

This paper examines the optimality of the government's risk management programs in the area of environmental policy. A model of risk management for the government is developed under the presumption that the objective of risk management is avoidance of damages from two general classes of pollutants. This model is then used to make direct comparisons between solutions to the government's social-welfare maximization problem and Pareto optimal outcomes. The underlying economic rationale for each of the different outcomes is also discussed. *Managerial and Decision Economics*, Vol. 10, No. 2 (June 1989), pp. 107-13. (Reprinted with permission of the *Journal of Economic Literature*).

SAFETY AND LOSS CONTROL

Risk and Reactor Safety Systems Adoption, by Jeffrey A. Dubin (California Institute of Technology) and Geoffrey S. Rothwell (Stanford University).

How do firms react to the risk of accidents that disable their industrial plant? We examine this question by modeling the electric utility's decision to install reactor safety systems. The optimal adoption time is a function of the probability of a serious accident, the cost of the safety system, potential damages, and insurance premiums. We apply an econometric version of our model to the empirical evidence regarding implementation of a computer graphics warning system for nuclear reactors. We find that (1) firms that operate multiple reactors at one site, have higher equipment failures, or have higher discount rates, were quicker to adopt the safety system; (2) owners of larger plants were slower to adopt; and (3) the size of the population surrounding the plant, the state regulatory climate in which the reactor was operating, and the value of the initial plant investment had no influence on the speed of adoption. *Journal of Econometrics*, Vol. 42, No. 2 (October 1989), pp. 201-18. (Reprinted with permission of North-Holland Publishing Company.)

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