

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of)
LONG ISLAND LIGHTING COMPANY) Docket No. 50-322
(Shoreham Nuclear Power Station,)
Unit 1))

AFFIDAVIT OF BRIAN R. McCaffrey
REGARDING SOC CONTENTION 2

Brian R. McCaffrey, being duly sworn, states as follows:

1. I am Manager of Project Engineering, Shoreham Nuclear Power Station, Long Island Lighting Company. A statement of my professional qualifications is attached to LILCO's Motion for Summary Disposition of SOC Contention 3.
2. SOC believes that the public is not adequately protected from releases to the liquid pathway by the emergency planning regulations. This is not so.
3. SOC's criticism of the rulemaking and WASH-1400 on this score are unfounded. WASH-1400 did consider core melt-through where appropriate. Thus, several PWR accident sequences were presumed to proceed ultimately to core melt-through. See WASH-1400, Main Report, at 60.

4. Shoreham's structural design features virtually preclude a core melt-through. First, there is a 3-1/2 foot thick concrete drywell floor below the reactor vessel. Then, beneath that, there are approximately 77,000 cubic feet of water in the wetwell that would act as an enormous heat sink. Finally there is a ten-foot thick concrete base mat below the suppression pool. The PWR plant analyzed in WASH-1400 had neither of the first two design features just described for Shoreham.

5. Moreover, liquid pathway releases are not a short-term concern. See "Liquid Pathway Releases," NUREG-0440 (1978):

Unlike a release to the atmosphere . . . the radioactivity [from a liquid pathway] will not pose an immediate risk (acute fatalities) to the general population, since it will be confined to the hydrosphere.

Id. at vii.

The NRC has also concluded that:

Even if realistic consumption of contaminated fish (or water) or realistic usage of beaches continued for several months, significant doses to individuals (tens of rem) would not occur.

Id. Emergency plans adequately guard against such long-term threats by requiring monitoring to detect potential sources of radioactivity. If problems were to develop, precautions would

be taken based on the nature of threat.

Brian R. McCaffrey
Manager of Project Engineering,
Shoreham Nuclear Power Station
LONG ISLAND LIGHTING COMPANY

Dated: July 13, 1981