

ALTERNATIVE LICENSING CONCEPTS

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**NUCLEAR WASTE TECHNICAL REVIEW
BOARD**

1995 SPRING BOARD MEETING

LAS VEGAS, NEVADA

APRIL 19, 1995

FROM NEI'S OCTOBER 12 PRESENTATION TO THE BOARD:

- “DOE SHOULD CONDUCT THE CHARACTERIZATION OF YUCCA MOUNTAIN WITHIN THE CONTEXT OF AN INTEGRATED PERFORMANCE MODEL THAT EMPLOYS A REALISTIC BIOSPHERE MODEL.”

- “...NRC SHOULD ALSO REVISE 10 CRF 60 TO REFLECT TOTAL SYSTEM PERFORMANCE CRITERIA [ONLY].”

H.R. 1020: THE “INTEGRATED SPENT NUCLEAR FUEL MANAGEMENT ACT OF 1995”

- H.R. 1020 PLACES SOLE JURISDICTION OVER THE REGULATION OF HIGH-LEVEL RADIOACTIVE WASTE DISPOSAL WITH THE NRC.
- REQUIRES NRC TO AMEND ITS REPOSITORY LICENSING REGULATIONS TO REFLECT THE PROGRAM APPROACH AND THE PROVISIONS OF THE ACT.
- ESTABLISHES A THREE-STEP PROCESS FOR LICENSING THE REPOSITORY: FIRST, A CONSTRUCTION AUTHORIZATION; FOLLOWED BY A LICENSE TO PLACE WASTE IN THE REPOSITORY; AND ULTIMATELY A LICENSE AMENDMENT PERMITTING DOE TO CLOSE THE REPOSITORY.

H.R. 1020: THE "INTEGRATED SPENT NUCLEAR FUEL MANAGEMENT ACT OF 1995" (cont.)

- REQUIRES NRC TO PROVIDE IN ITS REGULATIONS FOR THE MODIFICATION OF THE REPOSITORY LICENSING PROCEDURE, AS APPROPRIATE, IN THE EVENT THE SECRETARY SEEKS A LICENSE TO PERMIT THE EMPLACEMENT OF WASTE IN THE REPOSITORY, ON A RETRIEVABLE BASIS, AS NECESSARY TO PROVIDE SUFFICIENT CONFIRMATORY DATA ON REPOSITORY PERFORMANCE.

- THE OVERALL SYSTEM PERFORMANCE STANDARD ESTABLISHED FOR THE REPOSITORY REQUIRES THAT ***"...THERE IS REASONABLE ASSURANCE THAT THE AMOUNT OF RADIOACTIVE MATERIALS AND RADIOACTIVITY RELEASED FROM THE SITE SHALL NOT RESULT IN AN ANNUAL DOSE TO AN AVERAGE MEMBER OF THE GENERAL POPULATION IN THE VICINITY OF THE SITE IN EXCESS OF ONE-THIRD OF THE ANNUAL DOSE RECEIVED FROM NATURAL BACKGROUND SOURCES..."***

H.R. 1020: THE “INTEGRATED SPENT NUCLEAR FUEL MANAGEMENT ACT OF 1995” (cont.)

■ SPECIFIES THE MANNER IN WHICH THE NRC IS TO APPLY THE OVERALL SYSTEM PERFORMANCE STANDARD:

- FOR THE FIRST 1,000 YEARS OF OPERATION, NRC MUST FIND REASONABLE ASSURANCE THAT OVERALL SYSTEM PERFORMANCE STANDARD WILL BE MET BASED ON A DETERMINISTIC EVALUATION OF THE OVERALL PERFORMANCE OF THE DISPOSAL SYSTEM.
- FOR THE PERIOD SUBSEQUENT TO THE FIRST 1,000 YEARS AND UP TO 10,000 YEARS, NRC MUST FIND REASONABLE ASSURANCE THAT THERE IS LIKELY TO BE COMPLIANCE WITH THE OVERALL SYSTEM PERFORMANCE STANDARD BASED ON REGULATORY INSIGHT GAINED THROUGH THE USE OF A PROBABILISTIC INTEGRATED PERFORMANCE MODEL THAT USES BEST ESTIMATE ASSUMPTIONS, DATA, AND METHODS.

H.R. 1020: THE “INTEGRATED SPENT NUCLEAR FUEL MANAGEMENT ACT OF 1995” (cont.)

- **CLARIFIES THAT THE NRC’S LICENSING ACTION SHALL BE BASED SOLELY ON A FINDING OF COMPLIANCE WITH THE OVERALL SYSTEM PERFORMANCE STANDARD.**

- **REQUIRES NRC TO ASSUME THAT DOE’S POST-CLOSURE ACTIONS AT THE SITE WILL THWART HUMAN INTRUSION.**

REMAINDER OF INDUSTRY PRESENTATION

- ALTHOUGH SOME GUIDANCE IS GIVEN TO DOE IN H.R. 1020, EXACTLY HOW THE COMMISSION WILL IMPLEMENT THE OVERALL SYSTEM PERFORMANCE STANDARDS IN THE BILL IS NOT SPECIFIED.
- PREVIOUSLY, EPRI DEVELOPED A METHODOLOGY FOR CONSIDERATION BY THE NAS/NRC COMMITTEE ON YUCCA MOUNTAIN STANDARDS. THE INDUSTRY BELIEVES THAT EPRI'S METHODOLOGY COULD BE USED IN THE IMPLEMENTATION OF H.R. 1020.

WRAP-UP

- EPRI'S METHODOLOGY IS A VALID FRAMEWORK FOR THE IMPLEMENTATION OF H.R. 1020. IT EMPLOYS WIDELY ACCEPTED METHODS, PROVIDES "DEFENSE IN DEPTH," AND RELIES ON INTERNATIONALLY ACCEPTED STANDARDS.
- 100 MREM/YR IS CONSISTENT WITH ICRP 46 FOR STATISTICALLY SIGNIFICANT RELEASE SCENARIOS FROM THE REPOSITORY.
- FOR PERIODS BEYOND 10,000 YEARS EPRI'S METHODOLOGY SHOWS THAT THE REPOSITORY WOULD STILL BE WITHIN THE GUIDANCE OF INTERNATIONAL STANDARDS SUCH AS ICRP 46.

CONCLUSIONS

- REGARDLESS OF CHANGES THAT MAY OCCUR DUE TO LEGISLATION, NRC SHOULD REVISE 10 CFR 60 TO REFLECT A TOTAL SYSTEM PERFORMANCE CRITERIA.
 - THIS WOULD ALLOW DOE TO FOCUS RESOURCES ON FACTORS THAT ARE TRULY IMPORTANT TO WASTE ISOLATION.
 - IN A RESOURCE LIMITED WORLD, CRITERIA MAY BE COUNTERPRODUCTIVE TO TOTAL SYSTEM PERFORMANCE.

CONCLUSIONS (cont.)

- AS WE ADDRESS NATIONAL PROBLEMS AS A SOCIETY, MANY FACTORS MUST BE CAREFULLY WEIGHTED WHEN DEVELOPING REGULATIONS FOR HIGH-LEVEL WASTE DISPOSAL, SUCH AS:
 - PUBLIC HEALTH AND SAFETY (HOW SAFE IS SAFE ENOUGH?)
 - TECHNICAL FEASIBILITY (CAN IT BE DONE?)
 - POLITICAL FEASIBILITY (WILL IT SURVIVE IN THE POLITICAL LIMELIGHT?)
 - PUBLIC ACCEPTABILITY (WILL THE PUBLIC ACCEPT IT?)
 - LEGAL/REGULATORY WORKABILITY (WILL IT WITHSTAND CHALLENGES?)
 - ECONOMIC FEASIBILITY (CAN IT BE DONE FOR THE RESOURCES AVAILABLE?)

CONCLUSIONS (cont.)

- TODAY WE HAVE DISCUSSED THE FIRST TWO OF THESE FACTORS. THE REMAINDER WILL BE ADDRESSED IN CONGRESS, BY THE PUBLIC, AND IN THE COURTS. HOWEVER, THE INDUSTRY BELIEVES THAT H.R. 1020 PROPERLY BALANCES THE TECHNICAL CONSIDERATIONS WITH THESE OTHER CONSIDERATIONS AND IS PROPERLY PROTECTIVE OF THE PUBLIC HEALTH AND SAFETY, BOTH NOW AND IN THE DISTANT FUTURE.