

UNC Naval Products

UNC Naval Products
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In Reply Please Refer To:
NIS-87-6-14

June 12, 1987

Mr. Thomas T. Martin
Director
Division of Radiation Safety and Safeguards
U.S. Nuclear Regulatory Commission
Region 1
King of Prussia, Pennsylvania 19406

Subject: USNRC Inspection 70-371/86-11

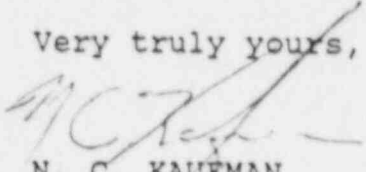
Ref: Letter, T. T. Martin to N.C. Kaufman dated 2-6-87

Dear Mr. Martin,

This letter is in response to the referenced letter, which transmitted the subject NRC Inspection Report to UNC Naval Products. We appreciate the efforts made by the Safety Evaluation Team to review the total safety program at our facility and to provide us with recommendations for strengthening that program. We are pleased that the team found no items of significant safety concern.

As you read the attached response, you will note that we have taken appropriate, effective action to address many of your recommendations. In those cases where we have not taken such action, we have explained our reasons for continuing with the current systems and methods. We would be pleased to meet with you or your representatives to further discuss any of the items in the report and our response.

Very truly yours,



N. C. KAUFMAN
President

NCK/jmp

cc: R. Gregg
W. Kirk

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Recommendations

3.a(1)(b) - (Page 5) Chemical, Explosion and Fire Safety

4.c Details - (Page 13) - The Hexane system external to the facility buildings, will be formally added to the facility preventative maintenance program by June 30, 1987. Records of the PM will be formally kept.

4.d. Details (Page 14) - As a result of a changing market for zircaloy machine chips, we have returned to producing zircaloy ash for disposal. This action will eliminate the present need for storage of UNC zircaloy machine chips under argon. However, for the chip size and condition involved, we consider the practice of storage under argon to be safe for the period of time involved. Fines, swarf and other such material are collected and kept under water until burned.

5.d(2)(b) Details (Page 22)

The dry barrel fire hydrants will be tested twice each year. The PM program has been so revised.

The fire pump diesel engine tank has oil added approximately 4 times a year due to oil consumption during pump tests. Under these conditions the testing of the oil is not considered necessary.

The flywheel has been replaced rather than continue to perform inspections on the potentially defective flywheel.

The CO₂ fire suppression system is expected to be evaluated to the requirements of NFPA Standard No. 12 by November 30, 1987.

The wall penetrations in the "D" Building storage area have been sealed. Sectioning Area Personnel have been instructed not to use flammable materials in the autoclave proximity. There has not been any evidence of such use.

3.a.(2) (Page 6) - Industrial and Radiation Safety - Recommendations

5.d.(3)(b) Details (Page 24) - Supervisory Industrial Safety training has been given periodically to selected personnel in past years. We plan to continue such selective training. In addition, mandatory individual safety training has been scheduled for all shop supervisors during 1987.

5.b. Details (Page 26) - The calibration cycling of the high level radiation detection survey meters has been modified so that some meters will always be available at the Pumphouse Emergency Control Center.

3.a.(4)(b) (Page 7) - Review and Audits - Recommendations

5.b Details (Page 15) - The present system of conducting audits and reviews will be maintained. We believe that the safety programs are satisfactory, and are demonstrated to be acceptable as evidenced by this NRC review, many previous NRC inspections, OSHA inspections and meaningful insurance company audits. There have been overviews conducted of our safety programs by interdivisional safety committees, unit management reviews, and special team reviews. The DOE has also made a periodic fire safety review, the most recent being in 1985.

5.d(1)(b) and (c) (Page 18-20) and 5.d(3)(a) (Page 24) Details.

For nuclear criticality inspections and audits:

Naval Products management is informed of the results of inspections and audits.

1. Significant findings are reviewed at quarterly presentations to the Naval Products' President and Staff.

2. All violations noted are reported in writing to the President, The Executive Vice President for Operations, and other management as appropriate to the subject.

3. The annual audit results are reported directly to the President for his evaluation, action and reply.

Records of the results of these inspections and audits are maintained in a manner prescribed by NIS procedure NIS-001, and does allow licensee personnel to understand the documented information. As in some systems, training and familiarization of non-UNC reviewers in relation to our facilities and terms, are necessary.

A system is established to track the corrective actions taken in response to audit findings. "Periodic" items will be entered into the corrective action tracking system at a specified frequency when considered important to track.

Inspection of the nuclear and radiological safety aspects of the facility is best performed by personnel trained and experienced in those disciplines. However, a management level Safety Review Committee will be established under the renewal of the NRC license in the near future.

3.a(5)(b) (Page 8) Administrative Controls - Recommendations

5.c. (Page 15-17) and 6.a (Page 25) Details

Nuclear Criticality Safety Signs are reviewed to assure that the latest revision is posted through the system of monthly nuclear criticality safety inspections and area reviews associated with change requests. The NRC reviews did not identify any inadequacies and have not for some period of time. This system is considered satisfactory.

The current practices associated with shop procedures and department administration procedures and manuals are considered satisfactory. The out-of-date MRB postings have been corrected, as noted in the report.

4.a Details (Page 12)

The route cards on the shop floor have been issued over a period of several years so that examples of various formats and content for all required information are present. The cycle time of some components is 5 to 7 years. Since there are about 2,000 route cards in use, the task of accurately revising and replacing each page of each route card is a significant operation. While the route card format has evolved over a period of time, we have not detected any nuclear criticality safety problems related to the route card wording. Additionally, control is obtained by the area criticality posting and, most importantly, the training of individuals by their supervisors.

We do not expect to specifically revise and update all route cards; the improved changes in format will continue to be made as new or revised route cards are issued in future years.

3.a(6)(b) (Page 8 and 9) Personnel Training - Recommendations

5.d.(1)(d) (Page 21) and 5 d.(3)(b) (Page 24) Details

The new hire training provides a good base of introduction to all new personnel. On-the-job training is also conducted as documented by the Employee Training Record Card for new or transferred employees (see attached example card). Virtually all supervisors are promoted from experienced employees. As noted from paragraph 3.a(2) above, selected industrial safety training will continue. A planned complete supervisory training program has been implemented and is currently underway.

Training of new engineers is accomplished in a similar manner to the above. The Engineering Department gives detailed training in internal procedures and emphasizes compliance with the requirements of such procedures. The safety keynote of this training is to educate the engineer to contact the Nuclear and Industrial Safety Department for discussion, review and approval of various safety aspects of any program.

Engineers who are new college graduates receive a specific training program which includes presentations and discussions with representatives of the Nuclear and Industrial Safety Department.

Due to the methods of nuclear safety control by specification of limits and route card approval, we have intentionally not given detailed technical training in nuclear criticality to engineers and supervisors. We do not want them to make any technical determinations of the nuclear criticality safety of any operation or storage configuration. The question of whether detailed understanding of the justifications for nuclear controls helps or hinders actual performance can be argued. However, UNC considers its present approach to be satisfactory.

5.d(1)(d) Details (Page 21)

The new employee indoctrination program has been modified to include additional descriptions of controls used at the facility. The new employee is also more specifically trained by his supervisor in criticality controls associated with his/her job. See Item 8 on the Employee Training Record attached.

All new cleared employees, including management personnel, are scheduled for new employee indoctrination. Infrequently, the schedule of business for management personnel delays compliance. Those few individual exceptions have completed indoctrination.

3.a(7)(b) (Page 10 & 11) Emergency Planning - Recommendations

6.a of Details (Page 25) - Format

Letter R. E. Cunningham (NRC) to D.E. Ganley (UNC) dated February 11, 1981 enclosed an Order To Modify License to provide a more comprehensive radiological contingency plan in compliance with "Standard Format and Content for Radiological Contingency Plans for Fuel Cycle and Materials Facilities" dated January 9, 1981.

UNC submitted the required plan by letters W. F. Kirk to R. E. Cunningham dated November 12, 1981 (NIS 81-11-3 and 81-11-4). Amendment #17 to SNM #368 dated March 4, 1982 approved the RCP initially. Amendment #7 dated Sept. 3, 1986 to the current SNM #368 license continued the approval.

The NRC "Review of Radiological Contingency Plan" attached to Amendment #17 noted above states: "II. The Radiological Contingency Plan submitted by UNC on November 12, 1981, is a comprehensive document that adequately addresses all emergency response concerns at UNC's Uncasville facility".

To our knowledge, there is no later NRC Specified document for fuel fabrication facilities than was specified in the above "Order". The applicable NRC Regulatory Guide 3.42 "Emergency Planning for Fuel Cycle Facilities and Plants Licensed under 10 CFR Parts 50 and 70" has not been revised since Rev. 1 dated September 1979. NUREG-0762 (July 31, 1981) "Standard Content and Format for Radiological Contingency Plans" is identical to the requirements of the "Order".

We note that FR Vol. 52 No. 75 April 20, 1987 published a proposed rule (10 CFR 30, 40 and 70) on emergency preparedness for fuel cycle and other radioactive material licenses. This proposal is the first change noted since 1979.

6.a of Details (Page 25) - Remove Extraneous Information And Outdated Information

Amendment No. 17 dated March 4, 1983 previously deleted the classified information from the RCP.

There appears to have been a misunderstanding by the NRC safety evaluation team as to the intent and structure of the RCP.

On p. 1-1 of the RCP we state that the UNC Emergency Manual is the Part II "Demonstration" of the RCP of Part I "Conditions and Specifications". Portions of the UNC Emergency Manual are attached as examples of implementation to specific paragraphs of the RCP as, for example, stated on page 3-1 for general Emergency Director Instructions and Call Sequence instructions (including phone numbers).

P 4-16 refers to examples of off-site arrangements and sample letters of agreement.

P 4-27 refers to sample letters of agreement.

There was never any intent to update in Part I of RCP, items denoted as "examples" or "samples" given. The UNC Emergency Manual (Part II of RCP) has been always maintained updated and our only working document. Updated copies of the UNC Emergency Manual have been supplied to the NRC. The RCP (Part I) provides license "conditions and specifications" and is not a working document.

6.a (Page 25) and 6.b (Page 26) of Details - Description of Emergency Response Facilities

The RCP provides such a description in pages 5-3 through 5-7. The Radiological Contingency Plan is not required to address non-radiological response facilities.

6.a Details (Page 25)- Formal or Controlled Distribution of the Plan

As noted above, only the UNC Emergency Manual (Part II of RCP) is used in implementing the RCP (Part I). The RCP (Part I) is only used to specify NRC compliance "conditions and specification". Therefore no formal distribution has been provided for the RCP (Part I) other than to the NRC.

We recently reviewed the RCP (Part I) and sent revisions of pages considered appropriate (Letter W. F. Kirk to W. T. Crow dated June 3, 1986). "Example" or "Sample" pages were not revised.

The UNC Emergency Manual (Part II of the RCP) has been maintained current and distributed to both NRC Region I and Washington. See for example, letter W. F. Kirk to T. Harpster (NRC Reg.I) dated November 7, 1985 and letters W. F. Kirk to Emergency Directors (List) dated June 3, 1986 and September 28, 1986 with copies to both NRC Reg. I and NRC Washington.

To our knowledge, UNC has maintained a formal distribution of the UNC Emergency Manual.

6.b. of Details (Page 26)- Circumstances and Types of Responses for Which Each Emergency Control Center Will Be Used.

Reference to Pages 2-26 (Rev. 3) to 2-28A (Rev. 3) gives the conditions for radiological responses. There is no requirement in the Radiological Contingency Plan to address non-radiological responses. However, we do expect to include the conditions for use of the central alarm station in non-radiological situations in the UNC Emergency Manual in the near future.

6.a Details (Page 25)- Provide for Audit of the RCP Implementation by Independent Personnel.

Auditing and improvement of the UNC Emergency Manual (Part II of RCP) is best done by the participating organization. The UNC Emergency Manual has been consistently improved as a result of drills and reviews conducted by the emergency team membership. We believe that the team's review and self critique result in effective changes supported by members of the emergency team.

Unplanned exercises (false alarms) provide for very effective critique by individuals not having direct implementation responsibility.

6.c Details (Page 27)- Identify State of Connecticut Contacts and Proper Notification Instructions.

Please refer to page 4-29 to 4-41. As indicated on page 4-27, the Connecticut State Police are the primary contact to Connecticut State Agencies. The Connecticut Emergency Operations Plan, Annex V Page 4-30 to 4-41 confirms these channels of communication.

Page 3-34 gives instructions to the UNC Emergency Director as to appropriate contacts to the State of Connecticut. See for example, paragraph 4.A.(3) on p. 3-34.

6.d Details (Page 28) - Assure Written Agreements Have Been Executed With, And Are Understood By All Required Off-Site Support Groups.

All necessary agreements have been executed with, and are understood by required off-site support groups. NRC checks confirmed this condition for all cases checked except for Backus Hospital. Apparently there is a misunderstanding on the part of the NRC. Pages 3-39 and 4-10 of the RCP clearly states that Backus Hospital is used for non-radiological cases only. Page 4-18 does not list Backus Hospital as subject to any letter of agreement under the RCP (Part I) as would be expected by the conditions of their non-NRC required agreement letter with UNC. The current June 17, 1986 letter of agreement refers to a previous letter of understanding which states that L&M will handle patients contaminated with radioactive material, while Backus will handle transferred non-contaminated patients from L&M.

6.e Details (Page 29) - Established Qualification Criteria For Emergency Response Personnel

Although not specifically required by the reference document of the NRC Order, specific training requirements are given in the RCP (Page 7-1 to 7-3) and in the UNC Emergency Manual - Training Program.

Other personnel in addition to the Manager, Facilities Engineering, participate in the training of Emergency Directors. Specialists in Health Physics, Environmental Controls, Criticality Control, and Fire-Hazmat Response also participate. Qualification of Emergency Directors by the Manager, Facilities Engineering and the Health Physics Specialist is based on class attendance, written tests, background plant experience, personal interview and other factors. The minimum qualification requirement is a score of at least 75% in the written test. This criteria will be formally incorporated into the RCP (Part I) at the next revision. Training qualification is also performed for the Fire Brigade - Hazmat Teams, EMT's and Medical, Radiation Survey and Re-entry Teams, Security and Communication Teams. Emergency Medical and Fire Personnel are trained to State requirements by certified instructors. Security personnel are trained to NRC requirements; other personnel are functionally trained.

6.e. of Details - Assure Emergency Drills and Tests, Conducted at the Facility, Test All Aspects of the Emergency Plan

Our drills and tests do check all aspects of the emergency plan. We do not drill/test all aspects at one time. We consider that necessary overall experience can be developed in segments. Performing a drill with a hospital, State Police or a local Fire Department does not have to be done concurrent with a plant evacuation drill to achieve proficiency in the entire RCP. Some of our drills cover several aspects of the emergency plan (e.g. the truck fire training situation, which included fire, medical, possible diversion of uranium and hazardous materials response; the car bomb training situation also included the State Police bomb response unit).

6.b. and 6.c (Page 26-27) Details - Evaluate The Alternate Emergency Control Center To Assure - Properly Sized To Accommodate The Required Emergency Response Support Staff and That An Adequate-Number of Telephone Lines Are Available.

We consider the size of either ECC to be adequate for the necessary emergency team. The two telephone lines at the Pumphouse Center are supplemented by radio communications and in combination are deemed to be sufficient for internal and external communications.

6.e Details (Page 29) - Assure That Visitors Entering The Unclad Fuel Processing Area Receive Adequate Emergency Training.

As noted on the "B-South Temporary Access Form"

- . "Visitors who are not UNC employees must be escorted by an individual on the B-South Access Authorization List".
- . "The extent of these instructions shall be commensurate with the nature of the visit or work as it involves potential radiological health protection problems in the restricted area."

The training given to visitors is (1) as needed for the work to be performed in such area, (2) dependent on the degree of experienced escorting and control provided, and (3) determined by the experience of the visitor.

If the visitor is not satisfied that he or she understands the necessary aspects of emergency exiting, contamination control, criticality control, SNM Safeguards and Security then he/she is reminded that he/she should not sign the form until he/she has received a sufficient amount of information, training and understanding.

Since the NRC inspectors were under the escort of experienced UNC personnel, and no work was to be performed by the inspectors, no additional instructions were deemed necessary. Some UNC escorts asked the NRC inspectors if they wanted instruction in view of their experience; their reply was negative and they signed the access form.

3.a(8)b (Page 11) Nuclear Criticality Safety Recommendation

5.d(1)(a) Details (Page 17-18) - Establish a Formal Procedure For Conducting Nuclear Criticality Safety Analyses

Regulatory Guide 3.4 and ANSI/ANS 8.1-1983 are used for guidance in conducting such analyses.

5.d (1)(a) Details (Page 17-18) - Assure That Hydrogen in All Forms Has Been Considered During the Conduct of Nuclear Criticality Safety Analyses.

Recognition is given to hydrogen in all appropriate forms when the presence of such materials is credible. Most all of our nuclear analyses are based on the presence of water/mist moderation with optimum reflection. Where other moderating liquids or solids can be present, recognition is given in analyses. However in some process areas (e.g. glove boxes) the presence of any solid organic materials is very strictly controlled as prohibited process contaminants. The possibility of such materials is then determined to be incredible in a nuclear criticality analysis. Posting restrictions regarding such materials are not used where process controls provide these prohibitions or controls.

Comments To Other NRC Statements Present In The Inspection Report

4.c. (Page 13) Hexane System

We do not use "Large" quantities of hexane. Use during all of 1986 was only 600 gallons.

5.c(2) (Page 16) Nuclear Criticality Safety Signs

The existing approved internal inspection is based on the inspection of each sign to determine that it is current, visible and correctly controls the process.

5.d(1)(a) (Page 17-18) Nuclear Criticality Safety Analyses
Item 2 of Recommendations.

Since UNC relies almost entirely on use of NRC approved standards/limits, the disposition of "Criticality Control Requests" is unusually straight forward. The rare cases, requiring special analyses, are sufficiently documented to be understood by personnel familiar with nuclear criticality control analysis, our license and our processes.

Item 3 of Recommendations

NIS approval does include consideration of all license and safety requirements, not just nuclear criticality controls. The existing Criticality Control Request Form sets forth the requirement and signoff for other special interests review before the form is dispositioned. The records evidence other special interest reviews.

Item 4 of Recommendations

Each CCR specifies the limit or control to be imposed on the proposed operation, and cites the license reference for that limit. Spacings are specified only when insufficient spacing is built into the fixture or the unit being proposed.

5.d.(1)(b) (Page 18-19) Nuclear Criticality Safety Inspection
Item 1 of Recommendations.

The NIS Manager evaluates inspection findings for generic implications. Significant findings are presented to the Technical Services Director and to the President at any time. A quarterly presentation is made to the President and Staff Management.

Item 4 of Recommendations

While we try to avoid differing interpretations in specifications, they occasionally occur as personnel reviewing the words change, or their experience increases. Approximately 50% of the postings have been revised for improved clarity in the last 1 1/2 years.