

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of )

CONSOLIDATED EDISON COMPANY OF )  
NEW YORK, INC. (Indian Point, Unit )  
No. 2) )

Docket No. 50-247

CONSOLIDATED EDISON'S  
STATEMENT IN REPLY AND  
ANSWER TO NOTICE OF VIOLATION

In accordance with 10 CFR 2.201, and the NRC Notice of Violation and Proposed Imposition of Civil Penalty dated December 26, 1989, Consolidated Edison Company of New York, Inc., licensee of the Indian Point Unit No. 2, supplies the following response to the noncompliance with NRC regulations. Licensee's answer in accordance with 10 CFR 2.205 appears at page 27 below.

## TABLE OF CONTENTS

	<u>Page</u>
NRC STATEMENT OF ALLEGED VIOLATION . . . . .	2
BACKGROUND . . . . .	4
The Perceived Need for EAL Improvement . . . . .	4
Licensee's EAL Task Force . . . . .	6
Pre-implementation Evaluation of Barrier-Breach EALs. . . . .	10
Barrier-Breach EALs and Radiation Monitoring. . . . .	13
Coordination with Offsite Officials and Safety Committee Review . . . . .	15
Implementation of the New Procedures. . . . .	18
Communications with the NRC and Further EAL Revisions . . . . .	20
Admission or Denial of the Alleged Violation and Reasons Therefor . . . . .	25
Corrective Steps and Date of Full Compliance. . . . .	26
Licensee's Answer to a Notice of Violation (Pursuant to 10 CFR 2.205) . . . . .	27

## NRC STATEMENT OF ALLEGED VIOLATION

1. During an NRC Inspection conducted on September 18-21, 1989, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions", 10 CFR Part 2, Appendix C, (Enforcement Policy), (1989), the Nuclear Regulatory Commission proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2782 and 10 CFR 2.205. The particular violation and associated civil penalty are set forth below:

10 CFR 50.54(q) requires, in part, that the licensee follow and maintain in effect emergency plans which meet the standards in 10 CFR 50.47(b) and the requirements of 10 CFR Part 50, Appendix E, and not implement changes that decrease the effectiveness of an approved emergency plan without application to, and approval by, the Commission.

10 CFR 50.47(b)(4) requires, in part, that emergency response plans must have a standard emergency classification and action level scheme, the bases of which include facility systems and effluent parameters. 10 CFR Part 50, Appendix E, Section IV.B (Assessment Actions) requires, in part, that emergency plans include Emergency Action Levels (EALs) that are to be used for determining when and what type of protective measures should be considered, and which shall be based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring.

Contrary to the above, a change was made to the approved emergency plan on December 2, 1988, without first applying for, and receiving, NRC approval of the change. This change decreased the effectiveness of the plan by revising the emergency classification and action level scheme set forth in Emergency Plan procedure IP-1024, "Emergency Classification" such that the resulting emergency classification and action level scheme no longer adequately included consideration of effluent

parameters, offsite monitoring, and other plant conditions. For example:

1. offsite monitoring was not considered in event classification except for action levels involving the declarations of an Alert or an Unusual Event. As a result, conditions that would have resulted in a declaration of General Emergency under the approved plan would have only been declared an Unusual Event under the revised scheme.
2. for certain plant conditions involving a major internal or external event (such as: (1) a fire or earthquake substantially beyond design, which could cause massive common damage to plant systems, or (2) a loss of physical control of the facility (e.g. sabotage)), the revised emergency classification would only warrant declaration of an Unusual Event rather than a General Emergency, which would have been declared under the previously approved plan.

This is a Severity Level III violation. (Supplement VIII)

Civil Penalty - \$50,000

## BACKGROUND

### The Perceived Need for EAL Improvement

Con Edison initiated a comprehensive program to upgrade its radiological emergency planning Emergency Action Levels (EALs) and offsite Protective Action Recommendations (PARs) in May 1987. Licensee's interest in an EAL/PAR upgrade program followed occasional instances of EAL misapplication during annual drills occurring between 1983 and 1987, and a widespread perception among operating personnel that existing measures were too cumbersome to administer effectively during ongoing accident conditions. Company emergency planners wished to determine whether EAL/PAR combinations could be developed on a plant- and site-specific basis which would function more effectively in the event of an emergency.

Among the objectives of the upgrade program were the following: improve the timeliness and accuracy of offsite emergency response; make offsite response functions more user-friendly, so that operators would be better able to focus on the recovery of plant safety systems; make the EALs consistent with the symptom-based Emergency Operating Procedures (EOPs) and Critical Safety Function Status Trees (CSFSTs); utilize what was known about the capabilities and

performance of key plant safety systems to "customize" the EAL/PARs to fit actual plant and site requirements; achieve greater acceptance of and confidence in EALs by offsite officials; and avoid offsite emergency responses which were inappropriate given the expected likelihood and severity of offsite radiation releases which could impact public health and safety.

The NRC was advised of our intention to upgrade our EALs in a July 10, 1987 letter responding to Inspection Report 87-14, which evaluated the May 3, 1987 emergency planning exercise. We stated that:

"We are also now in the early stages of planning to further modify our EAL tables to be more symptom based and to enhance consistency with our symptom oriented EOP's. We met with INPO staff at its Atlanta headquarters on May 15, 1987 to review EALs of a number of utilities. This information was compared to examples collected during a recent EAL work shop hosted by Con Edison and EPRI to determine best practices. We intend to apply this information to our upgrade effort.

Additionally, we have retained independent consultants who possess human factors engineering expertise to provide an objective, third-party analysis of our EALs. After their recommendations are developed, they will be reviewed in-house as well as with cognizant authorities."

Along with EPRI, Con Edison sponsored a workshop on EAL performance in April 1987. Twenty-five utilities participated in the workshop. Participating utility representatives confirmed that they had on occasion

encountered difficulties in the application of event-based EALs derived from NUREG-0654 Rev. 1 examples.

A subsequent survey of EAL declarations at other sites revealed widespread difficulties in applying EALs where they were derived from the circa 1980 event-based "example" initiating conditions set forth in Appendix 1 of NUREG-0654 Rev. 1. The EAL survey showed that in an approximately 18-month period from June 1987 until January 1989, there were sixty-one (61) separate instances occurring at 49 different plants where the NRC concluded in post-exercise Inspection Reports that there had been miscues in the administering of EALs.

#### Licensee's EAL Task Force

In August 1987 Con Edison assembled its EAL upgrade task force. In addition to full-time radiological emergency planning personnel, the working group included Operations and Technical Support personnel. An outside consultant from J.S.B. Associates, Inc., was also retained to assist in the EAL upgrade effort.

Company representatives visited Institute of Nuclear Power Operations (INPO) offices in Atlanta, Georgia in May 1987 to obtain information on potential avenues of EAL improvement. Licensee's EAL task force members

obtained information on a barrier-based approach to accident assessment and offsite notification which had then been adopted by other licensees. Under the barrier-based approach, the fuel cladding, reactor coolant system, and vapor containment are considered to be three separate and distinct safety barriers, the failure of all three barriers being necessary before any substantial offsite release of radiation could occur. Under this approach, the breach of one barrier is deemed an Alert; two barriers a Site Area Emergency; and three barriers a General Emergency. Because the barrier-based approach essentially focuses on the actual condition of key plant safety systems, the status and performance of such systems on a real-time and plant-specific basis drives the giving of offsite protective action recommendations.

Con Edison's EAL upgrade task force extensively reviewed the information then available and concluded that a barrier-based approach was preferable to an event-based approach because it met the goals of the upgrade program and resulted in more appropriate and timely advice being given to offsite authorities. Licensee concluded that a barrier-based approach offered decided advantages compared to triggering action level declaration by generic thresholds



such as the NUREG-0654 Rev. 1 "examples," which were not specifically tailored to the Indian Point plant or site.

The preparation of draft new barrier-based EALs for Indian Point Unit No. 2 was performed by the task force utilizing as a starting point barrier-based EAL models in use at other sites. In each instance a candidate new EAL was compared to the existing equivalent EAL and NUREG-0654 Rev. 1 example. An evaluation was performed by the consultant and in-house review team as to whether the new EAL offered equivalent or improved opportunities for appropriate offsite protective actions, giving due consideration to plant- and site-specific time requirements for effective licensee and offsite decisionmaking, mobilization, and response. In categorizing the various plant statuses as Alert, Site Area Emergency or General Emergency in the new EAL tables, the task force attempted to apply with particularity the following guidance from the NUREG:

"The site area emergency class reflects conditions where some significant releases are likely or are occurring but where a core melt situation is not indicated based on current information. . . . The general emergency class involves actual or imminent substantial core degradation or melting with the potential for loss of containment." (NUREG-0654 Rev. 1, Appx. 1 at 1-3).

In many instances the new EALs were found to call for declaration of successively escalating action levels at initiating event stages in advance of when each such level would be reached under the former EALs. This was in large part due to the very conservative thresholds selected by the task force for defining when a "barrier" was deemed to be "breached."\* In these instances, since the timing of the declarations would be specific to actual plant conditions, the task force concluded that when coupled with the matching PAR, plan effectiveness would either remain the same or perhaps be enhanced in certain situations.

Many of the changes were in the conservative direction from a radiological standpoint. For instance, under the NUREG-0654 Appendix 1 examples, a dose rate of 50 MR/hr would elicit a Site Area Emergency declaration. However, a release of this magnitude would require a

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\* For example, reactor coolant system breach was defined as greater than 100 gpm leakage to the vapor containment. Containment breach was deemed to occur at 10 times technical specification limits, and the fuel storage accident threshold was a plant vent noble gas release rate greater than  $7.6 \times 10^6$  Ci/sec. Fuel cladding breach was assumed if any five thermocouples indicated greater than 1200 °F. Additional conservatism followed from the blanketing presumption that a GAP inventory resulting in a radiation field in containment greater than  $9.4 \times 10^4$  R/hr constituted a three barrier breach (i.e., a General Emergency). The overall impact of the new quantitative thresholds for radioactive releases was to make them more conservative by at least a factor of ten compared to the previous scheme.

three-barrier breach under the new EALs, resulting in a General Emergency declaration. Furthermore, if only two barriers (RCS and Containment) were breached, causing a Site Area Emergency declaration under the new EALs, licensee's EAL development work determined that dose rates would be between 0.3 and 2.4 MR/hr depending on meteorology, compared to the less conservative 50 MR/hr Site Area Emergency threshold under NUREG-0654.

In some instances the declaration of a particular action level was found to occur at a time after the point at which such action level would be declared under the former EALs. These situations received particular scrutiny from our consultant and in-house review team to ascertain whether the increment of change, taken in conjunction with the companion PARs,\* had any potential significance to public health and safety.

#### Pre-implementation Evaluation of Barrier-Breach EALs

In assessing the changes in plan effectiveness accompanying a candidate EAL change, the task force strictly

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\* It is necessary to couple EAL declaration status with an accompanying PAR to assess public dose impacts, and thus plan effectiveness. Licensee's upgrade program reviewed and revised the EALs and PARs simultaneously, since it is the PARs, rather than the EALs, which upon implementation by offsite officials determine public response, and thus dose delivery.

applied the following guidance from NUREG-0654 Rev. 1 (at p. 6):

"The overall objective of emergency response plans is to provide dose savings (and in some cases immediate life saving) for a spectrum of accidents that could produce offsite doses in excess of Protective Action Guides (PAGs)." [footnotes omitted]

Among the factors considered were: plant conditions, the time which would elapse prior to further deterioration which could lead to an offsite release, the extensive prior work of the NRC and others on the radiological consequences of alternative protective responses, and the time specified by offsite officials as necessary for effectuating an adequate protective response.

The task force also compared in time-dependent fashion the dose consequences of the new EALs compared to the prior scheme in light of the significant reductions in radiological release criteria inherent in the barrier-breach thresholds which had been developed. Integral to these efforts was accelerating the giving of protective action recommendations to offsite officials in incipient accident sequences where, based upon remaining available times prior to release, it was determined that projected dosage reductions would result. In other scenarios, it was determined that unnecessary offsite protective actions should be deferred until actually needed for offsite dose

avoidance either because in-plant conditions warranted it or because the available time durations prior to delivery of offsite doses in excess of Protective Action Guides (PAGs) were far in excess of those required for an effective response. In some instances, offsite protective action recommendations previously made only at the General Emergency level were revised so that they would be made at the Site Area Emergency level.

External accident initiators such as flooding, security, fire and seismic events were considered in the development of the new EALs in the same manner as in-plant safety system failure initiators. Licensee personnel familiar with IPPSS concluded that in this area the new EAL procedures would not impact the risk conclusions of that study.

In preparing the new EALs, 10 CFR 50.47(b)(4) was consulted, as was Part 50, Appendix E.IV.B and the guidance of NUREG-0654 Rev. 1. After preparation of the new EALs and PARs was completed, but prior to their implementation, an evaluation was made in detail by licensee personnel to determine whether they met the requirements of the regulations. The new EALs and accompanying PARs were determined to meet regulatory requirements in all respects.

The proposed new EALs were also subjected to a comprehensive human factors review, which included extensive testing on the plant's simulator. One of the human factors problems which had led to prior difficulties in emergency level classification was the need for operators to perform dose rate calculations as part of the process of determining classification status. In our attempts to resolve this problem it became apparent that the appropriate thresholds for determining barrier-breach would necessarily embrace and envelope the offsite conditions which are determinative of emergency level.

#### Barrier-Breach EALs and Radiation Monitoring

The task force concluded that the radiation readings selected could provide extra conservatisms in emergency level declaration. This had the dual advantage of expediting public response, first by shortening the decisionmaking process, and then by initiating public response under circumstances where projected offsite dose rates would be significantly lower than those set forth in the NUREG-0654 Appendix 1 examples. Recognition of these conditions relied on the same protocols used by control room staff in monitoring potential barrier problems. A further advantage was that the radiation monitors utilized for this purpose were redundant, and that plant vent monitors were

utilized as a failsafe for radiation reaching the environment. By taking this approach, conditions having the potential for significant offsite releases would be recognized and dealt with in advance of field monitoring data. There was no change made to the procedures for collecting and relating field monitoring data to offsite officials, even though it was recognized that this information would no longer be as useful as in-plant instrumentation for determining appropriate protective actions.\*

We therefore determined that offsite monitoring had been fully considered, enveloped at the early stages of an accident by in-plant and plant vent radiation readings. The new limits were more conservative and would result in accelerated EAL declaration compared to the prior plan. Moreover, by reliance on in-plant instrumentation as well as offsite monitoring, appropriate EAL status could be ascertained and declared at the early stages of an accident without any delays necessitated by the deployment of monitoring teams in the field.

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\* The new EAL/PARs did not alter existing procedures (IP-1002) for collecting offsite monitoring data and communicating it to offsite officials for their use in determining appropriate protective actions.

Because actual in-plant instrumentation readings, including redundant Area Radiation Monitors (ARMs), Process Radiation Monitors (PRMs), and plant vent monitors were used to determine barrier breach, and thus emergency declaration status, it was found that under simulated accident conditions operators were able to make EAL determinations within an average of 1 1/2 minutes, whereas EAL determinations under the event-based approach required substantially more time. Con Edison was thus able to confirm that a major additional and independent benefit of its new barrier-based EALs was the freeing up of operator time which under accident conditions would now be available to address recovery of plant safety systems.

Coordination with Offsite Officials  
and Safety Committee Review

Prior to implementing revisions to the Emergency Action Levels, licensee emergency planners held meetings with the State of New York and with each of the four counties within the plume exposure pathway emergency planning zone. Offsite officials in the vicinity of Indian Point had for several years expressed dissatisfaction with the old EALs, which were generally regarded as providing uneven information about the likelihood, severity and timing



of significant potential offsite releases. During these discussions, the differences between the Indian Point 2 and Indian Point 3 EALs which would be introduced by the revisions were discussed, as were questions of mobilization of utility, state and county personnel. The State and counties each gave an enthusiastic endorsement of the new barrier-based EALs and stated that they were significantly preferable compared to prior arrangements.

In May 1988 the proposed new EALs were sent to licensee's Station Nuclear Safety Committee for an independent review of their safety implications. The question of whether prior NRC approval should be sought was raised internally in August 1988 when licensing personnel defined the requirements of 10 CFR 50.54(q). In October 1988 the Safety Committee concluded that the new EALs represented an improvement in protecting public health and

safety since the likelihood or severity of dose delivery to the affected offsite population would not be increased.\*

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- \* The NRC had itself suggested assessing emergency plan effectiveness by determining projected dose to the public. NUREG-0654 Rev. 1 states at pp. 6-7 that:

"The overall objective of emergency response plans is to provide dose savings (and in some cases immediate life saving) for a spectrum of accidents that could produce offsite doses in excess of Protective Action Guides (PAGs). [footnotes omitted] No single specific accident sequence should be isolated as the one for which to plan because each accident could have different consequences, both in nature and degree. Further, the range of possible selection for a planning basis is very large, starting with a zero point of requiring no planning at all because significant offsite radiological accident consequences are unlikely to occur, to planning for the worst possible accident, regardless of its extremely low likelihood. The NRC/EPA Task Force did not attempt to define a single accident sequence or even a limited number of sequences. Rather, it identified the bounds of the parameters for which planning is recommended, based upon knowledge of the potential consequences, timing, and release characteristics of a spectrum of accidents.

\* \* \*

Information on the time frames of accidents is also important. The time between the initial recognition at the nuclear facility that a serious accident is in progress and the beginning of the radioactive release to the surrounding environment is critical in determining the type of protective actions which are feasible."

By this time licensee had determined that under the proposed new EALs safety would not be diminished, risk to the public would not be increased, the efficacy of the procedure to operator personnel would be greatly enhanced, and offsite authorities would find the system easier to use. On these grounds, licensee concluded that there was no decrease in plan effectiveness associated with the proposed new EAL/PARs, and that prior NRC approval pursuant to 10 CFR 50.54(q) was not required.

At no time during development of improved EAL/PARs did licensee appreciate that NRC would conclude that plan effectiveness would be decreased solely because a particular potential accident precursor is initially classified at a lower action level. Nor did discussions with other licensees reveal an instance where prior NRC review had been required in connection with a shift to barrier-based EALs. Had we understood NRC's view that any downward adjustments in classification required prior approval, we certainly would have sought NRC's approval prior to implementation.

#### Implementation of the New Procedures

The barrier-based emergency action level classification procedure (IP Procedure 1024) and companion

PAR changes (IP Procedure 1013) were issued and became effective on December 2, 1988, after Safety Committee approval had been obtained, all printed materials had been produced and distributed, and all training had been completed.

Licensee's annual emergency preparedness exercise was conducted on December 7, 1988, five days after the new EAL/PARs were put into effect. Licensee's exercise objectives, as previously submitted to NRC Region 1 on September 29, 1988, had stated that a key goal of the exercise was a demonstration of the sufficiency and effectiveness of the new barrier-based EALs.

The NRC sent several inspectors to observe the exercise, during which the new barrier-based EALs and the companion PARs were utilized in full. The NRC's representatives attended the post-exercise critique, at which they identified the new EAL/PAR procedures and their implementation as a particular strength of the exercise. The NRC team emphasized the short time periods which were necessary to make EAL and PAR declarations as a major safety enhancement of licensee's program. The NRC subsequently issued its inspection report (Inspection No. 50-247/88-31) on January 4, 1989. That report, explicitly referring to the new barrier-based EALs, stated in pertinent part that:

"The NRC team noted the following actions that provide strong indication of the licensee's ability to cope with abnormal plant conditions and implement their emergency plan:

\* \* \*

2. Correct Emergency Action Level classification and timely notification to off site authorities;

\* \* \*

6. Swift validation of computer calculated projected doses and confirmation of these using monitoring team data and readings of off site pressurized ion chambers;

7. Calculation of population dose;

\* \* \*

10. Evacuation Time Estimates were used to identify appropriate Protective Actions prior to start of release and they were also used as the release duration time when calculating some projected doses.

\* \* \*

The licensee was advised no violations were identified . . . . The NRC team determined, that within the scope and limitations of the scenario, the licensee demonstrated they could implement their Emergency Plan, Emergency Classification, Immediate Action and Implementation Procedures in a manner that would adequately provide protective measures for the health and safety of the public."

#### Communications with the NRC and Further EAL Revisions

On February 9, 1989, we received a letter dated January 31, 1989, from NRC Region 1 in which the issue of whether lower level classification of "example" events constituted a degradation of plan effectiveness first surfaced. We were requested to "reevaluate the EAL scheme

contained in [the new procedure] to assure that it provides an equivalent level of protection as that described in NUREG-0654." The letter also stated that "identical treatment of the guidance in NUREG-0654 is not required, however, your approach should provide an equivalent level of protection."

We promptly conducted the requested further reevaluation, which reaffirmed the previous conclusion that the new EAL/PARs did in fact provide an equivalent level of protection to the public health and safety with no likely increase in offsite dose, including for those events that would initially be classified at lower levels. The step-reanalysis led to this determination in large part because the new procedure's criteria for "barrier breach" were conservative, and in the case of radiological releases the new scheme was at least a factor of ten more conservative than the previous scheme. For purposes of our reanalysis we continued to apply the overall action level descriptions and purpose statements from Appendix 1 of NUREG-0654 (at p. 1-3; quoted at p. 8 above), rather than the specimen "examples," as the fundamental grounds for determining which precursor circumstances should comprise each level of classification.

During this review the NRC staff raised for the first time in telephone conversations concerns regarding the impact of the barrier-based EALs on NRC mobilization. Until this time we had not considered this an issue in the development of the new procedure. In March 1989, we informed staff that we would like to meet to discuss our reevaluation and any concerns regarding the NRC's mobilization. A meeting was held on April 26, 1989, during which licensee's original evaluation and subsequent reevaluation were discussed, as were questions regarding NRC mobilization. We pointed out that under the NRC's regulations and guidance the agency does not assume the responsibility for implementing protective actions for the general public. Therefore, determining the dose effects of plan changes for purposes of assessing impacts on plan effectiveness should be unaffected by NRC mobilization.

Our proposal that NRC mobilize at the same time as the utility for certain Notifications of Unusual Event was rejected as impractical. An alternative solution which was proposed by Con Edison was to revert to certain event-based criteria at the Alert stage. We believed that this would accommodate NRC's mobilization practices, and agreed to formulate such a program by the end of May. Following two

conference calls in May and a May 23, 1989 letter from staff confirming those calls,\* we developed an event-based Alert table, added more detailed instructions for classifications based on imminent failures of barriers, had materials printed, trained our personnel, and implemented Revision 1 of the procedure on June 1, 1989. We believed that these actions would resolve the concerns raised by staff. During our discussions with the NRC staff we did not discern staff's position that all NUREG-0654 "example" event-based criteria must be included for each of the four classification levels to satisfy NRC requirements.

During a June 1989 inspection we gained for the first time a clear understanding that event-based emergency

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\* The NRC's May 23, 1989 letter also enclosed "an abbreviated assessment" prepared by an NRC consultant of the differences between licensee's new barrier-based EALs and the "example" EAL initiating conditions set forth in Appendix 1 of NUREG-0654 Rev. 1. The consultant's report stated that it was prepared without any consultation with licensee personnel. The consultant also stated that "no supporting documentation such as Technical Specifications or appropriate sections of the FSAR were available for the review due to the short turn-around time required." As a result, the consultant was completely unfamiliar with the developmental process utilized to prepare and evaluate the effectiveness of the new EAL/PARs. The consultant's report made no attempt to assess the offsite dose consequences of the new emergency plan changes.



action levels addressing each of the separate examples at each emergency level in Appendix 1 to NUREG-0654 were now being required. During the June 1989 inspection, we committed to make the necessary revisions within 60 days. Revision 2 to the procedure was developed, printed materials were produced and distributed, training was conducted, and the further revised EAL program implemented by August 15, 1989.

Con Edison understands that the latest revisions to EAL procedures are acceptable to NRC. The EALs were used during the December 1989 annual exercise, in which the NRC staff found that they were utilized effectively in the Control Room and in the Emergency Operations Facility.

Admission or Denial of the Alleged  
Violation and Reasons Therefor

With respect to 10 CFR 50.54(q) regarding prior NRC approval of plan changes, the Notice of Violation concludes that there was a decrease in plan effectiveness whenever a particular event would have been classified at an action level lower than that action level based on NUREG-0654 Rev. 1 Appendix 1 "examples" which would have been declared prior to the plan changes.

Based upon the standard for interpreting 10 CFR 50.54(q) set forth in the Notice of Violation, a violation of that regulation did occur in connection with the December 2, 1988 plan changes. The reason for the violation was the application of a different standard by the licensee for assessing changes in plan effectiveness than that subsequently utilized by the staff. We believe that this is the first instance in which the NRC has so interpreted 10 CFR 50.54(q) in the context of EALs, and that licensee's alternative interpretation, although subsequently determined to be erroneous, was reasonable when made.

With respect to the standards of 10 CFR 50.47(b) and requirements of 10 CFR Part 50, Appendix E, Con Edison believed that they were met by the December 2, 1988 changes to the EAL and PAR portions of its emergency plan, in that

the emergency plans included Emergency Action Levels (EALs) which were used for determining the protective measures to be considered. The EALs, as required, were based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring, as discussed at pages 13 to 15 above.

#### Corrective Steps and Date of Full Compliance

The corrective step taken by the licensee to achieve full compliance with the NRC's interpretation of its emergency planning regulations was to reincorporate event-based triggering events for declaration of emergency action levels into its emergency plan coextensive with the examples set forth in NUREG-0654 Rev. 1. Appendix 1. This was accomplished by August 15, 1989, and it is our current understanding that the plan as revised is acceptable to the NRC. Full compliance was thus achieved on that date. A good faith effort to complete corrective actions even earlier was made between February and May when an initial revision was developed. That revision did not go far enough to accommodate staff's position with respect to the NUREG-0654 Appendix 1 examples, which was not clearly understood until June of 1989.

With respect to 10 CFR 50.54(q) compliance, licensee has instituted administrative controls which require a formalized, pre-implementation determination of the effectiveness of future emergency plan changes utilizing NRC guidance documentation. Such a process had been suggested by an NRC inspector during a September 18-21, 1989 inspection. Similar procedures requiring pre-implementation reviews to determine whether prospective programmatic changes should receive prior NRC approval are being initiated in such areas as quality assurance and security.

Licensee's Answer to a Notice of Violation  
(Pursuant to 10 CFR 2.205)

Con Edison refers to its foregoing discussion of the facts and circumstances relating to the Notice of Violation and Proposed Imposition of Civil Penalty.

The changes which were made to the emergency plan in December 1988 had been found by licensee to satisfy all standards of 10 CFR 50.47(b) and requirements of 10 CFR Part 50, Appendix E, in that the resultant EALs used for determining protective measures fully considered in-plant conditions and instrumentation as well as onsite and offsite monitoring, as described in more detail at pages 13 to 15 above.

With respect to the obligation under 10 CFR 50.54(q) to assess impacts on plan effectiveness stemming from plan changes, we submit that licensee's offsite dose-oriented standard was entirely reasonable at the time it was utilized. Other utilities had previously adopted barrier-based EALs without seeking prior NRC approval. There was therefore no prior emergency planning history of which Con Edison was aware which would suggest an NRC concern about the desirability of barrier-based EALs or the 10 CFR 50.54(q) procedures employed prior to EAL adoption.

The first indication received by Con Edison of NRC concerns regarding either the content of the barrier-based EALs or the procedures used for their adoption was contained in the staff's January 31, 1989 letter. While that letter did state that classifying certain events at a lower level than that specified in NUREG-0654 would result in a decrease in plan effectiveness, licensee believed that its prior safety-oriented acceptance test for the new EALs was acceptable to NRC by the statement in the staff's January 31, 1989 letter that "identical treatment of the guidance in NUREG-0654 is not required, however, your approach should provide an equivalent level of protection." Licensee also responded proactively to NRC concerns that differences between Indian Point 2 and 3 EALs

might create the potential for misunderstandings among offsite officials by conducting a week-long training session on plant systems and the new EALs for state and county emergency response personnel.

Licensee's subsequent discussions with staff focused on concerns about the impact which the new EALs would have on NRC emergency mobilization. As set forth in more detail at pp. 22-23 above, licensee responded promptly to these concerns by amending its EALs to incorporate a revised Alert table and to clarify imminent barrier breaches.

Until an NRC inspection in June 1989, licensee did not clearly understand that the equivalent level of protection referred to by the NRC required at each emergency level the inclusion of event-based action levels addressing the various separate examples set forth in Appendix 1 to NUREG-0654. However, once the NRC's position was fully appreciated, licensee's response was prompt and comprehensive. Promptly after the inspection a further revision to the EAL tables was developed, printed materials produced and distributed, and operating personnel trained. The further revised EAL program was fully implemented by August 15, 1989.

The grounds for mitigation of a proposed civil penalty are set forth in 10 CFR Part 2, Appendix C, Section V.B. Among

the factors to be considered are licensee's prompt and extensive corrective action, including actions to prevent recurrence. Also to be considered is licensee's prior good performance in the general area of concern.

We submit that the content of the NRC's January 31, 1989 and May 23, 1989 letters and the history of both the industry and Con Edison regarding barrier-based EALs led to a situation where regulatory guidance in this area was not yet clear to us. Certainly licensee's careful and extensive developmental work leading up to adoption of the EALs in December 1988, in which safety-based acceptance standards were utilized, gave no indication that literal adherence to the NUREG-0654 examples would be deemed a regulatory necessity. Therefore, the date from which the promptness of licensee's corrective action program should be evaluated for enforcement purposes is June 1989, when the staff's position regarding the pertinent emergency planning regulations first became apparent. From that date on licensee's corrective actions were sufficiently prompt and thorough to warrant the mitigation permitted by Section V.B of the NRC's enforcement policy, 10 CFR Part 2, Appendix C.

We also submit that Con Edison's prior history in the emergency planning area justifies mitigation under Section V.B,

and that the difficulties which were encountered in implementing EAL changes represent an isolated interruption in an otherwise excellent record of effective radiological emergency planning communication with staff. Among licensee's recent emergency planning initiatives of note are the development of a model verification capability for the Indian Point alert notification system, which has been designed and tested by Con Edison personnel in response to NRC staff interest. Con Edison also recently responded effectively to comments regarding the design of an expansion to the Emergency Operations Facility which is intended to meet NRC's expanded personnel needs. We have also worked closely with offsite officials to help enhance their emergency response capabilities, and recently instituted extensive programs to help them secure federal certification under 44 CFR Part 350 and to expand offsite participation during exercises. An artificial intelligence system to aid control room personnel and emergency directors with event classification has also been developed.

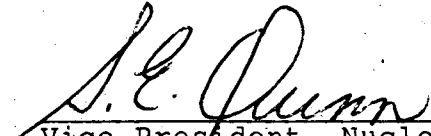
All of these programs have been successfully initiated by Con Edison emergency planning staff in cooperation with NRC staff, and taken as a whole exemplify a consistent pattern of good licensee performance in the general area of concern.



Licensee's past performance therefore also warrants mitigation of the proposed civil penalty pursuant to Section V.B of the enforcement policy.

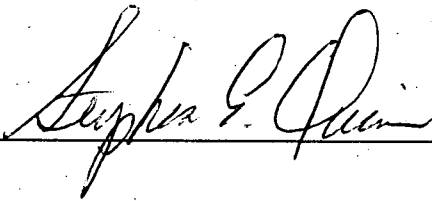
Dated: January 25, 1990

Respectfully submitted,


  
Vice President, Nuclear Power

State of New York            )  
                                  ) ss.  
County of Westchester    )

I, Stephen Quinn, the Acting Vice President, Nuclear Power for Consolidated Edison Company of New York, Inc., being first duly sworn, say that I have read the foregoing reply and answer and that they are true and correct to the best of my knowledge and belief.

  
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Subscribed to and sworn before  
me this 25th day of January, 1990

  
KAREN L. LANCASTER  
Notary Public, State of New York  
No. 60-4643659  
Qualified in Westchester County  
Term Expires 9/30/91