

NRC LICENSING

**GORDON APPEL
CHIEF, LICENSING BRANCH
OFFICE OF SYSTEMS INTEGRATION AND REGULATIONS
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
U.S. DEPARTMENT OF ENERGY**

**PRESENTATION TO THE
NUCLEAR WASTE TECHNICAL REVIEW BOARD
MARCH 7-8, 1989**

NRC LICENSING

- **LEGISLATIVE/REGULATORY REQUIREMENTS**
- **DOE LICENSING OBJECTIVES**
- **DOE ACTIVITIES RELATED TO LICENSING**
- **DOE ACCOMPLISHMENTS RELATED TO LICENSING**
- **FUTURE DOE ACTIONS RELATED TO LICENSING**
- **MAJOR LICENSING ISSUES**

LEGISLATIVE/REGULATORY REQUIREMENTS

- **NUCLEAR WASTE POLICY ACT (NWPA) OF 1982, AS AMENDED REQUIRES:**
 - **SUBMISSION OF A LICENSE APPLICATION (114(b))**
 - **THE COMMISSION TO DEVELOP REQUIREMENTS AND CRITERIA FOR LICENSING (121(b))**
 - **DOE TO DEVELOP SITING GUIDELINES (112(a))**
- **DOE PROMULGATED 10 CFR PART 960 (SITING GUIDELINES)**
- **OTHER KEY REGULATIONS**
 - **NRC 10 CFR PART 60 (GEOLOGIC DISPOSAL)**
 - **10 CFR PART 2 (RULES OF PRACTICE FOR LICENSING PROCEEDINGS)**
 - **10 CFR PART 20 (RADIATION PROTECTION)**
 - **10 CFR PART 50 (QUALITY ASSURANCE (QA))**
 - **APPENDIX B**
 - **10 CFR PART 71 (TRANSPORTATION)**
 - **10 CFR PART 72 (MONITORED RETRIEVABLE STORAGE (MRS) AND AT REACTOR STORAGE)**
 - **EPA 40 CFR PART 191 (HIGH LEVEL WASTE (HLW) & TRANSURANIC (TRU) ENVIRONMENTAL STANDARDS)**

DOE LICENSING OBJECTIVES

- **TO ENSURE COMPLIANCE WITH REGULATORY REQUIREMENTS, LICENSING OBJECTIVES ARE DIRECTED AT THREE PRINCIPAL AREAS**
 - **MAINTAINING THE EFFECTIVENESS OF DOE/NRC INTERACTION DURING THE PRE-LICENSING PHASE**
 - **INTEGRATING THE LICENSING PERSPECTIVE INTO DAY-TO-DAY PROGRAM ACTIVITIES**
 - **DEVELOPING THE FRAMEWORK FOR THE LICENSING PHASE**

DOE ACTIVITIES RELATED TO LICENSING

- **DOE-NRC INTERACTIONS**
 - **ALL ELEMENTS OF THE NRC**
COMMISSIONERS
NRC STAFF
ADVISORY COMMITTEE ON NUCLEAR WASTE (ACNW)
ATOMIC SAFETY LICENSING BOARD PANEL (ASLBP)
CENTER FOR NUCLEAR WASTE REGULATORY ANALYSIS (CNWRA)
 - **DOE-NRC TECHNICAL MEETINGS**
 - **DOE COMMITMENTS TO THE NRC**
 - **INFORMAL CONTACTS WITH THE NRC**
(e.g. TELECONFERENCES)

DOE ACTIVITIES RELATED TO LICENSING (CONTINUED)

- **LICENSING REVIEW AND INTEGRATION**
 - **CONSISTENCY OF PROGRAM DOCUMENTS WITH APPLICABLE REGULATIONS AND PROGRAM POLICY**
 - **REVIEW AND COMMENT ON NRC DOCUMENTS (e.g. PROPOSED RULES, TECHNICAL POSITIONS) AFFECTING THE PROGRAM**
 - **EVALUATION OF IMPACT OF NRC POSITIONS**

DOE ACTIVITIES RELATED TO LICENSING (CONTINUED)

- **DEVELOPMENT AND IMPLEMENTATION OF OCRWM LICENSING FRAMEWORK**
 - **LICENSING PLAN**
 - **LICENSING STRATEGIES**
 - **LICENSING SUPPORT SYSTEM**
 - **TOPICAL REPORTS**
 - **ACTIVE PARTICIPATION IN RULEMAKING PROCESS**

DOE ACCOMPLISHMENTS RELATED TO LICENSING

- **DOE-NRC INTERACTIONS (SINCE JANUARY 1988)**
 - **COMMISSIONERS' BRIEFINGS**
FOUR COMMISSIONERS' BRIEFINGS
 - **NRC STAFF**
TWELVE STAFF MEETINGS
 - **ACNW**
FIVE ACNW BRIEFINGS
 - **ASLBP**
ONE ASLBP BRIEFING

DOE ACCOMPLISHMENTS RELATED TO LICENSING (CONTINUED)

- **LICENSING REVIEW AND INTEGRATION**
 - **REVIEW OF NRC POSITIONS AND REGULATIONS**
 - NRC PROPOSED RULE ON GTCC WASTE (10 CFR 61)**
 - NRC PROPOSED RULE ON ENVIRONMENTAL PROTECTION REQUIREMENTS (10 CFR 51)**
 - NRC PROPOSED RULE ON LSS (10 CFR 2)**
 - NRC TECHNICAL POSITION ON ANTICIPATED/ UNANTICIPATED PROCESSES AND EVENTS**
 - NRC TECHNICAL POSITION ON POSTCLOSURE SEALS**
 - NRC REVIEW PLANS FOR SCP AND STUDY PLANS**
 - NRC QUALITY ASSURANCE REVIEW PLAN**

DOE ACCOMPLISHMENTS RELATED TO LICENSING (CONTINUED)

- **LICENSING REVIEW AND INTEGRATION (CONT'D)**
 - **REVIEW OF KEY INTERNAL DOCUMENTS AND ACTIVITIES**
 - SITE CHARACTERIZATION PLAN**
 - GENERIC AND SITE-SPECIFIC REQUIREMENTS**
 - REPOSITORY AND WASTE PACKAGE DESIGN**
 - EXPLORATORY SHAFT DESIGN**
 - QA METHODOLOGIES, PLAN, AND PROCEDURES**
 - ESF I DESIGN ACCEPTABILITY ANALYSIS**
 - MRS SYSTEMS STUDIES**

DOE ACCOMPLISHMENTS RELATED TO LICENSING (CONTINUED)

- **INITIATED DEVELOPMENT AND IMPLEMENTATION OF OCRWM LICENSING FRAMEWORK**
 - **PREPARATION OF PETITION FOR RULEMAKING ON ACCIDENT DOSE GUIDELINE**
 - **A LICENSING PLAN FOR THE GEOLOGIC REPOSITORY**
 - **SAFETY ANALYSIS REPORT OUTLINE**
 - **DOCUMENTATION OF LICENSING STRATEGIES**

FUTURE DOE ACTIONS RELATED TO LICENSING

- **DOE-NRC INTERACTIONS**
 - **POTENTIAL FUTURE TOPICS INCLUDE:**
 - TECTONICS AND SEISMICITY INVESTIGATIONS METHODOLOGY**
 - QA PROGRAM (MONTHLY)**
 - WASTE ACCEPTANCE PROCESS (DWPF AND WVDP)**
 - SITE CHARACTERIZATION ACTIVITIES**
 - ESF TITLE II DESIGN PROCESS**

FUTURE DOE ACTIONS RELATED TO LICENSING (CONTINUED)

- **DOE-NRC INTERACTIONS (CONT'D)**

ANTICIPATED/UNANTICIPATED PROCESSES AND EVENTS

GROUND-WATER TRAVEL TIME

SUBSTANTIALLY COMPLETE CONTAINMENT

NRC COMMENTS ON THE SCP/STUDY PLANS

PERIODIC DOE-NRC MANAGEMENT MEETINGS

FUTURE DOE ACTIONS RELATED TO LICENSING (CONTINUED)

- **LICENSING REVIEW AND INTEGRATION**
 - **REVIEW OF EXTERNAL POSITIONS AND REGULATIONS**
 - RE-PROMULGATION OF REMANDED EPA HLW STANDARD (40 CFR 191)**
 - NRC AMENDMENTS TO 10 CFR 60 TO INCORPORATE EPA STANDARD (10 CFR 60)**
 - NRC TECHNICAL POSITION ON GROUND-WATER TRAVEL TIME**
 - NRC TECHNICAL POSITION ON SUBSTANTIALLY COMPLETE CONTAINMENT**
 - WASTE CONFIDENCE RULEMAKING**
 - **REVIEW OF INTERNAL PROGRAM DOCUMENTS AND ACTIVITIES**
 - SCP SEMI-ANNUAL PROGRESS REPORTS**
 - SCP STUDY PLANS**
 - EXPLORATORY SHAFT DESIGN**
 - QA METHODOLOGIES, PLANS, AND PROCEDURES**
 - GREATER THAN CLASS C (GTCC) TASK FORCE ACTIVITIES**
 - WASTE ACCEPTANCE DOCUMENTS**

FUTURE DOE ACTIONS RELATED TO LICENSING (CONTINUED)

- **DEVELOP AND IMPLEMENT OCRWM LICENSING FRAMEWORK**
 - **LICENSING PLAN FOR THE GEOLOGIC REPOSITORY**
 - **LICENSING PLAN FOR THE MRS**
 - **SAFETY ANALYSIS REPORT OUTLINE**
 - **LICENSING STRATEGIES DOCUMENTATION**
 - **LSS IMPLEMENTATION**
 - **DOE/NRC MEMORANDUM OF UNDERSTANDING FOR MRS**
 - **PETITION FOR RULEMAKING ON ACCIDENT DOSE GUIDELINE**

MAJOR LICENSING ISSUES

- **DEFINITION OF HIGH LEVEL WASTE (HLW)**
- **ACCIDENT DOSE GUIDELINE**
- **SUBSTANTIALLY COMPLETE CONTAINMENT (SCC)**
- **ANTICIPATED/UNANTICIPATED PROCESSES AND EVENTS**
- **PRE-WASTE EMPLACEMENT GROUND WATER TRAVEL TIME (GWTT)**
- **BOUNDARY OF THE ENGINEERED BARRIER SYSTEM (EBS)**
- **SEISMIC HAZARD EVALUATION**
- **DEFINITION OF DISTURBED ZONE**
- **IDENTIFICATION OF ITEMS IMPORTANT TO SAFETY**
- **RETRIEVABILITY**
- **EVALUATION OF HUMAN INTRUSION**
- **MODEL VALIDATION**
- **SCENARIO IDENTIFICATION AND SCREENING**