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MINUTES OF THE HLW LICENSING SUPPORT SYSTEM
ADVISORY COMMITTEE

November 19-20, 1987
Denver, Colorado

MEETING LOCATION AND ATTENDANCE

The third meeting of the HLW Licensing Support System Advisory Committee (hereafter referred to as the committee) was held on November 19, 1987 from 10:00 a.m. to 5:00 p.m. and November 20, 1987 from 8:30 a.m. to 3:30 p.m. at the Regency Hotel and Conference Center in Denver, Colorado.

A list of the committee members and their alternates who attended the meeting is attached to these minutes, along with a list of the members of the public who were in attendance (see Attachment 1).

REVIEW OF MINUTES

The committee approved the minutes of the September and October meetings without any comments. In addition, the committee clarified that it did not wish to make copies of draft minutes available to the public until these were reviewed and approved as final by the committee. Final minutes will be made available in the NRC's public document rooms and upon request to the facilitator.

PARTICIPATION REQUEST FROM LOCAL GOVERNMENTS

Mr. Steven Bradhurst, representing Nye County, Nevada, addressed the committee regarding the request for local government participation which had been made at the committee's last two meetings and by way of letters from five local government representatives, copies of which were included in the minutes from the October meeting. Mr. Bradhurst indicated that four Nevada local governments (including Nye County, Clark County, Lincoln County, and the City of Caliente) and the Mid-Columbia Consortium of Governments (State of Washington), along with the Deaf Smith County Waste Deposit Impact Committee, propose to form a single coalition to participate in the committee's first tier. Mr. Bradhurst introduced representatives from some of these local governments and indicated that Philip Neidselski-Eichner, who represents the Deaf Smith Waste Deposit Impact Committee, who had hoped to attend the meeting but was unable, will serve a spokesperson for this proposed coalition. The facilitator noted that he had received a telephone message

which indicated Mr. Neidselski-Eichner's support of the proposal as presented.

In responding to this request, several committee members asked whether all Texas local government entities which had previously been part of a coalition with the State of Texas were to be part of this new local government coalition. Renea Hicks, the spokesperson for Texas coalition, indicated that the Repository Assessment Committee, the other local government entity represented in the Texas coalition, will remain a member of the Texas coalition.

The facilitator then asked whether any members of the committee dissented from this proposal. Initially, representatives from the states of Mississippi and Washington indicated their dissent. In discussing the proposal further, it was clarified that the proposed coalition would operate by consensus and would thereby present a unified local government perspective on issues to be addressed by the committee.

The facilitator noted that the committee's protocols called for an affirmative vote of two-thirds of the committee members present to approve such a request for participation. The committee then voted to approve the request for local government participation. (The results of the committee's vote on this matter were eleven "yes" votes to approve the request, one "no" vote, and two abstentions.) Mr. Bradhurst then joined the committee and indicated who would serve as the spokesperson and alternates for this coalition (see the revised list of committee members in Attachment 2).

PRESENTATION BY THE DEPARTMENT OF ENERGY

As had been previously agreed upon by the committee, Barbara Cerny, director of the Office of Information Resource Management at the Department of Energy (DOE), delivered a presentation to the committee on the status of DOE's LSS related activities. (Copies of the view graphs that were used in this presentation are attached to these minutes as Attachment 3.) This presentation was intended to address, at least in part, two of the "preliminary issues" that had been previously identified by the committee, including: How do the NRC rulemaking and current DOE LSS efforts relate to one another?; and, What are the costs and benefits of the LSS and alternatives?

Ms. Cerny began her presentation with some background information on the rationale for the LSS and an overview of the system as it is currently envisioned. In particular, she stressed the importance of viewing the LSS as an incremental improvement to the information management capability of all parties to the HLW licensing process that will be designed, in part, to achieve the three year construction authorization requirement. The incremental nature of the LSS refers to the build-up or "migration" of DOE's microfilm based records management efforts, which are currently being implemented for the entire civilian radioactive waste program, to the optical disk storage, full text search and retrieval capability that constitutes the LSS.

She then reported on the status of the DOE's efforts to store program related documents on microfilm, providing the committee with estimates of the number of records/documents currently entered on microfilm, the entry period, and the estimated backlog for the three field sites and DOE headquarters. She clarified that entry of documents into microfilm storage included the use of bibliographic headers, a computerized data base of these headers, and a key word dictionary to enable users to search these bibliographic headers.

She then described in more detail what the "LSS increment" would consist of, emphasizing the need to establish procedures for: document identification and acquisition; document screening before entry; categorizing documents according to relevancy criteria; indexing and coding documents to be entered; and, procedures for information retrieval once documents have been entered. She noted that many of these procedures will be the subject of this negotiated rulemaking.

Ms. Cerny then made reference to a "requirements analysis" study for the LSS which had been done by Arthur Young and Associates for DOE in 1986. This study, which was based on interviews with individuals from many of the organizations represented on the committee, estimated that 35 million pages would be generated by the three DOE field offices, DOE headquarters, NRC, affected states and tribes, and private intervenors by 1995. DOE has used this figure, 35 million pages, in its cost-benefit analysis for the LSS. This analysis is currently under internal review within the program and will be updated when pending legislation is acted upon and submitted to the Office of Management and Budget.

Ms. Cerny summarized the preliminary results of the DOE cost-benefit study as follows:

- o the cost of the microfilm/indexing base system is \$56 million using a ten year life cycle;
- o the cost of the LSS "increment" is \$86-100 million, again using a ten year life cycle;
- o the total maximum cost of the base system and the LSS increment (i.e., a system that would use both microfilm/ headers and full text retrieval) is \$156 million.
- o The benefits, in terms of cost avoided, are approximately \$600 million.

The benefits were calculated under the assumption that the LSS increment will enable the license application to be acted upon within three years. Without the LSS increment, DOE estimates that the licensing proceeding will last five years. Hence, without the LSS, DOE estimates that the following costs will be incurred:

- o Two years of maintaining the OCRWM program;
- o Two years of fuel storage on site; and
- o Costs associated with development of the MRS facility.

Ms. Cerny pointed out that these estimates were not only legislation which calls for site characterizations at three

sites. If the legislation is changed so that it would require sequential site characterization, it would, of course, drastically affect the number of pages to be handled.

NRC representatives noted that these cost estimates assume that all 35 million pages would become part of the LSS. They noted that reducing the number of pages/documents that must be put into full text portion of the LSS could substantially reduce the cost, irrespective of Congressional actions, and they expressed their desire to discuss the issue of defining what documents should be put into the LSS as soon as possible.

Ms. Cerny concluded her presentation by saying that DOE had recently awarded a contract to Science Applications International Corporation (SAIC) to design and implement the LSS. This contract is for a period of 36 months for a total of \$5,300,000. She described the project milestones for LSS design, which call for a draft concept feasibility report by April 15, 1988, a final concept feasibility report by July 1, 1988, and development of system design specification by October 1, 1988. She explained that the work of DOE's contractor is very much related to the work of this committee and noted that she intends to play a role in coordinating these as much as possible. She described the relationship between the committee and DOE's contractor as being one in which the committee will establish the requirements for the draft and final concept feasibility studies to be undertaken by SAIC. In particular, she stressed the need for the committee to determine:

- o the number of documents/pages that will need to be captured in full text format, including what , if any, backlog documents should be captured;
- o the total number of simultaneous users;
- o the structure of the data base (e.g., whether classes and subclasses of data should be created);
- o the general type of technology to be used (e.g., searchable full text, header full text, optical scanner, microform, etc.); and
- o the system performance requirements (e.g., response time).

Finally, Ms. Cerny explained that SAIC will be undertaking several pilot projects to look at alternative system architecture during the next several months, including the development of a prototype for which they would like input from the committee. Ms. Cerny noted that DOE was preparing a report on the use of optical disk scanners, that there were many unknowns including its ability to work in a multi-user environment, and that not enough will be known about it until the summer of 1988.

Committee members then asked a number of questions about the presentation. It was clarified that there are two interrelated but separate activities taking place at DOE, one being automation of DOE's overall records management and the other being the LSS. These activities are both managed by Ms. Cerny but utilize

separate contractors. It was also clarified that the estimated time savings of two years for the cost avoidance calculations was based on the compression or elimination of certain procedural steps regarding motions practice, as well as discovery related time savings. In particular, it was estimated that the time it takes for the transmission of motions, which typically requires 15 days, would be eliminated with the use of an LSS related electronic mail capability. This then lead into a discussion of the definition of the LSS (i.e., whether it included electronic mail capability or pure information management capability).

With no further discussion or clarification questions forthcoming, NRC representatives suggested that one way to address the need to coordinate the work of DOE's subcontractor and this committee is to establish a technical subcommittee that would consist largely of information management experts.

In discussing the issue of whether to establish such a subcommittee, DOE representatives stated that such a subcommittee should not be used to conduct technical analyses but it could perhaps be used to review the technical analyses conducted by the DOE contractor in the ten areas established under DOE's contract with SAIC. DOE indicated their willingness to make the contract available to members of the committee (Attachment 4 includes the statement of work and revised milestones for this contract).

It was also clarified that such a technical subcommittee could address cost issues as well as technical issues. As described by one member, a committee of this type could be used to review DOE studies and pilot projects designed to test feasibility and determine the costs of various system requirements which are established by the advisory committee. Several committee members indicated their support for such a subcommittee. Others indicated their concerns about creating a subcommittee structure which strengthens the assumption that the LSS is what DOE and its subcontractor are creating, rather than what the advisory committee is creating. DOE clarified that this was not their assumption. Nevertheless, these members stated that the committee must be careful not to let the technical issues drive the policy issues and argued that it was not yet time to create such a subcommittee.

The committee generally agreed that there will be a need to establish on-going communication links between the committee and the DOE in relation to the activities of DOE's contractor, but these links could, for the time being, be accomplished through oral reporting at monthly committee meetings and by the transmission of appropriate documents and briefing materials to the committee members, rather than through the creation of a technical subcommittee. DOE also invited members of the committee to attend status meetings which will be conducted periodically by DOE's contractor. Finally, the committee agreed to return to the issue of creating a technical subcommittee when either the members of the committee felt it to be appropriate or when technical representatives of the members felt it to be appropriate. Finally, in response to an inquiry from the representative of Texas non-governmental organizations, it was clarified that the the facilitation team's technical expert, Kirk Balcom, will make every effort to attend the "DOE contractor status" meetings and to play a role in any on-going communication

links to be established between DOE and its contractor and the committee.

DISCUSSION OF THE OTHER "PRELIMINARY ISSUES"

During the remainder of the afternoon, the committee turned its attention to the other "preliminary issues" that had been identified at its previous meetings. (Because these issues were highly interrelated, the committee's discussions often did not remain focused on each particular issue. The following sections of these minutes therefore attempt to summarize the committee's discussion of each preliminary issue, rather than present a chronological summary of the committee's discussion.)

What are the Objectives of the LSS?

In discussing this issue, NRC representatives restated the objectives that had been listed in the Federal Register. These include:

- o To facilitate discovery by providing comprehensive and easy access to potentially relevant licensing information;
- o To establish the information base for the licensing proceeding, to the extent practicable, before the DOE license application is submitted and the three year statutory time period begins;
- o To facilitate review of relevant licensing information by all parties and eventually the licensing boards through the provision, to the extent practicable, of full text search capability; and
- o To reduce the time associated with the physical submission of motions and other documents associated with the licensing proceeding by providing for electronic transmission of these documents.

In reviewing these objectives again, committee members generally agreed that, even though they may not all place equal weight on each of these objectives; taken as a whole, the objectives were not mutually exclusive. For example, representatives from Nevada noted that their primary objective is meaningful participation in the licensing process rather than achieving the three year statutory deadline for a licensing decision, but they are perfectly willing to explore the possibility of achieving both objectives.

Representatives from the Edison Electric Institute (EEI) expressed concern over the focus on "full text search capability" which is emphasized in the third objective. In particular, EEI representatives felt it is incumbent upon the committee to consider alternatives to a full text system that would accomplish the three year licensing schedule.

What Are Some Alternatives to the LSS?

During the course of the discussion of the objectives of the LSS, representatives of EEI were asked what type of alternative

to a full text system might be more acceptable to them. As described by EEI representatives, an alternative that they would like to look at more closely is one in which documents would be collected in "information warehouses" where expert librarians would be there to assist users. Documents would be indexed on computers (i.e., using headers and abstracts) but would not be placed in a full text retrieval data base.

In discussing this alternative, several members of the committee noted that the LSS ultimately may not require putting all of the estimated 35 million pages into a full text format and that relevancy criteria will be applied to limit the portion of the entire data base that will be put into this format. Others stated that the burden of proof to show that an alternative to a full text system will meet the objectives outlined above is on those who would propose the alternative. Finally, it was pointed out that NRC's objective is to utilize full text search capability "to the extent practicable," and that this qualification contemplates consideration of non-full text options for at least part of the data.

After listening to these responses, EEI representatives noted that their concern is principally one of costs. They asked the NRC whether the use of the term "full text search capability" included putting images into electronic format, as they believed that the incremental cost of doing this, as compared to capturing images in microform or hard copy, was very high. NRC representatives stated that their use of this term refers primarily to capturing the text of documents electronically in order to be able to search these documents electronically using keywords. Images can either be referenced in headers and placed on microfilm or be captured electronically.

After hearing these responses, EEI representatives requested that the minutes simply reflect their objection to the wording of the third objective as stated in the Federal Register notice.

What Type of Rule Changes Are Needed to Accommodate the LSS?

Representatives of the NRC began the discussion of this "preliminary issue" by referring to copies of 10 CFR Part 2 which had been distributed in advance of the meeting. They stated that the primary focus of this rulemaking is on Subpart G--Rules of General Applicability. They also noted that the committee will ultimately have to choose whether the text of the rule that might result from these negotiations should be inserted as modifications to Subpart G or be placed into an entirely new subpart, which would be similar to Subpart G but designed specifically for the HLW licensing process and the use of the LSS.

In discussing the type of rule changes that will be necessary to accommodate the LSS, the representative of Texas local non-governmental groups suggested that the committee review the licensing process itself, in order to determine what parts of the process can be made more efficient through the use of an electronic information management system. It was believed that such an analysis would help determine what type of rule changes might be necessary.

Description of the HLW Licensing Process

NRC representatives described the steps and general procedures which apply to typical licensing proceedings and committee members questioned them about specific steps in this process (see Attachment 5 which includes a summary of this presentation combined with a summary of the presentation by NRC on pre-application licensing activities). NRC was asked what period of time would be devoted to technical review by NRC staff after the license application has been submitted. DOE representatives felt that the 18 month period in the current generic licensing process was probably more than will be needed for the HLW licensing process because NRC staff will have had numerous opportunities to provide DOE with comments on pre-licensing materials. NRC representatives stated that they will have no way of knowing whether DOE will respond to these comments in its license application until the application has been submitted. Therefore, they stated, they were not able or willing to make any changes to formally shorten the 18 month review period as part of this rulemaking.

Several members of the committee stated that they are primarily concerned about the use of the LSS during the pre-license application period. They felt that it is during this period that the intervening parties will derive the most benefits from the LSS and they noted that the time savings that may result from the LSS during the licensing process will not come about unless the LSS is up and running well in advance of the initiation of the formal licensing process.

When Will NRC Have Jurisdiction Over DOE and Other Parties?

NRC representatives explained that they do not have formal jurisdiction over the DOE until a license application has been submitted. One principal vehicle that they suggested that they might use to establish agreements with DOE concerning compliance with LSS procedures during the pre-application period is memoranda of understanding (MOU). It was noted that it may be possible to incorporate such agreements in the rule to be developed by this committee. However, it is the opinion of the NRC representative that compliance with MOU's is completely voluntary. One member of the committee suggested that a possible tradeoff to increase the likelihood of DOE compliance during the pre-application period is to condition NRC review of pre-application materials on such compliance. DOE representatives suggested that this was strained because DOE has every intention of complying with the LSS procedures, regardless of whether they would be applied before or after DOE has submitted the license application.

NRC representatives also noted their intent to propose the use of a pre-application licensing board to assist in the resolution of disputes related to the LSS.

Summary of the Types of Rule Changes That May Be Needed

In summarizing the discussions, the facilitator identified three possible areas for which the committee may wish to develop agreements. These include: 1) changes to NRC regulations concerning the license hearing process to incorporate a computer enhanced document management system (otherwise known as the LSS);

2) changes to NRC regulations to incorporate other automated systems (e.g., electronic mail) which may or may not be considered part of the LSS proper; and 3) changes to NRC's rules which affect the activities of intervenors relating to discovery and the use of the LSS during the pre-application period. This third type of rule may need to be augmented by extraneous instruments, such as MOU's and written agreements developed by this committee.

Distribution of the NRC Position Paper

NRC representatives informed the committee that they had developed a position paper which specifies the internal consensus position of the principal NRC divisions which are affected by this rulemaking on many of the key substantive issues to be addressed by this committee. They explained that the facilitator had asked them to prepare draft rule language on the basis of these internal consensus positions. As an alternative, NRC representatives suggested distributing copies of the "position paper" in its present form to the committee as the basis for discussion. They noted that the positions stated in this paper were not "cast in stone," but simply indicate the kind of approach the NRC currently feels should be taken on issues that must be addressed in this rulemaking. These positions may be subject to change on the basis of insights gained in discussions with the committee.

The committee agreed with this approach and copies of the position paper were distributed (see Attachment 6 for a copy of the paper distributed at the meeting). After the committee reviewed this document very briefly, the committee agreed to focus on certain portions of the paper during the next day.

In addition, the committee agreed to "walk through" the steps that would take place during the pre-application period in order to gain a better appreciation of how the LSS will be used during this period and the types of rule changes or other forms of agreement that might be necessary to ensure compliance during this period.

DAY TWO

Description of Pre-Application License Review Activities

NRC representatives described their understanding of the various steps and activities that will take place during the pre-application period (see Attachment 5).

Committee members questioned NRC about whether the pre-application licensing board that they intended to use to rule on matters related to the LSS during the pre-application period would use an adjudicatory hearing process. NRC representatives stated that they would like to discuss this in more detail, but their current proposal is that this board would not use an adjudicatory process.

DISCUSSION OF THE NRC POSITION PAPER

Criteria For Entry of Documents

The first set of issues from the NRC position paper

discussed by the committee was the "criteria for entry of documents" into the LSS (see pages B-1 through B-3 of Attachment 6). However, before the committee began its discussion of this issue, a diagram was distributed which attempted to summarize the approach suggested in the NRC position paper. This diagram had been developed by representatives of SAIC, DOE's contractor for LSS tasks, who were observing the meeting (see Attachment 7).

The NRC position paper proposes to establish four criteria to determine which "relevant" documents (i.e., relevant to the HLW licensing process) will be either "identified" in the LSS or entered into the LSS in searchable full text format.

The Definition of Relevance and the Date Criterion

The first criterion proposes that any relevant documents created after a certain date would be "entered into the LSS in searchable full text by the potential party" to the licensing process. The NRC position paper proposes two possible dates, the first being on or after May 1986 (the date DOE identified sites for characterization), the second being on or after January 2, 1983 (the date the NWPA was signed by the President).

The representative from Wisconsin stated that he did not have a problem with the concept of a "date certain," after which all relevant documents would be entered into the LSS in a searchable full text format. He did, however, suggest 1976 as an alternative date. The Wisconsin representative clarified that he was particularly interested in capturing 2000-3000 pages of material on the crystalline rock sites that had been developed starting in 1976.

The NRC representatives noted that their proposal would require pre-date certain documents to be entered into the LSS in searchable full text format if the potential party to the licensing process intended to rely on them in the licensing process (see criterion #2--potential reliance by a party). It was also clarified that the DOE has not yet done anything to capture the backlog of documents it has identified. In other words, DOE or anyone else would be starting from scratch if these backlogged documents were to be entered into the LSS, whether in a searchable full text format or by simply "identifying" them in the LSS by way of a bibliographic header or abstract.

Nevada representatives indicated that they would prefer not to identify a specific date certain, but if this is necessary, it should be the date when site-specific work commenced on the Yucca Mountain site. Furthermore, Nevada representatives stated that the definition of "relevance" should include at least two components. First, relevance should be broadly construed to cover all documents that are relevant to the geologic repository, not just those that are relevant to the licensing process and 10 CFR Part 60. For example, documents related to the development of the environmental impact statement to be prepared by DOE, although not technically part of the license application, should be included in the definition of relevance and thereby included in the LSS. Specifically, Nevada representatives proposed that the sentence that defines relevant (as being "relevant to the licensing of the geologic repository for the disposal of HLW") not be interpreted as being limited to 10 CFR Part 60.

Secondly, the Nevada representative proposed that the

definition of relevance include documents that could lead to discovery of other relevant documents. This definition would be consistent with the definition of relevance which is applied in more traditional discovery processes.

NRC representatives responded that their intent was not to make the definition of relevance unduly restrictive. They indicated that they did not have a problem with the definitions of relevance proposed by Nevada. They acknowledged, however, that they were trying to restrict the size of the data base that would be entered into the LSS in a full text format in response to comments they had received from their information management experts. These experts said that it is important to limit the total size of a full text data base in order to ensure that the data base itself is of high quality (i.e., is limited to truly relevant material), thereby resulting in fewer and higher quality "hits" when searched with key words or key phrases.

The mechanism by which the NRC hoped to create such a high quality data base consists of the four interrelated criteria for entry of documents into the LSS. As summarized by the NRC representatives these criteria would be implemented by 1) identifying a subset of the entire universe of potentially relevant documents that would automatically be entered into the LSS in a searchable full text format (i.e., the date criterion); 2) identifying the remaining subset of potentially relevant documents that would not automatically be entered into the LSS in searchable full text, but would simply be "identified" in the LSS through the use of bibliographic headers; 3) establishing a mechanism whereby parties can request that documents that will or may be relied upon in the licensing process be entered into the LSS, first by requesting that it be "identified" if it had not already been "identified," and second by requesting that it be entered in full text, if and when necessary; and 4) creating certain categories of documents that would be excluded from automatic full text entry, but would still be "identified" in the LSS and subsequently entered in full text if required as a result of derivative discovery or if relied upon by a party.

The Potential Reliance Criterion

The representative of Texas local non-governmental groups stated that she felt the potential reliance criterion to be unworkable because it would require the parties themselves to search through the headers of "identified" documents in order to determine potential reliance. She preferred that the system be set up so that certain categories of documents or documents related to a particular topic (e.g., all documents related to specific decision made on a specific date or to characterization of a certain site, etc.) will be placed in full text without the need for any specific request. The representative from Wisconsin agreed that the procedures for identifying and placing documents into full text envisioned under the "potential reliance" criteria places a heavy burden on those parties who wish to obtain someone else's document. At the urging of the facilitator, the Texas local non-governmental group representative indicated that she would prepare a specific proposal on this subject.

NRC representatives stated that they are trying to avoid placing 30-35 million pages of documents into the searchable full

text component of the LSS. Several members agreed with the need to minimize the total number of pages placed in the full text component of the system. A representative from Nevada stated that he would guess that out of the total number of potentially relevant pages maybe 300,000 pages would be entered in full text. Oregon's representative agreed with the need to limit the total number of pages placed in full text, but stated that the committee needed more information on what that number should be and what criteria should be use to determine whether the system is too big or too costly.

NRC representatives stated that their concerns did not stem from the system being too big or too costly, but rather from the system being unworkable in terms of excessive search time and excessive numbers of hits. Other members, most particularly DOE and EEI, stated that they were concerned about costs. The Wisconsin representative noted that the cost figures that were provided by DOE worked out to about \$3 per page, and suggested that the cost of placing all potentially relevant documents into the LSS may be less than the cost of on-going relevancy determinations. Other members suggested that the use of compound searches and other sophisticated search techniques may help to minimize search time and produce fewer and higher quality "hits."

In response to a question about how many pages might result from the date/relevance criteria, DOE representatives estimated that 15 million pages would have to be screened for relevance using 1987 as the date certain. Earlier dates, such as those which have been suggested NRC or other parties, would result in even higher numbers of pages being screened for relevance, up to the total number of potentially relevant pages--35 million.

DOE representatives also stated that current estimates for placing backlogged documents into the full text portion of the LSS is \$7 million for 4 million pages. Four million pages represents the total number of pages to be generated at one of the three sites for characterization between 1980-1989. NRC representatives stated that a rough estimate of \$2 per page is what they have used to estimate the cost of putting backlogged documents into a searchable full text data base management system by way of re-keying each document, rather than using an optical disk scanner. The cost of using the latter approach might be as high as \$3 per page. These estimates include the cost of correcting errors and putting software codes into each document.

EEI representatives questioned when the procedures for "identifying" potentially relevant documents and for placing them into the LSS in full text, if relied upon, would start. NRC representatives stated that they hoped that documents and headers which describe documents would be put into the LSS as soon as it became operational and that the "pre-license application Licensing Board" discussed under criteria #3 would begin to make decisions well before the start of the licensing process. They noted however, that it may not be possible to impose sanctions on parties until after the license application has been submitted.

DOE representatives stated that they want to dispel concerns about DOE withholding documents that will be relied upon in the licensing process. They explained that DOE has a substantial interest in obtaining comments from NRC and other parties on such documents before the actual submission of the license

application. Some committee members stated that DOE's intent to distribute key pre-application documents in a timely manner seemed to be a major policy change for DOE. DOE representatives noted that statements made today did not represent a policy change so much as they represented a good faith undertaking to improve DOE's information exchange efforts in the future, particularly with respect to compliance with the LSS.

The Type of Information Criterion

The committee then discussed the fourth criterion proposed in the NRC position paper--types of information. This criterion would exclude certain categories of information from automatic entry into the LSS in searchable full text. In response to a question from the representative from Wisconsin, it was clarified that video tapes that might be used in the licensing process could be referenced (i.e., "identified") in headers that are placed in the LSS. It was agreed that the term "video tapes" should be added to the list of items for which full text will not be appropriate under criteria #4. The committee also agreed that the term "raw data," as used in this section of the NRC position paper, is not intended to include data that are reported to DOE in contractor reports. The committee also agreed that officially noticed materials need not be entered into the LSS in full text.

Representatives from EEI questioned whether there were categories of information that clearly should not be included in the LSS in any form, whether by simply "identifying" them in headers or by being placed in the system in searchable full text. NRC representatives responded that there probably are, but the problem that they tried to face in fashioning this fourth criteria was that they did not want to exclude information that might eventually need to be included in the system. What is proposed is that this information be identified in headers that are placed in the LSS, but only placed in the LSS in searchable full text through the derivative discovery process or if relied upon by a party. Information management specialist described how a simple header system for items such as travel vouchers could be established as part of the LSS. After some discussion about the difference between DOE's overall records management needs with respect to such things as travel vouchers and DOE's information management needs under the NHPA, EEI representatives stated that the use of headers which simply identify where information such as travel vouchers can be found might be acceptable.

At several points the committee discussed issues related to whether the LSS will be able to capture marginalia (i.e., handwritten notes in the margins of documents). NRC representatives stated that all documents that are either "identified" in the LSS or placed in full text should be available for viewing. They reiterated, however, that it is an open question whether these documents should be available for viewing electronically. Information management experts explained that there are several ways to "capture" marginal notes or graphs, charts, and other information that is not easily captured electronically. One approach is to note in headers that the document in question includes marginalia or graphs and to reference where the user can find the document to view these handwritten notes or graphs. This approach then has a number of

sub-options regarding how the material in question can be stored and retrieved, including the use of microfilm, paper, or storing an image of the document electronically through the use of an optical disk scanner. Another approach is to "key" or type in the hand written notes themselves, either in the header or in the electronic full text version of the document itself.

NRC representatives noted that the issue of whether hand written notes should be included in the searchable full text portion of the LSS is addressed in greater detail under issue #9 --derivative discovery.

DOE representatives stated that the issue of capturing marginal notes may not be significant with respect to DOE documents because they are currently attempting to establish internal records management procedures and systems which would minimize the importance of such marginal notes. In particular, these procedures will require DOE officials to write a memorandum to the file, or to the appropriate person, so that notes and comments will be memorialized other than by handwriting in margins. DOE representatives agreed that if a document has marginal handwritten notes and it will be relied upon, it must be placed into the LSS in full text and an image of those notes must somehow be referenced or captured in the LSS as well. They stated, however, that they strongly hoped that the committee would not establish procedures which required each and every document that has handwritten notes on it to be screened and captured in the LSS. DOE agreed to make their internal document screening and other records management procedures regarding this issue available to the committee within a month or two.

Privileged Material

The next set of issues from the NRC position paper that was discussed by the committee related to the question of how privileged material should be handled in the context of the LSS.

The representative of Texas local non-governmental groups stated that the definition of relevance needs to address Freedom of Information Act (FOIA) privileges and what these privileges really mean in the context of the HLW licensing process. For example, she stated, documents which contain factual information for which a deliberative process/pre-decisional privilege has been asserted have recently been found by the courts not to be subject to the pre-decisional exclusion. Other members agreed that these documents will be among the types of documents that will be most useful to intervening parties and, from a time savings perspective, it would extremely beneficial to avoid lengthy privilege battles over them.

The representative from the State of Washington noted that NWSA policies call for full and open communication. He questioned whether information will be made available under NWSA that might not otherwise be made available under FOIA. Both NRC and DOE responded that the NWSA does not waive the privilege rights of any federal agencies. DOE representatives stated that privilege issues are appropriately "on the table" but that DOE is not able or willing to unilaterally waive any rights.

A representative of the environmental coalition stated that unless privilege issues can be addressed by this committee there is not likely to be any time savings that will result from the

LSS, regardless of how big or efficient the LSS may be. She questioned NRC about when privilege challenges will be ruled upon. NRC responded that it was their intent that disputes over privileges will be ruled upon by the pre-license application Licensing Board well before the submission of the license application.

The Nevada representative stated that the committee needed to avoid confusing the issue of privileges with the issue of what documents will be put into the LSS. He suggested that the use of security measures should enable privileged material to be protected such that this material could be put into the LSS while privilege determinations are being made. NRC noted that their proposal calls for documents for which a privilege is asserted to be "identified" in the LSS but not placed in the LSS in searchable full text until a final decision regarding the assertion has been made, unless the material for which a privilege is asserted is above a certain volume (i.e. number of pages), which is yet to be determined by the committee.

The Texas non-governmental representative expressed the opinion that DOE's actions in the recent Ninth Circuit case (in making documents available) constituted a waiver of executive privilege for all documents generated prior to May, 1986. The DOE representative was not in a position to express any views on this subject, but indicated that he would look into the matter.

DOE representatives stated that, in order to facilitate in-camera review by a fact-finder, it will be necessary to provide more information than is typically provided respecting the nature of the document for which a privilege is asserted. This information will also help a party to know whether they want to submit a FOIA request to obtain the document. Typically, parties requesting confidential treatment of documents are required to prepare a "Vaughn Index," which provides a description of the documents, and their purpose and the reason for treating them as confidential.

The representative of Texas local non-governmental groups stated that privileged documents should be placed into a protective section of the LSS in full text in order to facilitate in-camera review. NRC reiterated that it is contemplating a dispute resolution process that would apply not only to federal agency privilege assertions but private party assertions as well (e.g., attorney/client privileges). The representative of the Yakima Indian Nation stated that the Yakimas do not agree with the position stated here that all documents for which a privilege is asserted should be placed into the LSS in full text form, even if this were in a "protected" section of the LSS. The Texas non-governmental representative stated that she is not wedded to putting privileged material into a protected portion of the LSS and suggested that it might be possible to treat different privileges differently, particularly with respect to whether any balancing tests would apply to the asserted privilege.

Representative of EEI stated that EEI supported NRC's position on how privileged information should be handled. They also questioned the Texas non-governmental representative about whether all documents to be generated by private intervenors will be claimed as attorney/client privileged documents, particularly documents with respect to documents which analyze site

characteristics. The Texas non-governmental representative responded that if these documents were relevant, would be relied upon, and did not contain "strategic" attorney/client information, these would certainly not be subject to such a privilege and would be placed into the LSS, as would other similar documents.

The Nevada representative expressed his opinion that the committee was ahead of itself and that it needed to decide how to put privileged material into the system (i.e., in headers or in full text), then we need to decide who sees the material to rule on a challenge to a privilege assertion.

The Tennessee representative questioned whether the safeguards privilege (statutory limitations on disclosure of safeguards information) which had been used to withhold information in the past, will be used in the HLW licensing process. DOE representatives stated that it is not likely to be as significant here as it has in other instances, such as with the MRS facility. NRC representatives stated that it probably would be asserted with regard to information about the transportation of nuclear wastes.

Glossary of Technical Terms

During the discussion of the NRC position paper it was apparent that people were using technical terms to mean slightly different things. The committee asked a group of information management experts who were attending the meeting to develop a glossary of these terms. This group met over lunch during the second day of the meeting to discuss such a glossary. Based on these discussions, the facilitation team's technical expert has compiled a glossary of technical terms (see Attachment 8).

SUBCOMMITTEES

The committee spent some time discussing whether subcommittees were needed. It revisited the decision it had made the day before to postpone the creation of a "technical" subcommittee until such time as it might be needed. Another type of subcommittees that some members felt might be needed was a regulatory drafting subcommittee to translate agreements in principle to actual rule language. The committee decided that it was not yet time to establish any formal subcommittees and opinions were expressed on both sides as to whether any such subcommittees should ever be formed. NRC representatives expressed a need to know whether the committee wished to establish either of these two types of subcommittees as far in advance as possible in order to avoid potential scheduling and personnel problems.

It was also reiterated that DOE had extended an open invitation to any member of the committee or their technical representatives to attend briefing meetings that its contractor will hold periodically to review progress on LSS related tasks. A sign-up sheet was circulated and it was agreed that the facilitator will attempt to inform those that signed the sheet about the time and location of these meetings.

PLANNING THE AGENDA FOR THE NEXT MEETING

The committee agreed to continue using the NRC position paper as the basis for its discussions, however, several members stated that the committee should remain flexible about changing its course if a new negotiating instrument presents itself. The facilitator reiterated the importance of each committee member going through the same exercise that NRC had gone through to develop the position paper that was currently being used by the committee and encouraged each member and coalitions of members, whether formal or informal, to develop counter-proposals to those suggested in the NRC paper. The facilitator suggested that any member who wishes to make a formal counter-proposal should try to get it in writing to the facilitator in time for distribution to the committee before the next meeting.

The committee also agreed that it will attempt to reach a tentative consensus on the two substantive issues that had been discussed that morning--what documents should be entered into the LSS and in what form; and how to handle privileged material. The committee also agreed to be prepared to discuss all of the other issues which are covered in the NRC position paper, and most especially those listed in the NRC position paper as issues #9 (derivative discovery); issue #20 (public access); and issue #27 (disputes).

PUBLIC COMMENTS

Mr. Arnold Wight offered his enthusiastic congratulations for the progress he felt the committee was making and suggested that committee members might find a book that had recently been published entitled Breaking the Impasse, particularly useful and interesting in their efforts to participate productively in these negotiations.

ATTACHMENT 1

ATTENDANCE LIST

M230001

Meeting of the
HLW Licensing Support System Advisory Committee
November 19-20, 1987

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ATTACHMENT 2

December 1987

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ATTACHMENT 3

STATUS OF THE DOE LICENSING SUPPORT SYSTEM CONTRACT

BARBARA A. CERNY

OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT

U.S. DEPARTMENT OF ENERGY

NOVEMBER 19, 1987

OVERVIEW OF THE TOTAL LICENSING SUPPORT SYSTEM

INCREMENT

TO BUILD INCREMENTAL PERFORMANCE NECESSARY TO SATISFY 3-YEAR CONSTRUCTION AUTHORIZATION REQUIREMENT.

ACCEPTABLE SYSTEM INCLUDES OPTICAL DISK STORAGE, FULL TEXT SEARCH AND RETRIEVAL CAPABILITY.

MICROFILM BASE

FOR PROGRAM RECORDS MANAGEMENT MANDATED TO MEET ARCHIVAL, LITIGATION, PROGRAM MANAGEMENT AND TECHNICAL REQUIREMENTS.

CURRENTLY BEING IMPLEMENTED AS COMPUTERIZED SYSTEM THAT INCLUDES MICROFILMING, INDEXING AND ABSTRACTING.

CURRENT STATUS OF THE DOE LSS MICROFILM
BASED RECORDS MANAGEMENT SYSTEM

<u>LOCATION</u>	<u>RECORDS ENTERED</u> a/	<u>ENTRY PERIOD</u>	<u>BACKLOG RECORDS PROJECTION</u>
DOE HQ	100,000	FEB-OCT. 1987	100,000
SRPO	750,000	1980-OCT. 1987	200,000
NNWSI	40,000	MARCH-OCT. 1987	600,000
BWIP	400,000	1982-OCT. 1987	APPROX 200,000
	<hr/> 1,290,000		<hr/> 1,100,000
	- OR -		- OR -
	9,030,000-12,900,000 PAGES		7,700,000-10,100,000 PAGES

a/ EACH RECORD IS 7-10 PAGES.

PROJECTION TOTAL OF DOCUMENTS BY 1995
ALL SITES, HQ, NRC, STATES, TRIBES

— PROJECTION FROM 1986 STUDY: 35 MILLION PAGES.

LSS PRELIMINARY REQUIREMENTS

— ARTHUR YOUNG REQUIREMENTS ANALYSIS FINAL REPORT MARCH 1987

- SURVEY OF DOE, NRC, STATES, TRIBES

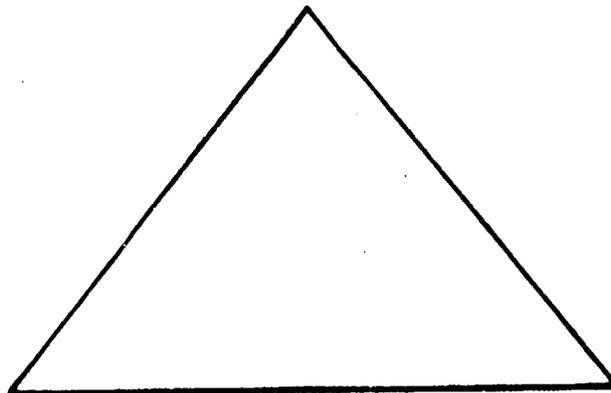
— NNWSI 1986 STUDY OF DOCUMENT VOLUMES

THESE REQUIREMENTS WERE REFLECTED IN:

- RFP FOR LSS DESIGN CONTRACT
- AREAS FOR SAIC TO STUDY FOR TECHNICAL FEASIBILITY
- DOE LSS COST/BENEFIT ANALYSIS

LSS CONCEPTS FEASIBILITY REPORT

DRAFT
CONCEPTS FEASIBILITY
REPORT



REQUIREMENTS
FROM
NEGOTIATED RULEMAKING
PANEL

TECHNICAL FEASIBILITY
STUDIES AND PILOTS

- FULL TEXT RETRIEVAL
- IMAGE STORAGE
- DATA TRANSMISSION
- INDEXING
- WORKSTATIONS
- NETWORKS

ATTACHMENT 4

STATEMENT OF WORK

LICENSING SUPPORT SYSTEM - SYSTEM DEVELOPMENT

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Statement of Work

Licensing Support System - System Development

1. INTRODUCTION

The Office of Civilian Radioactive Waste Management (OCRWM) of the U.S. Department of Energy (DOE) is responsible for the siting, design, construction, operation and closure of geologic repositories for the disposal of spent nuclear fuel and high-level nuclear wastes (the Program) as authorized by the Nuclear Waste Policy Act (NWPA) of 1982 (PL 97-425). In order to fulfill this responsibility, OCRWM must demonstrate compliance with all applicable Federal, State and local regulations and obtain the necessary licenses and permits associated with these regulations.

In order to demonstrate compliance with these regulations within the three year period set by the Nuclear Waste Policy Act of 1982 from submittal of a repository license application to issuance of a repository construction authorization, there must be close and continuous interactions between (1) licensing engineers who know what must be proven, the acceptable bases for proof, and the kinds of factual information needed to support those proofs; (2) designers and analysts responsible for performing the required work leading to the license application; and (3) technical specialists responsible for data acquisition through site characterization, test facilities, and laboratory testing. Additional and equally important interactions must occur between the OCRWM technical staff, the U.S. Nuclear Regulatory Commission (NRC), and other Federal, State, Indian Tribal, and local government personnel to evaluate issues, track progress toward resolution of the licensing issues, provide documentation of resolution of the issues through a variety of means, e.g., semiannual Site Characterization Plan (SCP) progress reports, topical reports, technical position papers, and DOE/NRC workshop meeting minutes, and, most important, respond to the requirements relating to discovery. OCRWM staff must be able to demonstrate that they have the required records to support their request for a license, as well as coordinating and documenting licensing interactions, maintaining an up-to-date listing of commitments such as for meetings and exchanges of materials, and determining progress in those activities supporting the resolution of issues.

Obtaining the authorizations and licenses to construct, operate, and close the repository is a legal process during which DOE will be required to demonstrate compliance with applicable regulatory requirements. The attorneys involved in the legal process will need access to all documents showing the actual intent of the repository developers and showing the steps taken to ensure regulatory compliance. These documents include all

the documents that demonstrate how program decisions were made and carried out.

Additionally, some work products other than documents must be available to support licensing activities. For example, actual core boring samples, other physical samples, well logging tapes, etc. might need to be produced in a hearing to support a particular technical position. The Licensing Support System (LSS) will provide the mechanism for storing and retrieving such non-document materials as well as document originals (or signed copies) needed to support repository licensing. These materials will be physically retained in the LSS Archives.

The LSS Archives will be supported by a computer system to identify the materials in the Archives. Users will then be able to obtain archived materials (documents or non-document materials) under procedures to be developed as part of this contract. Archived materials will, however, be closely controlled to assure their availability when they are needed. In general, most users will only need facsimile copies of documents. Accordingly, the computer part of the LSS will need to store certain documents, to be described later, in full text and produce facsimile copies at terminal locations.

Sophisticated information systems are necessary to provide sufficient access to the required records. These systems must also allow the technical staff to track regulatory requirements, licensing issues, available data, agreements and commitments, and ongoing and planned activities that feed into the program record. These systems, which are part of the LSS, will be the primary tool through which the OCRWM staff will gain rapid and frequent access to, and coordinate the focus of, the Program's licensing-related activities and information. The LSS, therefore, is an integral part of OCRWM's regulatory compliance process. The information in the LSS must be available at least throughout the expected 60-90 year licensing process.

The LSS will be developed primarily to meet the needs of the OCRWM management and technical staff (which includes OCRWM Headquarters and three of DOE's Project Offices which are assigned responsibility for major projects) and the other parties to the repository licensing hearing process before the NRC. The Project Offices perform their waste-management work through prime contractors. The DOE Project Offices that are involved in the waste-management program are the Basalt Waste Isolation Project (BWIP) in Richland, WA; the Waste Management Project Office (WMPO) in Las Vegas, NV; and the Salt Repository Project (SRP) in Columbus, OH. The NRC, other Federal agencies, States, and Indian Tribes must be given access to information to which they are entitled under the NWPA, regulations, Interagency Agreements, and Consultation and Cooperation agreements.

Some of the key objectives for the LSS are the capability for:

- a. Full text storage/retrieval of a large number of documents.
- b. Rapid, full text search.
- c. Full text access from diverse geographic locations.
- d. Hard copy production at terminal locations.

Another key requirement is the capability to store and retrieve hard-copy originals ("signed copies" and/or "true" images) and other non-document types of materials. For example, geology core samples must be retained and DOE must be able to trace design test values back to the appropriate drilling sample in the core library. Also some testing results are produced in computer incompatible format or in electronic form which, in the unprocessed state, is not very useful and therefore may not need to be stored in the computer memory part of the LSS. The LSS Archives will handle hard-copy documents (and/or document images) and non-document types of materials.

The LSS can be conceptually represented as shown in Figure 1. The various computer subsystems and physical storage facilities for files will be integrated into a single system. The LSS Text Storage Subsystems consist of an LSS Regulations Access Subsystem and an LSS Records Access Subsystem. The LSS Regulations Access Subsystem will contain the full text of all applicable Federal, State and local regulations with which the repository program must comply. The LSS Records Access Subsystem will contain the full text of most program documents, abstracts of documents not stored in full text in the computer part of the LSS, and an index to materials that are not suitable for storage in the computer. The LSS Document Files will contain hard copies (paper copies, and/or microfiche, and/or digital images) of all documents in the Text Storage Subsystems, as well as copies of the documents that are only abstracted in the Records Access Subsystem. The Satellite Files will contain mostly non-document materials (e.g. rock core samples) which will be cataloged through use of the computer based LSS Text Storage Subsystems. The LSS Tracking Subsystems will contain a record of program licensing issues and commitments, and will be cross referenced to the documents stored in the LSS Text Storage Subsystems.

This Statement of Work covers only a part of the overall task of implementing the LSS, namely System Development. Other tasks involved in the LSS implementation process, that are not included in this contract, include the following:

- a. Procurement of ADP hardware and commercially available operating system and applications software.
- b. Construction, establishment or upgrading of LSS Archives physical facilities.

**Figure 1
Licensing Support System
System Concept**

	LSS Tracking Subsystems		LSS Text Storage Subsystems	
LSS Computer System	LSS Issue Tracking Subsystem	LSS Commitments Tracking Subsystem	LSS Regulations Access Subsystem (full text, on-line)	LSS Records Access Subsystem (full text, on-line documents & index to archive files)
LSS Archives			LSS Document Files (Hard copies and/or micrographs of documents)	LSS Satellite Files (mostly non-document materials)

- c. Operational support to operate the LSS and enter information into the system.
- d. ADP equipment maintenance during LSS operation.

An example schedule for the overall LSS implementation process is provided in Figure 2, for information only. As part of the effort covered under this Statement of Work, the contractor shall develop a more detailed system implementation schedule. DOE encourages innovative work here that could result in a shorter interval to full system operation.

2. SCOPE

2.1 Objectives

The principal objectives of this contract are the design, development and initial implementation of a Licensing Support System (LSS) that includes computerized tracking and text storage subsystems, and archives facilities for hard copy document and non-document storage with computerized indexing.

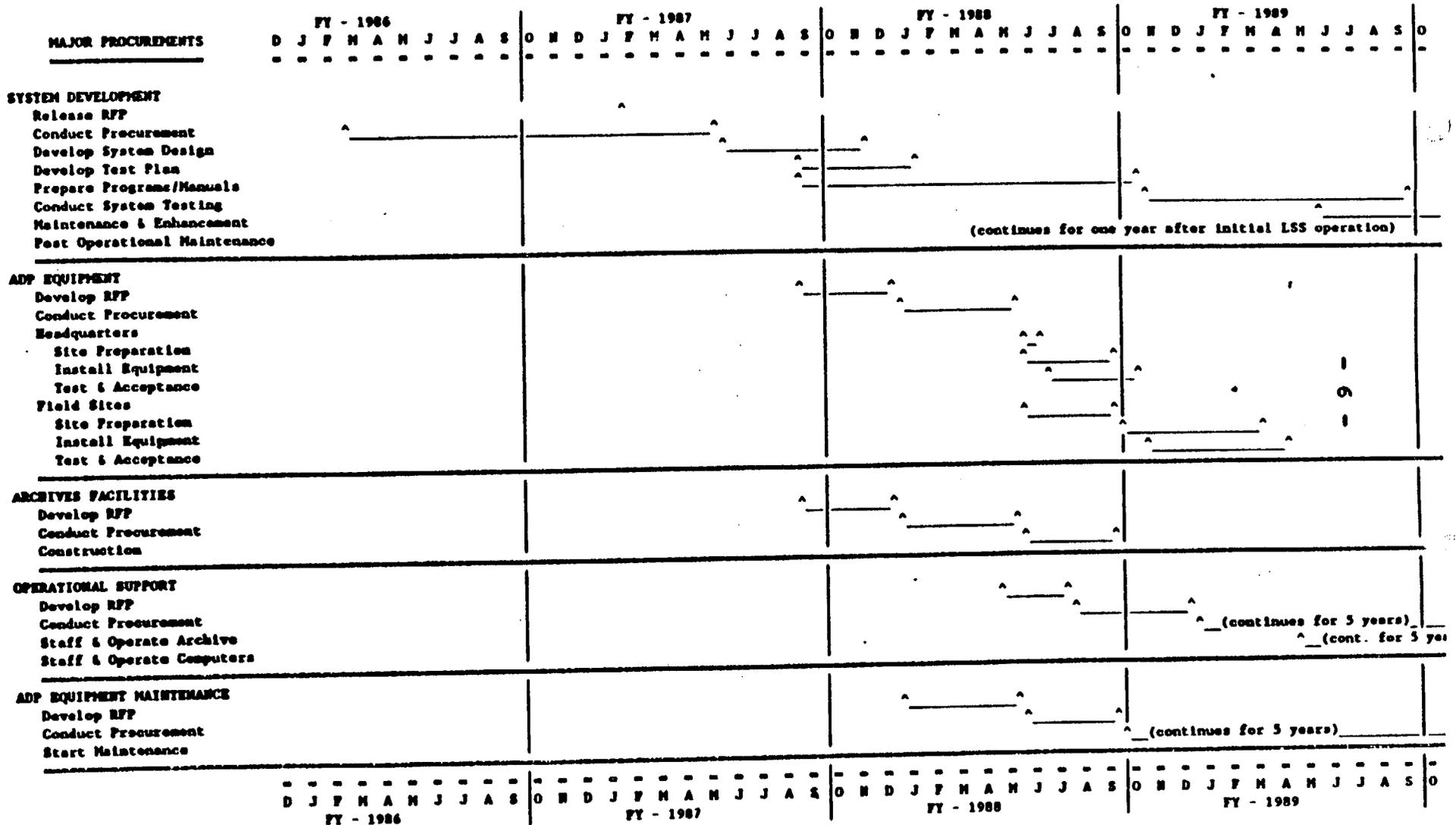
The Department's primary goal in developing the LSS is to obtain a system that is capable of storing, searching and retrieving, in full text, the records needed for geologic repository licensing; along with the other system functions discussed herein. In meeting this goal, the Department desires to be able to accomplish a full text search of the entire data base in a short period of time, as discussed in more detail later in this document and in the LSS Functional Requirements Document.

The normal usage of the system is expected to consist of searches conducted on "header" information, until the set of matching records is reduced substantially. Then a full text search, if one is necessary, would be done on the reduced data base. However, even if a full text search were done on the entire data base, perhaps as a batch operation over night or over a weekend, it is not unacceptable for such a search to take several days, if faster searches are not feasible.

Furthermore, since the Department recognizes that the requirement for full search of a data base as large as that envisioned for the LSS is largely, if not totally, unprecedented, this Statement of Work contains provisions for the contractor to determine the feasibility of the full text search requirement early in the contract, and to propose alternative system approaches, if necessary (see Section 3.2.1). However, the Department wishes to emphasize that the first priority under this contract is to develop a system that is capable of providing the full text storage, search and retrieval functions specified, if it is feasible to do so.

Figure 2

LICENSING SUPPORT SYSTEM - EXAMPLE SCHEDULE



(continues for one year after initial LSS operation)

^ (continues for 5 years)

^ (cont. for 5 yrs)

^ (continues for 5 years)

The activities that shall be required of the contractor are:

Computer System:

- a. Design of an integrated system, including determination of the system telecommunications capabilities that will be required to achieve the desired system functionality,
- b. Preparation of hardware, software and telecommunications system specifications,
- c. Development of appropriate application software,
- d. Integration of acquired software with developed software,
- e. Testing and implementation of the system,
- f. Verification of initial operation, including maintenance/enhancement of the LSS software during this period, to ensure acceptable system operation,
- g. Development of procedures and training materials for each subsystem,
- h. Documentation of all systems and procedures,
- i. Assuring the satisfactory loading of up to 4 million pages of data into the operational system.

Archives:

- a. Development of functional specifications and operating procedures for the DOE Headquarters LSS Archive and of the links between the LSS Computer System and all of the LSS Archives (which store "hard-copy" documents, document images, physical samples, and data that does not need to be on-line accessible). This does not include any physical facility design.

The focus of this Scope of Work is primarily on development of an LSS in support of the licensing of a mined geologic repository for the disposal of spent nuclear fuel and high-level radioactive waste. However, the design of the LSS to be developed under this contract shall not preclude expansion of the system at a later date, under separate contracting provisions, to provide support to other activities under OCRWM, such as those conducted by the Office of Storage and Transportation Systems, the Office of Resource Management, or the Office of Policy and Outreach.

DOE requires that the LSS be operational within two and one-half years in order to meet OCRWM mission objectives related to licensing of a geologic repository.

DOE requires a system whose design considers advanced techniques for management of large scale data bases, with the capability for utilizing technical advances in the future. However, DOE does not wish to support research activities under this contract. Accordingly, if a proposer considers that any requirements in this Statement of Work would require research, they shall be identified to DOE for disposition.

In addition, on December 18 1986, the Nuclear Regulatory Commission published notice in the Federal Register (page 45338) of their intent to conduct a negotiated rulemaking for a revision to 10CFR2 on the submission and management of records and documents related to the licensing of a geologic repository (i.e. on the LSS). The contractor shall monitor the activities of the NRC negotiated rulemaking on the design and implementation of the LSS in order to remain informed on the status of the negotiating committee deliberations and to assist the DOE Project Manager as necessary in providing information to the negotiating committee on LSS design and implementation issues.

2.2 Period of Performance

The activities described in this contract, leading to initial operation of the LSS, shall continue for 30 months after award, with an additional 12 months of support, following initial LSS operation, to correct previously undetected system operational problems. The system design and software development, (Section 3.2) shall be completed within 17 months. Verification of initial system operation, maintenance, enhancement, and training shall continue through the 30 month period until initial LSS operation, with further system maintenance continuing for the remainder of the contract.

2.3 Product Descriptions - LSS Computer System

The LSS computer system shall include four application software subsystems:

- a. LSS Regulations Access Subsystem
- b. LSS Records Access Subsystem
- c. LSS Issue Tracking Subsystem
- d. LSS Commitment Tracking Subsystem

The first two subsystems are called Text Storage Subsystems and the other two are called Tracking Subsystems. The Text Storage Subsystems will be the "libraries" of program documents and will contain a large number of documents that will be accessed by many

users. The Tracking Subsystems will be used interactively by a limited number of users to access information concerning program issues and commitments, and will be linked to the Text Storage Subsystem for access to document references. More information on the desired product design can be found in the LSS Functional Requirements Document (currently under development by DOE - this document will be made available to the successful bidder as soon as it is available, and before the beginning of work under this Scope of Work). In the interim, a description of an early concept of the LSS can be found in the document titled "Office of Geologic Repositories, Licensing Information System, Requirements Study, Draft Report of Findings, dated October 2, 1985", (LIS Requirements Study). Copies of this document have been placed in the Freedom of Information Reading Room in the Forrestal Building.

[Note that the Licensing Support System to be developed under this contract was formerly called the Licensing Information System (LIS) and the LSS Records Access Subsystem was formerly described as the LIS Archives Data Base Subsystem. Note also that the LIS Requirements Study is a draft report, and that the system as described in the LIS Requirements Study is subject to change as LSS development progresses. Two additional subsystems, the Licensing Schedule Networks, and the Key Documents Index discussed in the LIS Requirements Study report have been deleted from the system and are not included in this Scope of Work.]

There are estimated to be approximately 25 organizational groups who will use the LSS computer systems, including the following: DOE Headquarters, each of the three DOE Project Offices, contractors for each DOE office, NRC headquarters, three NRC site representatives, 6 State governments, and 3 Indian Tribes. The LSS may be either a central system or a distributed system (i.e. more than one computer facility); however, all users must have access to all of the information stored in the computerized portion of the LSS (subject to satisfaction of security restrictions, see section 2.3.8). The requirement to provide system functions to this large number of geographically distributed users will require that emphasis be placed on use of an acceptable telecommunications system. The hardware and software shall be compatible at all locations.

In addition to the application software products developed for this contract, the contractor shall provide detailed functional specifications and operating procedures for the DOE Headquarters LSS Archive, and procedures and software to link the DOE Headquarters and Project Office LSS Archives with the LSS Computer System. However, detailed plans for facility

construction, reconstruction or renovation are not required. The LSS Archives will be an administrative part of the computer based LSS.

This contract also requires a number of document deliverables, as discussed in Section 3 of this Scope of Work, for review and approval by OCRWM Management.

2.3.1 Text Storage Subsystems

Two Text Storage Subsystems are required: Regulations Access and Records Access Subsystems. The Regulations Access Subsystem will be used primarily by design and licensing engineers to identify the regulatory requirements that must be addressed in the project plans and studies. The Records Access Subsystem will store the records for the project and will be used primarily by attorneys and licensing staff during the discovery phase of hearings and appeals. The system shall function so that after documents are entered, they cannot be removed or altered, but additional information can be added on the same topic.

2.3.1.1 Text Storage Subsystem Contents and Quantities of Storage

The Text Storage Subsystems shall be capable of full-text computer storage of a large number of documents. These subsystems are expected to contain keywords and indexes for searching. They shall also have the capability for searching the full text for individual words or strings of text, using a sophisticated query logic to locate relevant documents. The system shall have the capability to produce hard copies of relevant documents at terminal locations directly from the documents stored in the computer.

The Regulations Access Subsystem shall store the full text of documents that impose legal requirements on the construction or operation of the geologic repository. Examples are: The Nuclear Waste Policy Act, 10 CFR Part 60, other Federal regulations, State regulations, regulatory guides, and agreements between DOE and regulatory agencies. It is estimated that as many as 100,000 pages of text, comprising about 300 documents will be stored.

The LSS Records Access Subsystem is to store the full text of documents subject to discovery during licensing hearings and appeals, to the greatest extent practical. In the future, many of these documents are expected to be produced in electronic form. However, the backlog at the time the LSS becomes operational is expected to be up to 4,000,000 pages of text of which only approximately 150,000 pages are expected to be in electronic form.

Many applicable documents prepared since 1982 are available in various electronic forms. The DOE offices, their contractors, and the NRC currently produce most of their documents on word processing equipment; documents from the Government Printing Office (e.g. regulations) are also available in electronic form. Documents that are available in electronic form will be entered into the LSS Text Storage Subsystems in full text. Documents issued since 1982, that are available in hard copy only, will also be entered into the LSS Text Storage Subsystems in full text form, to the extent possible.

Relevant documents that were issued before passage of the Nuclear Waste Policy Act in 1982 are mostly available in hard copy only. In general, these documents will be included in the LSS Document Access Subsystem in abstract form only, with hard copies retained in the LSS Archives. It is estimated that as many as 2,000,000 pages of text fall into this category.

The Records Access Subsystem will store as many as tens of millions of pages of text, corresponding to millions of documents.

2.3.1.2 Text Storage Subsystem Users

The two Text Storage Subsystems will be used by different groups. The Regulations Access Subsystem will be used primarily by licensing staff in DOE, NRC, the States and Indian Tribes. The licensing staff will need to identify regulations applicable to planned actions and to determine how those regulations have been addressed in the past. Hypothetical examples of questions the licensing staff might wish to answer are listed below. They will wish to use the Regulations Access Subsystem to find information to help them answer questions such as:

- a. What are the waste package regulatory requirements?
- b. Are there conflicts between State and Mine Safety and Health Administration regulations on ventilation?

The Regulations Access Subsystem also will be used to a lesser extent by DOE attorneys and others to obtain information on regulatory requirements.

The Records Access Subsystem is expected to be used by a much wider audience within DOE, NRC, other Federal agencies, State governments, and Indian Tribes. The Records Access Subsystem will, foremost, be a means of locating documents for all users. However, the needs of the various users will be quite different.

For example, interested State or Indian Tribe representatives are likely to seek individual documents; the licensing staffs are likely to be seeking all documents that contain information required to answer questions such as:

- a. What was said in the Draft Environmental Impact Statement about aquatic vegetation?
- b. Has the Salt Program analyzed heat transfer in sylvanite?

The attorneys involved in the repository licensing hearing process are likely to use the Records Access Subsystem to search for text related to the license application. The attorneys will ask questions similar to those asked by the licensing engineers but with a focus on how decisions were made and carried out as well as the technical and regulatory justification for the decisions. The attorneys will be interested in whether actions complied with the regulations. The NRC use of the Document Access Subsystem is likely to be similar to DOE's use.

When fully installed, the Text Storage Subsystems are estimated to have to support at least 120 end-user retrieval terminal locations - 20 associated with DOE Headquarters, 15 associated with each of the three DOE Project Offices, about 15 for NRC use and about 25 terminal locations for use by Indian Tribes and State government agencies.

Data for storage in the LSS may be provided by all system users, but only DOE (and other designated organizations) shall be able to enter data directly into the LSS. Other users will submit data to authorized personnel for LSS entry. Procedures for data collection are being developed and they will become a routine part of the program operations. Essentially, all documents produced by DOE, DOE contractors, and NRC are prepared on word processing equipment. Other LSS users will be urged to submit their documents in electronic form as well as on hard copy.

Documents that are received only in hard copy form will be entered by using optical character readers, optical scanners, or other methods.

2.3.2 Issue and Commitment Tracking Subsystems

The LSS is envisioned to include two Tracking Subsystems: the Issue Tracking and Commitment Tracking Subsystems. These subsystems will be used primarily by OCRWM and NRC licensing, project management and other technical staff to schedule and measure progress towards regulatory compliance. The Tracking Subsystems shall be linked to the Text Storage Subsystems that

contain the supporting documentation. The linkages may point to the documents that impose the commitment, qualify the issue, or dispose of the issue/commitment. All of the supporting documentation shall be stored in one of the Text Storage Subsystems discussed in Section 2.3.1.

2.3.2.1 Purposes of the Tracking Subsystems

The Issue Tracking and Commitment Tracking Subsystems will be used to track individual pieces of work. Issues are identified efforts that clarify what a part of a regulation requires or how compliance will be achieved. Issues can be raised by either DOE or a regulatory agency and resolution is generally brought about through a process of research, investigation, and negotiation. Commitments are agreements that DOE makes with other organizations to perform an activity, adhere to a standard, etc. (or that other organizations make to DOE or to each other). Commitments are fulfilled when the agreed upon activity has been accomplished and accepted by the other party.

A major purpose of both the Commitment and Issue Tracking Subsystems is to cross-reference the tasks being performed in order to prevent duplication and/or omission of effort. Because the licensing effort will span many years and involve many regulatory agencies, it is likely that DOE will be faced with the same commitment and/or issue many times. These tracking systems shall recognize similar requests and direct the staff to the original response or related responses.

2.3.2.2 Tracking Procedures

Issue and commitment tracking consists of six basic steps:

- a. Initially identify a proposed issue or commitment.
- b. Verify that the issue or commitment is new, unique, and appropriate to track.
- c. Develop a plan for issue resolution or commitment completion.
- d. Carry out the plan.
- e. Document the work that was done.
- f. Close-out the issue or commitment.

The Tracking Subsystems shall be used for cross-checking to identify similar work efforts, for planning and scheduling work to be done, for tracking the status of the issue or commitment, and for identifying and providing access to

documentation relevant to the issue or commitment (e.g., documentation of the issue or commitment source and of how it was resolved or closed-out). Proposed issues and commitments will originate both at headquarters and in the Project Offices.

The OCRWM will provide the contractor with management procedures for identifying issues or commitments and for working through the steps to completion. Drafts of these procedures have been placed in the Freedom of Information Reading Room in the Forrestal Building. The provisions of these procedures shall be incorporated into the contractor's system design.

2.3.2.3 Tracking Subsystem Contents, Users and Quantities of Usage

The Tracking Subsystems will contain details of each issue or commitment, including information such as the following:

- a. Source of the issue/commitment.
- b. Organization(s) having follow up actions.
- c. Relevance to other issues/commitments.
- d. Applicable regulations.
- e. Research and investigation activities needed for resolution/completion.
- f. Milestones for completion.
- g. Impact on other activities.
- h. Identification of relevant documents in Text Storage Subsystems.

The Tracking Subsystems will be used by DOE and NRC technical staff and management. The Tracking Subsystems shall be accessible from terminal locations at DOE headquarters, each of the DOE Project Offices, the support contractors for the DOE offices, and NRC. The technical staff will be using the Tracking Subsystems on a daily basis with management using them less frequently for summary reports. There will be up to 4000 issues and commitments to be tracked.

2.3.3 User Interface

Because the typical ISS user will have limited experience with computerized information retrieval, the user interface language shall be well structured and easy to use. The goal in the user interface design, for individuals wishing to retrieve

information from the system, shall be to develop a system that can be operated by following screen prompts, with no system specific training or reference to operating manuals. The user interface design for the system operators shall use the same approach to the greatest extent practicable. However, the system operators may be assumed to be available for training, and may refer to system operating manuals for instructions on how to accomplish more difficult system operations. The primary control mechanisms shall be menu driven, or equivalent. User training materials shall be designed to teach people with little or no computerized information retrieval experience. Video display equipment that minimizes user fatigue shall be required.

2.3.4 Indexing and Retrieval

The key requirement of the indexing and retrieval function is to locate all information relevant to the user's needs. During the licensing procedures, DOE will be required to demonstrate that it has been systematic and thorough in ensuring compliance with regulations and in protecting public health and safety and the environment. The LSS computer system is intended to assure that DOE does a thorough job and to provide a documented reference to that fact.

To support this requirement, the computer indexing and retrieval capability shall provide the following functions:

- a. Searches on document content (e.g., on individual words, or combinations of individual words, or phrases; using Boolean-type and/or other search strategies as may be most effective).
- b. Searches on standard bibliographic keys (e.g., title, author, date, subject, abstracts, keywords).
- c. Links between the computer subsystems and between the LSS Computer System and the LSS Archives (see Section 2.4).

2.3.5 Output Formats and Contents

The LSS shall be capable of delivering output from searches on video display terminals and on printers (high and slow speed). The output needed will be either statistics (e.g., the number of documents containing a searched word) or documents themselves. Terminal locations shall also have the capability of reproducing data on magnetic storage devices. The system shall also be able to provide period statistics on terminal activity (e.g., usage time, number of searches). In the Functional Requirements Document, the contractor will be provided details of the output from the Text Storage Subsystems and the Tracking Subsystems.

2.3.6 Input Formats

Input to the LSS computer system shall be:

- a. User commands, access codes, pass words, keyboard input of data, etc. at system terminals.
- b. Entry of documents from word processor disks and other electronic media.
- c. Entry of hard copy documents using optical character readers, optical scanners, or other devices for a lesser amount of hard copy.

Suggested input formats for the four subsystems will be provided to the contractor in the Functional Requirements Document.

2.3.7 Response Time

Response time criteria will be provided to the contractor in the Functional Requirements Document. The following guidelines are being considered by DOE:

- a. Terminal response time to "begin to respond" should be no more than a few seconds.
- b. Search time to identify all documents containing an individual word, combinations of words or phrases should be completed within a few minutes.
- c. Search time to locate and display a particular page of a document should be less than one minute.
- d. Small volumes (less than 100 pages) of hard copy should be available to the user in less than an hour via a local printer.
- e. Large volumes of hard copy (thousands of pages) should be available to the user from the LSS computer system within five working days after the request is received by DOE.

2.3.8 Security/Privacy

Some of the documents in the system shall be made inaccessible to some users for various reasons, including the need to protect lawyer-client privilege or other confidentiality agreements. The system shall be able to ensure that only authorized users have access to these documents. The system must also include features to prevent unauthorized access and willful or accidental damage to the database contents by misuse, and to limit updating

to only authorized users. Finally, backup and recovery procedures shall be available to prevent permanent damage due to disasters like power failures, head crashes, fires, floods, etc., and to restore the system in emergencies.

2.4 Product Descriptions - LSS Archives

The LSS Archives shall be places to physically deposit those products of the Program that must be retained and accessible through the life of the Program. The products to be handled may include document originals and copies (xerographic, microfiche, digital images, etc.), and other non-document types of materials.

2.4.1 Materials to be Archived

The LSS Archives shall be an integral part of the LSS. The Archives shall be able to handle "hard-copy" documents (including microfiche and digital images on optical disks), and other physical forms of materials that might include samples of soil, rock, water, plants, etc., and data from tests or explorations that is in graphic or non-reproducible form, or in electronic form which, in its unprocessed state, is not useful for inclusion in the on-line portion of the LSS.

2.4.2 Users of the LSS Archives

The Archives facilities will be operated by dedicated DOE or DOE contractor staff who will assure that archived material is provided only to authorized people. Requests for use of archived materials will be made through designated authorized OCRWM staff.

The principal users of the documents in the LSS Archives will be the attorneys who need original copies of documents for legal purposes and the engineers who need to review previous technical positions. The individuals who request to use the non-document types of material will be senior technical staff who authorize additional studies or tests on specific materials. Non-document materials are expected to be archived after they have been fully tested, studied, investigated, etc., and their retrieval from the Archives is not expected to be frequent.

2.4.3 Archives Facilities

Each Project Office and DOE headquarters will have an LSS Archives facility. For the Project Offices, the LSS Archives will include satellite files for non-document types of materials (rock cores, etc.). Headquarters will not need satellite files.

The Functional Requirements Document will specify the methods and procedures to be used to reference the archive contents in the LSS computer system. The contractor shall determine if existing Archives facilities and operating procedures will allow accurate and complete referencing of the Archives contents, or if they should be upgraded and what any such upgrading should consist of. However, the contractor will not be required to provide design or architectural engineering services.

The LSS Archives shall be protected from unauthorized use and damage, either accidental or willful. Applicable parts of Section 2.3.8 of this Statement of Work shall also apply to the LSS Archives. In addition, the products developed under this contract for the LSS Archives shall be in accordance with DOE and National Archives and Records Administration policies concerning the creation and disposal of records (36 CFR Chapter XII).

2.5 System Integration

The Text Storage Subsystem shall be accessible to all users, with the exception of any files that contain privileged information. However, communications with the LSS Archives will be limited to the extent that users shall be provided with the capability to determine what is in the LSS Archives and where in the Archives it is located. Access to the actual materials in the LSS Archives will be available only through procedures, to be developed by the contractor, that protect the integrity of the Archive. The Tracking Subsystems shall be accessible only to the DOE, DOE contractor, and NRC offices. Summaries of the information in these subsystems will be periodically placed in the Records Access Subsystem to provide access to other users.

3. WORK DESCRIPTION

This section describes the work to be performed by the contractor. Additional details of required product deliverables are contained in Federal Information Processing Standards Publication 38 (FIPS PUB 38), as referenced in Section 6.3 of this Statement of Work.

3.1 Phased Development

The system shall be developed in Phases and Stages, as described in sections 3.2 through 3.4. Those sections describe the goals of each phase and the deliverables. Figure 3 contains a chart of the phase and stage milestones, major deliverables, and DOE key decision points, along with schedules for these activities. Table 1 contains the Deliverables List.

Table 1 - Contd.

DELIVERABLES LIST

Phase/Stage/Deliverable Time Due After Award

ALL PHASES & STAGES

- o **Status Reports Including Technical Status, Summary Report, Schedule, Labor & Cost Reports** Every four weeks
(See RFP, Reporting Requirements Checklist: Monthly status reports are to be accompanied by a monthly management meeting between contractor and DOE management to discuss contract status)

3.2 Phase I - Development Phase

3.2.1 Design Stage

As early in this phase of the contract as practicable, the contractor shall conduct a study to confirm the feasibility of the proposed full text search capability for the LSS Text Storage Subsystems, and of the overall system concept as presented in the LSS Functional Requirements Document. DOE desires to maintain as much of the on-line full text capability of the proposed system as is practicable. If the contractor determines that full text search cannot be achieved, or that other modifications of the system concept presented in the Functional Requirements Document are required, the contractor shall recommend an alternative approach to achieving the objectives of the system, especially those relating to shortening of the time required for discovery.

Any proposed system concept modifications shall be submitted to DOE for approval, including justification for the proposed revision(s). The LSS Functional Requirements Document shall be updated, as necessary, to reflect the outcome of this effort.

After settling the question of the practicality of full text search for the LSS Text Storage Subsystems and any other changes required to the system concept, the contractor shall use the Functional Requirements Document and interviews with users to define the detailed specifications for the LSS. The specifications shall be documented in a System Specification Document (with appropriate Subsystem Specification Sections or Appendices). The Functional Requirements Document specifies what must be done; the System Specification Documents shall identify how it can be done. There are many ways the system operation can be divided among the people, software, and hardware that make up the system. During the Design Stage, different options shall be outlined for DOE and those that appear to be most effective will be selected by DOE for further evaluation.

DOE wishes to acquire proven technology that will not be quickly outdated. However, since this is an area where technology is advancing rapidly and since the system's functions will be needed for up to 90 years, the contractor shall address the problems of technological change in the product evaluations and proposed system design.

Commercial hardware and software products shall be evaluated to see how well the LSS requirements can be satisfied. A recommendation on the applicability of commercial products to the final system configuration shall be provided. Test or prototype systems shall be used to refine the requirements and specifications. The costs and benefits of any alternative

implementation schemes shall be evaluated. The cost of in-house implementation functions that cannot be acquired externally shall be estimated.

The major deliverables from the Design Stage shall be the LSS System Concept Feasibility Analysis document, and a recommended functional specification, to be revised/completed and incorporated by DOE into a Statement of Work for the procurement of the computer hardware and software for the LSS.

Also, the contractor shall provide requirements for the LSS Archives facilities for use by DOE in preparing specifications for the procurement of design services leading to construction of new facilities or renovation of existing facilities, if needed. In addition, the contractor shall update and maintain the logical system design portion of the LSS Functional Requirements Document, as necessary, throughout this contract.

3.2.2 Programming Stage

During this phase the application software shall be developed, system integration tested, and user training materials prepared. The contractor shall use standard system software that is compatible with existing DOE systems or other software as directed by OCRWM management.

3.2.2.1 Unit and Integration Test Planning

The contractor shall develop independent test plans for each application program, system and subsystem, and test plans for system integration. The test plans shall demonstrate that the subsystem or system being tested works according to design specifications. A matrix, that matches functional specifications to test scenarios, shall be prepared to ensure that all specifications are tested. Unit and integration testing shall be planned for execution in a top-down manner when functional hierarchies exist. The System Test Plan shall include the test data to be used, test execution procedures, and expected results.

3.2.2.2 Application Software Development

The contractor shall develop the application software necessary to support overall system function. Adequate quality assurance and configuration control standards shall be followed. Peer reviews of the program code (structured walk throughs) shall be conducted for each module. Software units shall be tested during development to reduce subsequent problems.

3.2.2.3 Deliverables

The following deliverable shall be provided by the contractor early in the Programming Phase.

a. Test Plan

The following deliverable items shall be provided by the contractor at the end of the Programming Phase:

- a. Application software that has been developed.
- b. Program Maintenance Manuals for all subsystems.
- c. Operations Manuals.
- d. Users Manuals.

3.2.3 Test Stage

During the Test Stage, the hardware and software shall be integration tested and acceptance tested. A Test Analysis Report shall be prepared. In addition, training material for operators and users shall be developed (finalized).

3.2.3.1 Install Application Software

When the hardware has been installed by others and accepted by the Government, the contractor shall install the application software that has been developed for the hardware.

3.2.3.2 Conduct System Integration Test

As the equipment at various locations becomes available, the contractor shall assemble and test the subsystems and, then, the entire system to make sure all the parts work together in accordance with the specifications. Differences between actual procedures and results and planned procedures and results shall be documented and shall be corrected by the contractor unless otherwise specifically approved in writing by OCRWM management.

Under this Statement of Work, the contractor shall assure satisfactory system operation with a test data base of at least 100,000 documents with an average length of 100 pages.

3.2.3.3 Prepare User and Operator Training Materials

The contractor shall plan, schedule, and prepare materials for user and operator training. The training material shall be

developed with representatives from each trainee group to ensure that the training materials are directed at the audience's needs and that the audience will understand the material. Testing materials shall also be developed so that the effectiveness of the training can be measured.

3.2.3.4 Deliverables

The following deliverables shall be provided at the end of this phase:

- a. Fully tested and functional system.
- b. Integration Test Report.
- c. User and Operator Training Materials.

3.3 Phase II - Operation Phase - System Implementation

During this phase, the system developers will turn the system over to the users and operators. To do this, the system developer shall train the users and operators and shall assist in the initial data loading.

3.3.1 Operator and Maintenance Staff Training

The systems developer, under this contract and with the assistance of the hardware and software vendors, shall teach the operations staff how to operate the LSS and LSS Archives. The operations staff shall be trained to run the hardware and how to respond to different messages the software produces. Hardware maintenance will be contracted to the vendors or third parties, but the operators shall be trained in routine maintenance tasks by the contractor under this contract.

3.3.2 User Training

Making the user comfortable with the system will contribute to the system's success. The user training shall show the user most of the features of the system and provide adequate time for practicing routine functions.

3.3.3 Initial Data Load

As soon as the operators are sufficiently trained to do the work, they shall load data into the system (with contractor assistance). An early start in loading the Records Access Subsystem is desirable because of the large quantities of data to be stored in this system. The contractor shall assure satisfactory loading and operation of the system with up to 4 million, preindexed, pages under this Statement of Work.

3.3.4 Post Operational Maintenance

For a period of one year after acceptance of the system by DOE, the contractor shall make available a staff of up to three programmers and system design engineers who are fully knowledgeable in the design and operation of the LSS computer hardware and software system to assist DOE in correcting any previously undected system operational problems. This staff of contractor employees shall be made available to DOE on an as needed basis.

3.3.5 Deliverables

The following items shall be produced during this phase:

- a. Trained operators, maintenance personnel, and users
- b. Initial loading of data bases
- c. Improved training materials

4. REPORTING REQUIREMENTS

The contract proposal shall describe the contractor's plans for providing DOE with the reports described in the U.S. Department of Energy, Uniform Reporting System document. Copies are available from the Office of Scientific and Technical Information, Oak Ridge, Tn., or from the Director, Office of Project and Facilities Management, MA-22, Department of Energy, Washington, DC, 20585. The reporting requirements shall provide the following:

- a. During contract negotiations, the Management Plan shall be updated, shall become part of the final contract, and shall become the baseline for management of the contract. The Management Plan shall include as attachments: a Cost Plan, Milestone Schedule Plan, a Milestone Log and a Labor Plan.
- b. Monthly Status Reports shall be required including: a Status Report, a Summary Report, a Milestone Schedule/Status Report, a Cost Management Report, a Labor Management Report, and an Updated Milestone Log.
- c. Interim reviews of parts of the work will be made by DOE at peer review and management levels. The peer review sessions will allow the DOE end-users of the system to understand how the parts they will use are being designed and built and will ensure that users conceptually will accept the system. DOE management will review higher level system functions.

5. ACCEPTANCE TESTING AND TURNOVER

After the system development contractor has determined that the LSS is operational, DOE, or an independent organization selected by DOE, will conduct a separate acceptance test to ensure that the LSS meets the contract requirements. DOE will define the content of the acceptance test. Following acceptance by DOE, the LSS will be turned over to the operational support contractor for continued operation. Under this contract, the system development contractor shall assist in the acceptance test and turn-over process as directed by DOE, and shall provide trained operators or any other help required to assure system operability. The system development contractor shall also train software maintenance personnel from the operational support contractor to install updates to the purchased software and to modify, trouble-shoot and repair purchased and locally developed software.

Any failure of the system to operate in accordance with the system characteristics developed during detailed design of the system shall be corrected by the contractor. DOE shall, at its option, have the right to retest any areas in which unsatisfactory results are obtained, require further corrective action of the contractor, if necessary, and to repeat such tests and corrective action until satisfactory performance is achieved.

6. SPECIAL CONSIDERATIONS

6.1 Computer Support for Software Development

The contractor shall furnish any computer support needed for prototyping or for developing system software or application software. The initial Licensing Support System computer facility is expected to be available 17 to 23 months after contract award and thus will be too late for the contractor's use in the software development required by this contract.

6.2 Work Management System

The work elements identified in Section 3 will overlap and the development paths for the Text Storage and Tracking Subsystems are likely to be separate. Therefore, the work flow will not be as smooth and sequential as outlined here. As a consequence, and in order to provide the government with the maximum level of visibility into and control over the contractor's progress, the contractor's management system must provide:

- a. Identification of major decision points in system development

- b. Times for government review and decision making to occur.

6.3 Documentation Standards.

Most of the documents described as the deliverables are described in the U.S. Department of Commerce/ National Bureau of Standards, Federal Information Processing Standards Publications, FIPS PUB 38 "Guidelines for Documentation of Computer Programs and Automated Data Systems" and FIPS PUB 64 "Guidelines for Documentation of Computer Programs and Automated Data Systems for the Initiation Phase". The documents provided as deliverables under this Statement of Work shall conform to the requirements of FIPS PUB 38 and FIPS PUB 64 where applicable.

6.4 Quality Assurance

The LSS computer system and LSS Archives shall meet the quality assurance provisions of Quality Implementing Procedure QIP 17.0, Quality Records, contained in the Office of Geologic Repositories Quality Assurance Plan for High-Level Radioactive Waste Repositories, OGR/B-3 dated August 1986. Copies of this document have been placed in the Freedom of Information Reading Room in the Forrestal Building. DOE document OGR/B-3 complies with DOE document DOE/RW-0032, Quality Assurance Management Policies and Requirements.

6.5 Use of Off-the-Shelf Software

To minimize the development risk and cost for the system, the contractor shall make maximum use of off-the-shelf software, consistent with developing the system so that it can achieve the performance requirements of this scope of work.

7. APPLICABLE DOCUMENTS

- A. "[DRAFT] Office of Geologic Repositories, Licensing Information System Requirements Study, Report of Findings" provides a description of the general requirements of the system.

- B. "Scope of the OGR System to Handle Information to Support Repository Licensing", memorandum from R. Stein to W. Purcell, Office of Geologic Repositories, DOE, March 21, 1986.

Copies of these documents have been placed in the Freedom of Information Reading Room in the Forrestal Building.

ATTACHMENT NO. 2 - LSS - SYSTEM DEVELOPMENT - PLANNED MILESTONES
(Revision No. 1 - 11/16/87)

DEL.	MILESTONE	TASK	START DATE	END DATE	REMARKS
DEVELOPMENT PHASE					
1	1	Update Management Plan	09/30/87	10/30/87	Delivered 10/30/87
2	2	Draft Concept Feasibility	10/30/87	4/15/87	
		Final Concept Feasibility		6/30/88	
DESIGN STAGE					
3	3	System/Subsystem Specs	11/30/87	9/30/88	
4	4	Program Specs	11/30/87	9/30/88	
5	5	Data Base Specs	11/30/87	9/30/88	
6	6	LSS Archives Description	11/30/87	9/30/88	
7	7	LSS ADP H/W SOW	11/30/87	9/30/88	
8	8	LSS S/W SOW	11/30/87	9/30/88	
9	9	Telecom Systems SOW	11/30/88	9/30/88	
	10*	DOE Management Review & Approval (Specs & SOWs)	03/31/88	10/15/88	
	18*	Hardware Installed at Headquarters		02/28/89	
	18*	Hardware Installed at Project Offices		02/28/89	
PROGRAMMING STAGE					
10	11	Test Plan	01/31/88	11/30/88	
	19	Test Procedures	05/31/88	04/30/89	
	12*	DOE Management Review & Approval (Test Plan)	05/31/88	06/15/88	
	13	Installation of Dev. Facility	03/31/88	06/30/88	
	13A	O&M of Dev. Facility	06/30/88	12/31/89	
11	14	Applications Programs	05/31/88	02/28/89	
	20	Software Installation	02/28/89	04/30/89	
12	15	User's Manual	06/30/88	02/28/89	
13	16	Operations Manual	06/30/88	02/28/89	
14	17	Program Maint. Manual	06/30/88	02/28/89	
TEST STAGE					
	21	System Integration Tests	04/30/89	08/31/89	
15	22	Test Analysis Report	10/31/89	01/31/90	
	23*	DOE Management Review & Approval (Test Report)	01/31/90	02/15/90	

ATTACHMENT NO. 2 - LSS - SYSTEM DEVELOPMENT - PLANNED MILESTONES
 (Revision No. 1 - 11/16/87 (Continued))

DEL.	MILESTONE	TASK	START DATE	END DATE	REMARKS
OPERATIONAL PHASE					
16	24	Operational Stage			
	25	Operational System	09/30/88	01/31/90	
17	26	User and Operator Training	06/30/88	02/28/89	
	27	Materials			
18	28	User and Operator Training	10/31/89	01/31/90	
19	29	Maintenance Updates	12/31/89	03/31/90	
20	30	Initial Data Load	01/31/90	03/31/90	
		System Operational Test	02/28/90	03/31/90	
		Completion Report			
		Post Operational Maint.	03/31/90	03/31/91	

ATTACHMENT 5

HLW PRE-LICENSE APPLICATION PROCESS *
(January 1, 1988 on)

Consultative drafts of the DOE Site Characterization Plans (SCP) (January 1988)

NRC, State and Tribal review and comment on the consultative drafts (April 1988)

DOE Site Characterization Plans (January 1989)

State, Tribe, Public Comment on the Site Characterization Plans (April 1989)

NRC Site Characterization Analysis (July 1989)

DOE draft Environmental Impact Statement (EIS)

Comment on the DOE draft EIS (NRC, State, Tribe, Public)

Final DOE EIS

DOE site selection report to the President

DOE license application submitted to the NRC

In addition to the above, the following activities will occur during the period before the license application is submitted--

NRC rulemakings, including public comment

NRC regulatory guidance, including public comment

DOE Licensing Topical Reports

*Based on the status quo as of November 25, 1987

BACKGROUND NWPA REQUIREMENTS WHICH IMPACT NRC LICENSING PROCEDURES

1. Mission Plan (Section 301(a)(2)) provides for a schedule of the activities necessary to achieve the important programmatic milestones. Mission Plan was finalized by DOE and submitted to Congress ___ 1987.

2. MRS Licensing (Section 141(d)) shall be pursuant to Section 202(3) of the Energy Reorganization Act of 1974. Section 202 provides NRC jurisdiction over DOE high level waste facilities used primarily for the "receipt and storage of high-level radioactive wastes resulting from activities licensed under the [Atomic Energy] Act of 1954." Covers AE Act Chapters 6,7,8 (Source, Byproduct, and Special Nuclear Material) and 10 (activities requiring Commission licenses).

3. Section 114(b) If the President recommends a site to Congress under 114(a) and if the recommendation is permitted to take effect under Section 115 (Congressional review), the Secretary shall submit an application to the Commission for a Construction Authorization within 90 days after the effective date of the designation. (This is within 150 days if there is no State or Indian Tribe notice of disapproval. The time will be 210 days if there is a State or Indian Tribe notice of disapproval which could be approximately 30 days longer if the Congress is not in continuous session at the time of the notice of disapproval. Thus, the Commission's docketing review under 10 CFR 2.101(f)(1).

NRC LICENSING TIMES AFTER DOCKETING

1. Day 0 - 2.101(f)(8) - Fed. Reg. notice that Commission finds a hearing to be in the Public Interest setting forth matters specified in Section 2.104(a). (Notice period 30 days) It should be noted that the formal adjudication rules of Subpart G of 10 CFR Part 2 do not apply per se to 2.104(a) hearings since it is possible to have a situation where no party with an interest petitions under Section 189 of the Atomic Energy Act. In such a case the hearing would be an informal hearing conducted by the Commission or its staff in the vicinity of the site.

2. DAY 35 - 2.705 Answer to the notice of hearing by a party. 2.714(a) (1) petitions to intervene due from non-parties.

3. DAY 50 - Replies to Answers due pursuant to 2.706; replies to intervention petitions pursuant to 2.714(c)

4. DAY 90 - First Prehearing Conference (See and compare 2.751a)

5. DAY 120 - Prehearing Conference Order admitting or denying party status, establishing schedules and taking other appropriate action.

6. DAY 135 - Appeals of complete denials of intervention or refusals to deny interventions. (Note this appeal under 2.714a may or may not run parallel with other activities for parties whose admission is not in controversy.

7. DAY 125 - Earliest possible commencement of discovery under 2.740.

8. DAY 140 - 1st Round Interrogatories are filed. 2.740b

9. DAY 159 - Response to 1st Round Interrogatories due or motion for protective order under 2.740(c).

10. DAY 174 - Motions to Compel under 2.740(f)

11. Day 189 - Responses to Motions to Compel (permitted by 2.730)

12. Day 204 - Board Ruling on discovery disputes.

13. DAY 223 - Responses to 1st Round requests subject to Board ruling at Day 204 are due.

14. DAY 268 (Day 548 if staff review takes 18 months) - Second Prehearing Conference pursuant to 2.752.

15. Day 298 (578) - Prehearing Conference Order

16. Day 308 (588) - Objections to Prehearing Conference Order (2.752(c))

17. Day 323 (603) - Motions for Summary Disposition pursuant to 2.749

18. Day 348 (628) - Responses to Motions for Summary Disposition

19. Day 363 (643) - Ruling on Motions for Summary Disposition

20. Day 378 (658) - Filing of Written Testimony under 2.743(b)

21. Day 393 (673) - First Day of Hearings.

22. Day 453 (733) - Last Day of Hearings

23. Day 483 (763) - Applicant's Proposed Findings of Fact due under 2.754.

24. Day 493 (773) - Other parties' Proposed Findings Due.

25. Day 503 (783) - Staff's Proposed Findings due.

26. Day 508 (785) - Reply Findings of Applicant due under 2.754(a)(3)

27. Day 568 (848) - Board issues an initial decision under 2.760. (Not immediately effective by terms of 2.764(d))
28. Day 583 (863) - Notice of Appeal under 2.762
29. Day 613 (893) - Appellant's brief due.
30. Day 648 (928) - Responsive briefs due.
31. Day 678 (958) - Oral Argument under 2.763.
32. Day 738 (1018) - Decision on Appeal under 2.785.
33. Day 758 (1028) - Petitions for Commission review under 2.786.
34. Day 773 (1053) - Answers opposing Commission review due.
35. Day 788 (1068) - Earliest date for final Commission action under 2.786.

ATTACHMENT 6

[COMMITTEE MEMBERS PLEASE NOTE: THIS ATTACHMENT WILL INCLUDE A COPY OF THE "NRC POSITION PAPER" WHICH WAS DISTRIBUTED AT THE NOVEMBER MEETING. SINCE EACH OF YOU RECEIVED A COPY OF THIS DOCUMENT AT THAT MEETING, WE HAVE NOT INCLUDED IT IN ORDER TO MINIMIZE THE VOLUME OF THIS MAILING. PLEASE CONTACT TIM MEALEY (202/778-9628) IF YOU WOULD LIKE TO RECEIVE ANOTHER COPY.]

ATTACHMENT 7

ATTACHMENT 8

GLOSSARY OF TECHNICAL TERMS

The following represents an initial consensus on the definition of technical terms following the November meeting in Denver. It is not complete and will be enlarged as the participants request clarification. In some instances, the terms are somewhat specific to the HLW terminology already developed, rather than the most representative or precise definition in current "discovery" or "litigation support" glossaries.

Header	Technique of coding a document, process or materials by describing its parts, usually known as "fields": Bibliographic Header (simple coding) Document Number Date Author(s) Addressee(s) Copies Sent To Title Description (if title not clear) Document Type Enhanced Header (usually includes some subjective analysis of the content of a document) Abstract Thesaurus, taxonomy Subject Terms Additions Case-specific Fields, e.g., Docket File Code Contract Number Report Number Concurrence List Headers are also known as surrogates, DCF's, "coding forms", or bibliographic citations. The term "identified in the LSS" has been used in the NRC Position Paper to signify the use of a header.
Searchable Header	The information in the header after it has been indexed by a computer program and made available for searching on a computerized retrieval system
Hard Copy Document	The paper document or copy of it ("hard copy")