



Online Ethics Center  
FOR ENGINEERING AND SCIENCE

# Risk Assessment and Nuclear Waste Sites

## Author(s)

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2000

## Description

A scenario in which an engineer must choose between state-of-the-art science and a simpler method to fulfill a contract.

## Body

You are an engineer working for a private laboratory with expertise in nuclear waste disposal and risk assessment. The DOE (Department of Energy) has recently awarded your laboratory with a contract to do a risk assessment of various nuclear waste disposal sites. The study was to have been completed in six years. You are the leader of a team of engineers working on this project.

After six years the study still is not complete. A disagreement on the reason for the delay has arisen between your laboratory and the DOE. You are asking for more time because of the extensive calculations required; you argue that your group must use state of the art science in doing its risk assessment. The DOE says you are using overly high standards of risk assessment to prolong the process, extend the contract, and get more money for your company. They want you to use simpler

calculations and finish the project; if you are unwilling to do so, they plan to find another company that thinks differently. Your supervisor expresses to you the concern that while good science is important in an academic setting, this is the real world and the contract with the DOE is in jeopardy.

## **Questions:**

1. What should you do? In particular, how do you respond to the concerns of the DOE and your own company's management?
2. What are your responsibilities in this situation? To the DOE? To the public, especially the citizens living near the possible waste disposal sites? To your company? If these responsibilities conflict with one another, are there ways to harmonize them?
3. What kind of standards should you employ in risk assessment? If employing more strict standards requires more time and delays, what are the ethical issues raised by these delays? If you adopt simpler standards, what kind of ethical issues does this raise?

## **Notes**

(Based loosely on a scenario provided by Paul Davis.)

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