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April 2, 1979

SECY-79-235

**COMMISSIONER ACTION**

*Keep with  
3M1 stuff*

For: The Commissioners

From: Harold R. Denton, Director  
Office of Nuclear Reactor Regulation

Howard K. Shapar  
Executive Legal Director

Thru: Lee V. Gossick *ELRC for LVA.*  
Executive Director for Operations

Subject: POSSIBLE DETERMINATION OF AN EXTRAORDINARY  
NUCLEAR OCCURRENCE AT THREE MILE ISLAND UNIT 2

Purpose: To advise the Commission of some decisions that  
will need to be made in the immediate future  
regarding the application of the Price Anderson  
Act to the Three Mile Island Unit 2 accident.

Discussion: Any claims for offsite personal or property  
damages resulting from the Three Mile Island  
accident will generally be governed by the Price  
Anderson Act (principally section 170 of the  
Atomic Energy Act). Liability for damages is  
governed by State law, and traditional legal  
defenses against liability (such as contributory  
negligence) would ordinarily, if applicable under  
State law, be available to the defendant (most  
likely, the licensee and its vendors). However,  
in the event the Commission should determine  
that the accident is an "extraordinary nuclear  
occurrence" (ENO) (defined in section 11j of  
the Act), then the so-called "waivers of defenses"  
provisions of section 170n of the Act come into  
play. The ENO provisions of the Act were added  
in 1966 but since then there have been no occasions  
for either NRC or AEC to make any ENO determinations.

Contact:  
Ira Dinitz  
492-8336  
or  
Eric Jakel  
492-8691

SECY NOTE: This paper is identical to  
advance copies which were delivered  
to Commission offices on April 2, 1979.

In implementing section 170n the Commission has incorporated provisions in its indemnity agreements executed with its reactor licensees and required incorporation of provisions in insurance policies furnished by these licensees as proof of financial protection, which waive (1) any issue or defense as to conduct of the claimant or fault of persons indemnified; (2) any issue or defense as to charitable or governmental immunity; and (3) any issue or defense based on any statute of limitations if suit is instituted within three years from the date on which the claimant first knew, or reasonably could have known, of his injury, but in no event more than twenty years after the nuclear incident. The net effect is that if the Commission determines that the Three Mile Island accident is an ENO, certain possible legal obstacles to successful offsite personal or property damage claims will be removed.

However, even if a determination is made that an ENO has taken place, the waiver of defenses provisions have certain limitations in their applicability. The waivers do not preclude a defense based upon a claimant's failure to take reasonable steps to mitigate damages, nor do they apply to injury or damage to a claimant or to a claimant's property which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant. The waivers also do not apply to injury to a claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law. Finally, an ENO determination does not prevent the defendant from contesting the nature and extent of the claimant's damages or whether the damages were in fact sustained as a result of the accident.

The Commission's determination as to whether an ENO has taken place would be dependent upon the following two findings: (1) that there has been a substantial discharge of radioactive material or substantial radiation levels offsite, and (2) that substantial damages to persons or property offsite have occurred. Sections 140.84 and 140.85 of the NRC's regulations provide in detail the criteria for making these findings.

These criteria are quantitative in nature. The first finding would be made if one or more persons offsite were, could have been or might be exposed to doses in excess of specified values (e.g., 20 rem to the whole body or 30 rem to the thyroid) or if there has been offsite surface contamination of at least 100 square meters characterized by radiation levels in excess of specified values (e.g., 4 millirads/hour at one cm, beta or gamma, at offsite property not owned or leased by the licensee). The second finding would be made based on specified levels of damages (e.g., death or hospitalization within 30 days of five or more offsite people showing objective clinical evidence of injury from exposure to hazardous properties of radioactive materials, or \$5 million or more of damage offsite has been or will probably be sustained on the aggregate). These criteria, as well as entire Subpart E of Part 140 of the regulations dealing with the determination of an ENO, are included in Attachment "A." The Commission's determination as to whether an ENO has taken place is not subject to judicial review.

The regulations in 10 CFR 140.82 provide that the Commission may initiate, on its own motion, the making of a determination as to whether or not there has been an ENO. In the event the Commission does not initiate the making of a determination, any affected person, or any licensee with whom an indemnity agreement is executed, or any person providing financial protection may petition the Commission for a determination of whether or not there has been an ENO.

10 CFR 140.82 states that if the Commission does not have, or does not expect to have, within 7 days after it has received notification of an "alleged" event, enough information available to make a determination that there has or has not been an ENO, the Commission will publish a notice in the Federal Register setting forth the date and place of the "alleged" event and requesting any persons having knowledge thereof to submit their information to the Commission. However, these regulations are unclear as to the exact circumstances under which the Commission must publish the notice in the Federal Register. The better reading seems to be that the obligation to publish notice in 7 days only applies when the Commission receives notice of an alleged event it had not previously been informed about, and does not apply when the Commission knows of the event from the onset. Thus, the better reading is that no notice is required in the case of the Three Mile Island accident. Nevertheless, the regulations could be read to require notice in all cases where the Commission is uncertain after 7 days whether an ENO has taken place. The determination is not subject to judicial review.

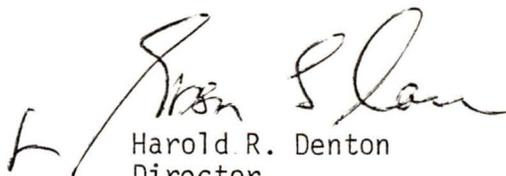
There are a number of options here. The Commission could publish the notice within 7 days, (this Wednesday, April 4) that it is considering making an ENO determination, and requesting data and comment within a specified period (say, 60 days). This would begin the process early and facilitate an early ENO determination while still providing for public input. Some of the data that would be useful in making an ENO determination would need to be gathered during or shortly after the accident, and an early notice would alert people to this fact. On the other hand, such an early notice could cause some confusion, or get "lost" in the course of other news concerning the accident. Also, such an early notice might be regarded as premature if the accident has not fully run its course.

Alternatively, the Commission could delay publication of any notice until a short period of time after the accident has run its course. This would reduce confusion and focus greater attention on the precise nature of the notice. On the other hand, there are obvious advantages to informing the public early of the kinds of data that are relevant to an ENO determination. Also, an earlier notice is arguably required by the regulations (as indicated, this does not appear to be the better reading of the regulations). The Commission could also publish no notice, and simply make an ENO determination itself after gathering the necessary data.

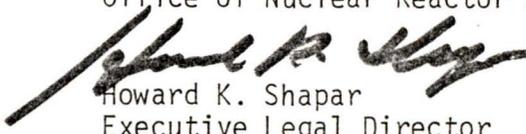
At present (Monday, April 2), the data is limited and the accident has not run its course. This suggests that the information now available is insufficient to enable the Commission to determine now whether an ENO has occurred. The insurance pools have already set up an office in Harrisburg and are making emergency claims payments, notwithstanding any ENO determination by the Commission.

Recommendation:

NRR and ELD recommend that the Commission consider these options at an early Commission meeting.\*



Harold R. Denton  
Director  
Office of Nuclear Reactor Regulation



Howard K. Shapar  
Executive Legal Director

SECY NOTE: The General Counsel subscribes to the alternative course of action of delay by the Commission until an appropriate time in the future. He will prepare an additional paper for the Commission's consideration.

Commissioners' comments should be provided directly to the Office of the General Counsel by c.o.b. Wednesday, April 4, 1979.

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§ 140.81 Scope and purpose.

(a) Scope. This subpart applies to applicants for and holders of licenses authorizing operation of production facilities and utilization facilities, and to other persons indemnified with respect to such facilities.

(b) Purpose. One purpose of this subpart is to set forth the criteria which the Commission proposes to follow in order to determine whether there has been an "extraordinary nuclear occurrence." The other purpose is to establish the conditions of the waivers of defenses proposed for incorporation in indemnity agreements and insurance policies or contracts furnished as proof of financial protection.

(1) The system is to come into effect only where the discharge or dispersal constitutes a substantial amount of source, special nuclear or byproduct material, or has caused substantial radiation levels off-site. The various limits in present NRC regulations are not appropriate for direct application in the determination of an "extraordinary nuclear occurrence," for they were arrived at with other purposes in mind, and those limits have been set at a level which is conservatively arrived at by incorporating a significant safety factor. Thus, a discharge or dispersal which exceeds the limits in NRC regulations, or in license conditions, although possible cause for concern, is not one which would be expected to cause substantial injury or damage unless it exceeds by some significant multiple the appropriate regulatory limit. Accordingly, in arriving at the values in the criteria to be deemed "substantial" it is more appropriate to adopt values separate from NRC health and safety regulations, and, of course, the selection of these values will not in any way affect such regulations. A substantial discharge, for purposes of

the criteria, represents a perturbation of the environment which is clearly above that which could be anticipated from the conduct of normal activities. The criteria are intended solely for the purposes of administration of the Commission's statutory responsibilities under Public Law 89-645, and are not intended to indicate a level of discharge or dispersal at which damage to persons or property necessarily will occur, or a level at which damage is likely to occur, or even a level at which some type of protective action is indicated. It should be clearly understood that the criteria in no way establish or indicate that there is a specific threshold of exposure at which biological damage from radiation will take place. It cannot be emphasized too frequently that the levels set to be used as criteria for the first part of the determination, that is, the criteria for amounts offsite or radiation levels offsite which are substantial, are not meant to indicate that, because such amounts or levels are determined to be substantial for purposes of administration, they are "substantial" in terms of their propensity for causing injury or damage.

(2) It is the purpose of the second part of the determination that the Commission decide whether there have in fact been or will probably be substantial damages to persons offsite or property offsite. The criteria for substantial damages were formulated, and the numerical values selected, on a wholly different basis from that on which the criteria used for the first part of the determination with respect to

substantial discharge were derived. The only interrelation between the values selected for the discharge criteria and the damage criteria is that the discharge values are set so low that it is extremely unlikely the damage criteria could be satisfied unless the discharge values have been exceeded.

(3) The first part of the test is designed so that the Commission can assure itself that something exceptional has occurred; that something untoward and unexpected has in fact taken place and that this event is of sufficient significance to raise the possibility that some damage to persons or property offsite has resulted or may result. If there appears to be no damage, the waivers will not apply because the Commission will be unable, under the second part of the test, to make a determination that "substantial damages" have resulted or will probably result. If damages have resulted or will probably result, they could vary from de minimis to serious, and the waivers will not apply until the damages, both actual and probable, are determined to be "substantial" within the second part of the test.

(4) The presence or absence of an extraordinary nuclear occurrence determination does not concomitantly determine whether or not a particular claimant will recover on his claim. In effect, it is intended primarily to determine whether certain potential obstacles to recovery are to be removed from the route the claimant would ordinarily follow to seek compensation for his injury or damage. If there has not been an

extraordinary nuclear occurrence determination, the claimant must proceed (in the absence of settlement) with a tort action subject to whatever issues must be met, and whatever defenses are available to the defendant, under the law applicable in the relevant jurisdiction. If there has been an extraordinary nuclear occurrence determination, the claimant must still proceed (in the absence of settlement) with a tort action, but the claimant's burden is substantially eased by the elimination of certain issues which may be involved and certain defenses which may be available to the defendant. In either case the defendant may defend with respect to such of the following matters as are in issue in any given claim: The nature of the claimant's alleged damages, the causal relationship between the event and the alleged damages, and the amount of the alleged damages.

§ 140.82 Procedures.

(a) The Commission may initiate, on its own motion, the making of a determination as to whether or not there has been an extraordinary nuclear occurrence. In the event the Commission does not so initiate the making of a determination, any affected person, or any licensee or person with whom an indemnity agreement is executed or a person providing financial protection may petition the Commission for a determination of whether or not there has been an extraordinary nuclear

occurrence. If the Commission does not have, or does not expect to have, within 7 days after it has received notification of an alleged event, enough information available to make a determination that there has been an extraordinary nuclear occurrence, the Commission will publish a notice in the FEDERAL REGISTER setting forth the date and place of the alleged event and requesting any persons having knowledge thereof to submit their information to the Commission.

(b) When a procedure is initiated under paragraph (a) of this section, the Commission will designate members of the principal staff to begin immediately to assemble the relevant information and prepare a report on which the Commission can make its determination.

§ 140.83 Determination of extraordinary nuclear occurrence.

If the Commission determines that both of the criteria set forth in §§ 140.84 and 140.85 have been met, it will make the determination that there has been an extraordinary nuclear occurrence. If the Commission publishes a notice in the FEDERAL REGISTER in accordance with § 140.82(a) and does not make a determination within 90 days thereafter that there has been an extraordinary nuclear occurrence, the alleged event will be deemed not to be an extraordinary nuclear occurrence. The time for the making of a determination may be extended by the Commission by notice published in the FEDERAL REGISTER.

§ 140.84 Criterion I--Substantial discharge of radioactive material or substantial radiation levels offsite.

The Commission will determine that there has been a substantial discharge or dispersal of radioactive material offsite, or that there have been substantial levels of radiation offsite, when, as a result of an event comprised of one or more related happenings, radioactive material is released from its intended place of confinement or radiation levels occur offsite and either of the following findings are also made:

(a) The Commission finds that one or more persons offsite were, could have been, or might be exposed to radiation or the radioactive material, resulting in a dose or in a projected dose in excess of one of the levels in the following table:

TOTAL PROJECTED RADIATION DOSES

<u>Critical organ</u>	<u>Dose (rems)</u>
Thyroid.....	30
Whole body.....	20
Bone Marrow.....	20
Skin.....	60
Other organs or tissues.....	30

Exposures from the following types of sources of radiation shall be included:

- (1) Radiation from sources external to the body;
- (2) Radioactive material that may be taken into the body from its occurrence in air or water; and
- (3) Radioactive material that may be taken into the body from its occurrence in food or on terrestrial surfaces.

(b) The Commission finds that--

(1) Surface contamination of at least a total of any 100 square meters of offsite property has occurred as the result of a release of radioactive material from a production or utilization facility and such contamination is characterized by levels of radiation in excess of one of the values listed in column 1 or column 2 of the following table, or

(2) Surface contamination of any offsite property has occurred as the result of a release of radioactive material in the course of transportation and such contamination is characterized by levels of radiation in excess of one of the values listed in column 2 of the following table:

TOTAL SURFACE CONTAMINATION LEVELS<sup>1</sup>

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Type of emitter	Column 1 Offsite property, contiguous to site, owned or leased by person with whom an indemnity agreement is executed	Column 2 Other offsite property
Alpha emission from transuranic isotopes	3.5 microcuries per square meter.	0.35 microcuries per square meter
Alpha emission from isotopes other than transuranic isotopes	35 microcuries per square meter.	3.5 microcuries per square meter.
Beta or gamma emission	40 millirads/hour @ 1 cm. (measured through not more than 7 milligrams per square centimeter of total absorber).	4 millirads/hour @ 1 cm. (measured through not more than 7 milligrams per square centimeter of total absorber).

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<sup>1</sup>The maximum levels (above background), observed or projected, 8 or more hours after initial deposition.

§ 140.85 Criterion II--Substantial damages to persons offsite or property offsite.

(a) After the Commission has determined that an event has satisfied Criterion I, the Commission will determine that the event has resulted or will probably result in substantial damages to persons offsite or property offsite if any of the following findings are made:

(1) The Commission finds that such event has resulted in the death or hospitalization, within 30 days of the event, of five or more people located offsite showing objective clinical evidence of physical injury from exposure to the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material; or

(2) The Commission finds that \$2,500,000 or more of damage offsite has been or will probably be sustained by any one person, or \$5 million or more of such damage in the aggregate has been or will probably be sustained, as the result of such event; or

(3) The Commission finds that \$5,000 or more of damage offsite has been or will probably be sustained by each of 50 or more persons, provided that \$1 million or more of such damage in the aggregate has been or will probably be sustained, as the result of such event.

(b) As used in paragraphs (a) (2) and (3) of this section, "damage" shall be that arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material, and shall be based upon estimates of one or more of the following:

(1) Total cost necessary to put affected property back into use,

- (2) Loss of use of affected property,
- (3) Value of affected property where not practical to restore to use,
- (4) Financial loss resulting from protective actions appropriate to reduce or avoid exposure to radiation or to radioactive materials.