

# 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