PDR

OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: U.S. Nuclear Regulatory Commission

Title: NATIONAL STATE LIAISON OFFICERS'S MEETING

Docket No.

LOCATION: Rockville, Maryland

DATE: Tuesday, September 11, 1990 PAGES: 1 - 234

ANN RILEY & ASSOCIATES, LTD.
1612 K St. N.W., Suite 300
Washington, D.C. 20006
(202) 293-3950

9009240060 900911
PDR STPRG ESGDEN
PDC

DF02

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

***

NATIONAL STATE LIAISON OFFICERS' MEETING

***

Holiday Inn-Crowne Plaza

The Regency Room

1750 Rockville Pike

Rockville, Maryland

Tuesday, September 11, 1990

The meeting commenced at 8:30 O'clock a.m., pursuant to notice, Frederick Combs, Assistant Director, for State, Local, and Indian Relations, U.S. Nuclear Regulatory Commission, presiding.

PARTICIPANTS:

KENNETH CARR, Chairman, NRC

JAMES CURTISS, Commissioner, NRC

FREDERICK COMBS, Assistant Director, SP/GPA/NRC

CARLTON KAMMERER, Director, SP/GPA/NRC

ROBERT BERNERO, Director, NMSS/NRC

HAROLD DENTON, Director, GPA/NRC

TIM MARTIN, Regional Administrator, Region I/NRC

JAMES TAYLOR, EDO/NRC

SHELDON SCHWARTZ, Deputy Director, GPA

THOMAS MURLEY, Director, NRR/NRC

HOLMES BROWN, Afton Associates

GERALD W. ALLEN, Kansas

THOMAS ANAMIZU, Hawaii

LARRY ANDERSON, Utah

GORDON APPEL, Illinois

BOB AVANT, Texas

STEPHEN BROWN, Iowa

RON CALLEN, Washington, D.C.

LEROY CONNER, JR., Wisconsin

DAVID CRISP, North Carolina

GRETA DICUS, Arkansas

WILLIAM DORNSIFE, Pennsylvania

PARTICIPANTS (Continued):

JACK ELLVINGER, New Mexico
STEPHEN ENGLAND, Illinois
JOHN A. EURE, Iowa
WILLIAM FLOYD, New Mexico
HOWARD FROMER, New York
GLEN GIBIAN, Kentucky
EUGENE GLEASON, New York
AUBREY GODWIN, Alabama
ANDREW GRANDJEAN, Ohio
ADRIAN C. HOWE, Montana
DONALD NOXIE, Maine
CHARLES IMBRECHT, California
GEORGE IVERSON, New Hampshire
LEE JAGER, Michigan
REUBEN JUNKERT, California
WAYNE KERR, Illinois
RONALD KILLINS, SR., Pennsylvania
JOSEPH L. LaFLEUR, Pennsylvania
THOMAS LAMBERSON, Nebraska
TOM LANGE, Missouri
STANLEY R. MARSHALL, Nevada
KEVIN T. McCARTHY, Connecticut

PARTICIPANTS (Continued):

J. DALE McHARD, Oklahoma
GLENN MILLER, Alaska
J. DANIEL NASH, Florida
THOMAS A. ORTCIGER, Illinois
HARRY OTTO, Delaware
JIM PALMER, Mississippi
GERALD S. PARKER, Massachusetts
ROBERT QUILLIN, Colorado
DONNA ROSS, New York
JANE SABES, Wyoming
JAMES SETSER, Georgia
HEYWARD G. SHEALY, South Carolina
NONA SHEPARD, Washington, D.C.
WILLIAM SHERMAN, Vermont
DEBRA SHULTS, Tennessee
DAN SILVER, Washington
ADDISON E. SLAYTON, JR., Virginia
WILLIAM H. SPELL, Louisiana
ROBERT J. STERN, New Jersey
DAVID STEWART-SMITH, Oregon
CHARLES F. TEDFORD, Arizona
RAYMOND W. THRON, Minnesota

PARTICIPANTS (Continued):

KENT TOSCH, New Jersey

RICHARD TUCK, New Hampshire

GEORGE URQUHART, Virginia

LAWRENCE M. WARD, Maryland

ROY R. WIGHT, Illinois

JAMES WILLIAMS, Ohio

EDWARD E. WROBLEWSKI, Indiana

PROCEEDINGS

[8:30 a.m.]

MR. COMBS: Good morning. My name is Frederick Combs. I am Assistant Director for State, Local, and Indian Relations at the Nuclear Regulatory Commission. And I would like to welcome you to the Nuclear Regulatory Commission's National State Liaison Officers' Meeting.

Just a few notes of housekeeping. Those of you from Wisconsin and Illinois will notice that your flags are missing. We will attempt to rectify the situation as soon as we can.

For those of you who are not State Liaison Officers, I would like to talk a bit about the program before we start.

State Liaison Officers are individuals from states appointed by the Governor of that state to serve as a liaison with the Nuclear Regulatory Commission. The program was started in 1976 at the suggestion of a number of state organizations, including the National Governors Association.

The suggestion came as the result of a perceived need to provide a useful working relationship in siting and environmental matters. The program has worked so successfully that we are now shifting the emphasis from construction to include other areas that affect states, such as observation and participation in NRC inspections of power

plants, transportation of radioactive materials, decommissioning, high and low-level waste disposal, and emergency preparedness activities.

There are a few notes I would like to start with before I introduce our welcoming speaker.

As each speaker speaks, we would welcome questions from the audience. Feel free to speak up, and please use the microphone, in order to aid the stenographer.

As you rise to speak, please identify yourselves, your state, and your organization. And all are welcome to enter into our discussions.

Kenneth Carr became Chairman of the Nuclear Regulatory Commission on July 1, 1989. He has been a member of the Commission since August 14, 1986. He retired from the Navy as a Vice Admiral on May 1, 1985, last serving as Deputy and Chief of Staff to the Commander in Chief, Atlantic Command and Commander in Chief of the U.S. Atlantic Fleet.

Chairman Carr is a member of the Naval Academy Class of 1949. In 1950, he entered Submarine School in New London, Connecticut; and in 1953, he was assigned to the Pre-Commissioning detail of the nuclear submarine USS Nautilus.

Among my Chairman's honors are the Defense and Navy Distinguished Service Medals, the Legion of Merit, the

Presidential Unit Commendation, and the Defense Superior Service Medals.

It is my honor to introduce to you the Honorable Kenneth M. Carr, Chairman of the Nuclear Regulatory Commission.

[Applause.]

CHAIRMAN CARR: Thanks, Fred. I realize I've been here too long, because most of you I know by sight, now. And that's an indication of something or other. And most of you have heard some of these comments before. But I feel like I need to make them.

I appreciate you all being here. Good morning, ladies and gentlemen. Welcome to the NRC's National State Liaison Officer's Meeting.

As your Governor's top appointed official in keeping track of nuclear safety issues, you are the key communication link to the NRC for your state. I know the important role you have in keeping your other state officials informed on nuclear regulatory matters. I want to express, on behalf of the Commission, appreciation for your exceptional cooperation with the NRC over the years in the regulation of the uses of nuclear materials in our country.

The NRC and the States share the responsibility for preserving and strengthening the regulatory partnership. States have considerable front-line experience in regulating

nuclear materials and in developing emergency preparedness. We at the NRC greatly value your perspective. We must continue to incorporate this valuable insight into the Federal regulatory process by getting the States involved early, when we develop or change our regulations. We must also listen closely when the States offer us suggestion about things we can do more effectively to protect the public health and safety, and the environment.

Whether you represent an Agreement State or are a State in which licensees are regulated by the NRC directly, effective communication and cooperation are a necessity in order for this Federal-State relationship to continue and to flourish. Such communication and ccoperation will be particularly valuable in any implementation of NRC's recently announced below regulatory concern policy and the soon-to-be-published revisions to Part 20, which are NRC's radiation protection regulations. Communication has also proven very useful in the recent NRC pilot program on medical quality assurance. I'd like to briefly touch on the importance of these three topics this morning.

Medical misadministrations, I've found, are often the result of simple errors, many of which could be prevented by a reasonable medical quality assurance program. In January 1990, NRC published a proposed rule that would require medical licensees to establish a performance-based

medical QA program. The NRC staff is now in the final stages of a pilot program, which is designed to provide a real-world test of the proposed QA rule. The pilot program included voluntary participation by 72 Agreement State and NRC licensees. The NRC will use the experience from this pilot program as the basis for developing the final rule and the accompanying licensing and inspection guidance.

From two recent visits I've had to hospitals, I have found that some participants in the pilot program say the QA procedures are not a significant burden on them. However, the participants did suggest ways to further reduce the burden, and we will take these into consideration in formulating the final rule. We appreciate the cooperation of all the volunteers in this program. It has proven very useful to the NRC and represents a good example of effective communication and cooperation before we develop the final rule.

I am pleased to report, again, that the final revisions to the Commission's Radiation Protection Standards in 10 CFR Part 20 were recently approved by the Commission. The long-awaited changes need only to be affirmed by the Commission in a public meeting, which should take place at the end of this month.

The changes to Part 20 are needed to bring the Commission's comprehensive radiation protection standards up

to date with the modern conceptual framework for radiation protection. As most of you are aware, the current framework in Part 20 has been in place since the late 1950s. We look forward to strong cooperation with the States in implementing these new revisions, including developing the regulatory guidance and training needed for the new Part 20. In fact, in response to comments from the Organization of Agreement States, the Conference of Radiation Control Program Directors and others, the staff is preparing a recommendation to the Commission to extend the effective date of the rule to allow time for a thorough understanding of the implementing guidance.

A final area where effective communication will provide a better understanding and help to clarify misperceptions is related to the Commission's recently-announced policy on below regulatory concern, or BRC. The Commission appreciates the support from the States and organizations such as the Conference of Radiation Control Program Directors who realize the need for such a policy in effectively regulating the beneficial uses of nuclear materials.

I would like to highlight why the Commission's BRC policy is beneficial to the public, to the States, to our licensees, and to the Commission, and clarify some misperceptions about the policy. This policy will provide

the basis for NRC's decisions on "how safe is safe enough" in the use and cleanup of radioactive materials. The BRC policy will enable us to consider this question in the context of our overall radiation protection responsibilities.

For the past 30 years, the NRC and its predecessor agency have made decisions to exempt very low levels of radioactive material on a case-by-case basis. Such case-by-case exemption decision have resulted in differing levels of public protection from radiation hazards. The BRC policy now provides a framework to ensure a consistent level of safety in making future exemption decisions.

Implementation of the BRC policy will benefit the public living in areas around nuclear sites by establishing consistent cleanup levels for restoring these sites to condition suitable for release to unrestricted use. These cleanup levels must be established so ,that funding requirements can be accurately determined. This is an important step towards ensuring that sufficient funding will be set aside for the eventual cleanup of all commercial nuclear facilities. For consumer products, such as smoke detectors, the public will benefit by knowing every product that is exempted will be safe for use and that costs will not be needlessly inflated because of excessive regulatory requirements.

I'd like to clarify some common misperceptions I have heard about the Commission's BRC policy. First, exempted materials will not be, quote, "uncontrolled." Before any material is transferred to an exempt status, those applying for such exemptions will be required to satisfy appropriate constraints. The NRC will establish the needed constraints through rulemaking proceedings or licensing actions, which include a comprehensive technical analysis of the potential effects of the proposed exempted practice by NRC's experienced professional staff.

Second, the policy is not intended to discourage good health physics practices or the application of improved technology for radiation protection. Such improved technology will be invaluable in the decontamination and decommissioning of commercial nuclear facilities.

Third, the policy will not permit excessive doses to the public as a result of multiple practices or from the accumulation of exempted wastes at a single facility such as a landfill or an incinerator. By carefully analyzing proposed exemptions, the Commission will ensure that the potential exposure from any single practice is small and that the total impact on public health and safety of all practices is acceptably low.

Fourth, the policy is not self-implementing. Recently, there has been a lot said on the issues of Federal

pre-emption and State compatibility, as they relate to BRC. I want to emphasize these discussions are premature. The BRC policy is just that, a policy. It is not a regulation. NRC rulemakings and licensing actions over the next several years will be required to implement the policy.

I want to also stress that any new NRC regulations implementing the below regulatory concern policy will be established only after soliciting and considering public comments on the proposed exemptions. At that time, full consideration will be given to the need for state compatibility. States will have ample opportunities to express their views. Of course, NRC regulations exempting BRC wastes will not affect the authority of State or local agencies to regulate BRC wastes for purposes other than radiation protection.

Consistent with this point, the policy statement does not by itself require Agreement States to adopt the dose criteria in the policy. I believe too much emphasis is being placed on the desire of the Federal Government to pre-empt or supercede decisions that some argue would be better made by State or local jurisdictions. In my view, there has not been enough emphasis on the benefits of a uniform and consistent risk framework in which to make exemption decisions.

Under the Atomic Energy Act of 1954, as amended,

Congress intended that there be uniformity between the NRC and Agreement States on basic radiation protection standards. The potential for problems from conflicting standards was identified by the Joint Committee on Atomic Energy in 1959. In comments on the legislation and Section 274 of the Atomic Energy Act, the Committee stated that it "...recognizes the importance of the testimony before it by numerous witnesses of the dangers of conflicting, overlapping, and inconsistent standards in different jurisdictions, to the hindrance of industry and jeopardy of public safety."

Historically, the notion of degrees of compatibility has always been implicit in compatibility determinations. NRC has established criteria within its State Agreements Program for defining compatibility. Four categories were defined according to the degree of uniformity necessary between NRC and Agreement State requirements.

Division 1 Rules encompass certain NRC regulations that States must adopt, essentially verbatim, into their regulations. These include technical definition and basic radiation protection dose limits. Division 2 Rules include principles of radiation safety such as generally applicable safety requirements, which must be addressed in Agreement State regulation in a similar, but not identical manner.

States may adopt requirements more restrictive than these NRC rules.

Division 3 Rules include a number of administrative and technical provisions in NRC regulations that would be appropriate for the States to adopt, but which do not require any degree of uniformity between NRC and States' rules. Division 4 Rules include certain regulatory functions that are reserved for the NRC under the Atomic Energy Act and 10 CFR Part 150. These include reactor regulation, distribution of consumer products, exports and imports, and high-level waste disposal. State regulations should not address these Division 4 areas. Commissioner Curtiss will have more to say on compatibility issues in his remarks this afternoon.

In some areas, the need for uniform national standards is apparent. For example, it's very easy to see that different definitions of "rem" state-by-state would lead to unacceptable confusion, and that different requirements on ,the sale and distribution of consumer products such as smoke detectors would undercut any effort to market the products in interstate commerce.

In other areas the difficulties require some thought but the case for uniform national standards is also strong. Let me take one BRC area as an example. Suppose each State or (or county) set different criteria for the

maximum level of residual radioactive contamination in soils and building material that would be allowed for disposal in an unlicensed facility. This would mean that any State attempting to ensure that adequate funds are set aside by its licensees for decommissioning a nuclear site will need to take a multitude of different standards and corresponding costs into account, unless the State can somehow assure itself that it knows where the waste will eventually be disposed of and estimate costs accordingly. Confusion from such conflicting standards could mean delays in clean up of contaminated sites and resultant public concern. Do we want to encourage or discourage interState transportation of waste. If States set different standards, then there will be the tendency to ship waste across State lines to those States with the least onerous requirements.

I believe that the NRC should continue to establish basic radiation standards, including th classification of materials that are below regulatory concern. This is important to ensure a proper, uniform and consistent level of protection for the public and the environment. This is also essential for the effective use of limited resources within both the States and the Federal Government.

Let me conclude my remarks by emphasizing how much we value your input. Your thoughts and concerns are

critical in maintaining the strong Federal-State partnership and the regulation of radioactive material. Only through continued cooperation and candid communication can we attain our mutual objective of protecting the public health and safety through efficient use of taxpayer dollars. Working together, we can further build compatible regulatory programs that will continue to ensure the safe uses of nuclear material in this country.

I am pleased so many of you could participate in the State Liaison Officers Meeting today and tomorrow. I see our State Programs Office has an interesting and varied agenda planned. Feel free to ask tough questions of our speakers over the next couple of days. Give us your suggestions for improving protection of the public and the environment. We need to know your concerns and are committed to work with you in resolving them. I wish you a successful meeting, and thank you very much for your time.

[Applause.]

CHAIRMAN CARR: Well, you get to throw the first questions at me, I understand. If they get too tough, I've got to run out, because I'm on short time today.

Who's first? If you don't have anything --

MR. KAMMERER: You told them this is a bright group. Let's get with it.

CHAIRMAN CARR: If you don't have anything, I'm

if you aren't waked up yet, that's good too.

MR. JAGER: I'll go.

CHAIRMAN CARR: Yes, sir. Lee?

MR. JAGER: Lee Jager from Michigan. The BRC
is one that's getting a lot of play in our state.

CHAIRMAN CARR: I've noticed that.

MR. JAGER: And one of the issues that seems to
come up repeatedly is the concern over the apparent
acceptable risk levels, associated with the BRC policy, as
compared to the risk levels that we have in other
environmental programs, such as our permitting of air
pollution sources and so on. Could you provide some
analysis and rationale as to the relative risk level that
was used and the reasons for it.

CHAIRMAN CARR: Let me leave that for Mr. Bernero.
don't want to steal his thunder, and besides, that's all
's got to talk about, I think.

Okay? You'll remember that question.

MR. JAGER: I'll never forget it.

CHAIRMAN CARR: Yes, we can answer that for you.

Sir, sir?

MR. STERN: Bob Stern from New Jersey. You
ioned that the opportunity for the States to input to
RC decisions. Does that mean that the NRC will provide
ate the opportunity to -- to comment or be involved in

happy, and if you aren't waked up yet, that's good too.

MR. JAGER: I'll go.

CHAIRMAN CARR: Yes, sir. Lee?

MR. JAGER: Lee Jager from Michigan. The BRC issue is one that's getting a lot of play in our state.

CHAIRMAN CARR: I've noticed that.

MR. JAGER: And one of the issues that seems to come up repeatedly is the concern over the apparent acceptable risk levels, associated with the BRC policy, as compared to the risk levels that we have in other environmental programs, such as our permitting of air pollution sources and so on. Could you provide some analysis and rationale as to the relative risk level that was used and the reasons for it.

CHAIRMAN CARR: Let me leave that for Mr. Bernero. I don't want to steal his thunder, and besides, that's all he's got to talk about, I think.

Okay? You'll remember that question.

MR. JAGER: I'll never forget it.

CHAIRMAN CARR: Yes, we can answer that for you.

Sir, sir?

MR. STERN: Bob Stern from New Jersey. You mentioned that the opportunity for the States to input to the BRC decisions. Does that mean that the NRC will provide the state the opportunity to -- to comment or be involved in

a licensing action, as opposed to a regulatory action I understand they'll be involved there; but under the particular licensing action, it might be approving or disapproving of the BRC application. How will the states be involved in that process?

CHAIRMAN CARR: I don't know how they'll be involved, but I can assure you we'll give them a chance to be involved.

MR. MOBLEY: Mr. Chairman?

CHAIRMAN CARR: Yes, sir.

MR. MOBLEY: Two issues -- one of --

THE REPORTER: Could you identify yourself please

MR. MOBLEY: Mike Mobley from Tennessee. You mentioned BRC and in previous discussions of RRC, it's been noted that you had reviewed previous determinations that you noted had been made on a case-by-case basis. We're very interested in seeing that done under a number of situations where we feel like that maybe some decisions were made that certainly wouldn't within the BRC policy. And I wanted to make sure that what I was hearing this morning was not a new direction -- that you weren't going to go back and review that.

CHAIRMAN CARR: You did not hear a new direction.

MR. MOBLEY: Second you mentioned compatibility. Certainly we think that is an important issue, and we feel

like in the states that, to some extent, the Federal agencies are batting us back and forth and there's not quite compatibility of agreement between the EPA and the NRC --

CHAIRMAN CARR: I noticed that too.

MR. MOBLEY: We would like to see some compatibility at the Federal level.

CHAIRMAN CARR: So would we.

MR. MOBLEY: Thank you.

CHAIRMAN CARR: Yes, sir -- Chuck?

MR. TEDFORD: Mr. Chairman, in the interest of the candidate of which --

THE REPORTER: Can you identify yourself into the mike?

MR. TEDFORD: Charles Tedford, Arizona. I was under the impression that you would accommodate the remarks to the table, since you had it done for the rest of the people, but I did hear the request to come to the microphone and I'm here. Chuck Tedford from Arizona.

In the interest of candidness. The statement has been made that if we're to go with below regulatory concern, that we reduce the volume of low level waste sites to about 30 percent. And that's a 10 MR level. If we were to go with one MR per level, the volumes might be considerably greater. And I only mention this because I think it will be cast at you in the future, and will give you a chance to

post your thoughts on the process.

If that is the case, will the cost be reduced for the remaining waste that go into low level waste sites? There are those that say that it would not; that you have fixed costs per low-level waste and so, therefore, the cost would merely go up and we would not have a savings and that is not even taken into consideration the public perception question. In other words, a question on economics -- how, what are your thoughts on how BRC will save us economically?

CHAIRMAN CARR: I think it was Michigan that wrote a letter the other day and said that they -- that they might regulate it economically, and not from a radioactive standpoint. You heard the comment, I guess, that said, if you want to regulate it for some other reason than radiation safety, you've got every right to do that. We won't get in your act for that. If it's going to make your low-level waste disposal site valuable to forcing them to put it in there for economic reasons, rather than for radiation protection, that's not my business. And that's the way I think we interpret it here. I'm sure the staff will correct me if I'm wrong, but -- any other questions?

[No response.]

CHAIRMAN CARR: Well, once again, let me thank you all for coming and I'll see you later on this evening. I find that I'm in the office four days this month. So,

they're trying to get all my work done in four days that I normally would do in six.

[Applause.]

MR. COMBS: Thank you very much. Carl Kammerer, as you may well know, is Director of State Programs, having achieved that position in April of 1987. Prior to being Director, Carl directed the NRC's Congressional Affairs and Congressional Affairs for Action.

Mr. Kammerer is a graduate of the University of Pacific. His graduate studies were at San Francisco State College. After graduating from college, Mr. Kammerer took a first job with the San Francisco 49'ers and then the Washington Redskins.

Currently, Mr. Kammerer plans and directs the NRC's program of cooperation and liaison with the states, local governments and interstate and tribal organizations. At this time, I bring to you, Carl Kammerer.

[Applause.]

MR. KAMMERER: My fellow Americans, it's great to be here this morning, and I have, more of less, just welcoming remarks. Fred has stolen all of my speech and the Chairman said it best when we're talking about a two way street here in the communications that go on between the NRC and this talented group that's sitting right out here. Every one of you who have your flags are officially here and

for the two states that don't have your flags, you can't talk until later.

As the Chairman said, we give high priority to the state activities and the NRC has earned the good working relationship with you all. We expect this mutual cooperation to continue.

Many of you state liaison officers have been here for years. As I look around the table here, it's just about everybody we know here. It's an interesting group of diverse folks. You come from all kinds of backgrounds; some scientific and some other.

I wanted to mention that the scope of the program has greatly expanded since the beginning times in 1975 and 1976. The areas of interest now include low level and high level waste management, reactor activities, transportation, materials regulation, emergency preparedness and other things. All the Governors participate and appoint each of you, and they wanted you to know that the Radiation Control Agencies -- that's some of you here -- public utilities commissions -- there are some of you who represent public utilities commissions -- health departments, emergency preparedness and energy advisors to the governors -- this diversity is welcome and beneficial.

There are so many new emerging issues which are of interest to the states that only by discussing them in

forums like this and being frank and earnest -- you can be Frank and I'll be Ernest -- are we able to get any kind of progress and good dialogue going. The NRC's training program which benefits the states is something that I'm going to brag on just a tad here.

In addition to the ongoing technical training program for agreement states, we will be presenting a workshop on dose assessment tools, including the RASCAL code. This is the RASCAL here for severe reactor accidents, later on this month. Those of you who are attending already have your invitations.

The training program for the NRC in training state personnel has improved to a point where there are 350 folks that have been trained through our programs this past year. It's about a 40 percent increase. Back to the SLO program:

Our expectations, of course, are that the program is a two way street and that we're here to continue on the dialogue. The unfortunate thing is that for budgetary reasons, we get to see one another as a group like this only every three years. But we have the Regional meetings as well during the interim.

I'm just going to skip through all the rest of that stuff, since Fred's going to cover it later. I wanted to bring out a couple of positive outcomes here recently by being involved with the Governors. Chairman Carr had

written to a couple of Governors and given them great pats on the back, as it were, for having programs that are adequate and compatible. That doesn't really do justice to the finding, but it is the best that an agreement state can get.

The state of Rhode Island was recently congratulated by the Chairman as having ten consecutive years of being both adequate and compatible, and that's a big deal. In the state of -- Governor Orr was also congratulated for changing around some problems that occurred in the state and doing it effectively and efficiently and quickly and with great authority.

So, having Governors get involved is a super idea. Most incidents occur at the local level. Therefore, we are concerned about communications filtering to the people most affected. You, as the state officials, are closer to the localities than we, and we count on you to get the necessary information to them.

NRC's crack record in dealing with local officials -- with your help of the SLO's, of course -- is a good one. At this point, I want to introduce the main contacts for you all out in the states, and I'm confident that most of you know them. If you don't, you need to chat with these folks. Let me have them stand up as I do call their names. In Region I, Marie Miller. There's Marie.

By the way, Marie achieved last year an award given to her for her outstanding accomplishments. There is Bob Trojanowski from Region II. There's Bob, and Roland Lickus from Region III. Charles Hackney is at Regic.. IV and Dean Kunihiro is at Region V.

They're all here at the meeting today and tomorrow, so if you haven't seen them and gotten acquainted with them, please do so. We're here as a team. The headquarters and field staff just introduced, so if you have any problems, questions or information to pass along, go ahead and get on them. Fred Combs, I'm happy to report, recently achieved a notable success in the Nuclear Regulatory Commission of being elevated to Senior Executive Service Status and I'm tickled to have that occur for Fred, for me, for the agency and for the country.

Obviously, sharing information requires and extra effort on both our parts, but in the end, the public health and safety and their concerns justify the effort. Along with our goals regarding cooperation with individual states and state agencies involved with nuclear activities, we consider the regional and national organizations of state and local officials to be a part of our constituency.

We regularly participate in the NCSL meetings and are kept informed through them of legislative actions that involved nuclear issues in your states. The cooperation has

been our most valuable asset in opening dialogues with state legislatures. The National Governors Association long has been an organization with collectively influences and develops the national policy.

The Conference of Radiation Control Program Directors -- several of you out in the audience are directors of your various programs -- and also the agreement state programs and there are quite a few of you here for that, too, are additional constituents of our office. Actively participating in their meetings and keeping abreast of their policy positions on nuclear issues is key.

We also regularly track activities of other national, state, local and Indian tribal organizations through our contacts and we're kept well informed of activities in the real world, out where the rubber hits the road where you are. We hard and devote a lot of time to maintaining our contacts.

Effective communication with the states is our business, both on the technical and non-technical level. Over the next day and a half, we expect to learn your views on emerging issues and discuss those issues with you. If you've looked at the agenda, it's a solid one. It's one which has the NRC folks on it, and, of course, the real experts, the state folks.

We're looking forward to a great dialogue here.

Now, just a kind of an observation here I'd like to make from time to time: as I look around this group, I'm startled to see that it is so male and so caucasian. Maybe you can go back to your Governors and recommend a different kind of a policy.

With that, let me conclude and see if there are any remarks that you make right now, or any questions that you might have. All right, let's hit it.

MR. COMBS: I would like for the members of the next panel to come up: Bob Bernero, Raymond Thron, Robert Quillen and Gerald Parker. In keeping with the NRC's history of being fairly low key and noncontroversial, our first topic will be a discussion of the NRC's policy on below regulatory concern.

Robert Bernero was named Deputy Director of the Office of Nuclear Materials Safety and Safeguards in April of 1987. He had previously served as Director of Boiling Reactor Licensing in the Office of Nuclear Reactor Regulation, and before that, as Director of the Division of Systems Integration. Mr. Bernero joined the Atomic Energy Commission in 1972 as a Licensing Project Manager.

Prior to joining the AEC, Mr. Bernero worked as a fluid systems design engineer and later as a construction and test engineer for the General Electric Knolls Atomic Power Laboratory. He has also worked in the GE Space

Division as a Project Manager and a Section Manager for the study and development of space nuclear powered devices.

Our next speaker, Raymond Thron, is currently Director of the Division of Environmental Health for the Minnesota Department of Health. Dr. Thron has a BS in Civil Engineering and a Ph.D. in Environmental Engineering from the University of Minnesota. He's a registered Professional Engineer. His current major work efforts include implementing the state's water supply protection program and preparing health assessment in Super Fund waste sites in Minnesota.

Robert N. Quillen is currently Director of the Radiation Control Division of the Colorado Department of Health. He's a certified Health Physicist and a member of the board of directors of the Health Physics Society. Previously, he was Ohio's Commissioner to the Midwest Interstate Low Level Radioactive Waste Compact and Ohio's Radiological Health Program Administrator.

Mr. Quillen's resume indicates that he has, quote, "too many years of health physics problems and experience." I'd like for Dr. Bernero to begin. Bob?

MR. BERNERO: Good morning. First of all, I would like to correct the introducing speaker. I'm not a PhD, not a doctor. I've tried to give out grants and any other thing to get a PhD, but they never come out, and that's really

embarrassing.

[Laughter.]

MR. BERNERO: The other thing is, is my resume is an older one that was used, and I did have the good fortune to get rid of my office director about a year and a half ago. I tried to sign a letter of resignation in his behalf every time Hugh Thompson left the office. That didn't work, so I applied for another job on his behalf, and he got it.

[Laughter.]

MR. BERNERO: So I'm the director of NMSS now.

I'd like to say a few words. The chairman spoke earlier about the BRC, or what I prefer to call the exemption policy. We've had a big argument in the NRC on that point.

BRC is a phrase used in the Low-Level Radioactive Waste Policy Amendments Act, and many of us feel that it doesn't accurately reflect the scope of what the policy covers. This is really based on a sound principle. That principle is practiced in our society that anything that is dangerous can have a level so low that either the concentration or the amount is small enough that it no longer warrants regulatory control or concern.

Now, in the case of radioactive material, you all know that there are two truths. One, we operate on the principle that all exposure to radiation is dangerous, the

linear hypothesis it's often called. We don't know of any clear threshold below which there is no damage. But there is another factor, too. We live in an environment that is rather strongly radioactive. We live with a lot of radioactive material and radiation around us.

So this principle was codified back when the Atomic Energy Act was written that there are circumstances whereby radioactive material may be exempt from regulatory control provided there is no undue risk to the health and safety of the public.

Now that established principle -- the Chairman referred to it as 30 years now -- we have operated f between 20 and 30 years, depending on which milestone you look back on, but we have granted exemptions for concentrations or quantities of radioactivity in certain circumstances, exemptions from further regulatory control.

Some of the examples: consumer products -- the Chairman mentioned one -- it's probably the most widely known one -- it's the ionization smoke detector found in so many homes; a small wafer of radioactivity, an alpha emitter that ionizes the air so that a small, inexpensive battery can power the detector.

In another arena, we have, for probably ten years now, one of our regulations that exempts animal waste. That is, an animal carcass, experimental animal carcasses that

have radioactive tracers in them. They're used in medical research or examination, and they can be disposed of as animal carcasses rather than radioactive waste provided that the radio isotopes involved, which happen to be tritium and Carbon 14, don't exceed certain quantities or concentrations.

Lastly, we have a whole table or a set of tables in the regulations in Part 30 which list the concentrations or the quantities of radioactive material which are exempt from regulatory control.

Now, Congress reminded us in the Low-Level Radioactive Waste Policy Amendments Act in 1985 of their concern about the disposal of low-level waste in this country and setting up the compact system, you know, the intricate system we have today. The Congress put in that act the mandate and the phrase "Below regulatory concern."

It admonished the NRC to develop policy and procedures for exempting certain radioactive wastes where warranted, where the amounts or the concentrations were low enough to be below regulatory concern or low enough to be exempt from regulation.

Now, the Congress gave us that admonition, and only one year later, in 1986, the NRC published a policy, a BRC policy, and I'm surprised we didn't get a great deal of attention on it. That policy, in 1986, laid out procedures

by which interested parties could petition the agency for the regulatory action to exempt wastes.

Now, that focused only on waste, and it spoke in that policy statement of 1986 of waste streams that would involve exposures on the order of a few millirem per year. Let's keep that number "a few." Those of you that have a technical background, you know, people sometimes have almost theological arguments as to how many are a few, and it's exactly three to seven. It's no more and no less.

[Laughter.]

MR. BERNERO: But that policy said a few millirem per year, and then in 1990, this more recent policy came out.

But the Commission did something very important. They looked at the issues and recognized that their new Part 20 was coming out of the chute virtually coincident with this, our new radiation protection regulation, and they decided to expand this policy beyond waste. That's a very important point.

The BRC policy -- and this is why many of us tried to get them to call it the exemption policy and not the BRC policy -- it covers all of the regulatory activities wherein this principle prevails that something is low enough to be exempt from further regulatory control. Decommissioning. A stationary site, nuclear facility of some sort no longer in

use, you want to have unrestricted release.

How do you judge how clean is clean enough? That's a basis for exemption: the cleanliness standard for that site release.

Consumer products. If you're going to distribute something in the marketplace and presumably see it lost into casual disposal -- when a smoke detector comes off the wall -- I just discarded one myself just the other day. It won't accept any battery anymore; the electrical circuit just warns me the battery's no good no matter what I put in it. So I got a new one, and the old one, into the trash.

Waste disposal -- we talked about that. Waste disposal is an area where exemption might be practiced; and lastly, an area that is little seen now, but may be seen more in the future, recycle. That is where some material which has value in the nuclear processes may have a justification for recycled use.

The simplest of that is some valuable metal alloy. If you have a valuable metal alloy and melt it down after it has been in nuclear use, it might have a virtually unremovable minor concentration of radioactivity, and you can make a decision, Is that material exempt from further regulatory control? Can it be recycled into commercial use.

Other examples: chemicals that could be for fertilizer, or for steel-making, or something, some

industrial process.

Now, the defined levels of below regulatory concern, or of exemption, that the Commission set out in the recent policy statement are not particularly different from what we think we were doing in past practice -- although I can identify some cases where old regulations don't seem to match it -- and they do not appear -- at least to me, their central elements are not substantially different from what might be called an international consensus. Let me amplify on that, and I hope to answer Chuck Tedford's question in the process.

If you look at the Commission policy statement and all of the long words, and discussions, and risk coefficients, and all of this stuff, it is in essence what we call in radiation health and safety a de minimis standard.

It's really saying, When I look at background risk, I'm going to choose a risk level that is so low that I don't notice it in background risk. I'm not doing a cost benefit analysis; I'm not counting how many person rem cost how much to avert to clean it up a little bit more; I'm just talking about risk levels that are so low that I can't discern them in the variations of every-day life.

The focal point of the policy is the individual dose depending on the type of practice. There are two

numbers in the policy. The big number, the infamous ten millirem per year, is assessed or assigned to a practice that involves a limited number of people, and the Commission says, We want to take a broad view of practice, and, therefore, a broad view of how many people are involved.

The other number is an order of magnitude lower. It is one millirem per year individual exposure and it is for any practice involving a large number of people. Now in simple terms, I like to put it this way. For a stationary, a decommissioning, where a limited number of people, either a family that might be resident there or the workers in a factory if the facility became a factory or a farm or something like that, then it would be reasonable to talk about 10 millirem per year.

Something that moves out into commerce, consumer products, multiple waste streams -- by multiple I mean waste streams that go out to -- let's say medical wastes. If a hospital has animal carcasses that go to a landfill you bet your bottom dollar some other hospital also sends animal carcasses to the same landfill.

Those practices evidently we would focus on one millirem a year.

That is the focal point of the Commission's policy statement -- 10 millirem a year individual dose for limited numbers of people or 1 millirem for larger numbers of

people. Now how does that compare to other risk levels?

Well, the Commission's new Part 20 adopts what I think is fairly called an international consensus safety limit. The safety limit for radiation exposure to a member of the public is 100 millirem per year.

Now with the Commission's choice of 10 for a few people, 1 for many people, you see it is going to be pretty hard to conjure up combinations whereby any member of the public would be threatened by an accumulation that approaches or exceeds 100.

Another thing for comparison, we have got a long-standing regulation on the books. We call it 10 CFR 50, Appendix I. It is for the gaseous emissions from nuclear reactors. It is a rather intricate code. It's an older regulation about 15 years old but in round numbers you can say it's about 5 millirem a year. It's in the bracket. It's in the few range.

Another point of comparison for comparative risk, you all know about the Clean Air Act and the EPA proposal for emissions and all the big fight we're having about, you know, should there be an exemption of NRC licensees from the Clean Air Act and so forth. That is in the EPA 40 CFR 61 is 10 millirem a year for emissions from a nuclear facility.

Another point of comparison is the EPA Clean Water number, which appears in everything EPA does -- 4 millirem a

year, so you can get the sense in this context that what the Commission has done, it has gone down into the range of debate which in round numbers is 1 to 10 for risk levels associated with things like this and put out this policy.

Now we do have to go back and review all of the older materials. Our focus right now in the staff is we are working very hard on the decommissioning criteria. That is, how many microcuries of what per gram of soil or per square centimeter of wall are tolerable in clean-up standards and when we have that we will have a good technical base to go evaluate all the other exemptions that we have.

We feel very strongly we have to do that. There are some of them -- I'll tell you right now -- technically it's not really an exemption. It's a general license but my non-favorite regulation is 10 CFR 40-22, which allows you to go out and get a sack full of uranium and do things with it without answering for it and it's very tolerant and it was a regulation written some time early in the stone age and I think for sure we'll change that one.

So basically I just want to sum up my remarks by saying the Commission is trying to codify not only its own past practice but an evident principle of setting a standard where something is low enough to be tolerated and it has chosen values for those levels that are reasonable and consistent with other proposals or other activities and the

Commission with this policy want to now proceed on two fronts, one, implementing practices with this common standard and reviewing the past exemptions and past practices to see which do or do not comport with this risk standard.

Thank you.

[Applause.]

MR. THRON: Thank you, Bob. I don't want to dwell too long on my comments. I hope we can leave time for questions. I think none of us should be necessarily perceived as having the answers to all of these questions or necessarily as the experts and I certainly don't view myself in that regard.

I think this issue of BRC does indeed require a lot of dialogue and questions and I think the upcoming meetings this fall -- they are going to take place this fall? I believe there's going to be -- the five meetings throughout U.S. on this policy will be exceptionally important.

I want to give you three main comments that I want to make, comments from my state specifically, from the state of Minnesota, a perspective from that state, a few comments about what some of the opposition in our state is saying.

I don't just say "opposition" but also include in that body of people, people that have many concerns about

the issue and then some general comments about the NRC policy itself.

During our last legislative session in Minnesota our state legislation passed a law that effectively did not allow for a BRC policy to be implemented in the state of Minnesota. Essentially it was a law that bans low level radwaste disposal in any facility in a state unless it is otherwise duly licensed, which we have no such facility in the state.

When this was proposed and this was proposed by a number of environmental groups, principally the Minnesota Public Interest Research Group, there was a lot of sympathy and support by a number of legislators on this issue.

We as state agencies had to decide whether we wanted to at that point actively go in and debate that issue and to perhaps oppose that issue if that is where we were coming down or exactly what we ought to do about that.

What we did decide to do at the point was not to take on this battle at that point in time but rather to require a sun-setting of the moratorium on BRC in the state, so in effect the law did pass in our state but with a few caveats.

The law that did pass did require the state to convene a committee to look at the costs and benefits of deregulation, both the health and environmental effects,

both the dollar and the non-dollar impacts that would occur in our state.

A recommendation was required to be submitted to the legislature by January 1st, 1994, at which time we also will have to make a recommendation as to the continuation of the moratorium.

I think even though it was hard to have a bill like this pass because I think many of us felt that by and large perhaps NRC policy was correct, yet on the other hand many of us, you know, didn't have that absolute certainty or convincing arguments that we could give to our legislature or the public as a whole.

I think the hearings hopefully that NRC will have this coming fall will be helpful not only to themselves but to us as state agencies that have to deal with these issues.

Let me now comment on some of the issues that our opposition and concerned people have been saying about BRC.

One of the concerns, of course, for BRC is that we ought not to spend a lot of dollars on these low-level rad wastes when there are more important areas to spend those dollars.

The opposition essentially says that these are a lot of illusionary costs, that in fact we won't be saving cost by not regulating these wastes.

Secondly, the opposition is saying that background

levels of radiation are neither safe nor unalterable, and they put the levels that NRC is considering for BRC in that category, and they cite numerous examples of naturally-occurring radiation, such as radon, where we can, in fact, do something about it.

They are also saying that this NRC policy is a shift from a safety standard to an acceptable risk, an acceptable risk which, at present, is defined by NRC as much too high, and some of the opposition goes on to talk about an acceptable cancer risk that should be based on 1 in a million, something that probably would translate to much less than 1 millirem per year.

One of the main issues that has come forth is the difficulty in siting waste-disposal facilities. Now, we are in the process, in our State, of building incinerators for municipal waste and infectious waste and, also, looking for land disposal facilities. The question invariably arises as to whether low-level rad waste or this BRC-type waste would be accepted here, and there is nothing to incite passion or panic in the public than the words "radiation" or "rad waste." It does make it difficult.

In fact, I was at a hearing for an infectious-waste incinerator just 2 weeks ago, and a number of questions had arose on this. I'm sure you're aware that many hospitals and clinics would probably have waste of this

type.

Another concern that the opposition is raising, and our legislators, as well, is the issue of lack of state control. I think one of the principal concerns here is the importation of waste from a state that essentially subscribes to the BRC policy and shipping that waste to a state that does not subscribe to that policy. So, the concern here is about not knowing that there are BRC types of waste that would be coming in.

Lastly, let me just make a few comments about the NRC BRC policy itself.

As I read through the materials, I do believe that it appears to be well-based, at least the intentions of NRC, the intentions to establish safe cleanup levels at sites, the intentions to have levels that can be used as guidelines regarding decommissioning and levels that would be applicable to products that are sold for public use.

I think the issue, as we all know, is the standard itself that we would subscribe to it.

I am involved with several other programs, namely the Safe Drinking-Water Program in our State, and we have a lot of interactions with the Environmental Protection Agency in that regard, and it's interesting to note that even in the safe drinking water programs, we deal with low-level contaminants, many of which are carcinogen and many of

which cannot be reduced to zero.

It's interesting to note that in the Safe Drinking Water Program at EPA, they set a maximum contaminant level goal of zero for any contaminant that is, in fact, a carcinogen. They don't call it a below regulatory concern, and I'm beginning to wonder if the terminology, BRC, is maybe not such a good terminology, because it imparts to the public the issue of you don't care about something if it's at this level or below this level.

I think if you look at what EPA is doing, they are attempting, at least, not to use that terminology. They are, in fact, establishing as a goal, at least for carcinogens, of zero; realizing fully, however, that that probably is not achievable, and for those of you that are familiar with the Safe Drinking-Water Program, you will know that EPA has also established the MCLs, or the maximum contaminant levels, which are not necessarily, at all times, health-based but do take into account economic and other considerations.

So, with that, I will close, and I think after the next speaker, we'll open for questions.

[Applause.]

MR. QUILLIN: Good morning. I'm real happy to be here today.

I want to thank the Nuclear Regulatory Commission

for its recognition of Colorado's existence. For those of you who took the time to leaf through the 1989 NRC Annual Report, you will notice a map in there which does not include Colorado in the United States.

[Laughter.]

MR. QUILLIN: That goes along with that cartoon strip they ran last week -- I don't know that it ran in the local newspapers -- which had a group of high school students who couldn't identify geographic features on a map, but in the Nuclear Regulatory Commission there is now evidently an East Kansas and a West Kansas.

[Laughter.]

MR. QUILLIN: With respect to BRC, I'd like to give you a story about how BRC is really being implemented today, without the state input or the Nuclear Regulatory Commission input.

In Colorado, we have a major landfill operator who has, on his own, installed a monitor by which all the waste which comes in is checked. This monitor is set to read -- or I should say alarm at 400 counts per minute above background, which is roughly about 5 percent above their normal operating background.

Two weeks ago, the monitor alarmed as a dumpster, a large dumpster, passed by. They checked the dumpster again and verified the number and just sent the dumpster

back to the generator. They didn't accuse them of anything and just said they would not accept that dumpster of material.

The generator called in their experts, who sorted through and, at the bottom of the dumpster, found multiple sacks containing uranium. The generator doesn't know where this uranium came from. They don't think they had it in their warehouses, but somehow it ended up in the dumpster.

So, we have a BRC policy which is being implemented without, as I say, NRC's input and without, as a matter of fact, my input either, or the Colorado Department of Health's input.

I'd like to look at this from a slightly different perspective than the previous speakers.

Colorado is going through the same solid-waste disposal problems that other states are experiencing today. I am told that the more than 100 solid-waste landfills that are in existence today in Colorado will shrink to about 30 in not too many years. Development of new landfills will be controversial, time-consuming, and expensive.

As an example, let's look at this county that we're in today, Montgomery County, Maryland. In the '70s and early '80s, Montgomery County attempted to site a new landfill. I don't know exactly how many years it took for them, from beginning to end, to do this; it was quite a few.

But I do remember that when it was all finished, the Washington Post reported that it cost over $50 million to site the landfill in this County.

In Colorado, landfills must possess a Certificate of Designation to operate. This Certificate is issued by another division of the Colorado Department of Health. I really cannot see, in the future, a Certificate including the site knowingly accepting radioactive waste by any name above or below regulatory concern.

Back in the 1970s the NRC created another class of BRC, the carbon-14 and tritium biomedical waste. I was a generator of waste back then and I can remember the problems we had when the NRC implemented their new policy.

The low level waste site that we had previously shipped carbon-14 and tritium waste to would no longer accept the waste, as the waste material firms would not accept the waste. However, the NRC had solved the BRC problem with biomedical waste generators. We had the waste. We had nowhere to dispose of it.

I'm afraid that the NRC has now solved the waste problems for another set of generators. I think the BRC concept is a good idea but what has happened, it's been given a bad connotation by a number of groups out there in the public.

The NRC has won the battle. They issued a BRC

policy but we will have to wait to see whether they have won the war -- public opinion and public support.

I was asked to address what is Colorado doing about BRC and I will say at this time we are doing nothing. We are waiting for the smoke to clear to see how all of this falls out.

Thank you.

[Applause.]

MR. COMBS: Our final speaker is Gerald S. Parker.

Mr. Parker graduated from Northeastern University in 1953 with a degree in Biology. In 1955 he took an S.M. in Sanitary Engineering from Harvard University and in 1965, an S.M. in Radiological Health from the Harvard School of Public Health.

Currently Mr. Parker is Assistant Commissioner, Bureau of Environmental Health Services for the Massachusetts Department of Public Health. One area under Mr. Parker's cognizance is the Radiation Control Program which is responsible for protecting the public from both ionizing and non-ionizing radiation including discharges from nuclear power plants, X-ray units at doctors' offices and hospitals and radons in houses.

Mr. Parker is a member of the American Public Health Association, the Conference of Radiation Control Program Directors, and the New York Academy of Sciences, the

Massachusetts Health Officers Association, and the American Academy of Environmental Engineers.

He is the past President of the New England chapter of Health Physics Society, also the past Chairman of the Conference of Radiation Control Program Directors and was the Chairman of the United States Health and Human Services Technical and Electronic Product Radiation Safety Standards Committee from 1987 until this year.

At this point I would like to introduce to you Gerald S. Parker.

[Applause.]

MR. PARKER: It's always nice to be late because you don't know what people said before you so you can say whatever you want, and that's what I'll try and do, although I'll have to agree with our colleague from Colorado that very little is being done in Massachusetts.

When the Nuclear Regulatory Commission put out their policy statement and listed four typical practices that they would take a look that would be subject perhaps for exemption -- disposal of very low level radwaste, release of lands and structures, consumer products, recycle and reuse of materials and equipment.

The activists out there jumped on the first one, the low level radwaste. We don't hear anything about the others. From a scientific point of view, both the Director

of the Radiation Control Program, myself and even our Department, we feel it's a great idea. The question is are we going to be able to sell this in light of the fact that you get these things in the mail -- "lethal landfills -- how radioactive waste could end up in your community's landfill."

In addition, in Massachusetts we have a board called the Low Level Radioactive Waste Management Board and they appeared at the seminar that was held in Chicago on August 28th by the NRC. Let me explain a little bit what this board is supposed to do.

This board is supposed to fulfill the mandates of Federal law P.L. 99-240, the Low Level Radioactive Waste Management Act.

A law was passed in Massachusetts, Chapter 111-H, which is in the Department of Public Health, by the way. That contains several provisions allowing the state to manage materials and practices of all waste currently regulated as low level waste, including waste which may be declared BRC in the future.

These provisions of Chapter 111-H are founded on the principles of managing low level waste on the basis of the state's economic concerns, such as matters of facility utilization and allocation and on the basis of guarding against the potential liability of the Commonwealth for

personal injury : property damage.

The board does agree 100 percent that to entrust this new policy upon the states at a time when states are trying to accomplish the goals and fulfill the mandates of Public Law 99-240 adds unnecessary complications to an already extremely complicated issue. Other state low-level waste boards, agencies and authorities share this opinion. That's the opinion of that board; that is not the opinion of our Department.

They gave three reasons at their conference in Chicago in August. I would just like to focus on one of them.

The BRC issue has generated significant confusion and misunderstanding among the public. The public is confused and perplexed. This confusion is causing greater distrust of the NRC and misunderstanding, anxiety and distrust of management board activities. Increased negativism on the part of the public will complicate the board's ability to meet the objectives of P.L. 99-240, especially in the extremely difficult phase of facility siting.

That is one view from an official, independent board in the Commonwealth.

Let me turn for a minute to an organization called Massachusetts Citizens for Safe Energy. They are the group

that put out this "lethal landfill" -- and they are getting lots of publicity in the Commonwealth. In fact, we think we have 20 communities already that have passed local ordinance which will not allow BRC material in their landfills.

According to this Massachusetts Citizens for Safe Energy -- their office, by the way, is in the same building as Mass PERG -- "Up to 60 percent of the low level radioactive waste produced by nuclear power plants could be exempted from regulation under the proposed BRC policy. This would equal about 790,000 cubic feet and about 7800 cubic feet in Massachusetts. As other waste generators apply for similar exemptions, up to 30,000 cubic feet of radioactive waste could be deregulated every year. When Pilgrim and Yankee Rowe are decommissioned the volume of radioactive waste going to municipal landfills could increase significantly."

I would echo what the last speaker said. This is a great idea, this BRC policy, but I am wondering whether the timing was absolutely the right timing to take this up when we are all facing that 1992 deadline of getting rid of our low level waste, so again from a scientific point of view I think this is the correct procedure. We should go forward with it. However, we should consider what the political ramifications are of trying to solve the problem of low level radioactive waste disposal on the one hand and

to reduce the amount of waste that has to be put into the low level waste things.

Thank you very much.

[Applause.]

MR. COMBS: We are now prepared to take questions for the panel, if you will rise and come to the microphone.

MR. GODWIN: Aubrey Godwin of Alabama. I would like to raise the issue that I failed to raise on the previous BRC edition, the tritium and the carbon. Will the Department of Transportation adjust their regulations so that things that are going to determined to be BRC will not have to be transported as radioactive materials even though they are not subject to our respective regulatory things?

I mean that was one of the key problems we ran into with the tritium and carbon as I recall. A lot of times you would have to mark it as radioactive just for transportation purposes.

MR. BERNERO: We have in Part 71 two nanocuries per gram, whatever that is in Becquerels.

I don't recall any discussions in recent vintage with the Department of Transportation on this and I am looking at the faces of Staff in the back. If they have anything to add to that?

I just don't know. It's a good point.

MR. SJOBLOOM: Glenn Sjobloom, NRC/NMSS.

It is the case that we haven't had any discussions with Transportation. If you look however at carbon-14 and tritium, you will find that they have fairly low radiotoxicities compared to other isotopes and so that their concentrations for limits for example in 10 CFR 20 in the tables are fairly high and therefore concentrations which would have little import radiologically for those could be above 2 nanocuries per gram.

For most of the other isotopes, cobalt-60 and so forth, you probably are going to end up with not deregulating things like that. That's just a guess however. That would remain to be developed.

MR. BERNERO: I think the point you made, Aubrey, was that anything in excess of 2 nanocuries per gram would end up being placarded and shipped as radioactive material.

MR. DORNSIFE: Bill Dornsife, Pennsylvania.

I have a question for you. I guess it may be partially a comment, too.

You mentioned the exempt concentrations and exempt quantities that are in Part 30. But I think you need to recognize that most of those exempt concentrations and exempt quantities only apply to the fairly short-lived isotopes. And I think that is one of the problem, in that most of the disposal issues we deal with are the longer-lived isotopes. And maybe the best solution is to develop,

extend that list of exempt concentrations and exempt quantities for something that is really useful to licensees, using the 1 millirem number.

Because the problems I find in the States, are things that fall outside of the regulatory structure, like sewage sludge, is slightly contaminated. If there were limits established that were really exempt limits recognized by regulations and across the board, I think that would be a more useful way to spend your resources in terms of the BRC.

MR. BERNERO: Yes, Bill, I recognize that. That table in Part 30 has the dual deficiency. One, it is based on very, very old calculations and models, and we're not too sure how good all of those isotopes are. But it does fall short. It doesn't cover all the isotopes. And that's why we're focusing in the decommissioning cleanup on all the isotopes, particularly the long-lived, and then we hope to take those analyses and translate them to suit, into Part 30.

MR. COMBS: Are there other questions or comments?

MR. BERNERO: I would just like to add a comment on the anecdotes about the BRC of the landfill operator in Colorado.

One of the things that we're finding out is that there are widespread in the United States places that are monitoring radioactivity for its ingress into non-

radiological circumstances. Many of you know some years ago there was an incident with Cobalt 60 in scrap iron coming out of Mexico, rebar, table legs, things like that. And there was a great deal of attention to track that down, because we had some fairly high levels of contamination. And since that time, many scrap yards in the United States have portal monitors to detect, at least at some reasonable threshold, the presence of radioactive material in the scrap coming in for salvage or remelt.

At this time, landfill operators, and very many areas are doing it, and we know of one national company, Browning Ferris Industries, and I presume that's who was the operator of the landfill, they have a national policy of all the places they operate to have portal monitors set at that level, four to five hundred counts per minute above background radiation using shielded sodium iodide weld detectors, one on each side of the truck. And we are in dialogue with them.

It is also done in California. I know in Los Angeles County, all the landfill waste is monitored. So it's a widespread practice in the United States.

MR. PARKER: In Massachusetts, at our regional incinerators, we require the same thing. There are detectors when the trucks come in. If the alarm goes off, the truck is turned away until somebody from either the

hospital comes, somebody has to come and take a look and find out what is in there, and dispose of it in the proper manner. Then the truck is allowed to dispose of it.

But we found that a lot of hospitals, inadvertently or advertently, it doesn't make any difference, were putting stuff in the regular trash just to get rid of it.

MR. SCHWARTZ: I'm Shelly Schwartz with the Nuclear Regulatory Commission.

Fred, I thought it might be useful to recount where the next four workshops are and the dates. I don't know them off the top of my head, but maybe someone does, so that everybody knows in the audience where they are and when they are going to be.

MR. KERR: Wayne Kerr from Illinois.

Bob, when the Chairman first started this morning, he focused principally on the consumer products and the decommissioning part of the BRC Rule. You hit it somewhat more directly, as did many of the speakers.

But in view of the recent Congressional interest and the kind of reception at the Chicago meeting on BRC, where do you think the waste part of it is going to go?

MR. BERNERO: Well, first of all, let me just cite, I don't see a representative from California here, but I've read the California law on BRC. And it is a criminal

offense to dispose of radioactive material that isn't authorized by their regulations, which are basically like our regulations, and therefore, they recognize exempt quantities, or concentrations.

There are many other laws that have been passed -- the State of Pennsylvania comes to mind, and the State of Maine -- that freeze exemptions, or BRC, at January 1, 1989, or some date like that, and say anything that was exempt before then is acceptable but nothing in the future.

And that is pretty tough, to figure out a way to do that reasonably, or to have exemption in some states but not in others.

The idea of notification. If a generator in one state has exempt material, is the state to be notified before disposing of the exempt material, let's say a waste stream, or if it is to be disposed of across the river in an adjacent state, should that state be notified? Some very cloudy things.

I would just point out, the nuclear power industry, which seems to be the focus of all of the public outcry in the low-level waste arena, rather than the other arenas of BRC or exemption policy, has not come forward with the generic petition, I suspect may not come forward with the generic petition. And I certainly see other trends in the management of low-level waste that minimize or virtually

eliminate the wastes that are potentially exemptible, at least until the end of the trail, when the plant is decommissioned.

We had a conference in Florida recently, and a number of people here were at that conference. I heard a lot of discussion about compaction, other forms of processing, and also the fact that in implementing low-level waste act, that is, the compact disposal site process, that the costs have to be paid. It's a very high overhead to develop all these sites. And the principal generators, the nuclear reactors, they are going to pay for the cost one way or the other.

I heard Bill Dornsife enunciate a possible price scale for Pennsylvania that virtually eliminates any monetary advantage of trying to exempt Class A reactor waste. And rightly so.

You know, they dominate, they being the power reactors, dominate the curies and the volume in most places of the low-level wastes to be disposed of, and they are going to get stuck with the bill, one way or the other.

So what I see coming in BRC is exemptions on decommissioning of sites, exemptions for various, perhaps medical wastes, further; we have a petition from Rockefeller University and others on it now. I see that kind of activity, and perhaps a recycled use here or there. But I

don't see much in the way of reactor waste streams, at all.

MR. COOL: Donald Cool with NRC.

Shelly Schwartz had asked a minute ago what the dates were. For those who don't have those on their calendars, the other four meetings will be held over the next three weeks, on the 18th in King of Prussia, Pennsylvania; on the 20th in Atlanta, Georgia; and the other two are the following week, the 25th in Arlington Texas and the 27th in Oakland, California.

MR. OWENS: Bob Owens, State of Ohio.

I'd like to convey a concern for the Midwest Compact as Deputy Commissioner to that group, to the NRC. Basically, more of the economic impact of BRC upon the disposal of LLRW. And I would like to quote from the BRC policy statement on Page 5, which says that: "Together with the 1986 policy, the new BRC policy is needed now to help resolve issues associated with low-level waste management in order to minimize impacts on low-level waste disposal facilities in the States."

I would like to emphasize the word "minimize." One of the concerns of, I think, all Compact States, is the now common knowledge that BRC will not only not minimize, but in all actuality will maximize impact from the economic standpoint upon those states. It will greatly accelerate the cost of LLRW for disposal at those sites. And, as just

mentioned by the gentlemen from NRC, and also from the State of Massachusetts, that is it is certainly recognized that expense will be borne by generators within those States.

This is a concern to us that it will make siting of such facilities just totally out of reach from an economic standpoint. We don't know what concerns NRC has placed upon this, or what actions they plan in accordance with their statement in the BRC policy itself. But we would like to convey that concern to them, and any response is certainly welcome.

MR. BERNERO: I think that we appreciate that the economic cost of what looks like now perhaps 12 or 15 low-level waste disposal sites in the U.S. is quite high, and a large programmatic difficulty.

It is my personal opinion that the legislators who passed that Act in 1985 expected there to be more coalescence and fewer sites, more states getting together with fewer disposal sites. But that hasn't come to pass, and that is a very substantial cost.

But unless the states join and pool their resources and therefore pool on a single site, those costs are going to be high on the generators in the states that have very small volumes of waste for a site.

MR. DORNSIFE: Bill Dornsife, Pennsylvania.

I think few of us technically disagree with the

need for a BRC policy. But obviously, the biggest problem is implementing one, and the public acceptance of such a policy.

And I think the way NRC had gone about their public involvement program and implementing it is just not the right way it should have been done. They should have taken some lessons from some of the problems that the states have had in implementing a low-level waste program.

For example, you know, you don't have a public workshop after you have adopted a policy. You have your workshops in the process of developing a policy. Having workshops now will just annoy people even more. It's just a bitch session. They all complain, and it has little if any impact on the policy.

So I think it might be worthwhile to take a look at what some of the low-level waste programs are doing in the states in terms of getting public involvement, and taking some lessons from that.

MR. COMBS: Are there other comments?

Dr. Parker.

MR. PARKER: Yes. I would like to follow up on the comment of the gentleman from Ohio.

I think what is going to be happening here is, we are going to find a number of states absolutely prohibiting BRC waste from going into landfills. And if the states

don't do it, the local communities will do it.

I would like to read from a letter from Commissioner Carr to the Chairman of the Low-Level Radioactive Waste Management Board.

"The Commission acknowledges the fact that many state and local laws and resolutions prohibit any BRC waste from being disposed of in local landfills." And I'm going to skip a few lines. "The need for uniformity of basic radiation protection standards, however, does not affect a state or locality's ability to regulate radioactive materials for purposes other than radiological protection or to choose a site or technology when acting in a non-regulatory proprietary capacity."

My concern is, if we go ahead with this now, what we are going to do is drive the costs up even further than they already are. And I think we ought to take careful consideration whether we should go ahead with that aspect of BRC waste, the stuff going into the landfills.

MR. COMBS: Are there other comments?

[No response.]

MR. COMBS: I'd like to thank the BRC panel, and at this particular point would like to take care of a number of administrative details.

There are evaluation forms in your packets. You can fill those out at your convenience and send them in at a

later date, perhaps with your vouchers in the included envelopes. Your input and feedback is very important to our assurance of continued success of the program.

There is also an information sheet in your packet on details such as where to eat lunch and dinner and how to be reached by telephone while you are at the meeting.

There are two staff persons who can serve as resources from our office:

Mindy Landau. Mindy, if you would stand please. Mindy manages the State Liaison Program from Headquarters, and she can answer questions or help you out with problems regarding this meeting.

Brenda Hill, at our registration desk, can help you out with travel questions.

There is also a packet with instructions in filling out vouchers. But Brenda can help you will all of that, with that information, too.

We appear to be slightly ahead of schedule. And what I would like to go ahead and do is take advantage of that and take our 10:15 break early, to reconvene at 10:30.

Prior to reconvening, I would like to see the other pre-luncheon speakers for a few moments.

Thank you.

[Applause.]

[Brief recess.]

MR. COMBS: I think we are at a point where we can reconvene. Prior to our next speaker, I would like to note that here at NRC, we do hold the State Liaison Program in high regard, and we have a number of NRC employees who are here and I'd like to just introduce at this moment.

Sheldon Schwartz is Deputy Director of our Office of Governmental and Public Affairs.

[Applause.]

MR. COMBS: John Grieves is Deputy Director of the Division of Low Level Waste Management.

[Applause.]

MR. COMBS: Glen Sjobloom, Deputy Director of Materials on Regulations in NMSS.

[Applause.]

MR. COMBS: And Martin Malsch, our Deputy General Counsel. I guess he's doing counsel things at the moment.

[Laughter.]

MR. COMBS: But during the meeting, these individuals and other NRC employees are available to talk to you on issues, and please feel free to contact you. If there are people that you don't see whom you'd like to talk to, would you let me or my staff know, and we'll make sure you have someone to talk to.

Harold Denton is Director of the Nuclear Regulatory Commission's Office of Governmental and Public

Affairs. This office has incorporated the former offices of Congressional Affairs, Public Affairs, International Programs and State Programs.

GPA is responsible for establishing and maintaining good communications and working relationships between the NRC and other Governmental and public constituents.

Mr. Denton was formally director of the NRC's Office of Nuclear Reactor Regulation, and held that position from 1978 until 1987. He is a 1958 graduate of North Carolina State College, with a Bachelor of Science degree in nuclear engineering.

He joined the Regulatory staff of the US Atomic Energy Commission in 1963 as a reactor physicist, and has held a variety of management positions in Nuclear Reactor Regulation.

In 1977, Mr. Denton was awarded the NRC's Meritorious Service Award, and in 1980, he was presented with NRC's Distinguished Service Award. Also, in 1980, he was one of the first senior Federal executives to be honored with the Presidential Distinguished Executive Award.

I now introduce to you Harold R. Denton.

[Applause.]

MR. DENTON: Like the Chairman said, it's a pleasure to see so many familiar faces out here in the

audience. I think I managed to visit many of you in your home states, and I find that's probably the best place to talk to you about your local problems.

I thought, before I hit my perception of the major issues, I would at least tell one story, and look back at how countries have faced energy crises before, and the time I've picked here is Britain's energy crisis and the year is 1500 to 1700, just to give you a little historical perspective on the kind of problems we face today.

I found it fascinating to discover that back in that time of 1500, they were running out of firewood. Big problems were developing every year. There was firewood inflation; the population was growing; they were burning more firewood. There was deforestation occurring on the island.

It got so bad that they had to invent several new crimes. One of them was called hedge tearer, and anyone seen tearing hedges to burn, they would put them in the stocks. As the crisis deepened, the parents of any children seen carrying axes were also put in stocks because they were suspected of encroaching on someone's firewood.

Finding scapegoats became very popular. One of the first targets back then were brewers because they used a lot of wood. Bakers also became suspect. They began to ban brewers and bakers.

Coal was around, but no one really liked coal at the time. There was a lot of aversion to coal. In the Royal houses, no one would be caught burning coal in their fireplace. But as time wore on, firewood got so scarce in the country they eventually started using coal. The king even began to burn a little coal in his fireplace. They began to make bricks, and the crisis resolved itself. But it took 200 years, and maybe there's a lesson somewhere in that history that we can think about as we look at the problems we're looking at today.

I sure can't look ahead 200 years, but I think maybe I can look ahead 60 days, and that's what I'll do in my time today, is talk about what I perceive as the major issues confronting the NRC state as a cooperative effort here.

I've lumped them into two classes. The first one I want to talk about are what I call emerging state issues, and some of them, you're going to hear a lot about, some of them, you may not hear anything about this issue. But I did want to give you a context of what I think are the most important issues that we're liable to run into in the short term. So if we could have the first slide.

[Slide.]

MR. DENTON: Let me start first with compatibility. I think this is going to be an increasingly

important issue to look into. Ms. Dicus and other agreement state heads have identified this as a key issue to look into. Several states are also adopting regulations that differ slightly from NRC regulations. Pennsylvania has a few words different in their regulations; Illinois has some different regulations.

This prompted us to do a survey. Shelly Schwartz and Beth Hayden did talk to a number of you during the summer to identify what you thought should be encompassed in a real survey of compatibility issues, and we got a lot of useful ideas from you.

The Commission is considering this paper, and I think we'll be directed by the Commission to launch a major effort trying to identify what does compatibility really mean, and should we make any changes in the way we review compatibility between Federal and state statutes or practices.

I just wanted to identify this one. Commissioner Curtiss will be talking about it in great detail I think, and he'd be a good one to ask the policy questions about where it might head.

The next one is a new area that's just emerging, and it involves the Public Utility Commissions. I don't know if any PUC reps are here or not, but in several areas, the Commission has become concerned that the incentive plans

that some PCUs write have too many sharp edges, and that may have disincentives to safety in them. You know, a simple case would be that if the plan gives the plant manager a million-dollar bonus for running a day more, and takes away his salary if he runs a day less, he might just ignore some critical developing leak in the plant and try to run the day more.

So there are certain types of incentive plans that the Commission has gotten concerned about. They asked the staff for a draft policy statement to identify those undesirable features from our standpoint. We have given the Commission a draft staff paper on this, and I think you should anticipate the Commission will be sending something out in draft for everyone to comment on, trying to address this area, and I would think your PUCs would be very interested in that paper.

Another one that's taking a lot of time is one that some speaker identified this morning, and that's our interfaces with EPA. Talking about compatibility at the state level, compatibility at the Federal level may be no better.

I've made up a list of where we in EPA disagree, or at least have some differences in approaches, and I stopped around ten just for simplification.

The Commission's taking a hard look at why do we

at EPA seem to bump into each other so often these days? Well, one area is increasing Congressional direction. There are lots of new bills that are coming up in Congress, and EPA gets a lot of direction from Congress to go do things. So there's the jurisdictional question that often arises. Court decisions also force EPA to take a lot of the views that they do.

Sometimes, there are true scientific differences between ourselves and EPA, and we are working on those. EPA also has a different approach for risk management than the historical approach that the NRC has taken.

All these things have led to our bumping into each other, and lack of progress. We're trying to resolve that by getting together at a high level with EPA and agreeing to work through these things, and either solve them or go to Congress, but it's a very difficult -- it appears to be a very difficult chore to do.

Let me just list some things which we can just name right off the bat where EPA and we have different approaches. The emission standards under the Clean Air Act -- this is being debated right now in Congress. That could have significant implications for some of the facilities in your areas. I guess my own opinion is that most of the reactors probably meet the Clean Air Act standards, but there are a lot of other licensees that may or may not

approach.

level waste standards. We've had Part 61 on
for some time. EPA is in the process of issuing
standards for low level waste, and I think a lot of
e are awaiting those standards to see exactly how they
fit differ.

Uranium mill tailings -- that's another area where
we differ. BRC -- they've indicated they would prefer some
different values in BRC than the ones the Commission
selected. They've indicated they would prefer some
different values in BRC than the ones the Commission
elected.

Mixed waste. We've been talking to the EPA about
to handle mixed waste. That's a problem that seems to
oing away in that no one can admit that they have mixed
. Apparently, if you've got it, you've only got 60
o dispose of it. Since there's no way to dispose of
can't admit that you've got it. So if you make a
you don't find a single licensee having any mixed
he problem seems to be going underground.

protective action guidelines, you know, with
mergency planning. We've long used 5 rem/1 rem
on guides. I think all the plans out there are
e kind of numbers. I think EPA would like to
em as the new protective action guidelines.

because of their approach.

Low level waste standards. We've had Part 61 on the street for some time. EPA is in the process of issuing general standards for low level waste, and I think a lot of people are awaiting those standards to see exactly how they might differ.

Uranium mill tailings -- that's another area where we differ. BRC -- they've indicated they would prefer some different values in BRC than the ones the Commission selected. They've indicated they would prefer some different values in BRC than the ones the Commission selected.

Mixed waste. We've been talking to the EPA about how to handle mixed waste. That's a problem that seems to be going away in that no one can admit that they have mixed waste. Apparently, if you've got it, you've only got 60 days to dispose of it. Since there's no way to dispose of it, you can't admit that you've got it. So if you make a survey, you don't find a single licensee having any mixed waste. The problem seems to be going underground.

Protective action guidelines, you know, with regard to emergency planning. We've long used 5 rem/1 rem sort of action guides. I think all the plans out there are based on those kind of numbers. I think EPA would like to see 1 and .5 rem as the new protective action guidelines.

Well, that would throw another recycle into what everyone's doing in this area.

I mention these just as areas in which, somehow, due to these different directives from Congress and court decisions, we are slightly different. Normally, we differ by about a factor of two to five, it seems, hardly enough to quarrel over from a technical point of view, but just enough to make havoc in terms of trying to have a common regulatory approach.

We are working on that with EPA, and I'm hoping that we can solve them and work on them.

Another one that is an emerging issue is plant license extension. We've proposed a way to extend the license for those utilities who want to operate beyond the present license condition of 40 years. That's out for public comment.

I think Fred sent you all copies of the Federal Register Notice. I think the comment period is still open, as I remember. I think it closes soon. And that outlines how the Commission would propose to extend the license for anyone. You are going to hear more on this topic from Tom Murley later in the day.

Let me go next -- and these are the four that I think really are emerging in which they are not fully set, and they are subject to change, and a lot is going on in the

policy development area.

[Slide.]

MR. DENTON: The next slide, I wanted to hit what I considered the most significant ongoing activities.

Low-level waste, we have all heard lots about. You are going to hear a lot more about it as soon as I quit.

I've tried to get to a number of the low-level waste sites. I've been very impressed by what California and Texas are doing, also impressed by those isolated sites they have out West where you can stand there and not see a soul in all directions as far as the eye can see. Coming from the East, I'm not quite used to such wide-open vistas.

But this area is going to take a lot of attention. And some people are getting pessimistic about the ability of the Eastern states to find sites and overcome public acceptance. Other people are plugging away. But I think - has got to be a major focus of our combined efforts.

Our policy on state accompaniment of inspectors at nuclear power plants. This is a policy statement that the Commission has issued. A few states are taking us up on that. I think mainly Illinois, perhaps Oregon, Maine. So far it has not been widely adopted. But that does provide the vehicle for state involvement in power plant inspection activities.

Emergency planning. I put this up because I thought that issue was probably behind us. It was ten years ago, 11 years ago, that TMI happened. FEMA has been hard at work all this time. I was surprised to find that over 25 percent of the states with nuclear power plants still don't have final FEMA approval. And I think that could well come to be a problem.

It is somewhat surprising how so many states still don't have final FEMA approval. And it probably differs among the states. But I would think someday that could get to be a real problem, and that new issues could arise, and if you don't have a final FEMA signoff, it is always subject to reopening again and not being able to close that issue. I congratulate the 75 states that have managed to close it.

You are going to hear from a panel, I think, on the emergency planning. That would be a place to raise your questions in that area.

Something else going on in emergency planning that is fairly important is the recent Commission decision to require electronic data transmission from the plant computers. I think it is called the ERDS system, emergency response data. And that will be using modems and sending back to here the 30 or so critical parameters taken right off the plant computer, so we don't have to rely on the telephone in case of emergency to know what pressures and

temperatures and flows are. And I think there are some states that do those sort of things to one degree or another already.

Another very important ongoing activity I want to be sure you are sensitive to are health studies. There have been a number of epidemiological studies started in the U.S. several years ago that are just now coming out. You probably read about the one that came out recently on TMI. That was published in the Journal of Epidemiology last week, and you can get copies of that from Fred if you want to see it.

The one I wanted to call your attention to is the one coming out next week by NIH. This will be a major effort where they have looked at the cancer incidence around nuclear facilities in the U.S. It is the most thorough study I'm aware of of this type ever made in the U.S.

I have left in the back of the room some background material that NIH has provided, and you should just be aware of this forthcoming study next week. The results are all embargoed until they actually release the study. But you will find yourself mentioned in there if you have any NRC or DOE facilities.

Finally, I wanted to talk about the importance of the medical quality assurance program the Commission has going. The Chairman mentioned that. I think there are 72

institutions throughout the country that are participating in this power program, trying to reduce the likelihood of misadministration in hospitals. And we are now getting feedback from the clinics, private practitioners, and hospitals about this QA program, and will be no doubt moving to implement some new programs in that area down the road.

These two slides are at least one person's view of what is coming down the road. And I wanted to sensitize you to them and open the floor for questions. In some of these areas, you hear a lot more. And that would be the place to bring up details. But if you've got areas that you think we should add to the list, or want to ask about any of these dozen or so issues, I would be happy to answer them.

No takers?

Yes.

MR. PARKER: Gerald Parker, Massachusetts.

Regarding the NIH health studies, if I remember correctly, that is based on fatality records, not on the cancer incidence. And that is not a good way to see whether there is any disease or not. We will be releasing our study around the Pilgrim Nuclear Power Plant on the 27th, which would be based on cancer incidence, and not on fatalities.

MR. DENTON: Thank you.

Maybe I should say a few more words about this study.

They did identify all the counties, I think, within a 10-mile radius of either NRC or DOE facility, and they were the counties that would be the affected counties. Then they looked for counties in the same region that had the same epidemiological mix. And apparently, this is a standard epidemiological treatment by NIH. It's their full-blown, standard, high-class epidemiological study, they say. It's the same way they identified asbestos hazards in the U.S. and other kinds of hazards. And I'll let them defend that, since I'm not an epidemiologist.

Then they looked for 16 different types of cancer. They looked at age, sex, income levels, and these kinds of things. And I think the study is about that thick.

So you can all look in there and draw your own conclusions. It's going to have reams and reams of data in it.

They only looked at, I think one reason they looked at the data on just mortality is they felt the health data for their purpose was better in that regard and they looked at 35 years of health data in these counties. So they used the local health data from the counties that are named. And I think they say they've done some 25,000 total comparisons by the time they looked at all the counties and the types of cancers and the age levels and this sort of thing.

They had, there is very limited use in their of cancer incidence. And where they felt the data was available, I guess, or warranted it, they did use cancer incidence in addition to mortality. But basically, it's a mortality study.

What date would your study be released?

MR. PARKER: December 27.

MR. DENTON: So it's going to be one right follcwing the next one. I think the 19th is the target date for NIH, if they can hold to that publication date.

Other questions?

[No response.]

MR. DENTON: No topics you want to add or take off? I want to be sure we treat what's on your mind.

[No response.]

MR. DENTON: Well, thank you very much.

[Applause.]

MR. COMBS: Thanks a lot, Harold.

Continuing our sortie into non-controversial subjects, we will now hear presentations on low-level waste.

Our first speaker is perhaps the man who's dabbled more in low level waste in the past ten years than most of us others have, Holmes Brown.

Holmes is currently Director of State and Federal Programs for Afton Associates where he serves as a

Coordinator for the Low Level Radioactive Waste Forum.

Prior to this task Holmes was a consultant to the NGA on nuclear waste issues where he planned and conducted negotiations to develop a consensus among stated on revised low level waste legislation.

He did successfully lobby the Congress to incorporate the state positions in the Low Level Waste Policy Act Amendments of 1985.

Mr. Brown is a graduate of Oberlin College with a degree in English Literature and has done further graduate studies at the University of Virginia. Now it is my pleasure and my honor to introduce to you Holmes Brown.

[Applause.]

MR. BROWN: Thanks. When I walked in I saw the folks in the back worrying because they say I am always late and I pointed out that I was here with two minutes to spare, which is pretty good, especially for living here in town. All the rest of you have been here for a good long time.

What I have been asked to talk about this morning is the current status of the development of low level waste sites and waste management efforts by states in relation to the Federal legislation.

I thought what I would do is run through briefly what's happening around the country. It's always kind of a risky proposition, especially when there are representatives

of each of the states and the regions in the audience so you can feel free to -- if you would be polite enough to wait until I am through, like Kevin is itching already -- you can correct me after I'm finished, but I thought I would like to run through what is happening around the country and then talk about what I view as some of the issues that you all may be particularly occupied with over the next couple years.

Then we are going to have more detailed information from representatives of individual states and regions.

I always start out West in the Northwest compact with Washington state because that's usually the easiest to describe and as you know, as things get more complicated, we kind of loop around the country and end up in the Northeast.

I probably ought to go the other direction because you end on perhaps a more optimistic note but somehow I've always started with Washington so I do it again today the same way.

You know, Washington state is the current host state for the Northwest compact and intends to continue to serve in that capacity. I think the state legislature and Governor have made quite clear that at the moment at least they intend to serve just as the host state for the Northwest compact. The only change in that policy is some

legislation that was adopted earlier this year in which the State legislature approved the commencement of negotiations with the Rocky Mountain compact and the Northwest compact and Rocky Mountain compact are currently engaged in discussions which would result in the Northwest compact taking Rocky Mountain compact waste.

As you may know, Colorado was the designated host state for the Rocky Mountain compact but that compact generates very little waste. I think it's averaged somewhere around 4,000 cubic feet a year.

There will be some additional waste I think generated as the result of decommissioning of the Fort St. Vrain plant but over the long term it's a very small amount of waste.

The Northwest compact had indicated in the past they were willing to entertain accepting waste from contiguous compacts and states as long as it was a relatively small amount of waste and that seems to be the policy at this point.

Moving then to the South, California and the Southwest compact, California was the only state that satisfied the 1990 milestone by the submission of a license application. Their license application addressed all the low level waste in the Southwest compact except mixed waste and they submitted a supplemental, a Governor's

certification to deal with mixed waste.

California is clearly in the lead in terms of developing sites and they are currently reviewing the license application. I guess Reuben will fill us in further on the progress there.

There has been some speculation about whether the Southwest compact and California might take waste from some other regions. The response California has given up to this point is that their Southwest compact commission has not been constituted yet and they aren't really in a position to say yea or nay on this issue, so that is an open question.

That position contrasts with some other states and compacts that have been approached generally through letters by other Governors where the answer has been a definitive no. Anyway, California is clearly going to be the first stats I think, first compact to get a site on-line.

We have a representative of Texas. Bob will be filing you in further on what's going on in Texas but Texas is an unaffiliated state. They have chosen some years ago to develop their own site and established an authority.

They have a preferred site chosen. At the moment I understand that Texas is delayed through litigation. I think Bob will probably fill us in on that. I believe that the trial got underway, was it last week? There had been several continuances by the judge but I think that trial is

finally underway and Bob can give us an idea of the chronology on that.

I think it is worth keeping an eye of Texas in terms of how long this sort of litigation works. I am not a lawyer so I can speak freely about the merits of the case, but you know I think there is a general feeling that the Texas authority has been challenged before. They have gone to court. They have won. This is yet another round of litigation, yet the delays may be several years and the authority I think is fairly confident of ultimately winning but this may be a warning to a lot of people out there that even though you are making progress on the technical side of things and getting your license application prepared, litigation is a real wild card in all this.

If certain folks are willing to spend the money to take you to court it can result in substantial delays even though the state and the license applicant are quite confident that things are in order.

Moving then to the Central compact, which has Nebraska as the host state, this is the second location in which a license application has been submitted and the state of Nebraska is currently engaged in reviewing the license application.

The hope is that a site will be on-line prior to 1993 I believe in the Central states and if the question

comes up about whether the Central states would accept waste from outside the region, the response from the political leadership in that state has been pretty uniform that they are constructing a site for their state and their region but not for anyone else.

Next we get to the Central Midwest compact, which is composed of Illinois and Kentucky. Some years in the past I think there's a feeling that Illinois might be the second state to receive a license application. However, there have been considerable opposition within the two counties that Illinois has been reviewing for consideration and the end result has been that Illinois state legislature this year revised the signing process and has introduced new elements, including a review panel headed by a former Justice on the Supreme Court.

This panel is going to be reviewing the technical merit of the sites and then following IDNS review of the license application is going to be going back over that again to provide assurances to the public.

The state of Illinois feels that they are back on track. There have been predictions that this revision in the legislation is going to result in a substantial delay in Illinois. I think when you talk to the representatives of IDNS they feel that the legislation is fairly tightly constructed and that you are not looking at an inordinate

delay. I think it is something on the order of a year or perhaps two.

I think another interesting aspect to the Illinois legislation was that at the time when they adopted the review panel they also adopted provisions that limited the ability of legal challenges to the site.

I think particularly given the experience in Texas that that may be something that other states want to look at. Personally I was surprised that at this late date in the process that a state legislature was willing to entertain and adopt legislation that put some restrictions on the ability to raise issues and to have legal challenges, but I think that that might be a point well taken for some of the other states.

Turning now to the Midwest Compact and Michigan, which is the host's state. This is a compact which has probably received more publicity around the country than any other.

I can simply give you a quick summary of the last meeting of the Midwest Compact and they're -- if there are representatives here from that region, you my want to supplement what I have to say.

The Midwest Compact has been providing money to Michigan to carry out their siting activities and waste management activities. I think, to date, it's been

something like $9 million. The State of Michigan has been engaged in the process of reviewing potentially acceptable sites. They've been doing so, however, with siting criteria that was adopted by the Michigan State Legislature, which is more stringent than Federal siting criteria.

The end result has been that thus far, Michigan has not been able to locate any area within the state that is deemed [illegible]ptable under their criteria. They had done some ini[illegible]ning, and I believe come up with 81 areas that they wanted to consider further. They then selected three of the largest areas for fur[illegible]r consideration, and found that none of them passed muster.

At this point, what they want to do is go back to the remaining 79 areas and do a rough screening of them to find if any of them are acceptable under the Michigan criteria. The -- and Michigan requested additional money to do that from the Midwest Compact.

Simultaneous with the Michigan signing process, the Compact and the state have been engaged in discussions about how to guarantee the return of money from Michigan, if Michigan ended up not providing a site for the Midwest Compact. And that's the current impasse between the Midwest Compact and the state.

Michigan has asked for money to conduct a review. The Midwest Compact has refused to provide the money. And

there has been some speculation on both sides, about the continued viability of the compact. The state and the compact are continuing discussions. And I thinks that's -- that's current situation. And it's difficult to predict what will happen.

I should add, parenthetically, that because of the results of the Michigan siting process, the sited states have notified the State of Michigan that by mid-November, if the state hasn't altered some of their legislation or made progress on selecting a facility, that the State of Michigan will be -- or the generators in Michigan will be -- lose access to the currently operating facilities in Barnwell, in Washington, and in Nevada.

So, there's a lot of factors at play in the Midwest Compact, and obviously that's an area you're going to want to keep an eye on. The State Legislature, I think is reconvening in a week or so. And the sited states' deadline is mid-November.

Turning now to the Southeast Compact, the compact with the largest amount of waste, somewhere around 30 percent of the waste. North Carolina has been selected as the successor host state. South Carolina continues to serve as a facility accepting waste throughout the country, until the end of 1992.

Recently, the State of North Carolina has

conducted a review of their siting process and has concluded that they will not have a site ready by the end of 1992. That had been the deadline everybody was aiming at. And the State of South Carolina had announced that they would be closing their -- their doors at that point.

The Southeast Compact is currently in discussions as to how to handle that. The -- the -- also, the cost of the site in North Carolina -- the cost estimates have risen somewhat as well, and I think, at the last compact meeting, there were discussions on how to fund that and there are currently discussions underway as to how to deal with waste in the Southeast, following 1992.

As you probably know, most states have said, in their Governor Certifications that they would ask generators to store on-site, to bridge the gap between the termination of access to facilities and the opening of new sites. And that is one of the options that's under discussion in the Southeast.

Moving then to Pennsylvania, the Appalachian Compact. Pennsylvania, to this point, has conducted extensive reviews of -- I'm sorry, the technology -- but are just beginning in the process of locating potentially acceptable candidate areas. It will be interesting to see, given the extensive public participation that Pennsylvania conducted in selecting a technology as to whether that sort

of cooperation among many of the interested parties will carry over into the -- into the siting process.

Moving on to New York, another unaffiliated state, and the state which has had considerable opposition generated in the areas that they had been looking at for -- as potentially acceptable sites. New York State, like Illinois, has gone back and revised their siting legislation, expanding the advisory board, which had been created in their initial legislation, lengthening the process and introducing many more elements of public participation. Again, this is delaying the process in New York. And New York is looking at, I think of even greater interest, the issues of longer-term storage. And I think Gene can fill us in on the details in New York.

Connecticut and New Jersey are the two members of the Northeast Compact. It as difficult to get a majority vote in that compact; they keep having one-to-one ties as to who is going to be the host state. I think everybody was pointing at the other person. So, in the spirit of mutual cooperation, they both decided to be host states. And Connecticut and New Jersey are now both involved in the process of coming up with siting criteria, looking at other technology criteria and moving ahead with waste management.

Massachusetts, another unaffiliate, has stayed in the Northeast. They've named their advisory board, they've

hired an executive director, and like other states in the Northeast, are in the process of putting together the documents and the information necessary to embark on both technology selection and the actual site selection.

Finally we come to Maine, a state which has, over time, expressed a preference to be part of a compact, or to contract with someone, but also a state that has put together an advisory committee and a group to also investigate the possibility of opening up the site.

The -- I guess I should finally mention Vermont, which for -- well, actually it was out of compliance for several years, and had not adopted legislation. Vermont has recently adopted legislation that, while the preference would be to be a member of a Compact or a contract their waste elsewhere, is now beginning to look at the possibility of a site in Vermont. The preferred option is to have their waste located near the Vermont Yankee Plant. And, in fact, I understand there's been a voter referendum in the community that's near the plant, and that there was fairly widespread acceptance of that possibility.

Finally, we have New Hampshire, Rhode Island and Puerto Rico, states and entities which have expressed their preference for contracting and, at this point, don't have anything in the way of real siting legislation.

I should mention before running through some of

the issues that I think people will be addressing that there have been three Constitutional challenges to the Low-Level Waste Policy Act, one filed by the State of New York and Gene, I don't know if you are going to cover that or not. You may want to talk about that. The State of Michigan also filed a Constitutional challenge. And finally, Concerned Citizens of Nebraska have filed a Constitutional challenge.

Those have been filed, various responses and so on have been, have also been submitted. I don't know that any trial dates are set for any of them. I haven't heard the latest on New York. Gene may have something new on that.

Just by way of closing, I thought I would mention a couple of issues that I think will require considerable attention over the next couple of years, in light of the status of siting and opening new facilities around the country.

You have talked about BRC already. And I think that that is going to remain an issue of considerable public interest, and we may have some Congressional action on it. Storage is obviously an issue. It looks to me like practically everybody is going to be storing. Well, California, probably, and Nebraska may have sites up and running. But a lot of other states are going to be looking at storage from two, maybe four or five years. So there are a lot of questions involved in storage, not the least of

which is I think they are going to get quite a few requests for changes in licenses. That's going to be a lot of paperwork. And there are questions about, for instance, involving treatment.

If a facility intends to store, but wants to ship their waste offsite for treatment and then bring it back for storage, at least in 1993, you are going to have to start contending with the issues of the import and export controls that I expect most compacts are going to have instituted by that point.

Another issue that is going to be difficult is the question of when is something a material and when is something a waste? That is an important issue, because the import and export controls I think are pretty clearly oriented towards waste. And you may find some people trying to get in and out of regions around these restrictions on the part of compacts by trying to designate things materials rather than waste. And that may be an issue, where some tighter definitions are going to be required.

I think finally, driving so much of this process is the matter of just public opposition and litigation. These are highly unpredictable. Here, up to this point, where there has been intense opposition, it has resulted in changes in legislation on the part of the states, and when you go to court, considerable delays in the process.

So I think all of those are things that we are going to have to be discussing and attempting to resolve over the next couple of years.

So let me end at that point. I guess we'll go on to the panel, and then we can entertain questions.

Thanks a lot.

[Applause.]

MR. COMBS: Thanks, Holmes.

Our next three speakers will speak from the perspective of their states in the siting of low-level waste.

Gene Gleason is Deputy Commissioner for Operations at the New York State Energy Office. He was designated as the State Liaison Officer by Governor Cuomo on February 1st.

For the past 16 years, Gene has served in various energy policy and planning positions with the New York State Government. He has been a senior policy analyst with the Northeast Legislative Leaders Energy Project and the State Energy Office as well as Director of Planning at the Energy Office.

Prior to entering New York State Government service, Mr. Gleason was a faculty member at the Rockefeller College of Public Affairs.

In addition to his other duties, Gene currently serves as Governor Cuomo's designee to the Low-Level Waste

Forum.

Bob Avant is Deputy General Manager of the Texas Low-Level Radioactive Waste Disposal Authority. Mr. Avant has 15 years Government and private sector experience in hazardous materials, energy, and environmental programs.

Mr. Avant has B.S. and M.S. degrees in agricultural engineering from Texas A&M University. He is a member of eight engineering and scientific honor societies. He manages the Operations Branch of the Authority, including technical, engineering, construction, and site activities.

Reuben Junkert of California has a Bachelor of Science Degree in Civil Engineering from North Dakota State University. He is a Registered Professional Civil Engineer with the State of California. He has a 26-year career with the State of California, beginning with the Department of Water Resources, as a design engineer on the State Water Projects.

The most recent 19-plus years has been with the Department of Health Services, Environmental Management Branch and Administrative Division.

He was appointed Project Director of the Low-Level Radioactive Waste Project in 1986.

I now give you Gene Gleason.

[Applause.]

MR. GLEASON: Thanks, Fred. Good morning. It's

my pleasure to be here today and I thank the NRC for inviting me to participate on this panel.

As you may be aware, as Holmes mentioned, last February New York initiated a lawsuit seeking to have portions of the Low Level Radwaste Policy Act declared unconstitutional.

The suit focuses primarily on two provisions of the federal act. The first provision is the one requiring the states to take title to low level radioactive waste. And the second is the provision that the state be responsible for the disposal of what we consider highly radioactive Class C level waste.

Last Friday, the New York State Attorney General filed a motion seeking a summary judgment in the case. So the stage and oral arguments are scheduled for early October in that particular case.

Although the suit is pending, Governor Cuomo remains committed to implementing the present law. New York continues to strive towards siting a low level waste disposal facility within the state.

I'd like to take a moment to explain the organization of the responsibilities in the area of low level waste in New York. When the state legislature passed the original legislation in 1986, it delegated authority for the program to several state agencies, in addition to

creating a specific commission to site the facility, that being the Low Level Radioactive Waste Siting Commission.

The Siting Commission's principal objective, and certainly the main focus of the undertaking at this time, is to select the disposal methods and sites for the facility. It also must prepare the application for certification of the final method and site.

Once the Commission completes its work, the New York State Energy Research and Development Authority must then complete the facility design, acquire the land, and obtain the necessary licenses and permits to build and operate the facility.

Generally, the regulatory authority for licensing the facility in terms of establishing the terms and conditions for its siting and also for its operations, lies with our Department of Environmental Conservation and our Department of Labor.

The Department of Health within the state is charged with the development and implementation of a state-wide public information program on the public health and safety implications of low level radwaste management.

Finally, as Holmes mentioned earlier, the original act created an advisory committee to monitor New York's progress, ensure the interagency coordination in the process, help resolve interagency issues, and provide for

public access.

As you can see, many agencies support the low level waste management activity in New York. The low level radioactive waste management activities in New York are funded through as assessment on nuclear power plant licensees within the state.

Each year the agencies submit a budge to our Division of Budget within New York, where they try to figure out how much money they're going to need over the year, and then it's the responsibility of the Energy Research and Development Authority to mechanically extract the money from the licensees of operating nuclear power plants.

In implementing this mission, the Governor and the involved agencies have strived to be responsive to the public. We have worked with closely with citizens groups from around the state, and particularly with those from the areas selected as candidates for a site.

This relationship helped forage changes in the process that ultimately lead to an amendment of our law in June. On the 30th of July, the Governor signed into a law a bill that redirects the siting process, provides for increased public input, and calls for an independent scientific and technical review of the work done to date.

Specifically, the law changes the membership of the Siting Commission itself by increasing its size to

cial scientist and an environmentalist from
ization have been added to the Commission.
e Commission to choose a preferred
before proceeding any further on choosing a
the preferred method is selected, it will be
to the Department of Environmental Conservation
eptual review.

The Siting Commission also is charged with
paring a site-specific mitigation program to be submitted
long with the certification application as part of the
nvironmental impact statement. This will serve as an
ditional measure to offset any perceived or actual adverse
acts and serve as a form of compensation to the host
unity.

The Siting Commission was further directed to
report on lands that have been excluded from
ration for siting in the prior activity. Some lands
uded from consideration as a result of considera-
the state constitution. A good part of New York
example, is in what's called the Blue Line of the
ark, and can't be developed for these types of

rs, liked West Valley, were excluded by
nibition. And other geographic areas of the
ded as a result of the regulations and the

7 members. A social scientist and an environmentalist from a non-profit organization have been added to the Commission. It also directs the Commission to choose a preferred disposal method before proceeding any further on choosing a site. Once the preferred method is selected, it will be submitted to the Department of Environmental Conservation for conceptual review.

The Siting Commission also is charged with preparing a site-specific mitigation program to be submitted along with the certification application as part of the environmental impact statement. This will serve as an additional measure to offset any perceived or actual adverse impacts and serve as a form of compensation to the host community.

The Siting Commission was further directed to issue a report on lands that have been excluded from consideration for siting in the prior activity. Some lands were excluded from consideration as a result of considerations with the state constitution. A good part of New York state, for example, is in what's called the Blue Line of the Adirondack Park, and can't be developed for these types of purposes.

Others, liked West Valley, were excluded by legislative prohibition. And other geographic areas of the state were excluded as a result of the regulations and the

specific scoring criteria used by the Commission.

What this report is attempting to do is to lay out just what was excluded and why and possibly recommend further areas of geography within the state, although the final decision on whether the report will actually make any recommendations lies with the Siting Commission.

The report will be reviewed by a new Citizen Advisory Committee and an independent technical and scientific review panel. Further, the reporting requirements on the whole low level radwaste activity in the state have been strengthened, as well as the review powers of the Citizen Advisory Committee.

The site selection process to date will be reviewed by the Citizen Advisory Committee and a panel of independent technical and scientific experts. Further disposal method and site selection actions also be reviewed by both.

Finally, the law alters the role of the Advisory Committee, which is now called the Citizen Advisory Committee. Its membership, which previously included state agency representatives, has been changed to omit these officials and add four private citizens: an expert in agriculture production, a local public health services representative, and one elected government representative from each county that has a candidate site. These are

specific scoring criteria used by the Commission.

What this report is attempting to do is to lay out just what was excluded and why and possibly recommend further areas of geography within the state, although the final decision on whether the report will actually make any recommendations lies with the Siting Commission.

The report will be reviewed by a new Citizen Advisory Committee and an independent technical and scientific review panel. Further, the reporting requirements on the whole low level radwaste activity in the state have been strengthened, as well as the review powers of the Citizen Advisory Committee.

The site selection process to date will be reviewed by the Citizen Advisory Committee and a panel of independent technical and scientific experts. Further disposal method and site selection actions also be reviewed by both.

Finally, the law alters the role of the Advisory Committee, which is now called the Citizen Advisory Committee. Its membership, which previously included state agency representatives, has been changed to omit these officials and add four private citizens: an expert in agriculture production, a local public health services representative, and one elected government representative from each county that has a candidate site. These are

additional representatives in addition to the 7 members that are still on the Advisory Committee.

The Citizen Advisory Committee is now independent of the Siting Commission. Previously, the Siting Commission was responsible for all the administrative activities associated with the Advisory Committee.

The Advisory Committee is charged to facilitate the public review and comment process, as well as issue reports containing the comments and recommendations concerning candidate disposal method selection process, the site selection process, and all the other new activities and charges of the Commission in the Act.

As Holmes mentioned earlier, there are a couple of other things going on in New York. He mentioned the issue of storage. As part of the appropriation for this year's budget, the New York State Energy and Research Development Authority was given two new projects by the state legislature.

One is a study of all the economic, legal and technical dimensions of storing low level radioactive waste within the state of New York for a period of at least 10 years. The Research and Development Authority has started the process to scope the study, started to involve the industry as well as interested public citizens' groups, and is about ready to hire a subcontractor to implement that

study.

The legislature also told the authority to transfer $800,000 to the University of Buffalo's National Earthquake Center to study the issue of whether or not the dormant Clarendon-Lidden fault in Allegheny County, which is located about 4 miles from one of the candidate areas, could cause any particular problems with any potential disposal facility. The contract has been let and that study is underway.

As you can see, we've been kind of busy in New York in the last few months. Certainly, the refocusing of the siting activity has been a major undertaking by all those involved. We believe it will be successful.

One lesson we've learned throughout the whole thing, that in 1986, we were fully confident that the road we had chosen and the vehicle in which we were travelling were the right ones to take us towards our goal. Well on the way, we learned that it needed new shock absorbers and a realignment. Now that the necessary repairs have been made, we've hit the road again.

It is this flexibility and willingness to make the necessary repairs that keeps us headed towards our goal. It's something that we should all bear in mind as we encounter these issues.

Let me summarize by stressing that the low level

radwaste issue remains a high priority with the Governor and with the legislature. All of the changes that were made were negotiated totally with the legislature and passed unanimously within the state of New York.

Over the next few weeks and months, we will be implementing the changes affected by the law and we have every reason to believe that we will achieve our goal. And one of the goals that we think we may well be able to achieve by revising this process, is limiting the amount of future litigation through the direct involvement of public citizens within the state of New York.

Thank you very much.

[Applause.]

MR. AVANT: I, too, would like to express my appreciation to the NRC for inviting Texas to come give a status report on where we are in our whole process. And I'd like to maybe sum up my presentation before I ever get started, with three words. And that is, I think we're going to need persistence, restraint and commitment to get this job done. And I've heard the analogy of road being mentioned twice. Carlton mentioned rubber meeting the road, and Gene just did. And now I do think that is certainly time for the rubber to meet the road.

Back in 1982 when the authority was first created, we didn't think that it was going to be an easy or a fun

process then, and I think our perceptions were certainly correct. It's a challenge, it's a job that needs to be done, and we recognize that.

Bottomline on where we are today, as has been reported to you, when Holmes gave his talk, we are in a lawsuit. Technically, the site has passed muster. We've completed site evaluations. License application materials are in hand. It's simply a matter of proceeding with assembling that license application. We are convinced that this is a good site. It's a licensable site. Rick Jacoby likes to say this is the best site in the world. I'll settle for a licensable site. But, I think that certainly this site, when all of the hollering and shouting is over with, is going to meet muster.

All is not rosy though, because we've had some major opposition thrown at us that I'll report in a minute. I'll give you a little background on what the site looks like. And I think most of you have seen presentations, by me or by others, on what the site looks like. If you can envision what the California site looks like, with scrub brush about knee high and basically a desert terrain. We get about two more inches of rainfall in Texas than they do at the site in California. Our scrub brush is about waist high, and our mountains don't have tops on them, they're sort of flat.

So, other than that, the Texas site and the California site are quite similar in a number of features. We're about 40 miles each of El Paso, we're in a different county from El Paso County and a county called Hudspeth County. We're on a 65,000 acre state land. We have access to Interstate 10, you get about nine inches of rainfall, 73 inches of evaporation, one/two percent slope. Our ground waters are 500 feet, sandy, silty, clay-type soil, stratas, it's on an alluvial plain and it's on a desert environment.

A word about our source term. As everybody has been experiencing because of BRC and better waste management techniques, we're down to about 50,000 cubic feet a year, projected waste stream. About 70 percent of that is from the reactors on a volume basis, about 90 plus percent on a curie count. The non-utility waste stream is the balance of that -- about 30 percent. And the mixed waste is about 100 cubic feet a year, that is less than 2/10ths of one percent of the Texas waste stream.

And I'll submit to you now, that the mixed waste problem is a tail that's wagging its dog. And we need to get a handle on it because it -- it's a major impediment upon getting a low level license through agreement state process; especially in Texas because our law says that before we can operate a site, we have to have all other permits in place: clean air act permits, RCRA permits and

all the rest of the permits.

So, if we have to get a RCRA permit for our facility for .2 percent of the waste, it's a major problem. We think we've got that -- that handle through some storage scenarios. But again, I'd like to encourage whatever action needs to be taken nationwide, to stop the tail from wagging the dog.

Our facility is going to be located on about 3,000 acres of that 6,500 acres. Actual disposal will take place on about 100 to 200 acres. It is a below grade type of design: concrete canisters filed with grout for all the waste; segregated disposal units for A, B, C waste and mixed waste, when we get into the mixed disposal mode, if we have to.

The cost of the facility is about $27 million. We have done a performance assessment and looked at the most reasonable maximum doses, by pathway and have used a very conservative modeling program and have come up with the -- the peak dose would be in a ground water source, a well, at the site boundary, and that dose is about 7 MR per year, which is an order of magnitude less than the -- than the 10 CFR 61 requires. So, we feel quite confident, using a very conservative failure scenario that -- that will be an order of magnitude below the performance assessment in 10 CFR 61.

The total operational cost of our facility will be

about -- and life cycle cost will be about $233 million. We will pay back the facility over 20 years -- 30 years life cycle. And we're projecting our cost, per cubic foot to be about $100 to $200 per cubic foot. Since I've got a moving target out there on some development problems, like this lawsuit, I'm hedging my bets, and I've got a fairly wide error band there. But, we feel like that if things happen right, we'll be at the low end of that error band, if things are prolonged and we have to go through a number of more detailed process, it could be toward the higher end of that error band.

As far as our schedule and where we are in that whole process, again, last Thursday, we entered into a major lawsuit. We were actually in trial today in El Paso County. Unfortunately, the way our law is written, this authority can sue and be sued in every county in the State of Texas. Most other state agencies can only be sued in Travis County, which is the state capitol. So it eliminates some of the demagoguery and the politics of local issues, when you can do that.

This is a unique problem to us and -- and there's been a substantial amount of demagoguery associated with our site selection process in El Paso County, the neighboring county, to the west of the siting county.

I can't recall very many major public works

projects, you can call this activity one of those, that has had $2.5 million of taxpayer money thrown at it by an adversarial group.

El Paso County taxpayers, through the County Commissioner's Court, which is an administrative body in Texas, for each county, have spent about $2.5 million in taxpayers' funds to go up against us for lawyers and technical experts. So it's -- and these experts are credible people, they're in the adversarial camp and they come up with many of the same types of objections you have seen when you see opponents going after nuclear reactors. In fact, they're trying to make us commit to nuclear reactor design specs and have criticized our process because we have not adopted some of the more extreme requirements for a nuclear power plant siting.

They have identified three major issues, that we call "the three F's," faults, fissures and flooding. Those are the quick kill issues that you can go after if you look at 10 CFR 61. Those are the areas that are called "fatal flaws." And so we are continuing with that.

Our experts say that these issues are non-issues, they need to be addressed, but they do not affect the siting and they certainly don't affect the performance assessment. Our experts, we have Dames and Moore helping us with -- application and also litigation support. We, as you recall,

Dames and Moore helped us early on in our process on site selection. We have him back on board now to give us technical support, throughout the litigation and the licensing process.

We've called on most of the major institutions in Texas to do our site characterization work. The University of Texas, Bureau of Economic Geology, Texas A&M Meteorology Department, University of Texas, El Paso, Geophysical Department. These people are nationally recognized and respected and we feel very confident in their conclusions.

The flood plain issue is one that's been a major problem to us because we've had some -- some arguments about what constitutes an alluvial plain, an alluvial fan. Our Service Water Hydrologist is Larry Mays, he basically wrote the book on service water hydrology. He worked under Dr. Chow, at the University of Illinois; well respected surface water hydrology, and I'll hang my hat on his conclusions.

Having said all that, we've found some interesting things in discovery documents and some of the things that the opponents have said about the site. One of the leading experts representing the other side, has called this the worst site east of the San Andreas Fault. My retort to that is, this is probably the best site west of the New Madrid fault. So we'll play that game.

They've also said that this site will contaminate

the Rio Grande all the way to the Brownsville -- all the way to Brownsville, so that's something like 600 miles downstream. So you see the type of demagoguery we've been up against.

In a discovery document, we -- we saw -- we found some very interesting strategy that the opponents engaged in prior to ever evaluating the site. In their -- and it's a four-point plan of attack that they engaged in: Number one was to lobby the authority staff to convince them that this was a bad site. Having failed in that regard, then they would move on to the second step which would be to lobby the -- our regulatory agency, the Bureau of Radiation Control, the N[illegible]f, here in Washington and at the region, and also th[illegible]ous Compact Commissions.

Most of you have seen and received various correspondence from the opponents that spell out what a terrible site this is. We also have on record travel logs with meetings with various regulatory officials where they have been lobbied. And so it's been a massive campaign.

The third step is to lobby the politicians, the Texas legislature, and also Members of the Congress. That's been done, and there's been quite a bit of Congressional and Texas legislative attention paid to this process.

And finally, they have written a number of technical papers and published them in technical meetings,

criticizing this site.

Now, our response to that has been that the proof of our activities will be in our license application. We're not going to engage in the types of activities that I laid out for you, and the proof of our activity is going to be in our license application, and we'll speak through it when we get it submitted.

So where does that leave us on our license application?

I think I could have the thing assembled and ready to submit by the first of the year If I didn't have litigation underway. We are looking at various options as to how we might be able to go ahead and proceed with licensing in the midst of a trial. We are very concerned and our attorneys are very concerned that if we proceed with our statutory process of formally designating that site, we have it proposed as Holmes reported to you, we have to take another procedural step, holding a public hearing in Sierra Blanco, which is the county seat of Hudspeth County, and then have a Board Order designating that site, and then have a Board Order ordering me to prepare and submit a license application.

I have most of the materials waiting in the wings. I really have to basically punch the return button on my MacIntosh and spit out the license application. But until I

get an order doing that, I can't formally submit it to the Bureau of Radiation Control.

So if I have to wait until litigation is complete, we're predicting two years in litigation. We're in District Court again in El Paso County before a popularly-elected Judge in that county. That automatically guarantees an appeal.

We see that the process will go directly to the Supreme Court sometime either on appeal or maybe prior to that. I think the most reasonable scenario is we go through the District Court, we go to appeal, and we go to the Supreme Court. That whole process is going to take about two years.

There may be some ways of short-circuiting that through legislation that we are exploring now. I don't want to talk about that a whole lot more, but that may be an option that might be able to short-circuit some of that two years.

If all that happens, then, we would look to have a site operational sometime in the Summer of '96. If you subtract the two years for licensing, or for litigation, I could probably have one operational early in 1994. So that gives you an idea of what litigation can do to you and your whole process. It can easily take two years to wind its way through the District Court and appellate proces and that's

only one lawsuit. If you have multiple lawsuits thrown at you to try to tie you up, you can just multiply that by the number of lawsuits.

And that does not include tests in Federal Court. I'm only talking about District Court. So if you are tested in Federal Court, then you throw another element of uncertainty in there.

I started off talking briefly about the three words I think we need to think of. And that is persistence, restraint, and commitment.

I think we are going to need to maintain some developer, developing entity persistence in this thing. We need to keep our eye on the target. We've been after it since 1982 and it certainly hasn't been easy and it hasn't been fun. Again, it's a job that needs to be done and I think that, as Gene just pointed out, the things in New York certainly haven't been fun or easy either, or most other states. Persistence and dedication are real important in getting this thing done. And it becomes frustrating sometimes, when you have people of a developmental mindset having to jump through all these hoops.

We need some political restraint in the process. In other words, if it isn't broke, don't fix it. And I think we're having a lot of tinkering with a process that just simply needs to be let run its course.

And finally, I think we need to maintain a regulatory commitment to solving this problem, both at a state and a national level. In other words, I would encourage and compel -- compel is probably not the right choice of words, but at least strongly encourage -- the regulatory community to be proactive in this area to the extent you can without making it look like you are in bed with the developers, which you certainly can't be for a fair outcome for everybody. But I think those things are a key to making this whole thing work.

And to wrap it up, I guess the worst thing that we can be up against is indecision and inaction. And that's on all parties, on the part of the developer, on the part of the politicians, and the policy makers, and on the part of regulators. We need to get on with it, and the rubber needs to meet the road.

Being an engineer, I like to burn diesel and turn dirt. And it does become a very frustrating process when I start dealing with policy makers and lawyers and politicians that basically are committed to the process and not committed to having the facility underway.

Thank you much.

[Applause.]

MR. JUNKERT: Good morning.

I think that's the beauty of being last. You get

some good speakers ahead, you've only got two minutes, and you wrap it up.

Boy, is this serious business. I'm looking around out there, and I thought of this lawyer joke. I think 1990 ought to be the year of the lawyer jokes.

What's the difference between jumping on a trampoline and an attorney? Well, a trampoline doesn't scream.

[Laughter.]

MR. JUNKERT: It's a pleasure to be here this morning to report on California's progress to site and license a low-level radioactive waste disposal facility.

As is well-known by now, California determined that U.S. Ecology's application for a license was complete for detailed review, and that decision was made in December of last year.

Since that time, a lot of paper has been generated and trees have been dying, on a regular basis.

The application consists of 11 volumes, in excess of 7,000 pages. And I know some of the people that are here have seen it. It looks good in the binders. It really does. Very impressive when it sits in the cabinet, if I have room to put it in my cabinet.

The review process has resulted in two rounds of interrogatories by the Department and subsequent responses

by U.S. Ecology.

The second round of responses is now being evaluated. And the anticipation is there will be a third round to clean up the few remaining details.

The first two rounds of interrogatories and responses added about the equivalent of another six volumes, you know, four inches per volume, to the stack of paper.

About the time we get our Safety Evaluation Report complete, that is a minimum of two volumes, so it will fill out a pretty nice bookshelf, several shelves on the bookshelf, anyway.

Two items of the application have drawn considerable attention. One has resulted in the redesign of the BC-30 trench cap an' the other is driving an expansion of the Vadose zone monitoring system.

Our goal is to make a licensing decision by the end of the year.

There are a couple of other issues that are on a separate but parallel track. And these deal with mitigation and compensation for impacts on the Desert Tortoise. That is an unresolved issue. And the appraisal of the land and transfer to the Department. That is moving slowly. It's not on the critical path. However, the issue of the Desert Tortoise is on the critical path. And essentially, it will hinge on the evaluation and biological opinion which is due

from the U.S. Fish and Wildlife Service and also the State Department of Fish and Game, if they were to declare jeopardy, and then that opens the door for other things to happen.

We have been told that that opinion is probably going to be available by the 1st of November, or at approximately that time.

We issued the EIR-EIS on June 15. The cutoff date for comments is September 30th. Comments have dealt with every conceivable item. Just a few: the impact on the Desert Tortoise, of course, is high; need for dual liner leachate collection systems; response to transportation accidents; public exposure to radiation; emergency response; waste floating down the Colorado River; alternative disposal methods -- some people thought we ought to just find an old mine shaft somewhere and stick it in there; creating a perched water table; the "not in my backyard" syndrome is showing up; and, of course, arguments about U.S. Ecology's track history, namely, at Maxiflats and Sheffield.

The EIR must be certified before the ownership of the land can be transferred. And that is going to be dovetailed very nicely with the issuing of a license, because by state law, once EIR is certified, we have 30 days to issue the license.

I guess we could always delay the certification of

the EIR and then have the license ready. So it is going to be hand-in-glove work with some of the other agencies.

We still expect a license to be issued in Spring of '91, maybe about April or May, and approximately a six-month construction period, and start operations by the end of 1991.

Now, this little brief sketch, I don't pretend that there is no opposition. The opposition group is fortunately small and also hopefully not growing.

We are going to be spending more time dealing with concerns of other state agencies than we are spending time in dealing with individual opponents. This, however, could change quite rapidly.

I was informed Friday that an opponent had filed a mining claim on the proposed site.

One of the issues that has been raised by two state agencies and one Federal agency is the need for a dual liner and a leachate collection system. This concern is forcing a strong look at the proposed Vadose zone monitoring. And I expect changes will be made to that proposal.

I've told U.S. Ecology not to put their eggs in one basket, but to take a serious look at a backup system for the Vadose zone monitoring. The hope is that the Regional Water Quality Control Board will accept the

tensive monitoring system as a basis for issuing the waste discharge requirements.

To summarize, I will say this. We are making progress, but it's not in the bag.

[Applause.]

MR. COMBS: Thanks a lot, Reuben.

What I would like to do now is to entertain questions four our last four speakers.

MR. STEWART-SMITH: Dave Stewart-Smith, State of Oregon.

My question is for Bob Avant.

Have you addressed the legal issue of how you are going to be able to exclude waste as a Code 1 State Compact? It's an issue that I've heard asked before, but I haven't heard an answer from somebody from Texas. I'm wondering how you are planning to address that.

MR. AVANT: We have entertained that issue a number of times.

To be honest with you, right now we are more worried about draining swamps and getting the alligators t. I think what is going to happen, the first site ed, there will be a truck pull up with two people in it, e is going to be a driver and the other is going to be r. So I see that being a potential for litigation,

intensive monitoring system as a basis for issuing the waste discharge requirements.

To summarize, I will say this. We are making progress, but it's not in the bag.

[Applause.]

MR. COMBS: Thanks a lot, Reuben.

What I would like to do now is to entertain questions four our last four speakers.

MR. STEWART-SMITH: Dave Stewart-Smith, State of Oregon.

My question is for Bob Avant.

Have you addressed the legal issue of how you are going to be able to exclude waste as a Code 1 State Compact? It's an issue that I've heard asked before, but I haven't heard an answer from somebody from Texas. I'm wondering how you are planning to address that.

MR. AVANT: We have entertained that issue a number of times.

To be honest with you, right now we are more worried about draining swamps and getting the alligators out. I think what is going to happen, the first site opened, there will be a truck pull up with two people in it, and one is going to be a driver and the other is going to be a lawyer. So I see that being a potential for litigation, too.

In the whole scheme of things, I see that issue being a very minor one in the context of trying to get a site developed, though, and especially in light of what happened in Alabama with that Alabama case being overturned.

The Alabama case gave us a little bit of consolation there, until it got overturned. I don't know what's going to happen to it in the Supreme Court. But that's an issue out there, but I don't consider it a major one.

MR. OWENS: Bob Owens, State of Ohio.

I would just like to talk to Holmes' presentation on the update of the low-level waste compacts, for the Midwest Compact. We had a meeting in August, and basically we significantly reduced funds to the State of Michigan for pursuit of that endeavor, primarily because of the lack of progress by the State of Michigan, and also from pressures put on the Compact by the sited states.

The funding that was provided to Michigan was also contingent upon accomplishment of several milestones, namely, that the existing Michigan criteria needs to be considerably relaxed and can be done by October 1st, and also that the three candidate, potential sites, should be selected by April 1st, and if that is not done, that even the existing funds will be reduced by one-twelfth per month until that is accomplished.

Even before the funding was reduced, Jim Cleary, for the State of Michigan, indicated that the time frame for establishing an operating site has been postponed until March 1, 1997, which is about a 20-month delay from the original plan.

Given that, Jim Cleary, the Commissioner for the Michigan Authority, has reported in various newspaper reports, as saying that Michigan is about 70 percent on its way out of the compact, and if the Michigan Commission, or rather, the Compact Commission, does not relax its funding criteria basically and come around with additional fund , that may well see Michigan out of the compact very shortly.

MR. COMBS: Any further questions or comments?

Yes, Aubrey?

MR. GODWIN: I would like to say that there are some differences between the case of Alabama and the case that may arise in Texas, one of which is the operator in Alabama is a private entity as opposed to a state agency. Secondly, it was related a taxing problem.

That part still has not been decided but the exclusion part has, at least with the first level so I think there will be some differences if you are looking at a state-operated entity versus a private entity.

You are operating for your own citizens as opposed to a commercial entity so there may be some significant

differences.

MR. AVANT: Thank you. I have a question for Holmes Brown.

I wonder if you would speculate as to the future.

MR. DENTON: There could be several courses.

One, we could always delay -- concur -- there would be more onsite storage and in addition everyone would find a site in their existing compacts and so forth.

Another approach might be the states who were successful would end up taking waste from other compacts and the amount of pressures would drive you towards some utilization of whatever was available.

What do you think is going to happen if -- where will we be two, three, four, five years from now?

MR. BROWN: I think the question should probably be declared out of order.

[Laughter.]

MR. BROWN: I talked to reporters off the record but that's a little harder -- let me take my name tag down here and say a few things.

MR. DENTON: We are all one family.

MR. BROWN: Oh, sure.

[Laughter.]

MR. BROWN: No, I think you're right. I mean those are several things that could happen.

I think that one area that is least likely to happen and people do speculate about this is that you are going to go back to Congress -- periodically there's an enthusiasm for going back to Congress when certain folks say introduce legislation and they stand up and say, well, we are going to get this revised, and I think it is always salutary to hear from the staff members of the members of Congress.

That is the one area where I think you are not really going to get much relief.

They have got larger nuclear issues to deal with and I think from their point of view when they look at the high level waste program, Defense waste cleanup for the WIPPS site and New Mexico, that the low level waste law is working better than many others and they are not likely to come up back to it.

The question is given the dynamics of the Low Level Waste Act, the pace at which people are moving the economics, what's going to happen.

I think it is significant to look at the responses that various states have given when letters have been sent around by various Governors asking whether you are going to take our waste or not.

Generally states have said no but there are some exceptions to that and I think even in some of the states

that said no you had some, say, ambivalent sentiments expressed.

For instance, in Washington state a couple years ago the former and the present Chairman of the Energy Committee in the Washington state legislature circulated a position paper saying we have been accepting waste from outside the region for a decade or more. It's been a major source of income. We at least ought to examine the options of whether we take waste from outside the region. We can either take it just from the region. We could be selective in taking waste or we could decide to become a national site.

While the Governor and the rest of the legislature haven't gone off on that, you do have two long-time members of the legislative leadership in Washington state that have suggested that so I am not predicting anything but the point is that you don't always have a uniform approach.

I think again, I alluded earlier to California, California didn't say no point blank.

Now they may have simply been deferring a negative response until they actually had -- their commission is in order, but they haven't said no.

I think similarly the Texas state legislature took a look at the issue of whether to join a compact a couple of years ago and as I recall the language of the authorizations

of the authority to look at -- I think the phrase they used was to investigate the benefits of joining a compact. Now the authority did submit a report to the legislature.

The response of the legislature was that they weren't interested at this time. I believe that they talked about economic incentives, of substantial economic payments to the state of Texas to cover the cost of construction and operation.

There was actually a hearing at which I think Maine and Vermont I believe sent representatives who testified before the state legislature. Maine proposed a surf-and-turf compact at that time -- but the amount of money involved I think was about 10 million dollars. I guess that doesn't talk turkey in Texas.

I guess you need to up the ante but the point is that even in states that have generally said no there has been some ambivalence or some interest.

The amount of money that sites are costing now and I think $27 may be the lowest -- well, I don't know what the California site -- what are you folks running at?

Do you know how much your site is going to be costing?

MR. JUNKERT: We get varying estimates.

It depends on if we're forced we can do a double liner leachate collection system. It is probably going to

be minimum of in the low thirties and probably as high as the upper thirties.

MR. BROWN: But when you talk to the states in the Northeast, the people are looking at forty, fifty, in that range, and you know, if you multiply all the states in the Northeast, and this was an issue that was discussed at the forum, if there were a collective offer out of some of the states in the Northeast who may be pursing signing initiatives but may not be particularly anxious to site a facility, you could generate like half a billion dollar offer out of the Northeast.

That hasn't happened yet but it would interest me to see how some of the states that may be in the lead might respond to that so I think it's really too early to tell.

Generally what you are getting is negative offers or I'm sorry, negative responses.

On the other hand, nobody has ever walked up cash in hand with that amount of money and I think that some states might find that fairly attractive and you could sell it to the public by saying this is basically the environmental fund.

Now we have a gold-plated facility that we're convinced is absolutely safe and by taking waste from some other states we can generate on the order of a quarter to half a billion dollars so we can go elsewhere in the state

and really clean this place up.

That is the sort of pitch that could be made. It's really I think too early to tell how people would respond but the potential is there. Nobody has done it but I think that something like that might work in the next three or four years.

MR. JUNKERT: I would like to make another comment regarding cost.

One of the factors is how soon can you get it going?

Every day that we delay and we're almost there will add 15,000 dollars a day in interest charges, so you do that for a year and it changes the picture dramatically.

MR. AVANT: One other comment on cost. You have to look at what's the numbers for reporting -- $27 or $28 million that I referred to is strictly for the actual facility itself. It does not include any upcoming licensing.

Today we are at about $14 million that we have spent toward our site and if I'm not mistaken, California has probably spent $17 million just to get their license application into you all, so we'll be about $17 million for us to get our license application in and then you add the $27 million on, so to get a site licensed and under operation I would say the low end of it is going to be $40

million.

MR. COMBS: Do we have other questions or comments?

[No response.]

MR. COMBS: I would like to thank all our morning speakers and go as scheduled and adjourn for lunch, to return at 1:30.

Thank you very much.

[Applause.]

[Whereupon, at 12:15 p.m., the hearing recessed for lunch, to reconvene this same day at 1:30 p.m.]

AFTERNOON SESSION

[1:35 p.m.]

MR. COMBS: If I can have your attention. We will being our afternoon session with an issue that's perhaps critical to one are of federal-state relations, that of Agreement State Compatibility. James R. Curtiss was sworn in as a member of the Nuclear Regulatory Commission on October 20, 1988, to serve a term ending June 30, 1993.

Before his nomination by President Reagan, and confirmation by the Senate, Mr. Curtiss served as an associate counsel for the Senate Committee on Environment and Public Works. He joined the staff of the Committee in early 1981 as an assistant counsel.

Previously, he started his law career with the Nuclear Regulatory Commission, serving from 1979 to 1981, first as an attorney with the Office of the Executive Legal Director, and later as a member of the then NRC Commissioner, Richard T. Kennedy's staff.

Mr. Curtiss was graduated from the University of Nebraska in 1976 with a Bachelor of Arts degree and received his law degree there in 1979. It is my honor to introduce to you James R. Curtiss.

[Applause.]

COMMISSIONER CURTISS: As rough as that introduction was and as short I thought my term was there

for a minute, I was reminded as Fred was going through that of one of the first introductions that I got when I came to the Commission in 1988 when I was speaking to one of our annual gatherings of SES employees, the senior agency staff, in the winter of 1988.

Vic Stello was our EDO at the time and this up at a hotel in Baltimore, and Vic got up and described my career and the fact that I had graduated from law school and went to work for the NRC and then went down to work for one of the committees on the Hill and came back then after 8 or 9 years as an NRC commissioner. And after going through all of that, he turned to me and he said, it's my pleasure to introduce Commissioner Jim Asselstine.

[Laughter.]

COMMISSIONER CURTISS: Well the lines that you think of are always the ones that you think of on the way back to the office, the best lines, and when I got back to the office I told my staff that, and one of the fellows there said, and this is about the time when the presidential election was hot and heavy and right after the Quayle-Bentsen debates, and he said, you should have gotten up and said, you know, Vic, I knew Jim Asselstine, I worked for Jim Asselstine, and you know how the rest of it goes.

[Laughter.]

COMMISSIONER CURTISS: Let me welcome all of you.

I know the Chairman was here this morning and extended his hearty welcome to this group, and I won't expand much on that, but except to say that it's certainly a pleasure to see all of you here. This is an activity in an area, and as I'll get into shortly in my remarks, the subject of our relations with the states, and Agreement States included in that category, is one that, of course, since 1959 when the Agreement State Program was established, it's been an important area for the Commission.

But more importantly, and the subject of my remarks this afternoon, it promises during the upcoming decade of the 1990s to be an area, the question of state-federal relations, where I expect that we'll see an increase in degree of activity, for reasons that I'll get into in a minute, and some significant and important policy questions that will have a direct bearing on the way that we at the Commission do business, the way that you and the states do your business, and the way that the commercial nuclear industry, both the power industry and all the other licensees, carry out their activities over the course of the 1990s and beyond.

In the spirit of keeping this session somewhat formal and in the interest of keeping on time here so that we'll have enough time at the end of the session for whatever questions you might have. I don't have any formal

prepared remarks that I'm going to deliver today, but I thought I would speak on a subject that I gather came up at some of the sessions this morning, certainly I think on the mind of the Commission as a whole and me as an individual Commissioner, and that is the issue of Agreement States Compatibility.

Somebody said a head of time that before I got here that you had a good deal of discussion on the compatibility questi[illegible] in the context of BRC and the low level waste [illegible], and Harold Denton grabbed me a head of time and he said, you can set the record straight this afternoon.

If I were in the Commission majority, I would do that, but as some of you may know, I have some very strong views on Agreement State Compatibility, in particular in the context of the low level waste legislation that was passed in 1985, that I'd like to share with you this afternoon.

I would emphasize that in certain respects, my views differ from the majority of the Commission, and you ought to understand in some respects they are Jim Curtiss' views and not the views of a majority.

Having said that, I would like to talk about a couple of the areas where I think we've seen over the course of, let's say, the past year to eighteen months, important compatibility questions come up within the agency that posed

questions of first impression for us at the agency, the resolution of which, regardless of which side the Commission ultimately comes down, will establish important policy in the area of Agreement State Compatibility.

So for those of you have an interest in this, whether day-to-day or in the course of carrying your activities, I encourage you to become or continue to be actively involved in this issue, because it will have a direct bearing on the relationship between we at the federal level and those of you who carry out your most important responsibilities at the state level.

The Chairman's remarks, or at least if he delivered the remarks I read this morning, went through a good deal of the history of compatibility, and I don't propose to go back and talk about much of that. I would like to, just looking back at where we've been with compatibility, highlight two or three significant legislative milestones that have a bearing on where we are today and where we're going in the future.

As I mentioned, the Agreement State scheme and the concept of compatibility, of course, first was enacted in Section 274 of the Atomic Energy Act in 1959, five years after th commercial nuclear power industry was set up in the 1954 Atomic Energy Act.

I'm going to skip over a lot history, but let me

say that from 1959 on through to this very date, in fact, the concept of compatibility, which I think is an important one and central to the implementation of the 274 provision, is one that has grown by and large by what I call accretion.

The body of compatibility case law, if you will, or administrative precedent has grown up over the years and it's reflected in a body of Commission decisions. In some respects, it's reflected in formal guidance that the agency has issued on how it's going to approach compatibility.

But the important policy questions in this area really weren't set out in 1959 in advance by the agency at the time, and as I look back at the history of this issue, really weren't the subject of a comprehensive Commission analysis in terms of what we're doing and what we're trying to accomplish in this area.

As I say, the body of administrative precedent grew up as we addressed specific cases and continues to grow today as we come up against difficult cases that are currently before the agency.

I'm going to jump over a lot of history and talk about three pieces of legislation, the third of which I'm going to focus the bulk of my remarks on this afternoon. All three of which, however, have a direct bearing on the state role in matters nuclear.

The first, the 1977 Clean Air Act amendments, of

course, gave the states the authority to establish standards for emissions of radionuclides from, including but not limited to, NRC licensed facilities. Since the 1959 legislation, it was the first time that the states were given this authority, and as we'll talk about in a minute, an authority to set more stringent standards than those established by the federal government and really a departure from the compatibility logic that had evolved in implementation of the 1959 authority.

The second major statute that also has a bearing here is the 1978 Uranium Milltailings Radiation Control Act. For those of you who come from states where you've got uranium milltailings activities, you will know that that statute as well authorizes the states to go beyond what the federal government establishes as the health and safety standards, specifically in that act sets up the authority for the states to establish, should they so desire, more stringent standards than those established by the Commission in our 10 CFR Part 40 regulations.

Now the third piece of legislation is really the one that I want to talk about most extensively this afternoon, and that's really two pieces of legislation, the 1980, and then more importantly, the 1985 Low Level Radioactive Waste Policy Act amendments, which, as you all know, set up the compacting process for the site development

that is currently underway, I trust to some degree or another, in all of your states.

It is that act which in my judgment has presented to the Commission challenging questions of compatibility, questions of first impression that we are currently dealing with.

In large measure, these questions, in my judgment, arise from what I think is a very clear intention on the part of the Congress in that 1985 statute, to turn over to the states really, for the first time in the nuclear arena, save for the 1977 Clean Air Act Amendments, but the first significant time, a health and safety responsibility.

Congress said that low-level waste is an activity that the states not only wanted, the states came to the Congress in the '80s, late '70s, requesting the authority to develop compact sites on their own but that the Congress was prepared to give to the states, to essentially say, the states, here, by contrast to what we are doing on the high-level waste program, have the technical capability, the interest, and they are best positioned to address the problem of low-level radioactive waste disposal.

Now, that philosophy that is reflected in that Act in turn raises the question that has come to the fore in a couple of compatibility issues that we have dealt with just recently, a question I guess that I will state in general

terms: to what extent should the states be able to take steps to establish requirements or take actions that may be more stringent than the Federal Government has taken in the context of its body of regulations.

There are two initiatives that I want to talk about here where in the context of the Low-Level Radioactive Waste Policy Act, we have had to consider that question.

First is what I will refer to as the "Illinois 1 millirem" issue. Those of you from Illinois and perhaps some others will no doubt know what I am talking about. Let me explain it just briefly.

Illinois is an Agreement State, of course, and they are also one of the host states for the development of a facility, a low-level waste facility.

In the Illinois regulations, the state has established, depending upon how you interpret that standard, a requirement or an objective or a goal or a radiation protection standard that is more stringent than its 1 millirem, more stringent than the standard established by the Commission in 10 CFR Part 61, the 25 millirem standard.

And in the context of reviewing that question, the issue has come up, should the state be able to establish a standard that is more stringent than the Federal Government, and specifically, this 1 millirem standard in the case of the Illinois program?

Now, whether you call that standard a radiation protection standard, an ALARA goal, a design objective, an objective, a goal, what have you, I have taken the position, and this is a minority position within the agency, that in my judgment, in view of the fabric of the Low Level Waste Act of 1985, a state can indeed do that, and even if the basis for doing that is radiological safety, as opposed the traditional economic issues that the Court, Supreme Court in PG&E said the states can rightfully address.

So that in a case where a state comes, and let's take the Illinois case and say we're going to establish this standard, it's a radiation protection standard. Let's just stipulate for the sake of discussion that that's what it is, although that's a subject of some discussion between the state and the NRC.

The view that I've expressed, and it's a minority view, as I say, is that a state ought to be able to do that.

What's the rationale for that, A; and B, does that threaten to unravel the compatibility scheme that has been carefully woven since 1959?

The rationale I've alluded to, in 1985, the states were given the authority to develop these sites and if you take a look at the Low-Level Waste Policy Act itself, in fact, the NRC was directed to develop guidance for states that wanted to pursue alternatives to shallow land burial,

shallow land burial being, of course, I guess, the principal disposal technology in 10 CFR Part 61.

And if a state wants to establish a requirement that is more stringent than the Federal Government, in an effort to either convince its public or its legislature or what have you, that it can safely and effectively develop low-level waste disposal capacity, Commissioner Curtiss doesn't have any problem with that. I'm not troubled by that.

Now, let me say that there is, I think, a fair concern that the majority of the Commission has expressed, that the minute you cross that line and say that a state has the authority to set radiation protection standards, that raises the question about whether we're going to unravel the fabric of the 1959 Authority and everything that has evolved since then.

And I think that is a fair concern to keep an eye on. I personally am of the view that the logic and the language of the 1985 Act is sufficiently distinct and the issues that the states have been called upon to address are sufficiently narrow that they can indeed be distinguished from a situation where the state might turn around and then say we want to establish a standard for a commercial nuclear power plant.

So that is the first issue that the Commission has

taken up or come to grips with in the context of its review of the Illinois 1 millirem issue.

We sent a letter to Illinois asking them specifically whether they interpret that standard as an ALARA objective or a radiation protection standard or somewhere in between. I think the communications are going back and forth, and in fact I understand that something has just come in recently. But that is an issue to keep an eye on.

I should say on that issue we will see a more direct and perhaps more difficult issue arise when the Pennsylvania agreement comes before the Commission, for two reasons.

Number one, my understanding is -- and this is for low-level waste -- the Pennsylvania agreement does indeed involve Division I, or Category I issues, where they have taken a more stringent approach. So it is quite clear that in the case of Pennsylvania, it is difficult to finesse that issue. You can't call the Pennsylvania approach a design objective or ALARA or what have you.

Secondly, procedurally, the Pennsylvania agreement involves a slightly different question, because Pennsylvania doesn't yet have its authority. We haven't turned the authority over to the State of Pennsylvania to regulate in the area of low-level waste.

So to the extent that the question is resolved differently for a state that already has the authority versus one where we are considering the grant of that authority, that is also an important procedural question to keep an eye on.

Let me turn quickly, and I don't want to spend too much time here, because I know you have discussed this issue this morning, to the second major area in which the compatibility issue has arisen. And that is the issue of "below regulatory concern."

For those of you who have had an opportunity to read the policy statement, and have waded through it and gotten clear over to the end, you will see a set of additional views that I filed and a response to those views that Chairman Carr has filed that, among other things, addressed the issue of Agreement State compatibility and how we will interpret the BRC policy statement from the standpoint of our compatibility responsibilities. Specifically the question, and I won't go into detail, because it is set out in my additional views, but the question that has arisen.

If the Commission adjudges a particular waste stream to be below regulatory concern, pursuant to this policy, in a subsequent rulemaking that would implement the policy, can a state, let's take an Agreement State here at

this point, to simplify the issue, can a state nevertheless say that that waste stream ought to be disposed of, in fact has to be disposed of in a low-level waste disposal facility licensed by let's say the Agreement State in this case? That's the policy question. And it's not just a policy question. It's been a hot political question, both within the Commission and down on the Hill, where we've gone to testify on this very issue.

I've taken the position, again on the ground that the states have been given the authority, and a great deal of latitude in the 1985 statute, that if a state, after we have made our best technical judgment that a particular waste steam ought to be adjudged below regulatory concern, if a state at that point wants to require that waste stream to go into its license disposal facility, that doesn't trouble me. That is something that I am less concerned about, because of the 1985 policy that the states are responsible for the development of disposal capacity.

Now, let me say it is very clear today, and I think the majority is all of one mind and the Commission is all of one mind on this issue, that today, a state can do that, and they can require a waste stream to go into a licensed low-level waste disposal facility for reasons other than radiological safety. And in fact, I gather that is the very premise of the Minnesota approach that has recently

come to our attention.

The question here is whether a state can do that for radiological reasons, reasons that have traditionally and historically fallen within the scope of the compatibility considerations and the 1959 authority.

As I say, I've taken the position that I think a state ought to be able to do that.

Question: what happens if a state either in implementing what I'll call the Illinois "1 millirem" issue or in their approach to BRC, makes it so difficult -- let's say they set a standard of no release whatsoever, that is technically impossible to meet -- don't we at the Federal Government have an interest in saying that that will effectively prevent a state from developing disposal capacity?

I think that is a fair question. But again, in view of the context of the '85 Act and in view specifically of the provision that says, for those states that fail to develop that capacity, come 1996, they either have to take title to the waste or pay the damages for the failure to provide disposal capacity, in my view the responsibility and the accountability for developing disposal capacity are vested with the states.

And so the failure to develop that disposal capacity, by setting a standard that is, let's say,

unachievable, zero millirem, will only inure to the disadvantage of the state, and the accountability for failure to develop a site will rest with the state.

Now, let me say on the BRC issue, I've explained my position, and it is set forth really in more detail and I hope you find it more thoughtful, in the additional views. for those of you who are interested, you can find that discussion and the response of the Chairman, which I think also is a very thoughtful and focused discussion of this issue, at the end of the policy statement.

I must say that as we look at the BRC issue now and the attention that has been focused on that issue, in addition to what I think is a sound legal argument for that approach, I am troubled by the prospect that three things will come to pass that make it very difficult for us successfully to pursue the position that states ought to be required as a matter of compatibility to adhere to the Federal -- let's say a Federally adjudged BRC waste stream.

Number one: It's not clear to me, if a state says, We're going to require that this waste stream go into a low-level waste disposal facility and for radiological reasons, what we at the Commission would do in the face of that. I don't recall whether we've ever rescinded a state's authority.

We've done some arm-twisting, as all of you

probably know, where states do not have sufficient resources, or they've got standards that perhaps cross the line. But in this particular area, I find it difficult to envision that we would rescind the authority of a state.

We may well, but I find it difficult to imagine that for a state that wants to require a waste stream to go into a low-level waste disposal facility, that we've adjudged to be BRC, that we would take the autnority of the state away. So the first question is, What's the remedy, if we come to a conflict over this issue?

The second concern I guess I have is that from a political standpoint -- and we'll find this out beginning tomorrow -- it is at least somewhat likely that in view of the reaction around the country and in the Congress, that legislative efforts may successfully moot the decision that the Commission I think has laid out in this policy statement.

That is to say, tomorrow, when the House Interior Committee marks up the bill introduced by Congressman Miller, which would, in fact, seek to nullify not only our policy statement, but the decision to make this a matter of compatibility, it may well be that we've lost the battle right there in the legislative context. Of course, that remains to be seen as the legislative context evolves.

The concern I guess I have there is not only that

we might loose on this particular issue, but as Congress has a wont to do, once a legislative vehicle gets going, it's difficult to control what areas it gets into, and it may well, in fact, lead to results in the BRC area or beyond that in the compatibility area generally that we find to be terribly unsatisfactory. So the risk that this approach on this policy statement will precipitate a negative legislative result, not just limited to this issue but that extends into other areas, is one that concerns me as well.

I will say that we do have some recent experience in Congress on where at least the Senate comes down on the question of a state's right to establish more stringent radiological standards.

As many of you may know, the Clean Air Act debate, when it came up in the Senate, was the vehicle for two amendments that were offered by Senator Simpson, the first of which would have taken EPA's 1977 authority altogether.

That lost by a vote of about 61 to 37 -- two to one -- in the Senate, primarily on the ground, I think, that the Senate was not prepared to take away the State's authority to regulate radionuclides.

In fact, that is confirmed by the outcome of the second Simpson amendment, which set aside the state issue, allowed that authority to continue to exist, and instead focused on the dual regulation of the Federal level. That

amendment passed by a vote of 67 to 33.

What's the upshot? I think there's a significant likelihood that if a question is put to a vote where a state's right is the issue, and it certainly is in the context of the way this issue in the BRC policy is understood, the outcome, in my judgment, is quite clear.

In any event, that's -- I've gone on longer than I planned on, and it looks like I'm getting over schedule here. Why don't I conclude with those remarks.

I would emphasize again that those views represent the views of one Commissioner. We've had a good healthy debate, we've discussed both of these issues, and I respect the views of my colleagues.

I think they make a well-reasoned, articulate defense of the approach that they're taking, both on the Illinois one millirem issue and on the BRC compatibility question. I must say that when I've examined those arguments carefully, though, I unfortunately have come down on the other side of those issues.

I expect that because of the interest here, and, in fact, the Commission has expressed a recent interest, that the time has come and the Commission would like to see a comprehensive review of the compatibility question.

I know Harold Denton's shop has done some recent surveys in which they've looked at the compatibility issue.

That's probably going to be the first step in a series of actions that the Commission will take, to go back now, and, perhaps because fo the focus brought to this issue by the issues that I've discussed, take a comprehensive look at compatibility.

So for those of you who have an interest in either of these two issues or in the compatibility question generally, I encourage you to become active, participate and express your views. It's most helpful.

Let me conclude by thanking you, thanking Fred for the kind remarks. I will take questions if they are any and if we have time on the schedule, Fred, I'd be glad to throw open the floor for whatever questions people might have. Any questions?

MS. DICUS: Greta Dicus, Arkansas. I appreciate your comments, Commissioner, on compatibility. As you well know, it's not only an emerging issue, I think, with the agreement states, I think it's also a major one.

I'd like your comments, if you could, or your thoughts on this topic. The agreement states, as you know, have requested the establishment of criteria which could be used at least as a guideline in determining when a rule or what part of a rule would be a matter of compatibility, and what division of compatibility it would be. I'd appreciate your comments on those criteria.

COMMISSIONER CURTISS: Okay. I am familiar with the request. As I say, we have watched the compatibility issue grow up over the years, and the body of administrative precedent has grown as each decision has been rendered. Some of that philosophy is set forth in the guidance that we've got that defines what's a Division I matter of compatibility, and so forth.

I do think that -- and not just because of the Low Level Waste Act, but because it's been 30 years now since the 1959 authority, and because we are looking now the current generation of nuclear plants have been licensed, and that controversy is, I think, to a large extent behind us -- this would be a good opportunity for us to take a look at what we've done in the past on compatibility. What are the standards?

The two issues that I've raised in the context of this discussion really go to what I think is a very fundamental question. Compatibility in my judgment ought to rest upon some sort of determination that from a health and safety perspective, uniform standards are required. Carried to the extreme, it's obvious that the Congress felt so strongly about that, that the States have no authority to regulate commercial nuclear power plants and the design of those plants. It's important for the design of those plants to be undertaken pursuant to a uniform set of Federal

standards.

It's less clear, I guess, and particularly in the context of issues that have come up in the Low Level Waste Act, what health and safety objective we're seeking to achieve. Let's take BRC for example.

What objective is it that, from a health and safety standpoint, and, hence, something that would provide a basis for making thi a matter of compatibility, is achieved by saying that a waste stream that is adjudged to be BRC is something that a state cannot nevertheless require to go into a low level waste site.

You can, I think, posit some rationales for that. In fact, the policy statement endeavors to do this. You need to limit disposal capacity for the truly important Class A, B, and C waste. We need to have a uniform set of national standards. In my view, questions about capacity of the low level waste sites are matters that, under the Act, the states have been given the authority to address, first.

Secondly, we have, in fact, in some cases -- Colorado is the best example that I can think of -- authorized the states to dispose of non-Class A, B, and C waste in their facility, and in that case, the Denver radium, I think, is the example that comes to mind.

So it's not clear to me, as you get into some of these questions in the low level waste context, what the

health and safety nexus is for the compatibility position that we take.

I'm not providing you much of an immediate answer, but I would say that's an issue that I think the Commission is anxious -- or at least I am, I should say -- for the staff to take a look at in reviewing ont only what we've done in the past, but then, in addition, telling us where should we go with compatibility under some of these newer statutes, like the Low Level Waste Act.

What is the basis for a compatibility position? Is it the same that we've always asserted since 1959 or does the 1985 Act give us a different view on a matter like that. I think it's a very important question that we need to get onto.

MR. GODWIN: Aubrey Godwin, Alabama.

I talked to a different attorney. That means, of course, I got a different opinion.

COMMISSIONER CURTISS: You probably got two opinions if you talked to one of us.

MR. GODWIN: Well, anyway, our attorneys and, indeed, I have even heard some prior attorneys with the Commission state that you had to be compatible at the time you signed your agreement. After that, compatibility was nice and good and well and high-sounding words, but point of fact, you had to protect the public health and safety, and

that may not be the same thing as compatibility.

In fact, our attorney looked at it and said that that's all we had to do, is maintain and protect the public health and safety and that compatibility was those nice, good-sounding words, and I think we all want to achieve that. That goes back to the '59 Act.

It was also equally clear that, even if we decided to set a lower discharge limit, we could not apply to any facility that you licensed --

COMMISSIONER CURTISS: That's correct.

MR. GODWIN: -- as the Nuclear Regulatory Commission. So, it was not really an issue of working on different standards, in that case.

Springing from that, the states, then, as I see it, have a couple of burning issues that come up relative to compatibility.

First of all, the first has already been alluded to; somewhat capricious, apparently, as we decide what's going to be compatible. That's what comes across to the states.

The second one is it doesn't seem to always work up as well as it works down and some things that the states would like you all to be compatible about. Some of the things in nuclear medicine we see, at least some of us -- I am not sure I would speak for a majority, but some of us see

some problems.

For example, in nuclear medicine, you are now looking at the diagnostic level, where the authorized physician doesn't know anything about the patient. Yet, you are still asking about his qualifications to patients and all this kind of stuff, and we wonder why, if you're not going to have him at least know something about the patient. Presumably, he is the only who has ever been trained to determine whether the patient needs the test. But that's no longer a requirement; you all have gone away at least from being compatible with Alabama, which requires the physician to be aware of the patient condition and to prescribe those kind of things, and this is somewhat of an issue with us.

The bottom line is we don't believe, at least in Alabama, that we have to be compatible, but we do have to protect the public health and safety, and we will do our best efforts, as our agreement calls for, to remain compatible.

COMMISSIONER CURTISS: You've covered a number of issues there. Let me touch just briefly on each one of them.

First, the question of different views by different attorneys: I do think you can look at the various statutes here and probably come to different and, I think, reasonable interpretations, particulary in the context of

the 1985 Low-Level Waste Act, about what authority we have, what our obligations are, what discretion we have in interpreting what ought to and ought not to be a matter of computability.

I disagree with the view that the 1985 Act does not -- that it requires us to adhere to the same computability approach that we have taken since 1959. In fact, I was looking back at the history this morning and recalled that when the '85 Act was being addressed, at the time we recognized that South Carolina, for example, was not disposing of some of the liquid freestanding waste and the plutonium waste. There is an example where they are more stringent that the Federal Government.

I tried to suggest that the question of whether you're compatible at the outset when you apply for an agreement and, after you get your agreement, whether you're compatible. That's an issue that, it seems to me, the Pennsylvania and Illinois agreements, in one respect or another, involve.

Pennsylvania doesn't have its agreement yet and question: Should there be a different standard at the outset, when the authority is turned over to a state, to judge computability, or does it make a difference that you've got the authority and now you're focusing on it in that context? That is an important question.

I am not sure that, in my view, I see a basis for distinguishing the two. Computability ought to have a public health and safety nexus, and if it has a public health and safety nexus, that ought to be equally important at the front-end of the agreement as long as throughout the duration of an agreement that the state has the authority. And for that reason, that's one of the issues that I'd like to see this inquiry look at: Is there a basis for saying that we ought to have a standard that differs in some respects when we turn the authority over versus evaluating the continuing compatibility of a state once it gets the authority.

I think you've raised fair questions there on the issue of -- I wasn't sure you were raising the question about whether we at the Federal level subject ourselves to the same kind of rigorous compatibility requirements that the states are subjected to or not, but if you were, let me say I think that's a good idea, too, and in fact, I think the Chairman recently suggested that we do exactly that and we take a look at our program to make sure that we're in the same kind of shape, from the standpoint of resources and so forth, as we require the states to be in, and I think that's a fair observation, as well.

Any other questions?

[No response.]

COMMISSIONER CURTISS: Let me, since I am about 10 minutes over the schedule and taking up most of your coffee break, thank you again, welcome you here to Rockville. I look forward to working with many of you. I know some of you from the days gone by on the Hill, but I look forward to working with many of you as we, in the '90s, seek to address some of these most difficult compatibility questions.

[Applause.]

MR. COMBS: I would like to call our next panel to discuss the issue of Federal-State cooperation at nuclear plants.

Our first speaker will be Thomas T. Martin, Regional Administrator for the NRC Region I, covering the northeastern states. Mr. Martin joined Region I of the AEC in 1974 as a reactor inspector and was subsequently appointed to positions of greater responsibility.

In January of 1987, Mr. Martin received NRC's Meritorious Service Award. In January of 1989, Mr. Martin received a Presidential Meritorious Executive Rank Award. Mr. Martin was appointed Deputy Regional Administrator of NRC Region I in August of 1989. I'm a little particular about dates here now. And finally, in February of 1990, Tim was appointed Regional Administrator of NRC Region I.

Our next speaker is Kent Tosch. Kent is Bureau Chief of New Jersey's Bureau of Nuclear Engineering. Kent

has been in the Radiation Protection Program for 10 years, 7 of which have been in nuclear engineering. His work experience has ranged from radiation materials inspection, contaminated site mitigation, nuclear emergency response, and nuclear power plant surveillance. His academic background is in health physics.

Our third speaker is David Stewart-Smith. Mr. Stewart-Smith is Administrator of the Oregon Nuclear Safety and Energy Facilities Division. In March of 1990, he was appointed to that position. Mr. Stewart-Smith oversees the department's program in radioactive materials management, defense waste cleanup at the Hanford Nuclear Reservation, reactor safety and the siting of non-nuclear emergency facilities. He serves on the Northwest Compact for Low-Level Radioactive Waste Management and is Governor Goldschmidt's liaison to the U.S. Nuclear Regulatory Commission.

Our final speaker will be Roy Wight of the Illinois Department of Nuclear Safety. Mr. Wight graduated from the Naval Academy in 1954 and has served in increasingly responsible assignments in surface ships and both diesel electric and nuclear submarines, including command for 4 years of what was then the latest nuclear attack submarine. Mr. Wight joined the Illinois Department of Nuclear Safety in 1986 and became manager of the Office

of Nuclear Facilities Safety in 1987. In this position, he supervises the development and execution of nuclear reactor safety programs.

Our first speaker is Tim Martin.

[Applause.]

MR. MARTIN: For those of you who don't know me, I like to be called Tim Martin.

States have been observing NRC region-based inspections practically as long as NRC has been conducting this important regulatory activity. I am pleased to address this audience, because I observed firsthand, as an inspector, as an inspection program manager, and now as a Regional Administrator, the benefits of sharing information, perspective, and response roles with the states on radiation-safety issues.

The role of NRC in regulatory nuclear power plants, fuel facilities, and in agreement or non-agreement states, the nuclear material users, necessarily limits the direct influence states have over these facilities. The NRC recognizes that this lack of authority does not relieve the states of the expectations of their citizens that they will handle the safety issues within their border.

In the event of an emergency or the development of a rumor causing concern to citizens, state representatives will be looked to for information and direction. Normally,

state and local agencies will be the first government entities to learn of a problem and the first to respond. As a result, the NRC recognizes our obligation to keep you inform and assist your efforts in communicating with your public and in protecting them.

Beyond the routine exchange of information, cooperation in establishing appropriate controls over nuclear materials that are loose in the environment, your effort to occasionally participation or observe an inspection with us can improve the comfort a governor, department head, citizens, and yourself perceive because of the Federal oversight of activities within your border.

Further, state activities performed in close cooperation with the NRC will improve efficiencies and communication and will provide a consistent understanding of regulatory issues.

We work with a variety of state agencies, from nuclear power plant siting, health, environment, resource agencies to public service, consumer advocates, and attorney general offices. We routinely inform a designated state representative of our inspection activities and generally allow observation of our inspections, as described in the NRC policy statement on cooperation with states, which was published in 1988.

In effect, your observer becomes part of the team.

Where states seek to perform their own inspections, NRC will consider proposals for MOUs to conduct inspections of NRC licensees where efforts will not be duplicative and certain provisions, such as the training and experience of your inspectors and the protocol for handling findings are maintained.

I understand that Illinois leads the Nation in terms of the number of agreements with NRC, including an overall MOU, the American Society of Mechanical Engineers and Low-Level Radioactive Waste sub-agreements and a Resident Inspector sub-agreement, which I understand is currently under review.

Roy Wight with the Illinois Department of Nuclear Safety will be discussing with you how their inspection programs are working.

The NRC and states get the most of inspection participation where state inspectors have been through our training and participated in all phases of an inspection program, including the inspection preparation, the entrance meeting, the implementation of the inspection program, the exit, documentation of the findings, and where necessary, where they have actually participated in the inspection, participation in the enforcement conference, if that's necessary.

The NRC staff enjoys the interest and support of

state inspectors and appreciates the opportunity to demonstrate our competence. We applaud your efforts to prepare for accompaniment in inspection activities by supporting additional training for your health physicists and nuclear engineers. The availability of well-trained state personnel facilitates the NRC and state mission by ensuring the ability to knowledgeable respond to and communicate with government and citizen organizations.

As an observer of the inspection process, state inspectors have the opportunity to comment on or disagree with our inspection findings and to communicate those observations to their management, allowing for better understanding of a particular NRC-licensed activity and how the NRC ha concluded that the facility is safe or isn't.

If there is disagreement with our findings, we expect to hear from you promptly. Any document that a state would develop in this regard, which is provided to us, would be added to the public record.

My experience in this area has shown that if there is disagreement, after a meeting and thorough discussion, the issues can usually be reconciled. These differences usually occur when soft areas, such as administrative initiatives or management practices, are not in line with the expectations of outstanding pe.formance.

This type of interaction is healthy; we appreciate

the constructive criticism.

Pennsylvania, which has one of the larger radiation-safety staff in Region I, has been actively involved in the NRC inspection process for both byproduct materials and nuclear power plants. Pennsylvania, this year, implemented the low-level waste sub-agreement for performing inspections and on behalf of the NRC in radioactive waste packaging and transportation area.

I am told that other states in the Region will be seeking similar agreements, as they seek to meet the sited state's guidance and ensure proper radioactive waste management practices for packages that would go to a consolidated storage area and disposal facilities.

New Jersey has frequently accompanied NRC inspectors. Further, the State recently submitted a draft MOU that would provide the New Jersey Department of Environmental Protection with firsthand information on how radioactive material is being processed and stored during the interim period while their disposal facility is being sited and prepared.

Vermont was the first state in Region I to sign an inspection accompaniment protocol and has also been an active observer of NRC activities in both the byproduct and nuclear power reactor area. Both the Department of Public Service and the Department of Health have agreements with

NRC for inspection observation.

New Hampshire, Maryland, New York, Massachusetts, and New Jersey have also entered into inspection protocol agreements since the last National State Liaison Officer meeting in 1987. These efforts have served to broad our exchange of information and to improve the public understanding of some specific issues, like the Seabrook pre-operational test program, the Calvert Cliffs management performance, the Nine Mile Point and Pilgrim restart plan implementation, and Oyster Creek operational issues.

I want to thank the states who participated in our inspection programs for problem nuclear facilities, those designated by our senior managers to fall in that category. State representatives who observed our inspection programs and commented on the restart and improvement plans follow the established protocols.

I believe that states who monitor problem facilities by working closely with NRC received timely information as to what the NRC concerns were. Their communications of concerns and comments to us, in a collective and thorough manner, were, in turn, a substantial asset in our deliberations.

Working together as partners, we can accomplish the common goal of maintaining public health and safety.

An important outcome of routinely exchanging

information and participation in inspections of NRC-licensed facilities has been an enhanced state understanding of what may be a potential violation of NRC requirements. This year alone there was a number of important radiation-safety issues brought to us by New Jersey, New York, Connecticut, and New Hampshire representatives, where necessary enforcement action has since been taken or beei developed.

The NRC may not have otherwise known or have not been aware of these issues as promptly had we not been partners in the regulation of radioactive materials users.

It is essential that we continue to work together, and this is most evident in the area of uncontrolled radioactive material in the environment. As you can attest, uncontrolled material because of transportation problems, poor licensee practices, and illegal activities is a routine problem that you must respond to. Local and state agencies, in particular, bear this burden.

The examples of cooperative state and NRC response to nuclear material problems during any particular year are too numerous to visit, or to list. However, the following examples from Region I states are worth mentioning:

Pennsylvania Department of Environmental Resources personnel, in the middle of the night, responded to cordon off an airplane and to survey for contamination from a "leaking package; multiple examples of New York agency

followup of missing or damaged packages containing unspecified amounts of radiation at JFK Airport and other ports of entry; the New Jersey Department of Environmental Protection monitoring system around the Oyster Creek plant identifying an apparent lack of control of an unrestricted area by a field radiographer; Connecticut Department of Environmental Protection tracking improperly-discarded waste to an NRC licensee and performing initial surveys; Vermont communicating to NRC allegations regarding a nuclear power plant's safety; and Maryland closing a major tunnel to take smears of a brown liquid from a truck with a radiation label.

Perhaps the following actual scenario best summarizes the complementary capability and roles of the NRC and states:

Massachusetts accompanied NRC inspectors during a reactor inspection in response to a discovery of a 3-curie radioactive source in a box supposed to be empty that was transported from Korea and stored and received in Massachusetts without ever being handled as if it was radioactive.

NRC inspections were conducted across the country to determine the impact, confirm that there were no additional loose sources or that there was no personal injury, and to initiate generic actions to prevent

recurrence.

NRC then completed its inspection and documented its findings.

However, it was the Commonwealth of Massachusetts who was there to allay the concerns of Customs officials and warehouse workers in Massachusetts after NRC had completed its activities. One week of effort was expended by Massachusetts to perform additional confirmatory surveys and to discuss the survey results with the people.

The Commonwealth, at the request of NRC, had responded to lingering concerns for personnel safety. Their efforts reassured State citizens of their safety.

Clearly, this example illustrates we need the support of states and appreciate that it would be difficult to do our job would it not be for this interaction and cooperation.

Thank you.

[Applause.]

MR. TOSCH: Good afternoon.

Thank you, Tim, Fred, and I'd like to thank the NRC for inviting New Jersey to talk about its nuclear power plant surveillance program.

[Slide.]

MR. TOSCH: The State of New Jersey's Department of Environmental Protection performs those State-level

functions mandated by the New Jersey Radiation Accident Response Act. Many of those activities have been designated to the Bureau of Nuclear Engineering.

I have Dr. Robert Stern, in the back; he is of the Bureau of Environmental Radiation. Mary DiStefano could not attend today.

The primary objective of the BNE is to execute those State-level functions necessary to verify the safe operation of New Jersey's nuclear power plants.

[Slide.]

MR. TOSCH: To accomplish this, the BNE evaluates the licensing criteria, operational safety, environmental impact, and is one of the lead agencies for emergency preparedness functions.

Through this process, the BNE can analyze and make decisions necessary to mitigate potential and actual hazards that might impact public health and safety.

New Jersey has taken the approach of preventive nuclear emergency response, which is accomplished through an umbrella agreement with the Nuclear Regulatory Commission. This agreement allows the BNE to attend NRC meetings with the licensees relative to licensees' performance, including enforcement conferences, plant inspections, and licensing actions.

The NRC agreed that the BNE staff may accompany

the NRC inspectors to observe inspections, and to the extent possible, the NRC will advise the State sufficiently in advance of inspections, so our staff can represent us.

Marie Miller of Region I has provided us with a 6-month inspection schedule, which has been extremely helpful in this process.

Additionally, the NRC and the BNE exchange information regarding plant conditions or events that have potential for or are of safety significance.

[Slide.]

MR. TOSCH: The BNE evaluates the licensing criteria through Public Law 97-415 for the review and the approval of operating licensing change requests. The important element of New Jersey's programs are as follows:

There is a BNE staff engineer assigned as a no-significant-hazard contact, who reviews all incoming licensing change requests, significant NRC bulletins and NUREGs, performs detailed technical analysis on proposed license amendments, and identifies significant hazards to the nuclear reactor regulations.

[Slide.]

MR. TOSCH: Operational safety: The BNE evaluates operational safety through root-cause analysis and safety review. This is accomplished through a document-review process and an inspection participation.

The staff reviews all documents transmitted between the NRC and a licensee, such as non-emergency reports -- 5072s, licensee event reports, monthly reports, and inspection reports, etcetera. The staff also reviews guidance documents published by the NRC, such as NUREGs, generic letters, and other industry reports.

These publications provide a broader framework for the plant-specific engineer to assess plant performance. Reviews on accident assessment, unresolved safety issues, source term, plant life extension, decommissioning all begin with the BNE's review of these generic documentations.

The BNE has presented many of its evaluations to the licensee and the NRC for resolution.

Document review involves plant-specific information, such as non-emergency reports, license event reports, inspection reports, which provide the basis for the BNE's evaluation for root-cause analysis. The BNE has memoranda of understanding with the two utilities operating in New Jersey.

The BNE evaluates these reports for symptomatic problems. The tracking of these reports provide a record of performance for the reliability of the safety-related systems. The BNE evaluates the licensee's root-cause analysis and subsequent mitigating actions through this report review.

Ultimately, the document-review process focuses a plant-specific engineer on his evaluation for potential weaknesses in safety-related systems or operational performance problems. All the document-review information is available to the plant-specific engineer prior to participating in the NRC licensing inspections.

[Slide.]

MR. TOSCH: On February 22, 1989, the NRC published a policy statement concerning cooperation with states at commercial nuclear power plants and other nuclear facilities. In this policy statement, the NRC stated that the policy was to cooperate fully with the state governments as they seek to respond to the expectations of their citizens, that their health and safety be protected, and that there be an minimum impact on the environment as a result of activities licensed by the NRC.

The policy statement acknowledged the potential safety benefit from state involvement. However, the policy lessened the independence of the state's representative through regulatory restrictions.

For example, a state representative could not put an undue burden on either the NRC or the licensee, and any findings of the state representatives would have to be transmitted to the NRC for disposition.

Direct participation in the NRC inspection program

is not always the most effective method for the State of New Jersey to evaluate operational performance. Additional oversight increases nuclear safety; however, it should not be assumed that additional inspection presence necessarily increases nuclear safety.

For example, an inspector inside the plant may become too concerned with the daily operations of the plant, while losing sight of the overall nuclear safety. Therefore, the State of New Jersey has chosen not to take part directly in the NRC-sponsored inspection program and has pursued an independent-observe role, which is outlined in our agreement with the NRC Region.

[Slide.]

MR. TOSCH: The document-review process is also helpful in prioritizing the inspections which the BNE plans to attend. In general, the BNE attends most special team inspections and regional initiative reactive inspections. The BNE is less likely to attend the fundamental inspection program.

This selective approach to inspection has proven to be effective in allocating staff time and investigating safety issues.

At special or fundamental inspections, the BNE representatives always observe and will not interact with a licensee directly during the inspection. The BNE

representative always attends the entrance and exit meetings and follows the NRC guidelines.

When the conclusions and observations of the BNE are substantially different than those of the NRC inspectors, the BNE will make their observations available, in writing, to the NRC. It is understood that these communications will become available publicly, along with the NRC inspection reports.

The inspection evaluation process involves observations of plant activity, in-depth technical review, observation of employees interviewed, hardware walkdowns, programmatic reviews in functional areas like maintenance, surveillance testing, corrective actions, emergency response, plant modifications, etcetera.

Both the document review and the inspection participation fulfill the Bureau's objective to perform safety reviews and root-cause analysis. As the BNE and plant review evolves, independent performance indicators will be tracked, and an assessment report will be generated.

[Slide.]

MR. TOSCH: Environmental impact: The BNE maintains an aggressive environmental surveillance program which monitors and reports the environmental effluent release from the operation of the two nuclear power plant sites. The purpose is to reduce the risk to the public

associated with normal nuclear power plant operations. This is accomplished by monitoring the offsite radioactive effluent released from New Jersey's power plant and by data supplied by the licensee for their effluent-discharge systems. We report these findings to the NRC.

The BNE monitors and verifies the radioactive materials released to the environment through a comprehensive monitoring program. This program verifies the concentrations of radioactive materials in the power plant effluent discharge and assures that they are kept below Federal and State standards. It also determines if there is an increase in the inventory of any radionuclides in the environment as a result of nuclear power plant operations and if there is any significant increase in the concentrations of radionuclides in the critical exposure pathways.

Finally, the BNE determines the adequacy of waste treatment methods and effluent control at each power plant. In 1989, the operating plants in the New Jersey met all Federal and State standards for effluent control and waste treatment, with no significant exposure to the public.

[Slide.]

MR. TOSCH: BNE executes goals and objectives through contract with the NRC and through support from our State Radiological Laboratory. In 1989, 1,400 samples --

air, water, biological samples -- were collected and analyzed. The direct radiation exposures measured through our -- in our environmental thermoluminescent dosimetry program, and we use continuous radiological environmental surveillance telemetry system, or the CREST system, I'll call it from now on. Tim mentioned it earlier on our radiographer that we had detected out in the environs around Oyster Creek.

The CREST system is currently comprised of 10 pressurized ion chambers. Five PICs currently ring each nuclear power plant. In 1990, 18 PICs will be added to the system. Additionally, all 28 PICs will activate an air-monitoring station whenever airborne radioactive effluent is detected. All data is transmitted to the State office on a minute basis.

Several airborne effluent events for New Jersey power plants have been detected by our system. These events, along with the routine surveillance, have been documented in our annual environmental report. I'll talk about that particular item with a licensee.

Our CREST system detected an elevated radiation reading that was not generated by our power plants. A licensed handler of pipe irradiation was using a radiography device in close proximity to one of our monitoring sites.

The BNE informed the Region of the occurrence, and

they dispatched inspectors to the vicinity. The inspection team found several violations and partially revoked the license of that user.

[Slide.]

MR. TOSCH: Nuclear emergency response: The State of New Jersey maintains a comprehensive nuclear emergency response organization. New Jersey was one of the first states to take an in-plant defense-in-depth approach to nuclear emergency response. The BNE is the lead State agency for accident assessment in the event of an incident affecting the State.

The BNE utilizes personnel from other bureaus in the Radiation Protection Program and from within the Environmental Protection staff, approximately 50 emergency-response positions.

Additionally, the BNE maintains a presence at each utility's emergency operating facility to interface with utility personnel, collect plant data, and produce protective action recommendations.

In 1988, the BNE successfully conducted a 3-day ingestion pathway exercise. It was one of the first ingestion pathway exercises in the northeast.

The BNE is in the process of automated their emergency response through the Emergency Information System, EIS; so we will be networking with our emergency sites.

The EIS, along with the CREST system, provides independent, real-time information for offsite response.

The BNE is also currently evaluating the NRC's Emergency Response Data System, ERDS. If compatible with the New Jersey current planning basis, an agreement with the NRC will be drafted to establish a link for the State.

In conclusion, the State of New Jersey has a legislative mandate requiring nuclear emergency response for the Bureau of Nuclear Engineering. The BNE has developed a surveillance program which focuses on plant performance and accident prevention. This approach provides the baseline for an accurate, site-specific, engineering-based emergency response.

Finally, the BNE has been reviewing risk-based emergency planning, which incorporates site-specific, probabilistic risk assessments as a more appropriate tool for our State's response. The BNE will be discussing this concept with the NRC in the near future.

Thank you very much.

[Applause.]

MR. STEWART-SMITH: Good afternoon.

The State of Oregon, through its Energy Facility Siting Council and its Oregon Department of Energy, has had the authority to participate as a State regulatory agency over the Trojan nuclear power plant since the plant achieved

commercial operation in 1975. Since 1980, or 10 years now, we have had a resident inspector program at the Trojan facility.

I guess the best way to describe our program in a nutshell is to say that we complement the NRC; we don't, by any means, replace it. We look at many of the same activities, and like the NRC, our most valuable job is in the direct observation of work in progress. But since we are not tied to a very specific set of statutory regulations, like the NRC, we can focus on broad issues. We tend to focus on things like good planning, good training, root cause of events, attention to detail, procedure adherence, and a prompt response to problems.

We take a more broad and big-picture view, and we see this as being very complementary to the NRC's program.

There are some important differences between the State of Oregon's program and the NRC.

The NRC is both helped and hindered by a large number of specific regulations that it must work with. They must see a clear violation of regulations in order to take enforcement action. If they don't have the smoking gun, their subjective comments don't always get the plant's attention.

For example, the Trojan nuclear plant in Oregon has had a less-then-effective corrective-actions program in

the past. The NRC had to wait for a repeat violation before they could turn this weakness into a violation. As the State agency, we were able to point out the obvious programmatic weaknesses without waiting for the clear violation or the smoking gun.

Trojan has subsequently and substantially changed its whole corrective-actions program, largely at our suggestion. Although the new system has some bugs, most observers from the plant management, NRC, and INPO agree that the new system is an improvement.

As long as we show good judgement, we are in a position to be more proactive than the NRC. This, again, is not in any way to play down the importance of NRC regulation. I believe the NRC, given its specific regulatory responsibilities, would not be able to take on the role that we have, nor would it be appropriate for them to try.

Portland General Electric's recent rate case -- they are the operator, the majority owner and operator of the Trojan nuclear plant -- and our involvement in a current initiative petition, ballot-measure issue in Oregon, have shown that, as a State agency, we are not as isolated from economics, State political concerns, and public opinion as is the Federal agency. When Portland General Electric requested rate relief, the Public Utility Commission, before

whom this rate case is pending, turned to us, not the NRC, for technical guidance. They have a relationship with us. We have developed a good working relationship with the PUC, and we enjoy a high level of credibility with them.

Because we state our concerns in the form of big-picture expectations, rather than as violations, we have managed to avoid, for the most part, and adversarial relationship with the utility. We have found the plant is often more willing to respond to constructive criticism than to formal violations.

For example, Portland General Electric has improved their programs for procedure review, document control, material and tool control, as a result of suggestions by the Oregon Department of Energy. These improvements were not forced upon them by the NRC, and most plant personnel have agreed that the changes were an improvement and were a positive process.

We have found that many of our best suggestions come directly from plant personnel. In many cases, our suggestions catalyze the plant into making changes they had really wanted to make all along.

One of the most important differences between the Oregon Department of Energy and the NRC is our greater accessibility to the public and to the legislature. We are more open to the news media, because of our proximity to

them, and are frequently quoted in the newspapers.

The Oregon Department of Energy policy is that all our reports must be written in a style suitable for the general public. We have a readability standard in my Department, and any document that is a public document, that is produced for public distribution, must meet a readability standard reasonably equivalent to a newspaper article.

Some of the problems with State regulation: Probably the biggest problem is one of technical expertise. Most of the real problems in nuclear safety are in fields that are highly specialized. The flaws are usually not obvious to a generalist. When the NRC resident has a problem with some narrow specialty, they can ask the Region to send teams of specialists.

We can often raise good questions about things which don't seem quite right, but if the discussions get too deeply involved in a narrow specialty, we would have to ask the Region for assistance, as well.

This was the case last June when an environmental qualification question about containment electrical splices arose and went well beyond our previous experience: a good example of a good constructive relationship with the NRC.

Increased requirements for documentation have forced us to increase resources. In the past, my Department didn't maintain a formal record of our regulatory

activities. This became a problem in 1989, when we were criticized that our regulatory program was not effective, criticized from within the State.

We were unable to show our track record on paper, and therefore, we now publish a bimonthly and an annual report showing the concerns raised by the resident inspector, and this takes considerable time and resources.

As a result of this and other pressures by the legislature and by my Department administration, we have added a second resident inspector position at the plant, to be filled this fall.

The Oregon Department of Energy's open relationship with the public and the press works in a couple of ways. It helps because we have an effect on public opinion, sometimes good or bad. We can help ensure that public opinion is more based on fact and less on rumor. Our influence with the utility is enhanced by the unofficial authority, if you will: our effect on public opinion.

On the other hand, we have to be very careful about what we say and how we say it. Our comments are frequently made in public forums, with media coverage, and this gives us a large level of visibility, but our remarks can and have been used out of context.

Our relationship with the NRC: In the past year, we have seen yet more cooperation than we have even in the

past. For example, we have made significant use of NRC inspection modules in doing our audits.

We have teamed up with NRC resident inspectors to cover some 24-hour events, like plant restart after a refueling outage and an integrated containment leak test. In these inspections, we try to coordinate our schedule with that of the NRC residents so as to provide maximum coverage.

Our policy toward suspected violations of Federal regulations is very simple: We report them to the NRC.

The Oregon Department of Energy has benefitted greatly from the NRC Technical Training Center in Chattanooga, Tennessee. By inviting us to take the same training courses as their own resident inspectors, the NRC is providing us with better training than we could provide ourselves.

The Oregon Department of Energy enjoys a cooperative relationship with Region V. In the lay-press, we hear a lot of rhetoric about how states need to regulate these plants because the Federal Government can't be trusted to do a good job. We have avoided that position and disagree with it, because we regard the NRC as a strong partner and an ally.

[Applause.]

[Slide.]

MR. WIGHT: Good afternoon.

I appreciate the ability to be here and the opportunity be here this afternoon to address the fellow delegates from the other states.

As Fred's introductory remarks mentioned, I, in the past years, have transitioned from the "Hunt for Red October" to the "Hunt for Rad Safety," and I find a lot of parallels. Both are a real challenge. They're exciting. They're frequently frustrating. And we know they are not without hazard.

Our mission is to protect the public from the potential hazards of nuclear facilities in the State of Illinois. We have 13 operating power plants and one plant that the utility is licensed to own but not operate, Dresden-1.

In addition, we have a GE Morris spent-fuel facility in Morris, Illinois; a uranium hexafluoride processing plant in southern Illinois; a training reactor at the University of Illinois; and several reactors at Argonne National Laboratory; and we have responsibilities for offsite protection at all of those facilities and are exercising them.

[Slide.]

MR. WIGHT: We have conveniently divided our responsibilities into two main areas: mitigative safety, which is the more traditional role of emergency preparedness

and protection of the offsite public; and more recently, turning our attention to preventive measures to enhance the safety that already exists.

I'd like to talk about both of these programs a little bit.

The initial legislation forming the Department swept all the radiation-protection functions of the State into a single agency and made its director a Cabinet officer. That legislation has been amended several times but essentially set up the fees that the utilities pay that fund our operation 100 percent.

We have also been given responsibilities to do independent monitoring of the environment in the vicinity of the plant, and that consists of a field monitoring program, similar to the one that was described at the two plants in New Jersey, for all of our plants; plus, we have some fixed facilities that are very much like the field monitors that were described.

We have 16 gross gamma encircling the plants at a nominal range of about 2 miles, and they report back every 8 minutes by dedicated phone lines to our assessment facility in Springfield that's manned 24 hours a day, and readings are monitored. We also have devices that take a suction on the ventilation exhaust path, the engineered pathways, for gases from the plant and pump them down through a device

that automatically measures them for particulates identifying specific radioactive particulates and their concentrations -- radioiodines and the noble gases.

In addition to that, we are installing, this year, for the first time, gross gamma measuring devices in the circulating water discharge from the plants.

In addition to those devices, perhaps our most unique feature is a reactor data link, in which we pick off signals from the plant process computer, much as the ERDS system will do, and transmit those signals down, also via dedicated links, to our assessment center in Springfield, where our analysts have access to up to 1,750 individual parameters from each plant.

We have senior reactor operators onsite that are able to interpret that data. We have an automated system to surveil these parameters that we get and inform our dispatcher, who can then notify the proper person in the event that some signals may be out of the normal range for a given operating mode or that, perhaps, some of our monitoring equipment is down and inoperative, so we get on that right away and get it back to operation.

So, the mitigative safety program is very much as described by Kent and by David, offsite. We have a fairly large fleet of specially-equipped vehicles that we move to the vicinity of the plant, again about the same size offsite

response team. We have about 70 positions and several people to manage one of them, so we can sustain that operation for some period of time; two mobile radiochemistry laboratories -- a wet lab for preparation and one for accounting; a command vehicle, a radio vehicle, and a supply vehicle; plus the special teams that the radiation-monitoring teams use to get out in the field and measure for radiation and confirm our dose assessment, position of the plume.

[Slide.]

MR. WIGHT: The subject that we were going to concentrate on this afternoon was on-site inspections. So we need to look a little more in the area of preventive safety to look at those. I've listed some of the major elements of our Preventive Safety Program.

The first program is a Resident Engineer Program, and we have successfully negotiated a Memorandum of Understanding. It's through the staff and has been sent to the Commissioners with a staff paper recommending their approval for our resident program. That is patterned after the generic program that was described earlier today.

The program is a middle-of-the-road program between the two that you've just heard described. Our resident will be on-site continuously and will work within the framework of the inspection program that the NRC

conducts; will supplement their resources; and, will provide, we believe, a fresh look at the process.

We will have inputs to the monthly inspection plan. By focusing our attention without detraction from one single element of our responsibility, which is protection of the off-site public, we believe that viewing the same facts with a different set of colored glasses may show up things a little bit different, or at least an independent point of view.

We think that that will be strengthening. Our relationships with the NRC, both Headquarters and at the region level have been excellent. The things that Tim Martin said about cooperation in Region I weren't just workers. We've seen them in action in the past few months in Region III.

The staff people from the Regional Administrator down to the individual inspectors at the plant have gone out of their way to work with us and we expect to have two very strong programs; the Resident Engineer Program being one, and the ASME Code Compliance Program, which I'll develop more in detail because you're probably not quite as familiar with that as you might be with the Resident Engineer Program.

We have selected three resident engineers. All three are senior reactor operator certified at power plants.

They are all degreed engineers and they were all chosen, in great measure, in their human communications and relations skills. That's an important element, we believe, for our residents to have.

One is now complete. The second is now completing his certification this week in schooling, and the third engineer that we've selected will complete his training operations in January. Our program lasts about six months, consists of the basic and advanced courses in reactor technology at Chattanooga, followed by the simulator course, plus several other very good training courses offered by the NRC.

Additional training courses offered by other vendors and training organizations throughout the United States, plus a complete walk-down and notebook of the plant culminated in about a six-hour oral examination conducted by two other senior reactor operators.

We believe our inspectors will be well qualified and they're certified by our department to inspect either pressurized water reactors or boiling water reactors.

Some of the other programs that I'll discuss just briefly with you are the ASME Code Compliance Program. That MOU has been signed by both the Department and the Nuclear Regulatory Commission, and we are developing our regulations and reviewing those regulations now with both Headquarters

and regional staff, and have sent copies to both of the utilities in Illinois.

We also have a program of license amendment and licensee even report program review and trending, as David described in Oregon. We have hired some additional staff with thermal hydraulic experience and radiation reactor safety analysis expertise, and we have a PRA practitioner now on our staff.

We are going to follow the individual plant examinations and their PRAs. We believe that that will give us an important tool to provide input to the inspection program. It is a way of concentrating resources in areas which have the greatest payoff as far as risk is concerned.

We're excited about that. We know it's not the answer to the world, but it will help us focus our efforts. We have people in support of our residents who will help us do that. We're going to be working with the region and also with Headquarters personnel to make sure that all those programs are coordinated well and do not create a burden on the utility or the NRC.

We recognize that the NRC has moved to more on-site inspection, moving some of their inspection resources from the special augmented teams and special teams in favor of more on-site inspection. We believe that's very important. We have two aspects of the resident engineer

that we need to consider.

One is his ability to augment and coordinate efforts on-site with the monitoring and inspection of the licensees. But, secondly, he can provide a tremendous resource to the emergency protective action recommendations that we might make in the event of an accident.

Knowing the exact condition of the plant, being there available to talk to us and provide us a link will be particularly effective when we get into those situations that NUREG 1228 calls for where those recommendations may be based on reactor trends and reactor abnormal conditions.

So we know that that will be very important to us. We have people that go there now that are qualified, but they don't know the details of the plant and, secondly, in the case of Zion, it's a five-and-a-half hour drive to get to the plant. In a fast-moving accident, that's too long. So we'll have someone there within a half-hour.

We are also looking at such issues as containment venting, station blackout. We've taken a close look at both versions, the first and second draft of the reactor risk document. One of our Illinois plants was one of the model plants there, so we paid a lot of attention to that.

We're following decommissioning and plant aging and other issues that we think are important. We hope to fold the vulnerabilities that we find from these issues into

inspection and monitoring guidance as our input to the inspection process.

We have also taken the thermal hydraulic code and taken a recent license amendment. This is our first shot at that. At two of our plants, Byron and Braidwood, there has been a license amendment review to remove the high point vents from emergency cooling systems.

We have taken this and done an engineering analysis of it by dividing it up into small segments and running the outcome of that code with certain portions of that piping evacuated to see what the peek overpressure from the water hammer would be.

Those results we're analyzing now and we're going to send out to INEL for confirmation. But we found some interesting things that we didn't expect in our review of that and we think that will be helpful. We're going to be going over to Headquarters Thursday. A couple more people are joining me here from the state to brief the NRC on just exactly what we're doing, how we're going about it.

I will take just a few minutes and tell you a little bit about the ASME MOU.

[Slide.]

MR. WIGHT: Our Memorandum of Understanding was signed June this year and that allows us to conduct joint inspections with the NRC in the ASME-related areas;

basically Section 11 now since all our plants are built.

[Slide.]

MR. WIGHT: The Illinois Boiler and Pressure Vessel Safety Act provides the authority for state inspections of boiler and pressure vessels in accordance with the ASME code. These rules, as I mentioned, are being developed and we have two highly qualified individuals on our staff that are members of the national committees, ASME committees, code committees.

[Slide.]

MR. WIGHT: This Act gives us the authority now to take over the enforcement authority for the code at nuclear facilities in Illinois, and the State Fire Marshall, the traditional enforcement authority for the state, has the [illegible]st of the state.

[Slide.]

MR. WIGHT: The ASME program, as you know, ensures that the boilers and pressure vessels are constructed, operated and maintained in accordance with the code; that they're operated safely; and, that they are maintained properly. One of the key elements of this program at the nuclear power plants is the institution and execution of the in-service inspection plan which is a ten-year duration plan for each plant.

We have a database purchased, a relational

database purchased and we are loading those ISIs into that code, along with the certificate, pertinent data for the certificates, and we'll have a very complete database that will show when inspections are due, when they're conducted, what's going to be done next week, and if anything is missed.

[Slide.]

MR. WIGHT: We believe that compliance with the ASME code is a preventive safety measure.

[Slide.]

MR. WIGHT: We know that these systems must be inspected in accordance with Section 11 of this code.

[Slide.]

MR. WIGHT: There are elements of plant aging and life extension that fit directly into this program that make the compliance with that code extremely important both now and in the future, and we hope to be a significant part of that.

[Slide.]

MR. WIGHT: Every state that has nuclear power plants, except one, has adopted one or more sections of that code. So the enforcement authority is there and we think it's something that all states should take a look at and see if you're satisfied with the portion of it that applies to the power plants is being conducted to your satisfaction.

Thank you.

[Applause.]

MR. COMBS: The panel is now available for questions.

MR. DORNSIFE: Bill Dornsife, Pennsylvania. I would just like to mention a reactor-specific initiative that we've implemented that Tim did mention, that is the Peach Bottom agreement, which I think is a unique way of trying to enforce things that the state wants beyond what the NRC is willing to do.

Those who may be aware, Peach Bottom was shut down because of those safety violations a couple years ago and we participated very extensively in the restart evaluation which looked what some of the in-plant procedures and other things were necessary to allow that plant to restart.

We weren't necessarily happy with the conclusions that ANSI reached and wanted additional things implemented as far as that restart agreement. So we negotiated a separate agreement with the utility, with Philadelphia Electric, which included things such as having them adopt various tech specs which included oversight review committees, responsibilities for oversight review committees; adopting ANSI standards on an accelerated basis compared to what NRC was requiring.

They included additional people in the control

room. They included a lot of different initiatives and once that agreement was negotiated, the NRC basically, in a quasi-confirmatory action letter, essentially agreed to make sure it was being implemented.

So I think that's another option. If you're interested in the specific details, we can certainly talk. It's certainly an option that's open to you and it should be one considered if, indeed, you are not satisfied with what's going on.

MR. COMBS: Thank you. Bob?

MR. OWENS: Bob Owens, State of Ohio. I have a question for Tim with the State of New Jersey. How many nuclear power reactors do you have and what is the current staffing level of the total review with respect to the process?

MR. TOSCH: There are four nuclear power plants operating in New Jersey at two sites. We have a staff currently of about 20 people. We do have an additional seven staff in our laboratory, but mostly for the surveillance it's about 20 people.

MR. LICKUS: Roland Lickus, NRC Region III. I just wanted to make another comment since there are people from all the states in one room here, and that is the ASME code MOU issue. We have negotiated, as Roy says, a successful MOU in the State of Illinois. But in the course

of implementing that particular MOU, there's been a number of issues that have been raised that are jurisdictional issues that I think NRC is trying to grapple with.

I just would put you on notice that we may be coming to some other states in the very near future to get a better understanding of what other states are doing relative to implementing the ASME code in their states and trying to deal with this issue, because it may become one of those other significant issues that you've heard about this morning.

MR. COMBS: Are there other questions for the panel or comments?

[No response.]

MR. COMBS: At this time, we are about 15 minutes behind schedule. What I would like to do is, first, thank the panel for speaking.

[Applause.]

MR. COMBS: And propose that we take a ten-minute break and come back in order to hear the Executive Director for Operations. So if we can come back at approximately 3:25, I'd appreciate it.

[Brief recess.]

MR. COMBS: If I could have your attention, please. Our final session today will focus essentially on the direction that the NRC is heading in nuclear reactor

regulation and in nuclear materials.

Our first speaker is our Executive Director for Operations, James Taylor. Mr. Taylor was named Executive Director for Operations of the NRC in December of 1989. Prior to this assignment, he had been Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research in January 1980.

Since April 1987, he had served as Deputy Executive Director for Regional Operations and Acting Deputy Executive Director for Operations. Mr. Taylor joined the Nuclear Regulatory Commission in May of 1980 and since then has served in positions of increasing responsibility, becoming Deputy Director of the Office of Inspection and Enforcement in October of 1983 and Director of that office in January of 1985.

In 1989, Mr. Taylor received the distinguished Senior Executive Award, the highest reward of the Federal Government's Senior Executive Service. Immediately prior to joining the NRC staff, Mr. Taylor served in the Office of Naval Reactors as Associate Director of the Department of Energy's High Speed Submarine projects.

Mr. Taylor is a 1956 graduate of the U.S. Naval Academy where he earned a Bachelor of Science degree. In 1961, he earned a Master of Science and Engineer's degree from the Massachusetts Institute of Technology.

It's my honor to present to you James M. Taylor, our Executive Director for Operations.

[Applause.]

MR. TAYLOR: Thank you very much. You didn't have to tell them when I graduated from college. I like to keep that classified, if I can. Roy, I'm sure you're doing the same thing.

I'm pleased to be with you today and to talk to you about several very important reactor regulatory issues that we have in front of us. I note that Tom Murley will be talking to you about safety issues at currently operating reactors and needless to say, the highest priority in this agency has been and will be to keep the current operating reactors safe.

I'm going to talk to you about two other areas which are very important areas and which will dominate the work of the NRC reactor staff certainly in this decade. The first one has to do with standardization and certification of new reactor designs. The second has to do with license renewal.

Of course, the first one is intended to pave the way and encourage the use of standardized reactor designs for any future generation of U.S. power reactors, if any are to be built here. This has led to our final adoption of a new procedural rule, 10 CFR 52, that, among other features,

provides for reactor design certification by rulemaking. That's first.

The plant designs would actually become codified through rulemaking. It's a key procedural device aimed at securing a high degree of standardization. Also, we expect standardization is aimed at bringing an enhanced level of nuclear plant safety in future plants.

The other parts of Part 52 are intended to make resolution at the earliest practical time of all technical and licensing issues. I'll have more to say on that.

The second initiative, license renewal, also involves rulemaking, but it's aimed, of course, at the current operating plants across the United States. A proposed license renewal rule, 10 CFR 54, sets forth the plan framework for license renewal and was issued just in July of this year for public comment. We are aiming at finalizing that particular rule in April 1991. I urge that to your attention.

Today, as many of you know, licensed nuclear plants provide approximately 20 percent of the electric power produced in the U.S., and by the terms of the Atomic Energy Act, each of the plants are granted an initial license for 40 years, but there is a renewal option.

Frankly, we in the NRC see no overriding legal and, most importantly, technical safety reasons as to why

license renewal is not in keeping with both the public and national interests.

Given the recent events in the Middle East, it may be of interest to consider the billions of gallons of oil that would be equivalent if the current output of nuclear plants were to be supplanted by oil.

Some estimates indicate that if we could extend the life of the current plants by 20 years this would be equivalent to two Alaskan North Slope oil fields and the energy benefit value of approximately $350 billion current dollars.

As to whether there will be new plants in the future prospects of nuclear energy, these prospects are problematical. The future prospects will likely hinge on many things, such as our economic competitiveness, state and local support for nuclear plants, nuclear waste concerns, environmental concerns, and other factors.

But the degree to which we can take an untimely or cumbersome licensing process and change it is important in considering future plants. That's what we are attempting to do with the Part 52 changes.

I've seen forecasts of projected energy needs for the next decade or so and these make clear that the needs for electrical power may make utilities begin to order more plants, whether they are nuclear or not, to meet increasing

load demand in this decade of the 1990s.

Some forecasts indicate that an average of more than 30 new 600-megawatt base load units must be ordered each year in the mid part of this decade. It may be just by circumstance that some nuclear plant designers are looking at 600-megawatt passively cooled light water reactors and are attempting to have them ready to market in the mid-1990s timeframe.

I'd like to tell you a few more things about Part 52. There are three really key features of Part 52. It provides for preapproval of sites based on a design envelope approach, independent of a specific plant design. That's the first key feature.

A second feature involves the provision for certification of the plant design by rulemaking, which I previously mentioned. This is a very important step. The third feature has engendered some controversy that some of you may have heard about, and this is the provision allowing the Commission to issue a combined license; that is, a construction permit and a conditional operating license.

Some have termed this third feature as "one-stop licensing" and some people have interpreted this as overturning the rights and opportunities for a second hearing prior to allowing the plant to actually begin operations. That is not precisely the case.

As the Commission has said quite clearly, the Part 52 rule does not prevent the public from participating in the resolution of any operating licensing issue. It simply is intended to move the bulk of the issues up front in the licensing process to the design certification early site permit and combine licensed parts of the proceeding.

Part 52 does narrow the issues to be raised later on in potential litigation. The opportunity for hearings after construction ideally would be directed toward more limited issues relating to whether or not the plant was built in conformity with the combined license.

Currently there are under review in the staff two applications for design certification using our new Part 52 rules. These are plant designs in what we call the evolutionary light water reactors. Principal effort currently in the staff has been toward certifying the evolutionary advanced boiling water reactor designed by GE, a 1300-megawatt reactor.

We are also reviewing the certification of a Combustion Engineering pressurized water reactor plant design, known as the CESSAR System 80-Plus, which is another 1300-megawatt reactor. That is still in the early stages of review. In addition, the staff has been actively working on what is regarded as an umbrella requirements document being prepared under the sponsorship of EPRI, the Electric Power

Research Institute.

This document, known as the EPRI Advanced Light Water Requirements Document, contains what the utilities really expect to buy from plant suppliers if future orders are made. This umbrella EPRI document is a valuable industry initiative to foster early resolution of safety and licensing issues, and the staff has been spending considerable time and resources on the review of that document.

It also will help in the drive toward standardized designs for future U.S. plants. The Commission itself has taken a very strong leadership role and had an active involvement in resolution of significant policy and technical matters relating to future plants while the staff has been working on the issues not only of the GE and CE reactors, but the EPRI requirements documents issues.

The Commission is looking forward to EPRI's next piece of work, which was just submitted last week, which is the EPRI requirements document for passive reactors. That is a priority review issue in the staff in advance of submission of passive reactor designs by Westinghouse or by GE.

Most of this work will be going on currently and into the remainder of this decade. Whether anyone actually orders a reactor in the United States or not, the intention

is to proceed with certification of the mentioned designs and, as you may know, there is the potential for review of a CANDU reactor and PIUS reactor, both of whom have expressed interest of having the Canadians, PIUS through a CE Brown Boveri combine of having those designs reviewed and certified by the NRC.

I should tell you that the Commissions priority will really shift if any U.S. utility indicates a specific interest in ordering a type of plant, and what will happen, and the Commission has publicly stated this, that the indication of potential order will be a sufficient basis to reorder the priorities within the NRC staff such that that design moves to the top of the list.

Obviously to review passive design reactors is going to take a great deal of work within the staff, to be prepared to review, to pass on safety matters associated with that type of design, and those of you familiar with reactor technology ought to follow this very closely because it will introduce some very innovative and different approaches to safety.

Frankly, it's going to be an education for much of the staff because, like you, we're used to the current generation of light water reactors across the U.S., the BWRs and the PWRs.

A few quick words about license renewal because

that, as I mentioned, is a very important effort. I should tell you that during the time just after the Commission appointed me in December, I visited with all of the major committee staffs on the Hill for a couple of reasons so they could at least see me, and I had the opportunity to talk to them about some of the things that were high ticket items that I just talked to you about.

Most importantly I should mention to you that almost universally there seemed to be very strong support from most of the Hill staffs on the concept of license renewal. I think there's a realistic understanding that if we can keep reactors safe, not have accidents, that this concept of extending life another 20 years is a very important economic incentive to provide power across the country, to keep these plants running.

Frankly, we expect that by the year 2000 the eight operating licenses will expire and there will be another 40 licenses expire by the year 2014. We are already looking forward, and based upon the proposed rule, looking forward to the utilities lining up well in advance of the time of need for life extension to begin to make submissions under the new rules currently in the proposed stage.

Our whole approach to review for license renewal has two key principles. First, and this is in the proposed rule, that with the exception of age-related issues, the

current licensing basis at the time of renewal will provide and will continue into the renewal period. So wherever the license stands, is modified, amended, and as commitments have been made, the concept is as you turn the 40th birthday, you'll carry all that forward.

In addition, there is a very important -- and that basis must be maintained in the renewal term. The second is to address age-related degradation issues as part and in preparation for the license renewal. That's a very large effort. We have been working with industry and within the staff to prepare all of the required technical bases the best we can to examine areas of the plant that have to be examined, reviewed and prepared for license renewal.

In some cases, it may be component replacement. In other places, it may be closer monitoring of the current equipment. There are a number of options. Or to provide special testing to try to attack degradation. Lots of issues will come up and these technical documents are now in the process of preparation and they will be, of course, public documents, and I'm sure you'll have some interest in them as they are completed.

The very first of them have been submitted for review and they should be out in this next year. There are two lead plants projected for and the two utilities have agreed and are participating as the lead plants for review,

and these are Monticello and Yankee-Rowe. We expect the applications within this next year from both those utilities and they will be the prototype for review by the staff, the preparation of the materials for extension of those licenses.

So we've laid the framework in place for this effort and I think it is one that, if it can be done, will be of great benefit to our energy mix, whether or not any new plants are ordered.

Quickly, those are two very key issues that the staff and the management in the agency will be occupied with back here in Washington, with lots of participation, we hope, by the public as we proceed. Frankly, we hope you'll become familiar with what we're doing, if you haven't already looked at it, in both those areas.

That concludes my remarks. I'm prepared, if I can, to handle any questions. I saved you a few minutes. I promised I would. Shelly has the jokes. I'm not very good at it. I hear good ones and I forget them just like that. It's the sign of a dim wit, I guess.

If you have any questions about the matters I mentioned, both of them are in the embryonic stages with a lot of work ahead, but they're very large programs and will dominate a significant segment of agency resources in this decade.

Any questions? I made it clear. Good. Yes, sir.

MR. BROWN: My name is Steve Brown from Iowa. I just wanted to ask you if, in your long range plans, are you considering developing load following capability in these plants? Are you considering the development of load following capability in the new designs?

MR. TAYLOR: Yes. I don't see why that wouldn't be a capability. I don't know the staff has specifically addressed that, but that is certainly a possibility. Why not make a formal comment and we'll make that comment.

MR. BROWN: I asked because if the country's coal plants are going to be restricted because of the clean air legislation, then the ability to follow loads would have to come from some other plant.

MR. TAYLOR: Good question. We'll put it to the designers. Any other questions?

[No response.]

MR. TAYLOR: Glad to be here. I'll see you and I've saved you some time. You owe me.

[Applause.]

MR. COMBS: Our next speaker, Sheldon A. Schwartz, has been involved in let's say external relations of the Nuclear Regulatory Commission for a number of years. Currently, Shelly is Deputy Director of Governmental and Public Affairs. Prior to that time, from 1987 to 1989,

Shelly was Deputy Director of State, Local and Indian Tribe Programs.

From 1983 to 1987, Shel was Deputy Director, Division of Emergency Preparedness. From January 1980 until October of 1980, Shel was on detail to FEMA to assist them in establishing their Radiological Emergency Preparedness Division. When Shel first came to the agency in 1972, he was a Special Assistant for State Liaison, who is responsible for establishing this program of state cooperative efforts.

Shel has a BS in Mechanical Engineering from Widener University in 1960. Shel, I only read what you told me to.

Without further ado, Sheldon A. Schwartz.

[Applause.]

MR. SCHWARTZ: Thanks very much, Fred. You need my glasses in order to read those numbers right. I'm really pleased to be with you all here today to participate in this meeting of the Government Appointed State Liaison Officers and to discuss with you how I believe -- these are my personal remarks -- how I believe the future direction of the NRC will influence future cooperation with the states.

As Fred mentioned, I have had some experience regarding the states' role in nuclear affairs. On October 18, 1972, I organized and hosted the first meeting with

state representatives on regulatory matters, and have been involved either directly or indirectly in these issues since that time.

I mentioned this 1972 meeting because I believe it was the beginning of the expansion of the states' role in reactor regulatory issues. Since 1959, of course, the Agreement State Program had been authorized and in 1972 there were 24 states regulating approximately one-half of the radioactive material licensees in the United States.

This meeting, the 1972 meeting was an interesting one since, for the first time, we, at that time we were the Atomic Energy Commission Regulation, attempted to articulate the beginnings of a coherent policy on expanded relationships with states.

At that time, the prognosis was that there would be an expansion in licensed reactors and, at the same time, states were defining their needs for more information about these facilities, as well as a greater participatory role in the regulatory activities.

Since the Federal Government retains the regulatory authority for safety and design, construction, and operation of these facilities, any arrangements with state participation would be on a collaborative basis rather than an independent basis where duplication, conflict, inefficiency and confusion could arise.

As a reference point, maybe some of you remember the agency, at that time, was just completing the implementation of NEPA reviews relating to applications for reactor licenses. During that period, there was a backlog of applications awaiting final agency action.

A review of the principal topics on the agenda of that 1972 meeting provides an insight as to how we viewed the future role of the states. Commissioner Doub and Manning Muncing, who was then Director of Regulation, touched on the theme of the need for increased cooperation with the states, recognizing that states have their own authorities which could compliment the Federal Government's exclusive authority over source, byproduct and special nuclear material.

A special emphasis was placed on states looking into becoming agreement states and joining the 24 that were running their own radioactive materials regulatory programs. Other subjects discussed were exchanging information, creation of the State Liaison Officer Program, state participation in nuclear facility hearings, siting legislation, the role of states outside Federal jurisdiction, and proposed collaborative programs dealing with radiological and non-radiological monitoring, and emergency preparedness planning.

The focus was clearly reactor licensing, with the

exception, of course, of the Agreement State Program. Some of these new initiatives were implemented while others received limited support. For example, your being here today is the direct result of those initiatives.

Also, we worked with the State of Maryland on a joint hearing for the proposed Douglas Point site. The legal and administrative protocols were established for the environmental portion of the construction permit hearing whereby each entity was used the common record in reaching decisions about the site.

The state had a mature siting program and also had authority for issuance of air and water quality permits. We had our radiological safety authority and were able to accommodate all of the parties in the proceeding. A joint record was established and we in the State of Maryland were able to carry out our responsibilities with this single proceeding, where two separate proceedings had been the norm. Douglas Point never did get built.

In addition, there are now 21 MOUs and sub-agreements in force with ten states covering a variety of collaborative activities, and you heard about a number of them from the preceding panel. These arrangements range from cooperation on ASME inspections, that Roy Wight discussed earlier, to inspection of low level waste packaging prior to his leaving the licensee site.

I think Tim Martin touched on the Pennsylvania program on that. Other examples of collaborative efforts are environmental monitoring and emergency preparedness. As part of the ongoing environmental monitoring program around nuclear power plants, we currently have contracts with 34 states to retrieve and deploy dosimeters. These data are integrated with licensee data on a site-specific basis.

With respect to emergency preparedness, and I smile when I see Heyward Shealy sit in the audience and Aubrey Godwin, and I know we did an awful lot in the 1980s on working on the new emergency preparedness regulations.

We've progressed from the voluntary certification approval process to the mandatory program that was added to both the NRC and FEMA regulations after the Three Mile Island accident. This effort, in my view, is an excellent example whereby local governments, the states, and the Federal Government have worked together to implement a program with high public visibility and difficult technical standards.

I think we've come a very long way together over the last ten years on the emergency preparedness program. While the thrust of our cooperation with states seemed to have been related to reactor licensing, we have moved forward together in the radioactive materials area. Since that first meeting in 1972 when there were 24 agreement

states, there are now 29 agreement states regulating more than two-thirds of the licensees in the United States.

At the same time, we have become a full partner, and Carl talked about this this morning, at the same time we have become a full partner in support of the Conference of Radiation Control Program Directors, along with the Environmental Protection Agency, and the Food and Drug Administration.

For this organization we have collaborated on such programs as transportation surveillance, along with a number of individual states; training; instrumentation quality assurance; radiographer certification; waste management; NARM; and, a whole host of technical workshops and task forces. Most notably, we are staunch supporters of the suggested state regulations for control of radiation which I understand is about ready for their final revision and publishing.

Since I mentioned training, the growth of this program has been rather extensive for agreement states and prospective agreement state personnel. I need some new teeth. During this past year, we have provided over 300 training slots in over 18 courses that have run from a period of a few days to five weeks. That's quite an upgrade over what we had formerly.

Since there have been no new applications for

reacto licensos, the Commission, as you heard Jim talk about, has increased its attention to operational safety, plant life extension, and preparing technically and administratively to handle future applications.

As such, it is no surprise that in the reactor area these are the subjects that are on this meeting's agenda. However, you will also note that there are significa discussions on other issues. In Chairman Carr's remarks th.s morning, he emphasized the importance of our partnership in implementation of the new Part 20.

The Commission's recently published BRC policy statement and the requirements relating to improvements in medical quality assurance. Also, low level waste is a subject that will receive considerable attention with respect to state-NRC cooperation.

The Commission has committed resources to provide technical assistance to the states in evaluating the suitability of candidate low level waste sites, particularly their ability to pass muster under the regulations contained in 10 CFR Part 61 and the associated guidance.

We believe that the underpinnings of successful implementation of the Congressional intent embodied the Low Level Waste Policy Act Amendments is rooted in sound technical judgments. To this end, we have conducted training and workshops and provided on-site consultation

when requested. Additionally, we share a regulatory partnership with the agreement states and have paid special attention to the technical needs of the existing cited states and the new host states who will be faced with the processing of applications.

Special regulatory workshops have been conducted on technical and administrative matters. While there are vexing technical issues and public policy issues, my view is that we are making progress. We've come a long way since 1972. The following are some of the benefits we have learned from our experiences.

We have a better understanding of each other's strengths and weaknesses and look for ways to cooperatively provide beneficial and effective public programs. Second, future collaboration is a mechanism for effectively using our limited technical resources to ensure protection of the public health and safety.

Lastly, [illegible]tion is the subject of ongoing public debate and [illegible]-NRC cooperation is important to assuring [illegible], reliable and understandable information is publicly available.

At NRC we rely principally on our State Liaison Officers, and they were introduced this morning; Marie Miller, Bob Trojanowski, Roland Lickus, Charles Hackney, and Dean Kunihiro; to bring the NRC nearer to state and local

when requested. Additionally, we share a regulatory partnership with the agreement states and have paid special attention to the technical needs of the existing cited states and the new host states who will be faced with the processing of applications.

Special regulatory workshops have been conducted on technical and administrative matters. While there are vexing technical issues and public policy issues, my view is that we are making progress. We've come a long way since 1972. The following are some of the benefits we have learned from our experiences.

We have a better understanding of each other's strengths and weaknesses and look for ways to cooperatively provide beneficial and effective public programs. Second, future collaboration is a mechanism for effectively using our limited technical resources to ensure protection of the public health and safety.

Lastly, radiation is the subject of ongoing public debate and strong state-NRC cooperation is important to assuring that factual, reliable and understandable information is publicly available.

At NRC we rely principally on our State Liaison Officers, and they were introduced this morning; Marie Miller, Bob Trojanowski, Roland Lickus, Charles Hackney, and Dean Kunihiro; to bring the NRC nearer to state and local

governments and to enhance the role of the regional offices in representing the NRC in their areas collectively.

Our future success will be measured on how we deal with the issues being addressed during this meeting. I believe we are in a much better posture to meet these challenges because of our history of successful cooperation.

Thank you very much.

[Applause.]

MR. SCHWARTZ: Any questions? I think I left you plenty of time. Yes, Dale.

MR. McHARD: Dale McHard, Oklahoma. Shelly, I would like to bring up a question about availability of a piece of data having to do with the proposed new Part 20. I would like to know if the NRC is planning to provide the states, either directly or through the Conference Office, Headquarters Office, with either hard disk or floppy disk versions of the new proposed Part 20 so that we can start looking at those in our WordPerfect or IBM Display Writer or whatever kind of word processor we have to crunch words.

MR. SCHWARTZ: Dale, I understand -- and Andy could correct me if I'm wrong. I understand that the NRC will be providing hard disk or floppy, I'm not exactly sure what, something that is compatible with your machines, in advance of Part 20 being completed and in the suggested state regulations. So we're going to try to get that out to

you as soon as the Commission allows us to.

MR. McHARD: When?

MR. SCHWARTZ: Whenever the Commission votes on it. You heard the Chairman this morning and I think he was talking about sometime by the end of this month.

MR. McHARD: Fine.

MR. SCHWARTZ: Anything else?

[No response.]

MR. SCHWARTZ: I thank you all very much.

[Applause.]

MR. COMBS: Our final scheduled speaker for this afternoon is Dr. Thomas E. Murley. Dr. Murley became Director of the Office of Nuclear Reactor Regulation in 1987. NRR is responsible for licensing and inspection activities associated with the construction and operation of nuclear power plants, research in test reactors, and for licensing reactor operators.

Previously, Dr. Murley had been Administrator of the Region I Office of King of Prussia, Pennsylvania. Earlier, Dr. Murley served as Director of the NRC's Regional Operations and Generic Requirements Staff in Bethesda, Director of the Division of Safety Technology in the Office of Nuclear Reactor Regulation, and Director of the Division of Reactor Safety Research in the Office of Nuclear Regulatory Research.

Dr. Murley joined the AEC's Division of Reactor Development and Technology in 1968 after serving as Senior Scientist with the Westinghouse Advanced Reactors Division. During the period from 1972 to 1974, he served as Technical Assistant to AEC Commissioner William O. Doub.

Dr. Murley received a BS degree in Engineering Mechanics from the University of Illinois in 1961 and a Doctorate degree in Nuclear Engineering from MIT in 1965. It's my honor to introduce Dr. Thomas Murley.

[Applause.]

MR. MURLEY: Fred, did you have go through all that? It's been a long day, I know. It's been a long day for us, too. We've had two alerts in our nuclear plants today, but thankfully it's gotten quiet now.

MR. SCHWARTZ: Where?

[Laughter.]

MR. MURLEY: Robinson and Sequoyah. I'm going to talk a bit about our emphasis on operational safety, human factors, and how we have come to focus attention on operational safety in the last few years, how the NRC staff evaluates the safety of plant operations, and finally what the results are; that is, are we improving, is safety improving.

By way of background, I think you are all familiar, of course, with the Three Mile Island accident in

March of 1979 and its aftermath. Before that time, we in NRC had mostly focused on hardware. There was a general belief among designers, and I think we probably shared it, that these plants were fail safe and, therefore, that we didn't need to spend as much attention on the human aspect of safe operation.

That's not to say we ignored it, but it never really received the same attention that the hardware did. But after that and, in fact, who would have dreamed that operators would deliberately turn off essential safety systems; that is, they would misdiagnose what was happening in the plant and actually shut off safety systems.

Well, we learned a lot of lessons from that, I think we all did, and we made many safety improvements, including operator qualifications and training, improved emergency operating procedures, and increased the number of operators in control rooms, a number of operational type improvements. In fact, in fact, we imposed millions of dollars, billions of dollars of improvements on the industry.

Yet, we still continue to see what we call near misses, I guess, in the early 1980s. There was one event that had, I would say, as profound an impact on the agency in the way we look at safety and the way we do business as TMI did. It was the June 1985 event at Davis-Besse in Ohio

where there was a transient, I'll briefly describe it, it's not terribly important, but they lost all feedwater.

The steam generators dried out. The reactor coolant began heating up, pressure began rising, and they came probably within a half-hour, maybe even closer of uncovering the core and damaging fuel at that point before the operators were able to restore the feedwater cooling.

So it caused some problems at the time at Davis-Besse. In fact, we sent a team in there to investigate it and the plant itself was shut down for a couple years to improve the plant and the operations.

Still, it didn't get anywhere near the notoriety because there was no fuel damage or no radioactivity released. But still it caused us to go through a very important introspective examination in the NRC staff of our approach to regulation because here it was six years after Three Mile Island, all these billions of dollars that we caused to be spent at nuclear plants, and we still had not gotten the increase in safety that we had desired.

We thought that at least part of it -- there were two aspects that came out of it, I think. One is that we needed to focus more on the way plants were being operated and the management of the plants. Second was the way we approach our own review of the plants. So I'll talk about each of those in turn.

[Slide.]

MR. MURLEY: There are some charts that will help illustrate my point. The chart here shows a very broad view of human factors, including, along the bottom, the traditional types of areas that human factors deal with, plant layouts, labeling, color coding of plants, the material condition of the plant itself.

The man-machine interface; that is the interaction between the people who have to run the plant and the hardware. That involves the control room design, the maintenance training facilities, diagnostic aids and procedures that operators have to have.

I mentioned the operators and the importance that we placed after TMI on their qualifications, their training, their motivation, and their continued ongoing training. But an area that we had not spent much time on and we realized after Davis-Besse that we had to put a lot more effort on was the management of the plant and the management of the company and the leadership.

These are like the Senior Nuclear Vice President at the plant and the Site Manager. These are the people who set the tone. They say either we're going to do it right, we're going to do it right the first time, we're going to do it safe with no shortcuts. Sometimes they don't send that message. Sometimes they send a message that it's more

important to produce kilowatt hours than it is to say shut the plant down and fix a piece of equipment that might be broken.

So the safety culture at the site, the attitudes, the resources that are applied to nuclear safety, and self-appraisal policy, that has to come from the very top, the main corporate officers of the company. Then there's a number of aspects that flow from that; namely, the management systems that the management at the top set in place.

Training programs, quality assurance programs, fitness for duty programs, the engineering support that the parent company gives to the plant itself, working conditions, labor relations, working hours, staffing levels, all these are important management systems that flow from the guidance that comes from the top.

We spend a lot of time dealing in these issues. They're very difficult to regulate. In fact, our regulations, you will find, don't really cover the areas I've mentioned at the top; the management leadership and the management systems. A few of the management systems are required by regulations, but very few.

We concluded after our introspective look after Davis-Besse that we ourselves had not been doing the kind of thorough review of these aspects of plant operations and

safety that we had to do. In particular, the region, in this case it was Region III in Chicago, the regional office knew some aspects about the way the plant was being operated that were not very well.

The office back in Bethesda here, my office, NRR, knew that there was a weakness in the design. They'd been arguing with the company for years and years to improve the design. The Office of Assessment and Evaluation of Operational Data, AEOD, knew that they were having equipment problems and maintenance problems from their evaluation of the data.

Yet, we were not putting those three things together very well. We concluded that we had to do that. We had to become more diagnostic, I guess, in our evaluations. So we've developed a system whereby we review the operation of each plant's safety performance twice a year, nominally every six months.

The regional staff and regional administrator come into Headquarters. We sit down and screen the performance of each plant. Then from those we select some plants that look like they may be slipping in performance or maybe they have not improved to the level we think they should. Typically, that's around a dozen, but perhaps sometimes up to 20 plants that we pick out for detailed analysis and detailed study.

We look over the inspection reports and results for the year. Our SALP results, I'm sure you know what that is, Systematic Assessment of Licensee Performance. We look over their performance indicators, their enforcement history. My staff sees if there are any particular aspects of their design that would increase their risk profile.

So in short, we take all the information that we can pull together in NRC that we know about that plant and we then prepare for a two-day senior managers' meeting where Mr. Taylor, the Executive Director for Operations, the Deputy Executive Director, the key office directors, all the regional administrators, and other key managers get away from the office for a couple days and we go through this information and try to evaluate it and make some sense out of it and come to some conclusions.

I think we have gotten where we're fairly good at it now, to the point where it's not to say that we can pick out poor performance all the time, but I think, by and large, we're doing a good job of it. The plants that seem to have fallen down in performance, we judge whether they should go on our watch list of problem plants. I think you know which ones those are.

Lately the plants have been coming off that list because they have been improving their performance, but typically it takes a couple years. Once they fall to that

level where we're of concern that it goes on the watch list, it takes a couple years to get off. But it has, I think, a very beneficial effect because Wall Street watches it very closely, you people watch it very closely, the public does, the media, and no utility manager wants his plant to get on the watch list.

They're very responsive to us if they think that their performance is down. That is assuming that their attitude is such that they want to improve, and generally that's the case. Sometimes where a plant's performance is decreasing but it hasn't reached the point where we think that we need to put it on the watch list, we will nonetheless sometimes call in utility management, usually the CEO and the senior nuclear managers, and discuss with them candidly what we see the performance and what the problems are and that if they don't improve they're headed for trouble.

So that's kind of a nutshell of how we have focused on operational safety. I think it's had a good effect and I'm going to show how we measure this effectiveness, if I can.

[Slide.]

MR. MURLEY: We have a program that's conducted out of AEOD called the Accident Sequence Precursor Study. It's done under contract to us at Oak Ridge. Briefly, we

look at all the operational events that take place at nuclear plants in the United States for a year.

There are typically some 3,000 or 4,000 licensee event reports. From those, they screen them out for the most significant ones and they pick out typically about 30 show up to be most significant. They analyze those using risk assessment techniques to estimate how close in that event did they really come to a core damage event.

I can give you kind of a simple example. Suppose there is a lightening strike or something and off-site electrical power was lost at the plant. We have, as you know, requirements for two emergency diesel generators typically at each plant; one to pick up the loads, and if that fails, then another one is available as a spare.

Let's suppose that one of them doesn't start the way it should, but the second emergency diesel generator does start and it picks up the electrical loads and the emergency cooling and those sorts of things are adequately powered.

Well, nothing really happened, you might say. But still, in a way, that was a close call because if the second emergency diesel hadn't started, it could have led to core damage. So we take events like that and we estimate using risk techniques what were the chances that that particular event would have led to a serious accident.

So that's what this chart shows. Precursors are actual initiating events or equipment failures that, when coupled with other postulated events, could result in a plant condition with inadequate core cooling, and thereby result in a severe core damage accident.

We use PRA methods to estimate the conditional probability of potential severe core damage and this conditional probability, which I'll show in just a minute, this conditional probability can be considered a measure of the residual protection against severe core damage that was available during the actual precursor event.

In other words, it's a mathematical measure of how close we came during that event.

[Slide.]

MR. MURLEY: My final chart will show the results from this program just since 1985. The data actually go back to before TMI, but I wanted to show mainly the recent events. What one sees from 1985-86 through 1989 is a steady decline in this cumulative conditional probability of core damage.

The 1985 event that is shown in red was the Davis-Besse event. So it contributed. That single event contributed most of the risk during that year. That's not surprising to us, but it shows it here quite dramatically. The numbers along the ordinate, the Y axis, show in 1985 the

cumulative conditional probably of core damage was .018. So roughly during that year we estimate that we had about a two percent chance of -- one chance in 50 -- two percent chance of a core damage during that year.

It's been steadily going down. It's hard to make a one-for-one attribution, but I personally think that the attention that we're giving to operational safety and, I'll be candid, the bluntness that we're talking to these utility managers about the importance of improving their operations, has had an impact.

So now it's down the last two years, 1988 and 1989, it's been down in the range of two parts in a thousand. If one were to -- for those of you who are mathematically inclined, if one were to say, well, we have 100 reactor years of operation each year -- actually 113 now -- if you divide that two in a thousand by 100-and-some reactor years, you find that the average core damage frequency may be down in the range of two in a hundred thousand. That's quite low, indeed.

I'm not quite prepared to say that that's the number because my staff warns me that there is a lot of uncertainty in this data and the way it's analyzed. But still the trends, we believe, are true. We think that we're on the right path. We think this is a fairly good measure at least of the trends that we're seeing in operational

safety.

I guess that concludes my message. I think we are on the right track.

Thank you.

[Applause.]

MR. MURLEY: If there are any questions on this, I'll be glad to discuss them.

[No response.]

MR. COMBS: Thanks a lot, Tom. We do have one additional event planned for today for you. The Chairman will be hosting a reception in your honor beginning at 5:00 in the atrium.

This is the point of our schedule that we had established for a general discussion, which I take to mean are there any issues that we have not raised today that you would like to discuss or are there any points that you would like to make for the discussion.

MR. STEWART-SMITH: Yes. Dave Stewart-Smith, State of Oregon. I'd just like to make an observation covering pretty much the whole day. I think it's constructive and significant that we heard about several different areas where the states interact with the NRC. Those areas where both the states and the NRC have put a lot of effort into cooperating and making sure the issues are worked out well, we heard a lot of success stories.

The area where we have heard the most problem, BRC, is the area where we seem to be getting the message, that's an area where we're going to say huh-uh, that the NRC is considering a policy of no more strict regulations from the states than what the NRC does.

I think that's a significant conclusion drawn from our day's proceedings. I have failed to see the usefulness on any of our parts of the NRC precluding the states from following a course of action that the states feel is necessary. That policy, if carried out, in my case, in the State of Oregon, would put a regulation of my agency that has been adopted by state statute; therefore, locked in state law; in direct violation of BRC in some waste disposal areas if the NRC goes that far.

I'd like to not see that happen. I'm also not sure -- I haven't seen anything that convinces me that those kinds of considerations are fundamentally overruled by a need for coast-to-coast consistency.

I think there are some real significant conclusions to be drawn from what we've seen today, and that's one of them that I draw.

MR. COMBS: Thanks, Dave. One response I would like to make is that the Commission's policy doesn't essentially do anything. No more materials will go anywhere they aren't going now. What the Commission has stated,

however, is that rules or requests for exemptions that we receive, that we intend to evaluate under the policy will be made available to the public and the public will be allowed to input.

This includes, of course, state governments, local governments as well, and other Federal agencies. So we haven't really closed anything with the BRC policy. What we have now is a stage for discussion, I'll admit quite a controversial stage, but we are now in a position of where we can listen as we get requests for exemptions, as we get requests for rulemaking, to the input from the states and from other regulators.

One other thing that hasn't been determined, of course, is the degree of compatibility that any of those subsequent rules, what the determination the Commission would make on compatibility in those subsequent rules. We are a number of years away, I would think, from having a decision on that matter or that magnitude.

As such, we still have you involved. There is no intention of closing out anyone. However, the policy is as the Commission has stated and now we're ready to entertain requests for exemption.

Wayne?

MR. KERR: Wayne Kerr from Illinois. I think the BRC policy and the approach that the NRC took illustrates

something; that is, NRC is primarily a technical agency. Most technical people would agree that the BRC is not a problem.

But the NRC in terms of the public policy element there did not do a very good job and they're probably not set up to do a very good job in that area because they are so technical. I think that's part of what your problem is.

MR. COMBS: Are there other comments or questions?

[No response.]

MR. COMBS: Then I certainly look to see you all in the atrium at 5:00. Thank you very much for the day.

[Applause.]

[Whereupon, at 4:35 p.m., the meeting was adjourned.]

REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission

in the matter of:

NAME OF PROCEEDING: National State Liaison Officers' Meeting

DOCKET NUMBER:

PLACE OF PROCEEDING: Rockville, Maryland

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.

Official Reporter
Ann Riley & Associates, Ltd.