

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

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

SUBJECT: MANAGEMENT OVERVIEW

PRESENTER: MAXWELL B. BLANCHARD

**PRESENTER'S TITLE
AND ORGANIZATION: DIRECTOR, REGULATORY & SITE EVALUATION DIVISION
YUCCA MOUNTAIN PROJECT OFFICE
U.S. DEPARTMENT OF ENERGY**

**PRESENTER'S
TELEPHONE NUMBER: (702) 794-7939**

JULY 24-25, 1990

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PURPOSE OF NWTRB-DOE MEETING

PROVIDE UPDATE ON PROGRESS AND STATUS OF:

- **ALTERNATIVE LICENSING STRATEGIES**
- **SURFACE-BASED TESTING PRIORITIZATION**
- **CALICO HILLS RISK/BENEFIT ANALYSIS**
- **EXPLORATORY SHAFT FACILITY ALTERNATIVES EVALUATION**

ROLE OF TASK FORCES

- **PROVIDE INPUT TO THE DOE FOR RESOLUTION OF TECHNICAL ISSUES RAISED BY THE NUCLEAR REGULATORY COMMISSION, NWTRB, EEI, AND STATE OF NEVADA**
- **DEVELOP SYSTEMATIC BASIS FOR MAJOR PROGRAMMATIC DECISIONS**

TASK FORCE OBJECTIVES

TASK FORCE

OBJECTIVE

**SURFACE-BASED
PRIORITIZATION**

**DEVELOP METHODOLOGY TO IDENTIFY
EARLY TESTS THAT COULD INFLUENCE
SITE-SUITABILITY DECISION
DEVELOP METHODOLOGY FOR EVALUATING
SITE SUITABILITY**

**CALICO HILLS
RISK/BENEFIT**

**EVALUATE THE BENEFIT OF VARIOUS
EXPLORATION STRATEGIES FOR THE
CALICO HILLS UNIT vs. THE POTENTIAL
FOR IMPACTS ON PERFORMANCE**

ESF ALTERNATIVES

**SYSTEMATICALLY EVALUATE OPTIONS
FOR ESF CONFIGURATION AND
CONSTRUCTION METHODS AND
RECOMMEND PREFERRED OPTION**

**ALTERNATIVE
LICENSING
STRATEGIES**

**EVALUATE ALTERNATIVES TO TOP-LEVEL
SCP LICENSING STRATEGY THAT COULD
IMPROVE SCHEDULE/COST/PERFORMANCE**

STATUS OF TASK FORCE ACTIVITIES

TASK FORCE

STATUS

**SURFACE-BASED
PRIORITIZATION**

**METHODOLOGY FOR PRIORITIZATION NEARLY
COMPLETE; MODELS FOR SENSITIVITY
STUDIES UNDER DEVELOPMENT; SUITABILITY
METHODOLOGY BEING DEFINED**

**CALICO HILLS RISK/
BENEFIT**

**PRELIMINARY TASK FORCE RECOMMENDATION
FOR EXPLORATION OF CALICO HILLS UNIT
PROVIDED TO ESF ALTERNATIVES STUDY;
DRAFT REPORT UNDER PREPARATION**

ESF ALTERNATIVES

**OPTIONS SELECTED; SCORING OF OPTIONS
BEGAN IN JUNE; SENSITIVITY STUDIES TO
CONTINUE THROUGH MID-SEPTEMBER;
DRAFT RECOMMENDATIONS WILL BE
PROVIDED TO DOE IN DECEMBER 1990**

**ALTERNATIVE
LICENSING
STRATEGY**

**TASK FORCE REPORT IS UNDERGOING
INTERNAL REVIEW**

DOE ACTION IN RESPONSE TO RECEIPT OF RECOMMENDATIONS FROM TASK FORCES

- **INITIATE MANAGEMENT REVIEWS OF RECOMMENDATIONS CONSIDERING BROADER PROGRAMMATIC IMPACTS OF RECOMMENDED ACTIONS**
- **HOLD INTERACTIONS WITH NUCLEAR REGULATORY COMMISSION PER EARLIER COMMITMENTS (e.g., CALICO HILLS, ESF)**
- **DETERMINE APPROPRIATE COURSE OF ACTION AND DEVELOP IMPLEMENTATION PLAN(S)**

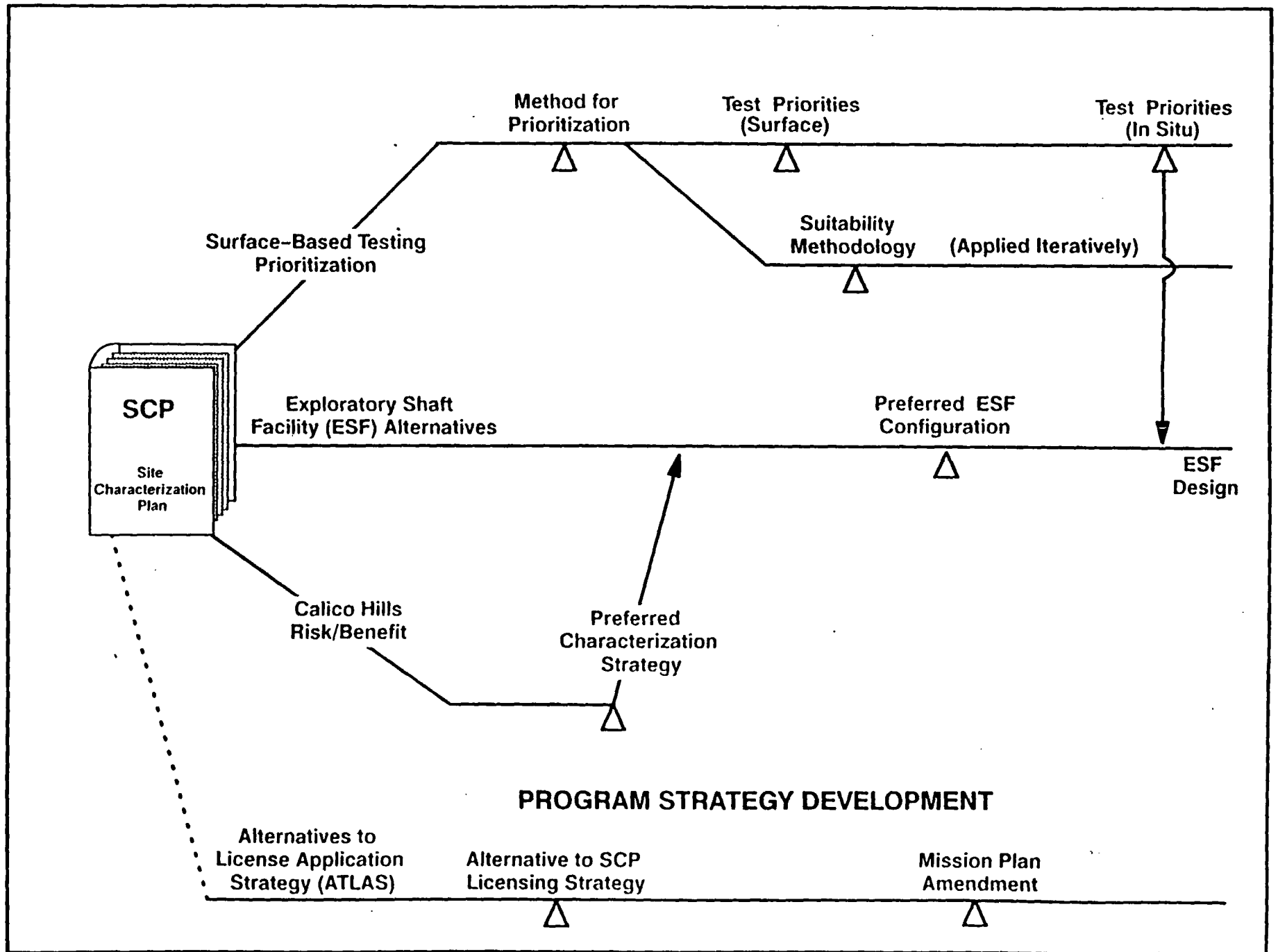
MANAGEMENT CONSIDERATIONS BY THE DOE

- **TASK FORCE RECOMMENDATIONS MAY BE
SUBJECTED TO PEER REVIEW BEFORE PLANS
FOR IMPLEMENTATION ARE FINALIZED**
- **DECISIONS TO IMPLEMENT RECOMMENDATIONS
MAY INVOLVE REASSIGNMENT OF STAFF
AND REALLOCATION OF BUDGET FOR FY 1991**
- **IMPACTS OF STAFF/BUDGET REASSIGNMENT ON
OTHER DOE COMMITMENTS WILL NEED TO BE
ASSESSED**

ISSUES RELEVANT TO IMPLEMENTATION OF TASK FORCE RECOMMENDATIONS

- **NRC ACCEPTANCE OF DOE'S QUALITY ASSURANCE PROGRAM**
- **AVAILABILITY OF PERMITS TO INITIATE NEW SURFACE-DISTURBING ACTIVITIES - CURRENTLY ASSUMING JANUARY 1991**
- **AVAILABILITY OF BUDGET TO CONDUCT EXPANDED FIELD PROGRAMS IN FY 1991 IF PERMITS ARE OBTAINED**
- **SOME TASK FORCE RECOMMENDATIONS INVOLVE MAJOR CHANGES IN PROGRAMMATIC STRATEGIES AND CANNOT BE IMPLEMENTED WITHOUT THE INVOLVEMENT OF OUTSIDE ORGANIZATIONS**

TASK FORCE INTEGRATION



STEPS TAKEN TO ENSURE APPROPRIATE TASK FORCE INTEGRATION

- **USE OF SIMILAR DECISION ANALYSIS APPROACHES**
- **FREQUENT COORDINATION MEETINGS**
- **SOME STAFF WERE SHARED BY MULTIPLE TASK FORCES**
- **COMMON INFLUENCE DIAGRAMS WERE USED AT HIGH LEVEL**

ISSUES RELATED TO TASK FORCE INTEGRATION

WHAT IS THE APPROPRIATE IN SITU TESTING PROGRAM FOR THE CALICO HILLS UNIT?

- **CALICO HILLS RISK/BENEFIT STUDY COMPARED
EXPLORATION STRATEGIES RATHER THAN SPECIFIC
TESTS**
- **SPECIFIC TESTS WILL BE EVALUATED USING THE
PRIORITIZATION METHODOLOGY**

ISSUES RELATED TO TASK FORCE INTEGRATION

(CONTINUED)

WHAT TESTING PROGRAM SHOULD BE CONDUCTED DURING ESF CONSTRUCTION AND AT THE MAIN TEST LEVEL IN THE TOPOPAH SPRING UNIT?

- **IF AN OPTION FOR MORE EXTENSIVE EXPLORATION OF THE CALICO HILLS IS CHOSEN, TESTING STRATEGY FOR THE TOPOPAH SPRING MAY REQUIRE REEVALUATION**
- **PRIORITIZATION METHODOLOGY WILL BE USED TO FOCUS IN SITU TESTING ON SITE SUITABILITY CONCERNS**

ISSUES RELATED TO TASK FORCE INTEGRATION

(CONTINUED)

HOW WILL CHANGES IN THE PLANNED TESTING PROGRAM IMPACT THE ESF DESIGN REQUIREMENTS DOCUMENTS AND THE PLANS TO RESTART TITLE II DESIGN?

- **ALL ESF OPTIONS UNDER CONSIDERATION ARE THOUGHT TO BE SUFFICIENTLY FLEXIBLE TO ACCOMODATE THE RANGE OF LIKELY CHANGES IN THE TESTING PROGRAM**
- **IMPACTS ON ESF REQUIREMENTS DOCUMENTS AND RESTART OF DESIGN DEPEND ON EXTENT OF CHANGES**

ISSUES RELATED TO TASK FORCE INTEGRATION

(CONTINUED)

**CAN WE DEVELOP A METHOD FOR EVALUATION OF
SITE SUITABILITY THAT IS SUFFICIENTLY FLEXIBLE
TO ALLOW MAJOR CHANGES IN PROGRAM
STRATEGIES?**

- **TWO FACTORS SHOULD BE CONSIDERED IN
DEVELOPING A SUITABILITY METHODOLOGY**
 - **THE REGULATIONS ALLOW FAVORABLE CONDITIONS
TO COMPENSATE FOR POTENTIALLY ADVERSE SITE
CONDITIONS**
 - **A MULTIPLE BARRIER APPROACH IS INHERENT IN THE
REGULATIONS**

ISSUES RELATED TO TASK FORCE INTEGRATION

(CONTINUED)

WHAT ROLE DOES EXPERT JUDGMENT PLAY IN TASK FORCE RECOMMENDATIONS?

- **PREDICTIONS ABOUT PERFORMANCE AND IMPACTS ON PERFORMANCE ARE CURRENTLY BASED ON A LARGE COMPONENT OF EXPERT JUDGMENT USING EXISTING DATA AND MODELS**
- **AS SITE CHARACTERIZATION PROCEEDS, THESE JUDGMENTS CAN BE UPDATED AND REFINED**

SEQUENCING OF ACTIVITIES

HOW DOES THE SEQUENCE OF TESTING ENTER INTO TASK FORCE CONSIDERATIONS?

- **TESTING THAT PROVIDES INFORMATION IMPORTANT TO IDENTIFYING UNSUITABLE SITE CONDITIONS WILL BE STARTED AS SOON AS POSSIBLE**
- **MANAGEMENT AND TECHNICAL TRADE-OFFS AMONG COST/SCHEDULE/VALUE OF INFORMATION ARE COMMON TO ALL TASK FORCES**

ISSUES RELATED TO TASK FORCE INTEGRATION

(CONTINUED)

**WHAT IS THE APPROPRIATE LEVEL OF
CONSERVATISM FOR THE DOE TO ASSUME -
NOW AND IN THE FUTURE?**

**ALL TASK FORCES WERE CONFRONTED WITH THIS
ISSUE**

- **DEGREE OF CONSERVATISM IN TECHNICAL OPINIONS
OFFERED BY EXPERT PANELS**
- **PREFERENCES OF MANAGERS WITH REGARD TO
CONSERVATISM NECESSARY TO MAKE INTERIM
EVALUATIONS OF SITE SUITABILITY**
- **FUTURE CONFIDENCE/CONSERVATISM NEEDED TO
SUBMIT LICENSE APPLICATION**

**ALTERNATIVES TO THE
CURRENT LICENSE APPLICATION STRATEGY
(ATLAS)**

**SUMMARY OF STATUS
AND RECOMMENDATIONS**

PURPOSE AND SCOPE OF ATLAS

MANAGEMENT SCOPING STUDY

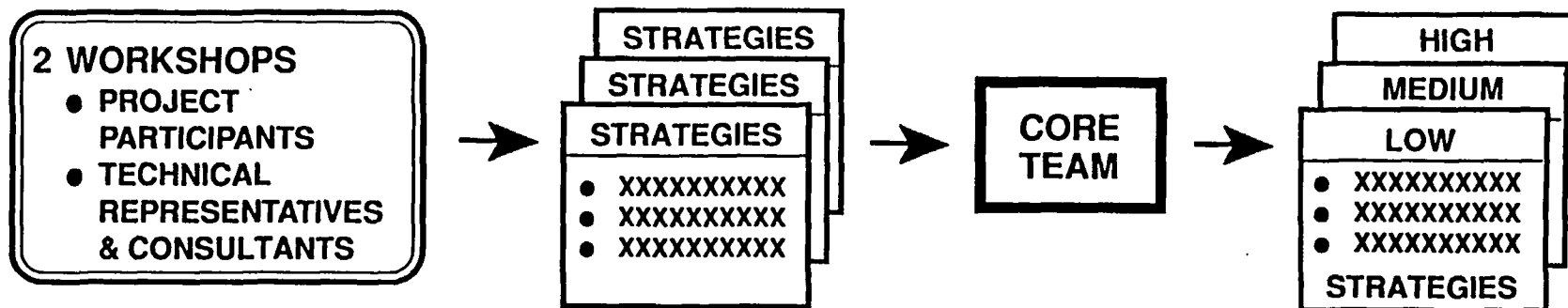
- **IDENTIFY POSSIBLE ALTERNATIVES FOR MANAGEMENT AND CONDUCT OF THE REPOSITORY PROGRAM**
- **ATLAS NOT INTENDED TO BE A BASIS OR JUSTIFICATION FOR PROGRAMMATIC DECISION-MAKING**

THREE MAJOR TASKS WERE PART OF THE ATLAS EFFORT

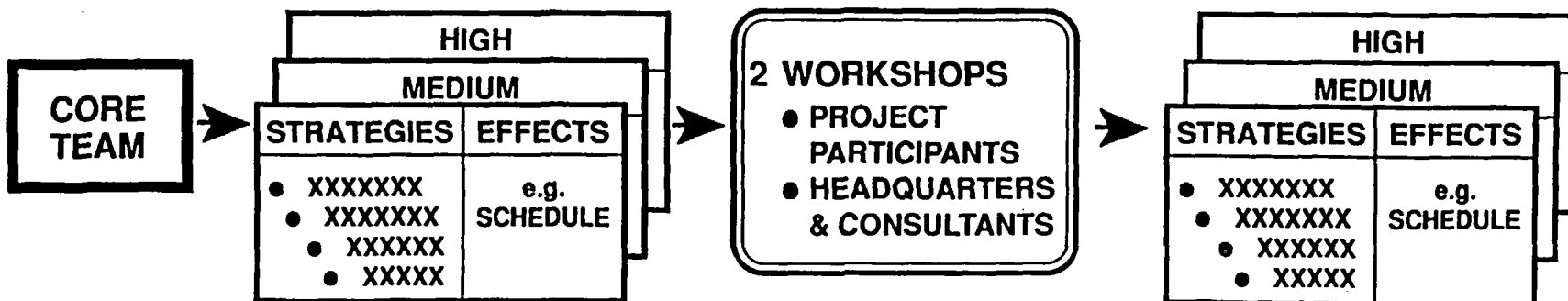
- **IDENTIFICATION OF PROMISING ALTERNATIVE STRATEGIES FOR REGULATORY AND LICENSING ACTIONS**
- **EVALUATION AND RANKING OF STRATEGIES ACCORDING TO BENEFITS AND IMPLEMENTATION DIFFICULTY**
- **PREPARATION OF A SUMMARY OF THE "RECOMMENDED", "NOT RECOMMENDED," AND POSSIBLE STRATEGIES**

OVERVIEW OF ATLAS ACTIVITIES

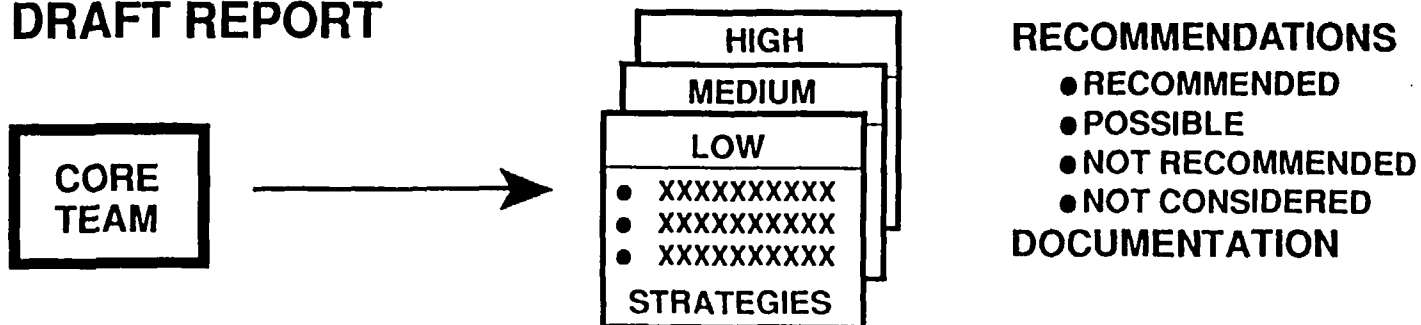
IDENTIFY STRATEGIES



EVALUATE AND RANK



DRAFT REPORT



STRATEGIES WERE CLASSIFIED BASED ON THE DIFFICULTY OF SUCCESSFUL STRATEGY IMPLEMENTATION

CLASS	TYPE OF STRATEGY	AUTHORITY
LOW DIFFICULTY STRATEGIES	AFFECTS SITE WORK USING BASE CASE SURFACE AND IN SITU TESTING CONCEPTS AND SCOPE	DOE
MEDIUM DIFFICULTY	AFFECTS SURFACE AND IN SITU TESTING CONCEPTS, SCOPE, AND REGULATIONS	DOE/NRC/ OTHERS
HIGH- DIFFICULTY STRATEGIES	AFFECTS FUNDAMENTAL RELATIONSHIPS AND LEGAL FRAMEWORK	CONGRESS; COURTS, ETC.

EXAMPLES OF STRATEGIES UNDER CONSIDERATION BY ATLAS

DIFFICULTY OF IMPLEMENTATION	STRATEGY EXAMPLE
LOW	<ul style="list-style-type: none"> ● INCREASE RELIANCE ON GEOCHEMICAL BARRIERS ● COMPLETE LINKAGE BETWEEN PERFORMANCE ALLOCATION AND SITE TESTING PROGRAM
MEDIUM	<ul style="list-style-type: none"> ● TAKE INITIATIVE IN RULEMAKING TO RESOLVE LICENSING ISSUES ● RESOLVE DISPOSAL ISSUES AS PART OF PERFORMANCE CONFIRMATION
HIGH	<ul style="list-style-type: none"> ● DEVELOP TEST AND EVALUATION FACILITY AS DEMONSTRATION FACILITY FOR HIGH-LEVEL WASTE ● DEVELOP THE ESF AS A DEMONSTRATION FACILITY FOR HIGH-LEVEL WASTE