UNITED STATES

NUCLEAR WASTE

TECHNICAL REVIEW BOARD

OPEN MEETING

of the

UNITED STATES NUCLEAR WASTE TECHNICAL REVIEW BOARD

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Henry Grady Room

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P R O C E E D I N G S

CHAIRMAN DEERE: Good morning, ladies and gentlemen. This is the summer meeting of the Nuclear Waste Technical Review Board. I certainly wish to welcome everyone.

We are pleased that the NRC has agreed to brief us today on the licensing support system and that the DOE will also offer some comments on their part regarding the development of this system. They will also be speaking later in the morning about the planning and reorganization.

The first thing I'd like to do this morning before starting the technical presentations is to present our new Board member appointed by President Bush 2 months ago, Dr. Pat Domenico. Pat, would you stand up, please?

Pat is a specialist in hydrogeology and is a Professor at Texas A&M. He has previously served with us and you've seen him at a number of the meetings as a consultant in the field of hydrogeology.

I would like to bring you up to date on where we stand now with respect to Board appointments and Board makeup. As you recall, eight were appointed in January of last year by President Reagan and Dr. Domenico was appointed in May by President Bush. That brings us up to a total of nine, so we are still two short.

However, three of the original appointments were for 2 years only and since the appointments were about a year late, that meant that after one year of service those particular three Board members' terms expired.

Former Board Members North, Price and Verink's tenure was up in April and that brought us down to five, which since has been added by the one so we're up to six. However, the reappointments are in process now and there was an announcement by the White House last week, a press announcement, that Dr. Price's appointment was in the process. I guess they call it an intent of reappointment.

We hope to hear from that within a couple of weeks and the other two are also in the process of reappointment, so we may be back to our full nine here in another month or so.

I also wish to welcome publicly our new Executive Director, Dr. Bill Bernard. Bill has been a staff assistant to us for the past year when he was on half-time loan from OTA. Bill, would you please stand? You will be seeing a lot of Bill.

I would also like to report that the eight Board members should have been nine but our new appointment got into an auto accident on the way to the

airport, so he couldn't join us -- we need to get more details on that Pat, later. At any rate, the other eight and three staff members reviewed the nuclear waste facilities and the program in Sweden, and or three days then had a chance to go to Germany and view their plans and the facilities for low level, intermediate and high level wastes.

We found the programs are moving forward very well -- I think much more successfully in all phases than they have here in the United States. It was really of great interest to everyone to see the progress that is being made.

The staff and Board is preparing a report bringing out the features of their systems and our impressions of them. This report will be available to interested persons in several weeks.

Now I would like to get immediately into the technical program and would like to turn the meeting over to Lloyd Donnelly of the NRC who will introduce our topic for discussion today.

MR. DONNELLY: I want to say it is a pleasure to be here today and I want to thank Dr. Deere and the other Members of the Board for having us here.

My purpose is to share with you as much information as I have available about the licensing

support system. I'd like to talk about different aspects of it from who the users will be, what the purposes of it are. I want to talk a little bit about background, what the schedule is for the future.

I think for your particular interest, we will toward the end pause and talk a little bit about the pre-license application technical review uses of the system and I will close with a few discussions about some of the challenges that I see ahead for us.

Before proceeding with the briefing, let me just introduce myself a little bit and then my associate who is here, my Deputy, Francis Cameron. Both of us have been with the Nuclear Regulatory Commission between 10 and 15 years. My background has been in resource management, long range planning and my last assignment was working for the former Chairman as his Planning and Policy Advisor.

Chip Cameron has been with the agency 10 years, has been involved with the high level waste program all during that time, was formerly on the technical staff setting high level standards and more recently, in the Office of General Counsel where he was the primary focal point for high level waste programs.

Without further ado, if I could have the next slide, we will get into the substance of the

presentation.

I never know where to begin talking about the system because no matter where you start, there is always some information you should have imparted earlier in order to have everyone up to speed on some of the terminology.

I think I'll use this to try and give you a flavor for just what is the system and it is used for. In its simplist statement, it's nothing but an electronic information handling system and the need for such a system in the high level waste licensing process I will address in the next couple of slides.

If we can talk in terms of what it will be used for, I'd like to do that next. The primary use of the system is document searching. It will be used for technical review, which is an area I think your strongest interest is in, and it will be used before the hearing and during the hearing for document discovery.

This is a legal term whereby different parties to the proceeding are able to find out the information that other parties are using to build their cases in the proceeding. Normally this takes place in the NRC's licensing process after the application has been submitted.

This system will provide a good deal of that

discovery to take place before the license application is submitted. Then, of course, during the hearing, it will be used for the review of evidentiary material.

We also have an electronic mail feature which is another very efficient way of handling adjudicatory filings and issuances by our licensing board. Again, we're trying to make the process of reviewing the repository application as efficient as it can be.

Another very important use is for the location of what I'll refer to as technical data. This is normally a wide range of material that might normally be collected at the site -- field notes, seismic information, maps, a whole host of things normally don't fall in your standard documents category. I'm going to talk in greater detail about that later on.

There will be a large number of remote stations where people can gain access to the LSS Database and not only will you be able to search and review this information, but will be able to printout small quantities of data at those points for use either within other automated systems or just print out hard copies. Then there will be a centralized paper copy distribution for large documents.

MR. CARTER: Could I ask you a question? Is there any particular legal significance to this system or

do you expect that there will be one as far as discovery and evidentiary use, and so forth?

MR. DONNELLY: I think I'll let Mr. Cameron respond to that if he would.

MR. CAMERON: There is an important legal significance to it. The Commission's rule requires the use of the licensing support system in the adjudicatory proceeding on the DOE license application. In fact, if there is not substantial compliance by DOE with the document submission requirements in the LSS rule, the license application cannot be submitted under 10 C.F.R. Part 2, Subpart J.

In addition, the electronic mail aspect of the LSS has to be used for all parties to the proceeding to submit all of their filings to the NRC Licensing Board, so it is an integral part of the NRC licensing proceeding.

MR. CARTER: So there's real reason for people to participate and include material under this program?

MR. CAMERON: Absolutely. To participate in the proceeding, they have to follow the rules relative to this system.

MR. CARTER: Thank you.

MR. DONNELLY: I'd like to cover briefly the background on the system because I think it's useful as

we get into later discussions.

As you know, the NWPA, particularly the 1987 amendment tasks DOE to evaluate the economic side and DOE to apply to the Nuclear Regulatory Commission for a safety license to construct such a repository.

Then there was a three-year mandated review period for the NRC to conduct their hearings and past judgment on suitability for licensing. (Slide)

Considering that requirement and looking at the situation that was facing both agencies, it was clear that something had to be done differently in terms of information handling. We had a very unique facility and a very constraining time to process the license application. It was going to be a very highly contested case and very large quantities of technical information to be handled.

The early conceptual design work that was done estimated that the volume of material for a high level waste repository review would be 300 times a reactor license application. So it is a tremendous amount and without some efficient way for handling it, you're going to bog down in paperwork and lose sight of the more important aspects of the review. (Slide)

The NRC -- and this is an oversimplification, I realize -- basically adopted a three-pronged approach to

deal with this problem.

One was to get up front on the technical issues and get as many resolved early in the process as they possibly could. They also recognized they needed to change their rules and procedures for governing NRC hearings. They could not afford to take the time and go through the same procedures on this kind of review that we do on reactors. Third, tied in to both of the above objectives was to find this way to handle information efficiently.

So they adopted a negotiated rule-making that was passed in April of last year dealing with the latter two points. (Slide)

This rule did streamline the rules of practice governing areas. It mandated the use of the licensing support system before and during, and it assigned DOE the responsibility to design and develop the system in consultation with my office and then it established the office I'm the head of, the Office of the LSS Administrator, to assure the integrity of the database and operate and maintain the system over its life.

It did another important thing and that is establish an advisory committee made up of mainly the people who were on the Negotiated Rulemaking Committee who will either be parties or are likely to be parties to

the proceeding.

I will talk more about the relationship between my organization and this panel in the later slide.

(Slide)

I'll talk briefly about my organization and people that I have and our relationship to other organizations. We have a relatively small staff of eight -- Mr. Cameron, myself, two secretaries, and we have four other people who I will call our real experts, our professional experts, who have expertise in three primary areas as you see there.

The first one we're talking hardware, software, telecommunications and system design. The second that we refer to as document management, library science type of skills, people who understand the document handling, the coding of documents so that when you do access the system, that you're able to find the information you want. Then our third area is looking ahead beyond design and development to the actual operation and maintenance of the system to make sure we do all the facility planning and other things that are needed to actually operate and maintain the system.

I report directly to the Chairman, on a day-to-day basis, of the NRC and to the Commissioners for policy matters.

This will give me a good opportunity to talk a little bit more in the bottom block about the Advisory Review Panel. As you can see, it currently has representation from the two primary agencies involved at the federal level, plus the State of Nevada, Nevada local governments, tribal interests, industry, and we would have environmental representation if they choose to participate on the panel.

We also have two other federal agencies who have experience and are currently in the process of implementing large image-based, information handling systems -- the Patent and Trademark Office and the National Archives.

So we have a community of users or potential users as well as a couple of experts who can share information with them.

Their role is to advise me and to advise DOE from the user perspective on different aspects of all phases of the system, from its design to development, to implementation and operation.

They started last fall, have had two meetings, and have another one scheduled to look at some of the early issues and decisions that need to be made.

MR. CARTER: I wonder if I could ask you a couple of questions about the committee. How, for

example, would you identify and obtain the representatives, for example, representing tribal interests and industry? How do you go about that?

I think I can understand NRC, DOE and Nevada, but I'm curious about the others.

MR. DONNELLY: In this case, it was very easy because all of the organizations represented here were on the Negotiated Rulemaking Committee and it was a direct carryover provided for in the rule for those organizations to have representations on this group. Is that your question?

MR. CARTER: Well, partially, I guess, but industry is a fairly broad thing and I presume here we're talking about the nuclear industry, and it's still broad. So I guess the question is how you hone that down and get the actual people you'd like to have on this committee?

MR. DONNELLY: Let me ask Chip -- Chip is familiar with how the industry came together for representation on the Negotiated Rulemaking Committee. As far as picking individuals, I did not pick individuals. We selected organizations and they picked their representatives.

MR. CARTER: I had a couple of other questions and that's one of them I'd be quite interested in because it is important who speaks for the industry, for example,

who represents tribal interests, so I think the answer to the question is quite important.

Is this a policy level committee or is it a technical committee? How many members do you have, the composition, I'd like some detail on the committee and its operation.

MR. DONNELLY: Okay. I think there are ten organizations represented on the committee at this time. I'm not sure -- approximately ten. I think it might be good if I could provide you later with more detail. I have no problem addressing that now but each organization that we invited to be a member did pick representatives that they felt could best represent their organizations in participating.

These members are not exclusively the ones that have to deal with all the issues. Many times they reach back to their organizations and bring other people, depending on the issue we are involved in.

Chip, can you elaborate a little further on the industry representation?

MR. CAMERON: Sure. We were fortunate, in a sense, not only with the industry but with all other representatives on the Advisory Review Panel in that we had an infrastructure set up that was formed through the Negotiated Rulemaking Committee, the committee that

negotiated this rule.

To give you a little background on how those organizations were selected, the Commission hired what's known as a convenor which is a person who goes out and sees who the affected interests are by a particular rulemaking and talks to them about their interest in participating, and makes sure that the affected interests are adequately represented on the committee.

Through that process, we came up with industry representatives for nuclear utilities being represented by Edison Electric Institute and what used to be the Nuclear Utility Waste Management Group, and that title has changed since then.

The vendor community was represented by the United States Council on Energy Awareness. That industry group was invited to participate on our Advisory Review Panel since they had done so much work and were familiar with the system.

When we went out with the formation notice on the Negotiated Rulemaking Committee, we did invite people -- anybody who was interested -- to participate on this committee, so anybody from the industry who wanted to come in addition to that, could have requested participation, but I think the industry was set up in such a way so that the Edison Electric/USCEA vehicle was

a good enough vehicle for them to be represented, and we've had no problems along those particular lines.

Likewise for the tribal associations, we have a representative of the National Congress of American Indians that is representing tribal interests, but we also invited any individual tribes that might be affected by the repository to sit on our panel, such as the Duck Water Shoshone. They were satisfied with representation through the National Congress of American Indians.

We have two Nevada local government representatives, one that is comprised of a coalition of all local governments that are adjacent to the site such as Clark County, Lincoln County, and any interested cities such as the City of Las Vegas, that wants to participate. They sit as a coalition. In other words, they have one seat at the table, although all of their representatives are there.

Then Nye (ph) County has their own separate seat because they are the site county but as Lloyd pointed out, there is one main representative they have at the table, but they usually have a team that backs them up that can provide comment on whatever part of the system, aspect of the system, we're working on -- the needs of the technical community, legal aspects, commuter design aspects. So far it's worked very smoothly.

MR. CARTER: So essentially what you're saying is it was not only a practical way to do it but it also was a logical way to get representation?

MR. CAMERON: That's right, and I think that we gave anybody who was out there who was also interested in being on the committee, they did have a chance through the notice in the Federal Register to come in and participate.

As Lloyd mentioned, we have a spot open for any public interest or environment group who might want to come and sit on the committee. So we try to consider the interests of a broad range of groups.

MR. CARTER: I would appreciate the opportunity to get additional material later, but is this a policy level committee or is it essentially a technical advisory group?

MR. DONNELLY: It's a technical advisory group.

A couple other points on this slide and then we will move on. I want to emphasize our relationship with DOE in terms of consulting with the Department on design and development of the system, and we have been doing that. DOE also has listened to the advice from this Advisory Review Panel.

On the other side of the chart is where I am today. We have the responsibility to inform, coordinate

with, communicate with federal organizations, public and other people who are interested in the system. (Slide)

I'd like to talk for a minute about the potential users of the licensing support system. I think the first two are pretty obvious, then moving on down to the State of Nevada, local governments, people Chip was talking about earlier.

We have within each of these groups quite a range of experience and expertise and interest. The technical community will come looking at the information differently from the legal community, and then we'll have just interested public citizens who will maybe have a particular interest or a broad interest, so we do have a challenge in terms of providing a system that will be useful to a wide array of people.

Then there are the nonparties to the proceeding and starting the list are what the Negotiated Rulemaking called involved government organizations, and I would put the Technical Review Board in that category. Then there are the contractors to various organizations who will be users and then others, including the public, and others who may apply to have access to the system. (Slide)

Being a user or we refer to it more as LSS participants, if you hear me use that term, brings along with it a responsibility under the rulemaking to provide

timely and accurate information for inclusion in the system. I think we touched on that point earlier.

The Nuclear Regulatory Commission, as we talk here now, has revised what they call topical guidelines. It will be in a regulatory guide which will outline the broad categories of the information to be included in the systems.

Of course that must have a nexus to the particular repository that is being licensed. As an example, once the Commission finished with their topical guideline report, it's being provided to this Advisory Panel and the Advisory Panel will provide comment on that.

If they see some category of information that has been excluded by the Commission perhaps, if they feel it is important to have it in there, they will comment in that regard.

As a practical matter, I know I'm going to, and I think the Commission and others are going to lean very heavily to support what the users think needs to be in the system. That's the purpose of having it.

If the users aren't satisfied when we're done, we'd certainly miss the mark, so we're going to do everything we can to make all the users satisfied with the system.

There will be certain things that won't be in the LSS and it's important to note that. During the negotiated rulemaking, the categories of exclusion that are listed there, it was jointly decided should not be in the system for various reasons, either too voluminous to carry, readily available, or in the case of classified material, just not to have that information in electronic form.

Other information that we put under the general category of privileges will not be there but references to this information will be there so that people will know that it exists and which parties are claiming the privilege, and if need be, could object to that and go through the legal process of having that privilege removed. (Slide)

MR. PRICE: Will there be references to classified materials so you know that the material exists?

MR. DONNELLY: I don't know. Do you know, Chip? Did that come up in the negotiated rule?

MR. CAMERON: Yes. There was a decision made that there would not be even a header, in other words, a bibliographic reference for classified materials. That material would be handled in the normal hard copy way that the NRC Licensing Boards handle that material.

It was felt that the volume of material was not going to be very high so that the benefits of having electronic access wouldn't be needed, and that the cost of potential security problems would then outweigh that also. So there won't be any references to classified material.

That does not mean that the NRC Licensing Board will not deal with any issues that involve the classified material. It just won't be done through the Licensing Support System.

MR. PRICE: Does that mean that any document that has in its records a reference to classified material will be deleted from the system?

MR. CAMERON: If it is classified material or if there is a section of a document that is classified, then it would never be submitted to the licensing support system for inclusion, although if DOE or any of the other parties were going to rely on that type of material, then it would be submitted as evidence to the Licensing Board.

MR. PRICE: The only question I had was with respect to references in unclassified documents, the reference itself may be to a classified document. Will that automatically then exclude it from the system?

MR. CAMERON: If it just references the classified document, but the document itself is not

classified, that document will go into the system although the reference would not.

I think another major challenge to the licensing support system that I'm not sure any other system like this is going to face or is facing is every conceivable combination and every conceivable vantage point in terms of what's coming to the system has got to be dealt with, every different possible kind of meeting with every conceivable content and quality ranging from very low to very good.

That presents some real technical challenges in terms of dealing with this broad range of material, and not just being able to deal with it upon receipt but to deal with it effectively so that when it gets in the system, you've got high quality on the other end.

If we have a very poor image, for example, that we capture and then you retrieve it, it doesn't do you too much good to retrieve it if it is of such poor quality that you can't use it. So we will be looking at the broad range of information that's there and looking to deal with it in the very best way we can. (Slide)

MR. ALLEN: Can I ask a question here? Most geologic maps are completely uninterpretable without being reproduced in color. How will that be done on this kind of a system?

MR. DONNELLY: Well, I can't tell you how, but I can tell you that we are aware of the problem. It is really a subset of broader problems of dealing with this technical data, the nonstandard document kind of information.

We have a contract we just let with the Center for Nuclear Regulatory Waste Analysis in San Antonio to look into this whole area of technical data. What does it consist of, what are its characteristics, looking into color maps and even other types of material such as a bar chart that has red, black and blue bars on it that once you see it in black and white, it doesn't mean anything to you, have to be considered and dealt with so that when you retrieve that information, it's useful.

We will be looking at that broad range and identifying the characteristics and what the users needs are for that information, and then pulling that all together and deciding on how to treat it. It is one of the more complicated areas and will require some special applications, I think.

MR. VERINK: What you said with regard to quality suggests that you are also going to be doing an editorial function?

MR. DONNELLY: Not really. I would use the term enhancement on the images. I'm really not talking

of text so much here as I am image quality. There are enhancement techniques available in the technology that can actually make the image that's available in electronic form more clear and more presentable than it is in its original hard copy form.

There is also an issue in terms of text. If you're dealing with paper input, and you're trying to scan that text and produce the electronic form of it, most of the hardware and software that does that work today gets confused when letters run together or there are black specks and white specks on the page that interfere with that scanning process. There are also techniques being developed to clean that up so that problem isn't as significant.

MR. VERINK: But trash will still be trash?

MR. DONNELLY: Well, it will be enhanced trash.

(Laughter)

MR. DONNELLY: There are two segments of the database. You have that that is being created on an ongoing basis and there should be no excuse for any low quality of material that's being created on an ongoing basis.

Some of the historical documents that have been created, there is a requirement and we will insist upon finding the best available copies, but once you've done

that, you can't do anything more than that except try to enhance it where you can and then get it into the database.

MR. LANGMUIR: I'd like to expand on Dr. Allen's original earlier question having to do with geology maps. Is there any precedence at all for what you're doing with respect to geologic columns, geologic map graphics which have colors, have different textures? Is this the first time anything like this has ever been done?

MR. DONNELLY: I don't think it's the first time. I'll say this though, the color digital images are the latest and newest thing in the technology. I think probably less work has been done in dealing with that than anything else.

Sony, for example, stores and has systems that will retrieve beautiful color maps and be able to zoom in on them, enlarge them and enlarge them and enlarge them. I've seen what they can do and it's tremendous. I don't think the technology there is beyond anything we could do in the system. It's just a question of how much can a system like this deal with from a cost vantage standpoint? That's why we want to understand the value of this information and if it's of high value, then we're going to find a way to deal with it.

This chart may just tell you something you already know but most people don't realize the preponderance of the database that will be provided by DOE versus all the other parties through the high level waste proceeding.

It's 90 percent/10 percent split there so DOE has the huge responsibility to deal effectively with getting their information together, both in documentary form and the technical data, and submit it to the system in conformance with the rules.

It is as much a concern I know to me and I think to DOE as a system itself, the focus is always on the technology, hardware and software, but in fact I would go so far as to say we ought to be more concerned about database quality, with finding all the information that ought to go into the database, is it getting in there, is it getting in there accurately? That's a concern no matter what technology you use. (Slide)

I think it is also important to spend a minute here to talk about once information does come through the system, what happens to it. First of all, if it doesn't come in electronic form, it has to be converted to electronic form. We talked a little bit about taking paper images, paper text, and actually converting that to electronic form.

In the image area, it's graphic material that we talked a little bit about, but it's also handwritten notes, signatures, what we call marginalia -- information written into the margins of documents -- that is considered to be important as what is in the document itself perhaps in some cases.

That has to all be converted accurately to electronic form, but that doesn't really help the user find that information. Work has to be done to describe it in such a way that if you want to get rapid access to it, you have a way other than full text.

There are two ways to find information in the system. One is through what we call header fields. This is really descriptive information about the material that's in the system. If we have some "technical" data that cannot be imaged, like a soil sample, but it's very relevant to the technical licensing of the repository, the header would be in the system and you would know by examining that header material such a soil sample existed, where it was, and what its significance was, and how you gain access to that.

There will also be headers for documents, this briefing for example. If we were up and running, we'd probably include it and there would be a header that would describe the briefing, that it was given to the

Technical Review Board, the date I presented it, and may give an abstract of what this was.

There is full text review available and that provides a very powerful tool in terms of searching for specific categories of information, types of information that you might be looking for.

The third thing that will be available of course is the images of these pages. Each one of these briefing slides you could retrieve on the screen and look at them just like you're looking at them there now.

MR. LANGMUIR: Might there be a key word approach to getting into the overall doc base, five key words?

MR. DONNELLY: Yes. Part of the header fields are currently being settled and the Advisory Review Panel is taking that up at this point. It calls for key data that expert catalogers add to this category so that it would be very easy for you and it all has to come out of a standardized vocabulary.

If you were looking for a key term across all documents, instead of doing a full text search with ten million documents, you could go into this portion of the database that deals with headers and search under the key terms and it would tell you much more rapidly without tying up the full text database, how much places within

the double database or a segment that you might choose to have that key term.

Once the indexing is done, the information has to be stored and then it's available for retrieval. That's where the users come in to gain random access to both images, full text and the header fields.

You will be able to browse information on the screen just as you would if it were in front of you in paper form. Exactly how that will work will be dependent on final design. There are a lot of different ways that works in current systems, some better than others.

One that is kind of nice is to have the image of the page presented side by side with the text so that you can actually look at the whole page which might have a graph or chart embedded within it at the same time you're looking through the text.

Then I talked earlier about being able to print both ASCII and images, the difference being you can deal with ASCII almost at any work station that will be accessing the system. Some special work stations will be prepared as a part of the LSS procurement to give a more sophisticated capability, particularly to deal with images. (Slide)

We have roughly 20 million pages of both text and images to get into the system six months before the

license application is submitted. I indicate here 1993 to 2001 because 1993 at the time I put the phrasing page together was the best estimate of when we might start putting in information.

I received information from DOE on Friday that they are now thinking 1995/1996 would be the time that we would be able to start loading.

The point you made earlier about the key terms, this is where this database would pick up key terms, abstracts, and some of these special records, what I call nondocuments and technical data. (Slide)

This is just a graphic way of saying when you look at the LSS, think of three things. You have three databases that you can use to help you find and retrieve information, descriptors of the document, the actual text itself, and a digital image of the material. (Slide)

With all that material to process between now and the time the license application comes in, and given that the system will be phased in over a period of years, we felt it was important to have a document production schedule established to be reviewed by the user group and ultimately approved by the Committee.

It would be tied closely to repository schedules and activities and aimed at meeting the current technical needs and future label requirements. I would

guess in the early year or two that the system exists, we might have 500,000 to 1,000,000 pages or something in there.

To me, if active work is going on at the site at that time, you as users are going to want to say I want to know that you're putting in the most important stuff that's happening at the site or relevant to that and not just loading anything into the database from two perspectives, one, you want the information there that's most useful to you, and secondly, if you think about it, you don't know what information isn't there in a particular category. You're always going to have the question about the utility of this system to you.

Well, I can tell you for this particular category of information, we have everything in there. You don't need to go to another source. You're always going to have a question of whether you're finding everything that you should be finding in that category. So it's important that this production schedule be set up so that we get the most important stuff in first but also that we identify those categories so that I can assure you that when you do use it, you're getting everything you should be getting in that category.

That's not an easy task. It's a pretty difficult one to do. It has to take into account the

realities of the status of information. We might like to get all information of a certain category in but it hasn't been properly quality assured, so therefore should it go in the system? Well, no, it shouldn't if it isn't of acceptable quality.

It's going to be a difficult area to deal with but the objective is to make it most useful early. (Slide)

This chart is a little out-of-date as of last Friday but does show that the original schedule, based on the 1995 license application date was a pretty steep curve. With the moving of the application to the year 2001, a much more reasonable loading schedule could be adopted.

The lower point of this curve, if I'm correct, we would start somewhere out in this timeframe and it would be a little bit steeper. (Slide)

The system has been worked on for a number of years in a prototype mode, early design work, getting assessment studies done in the late 1980s. By the end of this year, DOE's design contractor under the initial plan -- SAIC -- will have completed their design documents. My staff is participating in a review of these documents.

They are not going to dictate the final design of this system but they will serve as input to the

functional specifications for the final procurement. (Slide)

This is just to give you a little flavor of what the system might look like. It's a big expenditure, estimated to be about $200 million. Most of that is labor to get the information into the database so that we can actually use it.

Rather than a mainframe architecture, the latest thing that DOE and ourselves are talking about is a distributed architecture connecting by communications. There are numerous advantages to that but having each node be a miniversion to the whole system means that when you get the first node in, users can start having access to that limited database. It has other advantages as well, but I think this is a smart way to go. (Slide)

This is somewhat outdated as well. We had hoped to do acceptance testing on the first node early in 1993. I think this would be sometime in 1995 under the latest schedule. It would mean that additional nodes would go in in the 1996/1997 timeframe. Users would start getting access in 1996, would be my guess.

Of course if we are still on the licensing schedule for 2001, we'd have to get over 20 million pages entered by that time. (Slide)

This chart I think will help you, as it has

helped others, perhaps understand this relationship between NRC and DOE and the work on the system. Starting at the top, clearly the design, development, implementation responsibility is with the Department of Energy. We have a consultant role in that regard.

Moving to the left, one of our responsibilities we have exclusively is to support the Advisory Review Panel. We also have another very important role to play from the user's perspective, and that is to provide assurance to you and to others that every party is complying with submitting their documents, with getting them in properly, and we have the responsibility to evaluate that report.

Then the document processing has to take place. DOE with the bulk of the documents with the system will have a large part of that responsibility. We will be processing the documents for other parties outside of DOE.

Facility preparation, DOE will be preparing their facilities to process their documents and we will be preparing at least one. Operation and maintenance will be exclusively our responsibility as will be support to users which includes providing training, hotline assistance, any problems with the system will be my problems, then ultimately we will move to upgrades where

DOE will provide procurement support for upgrades to the system. So it is a shared responsibility.

I must say that I think at this point we are not seeing eye-to-eye on the development schedule for the system. It is a matter of judgment. I can't say that we are in agreement because we are not. In my judgment this system is very, very difficult to implement and they are prone to problems, procurement problems and other problems in the process.

I think we have the infrastructure in place both within DOE and here. They do not have everything done that they would like to have done in terms of having their records properly prepared and technical data system set up, but I don't see that as being on the critical path to getting on with the system.

Certainly before you operate the system, it's going to have to be done. Everything has to be set up and working together, and I don't see it as being on the critical path to procurement.

I also look at it from the cost benefit standpoint. It will not cost anymore, and in my judgment will cost less, if we continue on the current development schedule. I think it will cost users in terms of when they have access to the system.

Right now, the best we could do is in the 1994

timeframe, now we'd be talking 1996, would be my guess, before any users could be able to have access to the database. I don't know that we'll ever see eye-to-eye but that's at least the way I look at it.

If I could go to the next to last line, I wanted to talk a little bit -- maybe let me stop talking a bit and let you get more actively involved here and talk a little bit about the pre-license application technical review.

I think the objective, as established in the rule, was to improve access to technical information during this period. I talked about loading the database with high priority documents and the purpose would be to address the needs of the technical staff during this period.

Why is this important? I think it's important because of the tremendous amount of information that is going to be generated. I don't know how people would keep up with that quantity and have confidence that they have access to whatever is being generated by all the parties to the system unless you know that this one central source where you can go and have confidence that it's there.

How many documents did it generate in the last month, since the time you looked, or the last week? This

system will answer that question because you can go in, query and look at all documents submitted by DOE, NRC or all parties since the last date you looked. You'll see a wrap-up of everything that's in there. You can look at those and decide if there's any in there that are of value to you and then set that aside and have confidence that the next time you come in, you're not missing anything and you can isolate those documents and be able to review them.

If you had a small amount of information, it would not be a problem but in very, very large quantities, it is a problem and that is what this system is designed to help you with.

If you'd like we could talk a bit more about that, but right now I only have one more slide that sort of highlights some of the challenges that I see ahead for the system.

Do you have any thoughts, concerns or interests at this point in terms of the TRB use?

MR. CANTLON: Is the system vulnerable to deliberate misuse?

MR. DONNELLY: I guess potentially yes. We're going to do everything we can from physical security, software security, database control standpoint to avoid any what's called sabotage or manipulation with the

database, but that is a concern.

MR. CANTLON: Or just spurious use.

MR. DONNELLY: Spurious use, also. We're going to have to monitor -- of course access will be given out and access codes would be given out and we'll know who these codes were given to and we'll be able to monitor who is using the system, and whether it is being used in a reasonable fashion or whether we find some areas of question. If it's questionable, we are going to look into it.

MR. CARTER: A couple of things. One, what can you presently do with the system? Secondly, I'm interested in major things from a technical standpoint that have to be developed or if there is going to be R&D and so forth so that you've got a number of things presumably you've got to do before you can utilize the database to the fullest.

The question is, what have you got now and what do you need before it could become fully operational?

MR. DONNELLY: We don't have anything now.

MR. CARTER: You have some slides.

MR. DONNELLY: We've got some slides, we've got some early functional requirements. A lot of the work has been done by SAIC's contractor aimed toward the early standard and early design and is useful, very useful, so

it's not correct for me to say we don't have anything.

We don't have anything in the way of a system. There is no hardware, software, anything in place.

MR. CARTER: I understand that but I guess I'm interested in the sense and feel for the technical challenges involved. I presume you've got a pretty good idea of what the state of the art is at the moment, so a lot of this is doable as of right now, I suppose but other things probably are not.

MR. DONNELLY: Any of it is doable. When we talk about converting paper documents to ASCII text and getting it in electronic form, scanning these paper documents and capturing the images in digital form, that's being done every day. There isn't any new R&D technology involved.

Where I see the challenge is integrating a geographically dispersed system like this with a large number of users and making it all work as a whole and making it work effectively for you, and dealing with the challenges around the system.

If your data is in disarray, if you don't have a handle on it, the system is of no value, so we have to deal with that problem. We've got to get our hands on it, we've got to make sure we're screening everything that ought to go in or the people who are contributors --

DOE largely -- that's one of the things Dr. Bartlett has said he needs to do desperately -- and he sees it as being on the critical path for this procurement.

I don't see it on the critical path. I see it as a concurrent activity. I don't want to presume to tell him how to run his program because I'll never do that, but when we don't see eye-to-eye on this development schedule, I have to say that.

MR. CARTER: Maybe this is a good point to pursue my earlier comments. I asked about the Advisory Committee or the Advisory Panel and I gather that it's strictly a technical or scientific advisory panel.

I guess my real question or the next question would be, I'm interested in the policy. Who basically sets the policy? You've indicated that DOE is 90 percent of the players and everyone else is 10 percent as far as input data or information into the system.

I presume if that's the case, then the funding is either coming from DOE from the Nuclear Waste Fund, that they would want some way to affect or to influence policy.

I wonder if you'd give us the set-up of how the framework is set up for policy, who establishes policy, how policy can be influenced and so forth?

MR. DONNELLY: Let me just ask you, would you

put the development schedule as an example, as a matter of policy?

MR. CARTER: I can come up with a number of things as a matter of policy. How about your budget? How about your schedule? How about your milestone? Those things to me are all policy matters.

MR. DONNELLY: Okay. I think that mainly rests, as a collaborative effort, between Dr. Bartlett's office and mine. If we're in agreement, if we're moving forward at a reasonable schedule to meet the objectives of this system as set up by the rule -- it isn't wide open -- then we're going to proceed and do that.

If, on the other hand, either one of us are uncomfortable in the areas you outlined, then it will probably be decided at a higher level -- perhaps the Secretary level in the Commission.

MR. CARTER: Okay, but this is a matter of formal policy? There's a document somewhere or a memorandum of understanding indicating that the policy is set this way?

MR. DONNELLY: Part of it, I think you will find addressed in the LSS rule itself, but there are additional things that need to be ironed out. We are working with DOE right now in a memorandum of understanding in these areas, so we will close the gap

even further.

MR. CARTER: So you're indicating to me as far as you're concerned or the NRC, there is a system there that operates reasonably well although you allude to some differences of opinion.

I might also address the same questions perhaps to someone from DOE who would respond from their perspective?

MR. PETERS: I'd be happy to. From our perspective the schedules -- we will be working in close consultation with NRC, the schedule for this system is DOE's policy response bill. We do not provide budget for NRC. Budget issues are totally separated. The Commissioners have the responsibility for their budget, for Lloyd and his staff. Doe has its responsibility for its budget for the development and design of this.

MR. CARTER: But I presume the flow is coming from the Nuclear Waste Fund?

MR. PETERS: The Nuclear Waste Fund but within the last year, I guess, NRC now supplements through the Office of Management and Budget to the Congress for requests. So we no longer have any official or unofficial control or review, or any other activity associated with NRC's budget.

MR. PETERS: I do have an impression that there is no current capability in an automated sense to identify and retrieve documents that are being prepared by this effort in DOE.

In fact, we do have an automated capability. It is not the LSS by any stretch of the imagination but it is in fact automated and we are controlling G documents.

We do need, as Lloyd indicated to you, to do a great deal more work to make sure that the underpinnings and the framework are in place to make sure, from our perspective, that we move into the LSS development on a basis that has a firm foundation rather than doing it on the basis of having a series of large, significant questions associated with how we are going to control documents and what documents are welcome.

MR. CARTER: If I could focus a little more, at the moment at least DOE is reasonably satisfied with the policy arrangements as far as the Licensing Support System is concerned?

MR. PETERS: Yes, we are. As Lloyd indicated, they are essentially derived, in large measure, from the negotiated rule in the context of who has responsibility for what.

We are remiss, I must admit, in getting a draft

memorandum of understanding to the NRC for review. I reviewed it this week, was satisfied with it. It's now going through the departmental channels and hopefully we will have it in their hands very shortly. That's a final document that really is intended to set the framework relationship between the two agencies so we can then move forward hopefully on a basis of mutual agreement.

MR. CAMERON: If I could just add one thing. It's important to remember that this system is an integral part of the NRC's licensing process and the LSS Administrator is given the responsibility to see that this whole system comes together to serve all potential parties and parties to the proceeding -- DOE, the NRC staff, whomever.

In that sense, I have to think about that in terms of the policy context of what happens with this system and insuring that it is ready in time. In that sense, the Advisory Review Panel also does provide advice on "policy" issues such as schedule or whatever, but I'd just like to keep that in the forefront of the Board's mind, that it is a system for use in the NRC licensing process.

MR. PETERS: We certainly don't disagree on that issue. We're both striving to achieve the same set of objectives.

MR. CANTLON: Is there any provision in your advisory structure for the ratepayers to be explicitly identified? You've got the nuclear industry identified and many of the people, but the people who pay for it are unrepresented. Why is that?

MR. DONNELLY: I think part of the answer will lie in their lack of representation on the rulemaking that was developed earlier but Chip may have some background on that.

MR. CAMERON: _____ was asked to participate early on in the process of the negotiated rulemaking and they came to one meeting as an observer and then dropped out of sight. We didn't hear from them again when we set up the Advisory Review Panel, but certainly it is open to that interest.

MR. CANTLON: How far back was that?

MR. CAMERON: That was in 1987.

MR. LANGMUIR: A question related to your definition of relevant documents which just says NRC Regulatory Guide. I don't think any of us really know what that says but I'm inferring that means only publications related to DOE or NRC-funded activities as to the site, transportation and so on, and these kinds of issues?

Am I going to be able to look in there, for

example, under canister, and get information about research unrelated to the DOE programs that someone else is paying for somewhere else? Could this be a database that I could search for scientific, engineering information in general, on topics relevant to the site?

MR. DONNELLY: I think so but Chip is more involved, again, with the initial set of "topical guidelines" and I think he can respond better than I could.

MR. CAMERON: Primarily it's going to be oriented to site -- documents about the site rather than general research, for example, on cancer than might be applicable to the site, but once DOE uses such a document as a reference or NRC uses a document as a reference, or the State does, to support any position they are taking, then that document does become a relevant document that would have to go into the system, but it's not a general scientific database.

Basically, the topical guidelines that have been proposed by the Commission follow the standard format and content guide for the submission of the Department of Energy's license application for the repository.

As such, it is modeled after -- it corresponds to the provisions in 10 C.F.R., Part 60. Basically

that's what the guide is with some environmental information involved.

MR. PRICE: It would be basically exclusive though to documents that tend to support the licensing and those documents that may come that may be of counter interest to licensing then would probably not be entered into the system?

MR. CAMERON: No, but it depends on what you mean by support licensing. The system is meant to be neutral in terms of whether the repository is a licensable site or not. All documents relevant to the licensing decision, whether they are supportive or whatever, are going to go into the system because it's supposed to serve as an information base for all the potential parties to the proceeding and for independent groups such as the TRB who are going to be reviewing that information to see whether the site is truly a licensable site.

MR. PRICE: For example, who decides what document goes in? Is it exclusively DOE for their side of things or do they have a requirement to enter a document and enter it in a timely fashion?

MR. CAMERON: Yes. The requirements are set out in the rule which is codified in Part 2, Subpart J of the Commission's regulations. Basically, DOE and all the

other potential parties of the proceeding, the NRC staff, the State of Nevada if it turns out that is going to be the site that is the subject of the license application, they all have a responsibility to submit any documents they generated that are on the various topics related to 10 C.F.R., Part 60, and in some cases, the environment.

We are required under the rule to evaluate the compliance of DOE and others with the rule in terms of submitting all of those relevant documents to us for entry into the system.

So the rules of the game in terms of what has to go in have already been set and because the system is supposed to facilitate the discovery part of the proceeding as well as to enhance technical review, the document universe is the criterion for entry.

MR. ALLEN: You stated earlier that only data that had been QA'd would be going into this. That's a great amount of relevant material including reports of this Board I don't think have been QA's.

MR. CAMERON: If I could clarify that. We're talking about the QA on the substantive document itself. In other words, he was talking about whether when we get a document in, whether it passes our QA process in terms of legibility, things like that. He wasn't talking about the fact that if a document hasn't been QA's in 10

C.F.R., Part 60, in other words the _____B Program, it's not going to go in because a lot of that information, even though it hasn't been QA's, could be used to question the validity of the license application, so that's all part of the game.

MR. PRICE: Then I presume that the person who enters the key words with respect to the document will be the person entering the document, is that correct? You guys aren't going to read all the documents and pick out the key words?

MR. CAMERON: The header process that Lloyd talked about may have a field in it for descriptors and it may also have another field for something called identifiers but right now we're in the process with working with the Advisory Review Panel to see not only what fields should be in the headers but what fields the submitter should send us, and what field we would have a professional cataloger do.

Under one arrangement that has been proposed, the descriptor words would be submitted by the submitor of the document and the identifiers might be pulled out by one of the catalogers that would essentially be working for the LSS Administrator in the case of DOE, if they were running their own capture station, for the Department of energy.

MR. DONNELLY: I think there are three questions there. The first one is efficiency that we have to consider. What's the best way, the efficient way to capture this header information? Secondly is quality of it. Who can best accurately identify the key terms for that particular document? The third one is integrity. You might have a concern that some people might not identify certain key terms if you thought it was going to identify questionable information that would go against their particular interests in the repository.

So it's not a question we have an answer to at this point. I think we understand the parameters and we are working on it.

MR. PRICE: When we use these kind of databases we have enough problems with key words without all of the other things that go along with this particular database?

MR. DONNELLY: That's right.

MR. LANGMUIR: You mentioned that you needed to exclude -- for an obviously good reason but I think most of us are aware that a bunch of the State of Nevada's concern and argument about the site is in the script but is there some sort of electronic approach to get backing at this paper information that might be relevant to the issues so that it's a companion approach for those concerned about getting back at the history of the

newspapers?

MR. DONNELLY: No, I don't think we contemplated any companion approach. Do you know of anything?

MR. CAMERON: We haven't contemplated linking in to some sort of newspaper service but there are various electronic systems that do that such as Mead Data's Nexus system for certain papers, but under the LSS rule, if a party wants to rely on a particular piece of information in the licensing proceeding, be it a newspaper clipping or whatever, then they can submit that information for inclusion in the LSS if that's part of their particular case.

Albeit that's a very small category of documents and doesn't answer your problem.

MR. LANGMUIR: I'm concerned about the person who didn't write the article retrieving such articles, being able to locate them as a basis for his arguments by some sort of efficient, hopefully electronic technique.

MR. CAMERON: I'm not fully aware of what databases are out there for electronic searching of the news media but I know that there is at least one and probably more. It's just a question of whether they cover the papers these types of articles are likely to come out of.

MR. CARTER: A couple of things. I believe we have a representative from the State of Nevada so as a group that has a role in this, a major role in it, I just wonder if Dr. Frishman might want to comment on it from the Nevada perspective.

DR. FRISHMAN: As Chip has said, we have been involved in this. In general, we think the -- is a good one. We believe that it's necessary to have a centralized data and information system.

I see where some of your questions are coming from collectively because we've been through a lot of this discussion. One of the things that has been, not a misunderstanding but always arises when you talk about the system, is that the NRC's views is one that is very narrow to the licensing process. That's the purpose for the system.

Some of your questions are much -- are trying to make it a more general system. We've had some pretty serious discussion about that.

I also note that Chip is today doing something we've talked about before and that's he's focusing very closely on 10 C.F.R., 60 where the NRC also has an EIS responsibility. This system is going to have to deal with that too and that's where the broader information need comes in, so I think you've hit very quickly some of

the things we've spent quite a bit of time talking about.

As it stands right now, we are agreeable to participating in the system. We, right now, have nothing to do with the dispute that's going on with the schedule of development and don't want anything to do with that.

MR. CARTER: The other questions I had involved the users or potential users. We have a pie chart indicating that DOE as far as inputting in the system is 90 percent and everyone else 10 percent.

I presume you've done a little bit of thinking about the user group and the distribution of those. For example, I can sit here and imagine that 120 percent of it might be used by attorneys but I don't know whether that's a good assumption or not.

MR. DONNELLY: I don't have any data at this point that I can recall about the specific classes. Some work was done on the early conceptual design for the system. Chip, do you have any comment on that?

MR. CAMERON: Just the DOE contractor, SAIC, did a preliminary needs analysis which we will be glad to provide to the Board but they did look at the various categories of users and it was not heavily weighted towards attorneys or even towards the policy people. It was oriented towards the technical staff and to the managers in those programs.

It does give you a little bit of an idea of the different types of users that you can anticipate to use the system. I'd be glad to send that over.

MR. CARTER: My comment, by the way, as far as attorneys, was somewhat facetious so the record should show that. We would be interested in that information.

MR. PETERS: I would be happy to summarize that for you just briefly. Our analysis would indicate that about 45 percent of the usage would be by scientific and engineering folks, about 25 percent licensing type folks, including legal, and the rest is spread pretty much between management, administrative type uses and public information purposes.

MR. CARTER: The other related question -- obviously we would appreciate the background information. The other question I had is has any thought been given to user fees or something of that sort as far as to help with the maintenance if you will from the financial standpoint of the system once it's up and running?

MR. DONNELLY: The LSS rule does briefly address that subject and my understanding now is that user fees would be in two areas. One of them I don't really put in the category of user fees. It would be a user borne cost and that is the telephone line expense to connect with the system that the user would pay.

As far as any -- database and a fee for that, we don't envision one at this point. The other fee would be to pay for copy distribution, when you need a copy of documents that are pretty large, there would be a fee for generating those.

MR. VERINK: I'd like to follow up on one of Melvin's questions. I believe you made some comment about some of the data being critical and so on and this data would be preserved in some other category.

Could you elaborate on what the limitations are for the privileged category and how you get at it?

MR. DONNELLY: Once again, I'd like to defer that to my lawyer friend here who is much more knowledgeable in that area than I.

MR. CAMERON: In terms of the privileges that apply to the LSS are the same privileges that apply in any NRC adjudicatory proceeding. It would be things like deliberative process material --

MR. VERINK: Or work product?

MR. CAMERON: Or attorney work product, attorney/client privilege, any confidential, proprietary information. It's important for the participants in a licensing proceeding to know that material exists, so for any document that a party is going to claim a privilege for, they have to submit us a header for that material

that shows subject, object -- we're not exactly sure what all is going to go into the fields for that particular header.

As with any other NRC adjudicatory proceeding, another party can challenge that privilege. They can say, we need that material for our case.

If the Board rules on that, and there will be a licensing board or at least one administrative law judge set up in the pre-license application phase that will give early rulings on privileged material, if the pre-license application board says that yes, you need the material and it's a qualified privilege, then that material will the be submitted into the LSS.

There is also a category of material that may be examined under what's called a protective order. In other words, only the attorneys or witnesses for the parties can take a look at that.

The negotiated rulemaking gave flexibility to the licensing board to decide how they wanted to handle that material. So we're trying to cut down on some of the problems with people getting into partitioned parts of the database that would have extra security precautions associated with them.

MR. ALLEN: Could I ask a question? I suspect, like many ratepayers, I'm a little dumbstruck at the

figure of $200 million. I think everyone would agree that some sort of a search mechanism here is absolutely essential, that has to be automated, computerized and so forth.

On the other hand, it appears that a great deal of the cost involved here has to do with data retrievable, the actual retrieving of documents and particularly graphic materials which is not just a routine thing but involves a fair amount of research. Apparently that is where a fair amount of that money is going.

Have cost benefit studies been done of the advantages of electronic retrieval versus paying 10,000 airplane tickets to Las Vegas to actually examine the data in person? That aspect of it, the actual data retrieval as opposed to the search, is where a lot of the money is going. I'm just asking whether the cost benefit has been carried out in that particular aspect of it?

MR. PETERS: I personally do not know. This activity went on long before I joined the program. We can certainly find out. Chip may have some background on that.

MR. CAMERON: There was a cost benefit study that was done by DOE on the system. Just as a general comment on that, they found that this $200 million spent

over a 10-year period roughly corresponds to when the NRC's decision on the construction authorization would be made.

For every year of licensing delay that was eliminated that the use of the LSS, that's basically why we got into the LSS business in the first place, that there would be a $200 million a year savings. So one year of licensing delay eliminated pays for the cost of the system.

On your specific point about retrieval, it sounds as you juxtaposed it to searching and finding, you mean the actual, physical cost of mailing that out. In terms of -- from what I remember of the DOE cost study -- that was a very small percentage of the costs, actually getting that document out of there, as was the hardware, software and search and retrieval itself.

Most of the cost comes from getting those documents into electronic form, the ASCII, and into the image in the first place. That is tied to the amount of documents. I think DOE is currently funding a research project with SAIC that's taking another look at those document estimates to see if the original estimates are right on at this point.

CHAIRMAN DEERE: Lloyd, if we could get your last challenge.

MR. DONNELLY: Okay. Let's go to the last slide, if you will. I want to hit on four points.

The first one is the primary one. I keep focused on that and we're going to keep focused on that. That is the system is for the users. I'm going to do everything I can along the way to involve users at appropriate times in appropriate ways, to make sure that when we get to the bottom line, at least everybody's views have been able to be heard, taken into account, and do as much as we can to make the system usable.

The fourth bullet down talks about document submission requirements, oversight. I would say that is a primary concern and consideration here. You've got to have confidence as a user that all the information is in there and is in there correctly or you're going to lose confidence in the system and whether or not it has all the information you need to bring it to bear on whatever decision you're trying to make.

The last two bullets are the only other two I want to talk about. The first is a challenge for me because I worry about the operational side along with the design and development, to do everything that needs to be done and to make sure that when DOE says we've got a system here working with you that is operable and ready to go that we're ready to accept responsibility, operate

it, and give people access and have it work.

There are a lot of things that need to be considered in the design that play out into the operational end of it. So that's a big challenge for me.

I'm foreseeing that we've got to do this one right the first time. I want to do it right, I think I have the responsibility to do it right from a cost standpoint, for making a system available to users in a timely way, and I'm going to do everything I can to do that and not have the LSS be another one of the headlines in the paper where millions are spent and it went down the tubes, and was started over again.

With that, I will conclude and thank you again for being patient with us and if you have any questions, we'll be glad to answer them.

CHAIRMAN DEERE: I have a final request. Would you be able to state once more for us, in summary, what is your basic disagreement with DOE's plan at the moment? They have a chance to reply too.

MR. DONNELLY: I think it's simply that -- and give me a few months' latitude here -- whether we should do nothing in the next few years or whether we should continue to do the front end work on this system, namely the further design work that needs to be done, the procurement document preparation work that needs to be

done, getting the procurement on the street, and to start evaluating proposals and getting the first system delivered by the contractor and get started with the second -- so that we can be confident that we're getting something that everybody is going to be satisfied with.

Today, we don't know enough about when you sit down after we go through and do the best procurement specs we can, whether you're going to be totally satisfied with it or not. This has been proven time and time again. Things you think you want today or you can't perceive you want today, come up tomorrow.

I want to have the time to do all of this in a very orderly way, do it in a thoughtful way, try to avoid any procurement mistakes, try to get the system in, give us a period of time to test it under no pressure, get a reasonable test database in, let users have access, and if satisfied, we proceed to buy the other two-thirds and three-fourths of the system.

I think DOE's position is they don't have too much trouble with that general philosophy -- I'll let them speak for themselves, but they believe it's the front end work and some budget issues, that lead them to conclude this front end work, meaning getting their records management systems in order -- maybe an oversimplification, but I'll say it that way -- and then

seeing that to be on the critical path to proceeding as I described.

I see it as a concurrent path. I don't see it as a critical path. I think we have a lot more by following my approach and very little to lose.

CHAIRMAN DEERE: Thank you very much.

Let me say one thing. It sounds like you want your exploratory shaft.

(Laughter)

MR. PETERS: I won't at all disagree with Lloyd's statements that if in fact we want to do this thing properly, we want to do it methodically.

Before I joined the government, I was in the business in some measure of building large systems, so I know from whence I speak in general terms.

We are dealing with a number of things here and Lloyd has alluded to most of them. One is this kind of stop and go, stop and go process that we have been on with this program for the last number of years.

In Dr. Bartlett's view and in my view, it would be in everybody's best interest basically to have a particular course of action and things moving along on that course on a regular basis before we launch into what represents a sizable investment here.

Would we trade off the resources necessary for

us to fully develop even a prototype capability at this point with the needs for continuing, advance planning work in some of the scientific disciplines and for characterization -- so basically because of the slipped schedule for the repository license application, we have had to make a hard choice that says the money should not go, at this point in time, to acquiring hardware for the licensing support system.

There is another reason driving that. I grew up in the data processing community at the time when you first walked into the mainframes of computer memory. As you all know, we've gone a long way from that point.

We're on the early stages, in my view, of the technology development for optical imaging capability. I think there is a heck of a lot coming ahead of us. We would hope to design systems that are independent of the hardware. I'm not sure that's always possible to do.

I think the most fundamental aspect of it is we are now, in accordance with our current plan, going to be able to put in an inoperable capability on a prototype basis, the first node or however one wants to describe that in 1995, with expected operational capability in late 1995/1996.

That gives us essentially a 6-year lead time before that license application is due to be submitted,

assuming that we meet the current schedule vis a vis the Admiral's game plan that he published in November.

That is contrasted with what amounted an 18-month period of time between our scheduling prior to the point that the Admiral changed the schedule for Yucca Mountain. At that point, we were targeting to have LSS in place and operable 18-months prior to licensing application. We believe that was unacceptable and NRC believed that was unacceptable.

The bottom line is, from our point of view, given the budget constraints, given the technology, given our need to in fact get hands around our data and document control problems completely so that we understand precisely what we are doing here -- we feel that 1995 is the right time.

CHAIRMAN DEERE: Thank you very much. I think with those two statements, we will be able to reread them and have a very good understanding of the positions at this point in time.

Thank you. We'll have a coffee break.

(Brief recess)

CHAIRMAN DEERE: May we continue now with the session.

Our next speaker, Tom Isaacs, is the Director, Office of Strategic Planning and International Programs.

He has agreed to present us with their plans. We'd be very anxious to hear about them, Tom.

MR. ISAACS: Good morning.

As always, it's a pleasure to have a few minutes to talk to the Board and the other distinguished guests this morning. I want to talk a bit about strategic planning activities.

I think it is important that I start by following up on one of Dr. Carter's mutual, insightful statements. As I flew up in an airplane this morning, the lead sentence in an article in the Washington Post Style Section -- the fact that I will quote it doesn't necessarily mean that I'm either speaking in favor or against the statement.

It went something like this -- what do you call 200 lawyers who are chained together at the bottom of the ocean? The answer was "A good start."

(Laughter)

MR. ISAACS: I really do want to talk only about 15 minutes because I think what we're talking about is trying to put together a good start with regard to strategic planning.

You'll notice that the title that's listed there for me is the Office of Accelerations and Policy, and we are in a phase of transition to a new

organization. Indeed, Dr. Deere's representation is that we will have a new set of responsibilities and my title will change. Dr. Frank Peters will follow me and talk to you a bit about that reorganization, but I will maintain responsibility for strategic planning.

Where do we find ourselves in the program today? I think you all are more than well aware that we are attempting to focus ourselves on trying to achieve waste acceptance by 1998. We currently have a schedule that would show that we would start to accept waste for repository disposal by 2010, and yet those schedules obviously dependent upon a number of things, certainly the repository not the least of which is the fact that we've got to get access to the site if those schedules are going to have any kind of meaning at all. It requires that we have site access sometime early next year.

As you are all aware, litigation does reign supreme, lawyers are not chained together at the bottom of the ocean. They are alive and well at the surface and there is quite a bit of question as to what the schedule and process will be.

MR. ALLEN: Tom, the acceptance and repository operation, how are those different?

MR. ISAACS: One would view that waste

acceptance would be waste acceptance into the federal system which would be achieved through an MRS at this stage in time. We are due to accept waste through an MRS and some kind of a process and transfer the waste in 2010.

Given that situation, you are probably also aware that we were approached to put out a new mission plan amendment. The last mission plan amendment was the 1987 Amendment Act which talks about three sites for characterization, and a number of other things.

When Dr. Bartlett came in, he decided he wanted to take a slightly different approach to the development of the mission plan and some of those things are listed here.

He felt that we ought to take a step back and given the state the program was in, that the useful thing to do, and take a look at what we could put together in terms of a solid, long term framework that would not change over time.

There is somewhat this vision of this program as having lurched from one side to the other back and forward, and could we put together a set of strategic principles, a set of priorities such that those would not change with time and we could rely on those as a framework for decisionmaking for the future and sort of

use it as a template against which to exercise options one way or another and to evaluate options as to what makes sense to the program.

Lastly, he wanted to see if we could once again try, through a more open, iterative process, more communicative process, perhaps get a better set of relationships going with some of the key players who are necessary in the long run if we are going to have a successful program.

The idea was can we come up with a set of strategic principles and strategic issues, can we come through some kind of an iterative open process to discuss those and resolve them, and then, and only then, focus in on more specific program implementation.

As I already told you, the idea here would be to try and put together a set of principles that will essentially stand the test of time, use those principles as a guide in developing long-term program frameworks and also to evaluate some of the strategic issues that are before the program both now and that we expect to have before the program in the future, and once again to talk about meaningful involvement.

What are some of the things that John Bartlett would like to see focused on? I think in production of many of the things you've seen from the Secretary of

Energy, I think he would like to see those three basic things incorporated as very fundamental principles or foundations for program planning, namely that there be very high priority given to assuring adequate safety as a principle for the program. That would obviously be pre-closure and post-closure in terms of our program.

That there be a very high regard given to protection of the environment which when all is said and done is certainly the fundamental priority of what we are trying to accomplish in this program, often lost on people and what we are trying to do, we are often seen as somebody trying to inflict something bad on somebody who doesn't have anything bad right now and doesn't really want it rather than seen as an environmental program that in essence is trying to clean up and dispose of a very difficult problem.

Lastly, to initiate once again a new thrust in terms of open communication with the public and the public's representatives in perhaps a more open way than we have been in the past, and to catalog those different types of issues or initiatives into three general categories -- one dealing with management, one with technical issues, and one with institutional issues.

Some of the reasons why we wanted to go this way are that if you look at the size of this program and

the fact that it's the first of its kind, very unique and controversial in nature and particularly, I think, because of the length of this program, even if we stay on schedule we are going to be in business for 100 years. People lose sight of that fact as well.

That perhaps it makes sense to take a little time to discuss and see if we can reach some kind of consensus on what are the principles of framework for which this program is oriented and against which all decision-making ought to be applied?

It also will allow us to proceed in a rather methodical, rational way, so that we are not making decisions ad hoc or raising issues and hopefully resolving issues in the timeframe that they need to be raised and resolved in.

It would serve as the planning guide for the more detailed plans and the mission plan that will ultimately follow. The idea is to try and put together a process here to raise, to open up for discussion, the strategic principles and strategic issues, and then use the results of that process to then and only then develop a draft mission plan which would go through a similar kind of open review process.

The idea is that we would put out a draft working paper that I identifies basically two kinds of

issues. One are the strategic principles that I've articulated before. There is nothing magical to those. The ones that we have identified to date may not indeed be the inclusive list, but they include such things as pre-eminent focus on saving the environment, commitment to open communications and dialogue, using state-of-the-art technology where possible, and so forth, the kinds of things that would make sense to use in that kind of program.

That would be the first section of the strategic document, to articulate those principles, discuss them and make sure they were in some sense complete.

The second set is to identify strategic issues that are important to be addressed by the program today. What is the program's position with regard, for example, to the long life waste package; what is the issue with regard to potentially cooling fuel before one disposes of it in a repository?

We've gone about it in a rather methodical way to try and identify the areas in which strategic issues exist and see if we can come up with a contender list, but the idea is to put some workshops in place that invite the two parties -- represented by organizations here today, including the Technical Review Board -- are

key parties and invite them into a workshop environment where we roll up our sleeves and not go in with preconceived notions and see if we can discuss these things in a way that might be mutually beneficial.

The idea would be to bring in outside help early in the process during the working phase of the program and hopefully work toward a general consensus.

The schedule for that process looks sort of like this. We have a draft document that is currently working its way through the current process. We would hope to put it out very shortly and give some period of time in terms of weeks to the initial participant to review that document and hold two successive workshops on strategic principles, strategic issues, inviting in a variety of parties -- both those officially affected by the program and those who are vitally interested in the program -- with a view toward finalizing that program policy and strategic principle document by the end of the year, and then using that process to also put together the draft mission plan which will go out simultaneously with that final program strategic planning document, would go out the draft mission plan.

I think there's a couple of other points to bear in mind. It's kind of interesting that there's kind of a drawing together of a number of things that make

this process pretty interesting and maybe even exciting before we are all through.

One is that at the very same time we're going about the process, the Department of Energy is heavy at it with regard to developing its national energy strategy. We, in the Waste Program, play a vital part -- by no means a predominant part -- but a vital part in the development of that national energy strategy.

In fact, I'm proud to say I think we're one of the leading wings of the Department in terms of developing and analyzing the issues with regard to the national energy strategic.

Certainly any of the issues that we bring up here need to be reflected in a very integrated and consistent fashion with our involvement in the national energy strategy. That's one number one.

Point two is that I would call to your attention a document that was just released late last week by the National Academy of Sciences Board on Radioactive Waste Management -- of which Dr. Allen is a member. That document is called "Rethinking High Level Waste Disposal."

That documents reflects, in large measure, a meeting that was held a week long locally exactly 2 years ago in Santa Barbara, California which reviewed many of

the fundamental principles that are taken sometimes as a given in the United States about how to go about, how to be successful in high level waste disposal.

It calls, I think, into question many of those things. It calls into question, for example, whether or not the law as articulated by Congress is appropriate and whether Congress ought to readdress it. It calls into question the framework for regulatory considerations in this country and whether or not we're going about this the smartest and most effective way.

It calls into question the way the Department is approaching site characterization and demonstration of adequacy of a site or inadequacy of a site. Those are just some examples of how fundamental this document is.

I might add the Secretary of Energy has put out a press release and also sent a letter to key members of Congress stating the fact that he found this document to be extremely interesting and exciting, and he thought it was a basis for future discussion about the course of the program.

There are no easy answers here. I don't think the Department -- even though I had the pleasure of participating in that conference as an invited guest and shared many of the insights personally -- I don't think by any stretch we're saying the document has a corner on

the way the Department or the country ought to go.

Once again it's the kind of food for thought that needs to get fed into the strategic process here and we intend to do that as well. So the confluence of trying to put together a strategic planning document, a national energy strategy that includes our program as a key component of it, and this new National Academy study along with other myriad of ideas that continue to come to the Department program in general from all points of view, gives us a chance perhaps given the state of the program right now to pause and once again reinitiate ourselves in a way we think will last for the long term.

I think that is the idea, to try and put something in place that will at least give us some anchors in the stand as we go down the road.

With that, I'll stop. If there are any questions or comments, I'll be happy to address them.

MR. CANTLON: John, it's, I think, a very good thing to have joint workshops. Of course that's not new. You've had joint workshops in the past, but we tend to approach these things in our society as an adversarial process as opposed to some kind of common ground.

Would it be possible for DOE and the State of Nevada, for example, to jointly agree on a set and joint agree on a performer and move ahead so that you can get

the adversarial component out of it and jointly review the product?

MR. ISAACS: Well, a couple of points. I'm not overly optimistic, given the weight of reality here, that somehow this means that we're going to start walking hand in hand into the sunset. I don't think that's going to be the case.

I do think it's possible to achieve a more effective relationship between ourselves and the State representatives, along with DOE and the other key players in the program, to the extent that they are willing to entertain that kind of relationship.

There are lots of broader issues out there that transcend sometimes what you might want to do directly in a program. Some of them have the keyboard associated with them, politics, and those are just realities of life. They are not the only realities, but they are realities that we all have to deal with. I'm not overly optimistic.

One of the things I think is interesting. I've maintained for a long time, but again, we're talking about biting off a huge amount here, is that other countries approach the collaboration quite differently and I know this Board to some of those countries. I think you were in Sweden?

VOICE: And Germany.

MR. ISAACS: And Germany. But Sweden in particular -- where I had a long and very, very productive cooperative relationship -- approaches this problem quite differently. Some of that is culturally difference, some of that is bureaucratic difference because of the nature of the government and you can't turn things around.

Nonetheless, the Academy report highlights -- and I would recommend to your attention the highlighting -- of the way that the Swedes have gone about trying to cry this nut. They are not the only ones who have been relatively successful, nor are they guaranteed of success themselves.

The framework allows for a more productive kind of interaction than we seem to have in this country. One of the things that the Board points out. It's like my father always says, it's easy to say, difficult to do -- which moves me to point out that you ought to take a look at what the other countries who have some success in relations are doing to make that a success and see if we can't learn from some of those things.

We've tried to do that in some sense in the past. What we'd like to do now is do that in a little more introspective and systematic way. Whether we'll be

successful or not. I don't know. Any insights the Board or Board Members will have in that regard will certainly be most helpful and welcome.

MR. CARTER: Tom, a couple of things.

One, as I recall, the DOE mission plan as far as the repository or high level waste program is concerned, has had a rather lengthy, long interactive process in being developed originally. I gather it extended, as I remember, a number of years.

Two questions. One, what's been the reaction to that in terms of people external to DOE and secondly, do you expect the process now to amend it to be as extensive in essence as the original process?

MR. ISAACS: The mission plan -- I'm kind of a biased person here since I had responsibility for development of it -- are among those documents that have had the relatively speaking, if you grade on the curve, most acceptance out there as we've published documents.

We went an extra mile if you compare it to what the law required by putting out preliminary draft mission plans. We didn't have to do that, to try and foster some communications.

We did that at a time when the program fell under tremendous pressure because of dates that were in the law and political pressures that were put on the

Department because there were so many political entities involved at that time.

I thought that worked relatively well in terms of getting involvement. Nonetheless, that still -- if I can put it in the most direct terms -- in some peoples' minds what that is is decide and now it's defend.

In other words, the Department decides to do something, it tells you what they are going to do, we ask you for questions but our response is going to be, let me tell you why your comments are no good -- not, oh, that's a good idea, maybe we'll change our mind.

The approach here, whether it works or not, remains to be seen, is to get one step further back in the process and see if during the developmental stage we can allow people to help us frame the program in a way that they would find more acceptable.

I'm not wildly optimistic that we're going to dance the fox trot with the State of Nevada because of this process, but I am hopeful that there will be some more accommodation, more insight and perhaps we will be able to have a better relationship with some of the other parties involved in this program if they get the feeling that they are brought in.

To answer the second part of your question, it will be the same kind of process, only a little bit

longer than we have in the past in that after the workshops we will still then go through the process of putting out a draft mission plan, comment period, and then finalizing the document.

MR. NORTH: I'm a little concerned about your schedule. I look at August as being almost here, September is not far way. My own calendar for those two months is pretty well committed. I'm thinking about all the other interested parties who are, I think, as busy as I am.

I'm also reacting to your presentation as you've given a lot about form but not too much about the main themes to be picked up, not only from the NRC report -- which I just read on the plane -- from this Board's first report for much of the commentary from interested parties on the Ogburn (ph) program and Yucca Mountain in particular.

It seems to me it might be useful to go through in a little more detailed description of what is in the agenda of areas you want comment and exploration in, and which themes from your various critics and commentators you would like these workshops to focus on, and how exactly that will be done.

MR. ISAACS: To the extent that we articulate ahead of time exactly what we expect to have happen, we

will lay open ourselves to the exact criticism that we don't do things in this open -- we'll come to the table in an open manner, so we are trying to put forward some description of what we think ought to be talked about, and how it ought to be done -- and I'll describe that a little for you -- without being so precise and so definitive that the answer is, here comes DOE inviting us into a trap. What they want us to do is, they're calling it a workshop but they've already made up their minds and they are going to try and get us to sign on the bottom line that we agree with that.

So what we are going to do is put out a working paper. That working paper will have two sections in it. The section will be called "Strategic Principles." That's a listing of maybe 25 or 30 principles that are organized only loosely in this technical, institutional, managerial category, but they are broad issues.

They are by no means comprehensive. We are by no means trying to defend them either in the scope that they cover or in their particular merit, they are meant to be indicative of strategic principles and I tried to give some simple examples of the kind that are in there which are pre-eminence, safety, concern for the environment, openness in our communications, and a variety of other principles like use the simplest designs

possible, do contingency planning, and a whole degree of things that we've gotten both from the Board's report and comments from others in our own evaluations on the foundation principles that everytime you go to make a decision, you ought to ask yourself, is this decision consistent with this set of principles and if you have an option going this way or this way, which one best fits those principles. Those principles are essentially also immutable. That is the first part.

The idea is to have a workshop that will focus on making sure we've covered the right number of those, we've put them together in a reasonable language, and that there can be some kind of consensus.

The second set of issues I call strategic issues. I don't know how it's going to come out of the bureaucratic meatgrinder, but they are strategic issues largely many of them have been identified by this Board in the first report and at panel meetings, that are before the program today and we really need to find a systematic way to make decisions.

You are going to hear about some of those in the next two days. What do we do about an ESF. What are alternatives and what's the right thing to do? What do we do about schedules for this program and what's the right thing to do? How do we go about surface space

prioritization and custody? How do we decide the issue of whether or not we ought to have a priority long life waste package program? How do we decide whether or not we ought to consider cooling the fuel for extended periods of time before implacement?

The idea was, and we did go to the rest of the program and say look, here are the categories of things we want to be concerned with -- there was a laundrylist of about a dozen -- we would like from you those strategic issues and you decide what's strategic, that you think need to be evaluated in this program in a timely way.

The idea will be to have the workshops in the second phase address, identify, some consensus on what those issues are and how they are to be addressed. The idea would be to have workshops, to probably hire an independent facilitator to run those workshops, to hand out these papers at least a couple weeks prior to the workshops to invite a wide variety.

You can only invite so many people at which point in time you're not in a workshop environment anymore. That's not to the exclusion of sending things out for public comment, by the way. That's not the intent. There will also be opportunities but we want to encourage a workshop environment with no requirement for

agreement at the end but simply to pull out of people the best information we can, at which point in time we will take a shot at closing on those documents and that would be the process.

MR. CANTLON: Could you jointly with primary participants agree on the facilitator rather than DOE hiring the facilitator?

MR. ISAACS: I guess that's a possibility. See, in the past, hiring a facilitator I don't think has been a huge problem in terms of reaching some agreement. I think that's a reasonable idea to try.

MR. CANTLON: But if it's one of your old contractors, you're still going to have your aura that you're telling him what to do. You're trying to get credibility here.

MR. ISAACS: Yes. Most of the facilitators that we would use, I believe, would probably be -- the ones that I've heard of would probably be acceptable and if they were not, we would certainly --

MR. CANTLON: Why not ask?

MR. ISAACS: I think that's reasonable.

MR. CANTLON: Why not involve the ratepayers in this session along with the people?

MR. ISAACS: I think again, involving ratepayers in a workshop is difficult to do but I think

inviting, for example, representatives from _____ or other parties would be quite reasonable and is on our list of people to invite.

If you have any other thoughts on frameworks, how to run these things, or who ought to be invited, let me hear it.

MR. BERNARD: Tom, about 2 months ago, the Board members were sent an internal DOE draft document called "Strategic Planning Initiatives." What's the fate of that document and what's the relationship of that to the mission plan?

MR. ISAACS: That document I hope will be food for thought for the strategic issues part of this process. It was decided, when John Bartlett decided to go with this process, the answer was that's a little premature now. We think there should be identified -- I think we've identified a lot of the right issues in that draft to be raised as part of the strategic issues for this process.

It will essentially be used to help identify the issues we think need to be looked at but that is, again, by no means meant to be the only list of things.

Anything else?

(No response.)

MR. ISAACS: I would just like to close with

one other comment and that is, with this reorganization that you are about to hear from Frank Peters you will notice one thing and that is that the responsibility for administrative liaison, shall we say, between the _____ Program and the Board moves from me to Dwight Schuman, a different organization. So I won't have the direct responsibility for the administrative liaison with the Board anymore.

I just one to say a couple of things. One, I certainly have appreciated, enjoyed, and found among the more satisfying and interesting parts of my job to be that relationship.

Secondly, I certainly expect to be seen by the Board and see the Board on regular occasions with regard to the substantive work of the program. I think there is an important relationship that needs to be there and I'll look forward to that as well. That's it.

CHAIRMAN DEERE: Thank you very much.

Our next speaker is the Deputy Director of the Office of Civilian Radioactive Waste Management. I may be a little ahead with the typist but I think that's correct.

MR. PETERS: It is indeed a pleasure to be with you this morning. Let me talk in a general sense first.

First, if you notice on the chart, we're

talking about a proposed organization. Dr. Bartlett has in fact announced he intends to reorganize and now we have to go officially through the Department's bureaucracy, bureaucratic channels to be sure, in fact, they agree with how he wants to organize.

I do not anticipate significant difficulties. There may be a few tweaks here or there, but nonetheless I think we're in good shape, but until it's officially approved, I still have to talk about it in the context of it's being approved.

One of the things I remember when I first joined the program 18 or 20 months ago was that we probably had some difficulty with the organization at that time. In fact, we do.

I won't call it broke, in the sense, if it ain't broke, don't fix it, but in fact there were some significant difficulties in the way we were structured.

This was, in large measure, derived from a carryover from the days when we were trying to characterize three different sites in the country.

The organization as it is presently constructed, not the proposed one but the one that is in place at this time, in fact was put in place in March 1988. It was shortly after the December of 1987 amendment passed.

There were a lot of limits in the organization from the old days -- and things just did not work very well.

We'd been working for about a year and a half trying to get this thing straightened out, we made some interim improvements before Dr. Bartlett came on, and in fact, he has memorialized those improvements and added a few twists of his own.

With your permission, let me get a chart up here that talks about the way we are organized at the present.

There are a few things on this chart -- no where do we talk about the -- retrievable -- that was a function that was basically diffused within the organization.

At one of my first staff meetings, an issue came up in terms of a tentative issue associated with the MRS. I asked who was responsible and virtually every associate director put their hand in the air. That was an indicator that we had a problem.

By this time we are running four associate directors in the Office of Quality Assurance. Back in 1988, there was a separate office at Yucca Mountain dealing with quality assurance. They, in effect, had their own quality assurance program, along with the

Headquarters program.

As I indicated, there was no monitored retrievable storage that was identified anywhere in the system. It was abundantly unclear, not only to participants but the outside world, what the difference was between requirement setting and actually doing things. We have to do both in this program but those lines between requirements and doing were very focused.

Also it was not clear how we could organize when we didn't have a situation where there were pure lines of responsibility. As an example, Yucca Mountain, the Project Office, did not report to the Director of the Program. They reported to the Nevada Operations Office Manager who in turn reported to the Under Secretary.

It was kind of a strange relationship because the director of the program also reports to the Under Secretary. He had no direct authority and that project manager had no direct accountability to the director of the program.

Considering all those factors, we did make some interim shifts. We identified a task force, a clearly focused task force to deal with monitored retrievable storage. That was put under Lake Barrett.

We dropped the Yucca Mountain Quality Assurance into the single RW Quality Assurance Program. There were

no longer two separate programs. We caused the Project Office at Yucca Mountain to report directly to the Headquarters organization without the Nevada Ops Office being involved. That is the first set of steps we took.

In terms of the proposed reorganization as I indicated, Dr. Bartlett has memorialized those actions and also added a couple.

He believes, I would certainly agree with him, that there has not been a significant organizational focus on strategic planning and contingency planning. There has also similarly not been enough of a focus on an overall institutional relationship that this program has with the outside world.

He has done two things. He has separated the questions of external relations and institutional relations and put them under and SES as the program director. He's focused the strategic planning and the very vital international program under another SES, Tom Isaacs, basically separating what previously was a single office into two, friendly important functions.

The way John talks about it, he wants to raise the institutional to the same level of capability, competence and performance, and product as the technical side of the program.

We still have an Office of Quality Assurance.

In fact, it does include the Yucca Mountain, Project Office, Quality Assurance people. It will also include the MRS quality assurance people for whom we have a site and have a project in the field so there will continue to be a single quality assurance program.

Another key feature of this reorganization is direct line management to the Director of the key implementing offices. When I say implementing, I'm talking essentially technical implementation, storage and transport, the monitored retrievable storage which we intend to bring in in 1998 -- the national transportation system is very closely leaked with that MRS as you well know.

The third component which we did not have also was this area which is closely linked and that is the ear piece with the utilities on spent fuel, the logistics aspects of it -- a waste acceptance system which needs to be relooked at to make sure in fact we have a game plan working with the utilities from whose fuel comes in first.

MR. CANTLON: Where does -- report?

MR. PETERS: He reports right here.

We're tying that to the 1998 waste acceptance MRS and transportation. All of them are tied.

Office of Geologic Disposal, two components, an

-- component which deals principally with the non-Yucca Mountain Repository aspects of that effort, and then obviously the Yucca Mountain Project Office. Associate Director is Carl Gertz. Carl will be located in Nevada.

We intend to have him have -- he's got to be here in Headquarters for the day-to-day relations that have to go on.

Lake Barrett is heading up the Storage and Transportation outfit.

These two organizations will have explicit requirements posed on them, all the way from institutional requirements, international requirements, budget, technical requirements, QA -- we are responsible for implementing within that requirements framework. That's another major emphasis that Dr. Bartlett has in the context of this organization, putting the requirements framework together.

He's put together a team of people operating under this office to develop a management systems improvement plan. That plan basically will outline for this program and it will be essentially the management constitution, how do we intend to go forward within management with respect to what documents do we need, what requirements do we need, what kind of cost --

In addition to that requirements perspective,

which really is I guess the best way to characterize it, a classic system of engineering kind of perspective, in which Dwight Shelor will also have the interface with the Nuclear Regulatory Commission and will be operating very much in an industry model in that context as opposed to the way it operated previously.

The industry model essentially is that he is a logistics person, he is a facilitator, to make sure that the technical people get together and talk but he does not carry the technical message.

Similarly we expect Mr. Shelor to operate the same way. He will not be responsible for carrying the technical message. You folks will be able to continue to operate with anyone in the program.

MR. CARTER: Can I ask you a question? There's several new players there, people with new roles. I wondered if you'd briefly mention sort of where they are from and if they have been in the program before or if they have come in from the outside?

MR. PETERS: Okay.

Don Horton was the Manager of Quality Assurance at Yucca Mountain. He's a fairly new hire for the Department, been on probably 4 or 5 months time. Came out of TVA and prior to that came out of Arkansas Power and Light. He is an Industry QA professional and in this for

a long time.

You know Tom and from whence he comes. Jerry Salzman has been in the program for quite some period of time but he's not been visible in the last year. He is the Executive Director of the President's Commission that is doing the follow on to Price Anderson. We expect him to come back probably about October 1st or so.

In the meantime, we have a gentleman named Bob Terrell who is a new acquisition to the program, operating in a technical capacity in this area. Jerry is essentially nontechnical and his interest area and competency lies pretty much in the area of --

Dwight Shelor has been involved in the program for quite some period of time, originally as a Systems Engineer and then more recently for about the last year or 14 months or so, he has been director of quality assurance.

Mr. Horton replaces Mr. Shelor in QA. Shelor then comes in the arena that John wants to emphasize, systems engineering. Bruce was Project Manager at Yucca Mountain and he's elevated now to carry both that hat and the Associate Director hat.

Lake Barrett has been with the program for quite sometime and most recently has been running the Headquarters office that oversaw what Carl did as well as

MRS.

One name that was in a senior position in the program is no longer on this chart. That is Ralph Stein. Ralph is going to be a Special Technical Advisor to John Bartlett. John will also have a couple of other special assistants.

One other major new function that we are putting into place is this Office of Contract and Business Management. John is doing that for a couple of reasons.

He saw that this was a major criticism to the program for years and years, that we have contractors crawling all over each other. So many of them don't know what they are doing, we don't know what they are doing and they are working in competition with the other. One prepares a paper, somebody else will use it, somebody else will use their work and it goes on forever.

We've got three components in this arena that I'm going to be temporarily responsible for handling until we find someone that can take that package on our behalf.

One is to get through our negotiation and hopefully award and contract to the management and operation contractor. I think you know we have selected NTRW for purposes of hopefully coming to an award. There

is going to be a tremendous amount of work associated with the transition planning and getting NTRW or the contractor up to speed and functioning in the program at the same time the other participants in the program and putting them on the downside.

We in fact will be eliminating a number of contractors, firm contractors, from the program, with emphasis toward trying to eliminate as much of the duplication as we possibly can retaining the skill mix that we need to do the job.

Those are two primary activities that this office is going to do. We will also be responsible for business activities associated with the Western contract to also be reduced to a certain extent.

The key here is business management. These guys will not give technical direction to a contractor. We are not capable of doing that. What we will be doing is making sure we have the right cast of contractors on board to do the job.

In fact, we, on behalf of John Bartlett, are allocating those resources across the technical system as appropriate. Technical direction comes from here.

Last but not least, Samuel Rousso who was the Acting Director for over a year has gone back to his permanent position which is Program and Resources

Management. That's the area that includes licensing support systems. We've consolidated all the information activities into a division within Sam's area because we've got him spread around as well.

The other part is basically program control, budget, and other activities.

MR. PRICE: I notice that the Office of QA has moved up compared to your organization where it intersected the line beneath the box, it now intersects the box. Is there any significance to that?

MR. PETERS: I think that's the direct approach. It's a staff office essentially advising the Director.

MR. ALLEN: Where the office represented by Steve Brocum now be?

MR. PETERS: We've anticipate that Steve is going to be Carl's senior Headquarters person. Shelor will obviously have the responsibility to insure that in fact on behalf of John -- he will not technically direct.

MR. PRICE: With the work that Shelor is doing in this is that where we go for information about critical path and this kind of thing? Is that what's going to be going on in that type of systems engineering?

MR. PETERS: He'll basically be establishing the requirements for developing critical path and that

kind of thing.

MR. PRICE: But to see where the whole thing is in, whatever it is that we're interested in, we go to Shelor?

MR. PETERS: There will be supported in large measure by the M&O contractor.

CHAIRMAN DEERE: TRW's work would be the Office of Storage and Transportation or predominantly in the business management that you mentioned?

MR. PETERS: We don't know if it's going to be TRW for sure. We've got a number of responsibilities under the scope of work which was originally issued in the request for proposal.

They have a vertical integrating role in the context of Carl's organization. -- in effect, in fact, take over the performance assessment role and will be technically directly the other performers and participants at Yucca Mountain. They will not do the work, they will technically direct it.

That will come with some difficulty because as you know our national land structure is reduced to having other people technically direct them. We have to work those things out, but that's my view and John's view of the TRW role, an extraordinarily important one.

John basically, and I'm sure you will be

hearing about this in the next few months, want to change the way this program does performance assessment. He wants it to be a driver, not just another group of folks sitting around doing models.

MR. CARTER: You mentioned one thing that may be obvious but I guess the record should certainly show that we are shown here interfacing with Dwight Shelor's organization. I'm sure that's true on a day-to-day basis because that's a practical kind of thing whereas obviously the Board is chartered to advise the Secretary of Energy. So we have a rather broad set of responsibilities that are considerably above this from an organization standpoint.

MR. PETERS: I understand. I think we have a question from the audience.

MR. WILLIAMS: It would be helpful to me to say who is tasked to develop a response to the National Academy of Sciences report? Is this an issue where every AD raises his hand?

MR. PETERS: No. Tom Isaacs would be responsible for that. He's got the interface with the National Academy. He'll be working both in the field and in Headquarters to make sure that we have a viable response.

MR. CARTER: I think a short answer to that

question might be none of the AD's would raise their hands.

MS. CARROLL: I think it's curious that the Office of Storage and Transportation, which doesn't have the technical expertise, will choose the contractor -- no, I'm sorry, the Office of Contractor Business Management without technical expertise, will chose the contractor that two other offices will have to deal with.

MR. PETERS: You can infer that from the chart but it's not, in fact, a reality. This is in some measure also a coordinating office.

CHAIRMAN DEERE: Excuse me, Frank. I wonder if we could have each of the people from the audience asking questions identify themselves for the record. I think that would be very useful.

MS. CARROLL: My name is Lynn Carroll. I'm a citizen interested in the disposal of nuclear wastes.

CHAIRMAN DEERE: Also the gentleman?

MR. WILLIAMS: I'm Bob Williams with the Electric Power and Research Institute.

If I might have a follow-up, Frank, the concern I have is that the National Academy of Science's recommendation is at the heart of licensing strategy. Is Tom Isaacs the developer of the licensing strategy or is that at the Yucca Mountain Project Office?

MR. PETERS: The overall requirements for licensing strategy will go on here -- supported from an implementation perspective by Carl and his people, Tom in the context of responding back to the Academy will have responsibility for tying all those perspectives of the program together to make sure we come together on John's behalf.

Back to the question on contracting, in the government's infinite wisdom of doing business, when we issue a request for proposal -- I don't know how familiar you are with government process -- the very first step in the process is for the government to issue a request for proposal.

We have to do everything competitively and that proposal is published generally in the Federal Register or Commerce Business Daily. People are encouraged to respond and write proposals.

In order to develop that request for proposal, you cannot rely solely on administrative people who have maybe only a mild smattering of technical competence. In order to put that request for proposal together, these people rely on the other components of the office that will be needing that service.

They essentially will help frame that support. These guys would also be responsible when the proposals

come back in to the government for establishing a panel of people to review the various proposals that came in.

They would probably work out the administrative aspects of that panel but in fact the panel would be probably chaired and also populated by the technical people that wrote the report, so that's how you get that kind of interface involved. These guys have that aspect of logistics and administrative support in addition to worrying about the business management side.

MR. FITZGERALD: I'm Michael Fitzgerald. I'm with the University of Tennessee's Energy Environment Resource Center.

Could you be a little more specific for us about the role that you see perhaps TRW, if that's your contractor, the place in this because it's not at all clear, at least to me, from what we see up here or your remarks so far?

MR. PETERS: I guess I didn't finish talking about what TRW's primary role will be. I talked about vertical and horizontal integration, making sure the interfaces were identified properly. I talked about vertical integration in the context of the site characterization activity at Yucca Mountain.

There's another major component and that is in this area supporting the monitored, retrievable storage

capability. Basically, we've looked at TRW as the architect/engineer capability. It will help us in the sitting process in support of the nuclear waste negotiator and help us bring that thing across.

We would also be looking for their support in the context of helping us develop the national transportation system. In fact, Dr. Bartlett has a review going on with an outside consultant looking very hard at how this program has structured itself in transportation and I expect some changes in that.

Additionally, TRW will help us to a certain extent in the spent fuel acceptance. When you introduced yourself, you indicated you had environmental association.

We do not expect TRW to do environmental impact statements or environmental assessments. We believe that has to be done independent of the contractor or the implementor, so we will acquire new services, new people to do those.

MR. LANGMUIR: I'm wondering if you've had any reaction from industry yet to this reorganization, in particular since Bob Williams back there has had a chance to think about what's being done here, how this suits the industrial department?

MR. PETERS: Bob can certainly speak for EPRI

if he wished to do so.

MR. WILLIAMS: Yes. Let me just say I'd like to duck that question for a formal response. I don't have a personal opinion.

MR. PETERS: We have had fairly extensive dialogue with EEI, one of our principal focal points with industry and they have not expressed any displeasure. I understand on the positive side they are very happy with the way the thing is structured because they were seeing the same things we were and that other people were seeing -- diffused responsibility, knowing who was doing what to who, and tying that together and clarifying the role of requirements as opposed to the implementors, getting this thing squared away.

MR. PRICE: Have you had much discussion when you were formulating this arrangement about the overall problem of system integration and cost benefit analysis and all that would go into a competition for resources between geologic disposal, the MRS and the transportation system to get the integrated whole rather than bits and pieces?

MR. PETERS: We're be looking to TRW to help us do that.

MR. PRICE: In some ways, it appears to me just offhand that the Office of Systems and Compliance is not

really horizontal to the other things.

MR. PETERS: It's a different kind of animal, yes. One could draw almost the same context as quality assurance in the context that it is a requirement setter and compliance overseer. You could almost, if you took the wrong perspective, draw right here and say it's driving everything. That's not what we expect it to do.

I think it's more a matter of convenience. It is a big office. With the exception of the Yucca Mountain side of this, it will be the biggest office that we have

CHAIRMAN DEERE: Will you be going through these other graphs?

MR. PETERS: I did not plan to do so.

MS. CARROLL: This isn't directly related to trying to understand the structure but I am curious if Mr. Horton was a quality assurance man at TVA during the Browns Ferry incident?

MR. PETERS: I do not know if he was or not.

MR. FRISHMAN: Frank, I can't resist. Question one, who do we talk to because we had this organization handed to us and we don't know who we talk to.

MR. PETERS: About what issue?

MR. FRISHMAN: The State of Nevada, who do we talk to in this program?

MR. PETERS: Well, if you're with the State of Nevada you're talking Yucca Mountain.

MR. FRISHMAN: We have a much larger responsibility than just the Yucca Mountain issue though.

MR. PETERS: I understand that, that's why I asked you what the specific issue was. I would say you're probably focused in here, dealing essentially with in general terms the relationship between Nevada, other states, project transportation, state and local county.

MR. FRISHMAN: Who do we submit our grant proposal to?

MR. PETERS: Nothing's changed, still to Carl.

MR. FRISHMAN: Still to Carl?

MR. PETERS: Yes.

MR. FRISHMAN: I notice under Carl's office, one of his responsibilities is technical interface with geologic disposal. I see you've listed a number of existing organizations. Is it intentional that our technical input not be incorporated in that are?

MR. PETERS: No.

MR. FRISHMAN: We've got a little problem with this organization only because we're going to have to feel our way through just as we always have in the past. We would very much appreciate, as the State of Nevada, having someone from the Department come tell us how we

interface in this whole system.

MR. PETERS: We'd be more than happy to do that. I would ask you to set up such an arrangement with the right people in the state.

MR. FRISHMAN: Who would be the right people on the Department side?

MR. PETERS: Dr. Bartlett.

MR. FRISHMAN: I believe so too. Thank you.

CHAIRMAN DEERE: Do you have the slide there that shows the Office of System and Compliance? If so, maybe if we could just run through that?

MR. PETERS: I'll be again in a facilitation role, carrying on the kind of work that _____ has carried on previously for Bechtel, interfacing with the NRC to identify issues and trying to resolve issues.

We also have a component which deals with EIS and the other environmental things we have to deal with.

In terms of this side of the house, we've got systems engineering activity, which is again a requirement, we've got compliance oversight and we also have program configuration management will be operating in that arena.

There is another key chain which I did not mention and that is that the Department is now making some changes topside. The Admiral tends to have a

management control board at his level, at the Under Secretary's level. They would be making decisions at a very top level on certain of the Department's programs.

We will implement a program change control board in Headquarters, we will implement a project change control board in each of the major projects. At the moment, it's only at Yucca Mountain. This organization will perform the secretariat function across all of those boards to make sure in fact we are getting proper vertical integration.

CHAIRMAN DEERE: To carry on, I'll go down to the next to the last one, the interface with the technical review board that you have there, this particular position would be the ones that would take out the recommendations in our 6-month report and see that they get moved to the right positions for consideration?

MR. PETERS: They will work with your staff to arrange for meetings like that, work with staff to make sure that in fact you get what you are asking for from us in terms of documents or inputs. We will be fanning out your reports to the appropriate people in the program to make sure, in effect, we are responding back to you on a timely basis.

MR. PRICE: Will it work the other way regarding documents which they inform us they think we

ought to have?

MR. PETERS: I would hope so.

MR. PRICE: Me too.

CHAIRMAN DEERE: Any other Board members or consultants have any questions?

(No response.)

CHAIRMAN DEERE: We wish to thank you very much. I have a question but I think it goes back to your address, Tom.

In your teaching principles, on your second one and your third one -- indispensable -- trying to see what the difference is, I think the intent is that you will be looking at larger pictures in that second one such as priority, testing, the decisions that would allow an early assessment of site suitability rather than get in detail in the next one down, which is primarily for licensing?

MR. ISAACS: Let me briefly address it and see if I can clarify it. I'm not sure we were trying to make a huge distinction.

I think there's been a feeling in the program, and it goes back in some sense to the question of how our contractors have been organized and operated. In a lot of cases, we've done a lot of work that seems to be good work, productive work, but it's not always clear how it

fits into the end objective of demonstrating whether or not the Yucca Mountain site is suitable, for example, for being prepared to move forward in timely and effective fashion on the MRS or repository or transportation system.

The idea has been, let me over say it, that more is better and there has been a lot of good research identified, program plans put together, but it's not clear that you need all that work and a 6,000 page SCP for example, whether that's the right work or not.

The idea behind the bullet there was to try and put together a framework where we can clearly articulate what our strategic principles and objectives are and then when you're determining what work you're going to do, you'll have some kind of a process you can go through to say, does this work fit with our goal-oriented activities? We don't need to just keep doing more work for the sake of learning more geochemistry or more hydrology or more vulcanism.

This is what I need so in that program, I've articulated, based on goals rather than just disciplines. That was the idea behind the first one.

The second one was simply further on to that to say that in the development of these more detailed plans, you would indeed go back to the strategic principles and

ask yourself before you launch -- let's use as an example, a new program for a long life waste package, or a new program for some material, or a new operation that you want to use for how you're going to get material from the surface to the repository horizon -- you might go through that checklist of strategic principles and ask yourself is what you're doing consistent with trying to maximize safety? Is what you're doing or are your options different with regard to how they might impact the environment or are your two options such that one option might use state-of-the-art, well-proven principles and the other one be far more speculative in nature and require a lot more R&D and perhaps be a lot more uncertain, and use those principles to help you make those kinds of decisions. That's what we meant by those two.

CHAIRMAN DEERE: Priorities apparently would be set after you have established your first broader goal?

MR. ISAACS: Correct. That's the idea. I don't think we're saying we're going to stop everything in the program and run through some kind of Goldberg decision-making process, but where it makes sense, we want to come from this more disciplined sort of fashion in order to make those kinds of decisions, not unlike the process of the ESF, not unlike the process of going

through our space prioritizations, or licensing strategies, but a more systematic framework both in terms of the coverage and also when you address certain subjects.

A lot of good questions out there that in today's world don't need answering and that's something we need to work -- not all questions can be answered at the same time and in fact, some need to be answered now, some don't need to be answered now, some we have money for, some we don't have money for. We have to make the right kind of rational decisions in this process that's evolving here. That's what this is meant to do and that's the kind of thing we hope to use it for.

We'll need help in the idea of the process-related aspects of it, is to build it in a way that we can actually get help from the outside parties.

CHAIRMAN DEERE: Thank you.

I would like to address in the few moments that are left here the status of the panel reports. The reports which will form a basis for the second Board report are now in the process of either being finalized or being reviewed by various panel members, panel chairmen and Board members. Some of these elements will be discussed and coordinated in our meeting this afternoon.

We would like to say that all panels -- there are now seven panels -- will not have had sufficient activity or have carried any particular inquiry sufficiently far that they wish to report or would be able to report for this second Board report.

Therefore, of the seven panels, we will reports of four or five and the third report that comes out would have the other two or three missing plus a couple others, et cetera. We feel it is an ongoing process. We've come this far, this is what we're doing, these are some suggestions that we can make or we'll be quiet and they will come up at a later one.

We think we have sufficient information that has been developed, that we will have a full report and we look forward to putting them together. The deadline for it is this week -- actually, the end of next week because information received today, information received tomorrow and the next day, we will want to try to assimilate and include what part of it seems to be pertinent.

The Board, in its closed session this afternoon, will also look at other matters dealing with our moving into our new office with personnel, with future plans and meetings, reviewing some of the information developed during our trip to Europe and

taking a look at the first draft of the report and making suggestions. We would like to get that out fairly early in a question of several weeks and we'll be looking at personnel matters in general.

On tomorrow morning, when the Department of Energy will make presentations to us on a variety of subjects which have been duly noted, the sessions will start at 8 o'clock. Since we started at 8:30 today, I didn't want you coming in at 8:30 tomorrow and find that it already had been underway. You would miss the introductory comments.

We wish to thank very much our people who have come over from NRC, from DOE, for making their plans available to us, allowing us to ask questions and to get to understand them a little bit better. Hopefully this will allow us to pursue some of these points with a better background of information.

We also appreciate the people from the audience who had the chance to come and to listen, and to some extent, ask a few questions.

So, we will be adjourned and we'll have tomorrow morning a joint panel meeting and presentations by DOE.

Thank you.

(Whereupon, the meeting adjourned at 12:00 p.m., to reconvene the following day at 8:00 a.m.)

REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before UNITED STATES NUCLEAR WASTE TECHNICAL REVIEW BOARD in the matter of:

BOARD MEETING

were held as herein appears and that this is the original transcript thereof for the file of the Department or Commission.

Official Reporter

DATE: JULY 28, 1990