

# DOENEWS:

EMBARGOED FOR RELEASE UNTIL  
1:00 p.m. (EST) January 16, 1986

## DEPARTMENT OF ENERGY ISSUES DRAFT AREA RECOMMENDATION REPORT

In accordance with the provisions of the Nuclear Waste Policy Act of 1982 (NWP), the U.S. Department of Energy today issued for public comment a draft Area Recommendation Report (ARR) which identifies twelve proposed potentially acceptable sites for a second high level waste repository, should Congress eventually direct construction of such a facility.

The draft ARR identifies areas in seven states in an early stage of a multi-step procedure for selecting an acceptable site.

The NWP requires DOE to identify a potential site for construction of a second nuclear waste repository but does not authorize its construction. Construction would require additional Congressional action. If approved by Congress, the repository would begin operation about twenty years from now.

The search for candidates for a second geologic repository is part of a major program being carried out by DOE's Office of Civilian Radioactive Waste Management. Under the NWP, DOE is directed to develop a permanent disposal system for spent nuclear fuel and high-level radioactive waste. DOE has previously identified nine potentially acceptable sites in six States for the first repository.

In the draft ARR, the Department selected 12 areas as proposed potentially acceptable sites where the DOE proposes to do field studies:

State	Size (sq. mi.)	Counties
Georgia	214	Lamar, Monroe, & Upson
Maine	92	Hancock & Penobscot
Maine	385	Androscoggin, Cumberland, & Oxford

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Distribution: JTG Hildenbrand  
REB MJB JLinehan DRM  
JOB LBH CER MRK  
(Return to WM, 623-SS) KStablein RJohnson

State	Size (sq. mi.)	Counties
Minnesota	300	Marshall, Pennington, Polk, & Red Lake
Minnesota	113	Norman and Polk
Minnesota	397	Benton, Mille Lacs, Morrison, & Sherburne
New Hampshire	78	Cheshire, Hillsborough, Merrimack, & Sullivan
North Carolina	142	Franklin, Johnson, & Wake
North Carolina	105	Buncombe, Haywood, & Madison
Virginia	209	Bedford
Virginia	307	Halifax & Pittsylvania
Wisconsin	1094	Langlade, Marathon, Menominee, Oconto, Portage, Shawano, & Waupaca

Portions of the proposed potentially acceptable site in Wisconsin are within the Menominee and Stockbridge-Munsee Indian Reservations and portions of one of the sites in Maine are within the Penobscot and Passamaquoddy Reservations.

DOE's screening process consists of three phases: a national survey, regional studies, and area studies. A national survey identified 235 rock bodies in three regions, spanning 17 States. Those 17 States are: Connecticut, Georgia, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia and Wisconsin.

DOE has performed region-to-area screening resulting in a proposed narrowing of the number of rock bodies under consideration from 235 areas to 12 proposed potentially acceptable sites.

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DOE will conduct public briefings and formal hearings in each of the 17 States during the 90-day comment period on the draft ARR. Following consideration of the comments received, the final ARR is scheduled to be released in Summer 1986.

In addition to the 12 areas proposed as potentially acceptable sites, an additional eight areas located in Georgia, Minnesota, Virginia, and Wisconsin, which meet the requirements for identification as potentially acceptable sites, will retain their designation as candidate areas; and the DOE may formally identify any or all as potentially acceptable sites in the event that one or more of the proposed potentially acceptable sites proves unsuitable before finalizing the ARR or during the area phase. These additional eight areas are:

State	Size (sq. mi.)	Counties
Georgia	67	Gwinnett & Walton
Minnesota	249	Becker, Clearwater, & Mahnomon
Minnesota	171	Pope, Stearns, & Todd
Minnesota	60	Big Stone, Stevens, & Swift
Minnesota	287	McLeod, Nicollet, Renville, & Sibley
Minnesota	70	Marshall
Virginia	64	Goochland, Hanover, & Louisa
Wisconsin	171	Ashland, Bayfield, & Sawyer

In the upcoming area phase, which will start when the final ARR is issued, DOE will do field studies at each of the potentially acceptable sites. Field work will include collection of geologic, environmental, socioeconomic and transportation data. Field work will commence after the issuance of an Area Characterization Plan expected to be completed in early 1987.

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NOTE: A press briefing announcing this proposed decision can be heard nationwide January 16 (1:00 P.M. to 11:00 P.M., EST) and January 17 (8:00 A.M. to 11:00 P.M., EST) by telephoning 900-410-1222. The telephone charge is 50 cents for the first minute and 35 cents for each additional minute.

A similar press release is being issued simultaneously by DOE Headquarters in Washington.

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NEWS MEDIA CONTACT: BRIAN QUIRKE (312) 972-2423

## FACT SHEET

### DEPARTMENT OF ENERGY ISSUES DRAFT AREA RECOMMENDATION REPORT Identifies 12 Proposed Potentially Acceptable Sites in Crystalline Rock Search for Second Nuclear Waste Repository for Spent Nuclear Fuel and High-Level Waste

The United States Department of Energy recently identified 12 proposed potentially acceptable sites in seven States in its search for the Nation's second high-level nuclear waste repository. The 12 sites where the Department proposes to do field studies are the following:

<u>State</u>	<u>Size</u> (sq. mi.)	<u>Counties</u>
Georgia	214	Lamar, Monroe, & Upson
Maine	92	Hancock, Penobscot, & Washington
Maine	385	Androscoggin, Cumberland, & Oxford
Minnesota	300	Marshall, Pennington, Polk, & Red Lake
Minnesota	113	Norman and Polk
Minnesota	397	Benton, Mille Lacs, Morrison, & Sherburne
New Hampshire	78	Cheshire, Hillsborough, Merrimack, & Sullivan
North Carolina	142	Franklin, Johnson, & Wake
North Carolina	105	Buncombe, Haywood, & Madison
Virginia	209	Bedford
Virginia	307	Halifax & Pittsylvania
Wisconsin	1094	Langlade, Menominee, Marathon, Oconto, Portage, Shawano, & Waupaca

The Department also identified eight candidate areas that may be considered in the event that DOE determines that other areas are needed to meet program requirements. Those eight areas are the following:

<u>State</u>	<u>Size</u> (sq. mi.)	<u>Counties</u>
Georgia	67	Gwinnett & Walton
Minnesota	249	Becker, Clearwater, & Mahnomen
Minnesota	171	Pope, Stearns, & Todd
Minnesota	60	Big Stone, Stevens, & Swift
Minnesota	287	McLeod, Nicollet, Renville, & Sibley
Minnesota	70	Marshall
Virginia	64	Goochland, Louisa, & Hanover
Wisconsin	171	Ashland, Bayfield, & Sawyer

Nomination of five sites for characterization for the Nation's second nuclear waste repository is scheduled for 1991.

#### Public Briefings & Hearings

The Department's Crystalline Repository Project Office identified the candidate areas in the draft Area Recommendation Report (ARR). DOE will conduct public briefings during the formal 90-day comment period for the draft ARR. These briefings are designed to inform State and Indian Tribal officials, elected representatives, and the general public about the contents of the draft ARR. Later, during the comment period, DOE will conduct formal hearings in each of the 17 states involved in the crystalline program to receive oral comments regarding the document and the Department's proposed decisions. Written comments will also be accepted. Following consideration of the comments received, the final Area Recommendation Report is scheduled to be released in summer 1986.

#### Screening Process

DOE's crystalline rock screening process consists of three phases--national survey, regional studies, and area studies. A national survey identified 17 States in three regions (North Central, Northeastern, and Southeastern) for further study. In the regional survey 235 crystalline rock bodies in the 17 states were identified and available literature was compiled. The 17 states in three regions are the following:

##### 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

In September 1985, DOE issued final Regional Characterization Reports that described the environmental and geologic aspects of the three regions. Based on the regional studies, DOE performed region-to-area screening resulting in a proposed narrowing of the number of rock bodies under consideration from 235 to 12 proposed potentially acceptable sites. This narrowing was accomplished by applying a four-step screening process.

The first step eliminated significant amounts of land area through the application of five disqualifying factors. Those disqualifiers are the following:

- Federal protected lands
- State protected lands
- Components of national forest lands
- Population density and distribution
- Deep mines and quarries

Disqualified land areas will not be considered further.

The second step in the screening process used the following 16 variables:

#### Geologic

- Rock mass extent
- Major ground-water discharge zones
- Rock and mineral resources
- Seismicity
- Suspected Quaternary faulting
- Postemplacement faulting

#### Environmental

- Proposed Federally-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
- Wetlands
- Surface water bodies
- Proximity to highly-populated areas

In the screening process, it was important to establish the relative importance of each of the variables. To do this, weights were assigned to each variable in two weighting workshops. These workshops, one for project staff and one involving only representatives of the involved States, resulted in the generation of nine sets of weightings--nine different opinions about the relative importance of each of the variables.

Using these nine sets of weightings, 22 areas were identified as the most suitable for a repository by use of computer-generated summary composite maps.

In the third step of the process, DOE conducted sensitivity analyses. These analyses basically asks "what if" questions to verify the quality of the sites selected. This step involved the consideration of four additional geologic variables (thickness of rock mass, thickness of overburden, state of stress, and ground-water resources); modification of three variables (rock mass extent, seismicity, and proximity to highly-populated areas); consideration of various weighting sets and consideration of another method of averaging to determine favorability.

Based on DOE policy not to select a site that would require field work on Canadian soil, the Department deferred one area near the Canadian-Maine border. Two other areas, less than one mile apart in Wisconsin, were combined into one large area--leaving a total of 20 areas.

In the fourth screening step, DOE determined that all 20 areas warranted further investigation in the area phase and that all 20 areas were suitable for identification as potentially acceptable sites. Based on Steps 1-3 and consideration of certain favorable geologic characteristics analyzed in Step 4, DOE selected 12 of these areas as the proposed potentially acceptable sites--for field work activities. The remaining eight will be considered, as necessary.

In the upcoming area phase, which will start when the final Area Recommendation Report is issued, DOE will do field studies at each of the potentially acceptable sites. Field work will include collection of geologic and environmental data and socioeconomic studies.

#### Overall Program

The Crystalline Repository Project Office is part of DOE's Office of Civilian Radioactive Waste Management, which has overall responsibility for the permanent isolation of the Nation's high-level nuclear waste. This responsibility was mandated in the Nuclear Waste Policy Act of 1982. The NWPA requires DOE to site, construct, and operate one geologic repository and to find a suitable site for the second repository. The Crystalline Repository Project conducts the investigation of potential sites that are located in crystalline rock for the second repository. Both repositories will permanently dispose of spent nuclear fuel from commercial reactors and both commercial and defense high-level waste.

In the search for the Nation's first repository, nine potential sites were identified in Louisiana, Mississippi, Nevada, Texas, Utah, and Washington in 1983. Draft environmental assessments, issued in December 1984, proposed the nomination five sites in Mississippi, Nevada, Texas, Utah, and Washington as sites suitable for a geologic repository. Those

draft documents also proposed the recommendation of sites for site characterization--Yucca Mountain, Nevada; Deaf Smith County, Texas; and DOE's Hanford site in Washington.

**FOR FURTHER INFORMATION**

**U.S. Department of Energy  
Office of Civilian Radioactive Waste Management  
1000 Independence Ave., S.W.  
Washington, D.C. 20585**

**U.S. Department of Energy  
Office of Civilian Radioactive Waste Management  
Crystalline Repository Project Office  
9800 South Cass Avenue  
Argonne, Illinois 60439**

## Fact Sheet

### Crystalline Repository Project--Area Phase

#### Background

The Crystalline Repository Project's draft Area Recommendation Report identified 12 proposed potentially acceptable sites for field studies during the Project's Area Phase. Following public review and comment on this document, a final Area Recommendation Report (ARR) will be issued during the summer 1986.

Area Phase efforts will focus on the acquisition of new geologic, environmental, and socioeconomic data in the 12 identified areas. The area screening process will use the DOE Siting Guidelines as the basic criteria for identifying candidate sites, although the approach will not be the same as that used in the region-to-area screening process. An Area Characterization Plan (ACP), which will be completed in consultation with States and Indian Tribes, will specify the data to be collected and field work that will be conducted during the Area Phase. The major objective of the ACP will be to describe the plans for the acquisition of field data. A final ACP will be issued prior to the initiation of Area Phase field investigations.

Acquisition and evaluation of field data will make it possible to identify potential repository sites within the large areas, and to compare among those sites. This will lead to the nomination and recommendation of candidate sites for detailed site characterization for a potential second repository.

#### Area Phase Activities

Area Phase activities will include 3 to 4 years of field studies in the 12 identified areas. Detailed geological, environmental, and socioeconomic data will be gathered to determine the suitability of an area for detailed site characterization.

Geologic work will involve such activities as exploratory drilling, sampling, and well construction; core recovery, analyses, and description; well logging; geophysical surveys; hydrologic testing and modeling; aerial photographs and satellite imagery interpretations; seismic monitoring; and geologic mapping.

Environmental/socioeconomic work will include analysis of aquatic and terrestrial ecology, on-site and off-site hazards, meteorology/air quality, archaeology, historical features, projected population, seasonal population fluctuation, labor availability, regional economics, and land use compatibility considerations.

Interim reports will be issued during the Area Phase that document the results of data collection efforts. These reports will be issued to the States, Indian Tribes, and the public.

#### State, Indian Tribe, and Public Involvement

States and Indian Tribes will be involved in the development of DOE's Area Phase plans and methodologies. In addition to the day-to-day interaction between DOE and the States and Indian Tribes, workshops will be held to develop plans and methodologies for the Area Phase. In addition, local governments will be kept informed of project developments as the Area Phase proceeds.

Further, DOE hopes to negotiate consultation and cooperation agreements with the affected States and Indian Tribes. Such agreements, where negotiated, will govern Federal-State/Tribal relations.

DOE intends to comply with all State permitting requirements, as well as State and local regulations consistent with DOE's responsibilities under the Nuclear Waste Policy Act. DOE also will identify State and local laws and regulations that may conflict with DOE's responsibilities under the Act. DOE will work closely with appropriate officials to fully address these issues.

Finally, the process used to acquire land for the exploratory shafts and repository will depend on who owns the property at the candidate sites. It is too early in the site selection process to determine how land may be acquired for the crystalline sites. However, in the first repository program, the U.S. Corps of Engineers will assist DOE in acquiring any privately-owned lands needed for site characterization and repository development. Land controlled by another Federal agency or a State will require a formal transfer of title.

#### What Follows Area Field Work Activities?

As mentioned earlier, the completion of Area Phase field research will lead to the nomination of candidate sites and the Secretary of Energy's recommendation to the President of sites that should undergo detailed site characterization as potential second repository locations. In accordance with the Nuclear Waste Policy Act, each nomination will be accompanied by an environmental assessment, which will be issued in draft form for review and comment. In accordance with current DOE planning, this recommendation to the President is scheduled to be made in 1991. Presidential approval of any of the crystalline rock sites as a potential second repository would result in more detailed site characterization work at the approved site or sites for approximately 4 to 6 years.

Prior to the initiation of site characterization at any site, DOE will issue a site characterization plan, which will include, among other requirements, a description of the candidate site, the site characterization activities to be conducted, plans for decontamination and decommissioning, and any other information that may be required by the NRC. After completion of site characterization, DOE will recommend one site from among all characterized sites to the President for approval as the second repository site. This recommendation will be accompanied by an environmental impact statement. This environmental impact statement will be prepared pursuant to the Nuclear Waste Policy Act of 1982 and the National Environmental Policy Act of 1969.

For the second repository, DOE may consider (1) sites identified as potentially acceptable but not nominated for the first repository; (2) sites characterized but not chosen for the first repository site; and (3) sites found potentially acceptable from rock formations not previously studied in the first repository selection process.

The environmental impact statement would be followed by the President's recommendation to Congress of a single site for location of the second repository in 1998. A license application will be made to the Nuclear Regulatory Commission (NRC) after the site designation becomes effective. The present estimate for the time required to construct a repository ready for receipt and emplacement of waste is approximately 6 years. Before construction of a second repository, the DOE must receive Congressional authorization.

#### FOR FURTHER INFORMATION

U.S. Department of Energy  
Office of Civilian Radioactive Waste Management  
1000 Independence Ave., S.W.  
Washington, D.C. 20585

U.S. Department of Energy  
Office of Civilian Radioactive Waste Management  
Crystalline Repository Project Office  
9800 South Cass Avenue  
Argonne, Illinois 60439

U. S. Department of Energy  
Office of Communications  
9800 South Cass Avenue  
Argonne, Illinois 60439

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DIVISION OF WASTE MANAGEMENT  
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