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NUCLEAR REGULATORY COMMISSION

In the matter of:

COMMISSION MEETING

Briefing by DOE on
Monitored Retrievable
Storage

(Public Meeting)

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D I S C L A I M E R

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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BRIEFING BY DOE ON MONITORED RETRIEVABLE STORAGE

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PUBLIC MEETING

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Nuclear Regulatory Commission

Room 1130

1717 H Street, Northwest

Washington, D C.

Thursday, January 23, 1986

The Commission met in open session, pursuant to notice, at 2.05 o'clock, p.m., the Honorable NUNZIO J. PALLADINO, Chairman of the Commission, presiding.

COMMISSIONERS PRESENT:

NUNZIO J. PALLADINO, Chairman of the Commission

THOMAS M. ROBERTS, Member of the Commission

JAMES K. ASSELSTINE, Member of the Commission

FREDERICK M. BERNTHAL, Member of the Commission

LANDO W. ZECH, JR., Member of the Commission

STAFF MEMBERS AND PRESENTERS SEATED AT THE COMMISSION TABLE:

S. CHILK, Secretary to the Commission

H. PLAINE, General Counsel, NRC

M. MALSCH, General Counsel, NRC

K. KLEIN, DOE

B. RUSCHE, DOE

P R O C E E D I N G S

[2:05 p.m.]

CHAIRMAN PALLADINO: Good afternoon, ladies and gentlemen. Today the Commission is being briefed by members of the Department of Energy on a proposal for constructing and operating a facility for monitored retrievable storage, otherwise known as MRS. This facility is intended to temporarily store spent fuel from commercial power reactors until fuel can be disposed of in a high level waste repository.

The Nuclear Waste Policy Act of 1982 specifically directs DOE to assess the need for and feasibility of an MRS and obtain NRC and EPA comments on the DOE proposal, all of which are to be submitted to Congress. The Staff has provided its comments in SECY 86-09 for Commission approval, but before voting on the paper, the Commission felt it would be appropriate and helpful to have the benefit of hearing DOE's presentation on the MRS.

I understand DOE has requested our comments on the MRS proposal by February 6th, the date by which the Commission will try to be responsive.

Also, I for one, would be interested in learning during the DOE presentation, what impact the Tennessee Governor's views are on putting an MRS in his state will have on DOE's MRS proposal.

Before we begin, would any other Commissioner like to make any opening comments?

[Chorus of no's.]

CHAIRMAN PALLADINO: Let me turn the meeting over to Mr. Rusche.

MR. RUSCHE: Mr. Chairman, members of the Commission, we appreciate the opportunity of meeting with you today to briefly review the proposal that we plan to make to the Congress about February 6th.

Section 141 of the Nuclear Waste Policy Act requires us to consider the question of monitored retrievable storage, and to bring a proposal to Congress which has a number of very specific attributes. We have been working now for I guess well over a year in trying to get to the place where we can honor that commitment. The Act required us by statute to bring the proposal to Congress by June, 1985.

Last April, after having done a fair amount of work, we came to the conclusion that we would not be able to bring the proposal in the form that we thought appropriate for an additional six months. We so informed Congress and indicated it would be about January of 1986 before we would have the proposal prepared.

At the same time, we released documents, some in draft form, some in final form, which at that time, that is in April of 1985, provided to the public, and to anyone who was

interested, something of the status of our thinking. Our thinking had evolved at that point from an earlier view that the Department had at least expressed in some vehicles, of MRS being thought of as a substitute for or a last ditch back-up for a final repository, something that might be considered only in the event that all else failed, so to speak

When I had the opportunity to join the effort, it occurred to me it was worthwhile to look at MRS again, and to possibly consider it in another light. The staff began some work and subsequently concluded that the consideration of MRS as a part of an integral system might have considerable merit and add a number of features to our ability to carry out the mandate of the Act of disposing of fuel, beginning to accept fuel, by January 31, 1998.

It is in that mode that we will be briefing you today. That is, the MRS being considered a part of an integrated operating system with very limited storage capacity, serving primarily as a receiving, packaging and handling facility located in the eastern part of the country, and in fact, we prefer the location of the old Clinch River Breeder site, which you have previously issued an LWA for, and so indicated in the documents we published last April.

We welcome the opportunity to bring you up to date on where we are. As you indicated, it is our intent to try to get the proposal to Congress by February 6th. We certainly

would appreciate the Commission's consideration in trying to provide its comments by that time. We have been given assurance by EPA and its staff that we will have their comments well in advance of the 6th. Therefore, we will be in a position to get the proposal out. We certainly do appreciate the Staff's timely and effective consideration, as we understand they have done. I have not seen their review as yet. Hopefully, your subsequent consideration will produce your comments for us.

Today I have with me a number of the staff. In particular, Keith Klein, who is seated on my left, who will present the briefing. As I indicated earlier, I will try to be as quiet as I can. There was somewhat of a question as to what that meant, as to whether I could be very quiet or not, but I will do my best.

Keith is the Deputy Associate Director for Storage and Transportation Systems. It is under his purview and Roger Hilley, who is the Associate Director.

I would like to say in addition before Keith begins, that the work that we have done in terms of providing and working with your Staff on draft documents and early review is another good example of our working together in the cooperative mode that the Act in effect directs us to do. I want to thank you for the work that John Davis, Mr. Cunningham and others on his Staff have exerted in trying to help us move

this issue forward in the best way possible and on a timely basis.

I heard your comment with respect to the Governor's statement. What I would suggest we do, if it is agreeable, is I think it might be more effective if Keith were to somewhat run through the briefing, which will probably take thirty or forty minutes, and then take your questions, one of which certainly we want to take is the one you have raised at the beginning, if that is all right with you, sir.

CHAIRMAN PALLADINO: That is fine.

MR. RUSCHE: Let me note that I have with me, in addition to Keith, I have my Deputy Director, Ed Kay, one of our attorneys, Mr. Ferguson, and Mr. Carlson from Keith's staff. There are probably others in the audience. I would want to identify those members of the staff, and they may want to contribute to some of the questions if the occasion arises.

With that, Keith?

MR. KLEIN: Thank you. Commissioners.

Basically, I thought I would start just by explaining what exactly it is we would be submitting to the Congress shortly after February 6th.

A form of our proposal would consist first of transmittal letters to the Vice President, the Speaker of the House. It would transmit basically three documents. It would constitute our proposal package. The first being a relatively

thin document titled simply "The Proposal," which is the key operative document that summarizes the policy considerations, as well as the bottom line of the other documents that are also forwarded. The second document will be the environmental assessment, which is required as well by the Act. I will be briefly reviewing what is in the environmental assessment. Thirdly, the program plan, which is a forward looking document, and I will also briefly describe what is involved in that.

The Act also requires that the DOE submit the comments of the Commission and the Environmental Protection Agency, and we would expect to include those with our transmittal.

This first document, the proposal, volume one, is basically structured in two parts. The first being a description of the facility, its functions in the overall system, the advantages that we believe it would provide to the system, and the costs associated with implementing this proposal.

The second part deals with the institutional aspects of our proposal, and in particular, how we would propose to further work with the state and local governments in Tennessee and deal with a number of their financial concerns, and other items of institutional interest.

The thrust of our proposal can be summarized in five

principal points. First, we are recommending to Congress that they approve construction of the MRS at the Clinch River site near Oak Ridge, Tennessee. Second, we are asking or recommending that they limit the total storage capacity of that site to 15,000 metric tons and I will talk later about the reason for that. We are recommending that the Congress preclude our accepting waste at this MRS until the repository program has advanced to a certain point in its development where we can have reasonable confidence that it will be in full operation shortly after the MRS is in operation.

We are recommending that Congress direct measures that are directly responsive to the concerns of the state and the local communities in Tennessee that will be potentially affected. We are asking or recommending that Congress direct us to implement a program that is in general alignment with the program plan that we have set forth as our best estimate today of the activities needed to carry forward and implement this program.

With that, let me briefly review what it is in the proposal that we are proposing, how the MRS functions, the role it plays in the overall waste management system.

What we are basically proposing is splitting up the functions of the overall waste management system in a way that is shown by this next chart. What this involves is taking a number of functions that have been historically and previously

considered to be functions that would take place at the repository, moving them to a location that is much closer to the geographic center, more centrally located relative to existing reactors, and begin operating that part of the system, part of the system involved with collecting fuel from the reactor sites, moving them to this facility, starting packaging them for disposal.

Right now, there are over 100 reactors licensed to operate in the U.S. The logistics involved with scheduling the movement of fuel from those reactors with accounting for each individual assembly, for ascertaining its heat level, radiation level, pedigree, so forth, is not a technically challenging task, but it is administratively, a very significant task, and one that is not to be under estimated.

We are proposing that this MRS basically serve as almost a nerve center for the operation of our waste management system, and basically proposing that we do, at this MRS facility, those functions that can proceed and we believe should proceed in advance of full operability of the repository. I'll go into this a little more, and just delineate the specific advantages of the MRS.

In a system with an MRS, we term it an approved performance system I will go over those reasons. Certainly we can have a waste management system function without an MRS, and that is the authorized system as we have come to call it,

consisting of basically just the repository, which construction is authorized in the Act, and the reactor sites. Again, we think with the addition of an MRS, we have a much better system. I'll talk some more abo that.

The MRS facility itself, shown in this next schematic, it consists primarily of three different groupings, functions, if you will. The key operating part of the facility will be the receiving and handling building, which is in the middle of that schematic, which is basically a large hot cell complex, where we would be able to encapsulate, package the fuel in a variety of forms, the ultimate configuration will be dependent on which side is eventually selected for the repository and the specific requirements for a package for placement at that site.

The storage area that is in the back will basically be able to store 14,000 metric tons of capacity, and that is our judgment as to a good number to provide us the operational flexibility and reliability to the system that we think is very important.

Lastly, the administrative buildings and support buildings, your normal functions, fire protection, warehouse, site services, and that sort of thing.

The next illustration basically shows the layout of the receiving and handling building. You can see there is nothing technically complex or esoteric in the sense that we

are not chemically dissolving anything We are not basically doing anything that would impair the integrity of the clad of the fuel rods themselves. All the operations involved, primarily disassembling the assemblies, and compacting the rods, combining rods from a few different assemblies, an integral number, in all likelihood, into a canister that would then be sealed and shipped off to a repository in dedicated trains.

Alternatively, some fuel would be diverted off into the storage yard, in the initial years, before the repository has reached full scale operating capacity, and it is still just in the start-up period, where there may be fuel received at the MRS for one reason or another, that is more hot than desirable for placement at the repository at that given time, or just in the event of interruptions in repository operations. 15,000 metric tons storage capacity overall, including about 1,000 metric tons of operational storage inside the facility itself, the remaining 14,000 metric tons will be provided in the storage area through concrete casks, which are shown in the next illustration.

These again are relatively straight forward. It is a concrete silo. In it are the canisters which are seal welded. Inside the canisters are the pins, which themselves provide a containment barrier. The liner inside the concrete silo and the top of the liner will be welded, providing

another containment barrier. The concrete itself will be about two feet thick to provide shielding. The storage casks will be constantly monitored for temperature and pressures so that we will always know when outer barriers fail, then it would be immediately detected.

Basically what these hope to show here is the facility we are proposing is passive. We have done a considerable amount of work. I will describe that later to show that there is really very limited potential for releases, by virtue of the fact there are no chemical operations. There is only a certain amount of fuel available at one place at one time. We have a number of layers of protection.

CHAIRMAN PALLADINO: Keith, are these canisters sitting above ground?

MR. KLEIN: Yes, sir. They are all above ground. There will be approximately 1,500 of these storage silos altogether, including silos that are holding hardware from the disassembly operation.

The preferred site for our MRS facility, identified as the site of the cancelled Clinch River Breeder Reactor, and it is within the City of Oak Ridge, but it is nine miles from the population center itself. Two alternative sites have also been identified. One on the Oak Ridge Reservation and another at the site of the cancelled Hartsville Nuclear Power Plant, a TVA plant.

This followed a process, a site process, that started with an identified number of candidate sites in a region of the country centrally located to reactors that would assist in achieving some transportation system improvements, and a detailed analysis of sites within that region which basically led to identification of these three sites which we think each could be technically very well suited for development of this MRS facility. In particular, the Clinch River site, which has a very good pedigree of site data and analysis as a result of the Commission review of the site for the Clinch River Breeder Reactor.

The next illustration is just a time line that we want to leave with you. The only things that I would want to point out at this time is that we would expect to submit to the Commission approximately two years following congressional approval of our proposal, if it is approved, a license application.

We have estimated in working with the staff that if we do our homework right in putting together that license application, have a complete application, thorough application, that Commission review of that application could take place in approximately thirty months. We believe the facility could be constructed in approximately four and a half years after that, and after a year of start-up testing, begin operations, approximately in ten years following congressional

approval of the facility.

COMMISSIONER BERNTHAL: Let me ask a question that references back to the Chairman's straight forward question of whether these were above ground or not. I apologize. I'm a little slow here. Every time I hear "Clinch River," I seem to draw a blank in my memory bank. I think I like to blot out dramatic experiences or something.

In the most naive, straight forward way, one would wonder why you would want to fool around, since your re-packaging and consolidating and what not in these large canisters, why you would want to fool around with having such an array of engineered devices above ground as well.

Why wouldn't you just choose a medium and a base that is some granite or comparably hard material to concrete, I suppose, drill the receptacles there and have them below grade level and save ourselves a lot of time, money and fuss, maybe? I don't know. I was just curious.

MR. KLEIN: There are several considerations that have gone into our selection of the storage concept itself. Most come back to what we see as the need for the facility. We are not proposing this facility for long term storage of the nature of a repository. The facility is designed to be able to store fuel for as long as may be necessary through replacement of modules or other means, which is a requirement of the Waste Act, but we are basically looking at operational

type storage for the operation of the overall waste system

We have also proposed an alternative concept, which is storage in drywells, which are below grade, which is somewhat similar to what you were proposing. That would also be a relatively inexpensive process for storing fuel, and it could in fact be a slightly less expensive -- this really isn't expensive in a number of perspectives -- whenever you start getting below grade, it is our opinion that there is a perception of permanency associated with that, that is undesirable, given the nature of the facilities we are proposing.

It brings in considerations of groundwater flows, properties of the material in which the drywells are encased. The drywells would have probably about twenty feet down. Again, that is not something that can't be engineered around, can't be perfectly safe. It brings in additional considerations that we think could end up complicating the licensing of this facility.

We want to have a facility that we think will not bring in major technical issues in the licensing. The modular storage concrete casks really are inexpensive. Concrete is fairly inexpensive. It has a nice modular feature to it. We don't think we need necessarily the full 15,000 metric tons. If it turns out at 5,000 or 10,000, that is just as economical as 15,000.

In the proposal documents, the environmental assessments, we do comparably assess the implementation of storage through either drywells or these storage casks at these alternative sites.

CHAIRMAN PALLADINO: One of the obvious advantages, I guess, would be if these canisters also immediately served as a transfer cask to the permanent repository, or do you have to unload them anyway?

MR. KLEIN: The concrete casks would not be shipped. The canisters within them will be. The canisters will be clean of surface contamination. The repository, for the most part, and there will be some exceptions, for the most part would then be receiving these canisters that are uniform in size, heat content, and they are basically free of surface contamination. The alternative is what is received at the MRS instead, which are basically your bare fuel assemblies, which have been sitting in pools and have surface contaminations and crud and so forth on them. Basically the canisters will then be a clean modular unit for placement in the repository.

MR. RUSCHE: If I may add one comment, in the Act, we are directed to provide assessments of three sites and two designs. These are the two designs Keith has referred to on these three sites. Although we are directed to state our preference, and we have very clearly stated the preference, Congress sort of reserved for itself by that approach the

possibility to select the alternative, either by site or design. They have left themselves lots of room to make choices.

MR. KLEIN: Let me proceed on the next chart and go through some of the advantages of what we consider to be the improved performance system, which basically calls for the addition of an MRS to our system.

Basically, we believe that the addition of the MRS can improve our ability to develop the overall system. Part of this comes to the distribution, the re-distribution of functions within the system, allowing us to focus efforts somewhat independently on implementing as a first step in the system, the collection of this fuel and packaging of it at a central location of the reactors, and basically getting on with that part of the system, in advance of having all the t's crossed and i's dotted in the repository development, and at the same time, taking that burden, if you will, off, making it not an additional factor that the repository program people have to think about and worry about, and allowing them to in many cases better focus on the functions of the repository itself, namely the emplacement and the confinement, and the siting issues and licensing issues associated with that.

It basically represents a two step process for implementation proceeding with the first step at a site that is more readily available throughout the country. We are not

relying on any particular geologic features or hydrologic regimes to provide this MRS site, but basically we can pick a site that we think has a high likelihood of success, both in terms of local acceptance, in terms of technical suitability, and in other aspects of our developing a system.

The system, approved performance system, would lead to an acceleration of waste acceptance rates. Without the MRS, our current schedules for the repository program, would call for a two step operation of the repository, with the first step beginning in 1998, at a relatively low acceptance rate, approximately 400 metric tons a year, and reaching full scale operations around the year 2003, at about 3,000 metric tons per year.

With the MRS approved in a timely fashion, we think the MRS can be operational in 1998, and fully operational by 1998, thus, we would be receiving fuel at a rate of about 3,000 metric tons a year in 1998, as opposed to the year 2003.

COMMISSIONER ASSELSTINE: What would be the backlog of material by that time?

MR. KLEIN: Approximately 15,000 to 20,000 metric tons by the turn of the century. There are about 10,000 metric tons now.

MR. RUSCHE: It's a little more than that, I believe; maybe 35,000.

MR. KLEIN Maybe 35,000 by the turn of the

century. A lot depends on the particular projection for nuclear growth that is involved.

CHAIRMAN PALLADINO: You say we have 10,000 now?

MR. KLEIN: There are approximately 10,000 or 12,000 in existence now.

COMMISSIONER BERNTHAL: I'm sorry. The backlog?

CHAIRMAN PALLADINO: How much of this material do we have stored? How much have we generated and have stored at the various plants? That is what I meant. You can compare it with the 15,000.

MR. KLEIN. I think it is at the turn of the century, about 35,000, and it is being generated at the rate of about 2,500 to 3,000 metric tons per year at that point.

By way of some additional perspective --

COMMISSIONER ASSELSTINE: That is assuming about 120 reactors?

MR. KLEIN: Yes. That projection could change.

COMMISSIONER BERNTHAL: Not very fast; right?

MR. KLEIN: You may or may not be aware that there are a number of reactors that are beginning to run out of storage space at the reactor sites. The Nuclear Waste Policy Act addresses the situation in a fashion by assigning DOE responsibility to assist in developing technologies to help the reactors help themselves. We have been doing that, demonstrating cooperatively with Virginia Power and Carolina

Power and Light and others, techniques for increasing storage capacity on site, by dry metal storage casks, some concrete storage modules, rod consolidation and other techniques.

Our current projections are that there could be as much as a 2,000 metric ton shortfall of storage space by the year 2000, based on existing storage capacities and projections. We believe that reactors can take care of that through the use of these new technologies, which are coming on line and being demonstrated, but again, that is at some cost, both financially and operational costs. The addition of new capacity require either amendments to the license or new Part 72 license for independent storage installations at the reactor sites themselves.

COMMISSIONER BERNTHAL: Let me ask a question about cost effectiveness here. As I understand it, the legislation does place the first burden of responsibility on the utilities. I don't quite remember the language, but in effect it says that first of all, they should seek ways to store in on-site. I believe that is the sense of the law.

If you are going to all the trouble and you have already gone to some trouble and expense, in designing a fairly sophisticated storage canister, you have studied compaction and dry storage and what not, why wouldn't it be more cost effective simply to supply that technology site by site? What is the advantage of as-needed site by site? What

is the advantage of sort of bringing it altogether?

MR. RUSCHE: Let me try a couple of reasons. I think an immediate advantage that attaches to doing the work in an MRS is that we have a centralized facility where we can maximize the probability of success by highly competent trained people, which would likely be the case at some reactors, and might not be quite so likely at others, depending on their resources available and so forth.

I think it just follows the standard industrial pattern, that if you have the same operation to do many times, if you can do it under the best and controlled conditions, you have a high probability of doing it safely and cost effectively.

I think the thought of having 95 or 120 MRS's is a factor that we all have take into account. If we don't have an MRS, that is what we will end up doing. That is an alternative we have evaluated in the environmental assessment, as one of the options that is there.

A second factor that suggests the value of the MRS and this approach is that related to the transportation logistics. Keith will be getting to that in a minute, but let me just mention two quick points.

One value is that we have an opportunity to determine the transportation system, its location and logistics, about five years earlier, if we put the MRS in

place. That is, we won't know the site of the final repository until about 1991. If Congress agrees this year with MRS, for most of the eastern reactors, we know what the transportation patterns are going to be. Five years earlier, we can structure the logistics and develop the institutional questions much earlier. I think that is a real advantage to the country and to the system.

COMMISSIONER BERNTHAL: Yes, that would seem to be a strong argument because you used the plural in transportation patterns, and there may indeed be plurals, but it sounds to me like it would be a corridor almost. I'm not quite sure what you have in mind.

MR. RUSCHE: If you have the MRS in place, it almost certainly is a corridor from the MRS. If you don't have the MRS in place, you may have thirty corridors or ten corridors or fifty corridors.

Many of the people we have talked to in the states and industry and elsewhere continue to refer, and I think appropriately, the yearning that people have to know what it is going to be like, but we are faced with a paradox that we cannot tell you until we get through the characterization of the repository sites and have selected such a site.

I think those two features, along with the general management procedure or approach that says do it one time, it is better to do it one time very well then it is 90 times with

a mixture of possibilities.

MR. KLEIN. Cost-wise, we estimate that the cost of adding capacity at the reactor sites would be anywhere from $40 per kilogram to $100 per kilogram. The incremental cost of storage at the MRS would be in the neighborhood of $40 per kilogram. There could very well be overall ratepayers' savings from strictly a storage standpoint by doing it or providing the storage largely at a central facility. In any event, there will be reactors having to add storage at the reactor sites, until the Federal system becomes operational.

With the MRS, there would be fewer reactors affected, because they have run out of storage capacity and have had to add some things, and the number of reactors that are affected would be affected to a lesser degree. They would not have to provide as much new capacity, because we would be accepting fuel at a higher rate and sooner. We believe that could be a significant advantage to the overall country.

We believe the addition of the MRS adds flexibility and reliability to the system. This is in a number of different respects in any operating system that has flows in and flows out, it is common to have some sort of storage capacity. It is just a basic engineering principle. It is not uncommon for this capacity to be significant as we are proposing here.

The increased reliabilities provided basically by

addition of the storage capacity, there is flexibility provided by virtue of another component to the system that can handle uncertainties of the future. It gives us more options, more tools for dealing with things. In particular, it gives us an option for packaging in a way that can be implemented to a large degree before even the final package is known.

COMMISSION ASSELSTINE: Are you going to talk about that a bit more? I guess one of the questions I have is how the two things mesh. I understand the notion of moving packaging to the MRS, so that while you don't eliminate it, you at least minimize the amount of that action being at the repository site, but to what extent is the package design dependent at all on the geologic medium that is ultimately selected and to what extent can you design a package that will satisfy all of our requirements for the repository before the final decision is made on the repository?

It strikes me there are ways to do that. One way is design the most conservative canister you think could possibly be needed for any geologic reason, and then go ahead on that basis. There are some intertie questions I have, and that is one of them.

MR. KLEIN: You are correct. The package design for each of the repository media would be different in two respects. The amount of fuel per package and possibly the material construction of the package itself, which also the

two together can translate into different size or diameter of the package. You can envelope those. Our facility design will be capable of accommodating any one of the configurations within that envelope and/or different package material or different package size.

We have been studying the feasibility of a common waste package, perhaps there is some common denominator among the repository waste package designs and we could lock on to that for the MRS, and that with different overpacks and so forth then could be tailored to the final repository medium.

MR. RUSCHE: I think you would want to know, too, that under the timing we are talking about, we would have the site for the first repository selected several years, like five years, before you put the MRS in operation, with the MRS expected to go into operation at about 1996.

What one wants to design in a facility is a broad range of capabilities for handling materials and sizes and then make that final adjustment as to what is the size and what is the material of the canister. That then being tuned to the facility, so the phasing and time permit you to do that, and the design now starts out with the capability rather than output as its objective.

COMMISSIONER ASSELSTINE: One thing would have to be clear, and that is that the construction authorization for proceeding with the .epository would have to resolve in a

fairly definitive manner exactly what the packaging requirements would be.

MR. RUSCHE: Yes, without a doubt. The MRS presumably would have been built in a manner that you could just provide that.

CHAIRMAN PALLADINO: For added flexibility, and added cost, you could have the canister and then if you have to have some other holder or liner --

MR. RUSCHE: Yes, you might have to do that for matching. We call that an overpack. I think the particular point Commissioner Asselstine is talking about can be dealt with very effectively because of the relative time sequencing of the two facilities.

MR. KLEIN: We believe the addition of an MRS would benefit a transportation system. It does this in several ways. Currently, approximately 30 percent of the reactors in existence cannot handle the larger capacity rail casks for shipping spent fuel. Unless those capacities change, and we may be able to influence that or may want to influence that, we would be shipping fuel from those reactors to the MRS or to the repository by truck. Truck casks typically have a capacity of about seven times less than a rail cask. Truck casks might carry one or two PWR assemblies. A rail cask, ten to fourteen PWR assemblies.

CHAIRMAN PALLADINO: Are you saying you can't get a

rail car there or did I miss the point?

MR. KLEIN: It could be for any one of several reasons, either they do not have a rail line to the reactor plant itself, some are located on bodies of water and ship the large components on the water or to a railhead that may be three or four miles away and then heavy haul it there. Some reactors do not have the crane capacity to handle the larger rail casks which are in the neighborhood of one hundred ton casks, whereas a truck cask is more in the neighborhood of forty ton casks.

There are several reasons why that thirty percent of the reactors cannot. We believe that of that thirty percent, 70 or 80 percent of them could upgrade to handle rail, but again, it is really not up to us to determine whether or not they will or shall, but just estimate what could be.

What that means in terms of transportation operations is that you obviously would need seven truck shipments to equal one rail shipment on the average. Every shipment, every cask, is permitted a certain amount of radiation levels at the surface. It is somewhat akin to a point source moving.

COMMISSIONER BERNTHAL: Seven trucks for one rail car?

MR. KLEIN. Yes, sir. That's exactly right.

COMMISSIONER BERNTHAL: I don't want to get on the

wrong side of the Teamsters Union, but I have to say my prejudices are that we ought to seek to keep these shipments on rail lines to the extent that is possible. I don't know that you have taken a position on that or not. Maybe you are getting around to it.

MR. KLEIN: We do believe it is desirable for purposes of efficiency and operations to maximize the use of the higher capacity casks to the extent practicable. There are still reasons to not become so independent, 100 percent, on any one mode of conveyance, but to the extent that you can. Right now, the cost of shipping by truck or for rail are about the same, on a dollar per Kg basis. A lot is dependent on particular rail lines and cask demurrage charges and so forth.

In any event, having an MRS centrally located relative to existing reactors basically minimizes the distance that fuel would have to be moved by truck. Instead of moving across country, if the repository was in the west, it would be transversing only one or two states typically to get to an MRS, where it would be repackaged, and all the shipments leaving the MRS then would be in dedicated trains, or would be in larger rail casks, packaged in these canisters. You might have two shipments per month with one train pooling five or the ten railcars behind it once or twice a month. There would be fewer number of shipments across country. The repository

would be receiving fewer shipments, and the shipments that the repository did receive should able to be unloaded much faster because you are dealing with double encapsulated fuel, if you will. It is clean on the outside.

Overall, it leads to the MRS being somewhat of a transportation hub of one sort, fuel converging on it, and then being shipped out in a dedicated train to the repository. We think there are transportation system benefits associated with that.

COMMISSIONER ASSELSTINE: What are the transportation corridors like? I understand going into Tennessee from most of the east. How about from there out west, to the sites you are looking at for the first repository? Good transportation corridors?

MR. KLEIN: Basically, yes. As you may be aware, there are a number of operations in Tennessee that are really transportation related operations. Federal Express is based there. There are a number of other similar operations to that. Is it Federal Express in Memphis?

COMMISSIONER ASSELSTINE. Yes.

MR. KLEIN: Auto companies are located there. I only point that out because one of the reasons they are relocating is there is a good transportation access

COMMISSIONER BERNTHAL: You are really talking about a rail corridor and to the extent that rail line is going to

have to be of high quality, perhaps upgraded, perhaps maintained beyond that, that seems to be typical today, and I would assume you aren't going to do that to very many lines, and you are going to kind of pinpoint one corridor, and that is going to be it.

MR. KLEIN: Yes, and focus on it. We would focus on that, survey it very thoroughly, make sure the emergency response capabilities are all in that corridor, upgraded, and focus our efforts.

Lastly, provide significant institutional benefits. These are associated to a degree with certain intangible benefits that are indeed somewhat speculative, but we think early implementation, construction of a major waste facility, and basically getting on with implementing the system ahead of the schedules, target schedules mandated in the Waste Act, could be of benefit to our overall efforts.

I will just go quickly through --

CHAIRMAN PALLADINO: How many people will be working there after it is built?

MR. KLEIN: Approximately 600 to 700 full time employees, after it becomes operational.

COMMISSIONER ASSELSTINE: That is the operating staff?

MR. KLEIN: Yes.

MR. RUSCHE: 1,500 during construction, something

like that.

MR. KLEIN: I have just covered the first aspect of our proposal dealing with the description of the facility, the advantages, and some of the costs. I might add, as far as the costs are concerned, that the facility costs, construction costs, will be about $700 million, overall program costs, up to the point of operations in 1998, will be about $1 billion. Operating costs would be about $70 million per year thereafter.

The second part of our proposal document --

CHAIRMAN PALLADINO: $170 million thereafter for operating costs?

MR. KLEIN: $70 million.

The second part of our proposal deals with more institutional aspects. Three major parts that I might briefly review. First, the financial assistance provisions. The Waste Act provides an opportunity for facilities developed under the Waste Act basically to be good corporate citizens, good neighbors, providing for payments equivalent to taxes, and in the case of the repository, financial assistance for planning and mitigation of impacts caused by construction and so forth. We are proposing these apply also to the MRS. We have received some good analyses by a local task force set up in the area at the Clinch River site, the Clinch River MRS Task Force.

They also recommended several things which would help lessen the impacts of a facility. We are clarifying them in this proposal, that we have reimbursed state and locals for direct expenses involved. We would use local suppliers to the extent they are available. If we have land on the Oak Ridge site that has access programmatic needs, we make that available for alternative industrial uses, permitted by regulations. Giving financial assistance equivalent to the tax to be paid, as if the facility were a taxable commercial venture.

The proposal contains a section that elaborates on assurances of safety and environmental quality. These are really nothing new. Assurances come primarily through the NRC regulations and our adherence to them. They are things that we often take for granted, and which are not as readily apparent to the outside. We have elaborated on just what a lot of these provisions are and why that provides a degree of assurance relative to safety and environmental quality.

The last provision in the proposal that I would review is certain provisions we are proposing to give the state and local governments a very strong influence in the conduct of the program.

We are proposing that a steering committee be established, an MRS steering committee, to consist of a chairman, nominated by DOE and in consultation with the

Governor. It would have two members from the state on the steering committee, two members at the Clinch River site, one from the City of Oak Ridge, one from the County. It will have a member of industry, the utilities paying into the waste fund would be on the steering committee. A member representing the public interest, broader public interest I might say, and two representatives from DOE.

This committee would review, recommend, review policies, recommend policies. The MRS Project Manager, the person actually responsible for implementing the project would have formal responsibilities vis-a-vis being responsive to the committee. If he does not agree with a committee recommendation, for example, he would be obligated to respond in writing the reasons why not. If they didn't like those reasons, for example, they would have recourse to appeal through the Operations Manager, to Washington, if that is not suitable.

We proposed and identified several subcommittees that could be established under this that would have particular responsibilities for oversight, facility operations, and oversight of the public information and implementation of the financial assistance provisions, and in the transportation area.

It is all in recognition that the committee and subcommittees would have full access to all data information

available to the Project Manager. The whole process for basically implementing the MRS would be very much open, in ways that are perhaps precedent setting in terms of the way business has been done by the Federal Government in the past, and it has been very well received in the local area. We think if MRS is to proceed in Tennessee, that the state would be similarly inclined to favor this approach to implementing the project.

COMMISSIONER BERNTHAL: I must say you guys had extraordinary foresight. You even managed to get two residents of Tennessee on the Licensing Committee before the Nuclear Waste Policy Act really began to be implemented.

MR. RUSCHE: We have tried to exercise clairvoyance at every stage we could.

[Laughter.]

COMMISSIONER ASSELSTINE: We don't know which way it cuts, though, do we?

MR. RUSCHE: I would want to add one comment to Keith's expression on the Steering Committee, just to be sure. This is a committee that would be organized and would function under the Federal Advisory Committees Act, and it's important that we understand that and you folks both.

MR. KLEIN: The last thing that I would point out is the provisions for consultation and concurrence agreement with the state. This is something that is called for in the Waste

Act. It applies also to the repository program. It would apply here for MRS as well The C&C agreement would be an umbrella contract between us and the state to provide for the operations of the Steering Committee and a number of other things specified in the Act, including the use of mechanisms for resolving any disputes that may occur down the road to the Mediation Board, other such mechanisms.

COMMISSIONER BERNTHAL: Are you going to make any comment on the now obvious fact that the Governor of the State of Tennessee, for whom I have an immense regard, has gone on record already at this point saying that he will veto --

MR. RUSCHE: That was the Chairman's question which we have reserved --

CHAIRMAN PALLADINO: I was just about to say that this is a good time, maybe, to address it.

MR. RUSCHE: Well, you'd like to do it now?

CHAIRMAN PALLADINO: I think so, because you are talking about state relations.

MR. RUSCHE: We had an opportunity to visit with the Governor on Tuesday morning, and he made us aware of his views and, I think, that you have been provided a copy of his statement. The Governor, I think, as Commissioner Bernthal had said, is a gentleman that we all have a great deal of respect and appreciation for. He, through his cabinet officials, exercised, on behalf of the state, a very extensive

study proposal, and if you recall from his statement, he made or drew several conclusions which, I think, will be helpful to the Congress and were helpful to us and perhaps to you to.

With respect to the short-term nature of the facility, with respect to the fact that other MRS's, there are not -- the location of a lot of activity by virtue of shipment and otherwise, as well as the origin of fuel from facilities in the state and his recognition that the facilities do not present new or novel technical questions and, therefore, he has high confidence that both the shipping, transportation handling and the facility, itself, can be done safely.

He then turns to two other issues with respect to his view of the need and his view of the appropriateness for it's location at Oak Ridge, primarily from an industrial development standpoint.

I think that we must respect the Governor's view in that regard. I think it is clearly a question in which the Governor has stated this issue in a form that will make it much more attractive for the Congress to consider whether the facility, as we have proposed, is worthwhile and ought to proceed The Governor's response presumably will be a part of our package to the Congress.

Our expectation is that he will provide that response in a formal way to us and to the Congress at about the time the proposal is to go up, and the Congress will have

the opportunity to consider the proposal in the light of that information.

And he recognizes that and, I think, it's not without some value to note that this somewhat compressed interaction with the state has produced, I think, one of the best Federal/State interactions and relationships that we've seen. and he as much as said that to us. But I would not want to put too many words in his mouth.

So, I think, the short answer is: We regret that he doesn't agree with us in full. We are pleased that a number of his conclusions are in agreement with our view and we will plan to proceed with the proposal to Congress.

COMMISSIONER ROBERTS: I can't resist asking, in his press release the very last two sentences: "The law requires the U.S. Government to consult with the state before it decides where to put it's -- his terminology -- repackaging plant. They did not do that, and if they had, this is what I would have told them about Oak Ridge as a site."

What is your response to that statement?

MR. RUSCHE: His question or his comment, I believe, derives from the fact that the process of site selection, which was documented in the April document that I referred to earlier, was not conducted in the same manner as we have done for the repository sites. It was not so conducted because, one, it didn't lend itself to that procedure, nor was it

required by law.

There is a debate on that subject. In fact, the state filed a lawsuit which is before the courts that bears to some extent on that subject. I think what he says there is that if we had asked him in April whether he liked Oak Ridge he would have said then that he didn't like Oak Ridge.

CHAIRMAN PALLADINO: For the site?

MR. RUSCHE: Excuse me, yes. He didn't like --

[Laughter.]

COMMISSIONER ROBERTS: Oh, he loves Oak Ridge.

CHAIRMAN PALLADINO: Oh, I just want to make sure that the record comes out right.

MR. RUSCHE: Mr. Chairman, I really do appreciate that. I would not want to put those words in the Governor's mouth. There may be views in Oak Ridge that would like to be expressed, but they certainly should come from Oak Ridge.

Does that address the issue? I don't know what else we can say.

CHAIRMAN PALLADINO: I will extend the question just one more step. Do you think it is going to impact on the ability to get Congressional approval or action on this?

MR. RUSCHE: Oh, I don't think there is any question but that the Governor's view will be weighed heavily by Congress. I think if his view had been positive, it certainly

would have increased the prospects of affirmative action by Congress. So there's no question about it.

CHAIRMAN PALLADINO: Well, I'm trying to think what possible outcomes might be, and I know we are speculating, but there is one more step, and then I will stop.

If they don't approve Tennessee, then where are you left or what options do we have, if you try to get another state and, you know, have the same problem?

MR. RUSCHE. Our charge under the Act is to bring a proposal to Congress, and our proposal will identify eleven sites that we thought were suitable, three of which we thought were preferred and one which we thought was the site of choice.

Congress could very easily tell us that we don't need an MRS Go home and do the rest of the work. Congress could tell us we need an MRS, but we don't need it at this site Go look for another site, but when you find it, it will be an authorized facility then. Congress could choose one of the other sites other than Oak Ridge, either one in Tennessee or one of the eleven.

You'll recall that under the Act, when we filed our application with you, we provided an environmental impact statement whose only difference would be that we don't have to consider the need for the facility. The Congress might choose another site that we haven't identified. Congress is by no

means constrained to the sites that we might propose. There are possibilities that someone might come forward and say, "We really would like to have this." Whether that's more than a gleam in somebody's eye I can't say, but those are all options that, I think, Congress has before it.

The law clearly was not written in a way to constrain Congress, but rather to give the broadest latitude that I can imagine.

CHAIRMAN PALLADINO: Just the last one on this. Moving over to the need question, are you going to try to respond to his need question?

MR. RUSCHE: Oh, we think our documents do. We just have a different view from his view. He did not introduce any new information.

CHAIRMAN PALLADINO: I think you showed that it was desirable. It was a beneficial thing. I think he is going to maybe -- he is extending your question and saying, "Is there a need for it?"

MR. RUSCHE: No, I believe, he said we -- and we did clearly state that it is not absolutely essential. I think Keith's opening comment was to that effect. We believe the need is high because it has high value. I think the documents we have show that, but I think I would not want to mislead you, and I certainly would not want to mislead anyone at Congress and try to make the case that without it, there can

be no waste disposal system.

We think it would b less effective, less cost-effective, less reliable for the reasons that we have described here. But it is clearly a discretionary or optional facility, and for that reason we called it the enhanced or improved system.

COMMISSIONER BERNTHAL: Then Congress is the deliberative body -- I think that's putting it mildly -- and I can't help but point out that Governor Alexander's term ends in November, and none of that would be of particular interest or consequence or the responsibility of the Commission, except as it may effect the schedule of this whole thing, and one wonders whether, with the veto apparently in the offing and presumably whatever Congressional deliberations might be associated with that veto, is it realistic that this thing is going to get settled this year?

MR. RUSCHE: Commissioner, I think it would be very unwise for me to try to guess on that. I think it's purely a matter -- I think it will be the first opportunity for Congress to exercise it's judgement and prerogatives under the Act, as it clearly recognizes that it needs to be done for such facilities. And I think our objective is to get the proposal there, to make the content of the proposal as clearly available as we can. And then we serve -- I guess, we all serve --

COMMISSIONER BERNTHAL: Let me ask the question a better way. What happens if this thing sort of sits there this year and then -- as you know, this current Governor cannot succeed himself -- there will be a new Governor -- what kind of delays then might that throw into the program here and how might that effect the entire program if that should happen?

MR. RUSCHE: Well, I think the value of this facility, which is the basis on which we state the need, as the Chairman and I were discussing a minute ago, changes if you delay the facility for a large amount If it is 6 months it's relatively minor. If it's 5 years, then the 5 years that we gain is no longer there to be gained, and so you would then have to evaluate the need and the value in the light of that diminished return.

I think from a purely logistics standpoint, even a long time down the road, it is warranted. But it's clear that some of the advantages that we identified diminish as the time of the MRS coming online approaches the time of the repositories coming on line, and all I know to do is stand by and be sure that the best available information is at hand for Congress and for you and for all of us who have to visit the issue.

CHAIRMAN PALLADINO: Ben, did you have more presentation?

MR. RUSCHE: I think that Keith has about three or four more slides at the end or sheets that would be worth turning to where we have taken a quick look at the licensing plan. I don't think that we have to go through every one of these, but if you might just direct your attention there and let him just lead you through.

In fact, he brought a document which I'm very pleased with and I want you to know does exists with respect to what we have done, both alone and in consort with the Staff with respect to looking at the licensing.

MR. KLEIN: Let me start just by saying that the Act requires that the facility be licensed by the NRC and that the National Environmental Policy Act shall apply with respect to the construction of any facility.

There are two exceptions to both the NRC licensing review and the preparation of any environmental impact statement regarding the construction of an MRS, and those two exceptions are that the Commission may not consider need and that the EIS shall not consider -- well, the Commission may not consider need or alternatives to the design criteria specified in the Act for the facility, nor the environmental impact statement shall not consider need or alternatives to the design criteria.

COMMISSIONER ASSELSTINE: Maybe we can go ahead and do the slides, but I want to come back to the NEPA question

later on, though, then and ask at least about some of the, I think, concerns that some of our Staff has about how the Act is structured and how this will all work and what we need to do to get it sorted out.

CHAIRMAN PALLADINO: I think we all have a similar interest in that.

MR. KLEIN: I'll be able to go through the rest of these very quickly. We have just shown what are required in the licensing application and I think those are self-explanatory.

I wanted to make a point about the licensing-related documents that have been prepared to date. There have been functional design criteria. We have a conceptual basis for design. Of particular significance is something called a Conceptual Design Report, which actually consists of four feet of documents; 36 volumes. One of those volumes is this document that's called, "The Regulatory Assessment Document" and what this does in this document is take the requirements of part 72 of the NRC Regs and shows how the design -- in the conceptual design phase, at least -- would comply with the requirements of the regulations.

So, in some respects, it's almost like a mini-SAR but on a very -- on a less detail scale, and we basically provided these documents to the NRC Staff in late October. Prior to that there have been a number of design reviews that

the NRC Staff have participated in and have been extremely helpful to us.

In the program plan itself of your proposal -- it's in Volume 3 -- there is an appendix entitled, "The Licensing Plan," and that is a forward-looking document that proposes specific procedures for proceeding hereon.

The first of those -- and actually those are in the next to the last viewgraph or slide or illustration -- lays out, basically, the proposed processes largely drawn from the NRC regulations.

I would just point out that we would tend to start by developing a procedural agreement with the Commission that could either be an add-on to the procedural agreement we already have with respect to the repository or be a separate agreement in which we would seek to resolve a lot of these issues, as far as proceeding on down the road whether DOE should do an EIS in addition to NRC doing one.

I might just say that our judgement on that will be swayed by the form of Congressional authorization. For example, if the authorization were to specify particular sites -- recommended sites -- then I think that would play a part in the terms of the scoping of what would be required under NEPA -- I mean Federal NEPA -- and then how we would delineate that between the NRC and the DOE.

The regulations require that we submit an

environmental report. The process schedule we have laid out for preparation of that environmental report lends itself to that document becoming an EIS if that is, in fact, the appropriate thing to do to satisfy our NEPA obligation.

With that, I would say it is basically open to questions.

CHAIRMAN PALLADINO: Thank you. Jim, do you want to start with NEPA? I have some other questions. Those are timely now, I think.

COMMISSIONER ASSELSTINE: Yes, since we ended on that note. I guess one of the questions that I think our Staff has, in fact, both of our legal offices have, is we are in sort of an unusual situation here, because you are going to have a proposal to the Congress that identifies a number of things, including the site, for example. You are going to have an environmental report or assessment that goes up with the proposal. Yet, it appears that we still have responsibilities underneath, if we are looking at such things as alternate sites, doing the cost benefit analysis, even though the need question may be out and the design criteria may be out.

I guess one of the questions I have is to what extent would it be useful or make sense at this point to ask the Congress, as part of this proposal, to spell out in some detail what it is they expect us to do, you and us, in terms

of doing EIS's, what the EIS's should address, and to what extent we should rely on the work that you do, if you do an EIS on some of these aspects?

Otherwise, it looks to us like there is some uncertainty about some of these questions that wouldn't get resolved for some time to come. For us, at least, it seems to put us in somewhat of an awkward situation. The alternate site, for example. If Congress comes back and says, you still have your NEPA responsibilities, other than the two areas we outlined in the Waste Policy Act, but we are saying this is where it ought to be. It puts us in somewhat of a difficult position.

MR. RUSCHE: I would think that the opportunities that we will have for extensive discussion with Congress will provide many occasions for us to ventilate this issue. I can't help to believe that Congress were to act in the affirmative, that the matter would be clarified in whatever final form it appears. We certainly will want to visit the issue. I believe it is not only appropriate but it would be valuable for you and your comments to identify this as an area of uncertainty. We will certainly see that gets expressed on our own initiative.

I think that is exactly the right way to do it. I believe no valuable purpose would be served at all to leave a mystery down the road.

COMMISSIONER ASSELSTINE: Yes.

CHAIRMAN PALLADINO: You are proposing or you have in the back of your mind eleven different sites. You have a recommended one. Are we excluded from evaluating your eleven different sites and saying number nine is better than number three or whatever?

MR. RUSCHE: I think that my own opinion would be that if Congress accepts our proposal, you probably would be excluded, and then Congress would say they have agreed this is the site on which we should put it, and these are the alternatives we have looked at, and that's valid.

COMMISSIONER ASSELSTINE: If that is what they want, they ought to tell us about it. It is one thing we ought to ask them, to make that clear. If they want to pick the site and they don't want us to look alternatives, they ought to tell us that.

MR. MALSCH: Let me just add to that. Our concern was heightened by the fact that there was a wealth of NEPA case law which says that Congress has authorized and appropriated funds for a specific project at a particular site. It does not in any way affect the scope of the subsequent NEPA review.

If all we got was a congressional authorization for appropriations with nothing said about NEPA, it wouldn't be so clear.

MR. RUSCHE: I think you are right. We want to be sure. I think your comments to us should make that point. We would want to be sure that in the numerous discussions that we are going to have, we seek that guidance. In fact, I would think it might be worthwhile as the process unfolds on the Hill, that we stay in close touch and we may find a set of language example that we would have an opportunity to suggest to Congress that would serve to clarify the matter.

COMMISSIONER ASSELSTINE: Or conversely, if the Congress wants to treat it like they did the Corp of Engineer cases and say we are authorizing for this site but we want an independent review of the alternatives, that is fine, too. We ought to ask them to tell us what they want us to do.

MR. RUSCHE: I couldn't agree more.

COMMISSIONER ASSELSTINE: I have a few others on some other subjects. One was emergency planning. I noticed that on the licensing plan part, I think you had indicated on the NRC requirements for the license application, an emergency plan was one of the items. Looking at the present or proposed rules that we now have before us, and I don't know whether you all have seen them or not, perhaps not --

MR. RUSCHE: We have not been privy to those.

COMMISSIONER ASSELSTINE: I think emergency planning is not included in there now. It seems to me it would be prudent to have that in. I wondered whether that was your

judgment as well.

MR. RUSCHE: I think the purpose of keith mentioning it there, and I mentioned that it would be in our proposal, is clearly from an operational standpoint, you need to have a procedure for handling upsets in operation in the facility. I think until we do the analysis to determine what the potential is for off-site, the need for an emergency plan, such as an evacuation plan or a community response plan, I would want to reserve it until we see what the potential is. We are having some additional studies done with respect to transportation, all of which will become available to both of us during the period of our generation of this thing.

Clearly, if there is a potential, we would want to address it. I think our intent in mentioning it there was that we are not unaware of the obligation to look, and we will take whatever course seems to be prudent.

COMMISSIONER ASSELSTINE: Good. It does seem that the proximity to population is a little bit different for the MRS sites than say for a repository.

MR. RUSCHE: The potential for release in transport is a very different kind of thing. I would not want to let the implication be received by these comments that we think there is a great emergency potential, so to speak. There is not from what we can tell from the outset. I think the obligation we would feel is to analyze that carefully and show

it. If it is not, we don't need it. We ought to be able to do that.

CHAIRMAN PALLADINO: I think it does need careful attention. It is an item where, for example, in Oklahoma, we could have perhaps benefited by more thought on emergency planning.

MR. RUSCHE: We certainly need to give that kind of forethought. Unfortunately, we don't have the kind of potential for distribution and dispersion that existed in that facility. We need to evaluate it. I can assure you that is our intent.

COMMISSIONER ASSELSTINE: I also had another question about the tie-in. You have linked the MRS with issuance of a construction authorization for the repository. You have said the MRS should not start operation until the construction authorization is issued.

What happens if something goes wrong with the first repository? What if the Commission reaches the conclusion that for whatever reason, the construction authorization should not go forward, we have to wait a few years and look at the second round of sites or whatever? What happens to the MRS? Does it then just sit there and it won't be used?

MR. RUSCHE: If the action of Congress is what we proposed, and Congress does nothing further, it will just sit there. I can't believe that Congress would be oblivious to

such a situation and if it arose, I think Congress would have to make its own determination as to whether that original linkage was appropriate. We believe from the standpoint of this being a part of an integrated system, unless Congress made a revolutionary shift in the national waste disposal system, I think that is probably the right course, it should just sit there. We don't propose more than 15,000 tons. You can't go very far with 15,000 tons at 120 50,000 tons inventory. I don't think we ought to start down that road until we know where we are going, unless Congress chooses to just make an entirely different consideration.

COMMISSIONER BERNTHAL: It is an important question though. It almost seems like if something goes wrong with the first permanent repository, you would want the opposite effect. The need for the MRS would be very plain and very great. It seems to me it is unquestionable. I am just not sure why you would want to start out to begin with having it linked to the approval of construction for the repository.

MR. RUSCHE: We thought it was appropriate to link it by Congress, to provide competence to the community, the state and to the country, that we did not visualize the MRS being a substitute for the repository. I think if it is to become a substitute for the repository, it deserves a conscious action by Congress to set that course. We believe Congress made the right choice in choosing repositories as the

final disposition.

This appeared to us to be a way to honor that view and provide a clear cut impression to the public that we didn't have something up our sleeves. We visualize this thing being a part of an operating system, which has a repository as its end point. If it is to be changed, then the public and Congress ought to do that with very conscious thought.

It is true that you could open up more options another way. We believe it is better to tie the two together and assure or give added confidence that the future will be consciously chosen rather than by default.

COMMISSIONER BERNTHAL: If you will allow me to continue a moment

COMMISSIONER ASSELSTINE: Sure.

COMMISSIONER BERNTHAL: The thought may be a good one. It forces Congress then to take a positive action and to consider the issue if that situation should arise. It's probably not a bad idea.

MR. RUSCHE: We believe we have a high confidence approach, and that's the one we ought to hold on to.

COMMISSIONER ASSELSTINE. On the 15,000 metric tons, you point out it is fairly limited storage capacity. Do you have a plan for how you are going to allocate that? Is it going to be every utility gets a little bit or allocated to those that really need the storage capacity and are not able

to provide it on their own?

MR. RUSCHE: We do not have a plan at hand. In the mission plan, we have indicated an alternative acceptance schedule. You will recall that under our contracts with the utilities, we are obligated by 1991 to have in place a detailed acceptance schedule We are working with the contract holders to develop strategies for evaluating those kind of questions, how you make the trade-offs between who needs it and whose time it is and so forth. I believe the utilities will be very useful and very helpful in us arriving at a mutually understandable and workable plan.

COMMISSIONER ASSELSTINE: Are you going to allocate costs according to how that plan is set up? I'll give you a couple of examples.

MR. RUSCHE: I think the answer is no.

COMMISSIONER ASSELSTINE: You aren't?

MR. RUSCHE: No.

COMMISSIONER ASSELSTINE: Reactors in the west that are not going to use this thing at all would still pay for part of it?

MR. RUSCHE: Reactors in the west may use it. In fact, a slight clarification that we will make is it is not our intent for the reactors in the west to use it, just because of the logistical value. On the other hand, if we found that for schedule reasons or contractual obligations we

needed to do it, there is no reason why reactors in the west could not use it except for the distance and cost

CHAIRMAN PALLADINO. Could you expand a little more on that, the western usage? I didn't mean to interrupt your questions. That's one I still have as a residual.

COMMISSIONER ASSELSTINE: Yes. The impression I had from reading the thing is you were going to have some packaging capacity at the repository and the western reactors basically would just ship their spent fuel right to the repository and would not use this facility

MR. RUSCHE: That is the preferred course, but whether we would actually do the same kind of things at the repository packaging facility that we do at the MRS, I think remains to be determined. From a pure management and logistical standpoint, it would say don't haul the fuel back across the country That is what we would expect to do.

On the other hand, I think western reactors and western reactor owners would insist upon having access to the MRS, if for example, in our 1991 determination of acceptance rate and acceptance provisions, we incurred an obligation to a plant in 1997, let's say, in the west, or in 1999, in the west, and the repository in 1999 was not prepared to accept that fuel, there was going to be another year down the road, MRS was operating. We would believe and expect we would use the MRS to meet that obligation. We will have language in the

proposal when it goes up that will acknowledge that.

CHAIRMAN PALLADINO. You are not going to exclude western states?

MR. RUSCHE: No, sir. We did not intend to exclude it here. I think the language probably came out a little bit sharper than we intended. We have had several comments to that effect, as others have read it. We certainly will --

COMMISSIONER BERNTHAL: Yes. I had a similar question. My staff informs me that the 100th Meridian, in fact, was the point beyond which supposedly or at least the impression was gathered, spent fuel would be shipped directly to the first repository.

MR. RUSCHE: We did say that.

COMMISSIONER BERNTHAL: The 100th Meridian, I am informed, runs through Pierre, South Dakota. I am probably the only one at this table that knows where Pierre, South Dakota is, and I am probably the only one that knows how it is pronounced.

CHAIRMAN PALLADINO: You win on both counts.

MR. RUSCHE: We wanted something for everybody's backyard.

COMMISSIONER BERNTHAL. That goes on down south through the middle of Kansas, Nebraska, West Central Kansas.

The point is, as I look at the map, what we are really talking about here, if I recall our construction

projects correctly, are Arizona, California, and the West Coast basically.

MR. RUSCHE. That's correct.

COMMISSIONER BERNTHAL: Anything is possible. It does seem unlikely you would be shipping all that back to Tennessee.

MR. RUSCHE: We did not plan to do that. I want to make clear that if our contractual obligations, which are established or will be established and put in place, were to require moving the material back to the MRS in order to meet those, we certainly will not preclude the use of the MRS for that purpose.

COMMISSIONER ASSELSTINE: Would it make sense to also, to the extent that utilities make an effort -- I will put on my ratepayer hat at the moment -- make an effort to meet their own needs until the repository is in fact available, to either exclude or reduce the burden they would have to pay for the cost of this facility? Why not have the burden fall predominately on the utilities that don't make their own arrangements and that have to use the storage capacity, still allocate the cost of the packaging, but at least as far as storage, make those who use it pay for it?

MR. RUSCHE: I think the logic is reasonable. We have had some discussions that would suggest that if we don't meet the contractual obligation of 1998, which is our

contractual obligation, to begin receiving fuel, that we might then want to go back and consider such a thing.

I think prior to 1998, it is clear that Congress intended that the costs be spread according to the amount of material generated, and Congress directed us to put a system in operation. If we get to that point, I will certainly remember this suggestion along with at least 75 of the utilities who have made the same suggestion.

COMMISSIONER ASSELSTINE: As a ratepayer of an utility that seems to be making a lot of efforts to try and meet their needs from a variety of standpoints, I would wonder whether I should pay for an MRS as well.

MR. RUSCHE: We welcome you to the club for now and will certainly take it into consideration in the future.

MR. KLEIN: I might add that the MRS we estimate would only add as much as ten percent to the overall cost of the system, and of course, as an integral part of the system, if an MRS is implemented, it would result in certain offsetting savings out of the repository. By the same token, they would be saving some costs as well. The people may not be benefiting it from a storage standpoint.

I might also point out in a scheme of allocating the acceptance rights of all this fuel first, that an utility maybe in the west that might have an early allocation could barter that allocation to another utility and would get some

value back from that. There are a lot of considerations.

COMMISSIONER ZECH: Could you elaborate briefly on why the capacity of 15,000 tons was selected?

MR. RUSCHE: 15,000 tons is purely a judgment value. It has the attribute of being about five years worth of acceptance or of generation at the time the system is in full operation. I think the thing we wanted to do was provide some latitude, some flexibility and not provide an alternate for the repository. I would not mislead you. There is no magic. It was purely a judgment factor on our part.

COMMISSIONER ZECH: I appreciate the fact that you don't want to infer that the MRS is going to take the place of the repository I think certainly none of us want to come to that conclusion, certainly at this time.

It seems to me that the 15,000 figure may or may not be -- I guess you are calling it a judgment number. I appreciate the fact that you have to come up with some capacity What you are saying is it really is not a magic number.

MR. RUSCHE: It is not.

COMMISSIONER ZECH: It could be changed up or down a little bit?

MR. RUSCHE: It could, indeed.

COMMISSIONER ZECH: Or considerably?

MR. RUSCHE. In fact, Keith made the point that one

of the values of this kind of storage system is that it is modular, and if you need more, you make more. If you don't need it, you don't make it. I think very much like the comment Commissioner Bernthal turned to, of linkage. We would think if we were going to use more than 15,000 tons, it would be important for Congress to make a conscious choice if that is what we were going to do and that's the only value.

MR. KLEIN: I also note that 15,000 tons would amount to about a three or five year cushion at acceptance rates of about 3,000 tons per year. In the event of a repository delay, for example, or something like that, that would still allow us that sort of cushion in terms of accepting fuel.

COMMISSIONER ZECH: Thank you.

COMMISSIONER ASSELSTINE: I had one or two others. Why don't I let you go ahead and come back to mine.

CHAIRMAN PALLADINO: I have two more questions that have not been answered so far.

Does DOE intend to follow all applicable NRC transportation regulations for shipping commercial waste?

MR. RUSCHE: Yes, sir.

CHAIRMAN PALLADINO: That isn't all clear. It is just one of the Staff comments.

MR. RUSCHE: We plan to meet all regulations, NRC regulations.

CHAIRMAN PALLADINO: I can accept yes for an answer.

[Laughter.]

CHAIRMAN PALLADINO: Another question that I found was not discussed in the report, questions of security, both with regard to the facility and transportation. I started off by thinking of the facility particularly.

MR. RUSCHE: We did not attempt to conduct what I would call a licensing evaluation. We would expect we would meet all the requirements that are related to safeguards, security and to Part 72, and those related to transportation. There may be others that we need to look at. I think that's more an indication of the state of the evolution of the matter, rather than that we did not attempt to make an exhaustive statement of every item to be considered.

I would assure you that we will indeed give full consideration to and develop the necessary systems and provisions.

CHAIRMAN PALLADINO: I think you have to decide what it is you are trying to protect against.

MR. RUSCHE: I'm sure you will help us on that.

CHAIRMAN PALLADINO: We could also use help.

MR. RUSCHE: Perhaps we can work together.

CHAIRMAN PALLADINO: Perhaps this is an item that should be factored in early in the design, because it may influence --

MR. RUSCHE: I could not agree more. We look forward to work closely with you.

CHAIRMAN PALLADINO. I think those are the only two I have left. I guess a similar consideration would have to be given to security and sabotage and transportation.

MR. RUSCHE: Yes, sir. We take care of that to some extent now.

CHAIRMAN PALLADINO: Security, I should also extend to safeguards, even though this may not be the most attractive material for diversion, it is not immune.

MR. RUSCHE: My comment a moment ago I believe included safeguards and security.

CHAIRMAN PALLADINO: Thank you.

COMMISSIONER ASSELSTINE: I think one of the biggest concerns that people have expressed about the MRS, whether it is people on the Hill or even some actually within the industry as well, is what is the danger this would detract from succeeding in the repository program. I think your draft proposal acknowledges that is a perception and it is a potential problem.

I would be interested in how you plan to try and deal with that, both the perception and the reality, if you have a major effort here, it is going to cost about $1 billion, how are you going to make sure that effort does not in any way detract from the goal I think we all have, which is

the successful repository program, as well as the permanent solution?

MR. RUSCHE: There may be several elements to what detraction means. Let me try to address a couple of them.

One of them is whether it becomes a substitute for it. The two statements we have already discussed with respect to linkage, an amount of storage capacity, clearly are aimed at providing assurance that the facility will not be authorized, but congressional action per se, affirmative congressional action, would be required for the facility to function as a substitute.

In fact, that is the same confidence, the same basis that we have that we are going to have a repository. In my mind, that is about as good as you can do.

The other aspect of detraction is how do we manage the operation with respect to manpower, contractors and so forth. There are two elements of that. We have committed to the Congress that during this period of review, we will conduct no work in anticipation of a congressional action, that is a possible affirmative congressional action, that we will only remain available and provide interaction with the Congress until a decision is made.

There is no question about any diversion of manpower during this period. Should Congress approve the proposal, we would be using different contractors in different places and

different circumstances. These would be in addition to what we were doing rather than a diversion or re-distribution of what we are doing.

As you recall from the financing standpoint, we are obligated to annually review for Congress the fee adequacy by estimating the total life cycle cost and the revenue stream that flows from the current one mil per kilowatt hour. That report will go to Congress in the next six weeks or so. It will show that based on the current circumstances, we still have several years of expectation of fee adequacy, and if the addition of MRS were to call that into question, what we would do is advance the time in which the revenue stream might not be adequate, and we would, as law provides, ask Congress to raise the fee. We do not believe that would be necessary now. I think that provides about as good a basis as you can that we would not divert manpower and thereby slow down or otherwise compromise our internal effort.

COMMISSIONER ASSELSTINE: One last question. I had the opportunity last October to visit the Swedish spent fuel storage facility I think you have visited it, too. It is a very impressive facility. I was wondering whether you considered an option like that. Second, my recollection was that both the capital cost to build it and the operating cost, in terms of number of people involved, were substantially lower than what you are talking about.

I wondered if you had looked at both -- they complained, by the way, about the costs. The utilities thought the costs were excessively high. I wonder if you have looked at that option and how it compared with what you have in mind. It is underground and in granite.

MR. RUSCHE: We did look at it. If you recall, and before I arrived, I think Keith was involved, one of the very early things done under the Act was to conduct a design analysis for MRS. We looked at things in mountains, in holes, wet, dry and so forth. That report was presented to Congress about two years ago, maybe three years ago.

MR. KLEIN: It was about six months after enactment, about two years ago.

MR. RUSCHE: We did look at several designs. At that time, I'm not absolutely certain that CLAB was sort of racked up against a particular design. CLAB is also a lower receipt rate and a lower storage capacity, as I recall.

COMMISSIONER ASSELSTINE: Yes, about 10,000 metric tons, I think, a total of 50 in 10,000 increments.

MR. RUSCHE: Right. I believe the receipt rate is considerably lower than 3,000 tons per year.

COMMISSIONER ASSELSTINE: It could be.

MR. RUSCHE: I think that receipt rate is under 1,000 tons per year. I think just to be perfectly frank, it is probably cheaper to build something in Sweden than it is in

the United States for a number of reasons, which we could spend the rest of the afternoon on.

COMMISSIONER ASSELSTINE: Yes.

MR. RUSCHE: We could build the MRS cheaper than this under other conditions.

COMMISSIONER ASSELSTINE: I recall the price tag was something like $300 million for the facility.

MR. RUSCHE: I think it may be a little more than that, but it is of that order. That's a capital cost. The capital cost for this facility is about $700 million.

MR. KLEIN: They are not doing any packaging there either. It is just being stored there.

MR. RUSCHE: It is an impressive facility.

COMMISSIONER ASSELSTINE. Yes, it is; very nice.

CHAIRMAN PALLADINO: Any other questions?

COMMISSIONER ZECH: Just one quick one. I understand from the Staff that they had been working very closely with you in trying to keep up with the movement that has been taking place in the MRS as well as the repository. Could you just comment, are you keeping us entirely informed and are we getting what we need to know and is the Staff working with you closely?

MR. RUSCHE: Commissioner, I think you would have to make the judgment about whether you are getting all you need to know.

COMMISSIONER ZECH: I would like to hear what you have to say.

MR RUSCHE: I think you are. You have been very considerate and I think very cooperative, and I hope to have an opportunity in another short period to have a more general session in which we can talk about that. I can say without reservation that the work between our two staff's has been and I think continues to be a very effective and appropriate interaction. As far as I know, we do not stand in any state of deficit of transfer of information either way. We are very grateful for that.

Maybe next month when we have a chance to get together, we can talk about what I think is some real progress that we are making in a number of areas that have great potential for the future.

COMMISSIONER ZECH: That is good. I think it is important that we do that. We are working on it together on a very controversial issue, and it is a very important issue involving public health and safety. It does involve the best judgments that we can make and you can make and others can make to help us in this regard.

Although we are talking dates in the future, 1996, 1998, 2003, and so forth, time moves by fairly quickly. I think we should not feel that we are not in some sense of urgency, because I think we are, frankly. We cannot wait

until the last minute to face some of the hard problems. I hope we are facing them now. It seems to me we are.

I think your briefly frankly has been very helpful I appreciate the hard responsible work you are doing. I just want to make sure that we are working very closely with you, all doing everything we can to make sure that the public is informed, that the states are at least involved, every bit as we are and you are. I think it is important. I appreciate the fact that you are involved in a very important endeavor, and appreciate the briefing very much.

MR. RUSCHE: Thank you, sir. We will continue to work together. We can't do it unless we are in that mode. I look forward to our next occasion to get together. I believe we will have some interesting things to talk about.

CHAIRMAN PALLADINO: Let me make one comment. We as a commission have before us the comments of the Staff and the recommendations to go ahead and approve it, and we do have an urgent request from DOE to act promptly. I would encourage Commissioners to give this matter attention and vote as soon as possible.

MR. RUSCHE: I would certainly appreciate that. The Secretary would join me, I know, in being able to note the Commission's prompt response, when we send the matter to Congress

CHAIRMAN PALLADINO: Once in a while, we like to set

milestones.

MR. RUSCHE: And even meet one.

[Laughter.]

MR. RUSCHE: We thank you and we do appreciate the opportunity of visiting with you this afternoon.

CHAIRMAN PALLADINO: Commissioner Bernthal had one more question, I think.

COMMISSIONER BERNTHAL: Just a quick one. It won't take long. Is low level waste a trivial consideration from this facility or not? It is a big issue as you know right now. Is it small?

MR. RUSCHE: We have indicated that low level waste will be generated by the facility, some of which might be incidental to the operations per se, will be a part of the packages that go to the repository. For example, hardware and things like that which might come. Ordinarily, low level operational waste, we are obligated to dispose of in a low level site, either of our own or another one, but would be fully licensed. It is not necessarily --

COMMISSIONER BERNTHAL: It is not a very large volume?

MR. RUSCHE: We do not expect it to be a large volume generator, but it is not a matter that we can dismiss as well.

COMMISSIONER BERNTHAL: Thank you.

CHAIRMAN PALLADINO: I would like to ask the indulgence of everyone in the room to bear with us for another three minutes. I propose, after thanking our presenters, and commending them on their fine work, I would like to adjourn this meeting and immediately convene what we call an affirmation discussion meeting. It is a pro forma meeting in which we will vote on one item on the agenda and then immediately adjourn, and then we can all leave.

Let me go to my first task, pleasant task. We very much appreciate your coming and making this presentation to us. I think it has been helpful. You have been very forthright in answering our questions. We commend you for the fine work you have been doing in this area. Thank you very much.

We will adjourn.

[Whereupon, at 3:50 p.m., the Commission meeting was adjourned.]

CERTIFICATE OF OFFICIAL REPORTER

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of: COMMISSION MEETING

Name of Proceeding: Briefing by DOE on Monitored Retrievable Storage (Public Meeting)

Docket No.:

Place: Washington, D. C.

Date: Thursday, January 23, 1986

were held as herein appears and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission.

(Signature) _____

(Typed Name of Reporter) Suzanne B. Young

Ann Riley & Associates, Ltd.

U. S. DEPARTMENT OF ENERGY

MRS PROPOSAL TO CONGRESS BRIEFING FOR THE NUCLEAR REGULATORY COMMISSION

JANUARY 23, 1986

BEN C. RUSCHE, DIRECTOR
OFFICE OF CIVILIAN
RADIOACTIVE WASTE MANAGEMENT

KEITH A. KLEIN, DIRECTOR
STORAGE DIVISION

MRS PROPOSAL PACKAGE

- COVER LETTERS
- PROPOSAL
- ENVIRONMENTAL ASSESSMENT
- PROGRAM PLAN
- NRC COMMENTS
- EPA COMMENTS
- STATE (AND LOCAL) COMMENTS

MRS PROPOSAL

FACILITY FUNCTIONS, ADVANTAGES AND COSTS

- SYSTEM CONFIGURATION
- MRS FACILITY AND OPERATIONS
- ADVANTAGES AND BENEFITS
- COSTS

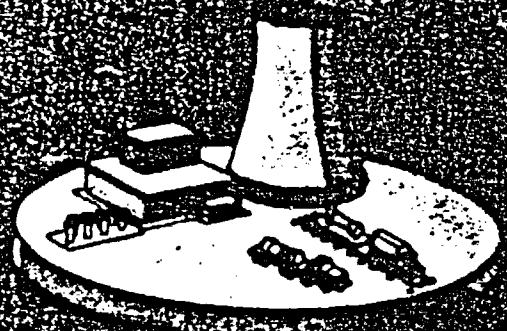
INSTITUTIONAL PROVISIONS

- STATE AND LOCAL INVOLVEMENT
- ASSURANCES OF SAFETY AND ENVIRONMENTAL QUALITY
- FINANCIAL ASSISTANCE

MRS PROPOSAL

- Approve construction at the Clinch River site (Oak Ridge, Tennessee)
- Limit storage to 15,000 MTU
- Preclude waste acceptance until a construction authorization for a first repository is received from the NRC
- Direct measures to be responsive to State and local government concerns and recommendations as specifically outlined
- Direct implementation of the program plan submitted as part of the proposal

Distribution of Waste Management Functions in a System With an Integrated MRS Facility

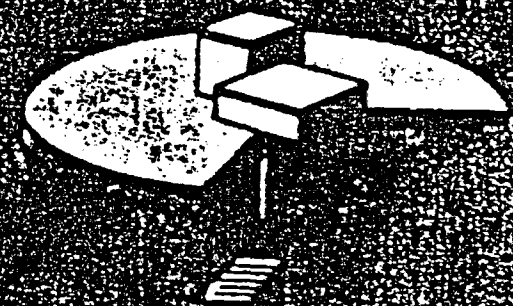


Reactors

- Storage Until Waste System Begins Operation
- Packaging for Transport to MRS
- Federal Acceptance

MRS Facility

- Managing At-Reactor SF Acceptance
- Scheduling and Controlling Transport to MRS
- SF Receipt, Inspection and Accounting
- Consolidation, Packaging and Conditioning for Disposal
- Monitored, Retrievable Storage
- Controlling Transport to Repository
- Special Packaging, Repair and Testing

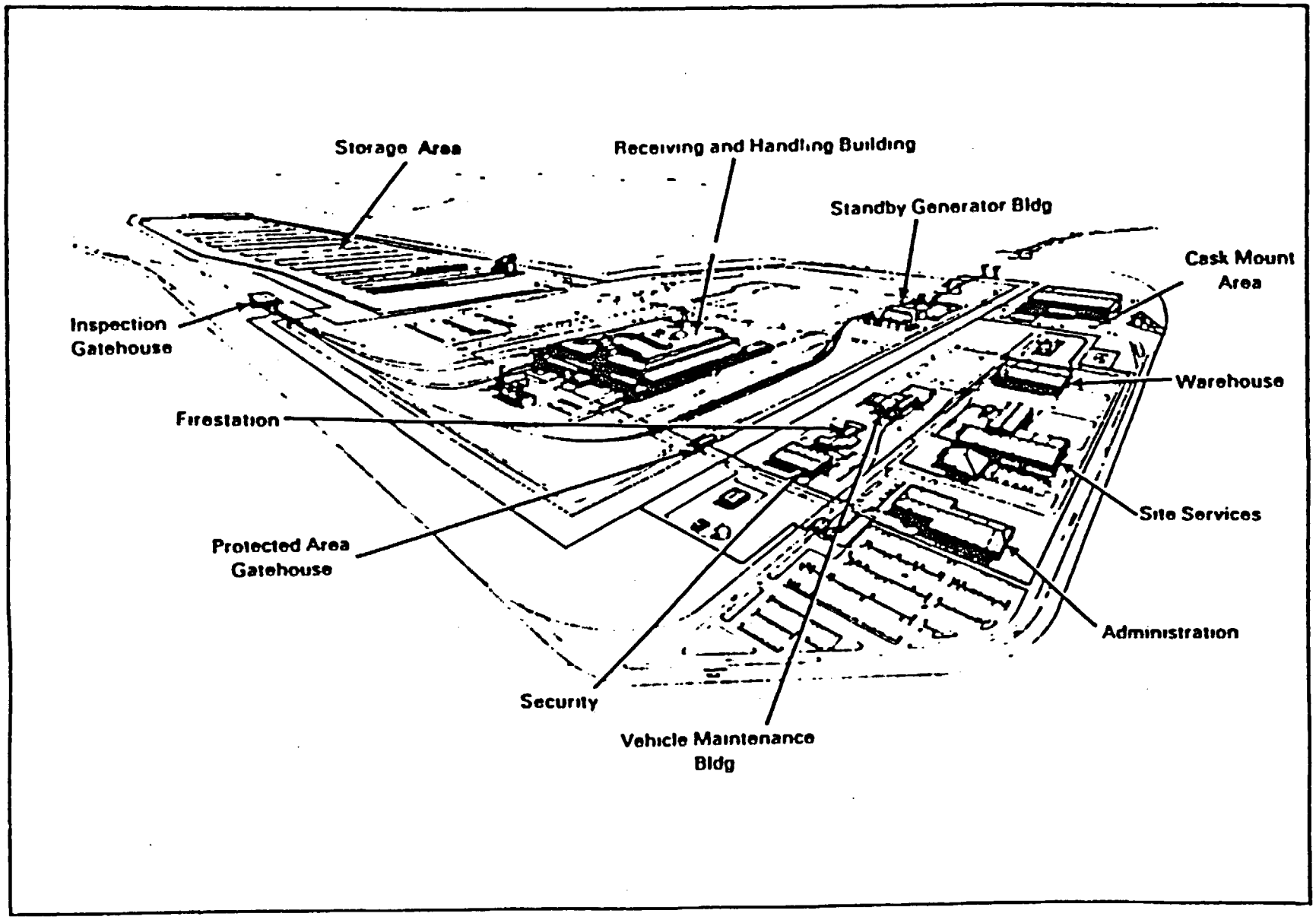


Repository

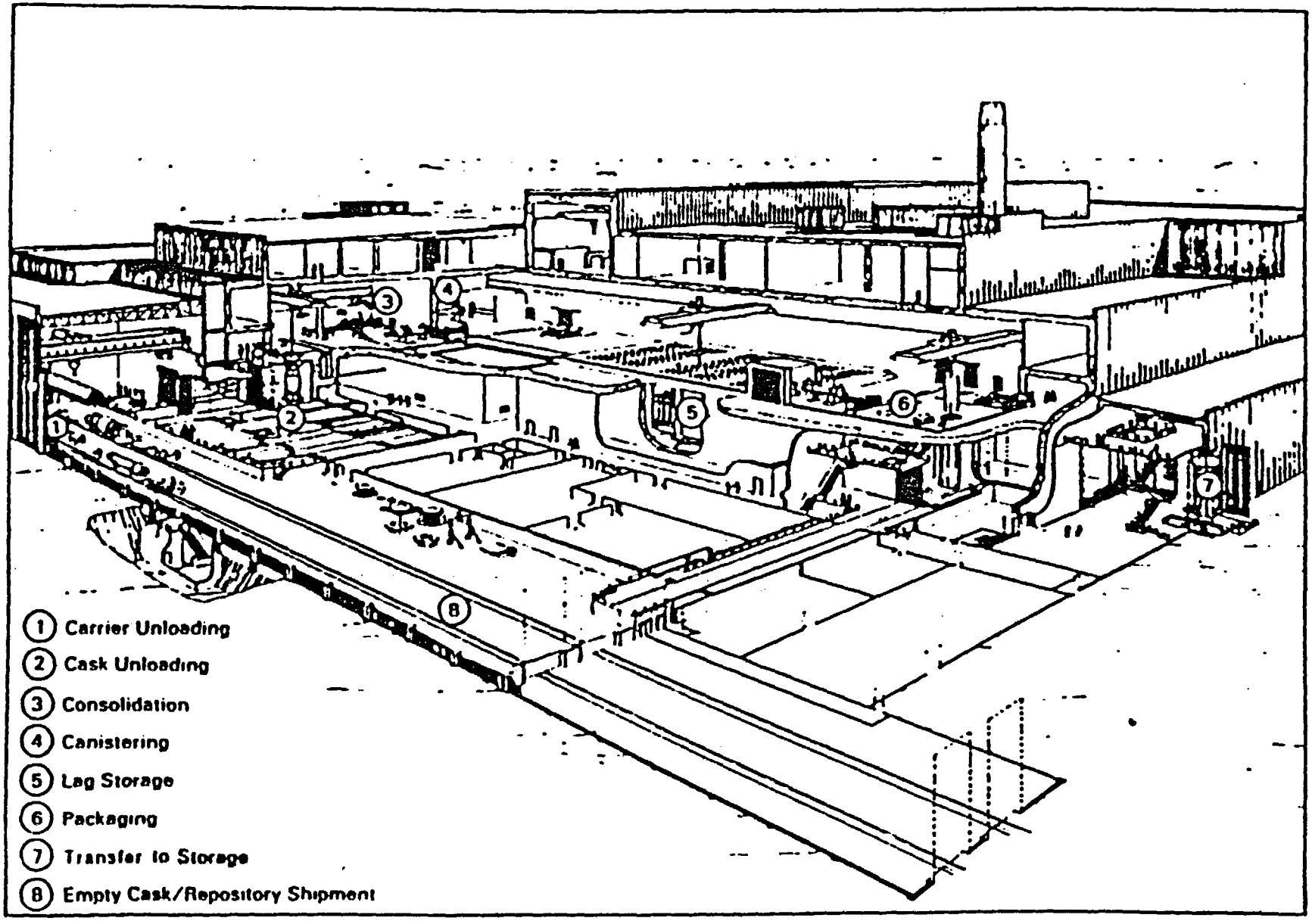
- Emplacement
- Long-Term Containment

Legend:

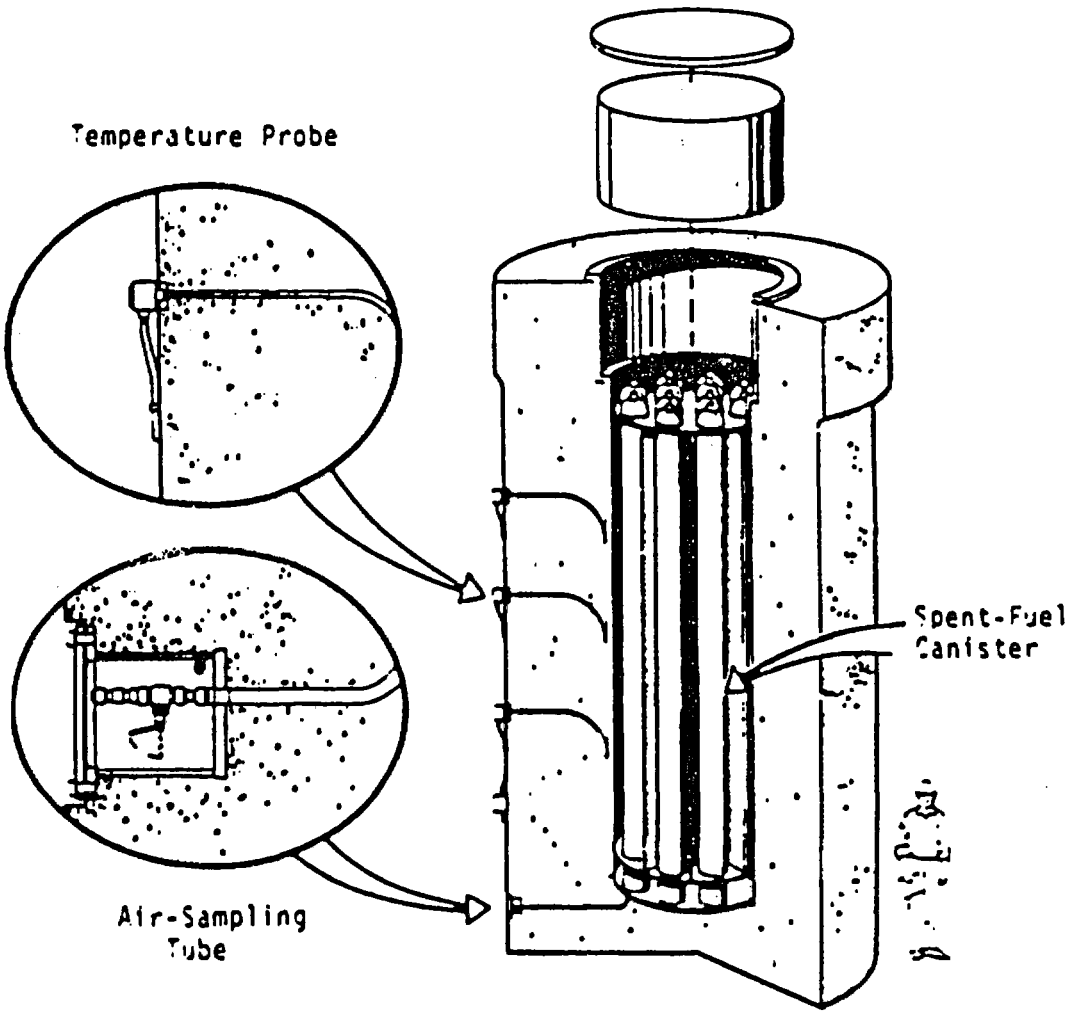
MRS - Monitored Retrievable Storage
SF - Spent Fuel



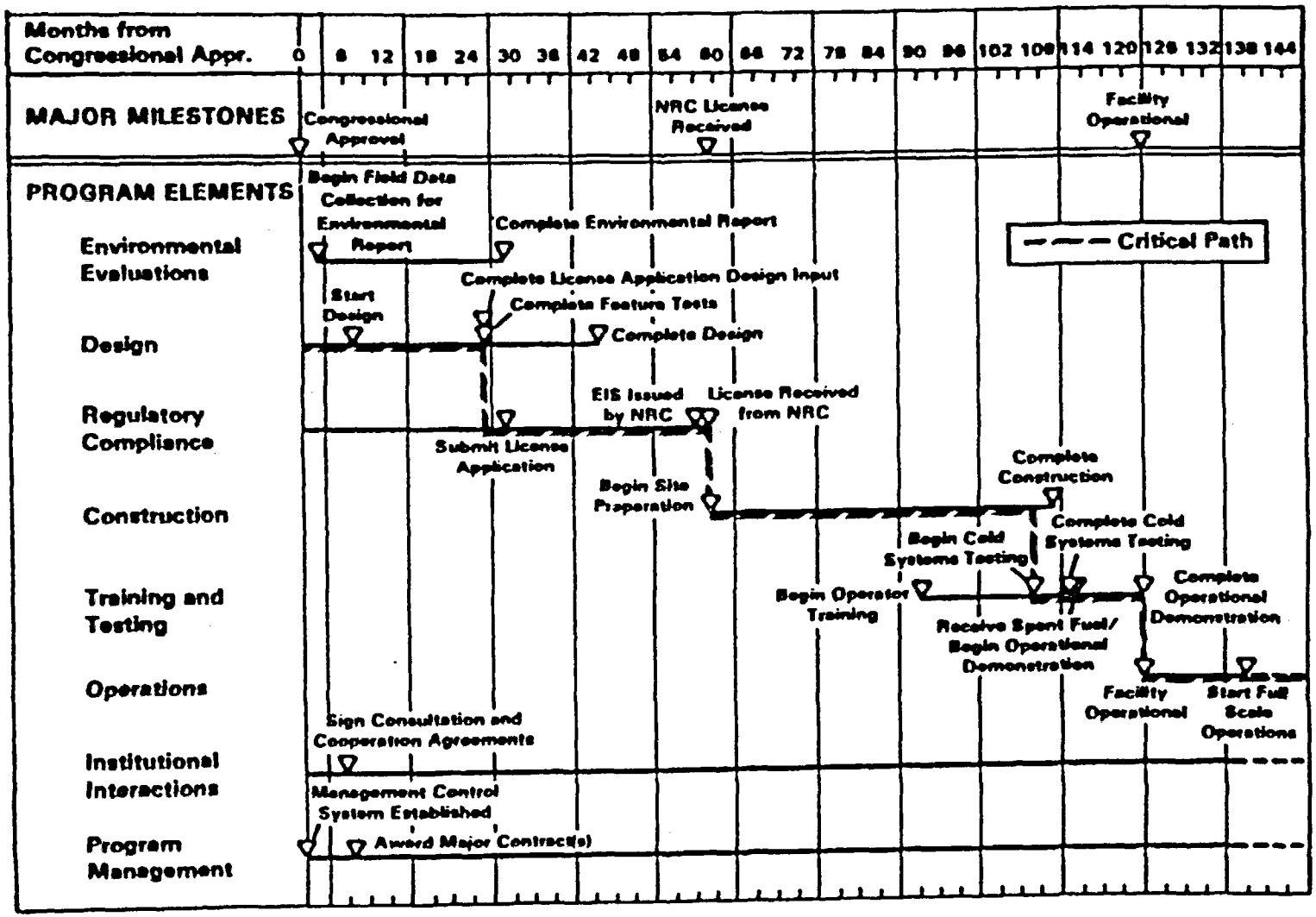
Conceptual drawing of the MRS facility. The principal structure would be the receiving-and-handling building. The storage area is shown to contain a row of upright sealed concrete casks as well as some horizontally stored dual-purpose casks.



Cutaway view of the receiving-and-handling building and the principal operations that would be performed there.



The preferred storage concept for the MRS facility: monitored surface storage in large sealed concrete casks. Each cask would house several spent-fuel canisters; it would be 32 feet high and 12 feet in diameter. The temperature probe and the air-sampling tube would allow continuous monitoring.



Schedule for the design, construction, and operation of the MRS facility.

MRS PROPOSAL

ADVANTAGES AND BENEFITS OF DEVELOPING MRS FACILITY

- IMPROVE SYSTEM DEVELOPMENT
- ACCELERATE WASTE ACCEPTANCE
- INCREASE SYSTEM RELIABILITY AND FLEXIBILITY
- FACILITATE OPERATIONS OF REPOSITORY
- IMPROVE PERFORMANCE OF TRANSPORTATION SYSTEM
- PROVIDE SIGNIFICANT INSTITUTIONAL BENEFITS

MRS PROPOSAL

FINANCIAL ASSISTANCE PROVISIONS

- ANNUAL PAYMENTS
  - Beginning with Congressional Approval
  - Impact Mitigation
  - Tax Equivalency

- REIMBURSEMENT FOR DIRECT EXPENSES
- USE OF LOCAL SUPPLIERS
- ENCOURAGE EXPANSION AND DIVERSIFICATION OF LOCAL INDUSTRY
- CONSIDER EXCESS LAND FOR INDUSTRIAL USE
- OTHER ACTIONS

MRS PROPOSAL

ASSURANCES ABOUT SAFETY AND ENVIRONMENTAL QUALITY

- PLANT OPERATION
- TRANSPORTATION
- DECONTAMINATION AND DECOMMISSIONING
- OTHER OAK RIDGE FACILITIES

MRS PROPOSAL

STATE AND LOCAL INVOLVEMENT

- STEERING COMMITTEE
  - Role
  - Membership
  - Subcommittees

- CONSULTATION AND COOPERATION AGREEMENT

Environmental Assessment

Part I - Need and Feasibility

- System Requirements
- Alternative Systems for Meeting Requirements
- Comparison of Alternatives
  - Storage Capabilities
  - Transportation Effects
  - Radiological Exposures
  - Operational Effects
  - System Development Effects
- Feasibility

Part II - Comparison of Environmental Impacts of MRS Site/Design Alternatives

- Impacts Common to all Sites
- Impacts Unique to each Site/Design
- Comparison of Impacts

Program Plan

- Schedule and Costs
- Management Approach and Responsibilities
- Deployment Plan
  - NEPA
  - Design Activities
  - Licensing
  - Construction
  - Training, Testing, Operations
  - Decommissioning
- Integration Plan
- Funding Plan

LICENSING PLAN

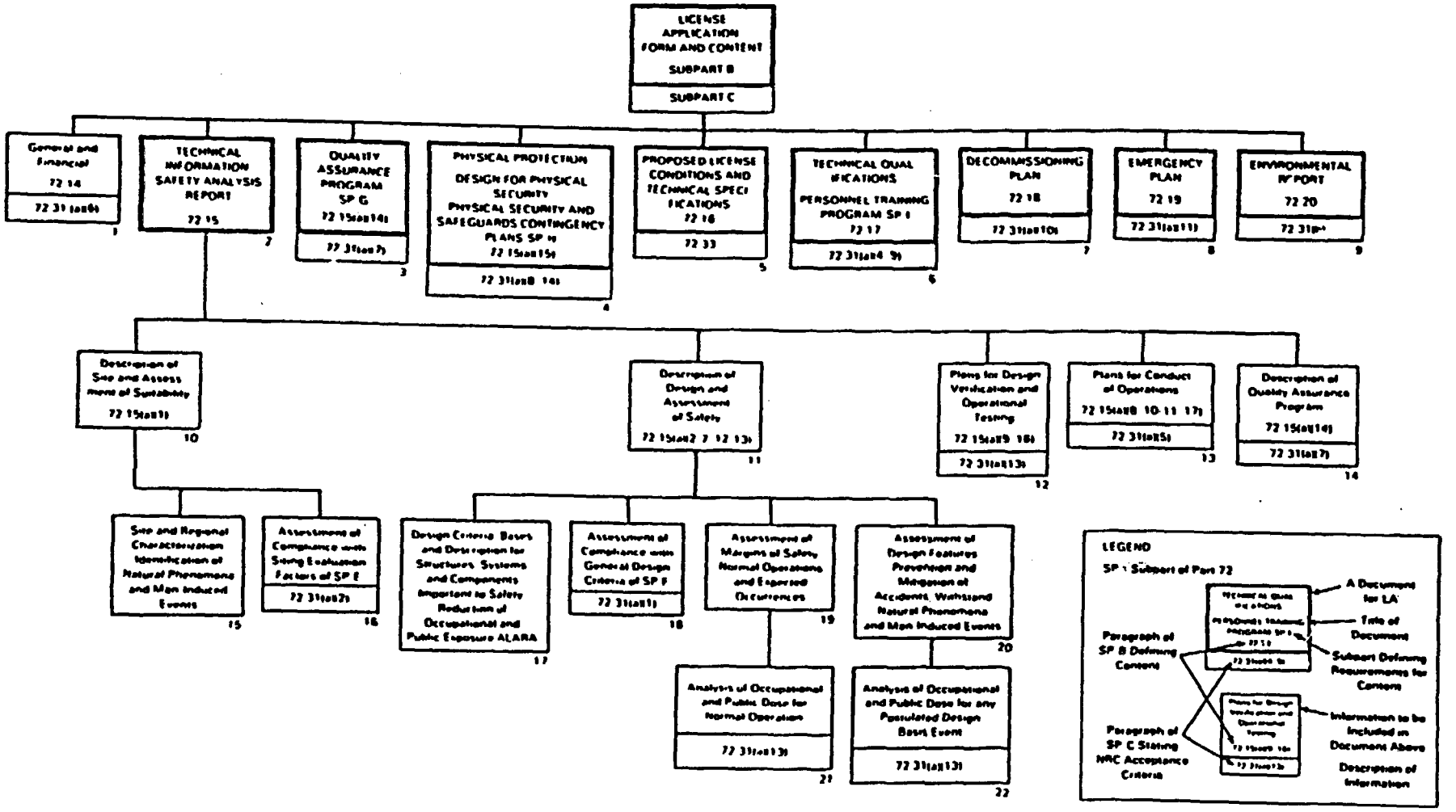
NWPA REQUIREMENTS

- NRC LICENSING
- NEPA APPLIES
- TWO EXCEPTIONS
  - NEED
  - ALTERNATIVES TO SPECIFIC DESIGN CRITERIA

LICENSING PLAN

NRC REQUIREMENTS

- LICENSING APPLICATION
  - SAR
  - QA PROGRAM
  - PHYSICAL PROTECTION
  - CONDITIONS AND SPECIFICATIONS
  - PERSONNEL TRAINING
  - DECOMMISSIONING PLAN
  - EMERGENCY PLAN
  - ENVIRONMENTAL REPORT



Content and Requirements for a Part 72 License Application

LICENSING PLAN

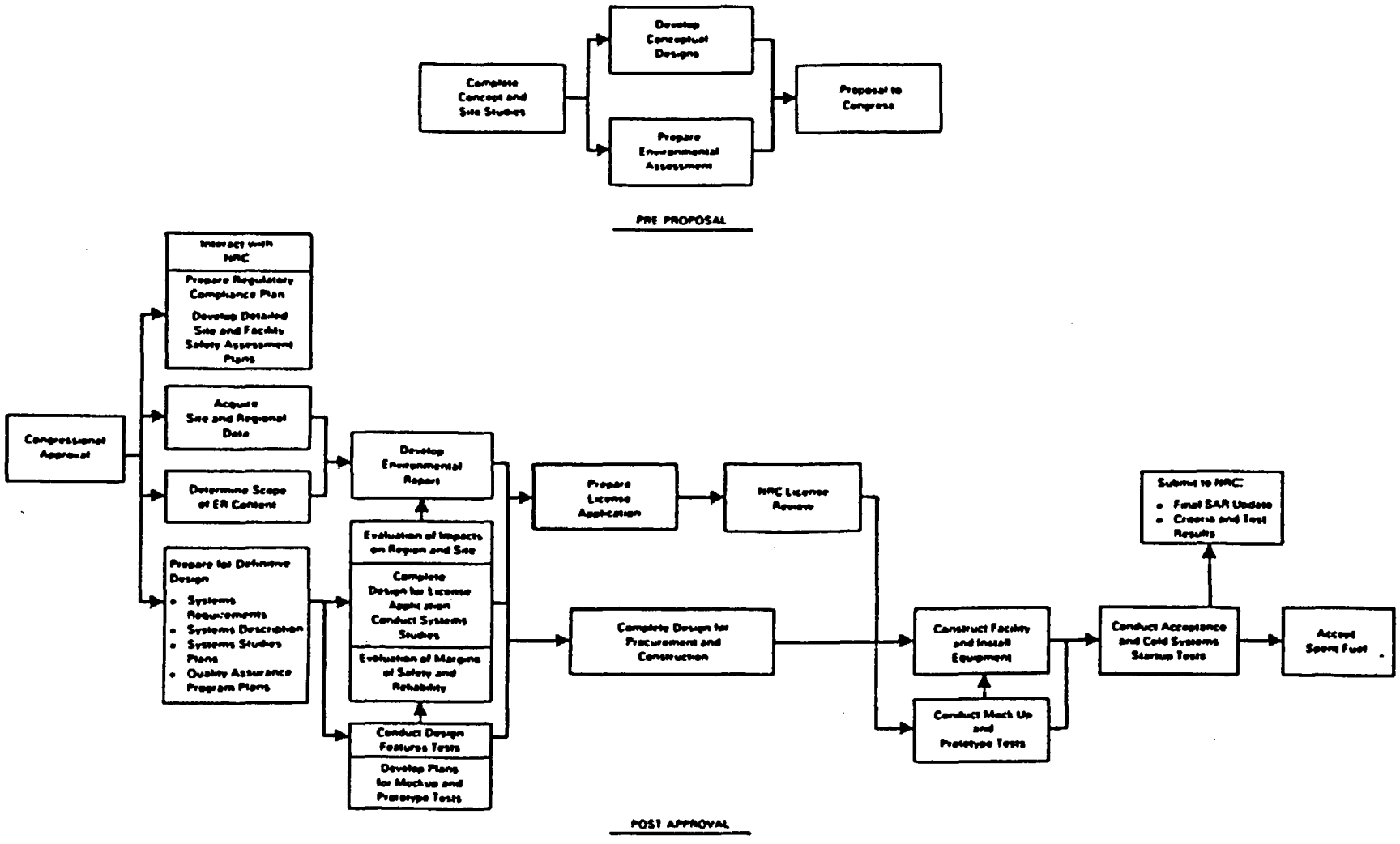
LICENSING RELATED DOCUMENTS PREPARED TO DATE

- FUNCTIONAL DESIGN CRITERIA
- CONCEPTUAL BASIS FOR DESIGN
- CONCEPTUAL DESIGN REPORT
  - VOLUME II: REGULATORY ASSESSMENT DOCUMENT
  - VOLUME VII: GEOTECHNICAL DESCRIPTION OF CR SITE
- ENVIRONMENTAL ASSESSMENT
- PROGRAM PLAN
  - DESIGN VERIFICATION PLAN
  - LICENSING PLAN

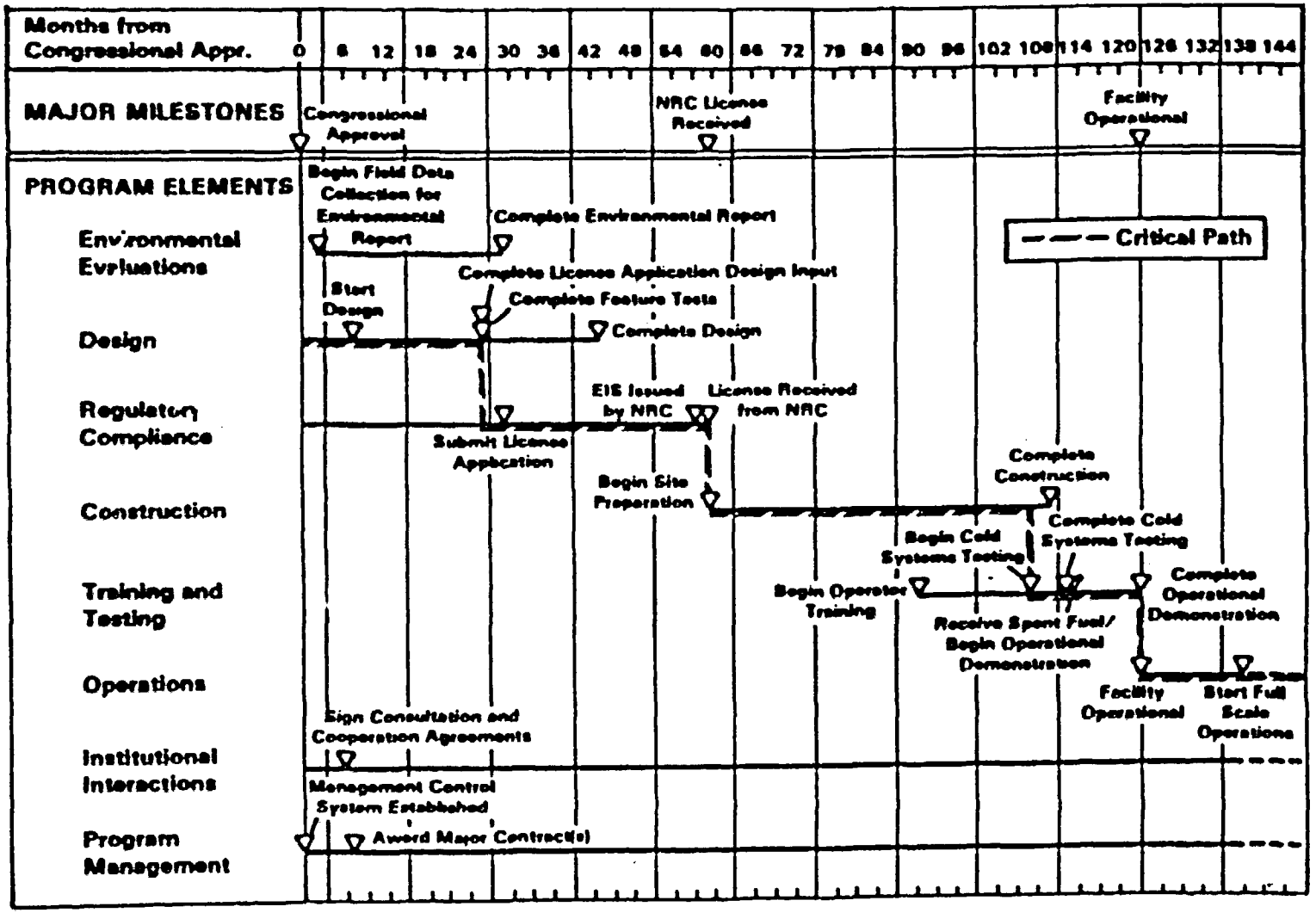
LICENSING PLAN

NRC REQUIREMENTS (CONTINUED)

- FINDINGS
  - PROTECTION OF PUBLIC HEALTH AND SAFETY AND COMPLIANCE WITH PART 72
  - ENVIRONMENTAL PROTECTION
  - NOT INIMICAL TO COMMON DEFENSE AND SECURITY



Activities Related to NRC Licensing of an MRS Facility



Schedule for the design, construction, and operation of the MRS facility.

9/85

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Meeting Title: Briefing by DOE on Monitored Retrievable Storage

Meeting Date: 1/23/86 Open X Closed ____

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1. TRANSCRIPT ___ When checked, DCS should send a copy of this transcript to the LPDR for: _____	1	1	___	___
2. Briefing on MRS proposal to Congress DOE, 1/23/86	1	___	1	___
3. _____	___	___	___	___
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