

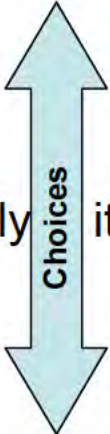
# Nuclear Waste Disposal and the Role of Science



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Los Alamos National Laboratory

# What is risk?

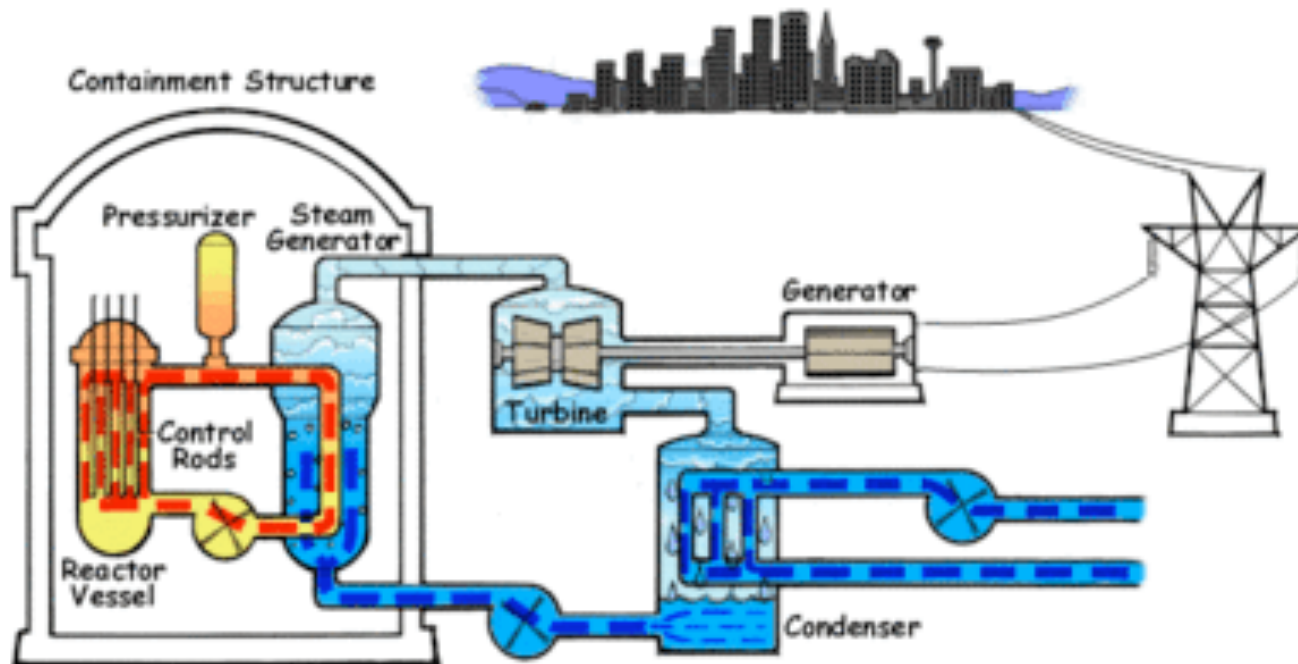
**Risk = Probability x Consequence**

How likely  it that something bad will happen?

How bad would it be if it happened?

**Benefits**

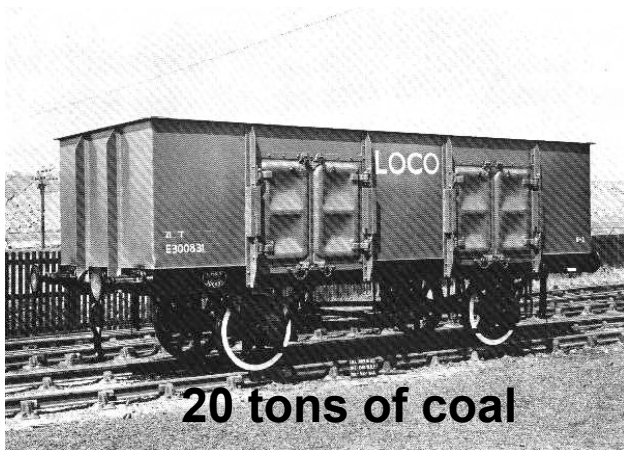
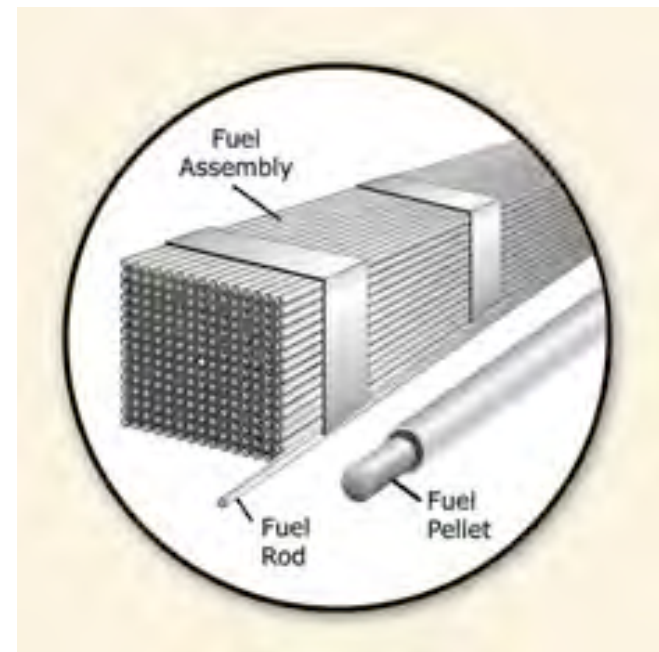
# Nuclear Power Plant Electricity Generation



# Waste from Coal and Nuclear Plants

Coal

Nuclear



= 23 nuclear fuel pellets

# What do we do with the waste today?

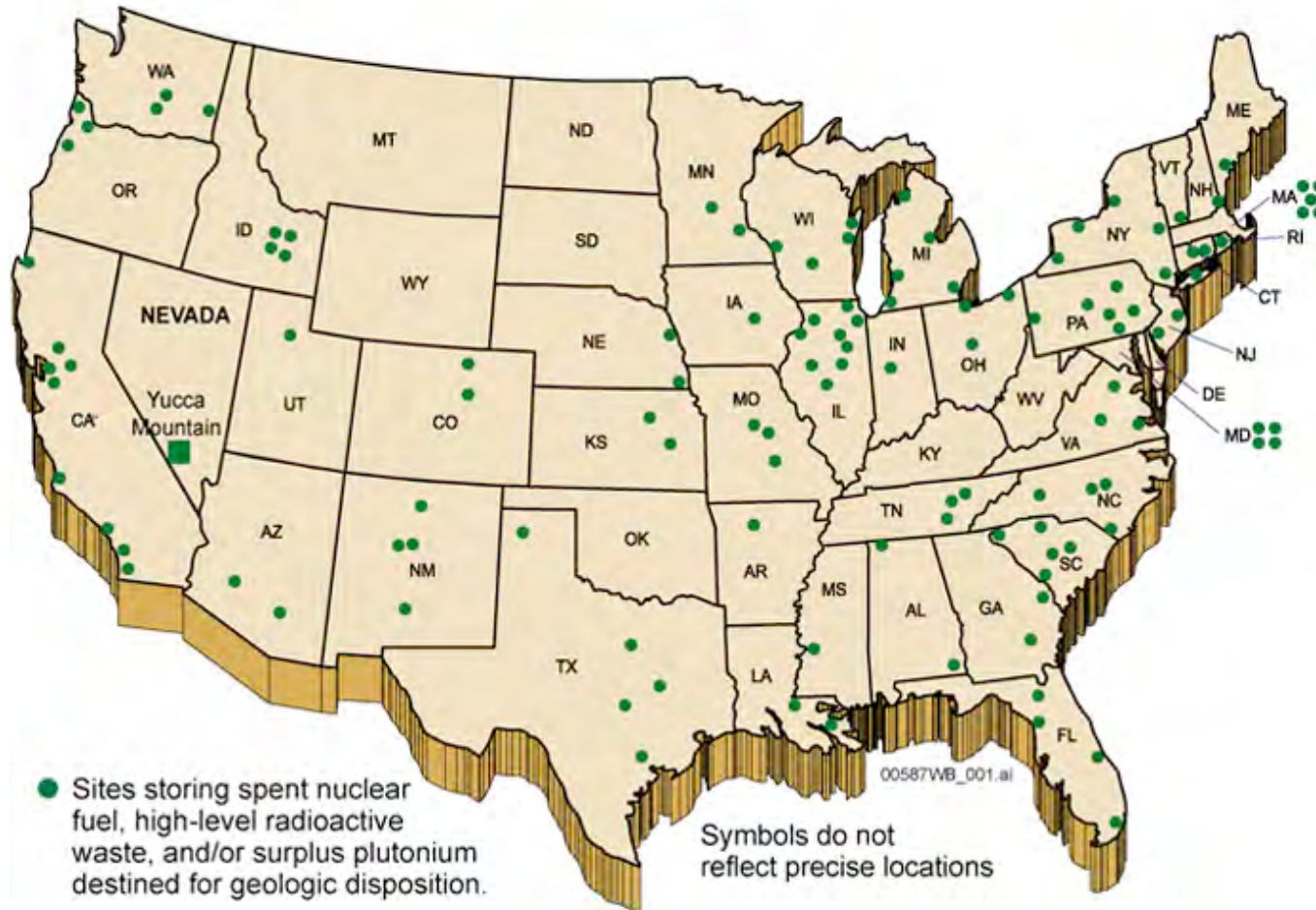
Storage Pools



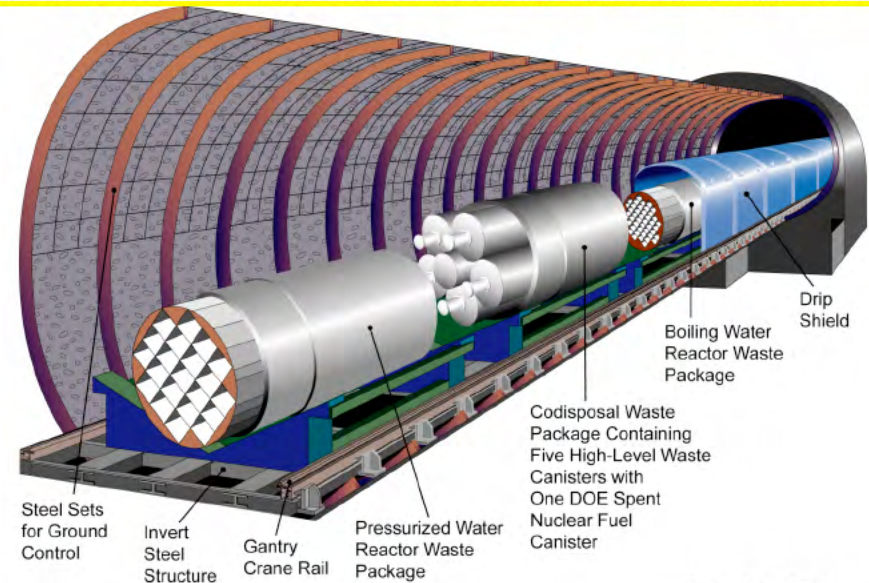
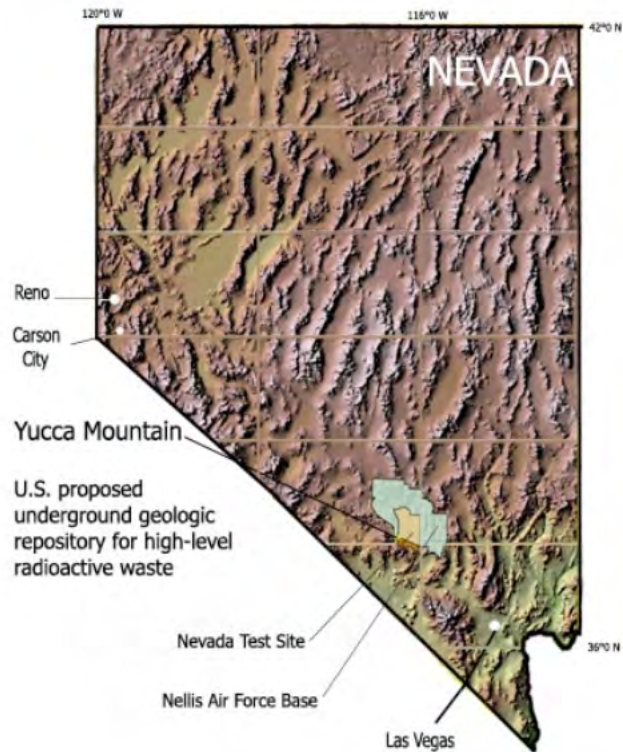
Dry Cask Storage



# Where is the waste today?

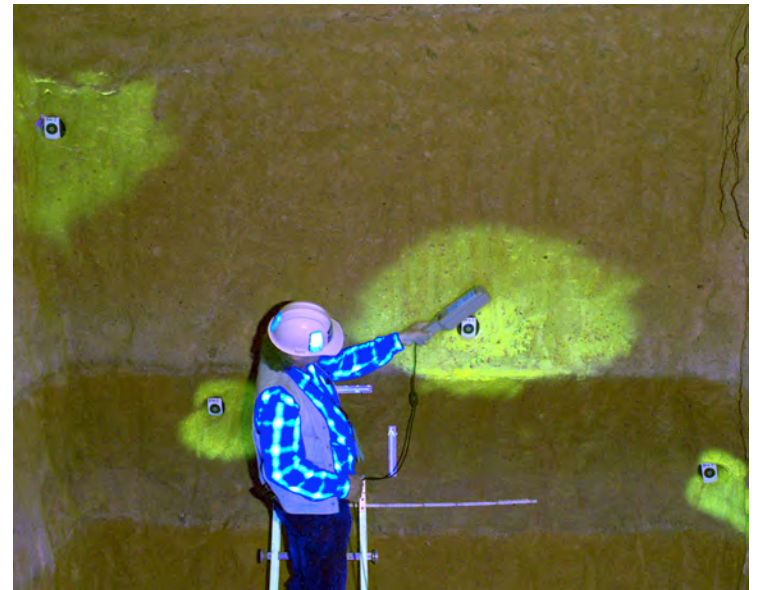


# Yucca Mountain Repository

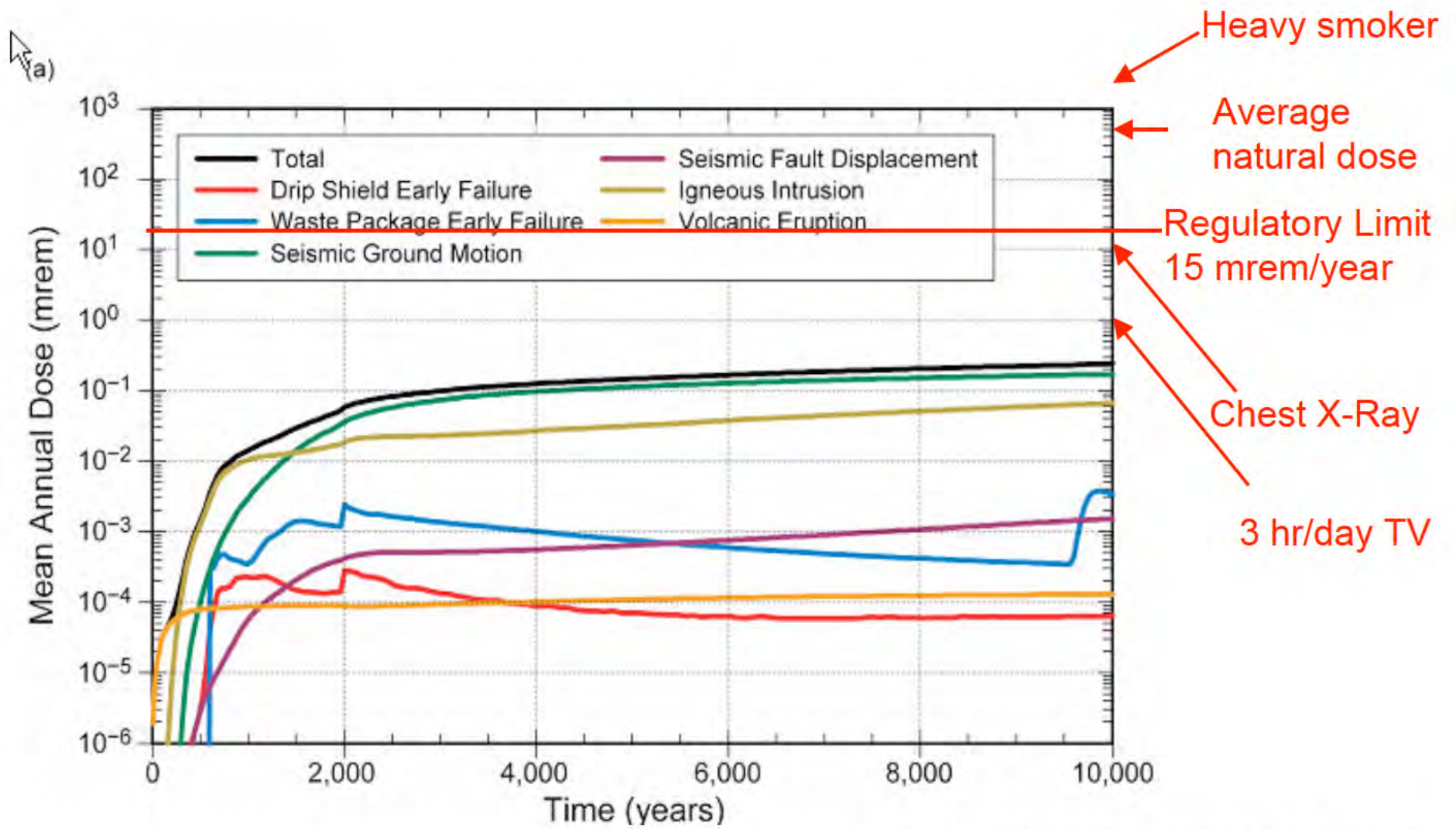


Drawing Not to Scale  
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# Is Yucca Mountain Safe?



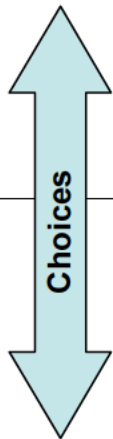
Our science says: **YES**



Risk = Probability x Consequence

# How big a risk are we willing to take?

**Risk = Probability x Consequence**



Determination of risk: Responsibility of scientists

Value judgments on the benefits: Societal judgment

**Benefits**

## **Advantages of Solving the Nuclear Waste Problem**

- Expanded use of clean nuclear energy
- Avoidance of carbon emissions
- Safety – waste is isolated from people
- Intergenerational equity

What do you think?