

**U.S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT**

**PRESENTATION TO
THE NUCLEAR WASTE TECHNICAL REVIEW BOARD**

**SUBJECT: EARLY SITE SUITABILITY
EVALUATION - OVERVIEW**

PRESENTER: JEAN YOUNKER

**PRESENTER'S TITLE
AND ORGANIZATION: STAFF ADVISOR
PROJECT MANAGEMENT
TECHNICAL & MANAGEMENT SUPPORT SERVICES**

**PRESENTER'S
TELEPHONE NUMBER: (702) 794-7650**

**DENVER, COLORADO
MARCH 6-7, 1991**

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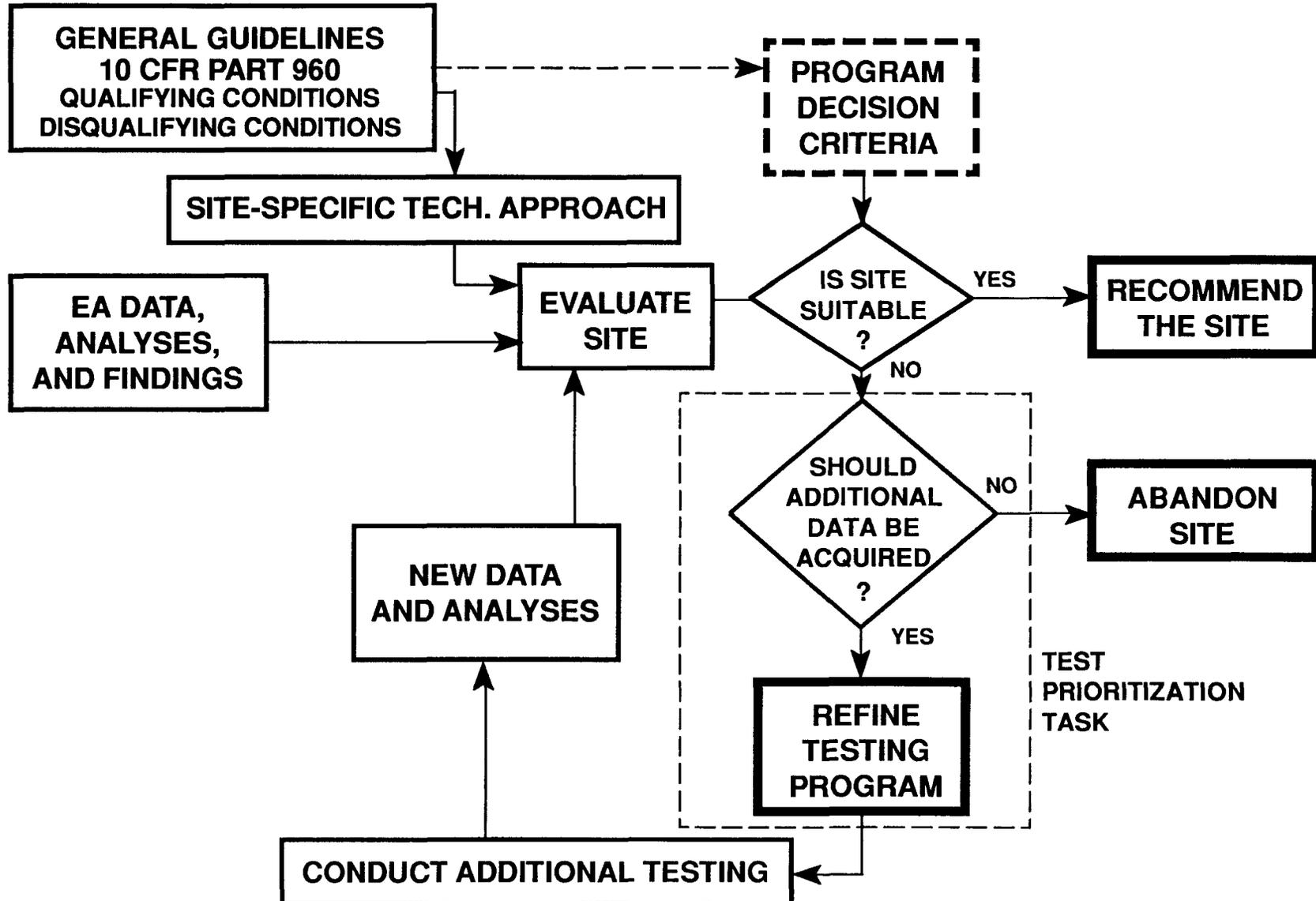
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OVERVIEW OF PRESENTATION

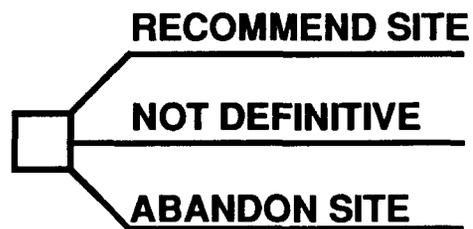
- **GENERAL APPROACH**
- **STATUS OF EARLY SITE SUITABILITY TASK**
- **PLANS FOR ACTIVITIES THROUGH 1991**

APPROACH TO EARLY SITE SUITABILITY EVALUATION



EARLY SITE SUITABILITY EVALUATION IS BEING INTEGRATED WITH THE TEST PRIORITIZATION TASK

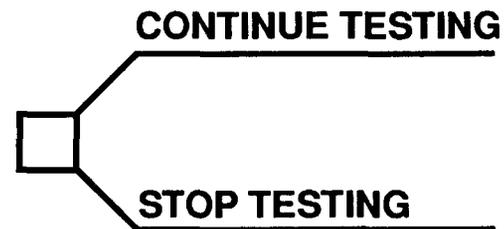
SITE-SUITABILITY DECISION



SITE-SUITABILITY OPTIONS

- RECOMMEND THE SITE
- NOT DEFINITIVE
 - REFINE TESTING PROGRAM
- ABANDON THE SITE

SITE-TESTING DECISION



SITE-TESTING OPTIONS

- CONTINUE TESTING
 - AS PLANNED
 - REVISED TEST PLAN
 - ALTERED STRATEGY
- STOP TESTING

TEST PRIORITIZATION TASK PROVIDES

- **PRELIMINARY STRATEGY FOR EVALUATING IMPORTANCE OF POSTCLOSURE SUITABILITY CONCERNS**
- **PROCEDURE FOR EVALUATING VALUE OF ADDITIONAL SITE TESTING**
- **TOOL FOR TEST PRIORITIZATION**

GENERAL GUIDELINE MATRIX

GUIDELINE	960.	CONDITION		EA FINDING LEVEL
		QUAL	DISQ	
POSTCLOSURE GUIDELINES				
4-1(a)	System (& s/syst) Guideline	X		L
4-2-1(a)	Geohydrology	X		L
4-2-1(d)	GWTT		X	L
4-2-2(a)	Geochemistry	X		L
4-2-3(a)	Rock Characteristics	X		L
4-2-4(a)	Climate Changes	X		L
4-2-5(a)	Erosion	X		L
4-2-5(d)	200m overlying		X	L
4-2-6(a)	Dissolution	X		H
4-2-6(d)	Within 10K Years-LWI*		X	H
4-2-7(a)	Tectonics	X		L
4-2-7(d)	Quaternary evidence-LWI		X	L
4-2-8-1(a)	Natural Resources	X		L
4-2-8-1(d)(1)	Previous Site Activity		X	L
4-2-8-1(d)(2)	Previous Area Activity		X	L
4-2-8-2(a)	Site Ownership & Control	X		L
16	Subtotals	10	6	

* LWI = Loss of Waste Isolation

GENERAL GUIDELINE MATRIX

GUIDELINE		CONDITION		EA FINDING LEVEL
		QUAL	DISQ	
960.				
PRECLOSURE GUIDELINES				
5-1(a)(1)	System Radiological Safety	X		L
5-1(a)(2)	" Environ, Socecon, & Transp	X		L
5-1(a)(3)	" Ease & Cost of S,C,O, & C	X		L
5-2-1(a)	Population Density & Distribution	X		L
5-2-1(d)(1)	Highly Populated		X	H
5-2-1(d)(2)	1 Kilopop. in 1 Mile		X	H
5-2-1(d)(3)	No Emergency Program		X	L
5-2-2(a)	Site Ownership & Control	X		L
5-2-3(a)	Meteorology	X		L
5-2-4(a)	Offsite Installations & Operations	X		L
5-2-4(d)	Conflict w/Defense Actvts		X	L
5-2-5(a)	Environmental Quality	X		L
5-2-5(d)(1)	No Mitigation of Impacts		X	L
5-2-5(d)(2)	Within National Preserves		X	L
5-2-5(d)(3)	Resource Prsrvtn Conflict		X	L
5-2-6(a)	Socioeconomic Impacts	X		L
5-2-6(d)	Degrade Water Sources		X	L
5-2-7(a)	Transportation	X		L
5-2-8(a)	Surface Characteristics	X		L
5-2-9(a)	Rock Characteristics	X		L
5-2-9(d)	Significant Risk		X	L
5-2-10(a)	Hydrology	X		L
5-2-10(d)	Beyond Engrg Technology		X	L
5-2-11(a)	Tectonics	X		L
5-2-11(d)	Beyond Engrg Technology		X	L
25	Subtotals	14	11	
41	Total	24	17	

INITIAL CORE TEAM OBJECTIVES

- **DEFINE SPECIFIC APPROACH TO EVALUATION OF SUITABILITY OF YUCCA MOUNTAIN SITE WITHIN FRAMEWORK OF 10 CFR PART 960**
- **IDENTIFY 10 CFR 960 GUIDELINES WHERE DATA ARE SUFFICIENT FOR EARLY EVALUATION**
- **CONDUCT EARLY EVALUATIONS**

PROGRESS

- **AN OGD ACTIVITY PLAN WAS PREPARED AND APPROVED**
- **OGD DIRECTED THE T&MSS CONTRACTOR TO CONDUCT THE EARLY SITE SUITABILITY TASK AND TO PREPARE AN IMPLEMENTATION PLAN**
- **THE TASK PLAN WAS INTEGRATED WITH THE TEST PRIORITIZATION TASK ACTIVITY**

PROGRESS

(CONTINUED)

- **QA CONTROLS TO BE APPLIED TO THE TASK WERE ESTABLISHED**
- **AN IMPLEMENTATION PLAN WAS PREPARED AND APPROVED**
- **AN EARLY SITE SUITABILITY EVALUATION CORE TEAM WAS SELECTED FROM AMONG PROGRAM CONTRACTORS**

ESSE CORE TEAM

JEAN YOUNKER
SAIC, TEAM LEAD

- **BILL ANDREWS, SAIC**
- **LYN BALLOU, LLNL**
- **ART DUCHARME, SNL**
- **BILL DUDLEY, USGS**
- **GREG FASANO, SAIC**
- **STEVE FOGDALL, SAIC**
- **DICK HERBST, LANL**
- **CHUCK HERRINGTON, SAIC**
- **LINDA LINDEN, SAIC**
- **LARRY RICKERTSEN, WESTON**

OBSERVERS

- **J. BOAK, DOE PROJECT OFFICE**
- **S. VAN CAMP, DOE, AVD**
- **J. STOCKEY, DOE, AVD**
- **R. BROWN, DECISION SCIENCES CONSORTIUM**

PROGRESS

(CONTINUED)

- **A MEETING TO FORMALLY INITIATE THE TASK WAS HELD IN FEBRUARY '91. ACTIONS ACCOMPLISHED WERE:**
 - **QUALIFICATION OF CORE TEAM MEMBERS ON T&MSS PROCEDURES**
 - **INITIATION OF THE DEVELOPMENT OF A SITE SUITABILITY (AND UNSUITABILITY) DEFINITION**
 - **ASSIGNMENT OF RESPONSIBILITIES FOR EVALUATION OF EACH GUIDELINE**

PROGRESS

(CONTINUED)

- **A PRELIMINARY EVALUATION OF ALL GUIDELINES WAS CONDUCTED BY THE CORE TEAM**

– THE PRELIMINARY EVALUATION INCLUDES:

- 1. REVIEW NEW INFORMATION AND ANALYSES FOR EACH GUIDELINE**
- 2. DETERMINE CURRENT STATUS OF FINDINGS**
- 3. IDENTIFY INFORMATION NEEDED TO SUPPORT HIGHER LEVEL FINDINGS**

PLANNED FUTURE ACTIVITIES

- **USE THE PRELIMINARY EVALUATION OF GUIDELINES AS A BASIS FOR DEVELOPING METHODS FOR ADDRESSING EACH GUIDELINE**
- **DEVELOP A GENERAL METHOD FOR SITE SUITABILITY EVALUATION**

SCHEDULE FOR EARLY SITE SUITABILITY TASK

