**The Deputy Secretary of Energy**

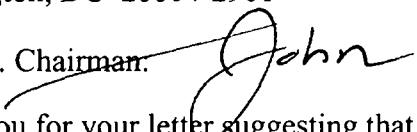
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February 2, 2000

RECEIVED  
00 FEB 15 AM 10:25  
DNF SAFETY BOARD

The Honorable John T. Conway  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, NW  
Suite 700  
Washington, DC 20004-2901

Dear Mr. Chairman.

 Thank you for your letter suggesting that we review the established contractual arrangements with the Center for Chemical Process Safety (CCPS) and the Institute for Nuclear Power Operations (INPO) with a view toward more effective utilization of each.

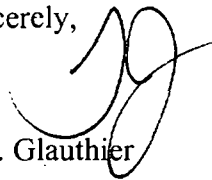
We have reviewed these contractual arrangements, and I agree that we could use these resources to greater advantage. A number of initiatives are underway to promote the sharing of the expertise of both of these industry groups with the field, particularly in terms of informing and engaging line management. In August 1999, we opened new avenues of communication with CCPS, and I am pleased to report that the recent Integrated Safety Management Workshop meeting in Knoxville, Tennessee, featured a presentation by Steven Arendt of the CCPS on chemical safety. Also, in August, we continued our dialogue with INPO officials that culminated in a three-day visit by a team of three experts, who performed an assessment of the Department's ongoing effort to develop a set of performance measures that would give an indication to senior management of each site's ISM effectiveness. This team also provided a separate, preliminary assessment of the Department's lessons-learned program and processes. In addition, the Department and Energy Facility Contractors Group (EFCOG) sponsored the *DOE/EFCOG Chemical Safety '99 Workshop* in December. The CCPS participated in a breakout session with the Chemical Manufacturers Association, entitled "Chemical Safety: How does the Chemical Industry do it?"

The participants in the weekly Safety Management Integration Team were provided with Enclosures 1 and 2 as handouts, describing the products available through both of these organizations. These handouts are being used to facilitate feedback from the field regarding what can be done to take advantage of these resources. Enclosure 3 identifies actions we are taking to effectively tap the expertise that is available through these organizations.



Thank you for bringing this matter to my attention. Any questions or staff followup may be directed to Rick Jones (301-903-6061) for CCPS and Richard Black (301-903-3465) for INPO.

Sincerely,

A handwritten signature in black ink, appearing to be 'T. J. Glauthier', written over the printed name.

T. J. Glauthier

Enclosures(3)

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Enclosure 1

TECHNICAL EXPERTISE AVAILABLE THROUGH  
THE INSTITUTE OF NUCLEAR POWER OPERATIONS

A. Background

The Institute of Nuclear Power Operations (INPO) is a non-profit organization established in 1979 after the accident at Three Mile Island Nuclear Station. Its mission is to promote excellence in the operation of commercial nuclear electric generating plants, and to promote the highest levels of safety and reliability in those plants. The Department of Energy (DOE) has had a variety of cooperative arrangements with INPO since 1980. The principal purpose of the early agreements was to exchange information on best operational practices and experiences with the commercial nuclear industry in an on-going effort to improve the Department's nuclear safety program.

While the initial agreement was limited primarily to the larger DOE-owned production and test reactors, DOE was permitted to make INPO documents, methods, and other activities available to the operating organizations of the other DOE Category A reactors. INPO's position regarding distribution of INPO documents was subsequently amended in August 1989, to allow for distribution of INPO documents and participation in activities by all DOE nuclear facilities, and their associated DOE elements and contractors.

In 1995, it was mutually agreed to enter into an annual contract with INPO to continue the cooperative activities with INPO. The cooperative activities and contract administration with INPO have been managed and coordinated by the Office of Environment, Safety and Health (EH) because the cooperative activities cut across all nuclear programs in the Department, and INPO's request that all communications with them be coordinated through a single office to minimize the burden on their organization.

B. INPO Products Available to DOE and Its Contractors

The scope of activities and assistance to be provided by INPO follow.

1. Sharing of Commercial Industry Operating Experience and Data: This activity is accomplished principally through access by the Department to selected topics of the Institute of Nuclear Power Operations' NUCLEAR NETWORK Information System and the Nuclear Plant Reliability Data System, or their replacements, for up to ten designated Department users for each of these data bases. In addition, INPO provides the Department copies of Significant Event Notification Reports, Significant Event Reports, Significant Operating Experience Reports, and Operations and Maintenance Reminders from the Significant Event Evaluation and Information Network as they are developed. Foreign information and data obtained by the Institute of Nuclear Power Operations that do not include restrictions on further dissemination are included in these documents. Use of these data bases is subject to restrictions specified in their respective users manuals.

The access passwords to Nuclear Network are currently distributed to the following organizations:

- Savannah River Operations Office - Westinghouse Savannah River Company
- Idaho Operations Office - Idaho National Engineering and Environmental Laboratory
- Oak Ridge Operations Office (Recently reassigned from the High Flux Isotope Reactor to the Operations Office to improve site-wide utilization)
- Richland Operations Office - Fluor Daniel
- Albuquerque Operations Office - Sandia National Laboratories
- Office of Nuclear Energy, Science and Technology
- Office of Environment, Safety and Health
- Office of Defense Programs

INPO operating experience (e.g., event reports) is now on the Nuclear Network. In addition, INPO provides two copies of event reports for use by the Office of Operating Experience Analysis and Feedback in EH for review and use in the Department's operating experience program and lessons-learned program.

2. **The Institute of Nuclear Power Operations' Guidelines, Good Practices and Periodicals:** INPO provides the Department with twenty-five copies of new or revised INPO guidelines, good practices, performance objectives and criteria, and the Institute of Nuclear Power Operations' periodicals. Copies are routinely forwarded to pre-established points of contact in Headquarters and Operations Offices. These offices maintain a library of the INPO copyrighted and controlled documents and provide for further distribution to contractors at their site. In addition, revisions to many INPO guidelines and good practices are now being made available on Nuclear Network for immediate access and downloading. Distribution and use of these documents are subject to the provisions of the documents' copyright.

As appropriate, copies of INPO publications may also be made available to subcontractors during the course of work for DOE or an operating contractor for which a need for the publication has been determined. INPO periodicals are available by individual subscription.

3. **Attendance at Industry-wide Workshops and Conferences:** The Department may attend selected INPO sponsored workshops, conferences, seminars and working meetings, limited to a maximum of five Department or Departmental management and operating contractor personnel per workshop, conference, seminar or working meeting. However, for smaller meetings, normally only one attendee would be feasible.

Attendance at INPO sponsored conferences, workshops, and working meetings is coordinated by EH. INPO typically sponsors small workshops that are repeated several times for various plant management positions. The notification of an INPO workshop or meeting is provided to the established points of contact in Headquarters for consideration

of attendance by Headquarters line programs, Operations Offices, and operating contractors. Priority is given to contractor reactor or non-reactor nuclear facility plant managers, operations managers, maintenance managers, training managers, and other managers in accordance with the topic of the workshop or meeting.

4. **Special Assistance Visits:** INPO is available to provide special assistance visits to the Department. Assistance may also be accomplished through DOE personnel's attendance of selected training courses. The number of visits will be determined by the Department's need, but it is expected that these visits will not exceed three per year. When an assistance visit is desired by the Department, it is to be requested by the Department Headquarters technical contact and scheduled at the mutual convenience of the INPO and the Department's facility to whom the assistance is to be provided. In addition, the INPO frequently identify names of contacts in other industry organizations that can provide information on effective programs or problem resolution. This contact information, if available, will be provided in response to Departmental requests.

Special technical assistance visits by INPO staff are coordinated by EH. Because of INPO's desired focus on reactor safety and primary areas of expertise, priority is given to DOE reactor programs and facilities. The contract with INPO allows for three free technical assistance visits during any one-year contract period. Additional visits can be arranged by agreement for a fee. Requests for INPO assistance can be made by any Department element, including contractors, through the EH technical point of contact with INPO. Questions regarding priority and scope of assistance are discussed and resolved between the requesting organization, the appropriate line program office, if necessary, and the EH technical point of contact.

In addition, INPO frequently provides points of contact within the industry for information on a particular topic (e.g., freeze protection programs). Visits to INPO by DOE or contractor personnel to discuss programs and methods (e.g., self-assessment practices, training practices) are also routinely supported by INPO. INPO also provides assistance to DOE by participation at DOE workshops or meetings (e.g., Integrated Safety Management, Lessons Learned) and by providing information about specific accidents (e.g., inadvertent actuation of fire suppression systems).

## TECHNICAL EXPERTISE AVAILABLE THROUGH THE CENTER FOR CHEMICAL PROCESS SAFETY (CCPS)

### A. Background

The Center for Chemical Process Safety (CCPS) was founded in 1985 shortly after the Bhopal incident and now consists of 80 sponsoring members. CCPS is an industry-driven, nonprofit professional organization affiliated with the American Institute of Chemical Engineers (AIChE) and promotes continuous improvement in chemical process safety. It is committed to developing engineering and management practices to prevent or mitigate the consequences of catastrophic events involving the release of chemicals and hydrocarbons that could harm employees, neighbors, and the environment.

Sponsoring members of CCPS include major petroleum, chemical, and pharmaceutical companies, as well as other manufacturers and users of chemicals, engineering contractors, safety consultants, insurance firms, and Government agencies. All sponsors of CCPS are given membership on the CCPS Technical Steering Committee.

As a member of the CCPS Technical Steering Committee, the Department of Energy (DOE) has the opportunity to help select projects of particular concern to the complex that will be addressed by top engineers in the field and helps shape the development of CCPS technical materials to address those issues.

### B. CCPS Products Available to the DOE Complex

1. Sharing of Industry Expertise and Data, CCPS Guidelines, Good Practices, and Periodicals: Copies of CCPS guidelines and good practices documents are routinely provided to pre-established points of contact in the Office of Environment, Safety and Health (EH). There are five mini-libraries of CCPS copyrighted documents and publications at DOE Headquarters. The largest collection is available at the DOE Germantown library and includes videotapes on process safety for plant personnel and two Dow Chemical guides. EH maintains a library of the CCPS documents as do the Office of Management and Operations (EE-60), the Office of Safety and Health (EM-4), and the Office of Technical Support (DP-45). Revisions to many CCPS guidelines and good practices documents are now being developed by the Technical Steering Committee and will be available to the Department as they are published.

In addition, CCPS publications are available by individual purchase. Sponsors can purchase any CCPS guideline or conference proceeding at a discount. Any individual employed by a CCPS sponsor company may also register for CCPS plant safety courses at the AIChE member rate. A list of these courses is available over the CCPS website: [www.aiche.org/ccps](http://www.aiche.org/ccps).

CCPS has summarized guidelines and industry best practices for the following areas:

- Technical management and documentation of chemical process safety and the integration of environment, safety, and health and quality into Process Safety Management Systems.
- Chemical reactivity evaluation, storage and handling, and applications to process design.
- Preventing human error in process safety.
- Engineering design and operating and maintenance procedures.
- Hazard evaluation procedures.
- Pressure relief, effluent handling systems, and external explosion and fire hazards.
- Atmospheric releases and mitigation and planning for onsite emergencies.
- Risk analysis for chemical process safety applications and for transportation of chemicals.

Industry operating experience and data is routinely shared through the CCPS and EH web pages and at the CCPS Technical Steering Committee meetings, which are held three times each year.

CCPS provides peer review of DOE documents on request. For example, they have been asked to review the DOE Chemical Management Programs Handbook under development by EH.

2. Attendance at CCPS Sponsored Industry-Wide Workshops, Conferences, and Meetings: CCPS sponsors workshops and conferences for plant management personnel throughout the year. CCPS typically sponsors an annual international conference and workshop and holds three Technical Steering Committee meetings each year. Representatives of all sponsor companies are members of the Technical Steering Committee and are encouraged to participate at all meetings. Notification of a CCPS workshop or meeting is provided to the established points of contact in EH for consideration of attendance and a list of conferences and websites is available through the CCPS website.
3. CCPS and DOE coordinate their respective industry-wide issues and concerns. Where issues are being simultaneously addressed by both groups, cooperation and coordination is sought. For example, both groups have been examining the issue of the development of the Best Business Case for Chemical Management Programs. CCPS will share their findings with DOE as these are completed.

of attendance by Headquarters line programs, Operations Offices, and operating contractors. Priority is given to contractor reactor or non-reactor nuclear facility plant managers, operations managers, maintenance managers, training managers, and other managers in accordance with the topic of the workshop or meeting.

4. **Special Assistance Visits:** INPO is available to provide special assistance visits to the Department. Assistance may also be accomplished through DOE personnel's attendance of selected training courses. The number of visits will be determined by the Department's need, but it is expected that these visits will not exceed three per year. When an assistance visit is desired by the Department, it is to be requested by the Department Headquarters technical contact and scheduled at the mutual convenience of the INPO and the Department's facility to whom the assistance is to be provided. In addition, the INPO frequently identify names of contacts in other industry organizations that can provide information on effective programs or problem resolution. This contact information, if available, will be provided in response to Departmental requests.

Special technical assistance visits by INPO staff are coordinated by EH. Because of INPO's desired focus on reactor safety and primary areas of expertise, priority is given to DOE reactor programs and facilities. The contract with INPO allows for three free technical assistance visits during any one-year contract period. Additional visits can be arranged by agreement for a fee. Requests for INPO assistance can be made by any Department element, including contractors, through the EH technical point of contact with INPO. Questions regarding priority and scope of assistance are discussed and resolved between the requesting organization, the appropriate line program office, if necessary, and the EH technical point of contact.

In addition, INPO frequently provides points of contact within the industry for information on a particular topic (e.g., freeze protection programs). Visits to INPO by DOE or contractor personnel to discuss programs and methods (e.g., self-assessment practices, training practices) are also routinely supported by INPO. INPO also provides assistance to DOE by participation at DOE workshops or meetings (e.g., Integrated Safety Management, Lessons Learned) and by providing information about specific accidents (e.g., inadvertent actuation of fire suppression systems).



INITIATIVES TO UTILIZE THE TECHNICAL EXPERTISE AVAILABLE THROUGH  
THE INSTITUTE OF NUCLEAR POWER OPERATIONS AND  
THE CENTER FOR CHEMICAL PROCESS SAFETY

Enclosure 1 contains a handout describing the technical expertise available through the Institute of Nuclear Power Operations (INPO) and the Center for Chemical Process Safety (CCPS). The handouts have been distributed to the field through the Safety Management Integration Team (SMIT) Weekly Call distribution list. Feedback has been requested on how to improve the interfaces and the types of other services that would be useful to the field. A second handout listing the specific training courses available through both of these organizations is being prepared for distribution to the field through the SMIT. Other specific actions being taken to utilize these resources more effectively are described below.

A. Efforts to Improve the Interaction with INPO

One of the original objectives of the cooperative activities with INPO was to make the interface between the operating contractors of the larger Department of Energy (DOE) production and test reactors as direct as possible. In the transition from participation by only a few select contractors and facilities to all of the Department's elements and contractors responsible for nuclear facilities, this objective was necessarily revised to provide for a point of centralized coordination. While centralized coordination has been effective, it could nevertheless be improved.

To provide for improved use of the services provided by INPO, it is important to maintain continuous awareness by all organizations and by all levels within an organization of the availability of INPO operating experience, information, and assistance. In addition to the informal customer survey mentioned above, the Office of Environment, Safety and Health (EH) is developing a web site on the newly established Environment, Safety, and Health (ES&H) Information Portal that will provide information about INPO, the Department's relationship with INPO, and the types of technical assistance available from INPO. Increased use of email systems by Department elements and contractors to provide announcements of the availability of INPO publications, workshops, and assistance is being encouraged. More assistance visits like the one on performance indicators that was conducted in September 1999 are being promoted.

Improving the interface between INPO and DOE contractors would also contribute to more effective utilization of INPO. The Energy Facility Contractor Group (EFCOG) is currently considering the establishment of a membership agreement between INPO and EFCOG. Through EFCOG a more direct interface with contractors analogous to the arrangements between INPO and the nuclear utilities and supplier participants could be established. Such an agreement could, while still preserving assistance to DOE line managers, provide for additional access to Nuclear Network and technical assistance directly to individual contractors. DOE will work with both INPO and EFCOG to facilitate and encourage an

association between the respective organizations that is complimentary to the existing arrangements between DOE and INPO.

Although the Department is working to improve its use of the resource available to it through INPO, the following are representative examples of some of the more significant tapping of INPO's expertise in operating experience, methods, and technical assistance to DOE line managers and contractors that has already been taking place and is ongoing.

- Review of lockout and tag-out practices at the Idaho National Engineering and Environmental Laboratory, Test Reactor Area, to identify contributors to continuing problems with lockout and tag-out.
- Assisted the Advanced Test Reactor personnel at the Idaho National Engineering and Environmental Laboratory to conduct a self-assessment of the reactor operator initial and continuing training programs and the training self-assessment process.
- Review of the work control processes, conduct of operations, and methods for adherence to Technical Specifications at the High Flux Isotope Reactor at Oak Ridge National Laboratory.
- Review of the Savannah River Site evaluation process and discussion of the INPO evaluation process for possible use in improving the sites processes.
- Review of the design and use of daily check sheets and recommend changes to the check sheets and operator rounds to improve safe and compliant facility operations at the Irradiated Fuels Examination Laboratory, Building 3525, at the Oak Ridge National Laboratory.
- Participation on an INPO commercial nuclear plant evaluation team as an industry peer by a Westinghouse Savannah River Site, High-Level Waste Engineering Supervisor.
- Provided a review team member on the DOE team reviewing the practices and procedures for the radiological free release practices and procedures at the Rocky Flats Environmental Technology Site.
- Provided industry event information on inadvertent discharge of carbon dioxide fire suppression systems to assist in the accident investigation at the Idaho National Engineering and Environmental Laboratory (DOE later provided input to INPO for the preparation of an industry Significant Event Notification).
- Provided industry points of contact to Knolls Atomic Power Laboratory for benchmarking control room reactor operator training programs and to the Savannah River Site for benchmarking first line supervisory training programs in the area of safety culture.

- Provided technical assistance to the Department's Integrated Safety Management Program in the identification and establishment of performance indicators.

## B. Efforts to Improve Interaction with CCPS

1. Points-of-contact for CCPS interaction with DOE line and operations offices are being established to facilitate direct information exchange and cooperative undertakings.
2. Participation of DOE and contractor line management on the CCPS Technical Steering Committee is being encouraged. (Battelle Memorial Institute in Columbus currently participates.)
3. Contractors are encouraged, where appropriate, to explore the possibility of independently sponsoring CCPS as Battelle Memorial Institute in Columbus currently does.
4. Appropriate DOE field and Headquarters staff professionals are being encouraged to participate in Technical Steering Committee meetings and on the task groups that are developing guidelines throughout the year.
5. To provide information about CCPS, the Department's relationship with CCPS, and the types of technical information available from CCPS, increased use of the EH chemical safety web site on the newly established ES&H Information Portal is being encouraged. In addition, announcements of CCPS workshops and the availability and the means for obtaining copies of CCPS publications are being posted on the EH-52 Chemical Safety web page for the benefit of DOE and their contractors at their sites.

CCPS, supported by sponsors in the chemical and hydrocarbon process industries, is active worldwide through its program of publishing guidelines books, sponsoring technical conferences, developing undergraduate engineering educational material, and conducting research. As a sponsor of CCPS, DOE encourages participation in CCPS activities by DOE and contractor personnel through its workshops and other communication tools to take advantage of this network of peers with whom common problems can be discussed and programs can be benchmarked.

Contractor and DOE line managers continue to have an open invitation from both DOE and the CCPS to participate and interact with CCPS. On August 8, 1999, at a meeting with Mr. Richard Kiy, DOE's then Principal Deputy Assistant Secretary for EH, Mr. Jack Weaver, Director of the CCPS, invited line managers from the Offices of Defense Programs, Environmental Management, Science, and Nuclear Energy to join EH in participating as members of the CCPS Technical Steering Committee. DOE managers participated in the January 2000 Technical Steering Committee Meetings in Tampa, Florida.

Through our work with the CCPS Technical Steering Committee and participation in CCPS meetings, we will continue to pursue ways in which DOE's relationship with CCPS can be made more effective and fruitful and to encourage the participation of DOE and contractor line and field management in CCPS activities.

6. The December workshop is organized to promote greater line program participation and review various proposed means of improving awareness, accountability, and participation with CCPS.