UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 31, 1994

The Honorable Russell D. Feingold
United States Senate
Washington, DC 20510-4904

Dear Senator Feingold:

I am responding to your letter of February 24, 1994, to Chairman Selin regarding the issue of personal injury claims under the Price-Anderson Act. As you may be aware, the Price-Anderson Act, Section 170 of the Atomic Energy Act of 1954, as amended, became law on September 2, 1957, and was most recently renewed on August 20, 1988. The Act has as its primary objective the assurance that adequate funds would be available to satisfy liability claims of members of the public in the unlikely event of a catastrophic nuclear accident, which has a very low probability of occurring.

The NRC staff has examined the issue of worker claims for occupational, non-catastrophic exposures and has concluded that to the extent that these claims are not filed under state or Federal workers' compensation acts, they are not precluded from being filed under the Price-Anderson Act. It is clear, however, from a review of the legislative history that the intent of the Price-Anderson Act was to provide coverage for claims by members of the public and not workers at a nuclear facility. It was assumed that nuclear workers would recover any claims through workers' compensation actions.

The nuclear insurance pools that provide the primary and secondary insurance policies furnished by reactor licensees as evidence of financial protection under the Price-Anderson Act have not released specific information to us about payments made to individual claimants. To our knowledge, no other governmental agency or commission has this information. If you have any further questions, we suggest that you contact the insurance pools directly. I have enclosed a copy of a 1993 speech by Mr. Joseph Marrone, Special Counsel to American Nuclear Insurers on the issue of worker radiation claims which I hope you will find helpful.

Sincerely,

James M. Taylor
Executive Director
for Operations

Enclosure:
As stated

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USCEA NUCLEAR INSURANCE CONFERENCE
FEBRUARY 28-MARCH 3, 1993

WORKER RADIATION CLAIMS AND LEGISLATION - THE NEED FOR EXAMINATION AND RESPONSE BY INDUSTRY

JOSEPH MARRONE
SPECIAL COUNSEL
AMERICAN NUCLEAR INSURERS

My remarks relate to nuclear workers in the private nuclear industry. There is potential for great, unjustified costs from tort and workers compensation claims for alleged injury from occupational radiation exposures to nuclear workers at your facilities.

Who are these workers?
They include employees of reactor operators, but a significant number, more than half, are workers employed by contractors to reactor operators.

Tort recoveries are potentially much more lucrative to claimants than workers compensation. As a result, the contractor employees often seek a third party to sue in tort. This usually is the reactor operator, or a supplier. The utility's own employee sues the contractor, or a supplier as a third party. Sometimes the tort claimant also files a workers compensation claim.

The coverage provided by the Pool's Facility Form insures only the tort claim against the third party. The workers compensation claim is insured in the conventional insurance market, or is self-insured.

Preparation by Pools

The need for care in the worker tort and workers compensation area was anticipated. The Pools, for their insurance purposes, from the early 60's inspected, and required high standards of health physics protection of workers. We developed criteria for good record making, and long term record keeping, of the protective measures taken. We were preparing for the need to prove this good care. The need for proof might arise 30 or 40 years later. The quality of the protection of workers occupationally exposed to radiation, and the documentation of that care, has been exemplary among reactor operators.

This effort provides a sound basis to evaluate, and as appropriate, pay or defend a worker's tort or compensation radiation claim. Without good health physics protection, and accurate records that must be retained for very long periods of time, there is no basis to evaluate or defend a claim.

Why This is Important

This potential liability is significant because of the cumulative number of workers that have been occupationally exposed to ionizing radiation in nuclear industry.

Cumulative Number of Nuclear Workers

Show slide #1

This is a count made by the Pools' engineering staff with the cooperation of the NRC which made records available. The natural incidence of cancer in the U.S. is about 30%.

Show slide #2

The 207,000 cancers, will of course, be spread over many years. Since the cancer incidence increases rapidly with age, we can expect that cancer incidence will accelerate as the work force ages. When will these cancers, and hence the potential claims, occur?

Show slide #3

Presently, there are a little less than 2,000 cancers a year in the cumulative work force. There will be about 2,700 a year by 1995; about 4,000 a year by 2000; 6,000 a year by 2010; peaking at about 7,500 a year by 2020. Is cancer an "occupational disease" for nuclear workers? No, these numbers reflect the expected incidence of cancer in the population of the U.S. About half of these cancers will be fatal.

What might the costs be if either the tort system or workers compensation were allowed to become distorted to recognize the normal incidence of cancer as occupational diseases?

Show slide #4

The early work done by the Pools, the effort of your good health physics staffs and the NRC, has resulted in very good health physics protection of workers, good record making and good record keeping. Our intense attention over many years to tort claims, has stood us all in good stead.

The three areas where your industry is vulnerable to significant unwarranted costs from worker claims include:

I. Tort Claims
II. Workers Compensation Claims
III. Legislation that impacts I or II, or which mandates new benefits.

I. Tort Claims

The Pools have defended all of your industry's worker tort radiation claims. The strategy that has evolved is a uniform national program for evaluating and where necessary, vigorously defending unwarranted tort claims. This program, directed by Ed Boehner, Vice President of Liability Claims at ANI, with the support of Jerre Forbes, is rigorously, professionally managed. It rests upon federal court jurisdiction for all power

reactor radiation claims brought about by an amendment to the Price Anderson Law in 1988. Our success reflects the intense effort we have expended in this area over many years, and the talent of our people. But, basically it reflects the very fine protection of workers.

Show slide #5

Don Jose was appointed Special Counsel to the Pools in 1989. We appoint local counsel who are very meticulously selected. Don is Special Counsel on all of our worker tort claims. He significantly adds to our effort with his knowledge of the science of radiation effects on the body. Through Don our Liability Claim Department enforces a uniform, countrywide strategy.

II. Workers Compensation

Your industry has nothing in place to address the challenge of effectively managing radiation injury claims in the workers compensation area. It is not enough to have taken good care, created and preserved good records. You are particularly vulnerable in the workers compensation area because of the justified bias in the system toward the claimant. This bias, I am told, is often distorted to assure some compensation by disregarding facts. Also, a compelling cause for concern is proposed legislation that introduces the further distortion of "presumption" or "rebuttable presumption" of causation. This is legislation that would make many cancers an "occupational disease."

The first sprinkling of these workers compensation claims is out there now. Legislation that damages you, without directly impacting your industry, has been enacted and more is being considered. If you wait to react until there is a wave of such claims you are too late. If you wait to react until a proposed law touches you directly, you are too late.

III. Legislation

I have attached a brief description of laws and some of the proposed legislation that impact these issues. They reflect an effort, sometimes successful, to change the law to assure the recovery by particular classes of radiation claimants who are unable to recover in tort, or workers compensation, or veterans benefits, under existing law. There are few recoveries under present tort law because exposure to low levels of ionizing radiation is a very weak carcinogen. Causation cannot be proved under any objective rules. While the federal courts have been reasonably disciplined in applying their rules, workers compensation systems are much more lax in their requirements to award compensation. Even so, strong efforts have also been made to change compensation rules, with some success, for particular classes of claimants outside your immediate interest.

The classes of persons who would benefit, or have already benefitted from legislation proposed or enacted include:

(1) particular veterans (Atomic Veterans)
(2) all military personnel
(3) workers employed on-site during atmospheric testing
(4) private citizens exposed to test bomb fallout and uranium miners
(5) nuclear workers occupationally exposed in the nuclear defense industry

The appendix to my typed remarks lists some of the legislation, both enacted and proposed, which will tell you plainly that the tide is running against you.

A thumb-nail sketch of that legislation is all that my time allows.

I. 1978-82 · Senator Hatch, under pressure from his constituents, proposes changes in federal tort law and development of radioepidemiological tables to ease recovery of tort damages.

· ANI/MAELU opposition, and studies done of scientific basis for tables which are found to be deficient.

II. 1983 · Orphan Drug Act - An amendment enacted requires Health and Human Services to construct tables, which was done despite controversy over the validity, or even usefulness of the tables.

III. 1983 · Proposed legislation in Colorado to reverse burden of proof of causation in workers compensation claims by workers exposed to ionizing radiation.

IV. 1984 · Law enacted to ease "Atomic Veterans" recovery of benefits for exposure to dioxin, and for cancers allegedly caused by radiation exposure.

Notes To Numbered Items:

(1) Legislation enacted based upon a "presumption" of service connection for specified cancers.
(2) Legislation proposed to extend presumption to entire armed forces, but modified and enacted to require a study of military personnel exposed prior to 1970.
(3)&(4) Legislation proposing to change burden of proof rules of Federal Tort Claims Act not enacted. In its place outright grants awarded to cancer claimants ($50,000 to citizens; $75,000 on-site workers, and (3) $100,000 to uranium miners.)
(5) A series of bills have been introduced to create a "rebuttable presumption" that the cancer of a nuclear worker is an "occupational disease."

V. 1988 · Law enacted to require the VA to irrebuttably presume service connection for cancer claims by "Atomic Veterans."

VI. 1988 · Legislation introduced to extend "irrebuttable presumption" idea to "downwinders" and uranium miners. This led to VII.

VII 1990 · Law enacted providing "grants" to downwinders ($50,000) and uranium miners (up to $100,000), and a last minute amendment added workers on-site at nuclear tests ($75,000).

IX. 1991 · Legislation proposed to extend the "irrebuttable presumption" of service connection to all occupationally exposed military personnel who contract specified cancers. ANI and MAELU submit statement and lobby in opposition. No action taken by private nuclear industry.

X. 1991 · Legislation proposed to create W.C. benefits for cancers of nuclear defense workers based upon a "rebuttable presumption" the occupational radiation exposure is the cause of the cancer. ANI and MAELU lobby in opposition.

XI. 1992 · Several bills introduced to provide medical insurance to nuclear defense workers released from employment. It is alleged that health insurers would not insure the workers because of fear of a greater incidence of cancer. A letter from Health Insurance Association of America to Senate staff rebuts this charge.

XII. 1993 · A bill has already been introduced this year to provide medical insurance to cover medical costs in excess of $25,000 for former nuclear defense workers who suffer cancer. It is similar to bills previously filed.

Show slide #6

This slide compares the occupational dose to workers at power reactor facilities to the dose of workers for whom benefits have already been provided, or are being proposed. The beneficiaries received only 1/6 to 1/3 the occupational radiation dose of power reactor workers.

To guard against a grotesque financial result that would burden the electric rate payer more attention needs to be paid.
The three threatening areas are tort, workers compensation, and legislation. So far, so good in the tort area. The threat will become increasingly political.

There is a need for evaluation and plans in the compensation and legislative areas. When you are forced to address this issue it will be too late.

* * * *

Attachment: Appendix identifying laws enacted and legislation proposed.

APPENDIX TO REMARKS BY JOSEPH MARRONE
OUTLINE OF SIGNIFICANT LEGISLATION AND PROPOSED LEGISLATION THAT IMPACTS RADIATION CLAIMS AGAINST PRIVATE NUCLEAR INDUSTRY

USCEA Nuclear Insurance Conference
February 28-March 3, 1993

I. 1978-82 Changes proposed in Federal Tort Claims Act to Ease Burden of Recovering for Alleged Radiation Injury Based Upon Radioepidemiological Tables

(a) Hearings conducted over several years by Senator Hatch, and legislation introduced by the Senator to (1) to require the federal government to develop radioepidemiological tables, which were intended to be the basis for a change in the Federal Tort Claims Act (FTCA) to ease recovery by radiation injury claimants and (2) to change the Act to relieve claimants of the burden of proving ionizing radiation was "more probably than not" the cause of the alleged cancer or other harm. (Example: prove a 15% probability and recover 15% of your damages.)

(b) Strong opposition to proposed changes from ANI AND MAELU with active support from EEI.

(c) Radioepidemiological Tables Created - Though the attempt to change the FTCA was defeated, nevertheless, P.L. 98-542 was enacted requiring the radioepidemiological tables to be created. (This law was enacted only because it was a last minute amendment to the Orphan Drug Act in 1983, and opposition had no time to react.)

II. 1983 P.L. 97-414 (Orphan Drug Act) Radioepidemiological Tables

The law directed the Secretary of Health and Human Services to construct tables that would show for any cancer the probability that a given prior dose of radiation was the cause the cancer.

There was strong criticism of both the scientific basis of the tables and their use in awarding compensation. ANI and MAELU secured independent analysis from Arthur D. Little which produced two reports that found significant deficiencies in the tables. Reports on the tables include:

1. Assigned Share for Radiation as a Cause of Cancer - National Academy of Sciences (National Academy Press - 1984).
2. Report of the National Institutes of Health Ad Hoc Working Group to Develop Radioepidemiological Tables - National

Institutes of Health (NIH Publication No. 85-2748, January 4, 1985).

3. A Critical Review of the Probability of Causation Method - Cox and Fiksel (Arthur D. Little - 1984) (Reference 50041).
4. Evaluation of Uncertainties in Probability of Causation Estimates - Cox and Fiksel (Arthur D. Little - 1985) (Reference 50041)

III. 1983 - H.B. 1548 Colorado Legislature (Mr. Skaggs)

Legislation proposed to shift the burden of proof in workers compensation. Where a nuclear worker suffers cancer the employer has the burden of proof that the cancer was not work related. (Not enacted.)

IV. 1984 P.L. 98-542 - Veterans Dioxin and Radiation Exposure Compensation Standard Act

The law required the Veterans Administration to establish criteria for compensating claimants alleging harm caused by dioxin or radiation if the exposure occurred during specified activities. The VA was encouraged to use the radioepidemiological tables in evaluating radiation claims and the law relaxed the proof required of claimants. The radiation aspects of this bill were intended to ease recovery for the "Atomic Veterans." These are military personnel exposed during atom bomb testing or who entered Nagaski or Hiroshima shortly after these cities suffered damage from nuclear bombs.

But, even under relaxed standards of proof very few claimants had sufficient evidence to support payment. This resulted in renewed political pressure from Veterans groups that proof be further relaxed. This led to P.L. 100-321 enacted in 1988.

V. 1988 P.L. 100-321 Required the VA to presume service connection (causation) respecting claims by the Atomic Veterans for any of 13 kinds of cancers. Compensable kinds of cancers have since been increased to 15. (By January of 1990 more than 300 claims have been awarded based upon the presumption.)

VI. 1988 H.R. 5022 and S.2633 - Proposed legislation to extend the "irrebuttable presumption" idea (similar to that enacted in P.L. 100-321 for Atomic Veterans) to "downwinders," who are citizens allegedly exposed to radiation from atmospheric test bomb fall out and to uranium miners. Citizens were to receive $50,000, and uranium miners $100,000 (or $50,000 if they were smokers). These bills reflect political pressures that were initiated more than 10 years earlier. (Not enacted, but led to Item VII.)

VII. 1990 PL 101-426 and PL 101-510 - Laws enacted to favor downwinders and uranium miners with money grants if they contract specified cancers. Workers and others on test bomb sites were added as beneficiaries at the very last moment when

varied House and Senate bills went to the Conference Committee. Workers with specified cancers will receive $75,000, downwinders $50,000, and uranium miners up to $100,000.

VIII. October 1990 H.R. 5953 (Congressman Skaggs-Col.) - A bill to extend Longshoreman's and Harbor Workers compensation benefits for harm from occupational exposure to ionizing radiation to all nuclear workers employed by DOE or any of its contractors. The bill would create a rebuttable presumption that the kinds of cancers specified in the bill were caused by occupational exposure to ionizing radiation. Cancer is deemed to be an occupational disease, provided that:

(1) The worker was employed in a facility 10 years or more, or
(2) has a cumulative dose that exceeds 10 rems, or
(3) has 10% or more of the permitted body burden.

IX. April 1991 - S. 775 (section 7), formerly section 113 of S. 127; H.R. 323

These bills proposed to extend the irrebuttable presumption of service connection for specified cancers to all military personnel (including reservists) who are occupationally exposed to ionizing radiation. They also added to the list of kinds of cancers to be presumed to be service connected. ANI and MAELU, as well as insurance trade associations submitted a strong opposing statement to the Senate Veteran's Affairs Committee and lobbied in opposition. As enacted, the benefit of the law was not extended to all military personnel, but a study is to be undertaken of military personnel exposed without proper monitoring prior to 1970 to determine if special facts warrant extending the presumption of service connection to them.

X. Nov. 1991 - HR 3908 (Congressman Skaggs-Col.)

This bill is similar to H.R. 5953 (noted above). It proposes to create compensation benefits for all nuclear defense workers who suffer from specified cancers based upon a rebuttable presumption that radiation is the cause of the cancers. The requirement in the prior bill (1990) that the worker be employed ten years or more in a nuclear facility is reduced to only 5 years. It is likely that legislation similar to this will be pressed on the Congress in the future based upon favors conferred on other claimants (Atomic Veterans, downwinders, on-site bomb test workers.)

The bill funds health care of nuclear defense workers no longer employed by the government or its contractors, for costs associated with the kinds of cancers specified.

XI. 1992 S 2506; HR 5887; S 2843

These bills would provide health insurance benefits to nuclear defense workers (released from employment) based, in large part, on the fallacious argument that health insurers declined to insure nuclear workers because the insurers feared disproportionate cancer claims from nuclear workers. The insurers have no such apprehension.

XII. 1993 H.R.43

A bill to provide ex-nuclear defense workers coverage for medical costs in excess of $25,000 for cancers specified (about 30 types.) To qualify a worker need only have been employed 5 years or more, or had a cumulative exposure of 10 rem or more, or had 10% or more of a permitted body burden.

2/5/93

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NUMBER OF NUCLEAR WORKERS
(PRIVATE NUCLEAR INDUSTRY)

	CUMULATIVE	SURVIVORS
1992	620,000	590,000
1997	750,000 *	690,000

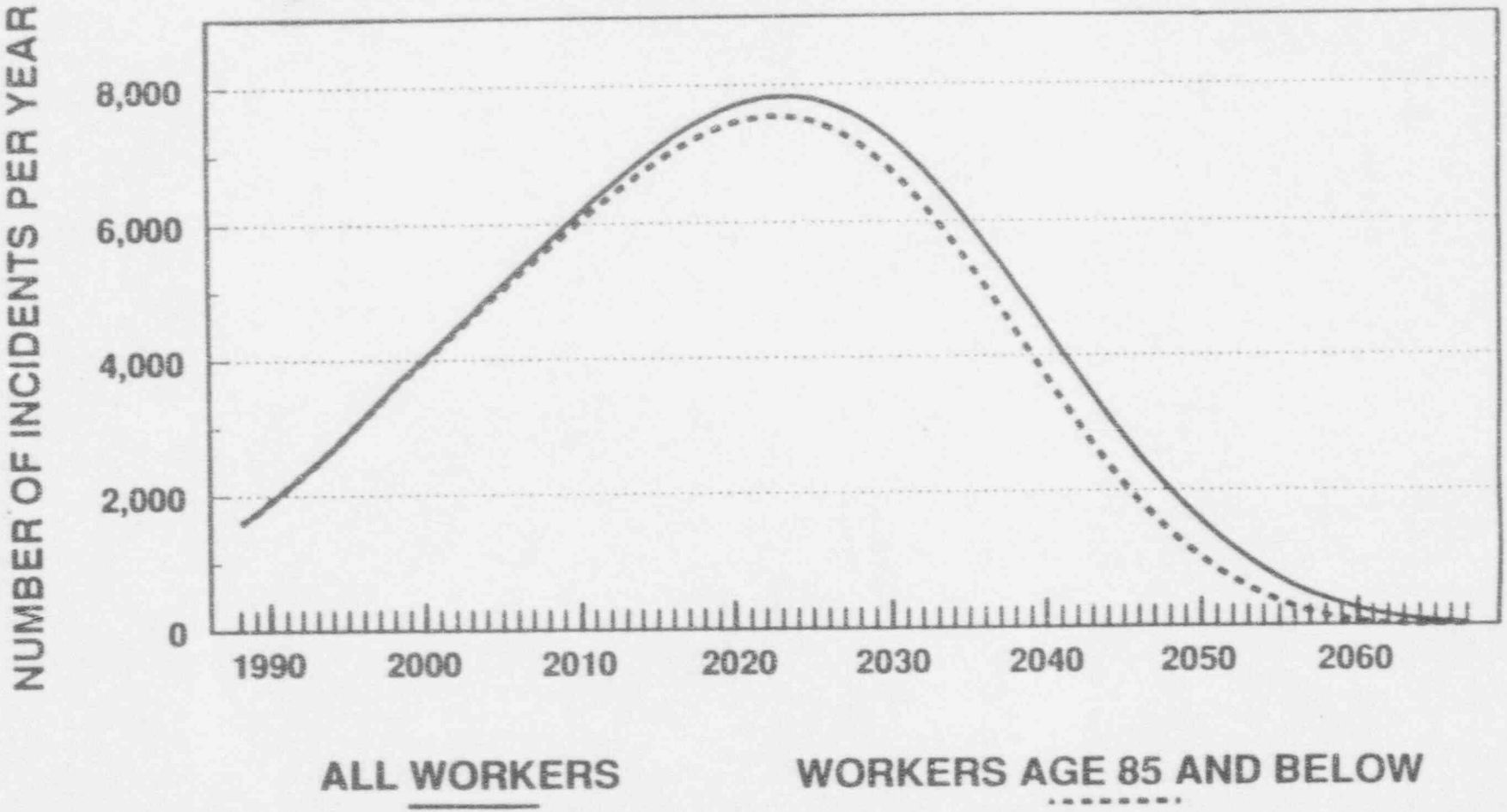
* Includes recruitment of 25,000 new workers a year.
(Estimate based upon experience)

NATURAL INCIDENCE OF CANCER
(1992 - FORWARD)

NUMBER OF WORKERS		CANCER INCIDENCE		TOTAL CANCERS
690,000	X	30%	=	207,000

NATURAL CANCER INCIDENCE

(All Workers and Workers Age 85 and Below)



Total reactor worker population hired prior to 1988 plus 10 years of estimated recruitment.

PROJECTIONS OF COST

Assume only 100,000 cancers are made compensable.
(No adjustments for inflation)

Example #1:

$250,000 each X 100,000 = $ 25 Billion

Example #2:

$350,000 each X 100,000 = $ 35 Billion

WORKER TORT CLAIMS RECEIVED BY POOLS

I. **Total workers tort claims - 115**

II. **Includes cancer claims - 27**

III. **Includes open worker tort claims - 13 ***

IV. **Includes new worker claims - 4**

* **Does not include 11 dormant claims from TMI Unit 2 accident recovery operation.**

SUMMARY OF RADIATION EXPOSURE OF WORKERS

	Average Annual Dose (MREM)	
	1980	1985
Power Reactors	360	220
Government (DOE, DOD, etc.)	60	70

SOURCE:

Extracted from EPA - Occupational Exposure to Ionizing Radiation in the U.S. - May 1992 (Draft Report)