terms of where those penalties resided that were suggested by some other folks and while I personally as an individual liked the idea of having a use for those within the agency in terms of funding, I think the general counsel has already indicated present legislation doesn't allow me to.

COMMISSIONER McGAFFIGAN: I'm not trying to get

into that point.

The second point is generally licensed devices. Here you say we won't do it until we get around to the implementation of the registration program because we have to notify general licensees that it may be coming. Why? Is that -- why couldn't we do it faster rather than wait potentially to 2000 or 2001 to tell the generally licensed folks we're going to hold you -- you mentioned the case earlier where we are indeed fining somebody the small fine for having lost control of their devices and they ended up being shredded. But why can't we -- why can't we put a notice out sooner that we're going to take this seriously and here are the fines that may accrue to you as a general licensee?

MR. THOMPSON: I don't believe there is a reason we can't do that. We'll have to work with the general counsel and go through the process --

MS. CYR: Right. I mean, the requirements are that they're supposed to notify you if they transfer it and an obligation to dispose of it. I think that there are ways within the existing framework even without new rules that there would be some basis to take civil penalties. I think what they were focusing on here was to the extent there was a failure to register a followup in that circumstance until you run through, that was what you were trying to penalize,

you would have to wait until you had a --

COMMISSIONER McGAFFIGAN: But right now, it's not -- I'm not sure what the rule requirement is but we don't like people losing control even of generally licensed devices. We don't like them ending up in the wrong place.

The final issue and I'll try to be short, the fee issue. Right now, you're spending, between research and NMSS, some amount of money in this area, a million, million-and-a-half a year --

MR. THOMPSON: No --

COMMISSIONER McGAFFIGAN: Including research and FTEs and everything?

MR. THOMPSON: I think we're closer to one FTE. Consistent with what we got in the budget, it's about one FTE and we found about $300,000, so that --

COMMISSIONER McGAFFIGAN: And is that partly driven by this question of equity? I mean, at the moment, there is no -- we don't have a registration program so there is no general licensee to hit so it's the reactor folks or whatever who end up paying -- gets into overhead and we charge it to everybody.

Does that partly motivate why it's hard for the staff to find the additional resources? And is this a candidate if we ever did take some stuff out of the fee base until 2001, when we have a mechanism to apply fees? Is this

the sort --

MR. THOMPSON: I'll let Paul speak but I'll speak first.

It was not a significant issue with me. What was a significant issue with me was the impact on other programs that we had when the FTE competition came in and NMSS was held down and had other programs they had to do, they had to do because they had to do licensing, they had to do some of those activities.

It wasn't the fact that it was an issue of equity on five or 10 FTEs worth of work. It was that we couldn't,

in the competition, we weren't able to argue at that time to the Commission that this program was more important than other programs.

CHAIRMAN JACKSON: I would like to thank each participant who is still here for the information you have provided to us in today's briefing. It is clear, as you heard, that the time to address this issue is very much overdue and it is my hope, because the ball is also in the Commission's court at this time, that the Commission will come to a decision that will address not only the very real health and safety concerns related to the current lack of control we are experiencing with these sources based on a risk perspective, but also on the economic impact in an environmental context that these lost devices are having on

the unlicensed individuals or companies who inadvertently come into possession. But it's one that has to be rooted in our fiscal and legal realities and that's all part of our decisionmaking.

But, in the meantime, I think it is important to provide some clarity to the Commission on just what the MOU, this interagency MOU, is meant to accomplish. But also where there are issues that need to be addressed and perhaps elevated or dealt with in the legislative arena.

And then also for the edification of the Commission, I think it would be useful for us to understand what the 1991 rule dealt with and what you plan to potentially extract from that relative to the options that are before us. If you could do that within a week, I would appreciate it.

Thank you very much. We're adjourned.

[Whereupon, at 4:48 p.m., the briefing was concluded.]