UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

December 17, 1984

Dr. Walter Kato
Deputy Chairman
Department of Nuclear Energy
Brookhaven National Laboratory
Upton, NY 11973

Dear Dr. Kato:

SUBJECT: NRC STAFF COMMENTS ON THE DRAFT BNL REPORT, "AN INDEPENDENT SAFETY ORGANIZATION"

Again, we appreciate your willingness to conduct the study for the NRC regarding the need for an independent organization to investigate operating events. We also recognize the extremely tight schedule for this study and the efforts necessary for BNL to complete the initial draft in mid-November 1984.

Enclosed for your information and use are the comments resulting from the NRC staff review of the draft report. Please consider them to the degree you feel appropriate in preparing the final report.

There are several general comments which seem to be common in the formal and informal reactions of the NRC staff members that reviewed the draft report. These are discussed below for your consideration in revising the draft report.

1. The report seems to say that the investigations being conducted within the NRC, and the related screening, assessment, and feedback activities, are generally adequate and effective. Thus, the question arises why BNL recommends that a new office be established and that the current organizational arrangement be abandoned. It is not clear whether the BNL recommendation is based primarily upon: (a) a need to correct current deficiencies; or (b) a desire to gain improvements in efficiency; or (c) a desire to increase the independence of certain activities in order to improve public perception and minimize the potential for a conflict of interest.

2. The estimated resources necessary to carry out the scope of responsibilities and associated activities of the new office seem to be substantially underestimated. There seems to be a very close parallel to the NTSB in terms of the scope of responsibilities, the total number of events involved, the nature and number of needed studies and investigations, and the recommended organizational structure; yet the estimated resources are about 15% of that used by NTSB.

A154

3. A number of the specific comments on the draft report relate to a need in several sections to clarify: (a) NRC office responsibilities and activities; and (b) the current status of NRC event reporting requirements (10 CFR 50.72 and 10 CFR 50.73). Should there be differences between your understanding and the enclosed comments; or should you need further information or reference documents, please let me know.

4. Needless to say, the report should be as factual as possible, and significant conclusions and statements should be well supported by details and examples. We understand that because of schedule constraints, BNL must use the information and opinions provided through interviews without complete verification. However, where it is necessary to state an opinion, it would be helpful if you would clearly note it as such and, to the degree possible, describe the basis for the opinion.

We are available to discuss the above general comments and the enclosed specific comments. Please let us know if further discussion would be helpful.

Additionally, after your review of the enclosed comments, we would appreciate knowing the estimated submittal date of your final report. For your information, our target schedule for submittal of the final report to the Commission is mid-January 1985.

If we can provide any additional assistance or clarification, please either contact me or Fred Hebdon in my office.

Sincerely,

C. J. Heltemes, Jr., Director
Office for Analysis and Evaluation
of Operational Data

Enclosure:
As Stated

cc w/enclosure:
W. Dircks, EDO
J. Roe, DEDO
T. Rehm, AO/EDO
V. Stello, DEDROGR
H. Denton, NRR
R. DeYoung, IE
J. Davis, NMSS
R. Minogue, RES
G. Cunningham, ELD
Regional Administrators

Specific Comments on Draft Report Titled

"An Independent Safety Organization"

Note: Comments are not provided on the abstract or executive summary since these sections merely repeat statements that are made and, where appropriate, commented upon elsewhere.

Page 3, lines* 13-15: The report does not indicate the fact that the amendment to the FY85 Energy and Water Development Appropriation Bill proposed by Senator Biden was not actually passed and added to the Bill.

Page 15 and elsewhere throughout the report: The abbreviation for the Operating Reactors Assessment Branch is ORAB.

Section 2.1.2.: The report provides a generally accurate representation of the activities and responsibilities of the Operating Reactors Assessment Branch with respect to event follow-up. However, the report does not reflect other NRR resources that are expended in event follow-up. For example, the Project Managers for operating reactors are responsible for being cognizant of all activities at their assigned plants and are frequently an important source of information on operating events. In addition, resources from the NRR technical divisions (e.g., System Integration, Engineering, Human Factors) are often allocated to supplement the investigation of operating events or to study the generic implications. Whenever such technical division resources are used, the Project Managers are also involved to coordinate the review and provide the interface with the licensee.

*Line numbers refer to lines of typewritten material in the text, including titles and tables.

Page 17, lines 9-10: This statement may be misread. A Bulletin is not issued to gather information in order to determine if an event is significant. A Bulletin is issued to ensure that appropriate actions are taken by other plants to minimize the probability of re-occurrence of an event at other plants. A Bulletin may also request information to determine the need for further actions to prevent a similar event. Bulletins are issued in response to an event after the event has been determined to be significant and not to determine if it is significant.

Page 18, line 13: AEOD, in addition to NRR and NMSS, may recommend that IE issue a Bulletin or Information Notice.

Page 19, lines 10-20: Although the real-time safety of the particular plant involved in an event takes precedence over other considerations, a fundamental purpose of the conference calls is to assign responsibility for the follow-on actions required to determine the cause of potentially significant events and the need for generic actions on other plants.

Page 19, line 12: The person on duty receiving calls to the Operations Center calls the Regional Duty Officer for the appropriate Region, and for other than emergency responses, the Regional Duty Officer decides if immediate action is required.

Page 19, lines 16-17: The computer printout of calls to the Operations Center is available at a number of additional locations including AEOD and INPO. This printout is obtained by direct access to the computer by the interested parties.

Page 19, line 27: Daily Report from the Regional Offices, as well as Preliminary Notifications (PNs), are not the responsibility of the EAB in IE and thus, do not relate directly to the information in this section. Separate sections or added explanation may be appropriate.

Page 19, line 28: The Daily Reports concern events in "real-time" and thus do not supplement an LER or a construction deficiency report which are received several weeks after the event. The information in the Daily Reports might supplement a call to the Operations Center.

Page 19 and elsewhere: There seems to be some confusion about the relationship between 10 CFR 50.72, 10 CFR 50.73, calls to the NRC Operations Center, and Licensee Event Reports (LERs). 50.72, which was revised effective January 1, 1984, defines the events for which calls to the NRC Operations Center are required. These calls are received by the person on duty in the Operations Center. The person contacts the Regional Duty Officer in the appropriate Region who makes the determination of the significance of the event and the need for immediate action. The criteria in 50.72 are essentially the same as the criteria in 50.73. Therefore, with few exceptions, significant events that are reported to the Operations Center are subsequently described in LERs. There should be no case where a significant operating event was reported in an LER that was not required to be reported by phone to the Operations Center.

50.73 also became effective January 1, 1984. The criteria for LER reporting in 50.73 are substantially different than the criteria that applied prior to January 1, 1984. These new criteria have had a significant impact on the quality and quantity of LER reporting.

Page 20, line 1-4: EAB interfaces with other branches in IE and NRR, and frequently with other organizations, before making a recommendation on issuance of an Information Notice, Bulletin, or other response.

Section 2.1.4: The report does not reflect that the regions also have incident response centers equipped with communications and dose assessment hardware. And, as noted elsewhere, the regions maintain duty officers to ensure timely identification and response capabilities.

Page 20, line 14: The need for the phrase "in principle" is not understood. The initial investigation of any event begins with regional personnel.

Page 21, line 4: The list of classes of events that must be reported under 50.72 (i.e., "emergency, non-emergency, abnormal events, and licensee events") is incorrect. There are actually five classes of events; Unusual Events, Alerts, Site Area Emergencies, and General Emergencies [which are defined in the context of Emergency Planning (e.g., Regulatory Guide 1.108)]; and non-emergencies [which are defined directly in 50.72]. The non-emergencies can be further subdivided into one-hour reports and four-hour reports.

Paragraph 2.2.1: The report does not adequately explore or fully develop the differences between the obligations of the FAA/NTSB and NRC during and after an accident. For example, NRC provides support to the licensee during and after an accident. Further, because of post-accident obligations, the NRC will initiate actions to prevent or mitigate continuing hazards to the public and environmental impacts. After an aircraft accident, FAA rarely has an opportunity to alter the course and mitigate the consequences of the accident. However, in the event of a nuclear accident, early knowledge of cause and implications are essential in order to mitigate potential consequences. For this reason NRC: maintains the Operations Center and has extensive regional response capabilities; has a management emergency officer always on call; has other teams to man the Operations Center when an alert is declared; and conducts periodic training and drills. This information is pertinent but not reflected in Section 2.2.1, and other appropriate sections.

Page 25, line 2: The discussion of the number of LERs received seems inappropriate in a discussion of immediate notifications (e.g., 50.72). In addition, the estimate of 3000-4000 LERs per year is incorrect. In 1983 (i.e., prior to 50.73) there were approximately 4500 LERs, while in 1984 (i.e., after 50.73 became effective) we expect approximately 2200 LERs.

Pages 24 and 26-27: 50.72 is paraphrased on page 24, and 50.73 is paraphrased on pages 26 and 27. However, even though the criteria in 50.72 and 50.73 are in many cases identical, the paraphrasing is not. This is confusing.

Page 27, line 32: There were 1105 LERs received based on events that occurred between January 1, 1984, and June 30, 1984 (i.e., the first half of 1984). The 1938 LERs noted in the report appear to be the number of LERs screened by AEOD during this period. However, many of these LERs were based on events that occurred prior to January 1, 1984; and therefore, were reportable based on the criteria that existed before 50.73 became effective.

Page 28: The table summarizing the events for 1983 and 1984 is confusing. Virtually all of the "Unusual Occurrences" (Unusual Events?) and Alerts were also reported as LERs and some may have become Abnormal Occurrences. In addition, all of the Abnormal Occurrences were orginially reported as LERs. Finally, the correct number for LERs in 1983 was approximately 4,500 and the number from the first half of 1984 is 1105.

Page 28, line 24: The information presented is confusing. While the Regions may have the lead for screening incidents (e.g., determine event significance based on calls to the Operations Center), a number of NRC organizations receive and screen events. In fact, each incident is screened at three different points from several different perspectives. First, the Regional Duty Officer, in conjuction with the person on duty in the Operations Center, screens each report (i.e., telephone report) within minutes of receipt to ensure that the plant is in a safe condition and to determine if immediate action is required. Second, EAB, ORAB, and others review the written summary of the calls to the Operations Center as well as the Daily Reports to determine if follow up action is required (e.g., IE Information Notice, further study, NRR Generic Letter). This screening is

normally done on the first working day following the event. Finally, when the LER is received (approximately six weeks after the event) over 30 copies are made and distributed to various groups (e.g., EAB, ORAB, AEOD) within the NRC. These written reports are screened by AEOD and others for individual significance and are again reviewed as part of trends and patterns studies.

Page 29, lines 16-19: This discussion is somewhat misleading. There is only one periodic, follow-on meeting and it is as frequently as biweekly. Although a number of groups (e.g., AEOD) attend the meeting, the principal purpose of the meeting is to give ORAB an opportunity to brief the Director of NRR on recent operational events.

Pages 29, lines 27-30: The basis for this conclusion is not given, and we do not believe that it is correct. For example, because of the similarity in criteria between 50.72 and 50.73 all significant events that are required to be reported by phone to the Operations Center must be subsequently reported as an LER. A Bulletin with written follow-up is not needed for an event to be recognized as "significant".

Page 29, line 31: It is not clear what the office would have the lead for. Presumably the intent is that one office would have the lead for conducting a fact finding investigation.

Page 30 to 40 general comment: There appears to be an unbalanced discussion of INPO's activities with no similar discussion of comparable NRC activities. In addition, there appear to be some errors in the discussion.

Page 32, lines 28-30: The total of the percentages given is only 80%.

Page 32, line 30: The estimate that 20% (i.e., 2,000 reports per year) come from international plants appears high based on our experience with reporting by foreign utilities. Has this number been verified?

Page 34 and 35: The discussion does not make clear that "Nuclear Network" is not available to the NRC nor to members of the public. Further, INPO technical reports (e.g., SERs, SOERs, O&MPRs) are available to the industry, and generally available to NRC, but are not available to the public. A discussion of the advantages and disadvantages of the lack of public availability of INPO reports and evaluations should be included.

Page 35, line 2: This statement implies that a licensee has a choice between reporting an event as an LER or reporting it to NPRDS. That is not correct. Some single-component failures were formerly reportable as LERs before 50.73 was effective, but are no longer reportable to the NRC.

Page 35, line 22-24: It is our understanding that INPO does not have an Incident Response Center that corresponds to the NRC Operations Center

(e.g., it is not manned 24 hours each day). Further, there are no immediate telephone calls to INPO and as a result they do become aware of events "quickly" in the same time frame as the immediate phone call to the NRC Operations Center. In addition, for the events discussed in Section 2.6, there is no indication that INPO or NSAC were involved.

Page 35, lines 28-29: We have no evidence to verify your statement that "INPO also receives much information not normally supplied to NRC". Please provide the basis for this conclusion. For your information, Construction Deficiency Reports are NRC required reports [see 10 CFR 50.55(e)] and vendor reports are also NRC required reports [see 10 CFR Part 21]. The only large source of information screened by INPO that is not screened by the NRC, are NPRDS failure reports. These reports are available to the NRC through direct access to the INPO computer. However, the NRC chosen not to screen these reports because of their low individual significance. AEOD is developing a program to analyze trends and patterns of NPRDS data.

Page 36, lines 16-18: This discussion is confusing in that it states that INPO "typically" produces 80-100 SERs and 10-15 SOERs and then notes that INPO produced only 76 SERs and 9 SOERs in 1983. In addition, for balance, other sections which discuss comparable organizations should discuss similar products (e.g., IE issued 84 Information Notices and 8 Bulletins during the same period).

Page 36, lines 26-27: While it is a goal to receive all INPO reports having safety significance, this is not yet the case. We have not yet received all SERs.

Page 37, lines 15-17: We know of no rules or regulations that prohibit INPO or NSAC from visiting a site following a significant event.

Page 38, lines 20-21: We know of no cases where INPO has uncovered significant events of which the NRC was not cognizant. The two examples cited are both incorrect. First, the INPO staff was not the only ones who noted anomalies in the first Salem event. As a minimum, IE, AEOD, and NRR had initiated follow-up actions related to this event. However, as was the case with INPO, the second event occurred before the discrepancies were understood (see AEOD report P301 dated July 1983, pages 30-31). Second, the concern about back-leakage into auxiliary feedwater pumps was initially identified by AEOD following an event at Robinson in June 1983. The concern was documented in an AEOD engineering evaluation dated November 21, 1983 and was subsequently discussed with INPO at a periodic INPO/AEOD technical exchange meeting. Following this meeting INPO prepared and issued an SOER dated April 17, 1984. AEOD has subsequently issued a Case Study report (AEOD C404) concerning this issue which identifies 22 events involving back leakage.

Page 39, Section 2.4.4: There is no similar discussion of comparable NRC activities (e.g., Performance Appraisal Teams, Construction Appraisal Teams, Systematic Assessment of Licensee Performance).

Page 40-43, Section 2.5: This section does not accurately describe the full range of NMSS event analysis efforts. This discussion (particularly page 42, paragraph 2) leads the reader to the incorrect conclusion that the only event evaluation and analysis done by NMSS is for physical security issues. All fuel cycle, materials, and waste management licensee events are also systematically analyzed and evaluated by NMSS and safety information is promptly disseminated to licensees.

In addition, the title of Section 2.5 does not accurately label the contents of the section. Many of the safeguards events referenced in this section occurred at nuclear power plants.

Page 40, line 20: The scope of these activities also includes the disposal of nuclear materials produced as wastes of these uses.

Page 40, line 25: The statement is made that strategic special nuclear material is regulated under 10 CFR 73.60. The correct citations are 10 CFR Parts 70 and 73.

Page 41, first paragraph: This paragraph is inaccurate. These activities can be described as follows:

"Responsibility for managing materials incidents that fall below the threshold envisioned by NRC Manual Chapter 0502 and for coordinating at the Headquarters level rest with the Office of Nuclear Material Safety and Safeguards (NMSS). NMSS provides policy guidance and technical

support related to the ir dent and coordinates NRC actions. After the initial report of the incident, NMSS becomes the point of contact for information flow at Headquarters and processes further information within the NRC. NMSS also maintains the records of the NRC actions and provides periodic updates for other offices and the Executive Director for Operations (EDO).

The Office of Inspection and Enforcement (IE) is responsible for transmitting to NMSS initial reports of incidents received from the Regional Offices or through the NRC Operations Center. IE also coordinates enforcement action by Regional Offices and issues orders, when appropriate. Regional Offices are responsible for: followup on incidents; assessing the impact on public health and safety; evaluating compliance with NRC regulations; and for instituting enforcement actions if necessary. These activities are described in the "Modified Interim Plan for NRC Response to Materials Contamination Incidents," a memorandum to Office Directors and Regional Administrators from J. G. Davis dated October 18, 1984."

Page 41, line 25: These cases also include "attempted theft" in addition to "sabotage or tampering."

Page 42, first paragraph: This paragraph is misleading. The write up does not reflect that formal procedures are used to determine event severity, nor that all threats are reviewed by the Regional Information Assessment

Team which includes representatives from all NRC Program Offices as well as the Regional Offices.

Page 42, second paragraph: This paragraph is misleading. These activities can be described as follows:

"NMSS staff members in all three divisions, Safeguard, Fuel Cycle and Material Safety, and Waste Management, review licensee operational event data in accordance with prescribed procedures in order to identify problems, significant trends, and patterns. Safety information is promptly disseminated to licensees.

Most of the safeguards events occur at nuclear power plants, primarily because there are many more nuclear power plants than other types of facilities subject to safeguards. NMSS also maintains a Safeguards Summary Event List (SSEL) that provides summaries of nuclear materials or facilities events. The total number of safeguards events recorded for the period of January 1980 to December 1983 was 420."

Page 43, lines 10-12: The sentence is misleading. As previously noted, NMSS independently reviews, analyzes, and evaluates licensee operational data.

Further, Footnote 2 is not clear. AEOD does not send descriptions of non-power reactor radiation exposure events to NMSS for review. AEOD publishes semiannual reviews of non-reactor events and distributes them for information to NMSS, IE, and the Regions. Further, AEOD issues reports on specific events or generic problems and may recommend follow on actions by program offices such as NMSS (as described in pages 14-15 of the report).

Page 43-44, Section 2.6.1, and elsewhere: The discussion on the number of "significant" events is imprecise and imcomplete. In 1983, for example, a total of 26 events were reported to the Congress by the Commission as "Abnormal Occurrences," not 5-10 events as indicated in the report. These included 16 events from NRC licensees and 10 events from Agreement States. Further, there are many events that fall between those classified as AOs and those which have no significance. Each of these events, to varying degrees, are reviewed and investigated by the regions and other NRC offices. Many of these events undergo detailed NRC investigations and, as a result, important "lessons learned" and safety concerns were identified. Note also that the number of LERs expected in 1984 is approximately 2,200, not 4,000.

The discussion also implies that events are classified as Abnormal Occurrences, and as a result, an investigation is conducted. In fact, the reverse is more accurate. Events are screened, studied, and investigated in order to determine significance and the need for corrective actions. As a result of this activity of screening, assessment, and investigation, information may be developed which indicates that the event should be reported as an Abnormal Occurrence.

The events selected for detailed discussion vary considerably with respect to the regulatory environment that existed at the time of the event (e.g., a lot has changed in the 5 1/2 years since TMI) and in the severity of the incidents (e.g., TMI vs exposure of workers' hands). If these differences are not explained, the reader might conclude that the differences in response to these events is due to a lack of structure in the NRC response rather than due to differences in the timing, severity and complexity of the events. Additionally, the events were investigated and/or studied by AEOD, IE, NRR and/or NMSS, but not all groups investigated or studied each event.

Page 53, lines 6 and 8: Automatic reactor scram system operability not "reactor scram system redundancy" was affected.

Page 53, line 10: Note that operator action is not assumed in the plant safety analysis.

Page 53, line 23; and Page 54, line 15: The Salem ATWS events occurred in 1983.

Page 53, footnote 7: Evidence that EPRI identified (before February 25) that an ATWS had occurred at Salem on February 22 is necessary to support this statement. (See other comments concerning the review of the first Salem ATWS event.) In addition, D. Gillespie works for INPO, not NSAC.

Page 54, line 12: Note that the NRC inspection did not assess whether the plant trip was automatic or manual.

Pages 64-66, Section 2.6.6: This section is technically correct but unnecessarily oversimplied. For example, the discussion does not reflect that the licensee's review and follow-up repairs addressed each of the individual equipment failures including: (1) the failed MSIV, (2) the failed SRV (hand switch), (3) the failed SDV drain valve, (4) the missing drain cover, and (5) the damaged RCIC equipment. Nor is it noted that Region II, through the Resident Inspector, followed these activities to assure that the needed repairs were made prior to plant restart.

Page 70, lines 8 & 9: There is no supporting evidence or details to provide a basis for the statement that the NRC investigation procedures are continuously changing. We are aware that investigation practices and procedures vary with the nature, severity, and location of the event, but we are not aware that the procedures are changing unnecessarily or inappropriately.

Page 70, lines 18 & 19: TMI is the only case we know of where an inter-office Task Group was established to evaluate licensee responses to NRC Bulletins and Orders. Therefore, we do not believe that this generalization is appropriate.

Page 71, lines 18-26: It is not clear whether the point of this discussion is that there is no single organization with responsibility for determining probable cause, or that determination of probable cause was not perceived to be a principal focus of NRC activities.

Page 71, lines 18-20: The determination of cause of an event is certainly emphasized within the NRC. For example, the Operations Center and the regional evaluation of significance focus on cause as the critical element in assuring the continuing health and safety of the public during and following an event. Further the regional investigations include studies of cause in order to assure that the corrective action is appropriate and adequate. Studies by others such as AEOD and NRR place high priority on the correct identification of the fundamental cause of an event.

Page 72, line 1-2: We are not aware of any event where "overlap and interference" occurred because of NRC, licensee, and equipment vendor investigations. Please provide examples where this has occurred in the last five years.

Page 72, line 22: In the context of this report it is necessary to be able to promptly identify significant reports based upon the oral reports to the Operations Center. Thus, discussion of the LER system is not relevant.

Page 72, footnote 11: The changes referred to in this footnote are the changes contained in 50.73 which were discussed in considerable detail in earlier sections of the report.

Section 4: The stated purpose of the report is to address the requirement that the NRC conduct a study of the need for an independent organization to investigate significant safety events. The report findings could be interpreted to mean that an independent organization is not needed. The report does not provide a clear statement on this point and does not directly answer the question. However, the report goes on to recommend creating an Office of Nuclear Safety, reporting to the Commission, to independently investigate events.

Based on the discussions contained in the report, the current program seems to be effective and there is no clear need to improve the effectiveness of the existing program. For example:

- Page 71, "... NRC investigation of significant events satisfy the required regulatory objectives ..."

- Page 72, " ... no bias has been identified ..."

- Page 124, "... significant events were in general investigated in a professional and competent manner ..." and "The causes of most significant events were determined in a timely manner and recommendations to prevent their recurrence were developed."

Therefore, it does not appear that there are substantive deficiencies in the existing program that require repair, and the potential benefits of an Independent Safety Organization (ISO) are minor improvements in effectiveness, potential improvements in efficiency, and possible improvements in public perception (see Page 72). The report should clearly state this distinction.

Page 124, first paragraph: This discussion does not reflect the activities of the NRC Regional Offices.

Page 124, lines 20-21: This statement is incomplete. For example, the Events Analysis Branch and the Engineering and Generic Communications Branch in IE review events to identify the cause and to issue generic correspondence to prevent recurrence.

Page 125, lines 3-5: It is not clear how an ISO, as discussed in the report, would improve this situation (i.e., the existence of an ISO would not significantly change the existing mechanisms for reporting significant events).

Page 125, paragraph a) and elsewhere: The report states that too many independent investigations tend to overlap, interfere, and make fact finding and determination of cause difficult. As noted previously, no examples were found in the report which support this notion. In fact, Conclusions a thru g) in Section 2.6.8 suggest the opposite. Further, it should be noted that the NRC is the only organization investigating events from the standpoint of a regulatory agency with no commercial bias. Other organizations (e.g., INPO) which investigate events are basically industry or industry supported groups. Within NRC, there is very little duplication or interference in event evaluations.

In-depth, long-term studies of operational events for patterns or trends are done only by AEOD. Because of immediate and short-term concerns, NRR reviews events from the standpoint of safety significance on the particular plant where an event occurs and to determine the need for licensing actions on that plant or other plants. IE reviews events to determine the need for and to prepare generic communications (either a Bulletin or an Information Notice). Daily communication via a telephone conference call between NRR and IE ensures that there is not duplication of effort and that information is shared by the offices. The Regions, having representatives at plant sites, collect facts concerning events. Information is shared among several groups, but the groups do not duplicate work nor do they interfere with

one another. In addition, although the idea of a single investigation is attractive in principle, it does not appear practical, since as stated earlier, the responsible offices may need to investigate the event and since NRC should not, and perhaps can not, prohibit investigation by the utility, its vendors, and INPO. The report proposal for an "Office of Nuclear Safety" to perform investigations of events and report directly to the Commission would therefore probably not reduce the number of investigations.

Page 125, lines 17-18: If this is true, is it clear that the creation of the proposed ISO will not exacerbate, rather than relieve this problem? In this context, the impact on and the need for realignment of relationships between principal NRC offices and licensees that would result from creation of an ISO are not discussed in the reports.

Page 125, lines 23-24: Since various groups could use the results of an ISO investigation to develop their own recommendations, it is not clear how an ISO would reduce this problem. For example what would prevent INPO, EPRI, NSAC, or vendors from developing their recommendations for corrective actions given an ISO report?

Page 125, paragraph b): "Freezing" a plant condition can have a tremendous economic impact (e.g., current estimates are that plant downtime costs as much as $1M per day). The report is not clear how this authority would be used and who would be responsible for assuring that the cost of "ordered" downtime is justified by the benefits produced. In addition, the NRC already has the authority to assure that a plant remains shut down if it is not clear that is safe for the plant to return to power (e.g., if the cause of the event is not clearly understood).

Page 126, paragraph c): It is not clear how separating the fact finding and the search for violations will make a licensee more candid. If the licensee knows that the report prepared by an ISO will be subsequently reviewed by IE and the Regions to identify violations, they will not be any less reluctant to discuss aspects of the event that might involve enforcement activities.

Page 126, paragraph d): Deficiencies in the existing LER system (i.e., 50.73) are implied, but none are specifically described. Further, since LERs are submitted several weeks after an event, and the need to promptly investigate an event has been stressed, the relevance of LERs to the prompt identification of "significant" event is not clear. It was understood that "significant" events would have to be determined based upon the 50.72 telephone notifications.

Page 127, paragraph f): In essence, this item states that there is a need to identify which officers of NRC have the authority to issue orders for actions such as shutdown and to authorize restart following an assessment of an operational event. Such orders are coordinated between offices and emergency response teams. We do not believe that this has been a problem;

however, if it has, an example or two would again be helpful. Item f) also states that "this affects how an event investigation is carried out." If this is or has been a problem, an example or two would again be helpful. Further, the authorization level to restart a plant can vary with the significance of the event and may require extensive review by all of the principal regulatory offices of the NRC with authorization to restart being decided, in some cases, by the Commission (e.g., TMI-1). Further, the licensee has certain obligations under the license and the technical specifications, including review by the plant's committees. (This comment also applies to section 2.1.4.)

Page 128, lines 3-4: Only AEOD conducts case studies and trends and patterns studies.

Page 128, lines 9-12 and lines 18-20: AEOD is already committed to analyze NPRDS (component reliability) data as part of its trends and patterns studies (see AEOD P402 dated March 1984). Data in support of PRA studies is the responsibility of the group performing the PRA although the NRC Office of Research has specific activities in progress to improve the data for PRAs.

Page 128, lines 21-22: The intent and basis of this recommendation are not clear. A more detailed discussion would be helpful.

Page 128, paragraphs k) and l): These recommendations are quite general. More specific recommendations on how to accomplish these objectives would be helpful.

Page 129, lines 1-3: Please see previous comments relating to the discussion of why BNL believes that there is a need to change the existing program. What is not being done that should be done?

Page 132, line 14: We currently estimate that we will receive approximately 2200 LERs for events that occur in 1984 (i.e., pursuant to 50.73). Preliminary estimates are that 4 to 6% will have some significance which warrants further analysis and/or investigation. Further, the report does not make clear that the estimates are for commercial nuclear power plants only. Similar numbers for the total nuclear industry would be much higher.

Page 135, lines 13-16: The words "... partially met by a strengthened ..." are subject to wide intrepretation. Additional discussion and specific comments would be helpful.

Page 137, paragraphs d) and e): It is not clear how an ISO would accomplish these improvements, particularly if it is an independent agency separate from the NRC.

Page 139, paragraph b): Would this authority include facilities licensed by Agreement States? If so, how would this affect the existing relationships with the Agreement States?

Page 140, lines 20: Who would determine when it is safe to proceed with the fact-finding investigation and when it is acceptable for the plant to return to power?

Page 142, lines 9-11: This is a rather substantive recommendation, although the report has very limited details and discussion on this subject.

Section 5.4: The recommendations relating to which agency or office should conduct independent event investigations appear to be driven almost completely by the degree of independence desired. Are there any compelling technical or resource considerations for choosing to create an Office of Nuclear Safety rather than pursue some other alternative?

Page 144, General Comment: We believe that the scope of an ISO and the resources required to implement this scope are substantially underestimated, particularly in light of NTSB's experience.

Specifically:

1. You state in several places (see page 43) that the ISO would only investigate 5-10 significant events per year. This number seems to be based on the number of AOs reported for power reactors. However, this estimate fails to consider the following factors:

a. Significant events are not easy to recognize initially. An ISO would be required to investigate some number of events that subsequently proved to be less significant than initially thought. For example, in the first half of 1984, four events were identified as potential AOs that were subsequently determined to not meet the AO criteria. As the reaction time of a "Go Team" is shortened, the information available becomes more preliminary and the "false alarm" rate increases. However, it frequently requires an extensive investigation to determine that an event is not significant.

b. The estimate of 5-10 significant events per year appears to be based on the number of AOs from power reactors. However, the scope of the ISO must include non-reactor events, and possibly events at facilities licensed by Agreement States.

The total AO reporting rate is as follows:

CY	Power Reactors	Other NRC Licensees	Agreement State Licensees	Total
1980	6	3	3	12
1981	5	3	2	10
1982	6	1	0	7
1983	8	8	10	26
1984*	8	6	2	16

* Annualized rate based on the first six months.

c. The NTSB conducts various levels of investigations, including approximately 3500 field investigations of less significant

events. It is not clear why an ISO would not conduct comparable investigations of less significant events (e.g., the 2200 LERs expected each year, and similar non-reactor events).

d. An ISO should, as a minimum, investigate all events classified as an Alert or higher, and possibly all Unusual Events. There were 7 Alerts and 205 Unusual Events in 1983.

2. NTSB plans to expend 135 FTE (including supervision, clerical, etc.) to complete 40 major investigations. This equates to 3.4 FTE per investigation. If one were to assume that an ISO would conduct 30 major investigations and that they would require approximately the same level of effort as the comparable NTSB studies, then the resources required would be an additional 102 Full-Time Employees (FTE).

3. NTSB plans to expend 112 FTE to conduct 3575 field investigations. This equates to 0.031 FTE per investigation. If one assumes that an ISO would conduct 2200 field investigations (i.e., each LER) and that they would require approximately the same level of effort as the comparable NTSB studies, the resources required would be an additional 68 FTE.

4. NTSB plans to expend 17 FTE to conduct 8 generic safety studies. This effort appears to be comparable to AEOD's existing generic case studies and trends and patterns studies. It is expected that this effort would continue.

In summary, we believe that the scope and responsibilities of an ISO are comparable to the scope and responsibilities of the NTSB, particularly in the aviation area. To meet these responsibilities, the NTSB has a staff, in the aviation area alone, of approximately 200 FTE. We believe that your conclusion that an ISO could properly implement comparable duties and responsibilities in the nuclear area, including assumption of AEOD's existing responsibilities, for a cost of 10-15 addi tional FTE gives the reader an unrealistic estimate of the costs to be incurred for the activities and responsibilities described for an ISO.

Page 144-146, Sections 5.5 and 5.6: In evaluating the possibility of an ISO reporting to the Commission or the EDO, there is no discussion of the existing span of control of these entities.

Page 146, Paragraph e): What is the basis for a conclusion that an ISO reporting to the EDO would have a lower cost than an ISO reporting to the Commission? What would the cost be?

Page 153, footnote 2: It is our understanding that the Administrative Law Judges on the NTSB staff do not conduct hearings of major accidents. They conduct hearings of appeals of revocations of pilot's and mariner's licensees. However, if administrative law judges are required, the use of administrative law judges on the NRC Atomic Safety and Licensing Board Panel for carrying out the administrative law functions could be considered.

As the report recognizes, such an office may need to have the capability of issuing subpoenas and holding hearings to place evidence on the record.

Figure 5.3: This figure and the subsequent discussion (e.g., page 161) are rather confusing since many of the "branches" contain only a single person.

Page 157, lines 2-6: This discussion implies that the ISO would conduct field investigations of minor events. However, this responsibility is not discussed elsewhere. The estimate (page 161) of 6 FTE for this activity seems unrealistically low since NTSB expends 112 FTE for a comparable activity.

Page 159, line 10; and Page 160, line 24: Elsewhere in the report (e.g., page 43) the number of major investigations is given as 5-10.

Page 162, lines 8-18: We agree with the observation that this activity is somewhat analogous to AEOD. However, there is no basis given for the conclusion that these responsibilities can be met with a staff of 15 FTE. AEOD currently has a staff of 41 FTE.

Page 164: The estimated cost per employee may be unrealistic when total employee compensation costs are considered (e.g., retirement).

Page 170, Paragraph e): We assume that "investigators" mean technical people with training in technical evaluations. Is this correct?