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WILLIAMS & ASSOCIATES, INC.

P.O. Box 48, Viola, Idaho 83872

(208) 883-0153 (208) 875-0147

Hydrogeology • Mineral Resources Waste Management • Geological Engineering • Mine Hydrology

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WM Record File

D-1020

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Docket No. _____

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PLPDR B, N, S

February 25, 1987

Contract No. NRC-02-85-008

Fin No. D-1020

Communication No. 115

Distribution:

Pohle

(Return to WM, 623-SS)

Mr. Jeff Pohle
Division of Waste Management
Mail Stop 623-SS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: NTS

Dear Jeff:

A copy of the review of each of the following documents is enclosed.

1. Spaulding, W.G., Robinson, S.W., and Paillet, F.L., 1984, Preliminary Assessment of Climate Change During Late Wisconsin Time, Southern Great Basin and Vicinity, Arizona, California, and Nevada: USGS Water Resources Investigations Report 84-4328.
2. Whitfield, M.S., Eshom, E.P., Thordarson, William, and Schaefer, D.H., 1985, Geohydrology of Rocks Penetrated By Test Well USW H-4, Yucca Mountain, Nye County, Nevada. USGS Water Resources Investigations Report 85-4030, Denver, Colorado.

Please contact me if you have any questions concerning these reviews.

Sincerely,

James L. Osieny
James L. Osieny

JLO:sl

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WMGT DOCUMENT REVIEW SHEET

FILE #:

DOCUMENT #: USGS-WRI-84-4328

DOCUMENT: Spaulding, W.G., Robinson, S.W., and Paillet, F.L., 1984, Preliminary Assessment of Climate Change During Late Wisconsin Time, Southern Great Basin and Vicinity, Arizona, California, and Nevada: USGS Water Resources Investigations Report 84-4328.

REVIEWER: Williams & Associates, Inc.,

James J. Osinsky

DATE REVIEW COMPLETED: February 25, 1987

ABSTRACT OF REVIEW:

APPROVED BY:

Roy E. Williams

The report under review presents an evaluation of paleoclimatic conditions based on plant macrofossils from the Eleana Range-2 packrat midden on the Nevada Test Site. The report suggests that a major warming trend occurred between about 16,000 and 12,000 years before present (B.P.). The average annual precipitation in the vicinity of the Eleana Range-2 packrat midden is believed to have peaked at more than 100 percent greater than present precipitation by about 12,000 to 9,000 years B.P. The report is significant in that it helps to define the maximum potential long-term precipitation in the vicinity of Yucca Mountain.

BRIEF SUMMARY OF DOCUMENT:

The report under review describes the results of an investigation of paleoclimatic changes in the vicinity of the Nevada Test Site over the last 16,000 years. The investigation consisted primarily of the evaluation of stratified accumulations of plant debris and packrat feces within the Eleana Range on the Nevada Test Site. The primary packrat midden under investigation was designated the Eleana Range-2 packrat midden. This midden consists of a stratified accumulation of plant debris and packrat feces, about 1.2 m high and 2 m wide. According to the report, samples for macrofossil analysis were collected along a single vertical column, cut 100 to 200 mm into the deposit, from the

exterior face. These samples were prepared by soaking them in warm water for 3 to 5 days to dissolve the cementing material. The disaggregated samples were washed and passed through soil sieves to separate the various materials. According to the report, plant macrofossils were sorted from the mass of organic debris, identified, and counted or weighted.

The analysis of the paleoclimatic conditions presented in the report is based on the presumption that the plant species present in the midden represent paleovegetation that was common or abundant in the immediate vicinity of the midden. According to the report, studies of modern packrat middens indicate that packrats normally are indiscriminant collectors, and gather whatever plant species are most readily available near the midden site.

Selected samples from the Eleana Range-2 packrat midden were radiocarbon dated during the investigation. These samples were pretreated by washing with hot distilled water and diluted potassium hydroxide prior to radiocarbon analysis. Table 1 of the report lists the samples and radiocarbon dates from the Eleana Range-2 packrat midden. The estimated radiocarbon ages of these samples range from 17,100 to 10,620 years B.P.

According to the report, the oldest macrofossil assemblages from the Eleana Range-2 packrat midden provide evidence for vegetational conditions toward the end of the Wisconsin (glacial period) maximum. The report notes that these assemblages contain abundant limber pine. According to the report, limber pine does not occur in the Eleana Range or in the adjacent highlands at the present time. The occurrence of limber pine at the present time is restricted to high altitude sub-alpine woodlands in the Great Basin.

The report suggests that between approximately 13,200 and 11,700 years B.P. a pronounced alteration of vegetation occurred in the vicinity of the packrat midden. The packrat midden data suggest that by 11,700 years B.P. sub-alpine woodland gave way to thermophilous woodland typified by Utah juniper, pinon pine, and prickly pear cactus.

According to the report, the pinon-juniper woodland of the latest Wisconsin differs from the woodland that exists currently at the Eleana Range locality. The primary change that occurred during the last 10,600 years consists primarily of changes in the composition of the understory. Evidence for these differences exists in the comparison between macrofossil assemblages of the Eleana Range-2 packrat midden with the composition of the modern Eleana Range-4 packrat midden.

The report suggests that climate was the forcing mechanism behind vegetational change in the vicinity of the Eleana Range-2 packrat midden. The report suggests also that "local change toward an increasing xerophytic plant association and an effectively dryer climate probably was gradual and not pronounced at first, followed by as much as 4,000 years by a relatively abrupt change to vegetation dominated by thermophiles.

According to the report, paleoenvironmental records from other areas offer additional evidence of the climatic change that began during the late Wisconsin. Stratigraphic and surficial evidence of the fluctuations in the water level of Searles Lake suggests significant changes in effective runoff from the late Wisconsin to the present time. Searles Lake consists presently of a salt pan in the Mohave Desert of California; this area was covered by a large lake during part of the late Wisconsin. The report suggests also that chronostratigraphic and packrat midden studies at the Rampart Cave in the Lower Grand Canyon provide detailed data on the timing of biotic change at the close of the last ice age.

Fluctuations in the water level of Searles Lake were controlled primarily by variations in the inflow from the Owens River. The report suggests that the lake level fluctuations reflect overall changes in the regional hydrologic budget, and that these changes were climatically controlled. The report suggests that stratigraphic and geochemical evidence exists for a drying trend beginning about 16,200 years B.P. The data suggest that climatic change caused a significant shrinkage of Searles Lake more than 1,000 years before a significant biotic change occurred at the Eleana Range-2 packrat midden site.

Biostratigraphic data from packrat middens in Rampart Cave indicate that ground sloths occupied Rampart Cave between 14,800 and 13,140 years B.P. The report suggests that abandonment of the cave by ground sloths at the close of the middle Wisconsin and a subsequent reoccupation of the cave after the close of the full glacial episode was due to climatic change. Plant-macrofossil assemblages from Rampart Cave suggest that a progressive change in vegetation began about 16,300 years B.P.

Based on data from the Eleana Range-2 packrat midden, studies of Searles Lake and Rampart Cave, and stable-isotope studies of groundwater in the Amargosa Desert, the authors of the report conclude that the trend toward collectively dryer conditions in the Southern Great Basin began about 16,000 B.P. Evidence suggests that temperatures began to increase about 16,000 B.P.; however, the report suggests also that the climate was wetter than present between approximately 12,000 and 8,000 years B.P. The report suggests that winter precipitation was dominant prior to 16,000 years B.P., but by about 12,000 years B.P. as much as

one half of the annual precipitation may have occurred during the summer. According to the report, "summer rainfall in the Southern Great Basin during the latest Wisconsin may have exceeded present quantities by more than 50 percent." In addition to higher summer rainfalls, the authors suggest that winter temperatures and winter precipitation may have been greater than present conditions. The report suggests that these estimated conditions may correlate with a period of significant groundwater recharge in the Amargosa Desert between about 15,000 and 9,000 years B.P. (Claassen, 1983).

The authors of the report under review conclude based on the information evaluated during their study that two distinct pluvial climates probably occurred in the Southern Great Basin. The report suggests that after the full-glacial climate ended about 16,000 years B.P., temperatures increased rapidly resulting in radical alteration of seasonal precipitation regimes. It is suggested that by 12,000 to 9,000 years B.P. annual precipitation may have exceeded present precipitation by more than 100 percent.

SIGNIFICANCE TO NRC WASTE MANAGEMENT PROGRAM:

The report under review discusses the evidence in support of significant climatic change during the late Wisconsin time in the Southern Great Basin and vicinity. Based primarily on the vegetational content of packrat middens, the authors of the report suggest that precipitation rates in the vicinity of the Eleana Range-2 packrat midden may have exceeded present precipitation by more than 100 percent. This information is significant with respect to the prediction of potential precipitation during future pluvial periods. While additional work is needed to refine estimates of potential precipitation during pluvial periods, the report under review provides a basis for which estimates of flux in the unsaturated zone at Yucca Mountain can be made.

PROBLEMS, DEFICIENCIES OR LIMITATIONS OF REPORT:

The report under review presents an interpretation of paleovegetation with respect to climatic conditions that existed during the life-cycle of that vegetation. Unique interpretations of the data are not possible. For example, the hypothesis that average annual precipitation may have been more than 100 percent greater than present precipitation represents a significant change from an earlier estimate (Spaulding, 1983) that annual precipitation during the late Wisconsin exceeded present precipitation by 10 to 20 percent.

The report under review presents an evaluation of climatic conditions based on paleovegetation. Estimates of annual precipitation are subjective and cannot be verified.

SUGGESTED FOLLOW-UP ACTIVITIES:

Independent analysis of this report is beyond the expertise of hydrogeologists.

REFERENCES CITED:

Claassen, H.C., 1983, Sources and Mechanisms of Recharge for Groundwater in the West-Central Amargosa Desert, Nevada--A Geochemical Interpretation. USGS Open-file Report 83-542, 66 p.

Spaulding, W.G., 1983, Vegetation and Climates of the Last 45,000 Years in the Vicinity of the Nevada Test Site, South-Central Nevada. USGS Open-file Report 83-535.

WMGT DOCUMENT REVIEW SHEET

FILE #:

DOCUMENT #: USGS-WRI-85-4030

DOCUMENT: Whitfield, M.S., Eshom, E.P., Thordarson, William, and Schaefer, D.H., 1985, Geohydrology of Rocks Penetrated By Test Well USW H-4, Yucca Mountain, Nye County, Nevada. USGS Water Resources Investigations Report 85-4030, Denver, Colorado.

REVIEWER: Williams & Associates, Inc.,

James L. Usinsky

DATE REVIEW COMPLETED: February 25, 1987

ABSTRACT OF REVIEW:

APPROVED BY:

Roy E. Williams

The report under review presents a discussion of the geohydrology of rocks penetrated by test well USW H-4. The report is a basic data interpretation report. The report presents interpretations of borehole geophysical logs with respect to the degree of induration or welding of the rocks penetrated, the intervals in which the borehole is out of gauge, and the percentage of porous rock penetrated by the borehole. In addition, the report presents interpretations of aquifer test data for a long-term aquifer test (8.9 days). The primary importance of the report under review will be in combination with companion reports dealing with the evaluation of the hydrogeologic conditions in the saturated zone beneath Yucca Mountain.

BRIEF SUMMARY OF DOCUMENT:

The report under review presents the results of geophysical logging and hydraulic testing in test well USW H-4. Test well USW H-4 is one of a series of wells designed to obtain data in the saturated zone in the vicinity of Yucca Mountain.

Test well USW H-4 is located approximately 45 km northwest of Mercury in southern Nevada. Drilling of USW H-4 began on March 22, 1982. A total depth of 1,219 m was reached on April 28,

1982. Test well USW H-4 was drilled with a drilling fluid of air foam consisting of air, detergent, and water from well J-13.

A generalized lithologic description of the units penetrated by test well USW H-4 is presented in Table 2 of the report. This table shows that all rocks penetrated by USW H-4 are of volcanic origin. These volcanic rocks consist of seven major ash flow tuffs. They are in descending order: the Tiva Canyon and Topopah Spring Members of the Paintbrush tuff, the ash flow tuffs of Calico Hills, the Frow Pass, Bullfrog, and Tram Members of the Crater Flat tuff, and the Lithic Ridge tuff. Figure 2 of the report summarizes the welding and induration characteristics of these ash flow tuffs.

Borehole geophysical logs of test well USW H-4 were recorded during two separate periods of logging. Geophysical logs were recorded and water level measurements were made after the well was drilled to a depth of 564 m. After the logging was completed, the well was cased to a depth of 561 m and cemented at its base. Drilling continued to its total depth after which the hole was logged again. According to the report, borehole geophysical logs were recorded for test well USW H-4 in order to: 1) determine a more exact depth of the major lithologic changes; 2) obtain porosity and fracture data; and 3) gauge the diameter of the open hole for selecting packer seats. Table 3 of the report lists the types of logs and the depth intervals logged.

The results of the caliper log are shown on Figure 3 of the report. Figure 3 shows the locations of "out-of-gauge" intervals within the borehole. According to the report, out-of-gauge is defined as a diameter of 100 mm greater than the diameter of the bit used to drill the hole. The percentage of borehole wall that is out of gauge in each stratigraphic unit is shown in Table 4 of the report. Table 5 of the report lists the out-of-gauge zones considered by the authors of the report to be associated with fractures.

The percentage of porous rock with depth was estimated by using density and neutron logs. Figure 4 of the report shows the vertical distribution of percentage of porous rock that is greater than the average porosity determined from density and neutron logs. The largest percentage of porous rock occurs between the depths of 0 and 800 m. According to the report, the percentage of porous rock in the lower part of the Tiva Canyon and Topopah Spring Members ranges from 15 to 46 percent. The report notes that these percentages appear to be the result of fractures and may be misleading because the hole is out of gauge. Based on Figure 4, the authors of the report make the following conclusions (according to descending stratigraphic sequence): 1) the Tiva Canyon and Topopah Spring Members contain a large percentage of porous rock, mainly due to fractures; 2) the

tuffaceous beds of Calico Hills have a smaller percentage of porous rock; 3) the Frow Pass Member has a rather large percentage of porous rock throughout; 4) the Bullfrog Member has a small percentage of porous rock; and 5) the Tram and Lithic Ridge tuff have a small percentage of porous rock.

According to the report, the conceptual model of the groundwater flow system in the general Yucca Mountain area in the vicinity of test well USW H-4 is based on model concepts presented in Rush and others (1984). This conceptual model is based on the following assumptions:

- 1) Tuffaceous rock containing the primary-matrix porosity is nearly homogeneous and isotropic and is of great areal extent.
- 2) Secondary porosity is controlled by fractures.
- 3) Primary and secondary porosity may be decreased by precipitation of minerals.
- 4) Flow to the well is through the fracture network only; however, flow probably occurs between pores and fractures.
- 5) Distances between fractures are small in comparison with the dimensions of the groundwater system under consideration.
- 6) In ash flow tuffs, zones of approximately the same degree of welding have approximately the same density of fracturing, with greater fracture density in more welded tuffs. Where dense fracture spacing occurs, water moves in fractured ash flow tuffs in a similar manner as water in a granular porous medium.

In addition to the aforementioned assumptions of the conceptual model for groundwater flow in the Yucca Mountain area, the authors of the report made the following assumptions in their conceptual model of the flow system at test well USW H-4:

- 1) Tension fractures that are subsidiary to a major north-northeast-striking fault located 110 m to the southeast are assumed to exist at the site.
- 2) In addition, long homogeneous linear fractures may exist in the northwest trending wash in which test well USW H-4 is located.
- 3) Major fractures that conduct water probably are widely spaced in the tension fracture zone related to the fault.

- 4) During pump tests, porous-media solutions for the homogeneous equivalent model in the Yucca Mountain area (Rush and other, 1984) may be used only after long periods when the response to pumping indicates a pseudo radial-flow period. During this pseudo radial-flow period, radial-flow equations may be used to calculate transmissivity in the area beyond the large elliptical zone of linear flow (Raghavan and Hadinoto, 1978; Jenkins and Prentice, 1982).

The conceptual model for flow in the vicinity of test well USW H-4 is transformed to a mathematical model of a single vertical fracture. However, the authors note that several vertical or very steep fractures are penetrated by the test well. Because of this fact, the conceptual model was used only to explain the linear flow period during pumping tests in which the vertical fractures were assumed to control flow.

According to the report, several preliminary short-term, single well pumping tests were conducted in test well USW H-4. These tests were followed by a long-term, single well main pumping test (pumping test 6). All pumping tests were conducted in the depth interval from 519 to 1,219 m. The authors of the report attribute significant water level fluctuations during the pumping tests to temperature and water density changes in the water column in the well. The authors assume that the density of water in the borehole decreased as higher temperature water flowed into the well. Figure 6 of the report illustrates the water level fluctuations that occurred during pumping test 2.

Pumping test 6 was conducted at a pumping rate of 17.4 L/sec for a period of 12,818 minutes. The authors of the report suggest that water probably was pumped from several intervals (possibly multiple aquifers) of fractured tuff (Williams, 1985). Data for the pumping tests were analyzed for aquifer transmissivity and hydraulic conductivity using the Jacob straight line method and the Theis recovery method. The method developed by Raghavan and Hadinoto (1978) was used to explain the straight line segment of drawdown data versus time on a log-log plot. This straight line segment of the data is attributed by the authors of the report to a linear flow period in vertical fractures. The straight line slope (equal to 0.5 on the log-log plot shown in Figure 7 of the report) occurs from 80 to 3,000 minutes. The Jacob straight line method was used to analyze the drawdown data from 8,000 to 11,000 minutes. The authors of the report suggest that the slope of the straight line indicated by the Jacob straight line method ($\Delta s=1.4$ m) is close to the slope (0.81 m) predicted for the straight line in the pseudo radial flow period by the method of Raghavan and Hadinoto (1978).

According to the report, the Theis-recovery method was used to analyze residual drawdown data between 100 and 1,000 minutes.

These data are shown on Figure 9 of the report. Based on the authors interpretation of the data from pumping test 6, transmissivity was estimated to be approximately 200 m²/day (based on the straight line method) and 790 m²/day (based on the Theis-recovery method).

According to the report, a radioactive tracer test, a borehole flow test and a temperature survey were conducted during pumping test 6. The borehole flow survey began 45 hours and 40 minutes into pumping test 6. The borehole flow survey indicated that the entire length of the borehole from the water surface at 519 m to the bottom of the hole at 1,219 m produced water during the pumping tests. Figure 10 of the report presents the results of the borehole flow and temperature survey.

A water sample was collected on May 17, 1982, near the end of pumping test 6. The report notes that approximately 14,700,000 L of water were pumped from the test well prior to collecting the water sample. Lithium chloride was added to water used during drilling and in the injection tests. Based on the concentration of lithium in the water sample (4.6 mg/L), the authors of the report concluded that during sample collection the well was producing mostly formation water. However, the report notes that the water sample was "soapy" from the drilling detergent. Table 8 of the report presents the results of the chemical analysis of the water sample. These data indicate that the water is predominantly sodium bicarbonate type with a carbon-14 age date of about 17,200 years.

SIGNIFICANCE TO NRC WASTE MANAGEMENT PROGRAM:

The report under review discusses the geohydrology of rocks penetrated by test well USW H-4. The report is significant to the NRC Waste Management Program in that it presents interpretations of data collected during drilling and testing of the test well. The primary significance of this report will be in combination with other reports such as Whitfield and others (1984) which present additional data for test well USW H-4.

PROBLEMS, DEFICIENCIES OR LIMITATIONS OF REPORT:

The report under review is a basic interpretation report of the data collected in test well USW H-4. The primary limitation of the report is that it is not complete. For example, geohydrologic and drill hole data for test well USW H-4 also are presented in Whitfield and others (1984); this report contains additional hydrogeologic data including a detailed lithologic

log. Dividing of the detailed hydrogeologic data and interpretations into several different documents is standard practice by the USGS. This practice makes the detailed evaluation of each report more difficult because important but related data often are presented in separate reports.

An additional limitation of the report may exist in the interpretation of the aquifer test data for pumping test 6. These data were analyzed by using the Jacob straight line method and the Theis-recovery method. Values for transmissivity based on analysis of the data by these methods range from 200 m²/day for the Jacob straight line method to 790 m²/day for the Theis-recovery method. These estimates of transmissivity are limited primarily by the conditions of the aquifer test (i.e., a highly variable discharge rate during the first 80 minutes of the test, and the effects of varying density due to temperature changes) and the Theis assumptions rather than problems with the authors interpretation of the data. Perhaps more importantly, it should be noted that the transmissivity value of 200 m²/day estimated by the Jacobs straight line method (Figure 8 of the report) is based on five data points.

SUGGESTED FOLLOW-UP ACTIVITIES:

Additional review of this document and companion documents may be necessary in the future during detailed site characterization.

REFERENCES CITED:

- Jenkins, D.N., and Prentice, J.K., 1982, Theory for Aquifer Analysis in Fractured Rock Under Linear (Nonradial) Flow Conditions. *Groundwater*, vol. 20, no. 1, p. 12-21.
- Raghavan, R.A.J., and Hadinoto, Nico, 1978, Analysis of Pressure Data for Fractured Wells--The Constant-Pressure Outer Boundary. *Society of Petroleum Engineers Journal*, vol. 18, no. 2, p. 131-150.
- Whitfield, M.S., Thordarson, William, and Eshom, E.P., 1984, Geohydrologic and Drill Hole Data for Test Well USW H-4, Yucca Mountain, Nye County, Nevada. USGS Open-file Report 84-449, 39 p.
- Williams, R.E., 1985, Comment on "Double-Porosity Models for a Fissured Groundwater Reservoir With Fracture Skin" by Allen F. Moench. *Water Resources Research*, vol. 21, no. 6, p. 889-891.

DOE denies it rigged nuclear waste dump study

Associated Press

SEATTLE - Congressional critics who claim federal Department of Energy officials rigged the radioactive waste dump site-selection process to make the Hanford nuclear reservation a finalist have been accused of blowing hot air.

In letters this week to Reps. Edward J. Markey of Massachusetts, Al Swift of Washington and Ron Wyden of Oregon, Ben Rusche, director of the department's nuclear waste office said the three Democrats "have not presented any credible evidence to substantiate criticisms."

Hanford is one of three finalists for the nation's first dump for highly radioactive spent fuel rods from commercial reactors. The others are in Nevada and Texas.

"You have not presented any credible evidence to substantiate criticisms that DOE distorted and manipulated (data) to produce a desired result - because there is none," Rusche wrote.

The three branded Rusche's response "self-serving and superficial."

In a letter Thursday to Energy Secretary John Herrington, they called for an independent investigation of the selection process.

"It is not surprising that the waste office has issued itself a clean bill of health," they said.

Last October, after two House subcommittees had spent months wading through department files, Markey, Swift, Wyden and then-Rep. Jim Weaver, D-Ore., charged the agency had deleted language from its comparative analysis of sites that suggested Richton Dome, Miss., was a better potential location for a nuclear repository than Hanford.

The department's response Thursday said the text was changed only to eliminate redundancies, unsupported conclusions, inappropriate value judgments and unnecessarily complex language.

"We submit that a truer, more accurate measure of whether information was suppressed is not what passages were deleted during the routine editing process but rather what passages remained after that process," the response said.

DOE says single contractor to oversee repository site studies

Asst. Press

R. LAND - Management of billion-dollar studies at each of three sites being considered for storing the nation's high-level nuclear waste will be done by a single contractor, the U.S. Department of Energy has announced.

The Hanford nuclear reservation here is one of the sites, and the others are in Nevada and Texas. Extensive scientific site characterization studies are to be conducted at each of them.

Officials estimate that about \$1 billion will be spent on each site's studies, which are to include drilling of deep mine shafts

and tunnels to measure the depth of the potential repository sites.

Field offices at the three sites would retain responsibility for drilling the exploratory shafts and conducting scientific studies, according to a DOE summary of the new plan.

DOE published a notice of intent to seek bidders for the oversight job in the Friday edition of Commerce Business Daily, a Chicago-based business journal.

The department estimated the new Systems Engineering and Development contract would be awarded in about a year.

Local DOE officials said no impact was expected at Hanford in the meantime.

Officials said the plan summary calls for Richland Operations to provide preliminary analysis of the data collected during studies of Hanford's basalt rock formations; it would also "participate" in preparing documents necessary for licensing a repository.

But a new national contractor will update and manage the studies at Hanford and other sites, prepare the reports and data needed to obtain a Nuclear Regulatory Commission license for the repository

and prepare the final analysis of data collected at the three sites, according to the plan.

The report said DOE's repository search was initially set up as a kind of competition between the candidates.

"The program's strategy was that the repository would be built by the project office that first produced a satisfactory site," it said.

But provisions of the National Waste Policy Act of 1982, which mandates how DOE will conduct the search, prompted the change "from a competitive program to a unified, comparative evaluation."

Lawmaker wants to clamp down on NRC

Associated Press

WASHINGTON - Sen. Daniel P. Moynihan, D-N.Y., told the Nuclear Regulatory Commission on Wednesday it has no right to entertain a staff proposal to circumvent state and local officials in the licensing of nuclear plants.

Moynihan, at a Senate oversight hearing on the NRC budget, said the suggested rules change, which could clear the way for the startup of the Seabrook plant in New Hampshire and the Shoreham plant on Long Island, "astounds me."

"What are you doing?" Moynihan demanded of NRC Chairman Lando Zech.

At issue is a 1980 NRC rule, adapted in the wake of the 1979 Three Mile Island accident in Pennsylvania, which requires that state and local authorities sign off on emergency contingency plans for any plant before it can be fully licensed.

Zech told the Senate Committee on Environment that when

the commission adopted the rule, it "assumed" that state and local officials would cooperate in drawing up plans for protecting citizens within a 10-mile zone of any reactor in the event of an accident.

However, Gov. Michael Dukakis of Massachusetts, whose state includes several communities within 10 miles of Seabrook, and Gov. Mario Cuomo of New York have since converted the emergency planning rule into virtual veto power over the Seabrook and Shoreham facilities, by flatly refusing to guarantee local cooperation should emergencies arise.

Earlier this month, the NRC staff proposed to clear the way for licensing the two multibillion-dollar plants with a new rule that would allow the commission to approve emergency plans drawn up by the utilities themselves.

Moynihan argued that "it seems to me elemental that you cannot have an emergency plan that does not assume local cooperation."