UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
***
BRIEFING ON Y2K
***
PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland
Thursday, February 11, 1999

The Commission met in open session, pursuant to notice, at 9:06 a.m., Shirley A. Jackson, Chairman, presiding.

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

STAFF PRESENT:
ANNETTE L. VIETTI-COOK, Secretary of the Commission
KAREN D. CYR, General Counsel

PRESENTERS:
JOHN KOSKINEN, Chair, President's Council on Year 2000 Conversion
FRANK MIRAGLIA, DEDR, NRC Staff
JERRY WERMEIL, NRR, NRC Staff
JOE GIITTER, Incident Response Operations, NRC Staff
JIM DAVIS, NEI
PAUL GUNTER, NIRS

P R O C E E D I N G S

[9:06 a.m.]

CHAIRMAN JACKSON: Today the Commission meets to receive briefings on the issue of what some have called the millennium bug, most often referred to as the Y-2000 or Y2K problem.

With us today are Mr. John Koskinen, Chairman of the President's Council on the Year 2000 Conversion, members

of the NRC staff who will be introduced, and representatives from the Nuclear Energy Institute, and Mr. Paul Gunter from the Nuclear Information and Resource Service.

As many of you know, the Y2K problem involves the use of a two digit representation of the year element in dates in digital applications, predominantly in computers, but also in embedded microprocessor chips employed in many electronic components.

Because the 20th century is only implied by such representations, many of the microprocessor-based systems we rely upon in day-to-day life could experience operational difficulties at the turn of the century due to their inability to recognize and accommodate the change from the year 1999 to the year 2000. For example, the computer may read 00 as the 1900.

This problem takes on special significance for the nuclear industry as the unpredictable nature of a given Y2K

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failure, if uncorrected, offers the potential for deleterious impact on the performance of reactor plant safety systems; telecommunication systems that the NRC and our licensees depend upon to ensure the ability to respond to events; the electrical distribution systems that provide offsite power to licensed facilities; and the computers used in day-to-day and emergency response activities.

On Tuesday of this week I was privileged to provide the keynote address to an international workshop in Canada on the Y2K problem in the nuclear industry sponsored by the OECD Nuclear Energy Agency.

It was ironic that as I prepared to inform this international assemblage of the lack of any as yet identified impact of Y2K on U.S. nuclear facilities, the NRC was informed by one U.S. nuclear facility that a plant computer had failed as a result of post-Y2K remediation testing. One could take that as a negative, but one could also take it as a positive since, of course, validation and testing of Y2K remediation is a critical aspect of the overall process.

After modifications had been made to remove Y2K vulnerabilities in this case, a test was performed which involved a simulation of the turn of the century. It was during this test that the failure, which lasted for five hours and which rendered the facility's safety parameter

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display system inoperable, occurred. I should tell you that there are backups in terms of the enunciators in the nuclear plant, which tells us why defense in depth remains an important concept.

The good news is that, first, the problem was identified now, in February of 1999, and second, that it did not affect an active safety system such as the reactor protection system, and third, the plant stayed on line. So these are three important points. I will revisit this event in my closing comment.

The NRC has been working aggressively at addressing Y2K vulnerabilities in house, and as of February 5, 54 days ahead of the milestone established by the OMB, the NRC has completed the renovation, validation and implementation of all agency mission critical, business essential, and non-critical systems requiring repairs. That's CIO speak. In other words, we have done it all.

But there still is work to be done. The NRC

contingency planning for dealing with licensee Y2K failures is not yet complete, and analysis, testing, remediation efforts and contingency planning are still under way in the industries we regulate.

This morning we will be updated on the status of Y2K activities at the federal level, the activities yet to be completed within the NRC, both in terms of contingency

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planning and in terms of developing our regulatory posture with respect to this issue, the activities that have been and still remain to be conducted in the nuclear industry, and public concerns over issues of safety as we confront this issue.

The Commission welcomes this opportunity and appreciates the involvement of our guests.

Copies of the briefing materials are available at the entrances to the room.

I understand that Commissioner Diaz may have to leave early -- and he apologizes -- due to a previous commitment.

I want to particularly thank Mr. John Koskinen for joining us this morning and invite him to the table. I'm told that you went over hill and dale to get here, a/k/a Beltway backup. So we thank you for joining us.

MR. KOSKINEN: Thank you, Madam Chairman and members of the Commission. I'm delighted to join you this morning and would like to begin by congratulating you for holding this hearing and meeting because, as we will discuss, I think one of the critical aspects of dealing with this problem is public information and keeping the public informed and sharing with them all of the news we have of whatever nature as we go forward.

As the Chairman noted, I am chair of the

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President's Council on Year 2000 Conversion and I was asked by the President to come back a year ago to deal with this problem. We have created the council as a vehicle for coordinating the federal efforts in this area.

The council includes 35 federal agencies, including not only the cabinet agencies, but most of the independent regulatory agencies. So the Federal Reserve Board, the Securities Exchange Commission, and the Nuclear Regulatory Commission are all active members of the President's Council.

We have been looking at this problem in three areas.

The first area of our activity has been focusing on federal systems which we have direct responsibility for and also direct authority over. As the Chair noted, the President and the Office of Management and Budget have had a goal of completing all remediation of federal systems by March 31, 1999, nine months before we move into the year 2000.

As of the last OMB quarterly report, through November 61 percent of all of the mission critical systems in the government were totally compliant, meaning they had been remediated, tested and implemented.

The next OMB report will be out the first week in March, and we expect then that over 70 percent of the

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systems will have been remediated, and by the March 31 goal we expect that probably in the range of 85 percent or more of the systems will be totally done.

So the federal government, which faces some of the most significant challenges in the world because we operate some of the largest systems and most complicated systems in the world, I think will basically meet its goals, and as I have stated on other occasions, if there are difficulties for the economy or the public, they will not come from the failure of federal systems.

But it was clear to us when we started that even if all of the federal systems are remediated, tested, validated and implemented, that was not going to be enough, because if other systems that we all depend upon domestically or internationally failed we would have significant difficulties. So the major role of the council has been to organize itself into 25 working groups focused on the critical sectors of the economy and their operations.

We have working groups with the electric power industry, the oil and gas industry, the transportation industry, the financial services industry, and you can move across the board. We also have a very active working group with state and local governments, and we have an active international working group.

Again, I would like to express my appreciation for

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the active participation of the Commission and its staff in those working groups, particularly the electric power group. We have been reaching out in all of these working groups to form a cooperative working relationship with the major industry associations or umbrella groups in those areas.

In many of these areas we are dealing with organizations over whom we have no direct oversight or regulatory authority but are in fact trying to work with together with them to find out what we can all do to both increase the level of awareness in each of those critical sectors and activities, and more recently, to provide national assessments of the state of readiness, so that in each of the working groups the trade associations, umbrella groups or organizations like the National Governors' Association have been surveying their members under the auspices of the Information Disclosure Act which the Congress passed for us last year, which protects those surveys in terms of the confidentiality of the information provided, and we are sharing that information with the public as it is provided to us.

About three weeks ago the North American Electric Reliability Council, which has been, of course, the umbrella group for us for electric power, released its second survey. We expect next week, on the 18th of February, to get the second assessment from the oil and gas industry. Those two

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surveys are in their second cycle because we started with them first because of the critical nature of them in terms of their impact.

Thus far, as noted, there are no indications that there will be massive failures or national failures in either the electric power area or in the oil and gas area, but I would stress that does not mean that there is not a substantial amount of work to be done, and I would also stress that, as those surveys show, not every company is at the same level of preparedness.

I was accused when I was at OMB of viewing all of life as a bell-shaped curve with some people at one end and at the other and everybody else flailing away in the middle. Clearly those surveys reveal that.

The NERC survey has now over 96 percent of the industry, 3,000 companies, participating to some extent because they listed everybody who participated and nobody wanted to be on the list as a non-participant. But they noted in their first survey and in their second survey that there are companies that are behind the curve, as it were, and need to increase the level of activity.

To their credit, NERC pursued those who said that they were not going to meet the June goal of the North American Electric Reliability Council to be done to determine exactly what their problems were.

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They have promised in their next survey they will distinguish between those companies that have an understandable reason for not meeting the goal, which could be that they will wait until they have a time in their normal operations where they can shut down and do the final testing or the final implementation, and distinguish those organizations from the ones that in fact simply are not making enough progress.

Our goal in all of this in terms of the surveys, whether they are of counties or cities or power companies, has been, first, to give us all information upon which we can base our own contingency planning and emergency response.

Secondly, to share information with the public about the state of preparedness so that everyone will have the information we do.

And thirdly, to begin to set benchmarks for the industry so that companies as that information is provided and they can look at where the average company is will know whether they are ahead or behind in the game. It's a way of in fact encouraging and increasing the level of activity as we go.

Our concerns domestically by and large are not the companies that are focused on this problem. They are really the organizations that are not focused on it, that have

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decided for one reason or another that this is not their problem. Either they are not running major mainframe operations and therefore have ignored the implications and the impact on day-to-day operations with embedded chips and other challenges, or they have decided they are going to wait and see what breaks and then they'll fix it. Many of these organizations are small or medium sized organizations, although some of those organizations of that size have done very well.

We have tried to stress, whether they are cities and counties or small power companies or telephone companies, that it's a high roll risk of the dice, because if they wait and things do not work, they are likely to find themselves at the end of a very long line of people who waited to see if things broke and then tried to get them fixed.

We are continuing to push in a wide range of activities to try to get people to pay attention to this issue and understand that what they all need to do is make

an appropriate assessment.

Part of the difficulty is that everything will not fail, and in fact many things will not be affected by the problem. So it's not simply a question of telling people to replace everything or buy upgrades or patches. In fact, for smaller organizations, they don't have the resources to do

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that. So it's critical for them not to be sold a bill of goods, as it were.

On the other hand, there is no way to know until you've made an assessment and compared notes with others.

Our other concern is internationally. Probably half the countries in the world have not taken any significant action in this area. We have been working with the United Nations and other organizations.

In December we obtained the agreement of the United Nations to invite countries to send their year 2000 coordinators or senior executives to meet with us, and in mid-December we had the senior year 2000 people from 120 countries meet with us at the United Nations.

Last Friday, in response to requests from that meeting, we announced in New York at the Foreign Press Center the formation of the International Y2K Cooperation Center, which will be the first coordinating group to in fact coordinate the activities going on around the world.

The delegates, in December, agreed to go back into their regions and work on a regional basis on cross-border issues, but we are still concerned about the lack of activity in some countries, and we are also concerned about the lack of activity in some sectors.

Significant amounts of international activity have gone on in the financial area, led by central bankers and

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market regulators like the Securities Exchange Commission.

Significant work has gone on in telecommunications.

Some work has gone on, and it's at an increasing level, in air traffic.

But there is relatively little work in an organized way in the power area. We are working with the International Atomic Energy Agency to try to increase the level of their activity, but as you know, it's a very small organization and this is a unique challenge for them.

As a result of our concern about the lack of activity in an organized way in shipping, under the leadership of the U.S. Coast Guard there will be an ad hoc meeting of all the major international shipping organizations in the first week of March in London to try to mount the same global effort in the shipping area that we have in finance and telecommunications.

Our concern there, of course, is that we depend upon receiving goods by maritime shipping in a wide range of areas, including in the energy area. So our problem is not that we know there are going to be failures; our problem is we do not have information.

That brings me to my request of the Commission and the staff and the industry. That is that our other major problem and risk in the United States will be overreaction

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by the public to the perception of what this problem could look like.

We are concerned that if a few people decide to change their economic behavior, it won't make a lot of difference, if even a reasonable number of people do that, but if 200 million Americans decide to do anything very differently all at one time, the system is not geared up to deal with that, and we could have a self-fulfilling prophesy where we have a major economic problem even though the systems basically are functioning appropriately.

Our goal in this area is not to lead people at the other end of the spectrum into any false sense of security. I feel we have an obligation to be candid with them, to in fact share all the information we have, whether it's difficult or positive, and that we need to give them advice as to how to prepare accurately and adequately.

As we are doing national surveys, those are, I think, reassuring. As the information continues to evolve that, for instance, there is no indication yet that there will be any failure of the power grids, that is reassuring to people, but on the other hand, everybody wants to know what is going to be the situation with their own power company, what's going to be the situation in their community with water treatment, with telecommunications facilities.

We are working from our end, but we would be

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delighted to have support across the board to encourage individual companies to begin to engage in a dialogue with their customers and their communities about their state of preparedness.

At this point there is a lot of what I fondly refer to as crummy legal advice being given to these companies that the best thing to do is not say anything, and there could not be worse advice in terms of the operation of a company that the public depends upon.

I think the public has a lot of common sense. I think if they are given the appropriate information, they will respond appropriately. I think by now most of them understand this is a complicated challenge, that it's not an expectation that people should be done today. So companies who are waiting until they are totally done and there is no issue before they say anything may wait for a very long time because, of course, in the circumstance there is no way to guarantee, in light of the unique nature of the problem, that everything will work perfectly.

I think what people will understand and what they need to know is that each company understands that this is a problem, that the senior leadership, including the chief executive officer, has this on their list of priorities, that they are managing against the problem, that they have a plan, that they will announce and provide information about

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when they will be done, and they have backup plans that they are prepared to deal with, and work-arounds.

One of the things that is important for people to understand, and it goes to the example of the Chairman, is that this is not an all or nothing proposition. It is not a question of either the systems work or everything stops. In fact, with appropriate planning and appropriate backup plans and contingency plans or continuity of operation plans, there are work-arounds that are implemented every day for software or other kinds of failures, and most of the problems the public never sees. But all of that needs to be

explained to the public.

As I say, we are, through the spring, going to be encouraging companies across the spectrum to deal with their communities. We need in a community every head of a banking organization, of the power company, of the telephone company, of the local government to be explaining to the public exactly where they are. If they are moving more slowly than they would like, they need to explain that. I think the public will understand that.

The risk is that if we keep the information to ourselves, even if it's positive information, people will inevitably assume the worst; there will be a void of information; and the great risk that people will unnecessarily overreact to their perception of the problem.

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Again, the Commission has been a great leader in this area. I applaud your announcement earlier this week that you are now totally completed with your own internal system upgrades and testing and validation, but I also applaud your focus on the fact that, as we advise all of the federal agencies and in fact all the companies we are dealing with, everybody needs to take a look at their contingency plans and their backup plans even though you've done all the work on your systems as we go forward.

It's an interesting challenge in the next 323 days that we all face, but it's clear to me that if we work together on it, if we are in fact transparent in the efforts in which we are engaged, that we will make the transition successfully, and as the President said in the State of Union message, the year 2000 problem will be the last headache of the 20th century rather than the first crisis of the 21st.

CHAIRMAN JACKSON: Mr. Koskinen, let me ask you a couple of questions. Going back to the recently published NERC report, in a way the report seemed at once both optimistic and cautious. One area of caution had to do with the reliability of telecommunications, given the impact it could have on grid management.

Do you have an opinion on the degree of confidence that we should have that we won't see multiple challenges to

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generating stations, including nuclear plants, because of losses of offsite power? To put it another way, does the telecommunication sector seem well in hand?

I have a point of view that they are what I call the fundamental infrastructures, and if you don't have any electrical power, then everything goes out the window.

MR. KOSKINEN: That's right. There is a symbiotic relationship. The telephone companies will all tell you that they can't function without power; the power companies will tell you they can't function without telecommunications; and they all also depend on oil and gas supplies. So it is in fact a mutual dependency society.

There was a meeting of the three working groups of the council on telecommunications, oil and gas, and electric power at the end of last month in Texas to begin to try to again increase the flow of information. Part of the problem is we have an information flow problem not between just companies and the public, but between companies and their suppliers and those they rely upon.

Under the leadership of the Federal Communications Commission we have reconstituted the National Reliability

and Interoperability Council, or NRIC as it's called, headed by the chief executive officer of AT&T;. They are committed to providing us a full industry survey before our next report to the public, which will be in mid-April.

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At this juncture it is clear, and has been since we started, that the major telecommunication companies, both internationally as well as domestically, are vigorously engaged in dealing with this problem. It's also clear that they have some of the greatest challenges of any industry, in particular because it's very difficult for them to do testing because you can't take the network down to test it. So they have set up very complicated testing labs and they are sharing information as they go forward.

At this juncture, I think we are increasingly comfortable that the major companies and the major systems will work. On the other hand, there are 1,400 smaller telephone companies.

As you all know, from the power side we deliver, the Rural Utility Service of the Agriculture Department tells me, 20 percent of all utility services to rural areas. It will be very helpful to have Sprint and GTE and AT&T; prepared and ready to deal with this problem. The question, though, is, if you are in a smaller town or in a rural area, will your local telephone company be ready?

In the NERC surveys they've got virtually every power company participating. We are working actively with the telecommunications industry to try to have them have the same reach, because I think our risk is not national. There is a substantial amount of work going on. I think our risk

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is local, particularly in the small areas.

Corollary to that is the National Association of Counties did a survey for us, which you may have seen, in December, which on the one hand 50 percent of the counties have a major clear plan. The problem on the other side of the coin is 50 percent do not.

The Conference of Mayors released their survey a couple of weeks ago in which they listed everybody who participated and showed the usual spread of active participation, but there were major cities that did not participate. New York City and Los Angeles did not participate in that survey, and they are large cities. And they did not reach out and could not reach out obviously to the thousands of smaller towns.

So we are basically again saying that there needs to be a dialogue. People at the local level have a right to expect that their city manager, their mayor, their county executive will begin to, if they have not already, explain to them exactly where they are and share information about it, because that's where the risk is.

Montgomery County has been the leader in the United States about not only engaging in a dialogue, but sharing information about what they've done to remediate their systems and what their test programs are. Our goal is to have every county in the United States emulate that

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process.

The bottom line is I think that the major infrastructures, it appears, will be in good shape, but our

problem and our focus is on individual companies and individual locations.

CHAIRMAN JACKSON: You indicated that you were making a request to the Commission, and I take it that it had to do with our having discussions with the CEOs of the companies we regulate in terms of being open, engaging in dialogue, et cetera. Do you feel that there is a direct educational role that entities like the NRC have?

For instance, our regional administrators do hold quarterly press briefings. The question is, do you feel that there is some opportunity that we should take? Not that we have total control in terms of any remediation, but in the sense of educating the public, do you think that is an appropriate thing for us to do?

MR. KOSKINEN: Yes. That's a wonderful question. It is clear to us as we deal with the public, even internationally, that the one word that resonates in the public minds is "nuclear." I continue to be asked about the safety of nuclear weapons systems not only in the United States but around the world, and there is a great focus on the safety and the operation of nuclear power plants.

Those who have a broader understanding understand

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that we depend upon nuclear power plants not just for safe operation but actually as a major participant in the supply of energy. But it is clear that if we are going to have people unnecessarily concerned, it's going to be if they unnecessarily assume there are safety risks and problems.

Going back to your example about the testing failure in the year 2000 test you gave, it strikes me that that is the kind of information that we need to have public. As you say, the good news about that is that people have done the work, they are testing it, and if there are problems, they are going to discover them now, and if there are problems, they are in fact not problems that would shut a plant down forever, that they can be remediated.

I think there is a major role of education and information exchange to be played by the Commission nationally and regionally, and I think we need to encourage the companies individually to publicly discuss with their customers exactly what they've done, where they are in the process, what work remains to be done, what their challenges are, and I think we need to have the testing process be as visible as it can be. The most important way to reassure the public is to in fact share the testing process, and when we have a problem, that's not a major difficulty for the public to understand; it is in fact reassuring.

The Defense Department got great publicity when

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they opened their test at the White Sands Proving Grounds to the press. If it had not all gone well, that would have been very visible. The fact that they were willing to do that and in fact that it worked sent a very positive message out to the public. We need to do that, and I think we need to do that even if we are unsure what the tests will show. If the public feels that we will share the information with them, whether it's positive or negative, they will then both have increasing confidence in the process and I think they will feel that they know and will be able to make the right choices.

CHAIRMAN JACKSON: Has there been a discernible impact of the Year 2000 Information and Readiness Disclosure

Act in terms of entities?

MR. KOSKINEN: We developed that Act in response to particularly the telecommunication industry and the securities industry saying that they could not exchange information with each other because their lawyers said if they were not 100 percent right they could be sued. So the Act basically protects all voluntary disclosure, including statements of readiness even if they are not 100 percent accurate, as long as you are not knowingly misleading people or lying about it.

It has helped significantly in our survey results. There is a special data gathering request section that says

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that if a company provides the data to a trade organization or an umbrella organization like NERC, litigants can't reach into NERC and in effect have one-stop shopping for the data. So it is protected from litigants; it's protected from the federal government for regulatory purposes. So we have been able to increase the participation in those surveys.

There has been a slower increase than we would like -- again, we are working on it -- of technical information. One of the goals we had in that legislation was for larger companies or companies further ahead in the process to share their technical information about their experience with products, their experience with where the problems were, and their fixes and their testing protocols. There has been some of that but not nearly as much of it as we would like.

It's important for companies to share that with each other as they are working through the process. It's most important, though, to have that information available for the smaller companies and the medium size companies who do not have the same technical resources.

Especially as we begin to run out of time here and abroad, whether they are telephone companies, water treatment companies, power companies, hospital companies, and hospitals, we need to, if we can do it, have access to technical information from others in their industry that

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they can take advantage of, because you can cut through a lot of the time if you have a pretty good idea of what the systems are you should be focusing on and what the fixes are for those systems.

We are continuing to push. I've been disappointed to that extent in the lack of information sharing by some industries, by some companies. A major message that would be helpful is that to the extent that the more advanced and sophisticated companies can make that information available through the Web sites or otherwise, it will be critical information to smaller organizations as we move through this year.

CHAIRMAN JACKSON: Commissioner McGaffigan.

COMMISSIONER McGAFFIGAN: Just one question. Y2K is not a single date; it's a whole series of dates, as you know. We passed one of them, 1/99. I know from reading The Washington Post that HP had some problems with old defibrillators, which got fixed; Blue Cross-Blue Shield had some problems with its pharmacy services, which got fixed. We had some heightened readiness here consistent with our contingency plan. As that night rolled through, I watched CNN to see if any problems had occurred in Japan or Europe,

and the staff did something more systematic.

I think the next one is 4/9/99, the 99th day of this year, and 9/9/99. I forget what the others are. Is

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there a dialogue as those dates get passed about what problems we found, in which sectors, and how they were handled? That might be a way to build some confidence.

MR. KOSKINEN: It's a very important point. It turns out the press and all of us monitored what happened. We have now, thanks to this meeting, a list server so I can reach about 130 countries' senior year 2000 executives by the push of a button. There were probably ten or 12 or 15 incidents in the world, which means that the vast majority of systems passed the 1/1/99 date without a problem. There was some visibility to that.

Although I think you are right the first date most people are really focused on is April 9, because that will be the 99th day, the real date that everybody has known from the start is September 9th, because that will be 9/9/99.

We need to provide visibility to that both in terms of what the difficulties are and what works. With the difficulties, it will be important for people to understand how did we deal with those.

An interesting event along those lines was last week for air traffic. The airlines historically do not book farther than 330 days ahead. Last Thursday was the first day that you could book an airline reservation into the year 2000. Everybody watched, and it turned out all of those systems worked fine except for one airline, which in fact

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had not scheduled itself to be able to deal with that. The other major airlines and the major reservation systems passed that deadline.

In fact there was some coverage about it. The good news doesn't travel as fast as the bad news. So it was not as easy for us to get that out.

I think your point is well taken, first, that we should be aware of those dates; secondly, they are going to occur as we go through the year; and thirdly, we need to see how people deal with them. Everyone dealing with a fiscal year that starts before the end of the year obviously will have to have financial systems capable of dealing with fiscal year 2000 as we go forward.

We think that the 9/9/99 or the 99 phenomenon has been certainly well known and visible for the last year and a half or two, so that people who are remediating systems are using those as test dates for themselves.

I think ultimately if we get through, as I think we will, 9/9/99, that should provide reassurance to the public. What we are encouraging people, and it is critical, if there are problems, we should have those be visible as well, because then I think we will have greater credibility.

CHAIRMAN JACKSON: Who is dealing with the GPS system?

MR. KOSKINEN: The GPS system, for those who have

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haven't followed the bouncing ball, is August 21, 1999, in which the global positioning system satellites will roll over. They keep track of weeks, and they'll go back to week zero. That is run by the air force and the Defense Department as well as others. Those satellites will be

fine. Satellites generally turn out to be fine because they are basically just antennas floating around the world. The issues are in the ground stations that provide information.

At this juncture, therefore, the basic GPS system will be sound. The challenge and the concern is everybody who reads off that system, because they have to make sure that their systems also roll over to week zero so they read it appropriately. Otherwise they will be in trouble. There has been a major push through various commercial and non-commercial networks to get people up to speed.

Our real concern are people who have bought recently, but not recently enough, personal GPS readers. We are concerned about people who are out sailing or out hiking in the mountains who may have in fact an older system that doesn't roll over and they will no longer be able to get an accurate reading. We are doing whatever we can, but I think basically it will be another date. It's not a year 2000 problem per se, but it's a similar problem because you are changing the way the system calculates.

CHAIRMAN JACKSON: That's right. It's a delta

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system.

MR. KOSKINEN: Right.

CHAIRMAN JACKSON: Commissioner.

COMMISSIONER MERRIFIELD: I have a couple of comments and a couple of questions. First, I want to express my thanks for your coming out and sharing your time with us. It's very helpful for our deliberations to get that kind of interaction and comment.

We are very pleased here about what we have done at the NRC for our compliance issues. I personally want to express my thanks to Tony Galante and his folks for doing a crack job. The fact that we are among the first is something that we have to be very proud of. I'm glad we could share that today as well.

We will be hearing later on from NIRS. We've heard from others who do have concerns about these nuclear power plants being ready, being compliant for the Y2K issue.

I understand your concern, and I share it, that we need to have an interaction with the plants that we regulate to make sure that not only are they doing the right thing, but they are also communicating that they are doing the right thing.

I've only been a Commissioner for about 13 weeks now, and I've had an opportunity to meet dozens of CEOs over the course of the last few months. One of the main topics

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that we have talked about has been the Y2K issue. Uniformly there has been a commitment of those CEOs that they are taking the actions necessary to be ready for those date turnovers as we look at them. Similarly, the Nuclear Energy Institute has also been doing a lot of work. They've explained a lot of the work that they have been doing to be ready as well.

I think there is an issue of communication there. I don't think they are doing enough and perhaps we aren't doing enough to assure the public that we are indeed taking this very seriously.

You see the commercials on the cable television shows: buy your six months of food supply; make sure you have emergency generating facilities. There are a lot of

charlatans out there who are going to try to make a fast buck out of this whole concern. I think we need to do what we can to assure the public that we are serious about this.

In addition to our own internal procedures, we have touched a little bit on making sure that we have contingency plans. We had a vote on a contingency plan for the NRC within the course of the last two months. I think all of the Commissioners took that very seriously to make sure that we are indeed ready for that as a Commission as well when that turnover takes place.

I think it is very good that we have had this

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dialogue today and hopefully we can continue it.

My two questions are this. The first one is, in order to gauge how the plants are doing we conducted an audit of 12 facilities and the results of those were positive that they were doing the activities necessary to be ready for the year 2000. Of the 103 plants we have out there now, we sampled 12 licensees, but that covered --

CHAIRMAN JACKSON: Over 20 reactors.

COMMISSIONER MERRIFIELD: I was going to say that. It covered over 20 reactors.

I guess my question for you is, is that type of an audit process that doesn't sample the entirety of the plants that we regulate a procedure that you believe would be appropriate, or should we be doing more in that regard?

MR. KOSKINEN: It's a difficult question. To the extent that the 20 reactors cover the basic systems so that you now in effect have audits that the fixes are known for the 103 plants out there, I think that is very helpful.

We have urged and encouraged the federal agencies to have independent verification and validation of their work. So whether it's done by the Commission or whether companies have their own contractors or others doing it, I think it is important to recognize that companies when they assert and provide information that they are compliant need to advise the public and us not only what they did, but how

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they tested it and what their verification and validation of that was.

What we all need to recognize -- and the companies, I think most of them do -- is this is a unique challenge. We have never confronted anything as all-encompassing as this before. You never know and we'll never know until we actually cross those dates that it all has worked perfectly. So you can't test too much, and it's very important to make sure that there is an independent validation, particularly in an area like nuclear plants.

My sense would be that one way or the other in the area of communication companies need to establish either the Commission has provided an independent verification or they otherwise have some independent verification that the work that they have done is appropriate, that the tests they've run in fact have been run and are appropriate.

As we have said with the federal government, it's not a question of finding people who are cheating or cutting corners; it's really a question of just making sure that we have gone through and looked at all the processes jointly, in a cooperative way to make sure that the work has been done and been done accurately.

Correlated to that is the information sharing. It would be very helpful to the extent that companies share

testing protocols and information with each other. As the

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oil and gas industry, we have 25 trade organizations, major umbrella organizations. Their position is this is not a competitive issue, that nobody is very interested in having somebody create a major problem in these systems. So they are increasingly beginning to share information.

The nuclear power industry, it seems to me, is a wonderful area for potential cooperation, for people to compare notes about what their testing protocols were and where they found difficulties or what their fixes were, because if you are a company and you've done a certain set of tests, it's very helpful to know somebody else has tested the same systems in a different way and come out with the same answer. If they come out with different answers, that is also critical information, and the only way you will know that is in fact if you can get that information shared.

I'm dealing 90 percent of my time with people who don't have to listen to what we tell them, but we've been able to generate a cooperative response, and I think there is a large area of very important potential cooperation among the plants themselves. Not only cooperating with you all, but cooperating among themselves in terms of sharing information.

CHAIRMAN JACKSON: Let me interject something. I think it's important that you not be put in a position of answering a question out of context. It is true that the

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NRC has audited 12 licensees, and they represent different regions, which means they are part of different grids, they represent different types of reactors, different size of licensees; some are larger, some are smaller; therefore some have more resources, et cetera.

Coming out of that there will be a review of six additional licensees specifically focusing on contingency planning. But all of this is occurring within a larger context having to do with now a three-year-old effort that the NRC has been carrying out in conjunction with the Nuclear Energy Institute. We have Mr. Jim Davis here today who is going to be talking with the Commission about that. Therefore, in a certain sense it's unfair to ask you the question without your having the context of an overall effort.

I think Mr. Davis will talk with us -- I know you are a very busy man, but we will be happy to send you the relevant parts of the transcripts -- about the degree of cooperation within the industry and what kinds of information is being shared. It's an important issue, but it's an important issue that, in the sense of your statement about not panicking the public, people understand the context.

MR. KOSKINEN: I think that's right.

COMMISSIONER MERRIFIELD: The Chairman has more

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artfully and articulately been able to put that in context. I appreciate her having done that.

The other question I had for you. Different countries have dealt with this issue relative to their power plants in different ways.

In Sweden, we had a report they decided to turn

all the dates forward to the year 2000 date and see what happened. There were some results that happened from that.

There was also a test in Nova Scotia where they artificially decided to turn it to beyond 2000. This is not for their nuclear power plants but for some of their conventional generating facilities. They are now somewhere in May of 2000 and they have not had any problems.

Do you have any thoughts about different activities by other countries in the context of how they are addressing this with power generating facilities?

MR. KOSKINEN: Again, to the credit of the Commission and the industry, I think we are farther ahead and in a more systematic way dealing with this problem than certainly some of the countries which do not have the same events.

I've seen the article about the Canadian plant, which is, as you say, running months into the year 2000, which again is something that would be useful if more people understood that in fact there are people out there who have

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met the challenge, rolled it forward and done well with it. It goes back to my point about industry cooperation and sharing. There are a lot of different ways to test and deal with systems.

It would be helpful if we could in fact get more information shared among the companies about different ways they are dealing with it and what the results are. If you come at it in three or four different ways and you get the same result, you increase significantly, obviously, your level of confidence that the basic underlying fixes are working.

Our bigger concern internationally is not the people who are at a stage where they can roll the clocks forward and test successfully; our bigger concerns are places in areas such as those countries running Russian designed nuclear plants where it's not clear that there are appropriate resources and attention being paid. That is why we have spent a lot of time working with the International Atomic Energy Agency, because I think there we have more significant challenges.

CHAIRMAN JACKSON: You know that the U.S. Government is supplying a cost-free expert that we helped to identify to help with that effort.

MR. KOSKINEN: Yes.

CHAIRMAN JACKSON: It's not enough, but it is a

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beginning.

MR. KOSKINEN: Morgan Libby has been provided on a cost-free basis from the United States to the IAEA. They are using a lot of the materials that you all and the industry have generated here as basically course materials, trying to educate and share that information through those. I think it is 66 plants that run across nine different countries, the newly independent states and in Russia.

It's a classic example of the sharing of information and the value of it, because if that information had to be developed from scratch, they'd never be able to do it. So we are transporting our experience and expertise to the extent we can. As the Chairman notes, we need to do more of that.

COMMISSIONER MERRIFIELD: Thank you.

CHAIRMAN JACKSON: Thank you very much,

Mr. Koskinen. We appreciate your coming out. I know you spend a lot of your time doing this. It is very helpful to us.

MR. KOSKINEN: It's my pleasure. Again, I would commend all of you and the Commission and the industry for the work you are doing and the leadership you are providing in an area the public is greatly focused on and interested in. Good luck.

CHAIRMAN JACKSON: We don't mind if you take away

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the message that we do have the best CIO in the government.

[Laughter.]

CHAIRMAN JACKSON: Thanks very much.

I would like to invite the NRC staff and Mr. Davis from NEI to come forward to give us an update on the status of nuclear utility readiness in this area. I'm going to ask Mr. Miraglia to begin.

MR. MIRAGLIA: Thank you, Madam Chairman. Good morning, Commissioners.

The staff has been aggressively addressing the year 2000 problem with our licensees and preparing the agency to deal with unanticipated issues that may result from the Y2K problem.

Over the past couple of years the staff has worked to ensure that our licensees are aware of the 2000 problem, and as you are aware, we provided an appropriate level of regulatory oversight.

As has been mentioned, there are 323 days to the turn of the millennium. We believe that the efforts that we have under way and are yet to complete will provide continued reasonable assurance of the protection of the public health and safety during the transition to the year 2000.

We have broken in some respects the panel at the table today, because we also have sitting with the staff

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industry. We recognize our regulatory role in terms of arm's length relationship with the industry, but this has been a very cooperative effort, as the Chairman has articulated in some of her remarks, and even as you heard from Mr. Koskinen on the involvement of the industry with us.

We've also worked over the past ten months within the President's Council. I as a member of that council would also like to express my appreciation to Mr. Koskinen for taking the time to be with us today to support this Commission meeting.

CHAIRMAN JACKSON: He's asked for a transcript, so he'll know that you said that.

MR. MIRAGLIA: I'll see him this afternoon at a council meeting.

With me today is Jim Davis from the Nuclear Energy Institute. Staff with me is Jerry Wermeil from the Office of Nuclear Reactor Regulation and Joe Giitter from the incident response organization.

CHAIRMAN JACKSON: By the way, if I may just take a moment to interject. I'd like to take note of the fact that Mr. Wermeil is going to be moving and taking over the reactor systems branch. As some have said, from the frying pan into the fire. Nonetheless, I want to take this opportunity to thank you publicly for all the work you've

been doing. I know we've had a number of sessions, and it's a difficult issue to get your hands around.

MR. WERMEIL: Thank you very much, Chairman Jackson.

MR. MIRAGLIA: I appreciate those remarks, Madam Chairman. The matter of transition is under review by me.

[Laughter.]

CHAIRMAN JACKSON: I see. So this may be premature.

MR. MIRAGLIA: No. It has to be done, but it needs to be done in an orderly and appropriate way.

[Slides shown.]

MR. MIRAGLIA: I will go through this very quickly. It has been indicated by Mr. Koskinen that there are 25 working groups, and the NRC has been participating within the energy group, as mentioned; the health care section in terms of our NMSS office working within that group relative to medical devices and the like; and in the emergency services sector, which is response planning and coordination with the emergency response and coordinated federal response. The Office of Response Organization has been actively involved in that sector.

Our approach to the Y2K concerns is an integrated and inclusive approach. As has been mentioned, from an international perspective, the agency sponsored a resolution

at the September meeting of the IAEA regarding the Y2K issue and the attention that should be paid to nuclear power plants worldwide. That resolution was passed this past September.

The NRC did identify, as indicated by the Chairman, a cost-free expert that the U.S. Government is paying for to support the IAEA activities in this respect.

In terms of public awareness, I think Mr. Koskinen made it very clear that awareness of the issue, sensitivity to the issue, and addressing of the issue and status is very important communication.

Our Office of Public Affairs has been working with us in terms of putting our information out on our Web pages with respect to not only general letters, the responses, the results of the audits.

You will hear a little bit later we have done 12 audits. Eight of those audit reports are out and issued and on the Web. The others are in various stages of preparation and when completed will also be on the Web.

So we have been sharing that information in a public way along with the industry as well.

In terms of our approach overall, we are using a risk-informed and graded approach. Most attention is being paid, naturally, to the power reactors, but we are also looking at fuel cycle facilities, material licensees, and

power reactors, and we've been working with the Agreement States and state programs to communicate the issue.

The common elements of all of those activities is awareness of the issue, notice of what the problems are, information exchange as to what are they doing and how are they planning and the activities that they are engaged in, and some validation of that either by inspection, audit and follow-up in various meetings and the like.

CHAIRMAN JACKSON: Within a risk-informed context, Mr. Miraglia, how is the NRC dealing with issues outside its traditional area of authority that could impact risk to the public vis-a-vis nuclear operations, such as telecommunications?

MR. MIRAGLIA: I think in a number of ways. With respect to some of the issues, in terms of the power plant itself, our concern would be the potential loss of offsite power. We need to pay more sensitivity to those processes and procedures in terms of contingency planning. Those are elements of risk. At some plants, as you aware, that is a higher contributor to risk.

CHAIRMAN JACKSON: Is Mr. Wermeil going to speak to that?

MR. MIRAGLIA: He can.

In the telecommunications sense, Mr. Giitter has been working with the response sector and how we are looking

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at that and backup communications and the like.

Joe.

MR. GIITTER: NRC is a member of the National Communications System. We've been working very closely. In fact we've had a very good relationship with the National Communications System and the President's National Security Telecommunications Advisory Committee. One of the things that they are doing for us at this time is going to those small telephone companies that are near our nuclear power plants.

Many of our nuclear power plants are serviced by the major telephone companies, but they are going to the smaller ones and helping us get some information as to whether their switches are going to be Y2K compliant.

We are also working with those agencies to establish a backup communication system that will be independent of the public switch network for the transition.

We also are a member of the Government Emergency Telecommunications System, which will provide a high level of assurance that we would be able to reach our sites and that they would be able to reach us in the event of network congestion possibly caused directly or indirectly by a Y2K problem.

I might also add that in the industry's contingency planning document, and maybe Mr. Davis can talk

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about this later, NEI/NUSMG 98-07, they have a template or recommendation for utilities to use in developing their own contingency planning.

One of the key aspects of that is to have the utilities contact their local telecommunications providers, including the public service answering point, such as the 911 centers, to make sure that in the unlikely event that there is a problem at the plant they would be able to call in the necessary resources, such as the fire department, or reach the state and local officials.

MR. MIRAGLIA: Jerry.

MR. WERMEIL: You raised a very interesting point. The Y2K problem was recognized sometime ago by the staff as putting this agency in a somewhat unique position of not only exercising its primary responsibility for nuclear safety, but also being aware of the impact of the year 2000 problem on the nuclear power plants' contribution to the

continued availability of the electric grid.

That was also obvious to the industry itself, and in the original guidance document, NEI/NUSMG 97-07, that the staff accepted in its Generic Letter 98-01 on this topic, not only are those systems that we would traditionally be responsible for for ensuring the safety of the plant included within the scope of the program, but systems necessary for continued safety operation of the plant are

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part of the focus.

Because we believe that program was appropriate in its scope in our oversight of industry efforts to address Y2K, we have looked at not only those systems with a safety function, but those that are necessary for the continued operation and those that support the plant's ability to maintain its grid function. We point out in our audit report some of what we see licensees doing in that regard.

We believe for their own reasons that, because they are not in the business of anything but generating power while at the same time doing it safely, that they also recognized how important that was, and they are addressing areas like that in accordance with the guidance that the staff believed was appropriate.

CHAIRMAN JACKSON: Let me ask you two other questions, one other on power reactors and then in another area.

If a power reactor couldn't demonstrate Y2K readiness in a safety system but at the same time had not identified a specific vulnerability, how would NRC react?

MR. WERMEIL: We would react to ensure that that plant was meeting its license requirements and our regulations. If the information to us indicated that at some point, either January 1, 2000, or some other point, that licensee was not in compliance with its license based

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on a Y2K problem in a system that was necessary to maintain the safety of the plant, we would raise that issue to the licensee and ensure that the licensee pursued it appropriately.

CHAIRMAN JACKSON: You wouldn't do it until 1/1/2000?

MR. WERMEIL: No. The information on the status of these systems, Chairman Jackson, will be provided by all licensees by July 1.

CHAIRMAN JACKSON: Is he going to walk us through that?

MR. MIRAGLIA: Yes.

CHAIRMAN JACKSON: And talk about the decision-making?

MR. MIRAGLIA: Yes.

CHAIRMAN JACKSON: Okay. I'll wait.

MR. WERMEIL: We have a plan that allows us sufficient time to address these issues and make the necessary decisions in order to assure safety at these plants.

CHAIRMAN JACKSON: All right. Let me ask you one last question. What sort of Y2K vulnerabilities may impact the public outside of the power reactor field? For instance, could failures in brachytherapy devices cause patient overexposures, and what are we doing in that area?

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MR. MIRAGLIA: I think one of the areas in the materials area is the medical licenses. As I indicated, NMSS has been interacting with the sector. As well, we have been interacting with FDA in terms of awareness of problems how they are being addressed, and are the systems going to be Y2K ready or compliant in those areas.

Dr. Cool is here, if you would like to hear more on some of the interactions.

CHAIRMAN JACKSON: Dr. Cool, could you give us a cool, succinct statement?

DR. COOL: Good morning, Madam Chairman and Commissioners. We have been doing a number of things particularly with the medical community because there are some of those potentials. For a larger part of the community, where you are dealing with unsealed materials, diagnostic doses, or even therapeutic nuclear medicine, safety is by procedure and by handling, not by the electronics. So they would have to look and make sure that the the dose calibrators were in fact reading out properly.

That allows us then to focus more precisely on things like brachytherapy, teletherapy, some of the units which have in one sense safety built in because the sources are shielded. Those systems are generally designed such that power failures result in them either not being able to move out at all -- they fail safe -- or to retract the

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source if there is an issue associated with those, via some spring mechanisms or otherwise.

We have been working closely with FDA, who has the actual lead responsibility within the federal government for things like treatment planning systems. Interacting with the various manufacturers, we have in fact identified both through interactions with the manufacturers and on some of the inspections we have been looking at this issue on every inspection since about November of 1997. So we have gone essentially all the way through the priority ones already.

We have identified some cases where treatment planning systems were not Y2K compliant. We have been identifying those. Those were also already known to those manufacturers. My understanding in fact is that upgrades are already available for those systems that we have been able to identify. A lot of those have already been put into place or may take place.

Our understanding of the failures is more a matter of non-functioning rather than an incorrect functioning if they were to roll over on that date.

CHAIRMAN JACKSON: Thank you very much.

You were going to mention contingency planning.

MR. MIRAGLIA: Yes. What I propose to do is go to the next slide, Madam Chairman. What we have is a timeline.

COMMISSIONER MERRIFIELD: Madam Chairman.

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CHAIRMAN JACKSON: Yes, please.

COMMISSIONER MERRIFIELD: I'm sorry to interrupt. I have a follow-up question to one of yours.

CHAIRMAN JACKSON: Sure.

COMMISSIONER MERRIFIELD: I have a question about the U.S. Enrichment facilities at Portsmouth and Paducah, Kentucky. I believe I'm right on this. If those facilities were to be shut down, there is a question about them turning back on once they are down. I'm wondering what we have been

doing with them to make sure that they are ready as well.
MR. MIRAGLIA: They have reported that they will be Y2K ready by April of this year. The facilities will remain on line. They will have extra fuel on site to maintain onsite power and emergency power. The residual heat in the plant will allow them to stay hot for a period of three to four days.
The plants would be shut down to a safe condition in terms of no criticality or release issues. The concern is not to have the plant go cold. So they would have those procedures in place and have taken those steps.
CHAIRMAN JACKSON: Has any inspection or audit function been assigned to resident or regional inspectors in these areas?
MR. MIRAGLIA: In terms of the materials area and in these areas, the Y2K issues are being followed up in the

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course of the inspections. As Don indicated, the priority ones.
CHAIRMAN JACKSON: What about for power reactors?
MR. WERMEIL: Not specifically, Chairman Jackson, but we have contacts with all the regional offices and there have been designees to keep us informed of information that they obtain that may be of use to us at headquarters in dealing with the problem.
CHAIRMAN JACKSON: Wouldn't it be prudent to have the resident inspectors, if only in an accompaniment role, involved perhaps as you go through these six plants with the contingency planning since they are the ones who are right there?
MR. WERMEIL: Absolutely. One point that perhaps I should have made is during the 12 audits the resident inspector on site was available and was aware that we were there.
CHAIRMAN JACKSON: I'm talking about beyond being aware that you are there, even if they are a silent team member, to have them there so that they can be much more informed and apprised of situations and attuned to them.
MR. WERMEIL: With regard to contingency planning, that is an excellent idea. The resident inspector will be asked to be on site on January 1, 2000, and will be involved in that effort very strongly.

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CHAIRMAN JACKSON: So we agree that's it's prudent to have at least have some coverage by having some inspectors involved at this stage of the game.
MR. WERMEIL: Yes, we do.
CHAIRMAN JACKSON: Very good.
COMMISSIONER DICUS: Madam Chairman.
CHAIRMAN JACKSON: Yes, please.
COMMISSIONER DICUS: You may have said and I missed it. Were medical licensees the only materials licensees that have been identified as potential problems?
MR. MIRAGLIA: No. Don, since he's at the table, can perhaps address it in more detail. All the materials licenses were looked at in different ways in terms of notification, what activities that they had undertaken.
Don.
DR. COOL: We have in fact done a number of things. The information notices that we have put out have gone to all licensees. Early on in the process, well over a year ago, we did a survey which involved talking to a

representative or to a licensee or to each of the classes' broad scopes in a variety of situations, looking to see if there were potential weaknesses that we needed to follow up in a particular segment. We have not identified any of those.

My inspectors are asking a series of Y2K issues in

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terms of awareness, identification of issues, and any actions that are taken on every single inspection that they are going on irrespective of the kind of facility.

COMMISSIONER DICUS: How about non-power reactors?

MR. MIRAGLIA: In terms of non-power reactors, there are a number of issues there in terms of notices. We have been working with the organization TRTR, the Test Research Test Reactor group, in terms of understanding the problems and how they are addressing those kinds of issues. In a similar manner, during the course of inspections those matters are looked at. That covers the range of the activities.

As I said, there are common elements of making our licensees aware of our understanding of what they are doing to address the problem and then in some sort of follow-up either by inspection, audit or follow-up surveys and telephone calls and things of that nature.

Another example, Commissioner Dicus, is that during the MRBs with Agreement States for the last 18 months that has been a question that has been put to the state representatives during the course of the MRB meetings.

CHAIRMAN JACKSON: Thank you.

MR. MIRAGLIA: The next few slides are represented in a timeline of the activities of the NRC's oversight with respect to the Y2K issue. It's sort of a road map of where

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we have been, where we are today, and what is left to be done.

The main focus within the timeline is power reactors, but you will note that we also address some of the activities that we have engaged with in terms of the fuel cycle facilities as well.

As indicated, this is an issue that the agency has identified and has been dealing with back to 1996.

At the request of the NRC, the Nuclear Energy Institute and the Nuclear Utility Software Management Group, the NUSMG acronym that you've heard, initiated an effort to provide a guidance document to assist nuclear power plants to develop a program that would effectively address these issues.

The scope of that document is broad in terms of determining the scope of issues and systems to be examined, the test protocols, the documentation, the QA oversight, and the sharing of information. So it's a fairly complete document. As Mr. Wermeil has indicated, it is one that we endorsed in the context of our initial Generic Letter 98-01, which was issued in May of 1998.

Responses to that letter were received in August of that year. What the letter asked for is what program were they going to follow, and that 98-08 and the NUSMG document was an appropriate protocol; if they were going to

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deviate from that, they needed to explain what they were

doing and how they were doing it. All of those responses indicated that that was the document that the industry was going to follow, without exception.

In September of 1998, we started audits of 12 licensees. As has been discussed to some degree, these 12 audits represented approximately 20 plants, representing units of different vendors, different size, different locations, large utility, small utility, to try and get a range of utilities with large resources, small resources, and it addressed the problem.

If you look at the total number of facilities that we have licensed for these utilities, although we went to those 20 plants, it expands out to 42 units. For example, Commonwealth. We looked at one dual unit station, but that program and implementation would be applicable to all of their stations.

Those audits were started in September. We completed the last of the audits at the end of the month. As I indicated, eight of those audit findings are on the Web; four of the audits which have been completed in the last few months are in various stage of preparation, and those will be placed on the Web as well.

Also, in January we issued 98-01 Supplement 1. That supplement was a request in response to the industry

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request to provide information beyond the information requested in our initial generic letter. This was a result of the Disclosure Act that Mr. Koskinen discussed with the Commission a short while ago, to provide the information on systems even beyond those covered. That was acceptable, and the supplement indicates that.

The results are all due to be reported to the staff in July of 1999.

That is sort of where we are today.

Our plan is, in March, to issue an information notice that summarizes the findings from all of the audits and share that with the industry and provide those observations and lessons learned.

I think you will hear from Mr. Davis that there is a fair amount of industry exchange among the industry with respect to their findings.

In addition, in January we issued a draft contingency plan. That contingency plan is out for comment. The comment period is due to end the 19th of February. Our plan is to review those comments and provide a final NRC agency contingency plan to the Commission in the March time frame.

COMMISSIONER MERRIFIELD: Madam Chairman.

CHAIRMAN JACKSON: Yes, please.

COMMISSIONER MERRIFIELD: I have a question

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regarding that. To what extent are we going to be putting those contingency plans through exercises to test emergency communications?

CHAIRMAN JACKSON: They are going to talk about table top exercises.

MR. MIRAGLIA: We are going to cover that, Commissioner. We will talk in terms of some table tops and some additional work to be done.

COMMISSIONER MERRIFIELD: That's fine.

MR. MIRAGLIA: In addition, as was discussed in the previous panel, we have identified the need to review at

least six licensees' implementation of the contingency plan. The industry's guidance relative to contingency planning was developed a little later than the initial NUSMG guidance, and as a result of our audits, they weren't developed enough for us to make judgments. We do plan to conduct at least six reviews of the contingency planning efforts by the industry.

Also, you are probably aware that we have been petitioned by the Nuclear Information Resource Services for three rulemakings. Those petitions were received in December and a Federal Register Notice was published asking for comments on those petitions for rulemaking.

It deals with three issues in terms of rulemaking: to have the plant shut down prior to the transition to

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assure safety; concerns about providing adequate emergency and additional emergency power supplies on site; and the contingency planning for the licensees be exercised.

The staff has that petition under review. We are receiving comments on that, and we hope to provide that review and that decision in the month of April.

In June we would hope to complete the six reviews. We haven't picked the facilities yet, but our plan would be to complete those reviews. Our overall plan is to have information relative to their readiness in July and our audits completed, to have that information to decide where do we go from here based on the information or our understanding of the state of readiness.

CHAIRMAN JACKSON: I was correct in saying that these six licensees are different than the 12?

MR. MIRAGLIA: That's our plan, yes, Madam Chairman.

In that same time period we are also going to further develop our internal procedures for our own contingency plan and test those initiatives.

There is a national table top exercise that is being considered in the month of June. Perhaps Mr. Giitter can talk a little bit to that to give the Commission an idea of the scope of that.

MR. GIITTER: There are two dates. I don't know

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that they have been firmly established yet, but they seem to be the dates that people are focusing in on, particularly FEMA.

The first date would be an exercise where the major players in the federal response plan would respond to a Y2K scenario of some kind. They would respond in their roles under the federal response plan. That would be like an exercise on a Saturday, eight hours long.

The following Saturday there would be a cabinet level exercise where the heads of the agencies, the cabinet secretaries, and the vice president would participate for about four hours. It would be more of a walk-through of the process that occurred on the previous Saturday.

I believe the dates scheduled for those right now are the 19th and 26th of June.

MR. MIRAGLIA: Two consecutive Saturdays in June is the initial plan at this point in time.

Next slide, please.

CHAIRMAN JACKSON: Let me just ask a question.

Did this address your question? Did that answer

your question you asked about testing of contingency plans?
COMMISSIONER MERRIFIELD: I'll hold off until we get to the end.
MR. MIRAGLIA: We have another exercise planned later. Our present plan in October, Commissioner

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Merrifield, would be for us to conduct an NRC Y2K exercise.
Joe.
MR. GIITTER: Right now, what we are looking at is a fairly significant exercise that would essentially dry run all aspects of the contingency planning, including the international cooperation and communication. We would hope to have some licensee involvement. We know that many licensees will be exercising their contingency plans at about that same time frame, and we would like to have some licensee participation as well. It's possible we will be testing our own internal procedures that we developed. Right now we are looking at the October time frame for that exercise.
COMMISSIONER MERRIFIELD: Is it the thought to also test the emergency communications procedures?
MR. GIITTER: Yes. That would be a major part of that.
COMMISSIONER MERRIFIELD: We would have some of the equipment at that point?
MR. GIITTER: That is one of the reasons we are looking at October and not sooner. We think it's going to take a while to implement that.
In fact, what we are looking at is mobile satellite equipment that would be easy for people to use at every nuclear power plant site tying into a national

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telecommunications coordination network, the network that I talked about that the National Communications System is setting up. The idea would be that during that exercise we would test those communication links.
COMMISSIONER MERRIFIELD: One of the things that the contingency plan goes into is if there is a loss of grids. Region IV, for example is on a different grid. Will we be testing that element of it as well?
MR. GIITTER: As part of that exercise we will have Region IV play in the role as a backup operation center. We haven't determined yet whether it would involve a simulated failure of the headquarters operations center or having Region IV take overflow of some Y2K problem that may be simulated during the exercise. That is what we are looking at right now. This is very preliminary. We still have a lot of details to work out.
MR. MIRAGLIA: Commissioner Merrifield, there is still a lot to do and work to be done. The first one is to finalize the contingency plan, and that is going to happen in March. June is to start developing those internal procedures relative to how we are going to implement that plan, including the aspects of the backup response center that we have envisioned in the plan, and then how to exercise that plan.
COMMISSIONER MERRIFIELD: Do we have any specific

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contingency plans as it relates to the Portsmouth facility I asked about earlier?
MR. GIITTER: They are included in the contingency

plan that we developed along with our nuclear power plant licensees, non-power reactors, and materials licensees. So they are included, and that is something we are looking at in the contingency plan.

CHAIRMAN JACKSON: Don, do you have any additional comments you want to make in that regard?

DR. COOL: Just to note that at this point the planning is to include within the staffing of the center folks who can handle a fuels facility in parallel with a power reactor facility. So there would be some personnel immediately available on that night.

CHAIRMAN JACKSON: Do we know how many reactor events requiring an NRC response the agency could handle at one time?

MR. GIITTER: The design basis is two events at once, and that has been tested in the past.

MR. MIRAGLIA: It has been tested. I can recall one instance where we had an ongoing reactor event and an ongoing materials event in the center as well. That has been a while back. So we have had simultaneous issues to various degrees.

MR. GIITTER: It was on the 4th of July. I can't

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remember the year. We had two events at once, and one was loss of offsite power and a diesel generator problem, and the other one was a stuck-open safety valve. We responded to both events at the same time. But that is our design basis, two events at once.

COMMISSIONER DICUS: Does our contingency plan have the flexibility, however, to handle three?

MR. GIITTER: That is one of the reasons we are looking at Region IV to provide some backup.

MR. MIRAGLIA: In addition to that, what we need to work out and an issue that we haven't fully developed, and this is work to be done, is that we are planning for Region IV to be the backup, but there are the other regions there, and what role might they play. We need to coordinate that. Those are additional activities that we need to consider and try to address.

Each region will have a different role, depending on circumstance and situation. Region IV has been designated as the backup in terms of it's a separate grid. It's also a two-hour time difference that is working for us in terms of the rollover of the clock, and that's why Region IV was chosen. We do have some other elements that are planned and that we need to flush out and consider.

CHAIRMAN JACKSON: It's a different grid, but it also is fairly interconnected, is it not, with Mexico?

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MR. MIRAGLIA: I believe that is the case. If you go to Region III, we would probably have interconnections into Canada as well.

CHAIRMAN JACKSON: Maybe Mr. Davis can speak about some of what the industry may be doing in that regard in terms of grid reliability, because the trans-boundary interconnection creates vulnerabilities for the U.S. grid in certain spots. I know we have had very strong, at least I'm told, planning and coupling with Canada. I have less information about Mexico. But that may be because I just came back from Canada.

MR. MIRAGLIA: Slide six, please.

As I said, in July we received the responses, and we'll have an idea on the state of readiness in terms of dates and compliance and readiness issues within the industry. We also have the results of our audits to evaluate.

The point in time in August is to assess what regulatory actions might be necessary to follow up based on our understanding for the state of readiness. Those could be focused reviews, additional site visits, requests for additional information, management meetings, telephone conferences, and plant-specific orders to assess the information and require appropriate response.

In September of 1999, we would make a decision on

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any need to issue a plant-specific order for Y2K problems. We hope to be ahead of the power curve, so to speak.

As we have discussed already, in October of 1999 we would have the exercise of the agency's contingency plan. Joe indicated there has been some interest in the international community of various countries to come and witness and observe. We hope to have some participation of licensees within that context.

In December we will stand ready to implement the plan, and within the context of the contingency plan, the response center will be manned 12 hours before, and we will have sustained manning until 12 hours after the transition date.

Commissioner McGaffigan mentioned some additional dates. Those dates are being considered within the industry. In fact, I believe there are dates that go beyond the year 2000 that are being looked at as other transition type and rollover kinds of issues.

CHAIRMAN JACKSON: Let me ask you two questions. Should plant-specific Y2K actions be required, will they be coordinated in such a way as to allow time to arrange for replacement power?

MR. MIRAGLIA: Our plan in terms of having it done in September would give us that time. Those orders could be as severe as shutdown or they may address specific issues as

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well. The idea would be if we have concerns to have those identified by September such that we can plan accordingly.

CHAIRMAN JACKSON: If a shutdown order were required, have you developed factors that would affect when the actual shutdown would best be accomplished?

Mr. Gunter, of course, is going to speak with us, and he has suggested that they be ordered six months in advance of the new year. Obviously, if we are coming up on a September time date, we don't feel that is necessary, or at least the timeline doesn't suggest that. Or is there a risk-informed basis for a variability in shutdown?

MR. MIRAGLIA: I think there is a little bit of both, Madam Chairman. It's in the area of work to be done. We have some preliminary views that maybe Mr. Wermeil can share in a broad kind of context of some of the considerations that we are looking at.

CHAIRMAN JACKSON: It's still under review.

MR. MIRAGLIA: It's not even half-baked. It's raw dough in a cold oven.

[Laughter.]

MR. MIRAGLIA: I don't want to raise expectations.

CHAIRMAN JACKSON: Is your oven on?

[Laughter.]

MR. WERMEIL: Mr. Miraglia is correct. We are considering a set of guidance or an approach to how we would

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address issues where we felt we needed to act on a plant-specific basis to address a Y2K concern. That is being coordinated now within the staff.

I think whatever action we would take, Chairman Jackson, would depend on what the situation was.

CHAIRMAN JACKSON: It's not that you need to tell me specifically, but I think the Commission needs to know that you have some set of criteria developed certainly by the time of the September date for making that decision.

MR. MIRAGLIA: We will be sharing that with the Commission.

CHAIRMAN JACKSON: Thank you very much.

MR. MIRAGLIA: That completes our prepared presentation.

CHAIRMAN JACKSON: Don't go away. Now we will hear from Mr. Jim Davis from the Nuclear Energy Institute. I want to thank you for sharing your phone number with us. We'll give you a call.

MR. DAVIS: I want to thank you for an opportunity to share some of my insights on what is going on in the industry programs. I have been responsible over the last two years for the coordination of that program.

I think I would like to start with what I'll call a compliment and a challenge to the Commission.

As I look around at all the people that have been

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critiquing that program and making comments, the only people that have the technical competence to really evaluate and have been involved in the industry's program in an oversight role has been the NRC. There is no other government agency or private agency that has attended our meetings or taken advantage of the opportunity to see what we are doing. We've operated in the public arena, workshops, meetings.

We started long enough ago that Y2K was not a big issue in the public arena, and we got most of our planning done before the rest of the world was interested or your staff was there. As we get to the end and start talking about what I call the madness bug, I think we both have the challenge to put the right story into the public arena, and you're the only one who has the independent capability to make that judgment on how we are doing. People think I'm biased.

Second slide.

Three topics I'd like to cover very briefly. I want to look forward to what we are doing and not look backward.

To do that, with all the discussion that has gone on, the objectives of our program have sort of gotten fuzzy as the rest of the world has defined their objectives for what a program ought to be. The name of the manual is "Facility Y2K Readiness." That is what we are moving toward

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reporting in July.

The objective of the program from the beginning was to be able to keep steam to the turbine and electricity coming out the other end. To do that, as always the intent

was to comply with regulations, rules, and licensing. That's not just the NRC's, but anybody else that has put requirements on the operations of a facility. It went well beyond just regulated components that other people have implied, to include all systems that have some potential for impacting the ability to keep that turbine going around and putting electric power out.

CHAIRMAN JACKSON: Let me just say the following. I would like to think since you are talking to the NRC that there is really a twofold goal. One part of it is the safety of the plant, that is, minimize the risk problems with plant safety systems. The second goal is within that context to keep the plants running relative to these larger issues of stability of the grid and infrastructure.

MR. DAVIS: I guess it's a fully integrated approach. The philosophy is you operate safely. So if I say I want to keep the turbine running, of course we want to keep it running in a safe manner.

CHAIRMAN JACKSON: I just think it's important, at least from our perspective, to --

MR. DAVIS: I think you will sort of see some of

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that thought process in the next slide when I get to it.

CHAIRMAN JACKSON: I very seldom sit in this position and give advice to people across the table, but from the point of view of what Mr. Koskinen talked about earlier in terms of sharing of information, and you've given us a challenge, which I think is an appropriate one, I want to give you a challenge. I think that the language with which you discuss what your intent is is very important, because people do realize that there are licensees or people who are so focused on operating sometimes.

MR. DAVIS: I understand.

CHAIRMAN JACKSON: I think it's a question more of semantics, but I think it is very important in terms of what message is conveyed to the public that people understand that that balance is there. That's all I'm saying.

MR. DAVIS: The final point is, of course, we are not just looking at the rollover date; we are looking at the ability to operate well beyond December 31, 1999, for a number of years after that.

Next slide.

I think this sort of addresses your point. When we started, we realized, one, you're going to have to fix everything that has a year 2000 problem some day, and yet we were a little bit concerned about the ability to fix everything before the rollover date. So we did what we call

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initial assessment, a prioritized approach. I have sort of used some color coding.

At the top of the list was "critical." I've sort of split it. You'll see a red band, which in fact represents the safety systems and the systems required for the safe operation of the plant. Within that same area would be something like the turbine control unit. If it trips, it shuts down the plant immediately.

Important items are other things like plant process computer, the security system, and other components that have an impact on your ability to operate the plant even though they don't instantaneously trip that.

Within the context of the program, we see that whole matrix as being what we are talking about in the

facility readiness arena. There was a prioritized approach. We addressed the most important, the critical ones to safety and those issues first, and worked our way down through the list. So it was prioritized.

There was an "other" category, which represented some things that were important to the business continuity of the system. An example might be a training management program that keeps track of requalification dates. You can do it manually, but it's manpower intensive. That system would be cost effective to get it taken care of.

Finally, we found that there were a number of

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things that were in fact not essential in any manner, such as a fax machine in a secretary's office. It was not worth the time and energy to track and remediate that. So if it fails, we'll fix it when we get there.

So it's sort of important to go back and remember where we started in this particular arena.

Next slide.

With that as background, I thought I would give you the status of the industry as of January 31st. Of course we are talking about the 66 facilities and 103 nuclear plants, and we have total cooperation of every one of those. That initial assessment has been completed.

The detailed assessment, which is a phase where you test to see whether there is a year 2000 problem and establish the remediation program that you are going to put in place, on average we are 92 percent through that particular program.

Most of the items remaining are in a structured program to come to completion or a lower priority on the industry's list as far as impact on the plants.

Remediation on average is 54 percent complete.

CHAIRMAN JACKSON: When do you think that remediation average will be 95 to 100 percent?

MR. DAVIS: Sometime in May would be my projection.

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CHAIRMAN JACKSON: Has the industry established a target date that in any way ties in with our target dates for your response?

MR. DAVIS: Yes. Our goal is to finish the program and to be ready by 1 July, the final bullet. Since November my reporting has been aimed at that report. We are using the same terms and verbiage as we used in the manual and as we expect people to use in the report that they make on 1 July. In the final bullet we have 17 sites that have identified specific remediation items that will go beyond that 1 July date. The average is two items at any one site. So we are talking about 34 items.

CHAIRMAN JACKSON: But nothing in that red and dark red band?

MR. DAVIS: There is something in that red and dark red band. For example, we consider the feedwater control unit to be a critical item because if it trips, it will shut down the plant. There are two cases where we will have upgrades done in a fall outage to a feedwater controller.

It has been done on one unit, the same exact piece of equipment, so we know it's going to work. They are going to put it in the second unit in the fall outage.

It doesn't seem appropriate to recommend a five-day unplanned outage to do that upgrade when you have

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very high confidence that you are going to be able to make that repair. That's the only thing I can think of that is up in that top quadrant of my band.

CHAIRMAN JACKSON: We've decided what we are going to do given our September date, something within this red and dark red?

MR. MIRAGLIA: That will have to be examined. As I said, site visits and follow-up. Mr. Koskinen mentioned the consideration of the NERC information. We are going to try to differentiate status in terms of delayed status with good justifiable cause relative to outages as opposed to those things that are not indicating progress in the program. So I think it is that same kind of logic that we hear. We'd have to have an understanding of what is done and the basis for the deferral.

CHAIRMAN JACKSON: What is the status of activities at the slowest plant?

MR. DAVIS: Status of activities at the slowest plant?

CHAIRMAN JACKSON: Right, in terms of their degree of detailed assessment, remediation, et cetera.

MR. DAVIS: I don't remember the specific numbers for which plant was at the slowest end, but my analysis shows that every plant can meet the objective of completing their program by 1 July and making the report.

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CHAIRMAN JACKSON: I guess I'm interested in the actual work being done, the testing, and so forth.

MR. DAVIS: The problem with the numbers is that we are working our way down and we are talking about a short list of items. If I really want to know what's going on on a plant, I talk to them about the list of items they are working on and when those will actually be completed. Whether they are at 40 percent on remediation or 80 percent on remediation, the actual items that they are working and their significance is more important.

CHAIRMAN JACKSON: I agree, but I'm speaking to the data you presented to us, which is presented in terms of percentages. What I expect these folks to look at is in fact the actual items, particularly those that would be in the red and the dark red bands.

MR. DAVIS: And the report that comes in in July will list the actual items that are outstanding; line number by line number, it will list every item that is outstanding.

Any other questions on the status?

CHAIRMAN JACKSON: No. I'll have more for you, though.

MR. DAVIS: Audits has been a topic of discussion in the past. I guess I'd point out that the title of our manual has the word "NUSMG." People don't realize that this industry may be a little bit strange. NUSMG is a software

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quality assurance organization that has been in place for a significant period of time. They are in there because we drew on their talents. So we've had quality assurance inputs and involvement from the beginning of the program.

Within the industry there have been three types of audits conducted.

The first is the internal QA program audits conducted by the independent auditors within the facility, a program developed and required by regulation. Fifty-four of those audits have been conducted.

CHAIRMAN JACKSON: Is that at 54 sites?

MR. DAVIS: At 54 sites, that's correct; 54 of 66 sites have had the internal QA program audit.

Cross utility audits have been one of our most productive audits where we bring the expert from one facility to another facility or from several facilities to a facility to do an audit, in part because the program managers take back almost as much as they give when they are doing the audits. We've had 33 of those.

Third party audits from a variety of independent contractors or whatever, 43 of those have been conducted throughout the industry. This does not include any of the NRC oversight.

At this point, 62 of the 66 facilities have completed an audit of some type, as listed above. The four

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other sites have audits in progress or scheduled. So we will have an audit conducted at every site.

CHAIRMAN JACKSON: How are the lessons learned disseminated within the industry? Is INPO involved in terms of best practices, et cetera?

MR. DAVIS: INPO is not involved in this aspect of the program. I have what is called a moderated list server, which means you've got to be a member of it to use it. It involves the project managers at every facility and in many cases the people working for them. Insights and lessons learned have been freely shared and exchanged on that particular Web site. That includes insights that we have gotten from the NRC audits. We summarize those; we publish that to the industry.

In December we had a two-day workshop which was basically an opportunity to review where we were and sort of do the course corrections that might be needed for the final year of the effort. We reviewed the NRC audits in detail and we reviewed all the industry audits that had been conducted, and we shared lessons learned during that particular workshop.

COMMISSIONER MERRIFIELD: Madam Chairman, I have a question.

Regarding your analysis of various aspects, to what extent have you been working on the issue that was

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raised in the earlier panel about telecommunications? Some of these plants are served by telephone companies of very small size that may not be as fully up to speed. To what extent have the utilities been going out beyond the plant gate, so to speak, to deal with those issues from a communications standpoint?

MR. DAVIS: When we looked at contingency planning, and that is a primary area that you look at, we thought that grid stability and telecommunications support were the two issues that were most important to the facility in that arena.

In the grid stability arena, we've been heavily involved in NERC and following the NERC process. They are obviously the experts in managing the grid and what is going on. In fact, in the most recent meeting a concern was

raised that the total load is going to be so low and we are talking about so much spinning reserve on line that we may generate instabilities by the number of plants that we put on line. So there actually is going to have to be some thought in that arena to ensure that the load and the generation on line is in fact appropriate.

My evaluation is I think that is an area that NERC is very good at. They've been doing that since the '80s, and they seem to be approaching that part of their assignment fairly well.

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We recommended that the facilities delay their contingency planning until January of this year. We issued the manual in August, but we found that there just wasn't information available from the suppliers to make rational judgments and evaluate whether they would or would not be able to provide the services. That information is now available and people can judge which of their suppliers will be reliable and which ones won't. People are looking at multiple sources of communications to provide the backup that they need.

I'm sure you are aware that EPRI has had a program working on embedded systems. That has also provided another forum for sharing. This isn't just a nuclear problem; this is for all the electric utility businesses.

They've had several interactions with the telecommunications industry during those forums all the way back to the one last August, and they also had some other discussions in one just recently held. In that forum there is a lot of information being shared on what is going on in the telecommunications area.

At this point I think the facilities have the information they need to make rational decisions on what the risks are and what the mitigation strategies would be for issues in the telecommunications area.

That sort of backs me into the discussion of

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contingency planning. The reason I want to spend a few minutes on this is because from the planning standpoint, this is where we put most of our work and that's where a lot of our discussions and the exchanges back and forth are going. The remediation program, the guidance has been laid out, and we're coming to the close of the execution phase of that.

In the first slide, the thing I really want to emphasize is that contingency planning is in fact an element of the overall facility readiness program and not a stand-alone program that goes off and does something totally independent. It's an integrated effort to keep the facility so it can operate and operate safely.

I didn't put it in the slide, but one of the other points that we have continually made is that contingency planning is not an alternative to remediation. Our program requires that you find and fix the Y2K issues related to the scope of the program that we discussed earlier and you don't say, gee, I may have a problem here; I'll put a contingency plan in place and hope that that will catch it.

Next slide, please.

We are looking at two distinct areas because of the difference in how you have to analyze it and manage the program in that area.

One is internal risks, which are things that are

under the facility's control, things that are within the fence, so to speak.

External risks is primarily the suppliers that we are talking about. In fact, the external may be a different element of the same company, and we consider that an external risk or an external factor.

Then sometimes you have to make judgments without having full information.

CHAIRMAN JACKSON: Let me ask you a variant on the question that I asked Chairman Koskinen when he was here. To what extent has the Y2K Information and Readiness Disclosure Act enhanced information sharing? You mentioned there is sometimes a lack of detailed information.

MR. DAVIS: I can answer that one. In 1997 the engineers were freely exchanging information. I would call a facility and they would give me anything. I would call a vendor, and they would tell me exactly what was going on and what the issues were.

CHAIRMAN JACKSON: Stop. You're telling me the history of the industry, and so there is as much information sharing as there needs to be.

MR. DAVIS: No. In 1998 the story changed. The Washington Post said there is more money to be made in litigating than there is to be made remediating. Suddenly it became very difficult for us to get information from

anybody because now there was this legal concern that was coming to the fore as we started to move forward in the program. I have seen that pressure relieved and people are now back to exchanging information because of the Disclosure Act. It has had a very definite impact on the ability to get reasonable information from suppliers and from other parts of the program.

CHAIRMAN JACKSON: That's good.

COMMISSIONER MERRIFIELD: Madam Chairman, there was another element of Mr. Koskinen's comments, and that was the degree to which the utilities are sharing with the general public information about what they are doing. He asserted that some entities, some companies were being very closed mouth about what was going on.

I guess my question is, to what extent is NEI and its members going to be doing, for lack of a better word, a public informational effort to try to give some confidence to the public that you are indeed doing the things that need to be done to have the confidence that when they turn on the lights when that date rolls around that they will be still on it.

MR. DAVIS: There are two issues. One, the priority has to be on getting the work done and getting the remediation done. I've been trying very hard to protect the project managers, because this is a challenging program and

they've taken on an ambitious task and made some commitments to get things done. I've been trying to protect the project managers so that they can get their part of it done. The nuclear element is one part of a program. Every utility has some sort of information sharing approach.

In fact, Steve Unglesbee, one of our PAO types is here today, and we'll make sort of a media release. We're

trying to get the information out at the NEI level.

What I see is important is this report that we are talking about at 1 July, because I see that as an opportunity for us to come to a point where I think we can put the whole thing in the public arena and have it understandable.

When you have lots of little elements that you are talking about and you say, well, this one is going to be done there and this one is going to be done there, it gets very confusing, and in fact you have to spend a lot of time and attention to truly understand where the industry really stands, as we discussed earlier. The numbers by themselves tell me very little. It's only a vehicle for me to get at what is really going on.

I'm looking for this 1 July time frame to be an opportunity for us to lean forward in that area.

COMMISSIONER DICUS: If I could follow up on that. I certainly would encourage you to encourage the industry to

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be as open as possible, though, and to be dealing with the public, particularly the public around the plants, as early on as possible. I think that will help give much greater confidence. I'm not sure I would wait until July. I understand the report, et cetera.

MR. DAVIS: That is a generic issue. It has been discussed. It has not only been discussed within our forum, but it has been discussed within the NERC forum, the workshops I've gone to there, and various others. I think we all realize the need to get the right information into the public arena, and I think we are trying to do that, while at the same time keep the program going forward.

We've actually got some demonstrations that we are recommending people run for the press to try to understand what causes a failure and what it looks like and that kind of stuff.

Don't get the impression that we are not involved and not trying to get the information out. I think at every utility the program manager is working with their public relations people. I look at a number of Web sites and there is a lot of information available in the public arena from the utilities. The question is whether people can digest that and accept that as a truthful answer. I think that is where our problem is. People sometimes don't want to accept the utilities' statements as to where they are.

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COMMISSIONER MERRIFIELD: I share Commissioner Dicus' comments. There was a CEO at a utility I recently visited who shared the same concerns. There are a lot of people out there trying to sell generators to the American public that they don't need because of a concern that the lights are going to go out. To the extent that there is not sufficient information, I think part of that activity is because some of the public haven't gotten that information.

I think there does need to be a commitment of NEI and its members with other non-nuclear power producers to be out there not only getting the job done, but making sure the public is aware of it. I can't stress that strongly enough.

CHAIRMAN JACKSON: I'd put it even more strongly. I would say a part of getting the job done is sharing the information with the public. You mentioned something that struck my fancy, which had to do with even having demonstrations. Otherwise, it becomes a "don't worry, be

happy" message.

There is always this balance of protecting. We have it around here with people so that they can get done what they've been asked to do vice having to interface, but it doesn't necessarily have to be the project manager who goes out there and does it.

You all know as much as we do that you exist within a particular context in terms of these communities

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where the plants are, with your own public advocates in states that have them, and things like that. Investment up front could pay dividends in the end not only in terms of not having public panic, but actually developing a level of trust with the communities around you.

MR. DAVIS: Thanks for the input.

Slide number 9 just emphasizes that it's a balanced program and that in fact most of the contingency planning will focus on the external risks because remediation has been the predominant effort in the internal risk area.

To do an individual contingency plan relative component, you need three elements. There has got to be some risk of failure; there has got to be some consequence of that failure; and you need to have some sort of mitigating strategy.

The example I use in that area is the turbine control unit. If the turbine control unit trips, of course there is a very short period of time, nanoseconds between the time it trips and the time the reactor trips. So having a contingency plan for what you do in that case is not very productive. You ought to put your effort somewhere else in there.

CHAIRMAN JACKSON: Is the industry aware of NRC's contingency planning and are there any significant concerns

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one way or the other?

MR. DAVIS: The industry is aware of the NRC contingency plan, and it was issued, I think, the day before our workshop and we actually discussed it at the workshop. You will get some comments from us tomorrow morning. The NSAIC is meeting today and they have an opportunity to review it. We basically think it will be very supportive.

The one comment that we have is we think that the discussion of 50.54(x) is unnecessary because we don't see a scenario that will put us in a position that we will go that far. So our recommendation is that you not waste your time thinking about 50.54(x), that the other elements are going to be perfectly adequate to support the scenarios that we see.

MR. MIRAGLIA: We asked for comments on those approaches.

MR. DAVIS: You asked for comments, and you're going to get them.

MR. MIRAGLIA: Thank you.

MR. DAVIS: I'm obviously winding down here.

The next slide, number 11, just says you've got to do some analysis. You get a list of hundreds of items. You don't do contingency planning for every one. If it's low risk, low consequence, you don't plan for it; the high risk, high consequence, you do plan for it. I leave in the yellow

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area because I'm having trouble convincing people that engineering judgment is involved as part of this process; it's not a PRA analysis; you've got to use some judgment.

CHAIRMAN JACKSON: Specific areas are put into these boxes?

MR. DAVIS: There are a variety of schemes, but you look at risk versus consequence.

CHAIRMAN JACKSON: What I am saying is these things are populated with actual areas or systems.

MR. DAVIS: Or you have a table with a number. You try to prioritize on the two scales.

CHAIRMAN JACKSON: What about the exercise of the contingency plan? Is that built into what you are doing, actually walking through or exercising the contingency plan?

MR. DAVIS: Yes. The final slide leads to that. You've got to take all these individual elements that you've developed for the components, wrap them up in an integrated contingency plan, and that is what we are targeting to have done as part of our overall program by July.

Then you have the execution phase. It involves training, exercises and various other elements. If you look at the manual, you will see that we actually have a section in that form that says what action has to be taken, level of training, exercise, and that kind of stuff, to exercise the capability and train the people and if necessary order the

spares, buy the extra radios, or whatever you want to do.

I just wanted to close with one final slide. It's my opinion that we are going to be able to come to closure on this year 2000 program and that in fact we will be able to control the Y2K bug fairly handily. But as we have sort of discussed, I think the "madness bug," and I picked that up from a recent Time article, is becoming more of a problem to us as we move through the rest of this year and how to handle that. That is sort of beyond some of my technical expertise and abilities.

CHAIRMAN JACKSON: Thank you very much. I'd like to thank the staff and Mr. Davis.

I'd now like to call forward Mr. Paul Gunter from the Nuclear Information and Resource Service, for a presentation.

MR. GUNTER: I'd like to thank the Commission for the opportunity and your flexibility to provide us with this time, albeit late in the hour here.

CHAIRMAN JACKSON: That's all right. Our meetings are always long.

MR. GUNTER: I know.

I think what we would like to do is just briefly revisit the three petitions that are now before NRC with regard to the rulemaking.

The first is to require compliance by December 1,

1999. I think one of our concerns here is the issue of readiness versus compliance that was raised by GAO in its critique of General Letter 98-01.

It's apparent to us that there is an economic driver here and that readiness does not necessarily equate to compliance. I think it would be helpful if there was some way to make the process more transparent in terms of how economics is playing into this issue. Certainly there are a number of other areas that we are aware of where

economics plays to the detriment. This is another example we'd like to see some clarification on. I think that is part of the purpose behind addressing this in a rulemaking.

CHAIRMAN JACKSON: Let me ask you this question. Why is compliance vice readiness such a focus? What is it that you see that readiness doesn't gain you from a public health and safety point of view that compliance will?

MR. GUNTER: I'm coming at this from a lay understanding. You'll have to bear with me here. My understanding is that on December 31, 1999, with the rollover compliance, it would provide that you roll over to January 1, 2000.

In fact, it's my understanding that that is not going to be the case in a number of systems, that you will have patches or actually rollbacks, where you will roll back to a date that has some suitability determination and

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analysis that determines that while it is not compliant, there will be noted in the operator log that it's not 1982 or whatever the date is, but that the equipment will still be reliable and operable.

I think what GAO addressed was that there needs to be a more transparent and visible process for how the utility made those determinations of suitability. Certainly, I think the more that is out in the public arena, the more independent review you have of those kinds of suitability judgments.

The second petition would require annual emergency drills only for the year 1999 at all reactors with a Y2K component to exercise.

I think basically what our focus here is that we were looking to a rule that would provide the broadest experience for contingency planning, and that those drills and the information gleaned from those drills could be put into an NRC guidance document that would be put into each and every one of the reactors' emergency operation centers so that when we roll over to the year 2000 that there is a log that would provide for an operator to go to an event that is occurring, that was run through in a drill, and he would have the experience of that drill; he would have the expertise of another operator who went through that drill; but this would be not on an unseen or unprepared for event.

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We have an opportunity to run through this drill at 103 reactors and provide a very broad range of contingency planning through the preparation of such a guidance document.

CHAIRMAN JACKSON: You don't think that the Y2K exercise that the staff described, the little curve that is being planned, will accomplish that?

MR. GUNTER: I don't know that. I haven't seen the extent to which staff is planning to run through the number of events that would be covered and made available.

CHAIRMAN JACKSON: Maybe that information can be shared.

MR. GUNTER: That would be helpful.

The third petition would require that all emergency diesel generators be operable at the rollover date and subsequent sensitive dates.

CHAIRMAN JACKSON: Is it not true that the licensees are planning to in fact have their diesel

generators on? Is that true?
MR. GUNTER: This would raise a concern. Again, I think that "operable" is the word here. If we look just recently to the Fitzpatrick event, during that fire the licensee turned the emergency diesel generators on in advance of actual loss of offsite power, and subsequently in a DER we learned that in fact that activity could or

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probably would -- I'm not exactly sure what the language was in the DER -- but that it would have prevented, I think, the loading of those safety buses, because you would have those EDGs operating in advance of an actual loss of offsite power.
CHAIRMAN JACKSON: I don't know that the connectivity was there in the Fitzpatrick event. There was an issue of loading the safety buses, but I don't know that it had to do specifically with the EDGs being turned on beforehand. I think the issue of the safety buses not loading in this specific case of the Fitzpatrick event --
MR. GUNTER: Okay. I'd like to see clarification on that.
CHAIRMAN JACKSON: You guys are my technical guys, but that is my understanding, that it wasn't the fact that the diesel generators, EDGs were on, that prevented the loading. The issue about the safety buses not loading had to do with a separate set of issues; is that correct?
MR. WERMEIL: That's my understanding.
CHAIRMAN JACKSON: Okay.
MR. GUNTER: I'll have to work that over with Dave Lochbaum. He's my technical adviser.
CHAIRMAN JACKSON: All right.
MR. GUNTER: Again, I think the appendix that we put together gave us some pause. In looking over the past

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two years of EDG events, we didn't share that 95 percent level of confidence that NRC and the industry tout for the emergency diesel generator turning on. Still, even with 95 percent reliability, that still leaves 5 percent out there in question. That's why we have included an additional request that there be some additional backup power because of the uniqueness of this event and the possibility of widespread disruptions, and that that be considered, and it was placed in the rulemaking.
Additionally, that rulemaking request also would provide that the irradiated fuel pools be reclassified to class 1E systems so that they would be safety-related systems with emergency power available at the time of loss of offsite power.
I think the two questions that we have to NRC and staff basically go back first to the staff memorandum dated January 19th, which basically states that independent verification and validation of Y2K readiness of remediated mission-critical systems is important.
Additionally, the memo states that industry reliance on vendor certification of Y2K susceptible systems varies. However, NRC has determined that no regulatory basis exists to require testing.
Given that a number of Y2K vulnerable systems, while not classified as safety related or mission critical,

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can have impact on safety and operation, our question is,

how can the public safety be assured without the verification and validation process available only through independent testing of remediated susceptible systems?

Certainly we gain confidence by hearing that there is some testing going on out there, but without knowledge of the degree of testing, there still is this area of concern. If you can shed some light on this, it would be helpful, but certainly in the light that NRC doesn't claim to have a regulatory basis for requiring such testing.

CHAIRMAN JACKSON: You are saying there needs to be some knowledge of the degree of testing that is going on, a verification and validation.

MR. GUNTER: Not only knowledge, but it would be comforting to know that there was an enforcement level out there.

COMMISSIONER McGAFFIGAN: Madam Chairman, should we consider this a fourth petition for rulemaking?

I don't read it in your first three. There are no words in your first three petitions about independent verification.

MR. GUNTER: We can submit it.

COMMISSIONER McGAFFIGAN: I'm not looking for a fourth.

[Laughter.]

MR. GUNTER: Obviously there a lot of thought has gone into this process between when our petitions were put forward and certainly more questions will continue to come to the fore as we move closer to the date. Hopefully, there will be much more resolution than questions coming to the fore. This is one area that came to light to us in terms of the NRC's own response through it's January 19th memorandum.

Finally, in the interest of public safety, we would like to know if the NRC can provide the public with the knowledge of just how many irradiated fuel pools out there are not currently hooked up to emergency power for cooling capability. This is not only a concern of NIRS', but UCS does share this concern with us in light of the fuel pool issue.

So we would like to get some sense of just how much uncertainty is out there in terms of providing emergency power to the large inventories of radioactive waste that are at each of these sites that currently would begin to heat up in the event of a loss of offsite power.

COMMISSIONER McGAFFIGAN: Madam Chairman.

CHAIRMAN JACKSON: Please.

COMMISSIONER McGAFFIGAN: I'd like to ask a couple of questions that follow up on a point that was made earlier.

It's a little frustrating to get petitions for

rulemaking on December 10, one of which cites 1/1/99 as a critical date, that the rulemaking petition should be granted by that date. It was stated earlier that NEI for several years has had these meetings; NRC has dutifully attended and worked with them; and others haven't attended. When did you all start following this issue closely, and why didn't we receive these petitions in 1997 or some date that might be in the art of the possible to respond to them by 1/1/99, if indeed you wanted one of them in effect by 1/1/99?

MR. GUNTER: I think you have to understand that we only have six people on staff and that there are a number of issues out there. We deal with resource issues as well. So part of it is dealing with and managing issues according to available resources.

Again, we don't view these as controversial petitions.

COMMISSIONER McGAFFIGAN: It strikes me, as one Commissioner, that some of these things that you are asking for here couldn't possibly have passed any sort of cost-benefit analysis. We do have a backfit rule and all of that. I'm not sure whether we will even get to that point. A 60-day supply of fuel for emergency diesel generators. There is nothing in your petition, for example, that provides any justification for a 60-day supply. That is the

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one that was supposed to be in effect by 1/1/99. So they would have had to have all run out in December and bought 60 days worth of fuel.

Is there a better way to have a dialogue with you all than have three petitions for rulemaking come in on December 10th and get you involved in these ongoing public interactions that we have and ask questions?

A petition for rulemaking is a resource-intensive process. We put it out for Federal Register Notice, as you requested, more promptly than we normally do. We are getting responses back. We'll analyze the responses. To some degree that may not even serve your purpose if it diverts resources from people who are trying to get the job done and processing a bunch of paper.

Is there a way other than the rulemaking process to constructively engage with us?

MR. GUNTER: I think that we would be interested in opening that dialogue. We only have the resources that are available. We become aware of the process through participation. There is the 2.206 process as well, but I think that we made an evaluation that this was a way of engaging the public and opening the issues to dialogue, albeit at a late date, but certainly we have opened up the process and we have engaged the agency and the industry through these petitions, and that was our intent.

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CHAIRMAN JACKSON: Let me kind of piggyback on what Commissioner McGaffigan has raised. Have you had the opportunity to review the NEI guidance for dealing with Y2K and do you have any thoughts about whether there is anything missing, et cetera?

MR. GUNTER: We have looked at the guidance document. It's not our study, but we did review the GAO's report. There were areas in the GAO letter of March '98 that did study the industry guidance and found it wanting, particularly in areas of not necessarily providing enough information to licensees on embedded chip systems, as well as the GAO's recommendation that the regulator not have too much reliance on this industry guidance document as well.

COMMISSIONER McGAFFIGAN: The only point I was trying to make is I think there is a constructive way to engage with us short of these formal processes, the 2.206 or the rulemaking process. Those are two avenues, but you mentioned UCS earlier.

Mr. Lochbaum, I think over the last couple of years, has done wonderfully well in engaging us outside of

those processes. Millstone restart was not a formal proceeding. He was invited to talk to the Commission. He participated up there in our enforcement review. He has been involved in the public dialogue, our new inspection and assessment systems. He has been involved in the public

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dialogue not through petitions or rulemakings, but showing up at these meetings and workshops and writing very powerful and on the point letters evaluating, say, our escalated enforcement actions over the last couple of years, or evaluating the effectiveness of our level 4 enforcement program, et cetera, et cetera.

He doesn't always agree with us. Occasionally he does on level 4 enforcement; occasionally he doesn't on Millstone restart.

But I think without using these formal processes, which you are welcome to use, but these informal processes. Appearing before ACRS. I think Mr. Lochbaum has engaged them on PRA and how much faith we should have on PRA.

That was my only point. It is frustrating.

CHAIRMAN JACKSON: I think there is a way to provide a context for this. We don't know all there is of what your history has been in terms of NRC and having issues that you feel affect public health and safety addressed in a straightforward and fair way, but this Commission has taken major steps to engage all of our stakeholders, not just the nuclear industry, but in fact that is part of how Mr. Lochbaum has come to be more directly involved in a number of things but in a way that doesn't compromise what his role is.

I think there is an opportunity for you or a

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representative of your group to be equally engaged.

Of course, if you don't feel that we are being responsive or at least answering the questions, and responsiveness may not always mean that we do exactly what you may ask, that's true of the nuclear industry too. You may have a different perspective, but that is certainly the point of view that I have advanced, that we engage, and being responsive doesn't mean we do exactly everything that they want us to do.

I think that we would like to have more participation and have you involved in the stakeholder process so that you have on a more continuing basis an opportunity to have us understand where your concerns are. Even in the midst of that, you are still very welcome to have petitions for rulemaking or any other kind, but I would also urge and invite you to do that.

MR. GUNTER: I appreciate that. I believe it is a two-way street that we are talking about here. Our participation is facilitated by notification and by invitation and a number of avenues.

CHAIRMAN JACKSON: That's a fair statement.

COMMISSIONER MERRIFIELD: I would just piggyback on the comments of the Chairman and my fellow Commissioner. I take it from your comments a lot of your concern is generated out of the GAO document and that snapshot in time

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where the industry or perhaps we were. That document at this point is almost a year old, and I think there has been

a lot of work, as we have heard today, both by our staff as well as by the industry.

Are we where we should be? That's a decent question and one which you and your limited staff can go back and take a look at that. As the Commissioners have encouraged you to become engaged on that, you've got constructive work to help all of us move together to make sure that when we do get to that time change it's done right.

The other thing I would mention is we have our own contingency plan that the agency has prepared so that we are ready as well. I don't know whether you've had a chance to look at that document, whether you have any comments. Certainly I would encourage you, if you haven't, to have the same kind of engagement with that document and our plans as you do with the direction the utilities are going in.

CHAIRMAN JACKSON: I will ask the staff to make sure that it reaches out in terms of a notification and invitation to workshops and meetings, and we invite your participation in the Commission meetings.

I heard what you said. It facilitates, it helps you when you are really notified. Many of the things are on the Web and/or in the Federal Register, but we can make a

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particular effort to ensure that you know when the various meetings and workshops occur and that there is appropriate sharing.

COMMISSIONER McGAFFIGAN: Madam Chairman, I think that goes outside of this area.

CHAIRMAN JACKSON: That's right.

COMMISSIONER McGAFFIGAN: Lochbaum may have been particularly effective at it the last couple of years. We know what his list of interests are, and I think he gets special invitations.

Indeed, we had a fiasco back in December where he got the special invitation. We didn't get it on the Web page and he didn't participate in the meeting, as was his right, because he didn't feel he had been properly noticed, although he personally had been properly noticed.

If we can get a list of items on which you want to engage, I think we can do what we do for Mr. Lochbaum, make sure you get outside of the Web page and these other formal mechanism direct invitations.

CHAIRMAN JACKSON: And information as appropriate. Certainly we can provide you an answer to a question of what our regulatory basis or authority really allows us to do in some of these areas as well as knowledge of the degree of testing of these systems that occurs.

MR. GUNTER: I appreciate it.

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CHAIRMAN JACKSON: Anything else?

COMMISSIONER MERRIFIELD: I have a final comment. I want to thank the Chairman for convening this meeting today. This is obviously a very important issue and one I think all the Commissioners, including me, are treating very, very seriously. I think we as a Commission have gone ahead with a contingency plan, which I think is a good one. I think the staff is to be commended for that as well.

I personally would like to be very involved in the exercises. Obviously the Chairman has the control over those, but I would like to be an interested participant at a minimum, because I think it's important.

CHAIRMAN JACKSON: Thank you.

On behalf of the Commission, I would like to thank all of our speakers today. While the information presented by the industry and the NRC staff is encouraging, the vexing nature of it demands that we remain focused and vigilant.

Indeed, as Chairman Koskinen pointed out in his testimony before the House Committee on Government Reform last month, "You are never really done" preparing for Y2K.

Mr. Gunter's sobering observations also provide a useful counter to any inclination to become complacent.

As I mentioned in my opening remarks, I would like to go back to this issue of the failure of a plant computer this week at one of our nuclear plants. I mentioned the

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good news, and I repeat it.

One, the problem was identified.

Two, it was identified as a consequence of testing.

Three, it did not affect an active safety system such as the reactor protection system.

And four, the plant stayed on line.

This occurrence highlights, though, the need to analyze, remediate and validate early so that multiple failures do not occur simultaneously. It always points out that, as always, and you hear me say this all the time, results are what matter. Results are what matter.

I had someone tell me that, oh, well, this is like any software glitch. We know that software has mistakes. But no amount of analytical elegance will obviate the need for thorough testing.

I would encourage the staff and the nuclear industry to remain mindful of this as confidence in the ability of our licensees to pass through the turn of the century unaffected increases over time.

There is one other point that became evident through the course of the international workshop that I attended, and that was the degree to which some countries are unprepared for Y2K. Someone said that contingency planning is no substitute for actual remediation, but I have

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said this, and I'll say it here. It would appear that in fact contingency planning may, for those countries, and maybe should, require the greatest emphasis, as insufficient time may remains to approach the problem in a measured way, in the way that the U.S. industry and the NRC has.

It therefore underscores the imperative to maintain our focus and to complete our own preparations as expeditiously as we can, because it will help to protect us from having to become reactive and allow us to be a model and supply help to the international community.

Once again -- he's not here -- I would like to thank Chairman Koskinen; I would like to thank our own staff, Mr. Giitter, Mr. Wermeil, Mr. Miraglia; thank Mr. Davis from the Nuclear Energy Institute; and Mr. Gunter from the Nuclear Information and Resource Service for participating in today's meeting.

Unless there are any final comments, we are adjourned.

[Whereupon, at 11:36 a.m., the briefing was concluded.]