



To the Director of the Office of Nuclear Material Safety and Standards.

It is requested that proceedings be instituted under Section 2.202 for the following proper actions (A,B, and C) regarding the nuclear reactors at Three Mile Island in Pennsylvania.

**Proper Action A:** Before any further action is taken for purposes of the cleanup of Unit 2 which involves any physical alteration that might result in unplanned releases of radioactive materials into the environment, the following monitoring procedures are to be fully set up, in place and 100 percent operational.

(1) Pig, goat and cow thyroids are to be collected from animals fed off pasturage or from vegetable materials grown within 50 miles of the reactor. No less than 100 thyroids per month are to be fully tested for radio-iodine and gross beta and gamma at all relevant energies. Geographic sampling balance is to be maintained on a compass quadrant basis to a gross deviation of no more than 25 percent in each month. Fifty out of the 100 thyroids per month are to be pig thyroids.

(2) Potted plants of clone KU-7 Tradescantia, spiderwort are to be placed at 12 compass point locations around the plant at distances of 1/4, 1/2, 1, 5, 10 and 15 miles. There are to be 72 potted plant boxes in all and 10 potted plants per box. These are to be checked twice per week by a qualified spiderwort reader. Brookhaven National Laboratories is to certify and be responsible for the qualifications of the reader(s).

Proper Action A (Continued)

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(3) Flesh, bones and teeth of fish, deer, rabbits, game birds, possum and other game animals or wild animals as practicably obtainable and obtained in ferrum naturae within 50 miles of the plant are to be tested for radio-strontium, radio-cesium and radio-iodine at all relevant energies. No less than 20 animals are to be so taken and tested twice per month. Geographical balance on a quadrant basis is to be maintained within 40 percent deviation.

The monitoring Program, per this request parts 1, 2 and 3 is to continue until one of the three following conditions are met:

- (a) Both Three Mile Island units are permanently shutdown.
- (b) Unit 2 cleanup is complete and one year has passed after the cleanup completion date.
- (c) Unit 2 is shutdown permanently and one year has passed after the shutdown has been fully done.

## Proper Action B

Proper Action B: Before any further planned criticality of fuel in the Unit 2 reactor vessel, whether for commercial or experimental or testing purposes, an evacuation plan that is feasible and adequately rapid and complete is to be drawn up, printed and circulated. At least one version or edition of this plan is to run no more or less than 50 pages, have type of no less than newspaper size and be written and edited to suit a reader of average vocabulary according to standards to be received from the Educational Testing Service of Princeton New Jersey. The public manual version of the plan is to be distributed by Third Class mail, one copy to each household situated within 20 miles of Unit 2 reactor. In addition, copies are to be available free of charge to all persons residing or domiciled within 50 miles of the plant. These copies are to be made available and made known to be available at Post Offices, Courthouses, Schools and other public buildings and places.

## Proper Action C

Proper Action C: With regard to thermoluminescent dosimeters ("TLD") and dose-rate meters now in loci placed by various federal government agencies, the following requirement is to be met. TLD's or dose-rate meters from at least 50 percent of all federal measuring locations are to be put out in duplicate and read on a double-blind basis by two separate laboratories that do not share information as to the locus from which the read instruments are brought in. This inter-lab checking procedure is to begin <sup>immediately</sup> ~~no more than four weeks from the signing of a judicial order~~ and all new instruments placed in the field are to be coded for double-blind reading forthwith, ~~when the order is signed~~. The quality control of TLD's and dose-rate meters system as per this request is to provide semi-annual reports.

**Specification of facts that constitute the basis of this request.**

8. On Wednesday, March 28, 1979, the nuclear power plant Unit 2 on Three Mile Island, Pennsylvania, began to leak radioactivity in large and uncontrolled and unmeasured amounts into the environment including the air, the water, and the land.

There was a series of equipment and mechanical failures, inaccurate technical readings and operator errors leading to radioactive releases that have had and do have and will have health consequences both severe and abiding.

A pump which circulated water in the secondary system broke. This caused the steam generator to heat up greatly as well as the primary coolant. The backup system that should have come on to cool the water in the secondary system had been closed.

The primary coolant in the pressurizer continued to heat and pressure increased until a valve in the pressurizer opened. This allowed the pressure to decrease and the primary water to leave the reactor core and go to a drain tank at the bottom of the containment structure. The valve stayed open after it should have closed, however; and this caused a dangerous loss of primary coolant and a consequent increase in temperature and drop in pressure. The drop in pressure triggered an automatic emergency core cooling system but this was turned off by the reactor operators. For two and a half hours primary coolant flowed from the reactor with inadequate replacement.

## Specification of facts (continued)

The fuel rods became exposed and more heated. Bits of fission products, activation products and transurani<sup>c</sup>s produced by the core were carried along with the water to the drain tank in the containment building until a sump pump began moving the water to the auxiliary building. On its way to the auxiliary building a certain amount of highly radioactive water leaked from the pipes into the environment and Susquehanna River. During this time on Wednesday there were uncontrolled releases of radioactive materials in steam and water as the operators of the reactor alternately countermanded and reinstated automatic emergency systems.

On Thursday, March 29, 1979, hundreds of thousands of gallons of waste water from the plant were dumped into the Susquehanna River.

On Friday, March 30, 1979, beginning at 7:00 a.m. and continuing through the morning there were ventings of radioactive steam from the auxiliary building.

This accident has had continuing radiological release consequences from March 28, 1979 up to and including the present time. The most recent major release occurred on February 11 and 12<sup>th</sup> 1980.

The health effects to be expected from the releases of the noble gases from the stack vent are more severe than presently recognized by the NRC. If we look first at the National Academy of Sciences report of 1972 entitled the Biological Effects of Ionizing radiation on page 183 we find a summary of the reports by Drs. Gofman and Tamplin. They say 104,000 excess lethal cancers per year in a U.S. population exposed to 0.17 rem. From page 69 we see that the U.S. population at that time was 200 million. So 34,000,000 man-rem produces 104,000 excess lethal cancers. The memo produced by Lake Barrett circa April 12, 1979 says that 13,000,000 Curies were released up to that point of Xe-133 and other noble gases in the nuclide profile that would naturally accompany Xe-133. Turning now to Federal Register Volume 44 No. 249 Thursday December 27, 1979 page 76741 we find that for light water pressurized water reactors 13,000 Curies of noble gases released gives 5 person-rem per year (whole body) in the regional population, so 1000 times that would be 5000 person-rem (whole body). Gofmans figures indicate 326.92 man-rem produce 1 excess cancer death, so 5000 man rem would produce 15.29 excess cancer deaths. Not included are releases since April 12, 1979, non-lethal cancers, genetic effects including lethal genetic effects, and exposure due to sources other than noble gases. If these things were taken into account the health effects picture would be more severe.



There have been a number of other major accidents at the plant since last year. In one such accident seven men received radiation doses in excess of that permissible by law when they opened the wrong valve inside the auxiliary building.

Due to the above facts there is an ongoing injury to the local population

The injury consists of ~~plaintiffs~~ local population's

not having an accurate or complete official record kept of the radiological releases occasioned by the accident. They thereby will be deprived of adequate information bases on which to make informed decisions about where to situate themselves and/or reside. They also thereby will be systematically precluded at the outset from later being able to put on successful litigation to receive compensation for radiogenic harms because of inability to prove the amount of radiation extant at various and individually relevant times and places. In addition, the injury consists of having to live under circumstances such that if a major radiological release which would call for immediate evacuation of the area were to occur, there is no demonstrated, clearly thought-out and feasible plan whereby the area could be evacuated quickly, completely and safely.

Signed: Feb 25, 1980  
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