

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
531 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

October 2, 1979

MEMORANDUM FOR: File

FROM: Dale E. Donaldson, Radiation Specialist

SUBJECT: REVISED EMERGENCY CLASSIFICATION SYSTEM AND EMERGENCY ACTION LEVELS FOR NUCLEAR POWER FACILITIES

During the NRR Emergency Planning Task Force site visits to Three Mile Island and Pilgrim Station on September 24-27, 1979, a document titled, "Basis for Emergency Action Levels for Nuclear Power Facilities" was presented to the licensees. (A copy of the document is attached.) The document was created by an individual in NRR and establishes an emergency classification system that is substantially different from the system contained in Regulatory Guide 1.101. During the Three Mile Island presentation, the document was presented as the acceptable classification system to be used, while at Pilgrim it was presented as an option to be considered. From the tone of the discussions with Three Mile Island personnel, it appears that they will utilize the classification system in accordance with the guidance received by the Site Review Team Leader (Jack Roe).

There are several problems associated with the presentation of the document to licensees as well as some basic problems with the document itself. The revised classification scheme presented in the document establishes the following four classes of "emergencies:"

1. Notification of an unusual event
2. Alert
3. Site
4. General

Also included are examples of emergency action levels applicable to each class. A review of this document indicates that the revised scheme does not establish a "graded" system of classification. The notification of an unusual event class ties together several types of events under this class, ranging from exceeding LCO's, LER's, Technical Specification violations and items of "information", up to actual events before classified as Personnel, Local, Plant (Unit) emergencies. The net effect has been to lump three distinct graded classes of emergencies into one category along with events of a non-emergency nature.

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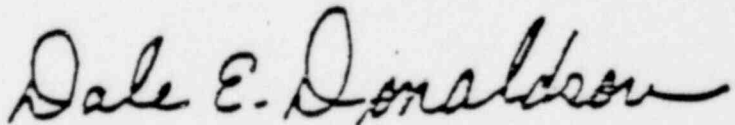
Each of the four revised classes include security aspects. This seems inappropriate considering the fact that 73.55 and Appendix B to 73.55 in conjunction with Security and contingency plans and procedures already address these issues.

In the two upper classes of emergencies, Site and General, there is an overlap, such that the General represents events that may be of a Site emergency nature.

Also of significance is that the notifications for the four classes will be made via licensee-NRC "hot-line." This will create some very practical problems for us. Presently, notification of an unusual occurrence is made via "normal" telephone. Subsequently, the Region prepares a PN. Under the revised system, the Headquarters Watch Officer would receive the notification which, in turn, would have to be transmitted to the Region for preparation of the PN. It is reasonable to expect that the "hot-line" will soon become more "routine" in significance under the revised classification system, and could take away from the "urgent" nature of emergency notifications made through the same line.

Finally, one of the objectives of the Task Force is to obtain consistent emergency classification systems between responsible state agencies and the various reactor licensee's within the state. Since the revised classification scheme is being presented differently by each Team Leader and a different Team Leader visits different sites within the same state, it is possible that one utility will have the Reg. Guide 1.101 classification scheme while another utility has the "revised" scheme.

Apparently the revised classification scheme is also not clear to licensees. During the site visits many questions were raised about the sensitivity of the various levels. Many of these questions were not answered, leaving the licensee's planners apprehensive.



Dale E. Donaldson
Radiation Specialist

Encl
as stated

cc:

G. Smith
R. Boras



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 17 1979

Mr. Brian Grimes
Acting Assistant Director
for Systems and Energy
Division of Operating Reactors
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Brian:

I received a copy of proposed NUREG-0610, "Basis for Emergency Action Levels for Nuclear Power Facilities," from Harold Collins with a request to forward our comments to you. I am very pleased to see the NRC pursuing this type of approach which was suggested in my letter to Bob Ryan of June 21, 1979 (copy enclosed). The concept of emergency action levels supports our guidance to the States which recommend that they use information from licensees for early response decisions. I encourage this effort; however, we do have some questions and reservations on the present proposal.

The supportive information to justify the relationship between the in plant status factors and the potential offsite scenarios is not presented in the material we reviewed. I am sure that such a support document will be developed in the process of promulgating this guidance. We would like to review this material before giving any final concurrence to a specific set of guidance.

We have two specific criticisms of the present document. The first is that, while we think it is appropriate to link onsite conditions to potential or projected offsite dose, we do not think it is appropriate to link onsite conditions with specific offsite protective actions. A good deal of judgment must be associated with protective actions at a particular site and a particular time. It would be better to acknowledge that these judgments are the prerogative of the States involved and to provide guidance for these judgments in documents that are directed to the States as opposed to

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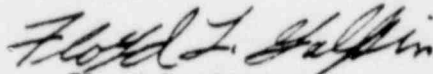
documents that are directed to licensees. On this basis we recommend deletion of the last sentence of the third paragraph on page 1. We also recommend that the right-hand column of the action charts be relabeled as "State and/or local offsite authority actions which may be appropriate." This change will provide the licensee with some information regarding appropriate offsite actions but will not imply that he is responsible for taking these actions or that this document is directing the States to take these actions.

Our second criticism is that the "Site Emergency" is too severe to suit the title. The releases relate to potential doses in the range of 45 rem to the thyroid and 0.75 rem to the whole body at 1 kilometer downwind. These levels could justify offsite actions and, therefore, would represent more than a site emergency. What we are really suggesting is that the accidents which could justify offsite actions be divided into more classifications. For example, the "general emergency" should be further divided to indicate the release potential associated with each of the four conditions identified.

The changes that we are recommending would drastically change the document, and, therefore, it is not appropriate at this time to make detailed or editorial comments. We would be very pleased to work with you in developing a revised draft that would be more acceptable to EPA.

Thank you for the opportunity to comment.

Sincerely yours,



Floyd L. Galpin

Director

Environmental Analysis Division
Office of Radiation Programs (ANR-461)

Enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 21 1979

Mr. Robert G. Ryan
Chairman, Federal Interagency Central
Coordinating Committee (RERP)
Office of State Programs
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Ryan:

In our preliminary review of the Three Mile Island Reactor Accident we noted numerous items that we believe require some follow-up action. Many of these deal with the Environmental Protection Agency's (EPA) own response capability and we are proceeding directly to carry these out. There are others, however, that are either directly within the purview of your agency or which may require cooperative efforts among agencies. I am listing these recommendations here for your initial consideration. We would be pleased to participate in a meeting with NRC staff representatives for more indepth discussions.

Several options were considered as to the appropriate way of bringing these concerns to the NRC's attention. It was decided that the most reasonable course to follow was within the context of the Federal Interagency Central Coordinating Committee (Radiological Emergency Preparedness), which you chair. As the EPA representative to that Committee, I will also briefly present these concerns to the membership of the Committee at the June 22 meeting.

Post Three Mile Island Recommendations for Nuclear Regulatory Commission Consideration

1. More extensive TLD distribution around reactors should be considered as a part of approved offsite monitoring programs. This would give a better basis for retrospective determination of impacts in the case of accidental airborne releases. Although the TLD distribution at TMI was able to give an estimate of offsite exposures, it would have been helpful to have a more complete array. TVA has been exploring this matter for some time at their Browns Ferry facility.
2. Effluent monitors in stacks, vents and other release points should be considered for dual ranges so that they are capable of quantitating accident level releases as well as routine releases.

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3. The hard-wiring of some measurements of reactor parameters and release monitors to NRC should be considered. This might be either to the Regional Office or NRC Headquarters. Such consideration should include evaluation of benefits, costs, potential for added confusion and reliability.
4. There appears to have been an inadequacy in instrumentation in containment that was hardened to withstand an accident environment. An evaluation of this should be performed. As all of our guidance to States has implied a first order dependence on the facility operator for information on releases, we must be assured that instrumentation is adequate for this purpose.
5. Increased consideration should be given to exploring the possibility of devising appropriate control room scenarios, as determined from instrument readings, that could be the initiators to emergency actions and offsite notifications. This matter has previously been discussed with Dr. Ian Wall and Mr. Roger Blond of the NRC Nuclear Regulatory Research Program, who indicated that they had been examining this possibility.
6. An issue that is sure to be raised is whether NRC concurrence in a State emergency response plan should have any influence on the licensing of facilities in that State. We realize that this would be a major departure from past practice and may not have an adequate legislative basis at present. Our concern with this matter is primarily associated with the related issue of funding for State emergency planning, and the specific relationship of plan testing to NRC concurrence. This general subject area is also raised in the recent report, "Beyond Defense-in-Depth," by Stephen N. Salomon of the NRC's Office of State Programs.
7. A plan for improving the coordination of Federal agency response is needed if we assume that in the case of a significant nuclear facility accident, such as Three Mile Island, the various Federal agencies with responsibilities in the area of radiation protection will feel obligated to initiate their own response. It does not appear that the present IRAP format fulfills the total need. Also, such Federal response should be conducted and coordinated in such a manner as to not place any further administrative burden on the State, while at the same time providing those responsible for decision-making and public assurance with the maximum of useful information. Therefore, such a plan for coordination of Federal response should not only cover technical response, i.e., radiation measurements, but logistical and communications support. The TMI incident pointed out that the



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31 October 1979

Mr. Brian K. Grimes
Acting Assistant Director of Systems Engineering
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington D. C. 20555

Following are my comments on your Memo dated September 17, 1979
"Basis for Emergency Action Levels for Nuclear Power Facilities".

Notification of Unusual Event

In our case we are dealing not with a power reactor operated by a private utility but with a Department of Defense Installation (U. S. Navy). First of all there is the matter of Military Security. Is it necessary or even wise to require or request a Military Installation to report to outside Agencies any and all small irregularities or malfunctions which may be immediately correctable while backup systems are functioning properly and there is no indication of a present or imminent danger arising? Fire or Security is immediately available on the Installation. *Protection*

If such a requirement is mandated I believe it should only be in the form of a communications check with the Local Response Lead Agency and require only a verbal closeout.

Alert

As with the previous class the Military Installation has its own Fire Fighting and Security capabilities which would be augmented by off-site agencies only during extreme emergency conditions.

Because we are dealing with a Military Installation I believe it appropriate that the summary be oral only and limited to the Lead Off-site Agency.

Site Emergency

This class and the General Emergency Class plainly cover a situation which calls for an off-site response. However, because both classes cover such a situation why not have just one class called Emergency, making a total of 3 rather than 4 classes?

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preplanning for coordinating a multiple Federal agency response has not been given adequate consideration. Fortunately, due to the efforts of the Department of Energy (DOE) and the general cooperativeness of all of the agency monitoring teams, the response coordination was quickly pulled together. Such an ad hoc approach should not be depended upon, however.

8. Relative to NRC concurrence with State emergency radiological response plans, we need to evaluate how we can assure that the various State agencies and their decision-making Administrators are adequately informed of the plan so that they will act in concert with it rather than on the basis of their perception of their responsibility at the moment. This should include an examination as to the adequacy of the detail in describing the channels of communication and advice that the responsible decision-makers will depend on for initiating actions.

9. It is unclear as to the internal procedures and criteria that NRC follows in formulating its advice for States on the advisability of protective actions to be taken. During the course of an incident, such advice will be called for, and it should be prepared in some pre-organized manner with predetermined responsibilities rather than evolve on an ad hoc basis. There may be other Federal agencies that NRC should involve in this process and EPA would certainly be willing to assist. On the other hand, the advice giving process must be simple, unencumbered, and hopefully, with a single point of contact with responsible State decision-makers.

10. We understand that the Livermore ARAC system was extensively used during the TMI incident. We would like to have NRC evaluate its effectiveness and the possibility of a tie-in with ARAC for each nuclear power facility. If its use is desirable, consideration should also be given to involving ARAC in facility emergency plan tests so that the operators can gain experience as to how this resource can be best utilized.

Sincerely yours,


Sgd. Floyd L. Galpin

Floyd L. Galpin
Director
Environmental Analysis Division
Office of Radiation Programs (ANR-461)

cc: David G. Hawkins, AA-ANR (ANR-443)
Stephen J. Gage, AA-R&D (RD-672)

General

In all cases and with all classes I believe a better listing of Terms is needed to indicate to the Off-Site Lead Agency just what is happening and just what the danger is or may develop to be. Again I question the necessity or propriety of demanding a written summary from a Military Installation. I believe verbal summary to the Lead Off-Site Agency should suffice.


Leland J. Daly
Director

LJD:mpd
c.c. James Montgomery



DOCKET NUMBER

PROPOSED RULE

PR - *Misc. Nureg* 0610
(44FR 55446)

EMIL G. GARRETT

Lt. Col. USA Ret.

P. O. Box 91

Stockton Springs, Maine 04981

Tel. (207) 567-3300

31 October 1979



Secretary of the Commission
U.S. Nuclear Regulatory Commission
Attention: Docketing and Service Branch
Washington, D.C. 20555

Dear Sir:

I wish to comment on NUREG - 0610.

1. Suggest notification of IRO be listed as a Licensee Action for all four classes. I am sure this action is implied, but as written it is not a required License Action.
2. Suggest notification of public be listed as a State and/or Local Offsite Authority Actions for all four classes. The class description of an alert justifies that the public be made aware of the situation so that individuals may exercise options of their own choice.
3. Suggest that Purpose of Site Emergency (5) be amended to read "provide mandatory unsheduled test of response capabilities in U.S."
4. Suggest Expected Frequency be deleted from NUREG - 0610. These statistics have no meaning if the event is taking place and tends to down grade the importance of Licensee and Authority Actions.
5. Amend Release Potential to include maximum release potential of Class 9 accident just prior to refueling.
6. Amend State and/or Local Offsite Authority Actions to include special notification of such facilities as hospitals, prisons, rest homes, schools etc.

Yours truly,

E. G. Garrett

Acknowledged by card. 11/16 *g*

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