



Atomic Industrial Forum, Inc.
 7101 Wisconsin Avenue
 Washington, D.C. 20014
 Telephone (301) 654-9260
 Cable Atomforum Washingtondc



November 29, 1979

Mr. Samuel J. Chilk
 Secretary of the Commission
 U. S. Nuclear Regulatory Commission
 Washington, D.C. 20555

Attn: Docketing and Services Branch

(21)

Dear Mr. Chilk:

PROJECT NUMBER PR - misc Nureg 0610
 PROPOSED RULE (44FR 3546)

The purpose of this letter is to provide the enclosed comments, on behalf of the Atomic Industrial Forum's Committee on Reactor Licensing and Safety, on NUREG-0610 "Basis for Emergency Action Levels for Nuclear Power Facilities". Public comments were solicited in a letter from Mr. Harold Denton, Director, Office of Nuclear Reactor Regulation, U.S. NRC, dated September 19, 1979.

We appreciate the opportunity granted by the NRC staff to discuss the enclosed in a meeting in October, and would be pleased to respond to any questions you may have on our comments.

Very truly yours,

John E. Ward, Chairman
 Committee on Reactor Licensing
 and Safety

JEW:ao'd
 Enclosure

Acknowledged by card... 11/30 dlh

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AIF SUBCOMMITTEE ON EMERGENCY PREAPREDNESS
COMMENTS ON NUREG-0610 "DRAFT EMERGENCY ACTION
LEVEL GUIDELINES FOR NUCLEAR POWER PLANTS"

INTRODUCTION

NUREG-0610 defines four classes of Emergency Action Levels:

Notification of Unusual Event

Alert

Site Emergency

General Emergency

For reasons explained below, we recommend that the "Notification of Unusual Event" class be omitted. In its place, we recommend adding another class of emergency action level which we call "In-Plant Occurrence".

Therefore, we are recommending four classes of Emergency Action Levels:

In-Plant Occurrence

Emergency Alert

Site Emergency

General Emergency

SPECIFIC COMMENTS

1) The emergency action level called "Notification of Unusual Event" should be deleted as an emergency action. The NRC's purpose of providing this class seems to be motivated by a desire to (1) cover items that are of public interest, and (2) periodically test the communication links to those offsite agencies responsible for providing the first emergency responses. NUREG-0610 states "the rationale for

the notification and alert classes is to provide early and prompt notification of minor events which could lead to more serious consequences given operator error or equipment failure or which might be indicative of more serious conditions which are not yet fully realized". The examples of NUREG-0610 for "Notification of Unusual Event" include several events which, although they are not expected to occur when a nuclear unit is in operation, they are minor, or they should not be considered emergencies. For example, initiation of ECCS is listed. For this event, the NRC would have the operator notify the offsite agencies even before the operator has a chance to determine whether the ECCS initiation is in response to a real accident or whether it is a spurious initiation. We understand that the NRC would want the agency's dispatcher to whom the call is made, to notify the person in the agency responsible for taking action, to make sure he is available. After the call, if it were spurious, a second call to the agency would then be necessary to inform them of this.

Notification of events which are minor or are not considered emergencies should be subject to negotiation and agreement between the licensee and local and state authorities. Licensees should acquaint their local and state authorities with the types of abnormal events that occur relatively frequently (a few times a year), and cite their previous experiences with these events. The licensee can indicate the process by which a verification is made that no emergency exists (as for example, ECCS initiation) and how long it takes to arrive at the conclusion. The result of this meeting between the licensee and local and state authorities

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nt as to the kind of events for which the local and
would want prompt notification. It would result in
he offsite authorities of these events and how the
personnel respond.

uirements to the NRC currently exist in NRC Regulatory
fore, "unusual event" should be removed from the
and if an event is serious enough, it should be
the above four emergency classes. The NRC Staff
r purpose of this "unusual event" classification is
dic test of the offsite communication link. Presumably
to have these communication tests several times a year.
e communication link to local and state authorities can
rovided by unscheduled drills instead of upgrading
ts to an emergency classification.

level of emergency action should be an "in-plant
is defined as an in-plant occurrence requiring only
It does not require offsite notification for the
assistance to protect the health and safety of the
n other words, no uncontrolled releases of radioactivity
have occurred or are likely to occur above those which
normal operation. A summary of the in-plant occurrence
ied.

3) We recommend omitting the "expected frequency" because it is speculative and of no use to the emergency organization.

4) We agree that there should be an "alert" emergency classification. We have revised the NRC description of this classification as attached. We also recommend calling this "Emergency Alert" rather than just an "Alert".

5) We agree that there should be a "site emergency" level. We have revised the NRC description as attached.

6) We agree that there should be a "general emergency class". We have revised the NRC description as attached.

7) We recommend that "example initiating conditions" be omitted from the description of these classifications. The NRC reason for listing these are "to form the basis for establishment by each licensee of the specific plant instrumentation readings which, if exceeded, will initiate the emergency class". This would require these examples to be made a part of the licensee's emergency procedures with instrument readings calculated and identified for each example. By requiring the licensee to include examples in its emergency procedures for each category, the NRC is stereotyping incidents without regard to severity and hence developing an arbitrary rule by which emergencies will be judged. This is contrary to the idea of planning for an unknown and evaluating each situation independently. We want to point out that we are not against thinking ahead as to what examples would fall in each category -- that is good educational material and serves to test the understanding that emergency response personnel have of the different emergency events.

We believe that the good examples listed in NUREG-0610 are useful. These examples could and should be used for training purposes and to test the clarity of these revised classifications to see where the example events would fall. The expected plant responses and instrument readings for these examples should be included in the plant training for emergency response. We believe that other events may give similar results to those listed.

8) We have attempted to classify several recent plant events into the NUREG-0610 classification and found it difficult to do, primarily because of the "release potential" description. We believe it is preferable to omit release potential quantities (curies) from the emergency action levels because radiation dose effects are site dependent and a release potential depends on a specific plant design. We have substituted a reference to protective action guideline values (PAGs). Specific PAG dose values should be listed in the final table issued with NUREG-0610. Also, radiation dose rates (e.g. millirem per hour) cannot be universally used because the states have different levels at which their off-site actions are taken. Therefore, "offsite authority actions" may not be consistent with the "release potential". The plant condition is a better parameter to use in arriving at an emergency classification and determining offsite notification than are radioactivity quantities. Therefore, we have added a section titled "Definitive Characteristics" under the "Class" column for each emergency action level which we believe would be useful to the operator as a description of the plant status.

9) "Ongoing security compromise" should be omitted as an example of an ALERT initiating condition. Security procedures cover this event separately from the radiological emergency plan.

10) We recommend that the NRC amplify the "Offsite Authority Actions" column by adding what the NRC response should be. This should be supplemented by specific procedures for each nuclear unit in operation, (e.g. identification of NRC personnel and where they report on the licensee's site in an emergency). These actions should be issued for industry comment, and supplementary procedures should be sent to each licensee for review to make sure they are consistent with licensee's emergency response plans.

INDUSTRY EVENTS CLASSIFIED

We have classified some events into our revised classification. The recent North Anna event of September 25, 1979 would have been an "in-plant occurrence" due to release of radioactivity into the auxiliary building with attendant evacuation of the building. It would not have escalated into an "emergency alert" classification because it was controlled and there was no loss of safety function.

The Prairie Island steam generator tube rupture event on October 2, 1979 would have been an "emergency alert" because it had releases less than the lower limit of PAGs. There was a loss of two fission product barriers but not with the release potential in excess of the lower limit of PAGs.

The Browns Ferry fire in 1974 would have been an "in-plant occurrence" followed by an "emergency alert", and then escalating to the site emergency category. This is because many of the cables from the control room to the

reactor were destroyed and the ECCS was inoperative, requiring a "jury rig" core cooling set-up. While there was no release of radioactivity, there was a "failure or malfunction of both trains of a single safety system" which makes this a site emergency. If loss of core cooling was experienced at any time in the accident, this would be a general emergency.

A summary of these industry events is attached as Table 1.

We would also like to mention that in both the NUREG-0610 and our revisions, the TMI-2 accident would fall into the most severe category of accident (when actually there were no real off-site results). Obviously, the release potential at the time of the accident as judged by knowledgeable personnel, and based on plant instrumentation and the status of the safety systems, would be used to classify the accident, rather than the after-the-fact longer-term analyses.

We have added a "Summary of Emergency Events and Actions" as a simple matrix.

TABLE 1 CLASSIFICATION OF INDUSTRY EVENTS

EVENT	NUREG-0610	AIF
<u>North Anna</u>		
1) Release in Aux. Bldg. 2) Unplanned release to environment (within normal limits) 3) Plant under control	Notification of Unusual Event	In-Plant Occurrence
<u>Prairie Island</u>		
1) Uncontrolled release 2) Less than lower limit of PAG 3) Loss of 1 P.P. barrier 4) Tech. Support Center needed	Probably "Site" because release not known but potential for $>10^4$ curies	Emergency Alert
<u>Browns Ferry</u>		
1) Uncontrolled fire 2) No immediate release potential 3) Loss of normal core cooling 4) Tech. Support Center needed	Site	Site Emergency because of loss of both ECCS trains, and General Emergency if loss of core cooling was experienced

CLASS

In-Plant Occurrence

Class Description

In-plant emergency not requiring off-site notification for the purpose of protecting the health and safety of the public.

Purpose

To provide notification of the emergency to the plant staff and to activate the appropriate emergency response.

Release Potential

No releases of radioactive material requiring off-site response or monitoring are expected

Definitive Characteristics

Abnormal plant condition, but
1) under control
2) no effect on health and safety of public

Licensee Actions

1. Notification of local and state Authorities in accordance with established agreements
2. Notification of NRC in accordance with technical specifications
3. Assess and respond
4. Close out by verbal summary to NRC and local and state authorities, as required

or

Escalate to a more severe class

Off-site Authority Actions

1. Provide fire or other assistance as requested

or

Escalate

Class

Emergency Alert

Class Description

Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant.

Purpose

Purpose of offsite alert is to (1) assure that emergency personnel are readily available to respond if situation becomes more serious or to perform confirmatory radiation monitoring if required, (2) provide offsite authorities current status information

Release Potential

Could be having or have had an off-site non-routine radioactivity release less than lower limit of PAGs. There maybe a potential for further releases if the situation degrades.

Definitive Characteristics:
Abnormal Plant Condition

- a) Potential to affect plant safety systems - or
- b) Potential to affect health and safety of the public - or
- c) Loss of, or imminent loss of a single f.p. barrier

Licensee Actions

1. Promptly inform NRC and off-site state and local authorities of alert status and reason for alert as soon as discovered
2. Activate those parts of the on-site plant emergency organization, and alert those people, needed to meet the condition plant is in or projected to be in. Initiate on-site actions to mitigate the event. Alert appropriate off-site non-plant personnel in the emergency organization to standby only, not to begin travel to the site. Activate necessary functions of on-site technical support center and on-site operating (staging) center.
3. Assess and respond
4. Dispatch on-site monitoring teams and associated communications if necessary
5. Provide periodic plant status updates to offsite authorities
6. Provide periodic meteorological assessments to offsite authorities and, if any releases are occurring, dose estimates for actual releases
7. Close out by verbal summary to NRC and offsite state and local authorities,
or
8. Escalate to a more severe class

Offsite Authority
Actions

1. Provide fire or security assistance if requested
2. Alert to standby status key emergency personnel including monitoring teams and associated communications.
3. Maintain alert status until verbal closeout
or
4. Escalate to a more severe class

Class

Site Emergency

Class Description

Events are in process or have occurred which involve actual failures of plant functions needed to mitigate the events for protection of the public.

Purpose

Purpose of the site emergency warning is to (1) activate response centers, (2) assure that monitoring teams are mobilized, (3) assure that personnel required for taking protective actions of near-site areas are at duty stations if situation becomes more serious, (4) provide current information for and consultation with offsite authorities and public.

Release Potential

Yes. Non-routine release has occurred or is likely to occur in excess of the lower limit PAGs.

Definitive Characteristics:
Abnormal Plant Event

- 1) Coincident with failure, or malfunction, of both trains of a single safety system, or
- 2) With potential to affect health and safety of the public (reactor coolant system loss in excess of charging capability), or
- 3) With loss of, or imminent loss of, two fission product barriers with the release potential defined above

Licensee Actions

- 1. Inform NRC, local and state offsite authorities of site emergency status & reason for emergency as soon as discovered.
- 2. Augment resources by activating emergency response organization & on-site technical support center, on-site operations center & near-site emergency operation center (EOC)
- 3. Assess & respond
- 4. Dispatch on-site & offsite monitoring teams and associated communications
- 5. Provide a dedicated individual(s) for plant status updates to offsite authorities & periodic press briefings (preferably jointly with offsite authorities)
- 6. Make senior technical & management staff available onsite for consultation with NRC & State on a periodic basis
- 7. Provide meteorological & dose estimates to offsite authorities for actual releases
- 8. Provide release & dose projections based on available plant condition information & foreseeable contingencies
- 9. Close out or recommend reduction in emergency class by briefing of offsite authorities
- 10. Escalate to general emergency class

Offsite Authority
Actions

- 1. Provide assistance in accordance with emergency plan agreements
 - 2. Notify public of emergency status and provide public periodic updates
 - 3. Augment resources by activating near-site EOC & any other primary response centers
 - 4. Dispatch key emergency personnel including monitoring teams & associated communications
 - 5. Alert to standby status other emergency personnel (e.g. those needed for protective actions & dispatch personnel to near-site duty station)
 - 6. Provide offsite monitoring results to licensee & others & jointly assess them
 - 7. Continuously assess information from licensee & offsite monitoring with regard to change to protective actions already initiated for public
 - 8. Recommend placing milk animals on stored feed as determined by offsite monitoring results
 - 9. Provide press briefings with licensee if practical
 - 10. Maintain site emergency status until closeout or reduction of emergency class
- or
- 11. Escalate to general emergency class

Class

General Emergency

Class Description

Events are in process or have occurred which involve actual or substantial core degradation or melting with imminent potential for loss of containment integrity.

Purpose

Purpose of the general emergency warning is to (1) initiate pre-etermined protective actions for public, (2) provide continuous assessment of information from licensee & offsite measurements, (3) initiate additional measures as indicated by event releases or potential releases, and (4) provide current information for and consultation with offsite authorities and public.

Release Potential

Releases where the upper limit of EPA PAGs are projected to be exceeded offsite.

Definitive Characteristics:

- 1) Rad Level 1, Int & Pressure= Specific Numbers - or
- 2) Dose Rate Off-site > PAGs, or
- 3) Loss of 3 fission product barriers, or
- 4) Loss of core cooling

Licensee Actions

1. Inform offsite authorities of general emergency status & reason for emergency as soon as discovered.
2. Augment resources by activating emergency response organization, on-site operations center, near-site emergency operations center (EOC), and recovery center.
3. Assess & respond
4. Dispatch on-site & offsite monitoring teams & associated communications
5. Provide a dedicated individual(s) for plant status updates to offsite authorities & periodic press briefings (preferably jointly with offsite authorities).
6. Make senior technical & management staff available onsite for consultation with NRC & State on a periodic basis
7. Provide meteorological & dose estimates to offsite authorities for actual releases.
8. Provide release & dose projections based on available plant condition information and foreseeable contingencies
9. Close out or recommend reduction of emergency class by briefing of off-site authorities.

Offsite Authority Actions

1. Provide assistance in accordance with emergency plan agreements
2. Immediately notify the public of emergency status & provide public periodic updates
3. Activate the appropriate protective actions offsite
4. Augment resources by activating near-site EOC & any other primary response centers
5. Dispatch key emergency personnel including monitoring teams & associated communications
6. Dispatch other emergency personnel to duty stations within 5 mile radius & alert all others to standby status
7. Provide offsite monitoring results to licensee & others & jointly assess them
8. Continuously assess information from licensee & offsite monitoring with regard to recommending & initiating protective actions & mobilizing additional emergency personnel
9. Recommend placing milk animals on stored feed as determined by offsite monitoring results
10. Provide press briefings with licensee if practical
11. Consider relocation to alternate EOC if actual dose accumulation in near-site EOC exceeds occupational radiation exposure limits
12. Maintain general emergency status until closeout or reduction of emergency class

SUMMARY OF EVENTS AND ACTIONS

<u>CLASSIFICATION</u>	<u>ONSITE ACTION</u>	<u>OFFSITE NOTIFICATION FOR PURPOSE OF SEEKING ASSISTANCE FOR PROTECTING HEALTH AND SAFETY OF THE PUBLIC</u>	<u>OFFSITE MOBILIZATION</u>
IN-PLANT OCCURRENCE	X		
EMERGENCY ALERT	X	X	
SITE EMERGENCY	X	X	X
GENERAL EMERGENCY	X	X	X