



Department of Energy

Chicago Operations Office  
Crystalline Repository Project Office (CPO)  
9800 South Cass Avenue  
Argonne, Illinois 60439

WM DOCKET CONTROL  
CENTER

WM Record File  
118

WM Project  
84

PDR ✓  
LPDR

Distribution:

Linehan

DCM

(Return to WM, 623-SS)

'85 SEP 16 P4:09

September 10, 1985

Mr. John Linehan  
U.S. Nuclear Regulatory Commission  
Division of Waste Management  
Washington, D.C. 20555

Dear Mr. Linehan:

SUBJECT: FINAL REGIONAL CHARACTERIZATION REPORTS AND COMMENT RESPONSE  
DOCUMENTS

Copies of the subject documents are being sent to you under separate cover. The Regional Characterization Reports describe the environmental and geological data collected from existing literature that will be used for region-to-area screening of crystalline rocks in an effort to identify candidate areas for further investigation for the nation's second high level waste repository. The screening will be documented and approximately 15-20 areas will be identified, for field investigation during the area phase, in the draft Area Recommendation Report to be issued late this year.

The final Regional Characterization Reports reflect the comments submitted on the revised draft Regional Characterization Reports. In addition, the more than 1600 comments received on the December 1984 revised draft Regional Characterization Reports are addressed in the Comment Response Documents.

Enclosed, for your information, are copies of the press release announcing issuance of the reports and the fact sheet prepared for responding to inquiries on the documents.

If you have any questions on the materials or require additional copies, please contact Richard Schassburger on (312) 972-2570.

Sincerely,

8509300060 850910  
PDR WASTE  
WM-84 PDR

*Sally A. Mann*

Sally A. Mann, Manager  
Crystalline Repository Project Office

Enclosures:  
As Stated

# DOE NEWS:

FOR IMMEDIATE RELEASE  
September 11, 1985

## DEPARTMENT OF ENERGY ISSUES FINAL REGIONAL CHARACTERIZATION REPORTS

The U. S. Department of Energy (DOE) today issued its final Regional Environmental Characterization Reports and Regional Geologic Characterization Reports for the Crystalline Repository Project. The data in these reports will be used for region-to-area screening of crystalline rocks in an effort to identify potential sites for the nation's second high-level nuclear waste repository. These documents describe regional environmental and geologic data collected from existing literature. As a supplement to these reports, a Comment Response Document was also prepared. The Comment Response Document contains DOE responses to state and other comments on the revised draft Regional Characterization Reports issued last December.

The Crystalline Repository Project (CRP) is part of the overall responsibility of DOE's Office of Civilian Radioactive Waste Management, as mandated by the Nuclear Waste Policy Act of 1982 (NWPA). The NWPA requires DOE to site, construct, and operate geologic repositories for the disposal of spent nuclear fuel and high-level waste from commercial reactors. DOE is conducting studies of crystalline rocks in 17 states for possible location of a second repository. Crystalline rocks are high-grade metamorphic and intrusive igneous rocks such as gneiss and granite. The 17 states are in three regions:

(more)

North Central Region

Michigan  
Minnesota  
Wisconsin

Northeastern Region

Connecticut  
Maine  
Massachusetts  
New Hampshire  
New Jersey  
New York  
Pennsylvania  
Rhode Island  
Vermont

Southeastern Region

Georgia  
Maryland  
North Carolina  
South Carolina  
Virginia

Potential sites have been identified for the first repository in Louisiana, Mississippi, Nevada, Texas, Utah and Washington. Draft environmental assessments, issued in December 1984, proposed three sites for further investigation. These sites are Yucca Mountain in Nevada; Deaf Smith County, Texas; and DOE's Hanford site in Washington.

In April 1985, DOE issued its Screening Methodology Document, for the Crystalline Repository Project, which charts the process used to narrow the number of areas under consideration.

DOE's screening process for crystalline rock involves studies focusing on geographic areas of successively decreasing size to determine if they contain sites that might be suitable for a repository. The CRP's screening process leading up to site nomination and recommendation for characterization consists of three phases--national survey, regional studies, and area studies.

(more)

Previously, a national survey identified the North Central, Northeastern, and Southeastern Regions with crystalline rock bodies as candidates for further study. In the current regional phase, DOE will use data from these Regional Characterization Reports and the Region-to-Area Screening Methodology previously released to screen from three regions down to approximately 15-20 candidate areas in approximately 4 to 6 states for further investigation. No field work has been conducted by DOE during this phase. Implementation of the region-to-area screening process will be documented in the Draft Area Recommendation Report to be issued later this year. After finalization of the Area Recommendation Report, area phase field investigations will determine if there are sites suitable for detailed site characterization within the candidate areas.

xxx

This news announcement is being distributed simultaneously with a similar release from DOE Headquarters in Washington, D. C.

xxx

DOE News Media Contact: Brian J. Quirke  
(312) 972-2423

Ginger King  
(202) 252-2835

# DOEFACTS:

## U.S. Department of Energy Issues Final Data Report In Crystalline Rock Search For High-Level Nuclear Waste Repository

The U.S. Department of Energy today issued its final Regional Characterization Reports for the Crystalline Repository Project. These documents describe the environmental and geologic data to be used in identifying possible candidate areas for the nation's second high-level nuclear waste repository.

The Crystalline Repository Project is part of DOE's Civilian Radioactive Waste Management Program, mandated by the Nuclear Waste Policy Act of 1982. This Act requires DOE to site, construct and operate one mined geologic repository--and find a suitable site for the second repository. Deep, geologic disposal in repositories will permanently isolate spent fuel from commercial reactors and high-level nuclear waste from defense activities.

The 17 states containing crystalline rock bodies that are under study include:

(more)

North Central Region

Michigan  
Minnesota  
Wisconsin

Northeastern Region

Connecticut  
Maine  
Massachusetts  
New Hampshire  
New Jersey  
New York  
Pennsylvania  
Rhode Island  
Vermont

Southeastern Region

Georgia  
Maryland  
North Carolina  
South Carolina  
Virginia

These Regional Characterization Reports represent the compilation of environmental and geologic data necessary to accomplish the upcoming region-to-area screening process. The revised draft RCRs were issued in May 1983 for state review and public comment. The information in the reports was collected from published literature such as U.S. Geological Survey Reports, state geologic data, and technical journals.

The reports identify 236 bodies of crystalline rock that meet two criteria --the rock bodies extend to a depth of at least 1,000 feet below the surface and they are a minimum of 39 square miles. In the region-to-area screening process, DOE will narrow the number of rock bodies from the 236 in 17 states to approximately 15-20 in approximately 4 to 6 states.

The screening process was detailed in DOE's Screening Methodology Document (SMD), issued in early 1985. It lists five factors that will be used to disqualify a rock body from further consideration. They are:

Federal protected lands  
Components of the National Forest system  
State protected lands  
Population density and distribution  
Deep mines and quarries

(more)

The screening document also lists 20 geologic or environmental variables that will be used as potentially adverse or favorable factors to consider in the selection of the 15-20 rock bodies for further consideration. They are:

	<u>Environmental</u>	<u>Geologic</u>
Disqualifying Factors	Federal protected lands Components of National Forest System State protected lands Population density and distribution	Deep Mines and quarries
Screening Variables	Proposed federal protected lands Population density Proximity to federal-protected lands Proximity to state-protected lands National forest lands State forest lands Designated critical habitat for threatened and endangered species Wetland Surface water bodies Proximity to highly populated areas or to 1-mile-square areas with 1,000 or more persons	Rock mass extent Major ground water discharge zones Rock and mineral resources Seismicity Suspected quaternary faulting Post emplacement faulting Thickness of rock mass Thickness of overburden State of stress Ground-water resources

By applying the screening process outlined in the Screening Methodology Document to the data contained in the Regional Characterization Reports, DOE will identify the 15-20 sites that will undergo field work in the upcoming area phase.

These 15-20 sites will be specified in the draft Area Recommendation Report to be issued in November of this year. After state review and comment, the Area Recommendation Report will be finalized in mid-1986.

(more)



The site selection for the second repository started with a national survey that identified the three regions with crystalline rock. The current region-to-area screening phase is scheduled to conclude in November 1985, with the publication of the draft Area Recommendation Report which will identify the 15-20 candidate rock bodies for further study.

In the upcoming area phase, DOE will conduct field work at the approximately 15-20 selected areas. This may include drilling boreholes, laying seismic networks, and other activities designed to help scientists and engineers better understand what is going on above and below the surface. This phase is expected to last until approximately 1991.

In 1991, DOE will recommend five sites for the second repository, and shortly thereafter nominate three sites for detailed site characterization--intensive study of each of the three selected sites. In the mid-1990's, the President will select one site for the second repository, which is expected to accept high-level waste in the year 2006.

In the search for the first repository, DOE identified nine potentially acceptable sites in Louisiana, Mississippi, Nevada, Texas, Utah, and Washington in 1983. Draft environmental assessments, issued in December 1984, proposed three sites, for detailed site characterization. These sites are Yucca Mountain in Nevada, Deaf Smith County in Texas, and the Hanford site in Washington. The first repository is expected to be operational in the year 1998.

(more)



xxx

FOR FURTHER INFORMATION

Dr. Sally A. Mann, Manager, CPO  
Dr. Paul K. Kearns, Chief, Site Evaluation Branch  
Richard J. Schassburger, North Central Regional Manager  
F. Hunter Weiler, Northeastern Regional Manager  
Dr. Maurice F. Bender, Southeastern Regional Manager

U. S. Department of Energy  
Office of Civilian Radioactive Waste Management  
Crystalline Repository Project Office  
9800 South Cass Avenue  
Argonne, Illinois 60439  
Telephone: (312) 972-2548

Press Contact: Brian Quirke  
(312) 972-2423

September 1985