

BRC DISPOSAL SUBCOMMITTEE

- ESSENTIAL ELEMENTS OF A STATE TECHNICAL REVIEW
and
LESSONS UNLEARNED ON RAWD

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ESSENTIAL ELEMENTS FOR STATE TECHNICAL EVALUATION

- OBJECTIVITY neither pro nor anti
- INDEPENDENT no external approval
- COMPETENT senior, knowledgeable staff
- MULTIDISCIPLINARY primarily radiation
protection

ESSENTIAL ELEMENTS

- Publish Analyses EEG issued 80 reports
- Presentations at public and professional meetings,
- Testify at legislature and Congress
- Formal field trips with NAS, Univ and agency experts
- Encourage staff for key roles in prof societies

Essential Elements

- CANDOR Identify uncertainties in predictions of potential disruptions over 10,000 years
- HUMILITY Identify uncertainties in predictions of potential disruptions over a million years

EEG DETERMINED DOE HAD MET EPA STDS AND
RECOMMENDED DISPOSAL

PART OF SUCCESS OF WIPP IS PUBLIC CONFIDENCE
FROM EEG EVALUATION OF IMPACT ON PUBLIC
HEALTH

WHAT IS WIPP

- A \$19 B Repository for 9 MT of Pu-239
- CH-TRU waste is respirable, soluble, in a 55 gal carbon steel vented 55 gal drum
- Isolation based on containment in salt beds
- Public acceptance is greater for activities in defense of country
- Hazard of non rad RCRA waste is much less than radiological constituents

LESSONS UNLEARNED IN RADIOACTIVE WASTE DISPOSAL

Repository selection

- Plan, evaluate and plan some more to avoid “changed our mind” syndrome shown in dozen examples
- 1957 NAS report recommended resolving major technical concerns before authorizing construction
- Don't use screening approach of identifying 8 sites, then 5, then 3 and finally one

REGULATORY STANDARDS

- Resolve jurisdictional disputes between regulatory agencies promptly. Cannot evaluate the performance of a system without a yardstick.
- Use probabilistic analyses in lieu of deterministic ones
- Predicting a radiation dose from particulate resuspension and inhalation as is ingestion from diet over one million years is meaningless. The standards must be revisited.

Asking Congress to Solve Technical Regulatory Problems

- Bringing TRU waste to WIPP for experiments before meeting EPA stds. Congress then reqd experiments which were without merit and canceled. Law had to be changed.
- Since EPA reqd predictions of repository behavior for 10,000 years, Congress requested NAS for views . NAS believed 1 million years to be more appropriate
- Moral. Don't ask Congress to solve technical problems. That is our job.

U.S. Population Radiation Exposure

(Person-Sieverts)

Early 1980s

2006

Change

Medical	123,000	899,000	x 7.3
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U.S Nuclear Power Plants	565	110	x 0.2
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NCRP 160 2009

FUNDING

- Over \$10 Billion to date on Yucca Mountain
- Over \$22 Billion collected from rate payers for electricity from nuclear power plants
- Estimated cost of YMP \$97 Billion
- Amount to be disposed exceeds authorized quantities
- Future funding will be more difficult to obtain