

DOCKETED
USNRC

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

100-5 10014

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

ARMED FORCES RADIOBIOLOGY
RESEARCH INSTITUTE

(TRIGA-Type Reactor)

Docket No. 50-170

(Application to Renew
Facility License No. R-84)

INTERVENOR CNRS's SUPPLEMENTARY RESPONSE TO

LICENSEE's FIRST SET OF INTERROGATORIES

NOW COMES the Intervenor in the above-captioned case and pursuant to 10 C.F.R. §2.740b and the Board's Order dated July 12, 1982, supplements its response to the Licensee's first set of interrogatories as follows:

INTERROGATORY 6

Answered by Entwisle. Unless designated otherwise, every Interrogatory hereinafter is answered by Entwisle.

At the present time CNRS has tentative commitments from only two of the expert witnesses it listed in its Motion to Enlarge Discovery Period and Restrict Scope (October 31, 1981, Docket No. 50-170), Drs. Irving Stillman and Ernest J. Stern-glass, to present testimony at the hearing.

Dr. Stillman's address and professional qualifications are set forth in CNRS's responses to the Licensee's Interroga-tories 2 and 4 (December 29, 1981, Docket No. 50-170). The name of Dr. Stillman's employer has been withheld at his request, for reasons of privacy and freedom from harassment. With his consent, CNRS will disclose this information to the Atomic Safety and Licensing Board under a protective order.

In the event that CNRS is unable to secure a commitment to testify from the other experts listed in its above-referenced Motion, Dr. Stillman is expected to testify as to every conten-tion at issue in this case. The substance of his expected testi-mony is contained in CNRS's written responses to the Interroga-tories submitted to it by the Licensee and the NRC Staff, inclu-ding its initial responses and its supplemental responses filed pursuant to the Board's Order dated July 12, 1982.

CNRS has a tentative commitment from Dr. Stern-glass to testify as to the responses to the Licensee's Interrogatories 27, 28, 29, 30. Dr. Stern-glass's address, employer, and pro-fessional qualifications were set forth in the list of experts accompanying CNRS's above-referenced Motion. CNRS does not at

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this time have knowledge of the substance of Dr. Sternglass's expected testimony. CNRS is aware of its obligation to inform the parties to this action if and when it secures a firm commitment from Dr. Sternglass or any other expert to testify and to inform the parties of the substance of their expected testimony when that information becomes available to CNRS.

INTERROGATORY 7

7b-d, e1, e2, e4, j, n. See CNRS's Response to NRC Staff Request for Admissions and CNRS's Response to NRC Staff's First Set of Interrogatories, Questions 1-13, Stipulated Contentions, pp. 4-8 (filed 12-3-81). Said responses are incorporated by reference into this supplementary response to the Licensee's first set of interrogatories.

INTERROGATORY 8

b. An accident of "greater severity" is one in which there are releases of radionuclides into the environment in quantities and concentrations greater than those postulated in the AFRRI Hazard Summary or Safety Analysis. This level is selected because the Intervenor believes that the accident scenarios leading to it are credible and because it presents significant health and safety concerns that should be addressed in the context of this proceeding.

c. In view of the fact that the Rasmussen Report and the other WASH Reports, commissioned by the NRC to develop a methodology for assessing quantitative probabilities of nuclear reactor accidents, have, after large expenditures of money and time, not been able to produce a method that can be relied on with precision (e.g. the Three Mile Island accident was statistically very improbable), the Intervenor believes it is unrealistic and unduly burdensome to require it to attempt the same for the accident scenarios it poses, given its limited resources.

> INTERROGATORY 10

a. In the context of this contention, an "experiment failure" means a malfunction of confinement safeguards, such as those described in subparts (a) - (d) of the contention, that occurs while an experiment is being conducted.

INTERROGATORY 12

a., c., d. To answer these sub-interrogatories, the Intervenor needs more detailed information from the Licensee regarding the physical design of the dampers and CAM alarm system. The Intervenor therefore reserves its right to promulgate questions regarding the same in its second set of interrogatories to the Licensee.

INTERROGATORY 12, cont'd.

b. The letter from LaWayne R. Stromberg, Director, DNA, to the Directorate of Reactor Licensing, NRC, docketed 9-3-75, in which the incident is described, states in pertinent part:

Upon investigation the Chief Supervisory Officer found that by tapping the damper solenoid control box he could make the damper close. Closer inspection revealed that the two wires in the control box were loose.

...an audible and visual alarm associated with the CAM still worked. In the event of a CAM alarm an operator would immediately notice that the dampers had not closed and could take corrective action.

INTERROGATORY 13

a. - e. To answer these sub-interrogatories, the Intervenor needs more detailed information from the Licensee regarding the physical design of the lead doors and the structure surrounding them and the reactor. The Intervenor therefore reserves its right to promulgate questions regarding the same in its second set of interrogatories to the Licensee.

INTERROGATORY 14

a. - c. To answer these sub-interrogatories, the Intervenor needs more detailed information from the Licensee regarding the physical design of the reactor core safety interlock system and related systems. The Intervenor therefore reserves its right to promulgate questions regarding the same in its second set of interrogatories to the Licensee.

INTERROGATORY 15

a. The only knowledge CNRS has regarding the incidents cited in subparts (a) - (g) of this contention is that which is on public record in the NRC. None of those documents state whether the cited failures resulted in any releases to the environment. The following documents were examined by CNRS in an attempt to respond to this interrogatory and are, to the best of CNRS's knowledge, the only public records of the cited failures:

(a) Letter from Paul Tyler, Director DNA, to Collins, Director, NRR, docketed 4-1-80.

(b) Letter from Tyler, Director DNA, to Director, Region 1, NRC Office of Inspection and Enforcement, 8-15-79, and encl. report.

(c) Letter from Tyler, Director DNA, to Director, Region 1, Office of Inspection and Enforcement, NRC, 8-1-79.

(d) Letter from Tyler, Director DNA, to Director, Region 1, Office of Inspection and Enforcement, NRC, 7-31-79.

(e) Letter cited in CNRS's response to Interrogatory 12b, supra.

INTERROGATORY 15, cont'd.

(f) Letter from Myron Varon, Director DNA, to NRC Directorate of Reactor Licensing, docketed 5-14-74, and accompanying report.

(g) Letter from Myron Varon, Director DNA, to Directorate of Reactor Licensing, NRC, docketed 6-21-73, with enclosures.

b. - d. The public records of the malfunctions cited in subparts (a) - (g) of this contention are inadequate to give the Intervenor insight into how they began, developed, and were ultimately mitigated, and how human error played a part. The Intervenor is therefore unable, without more information from the Licensee, to develop scenarios of similar malfunctions that would lead to excessive releases, to predict which regulatory limits would be exceeded, or to recommend design safeguards to enhance safety. For this reason the Intervenor reserves its right to promulgate questions regarding the same in its second set of interrogatories to the Licensee.

INTERROGATORY 16

a., b., f. To answer these sub-interrogatories, the Intervenor needs more detailed information from the Licensee regarding the sequence of events in this malfunction, the physical design of Safety Channel One and related systems, and the scram operation. The Intervenor therefore reserves its right to promulgate questions regarding the same in its second set of interrogatories to the Licensee.

c. CNRS is unaware of any public record in which such a failure is documented to have caused releases to the environment in excess of 10 C.F.R. 20.

d. Report entitled "Electronic Damage to Safety Channel One," p. 1, paragraph 2, accompanying letter referred to in CNRS's response to Interrogatory 15a(a), supra.

e. According to the report, the malfunction was discovered by AFRRI personnel rather than an NRC inspector.

INTERROGATORY 17

a. CNRS is unaware of any public record in which such a failure is documented to have caused releases to the environment in excess of 10 C.F.R. 20.

b. The report accompanying the letter referred to in CNRS's response to Interrogatory 15a(b), supra, states:

...Probable cause of the malfunction has been determined to have been due to a power surge which resulted in the failure of the transformer in EF-1 cubical [sic] of the MCC, thus causing the fire.

... the malfunction resulted in damage, by burning, of the step down transformer, motor control contact and associated wiring.

INTERROGATORY 17, cont'd.

c., d. To answer these sub-interrogatories, the Intervenor needs more detailed information from the Licensee regarding the sequence of events in this malfunction, the physical design of the reactor exhaust system, the electrical wiring in the EF-1 cubicle, and related systems. The Intervenor therefore reserves its right to promulgate questions regarding the same in its second set of interrogatories to the Licensee.

INTERROGATORY 18

a., c., d. To answer these sub-interrogatories, the Intervenor needs more detailed information from the Licensee regarding the sequence of events in this malfunction, the physical design of the fuel element temperature sensing circuit, and related systems. The Intervenor therefore reserves its right to promulgate questions regarding the same in its second set of interrogatories to the Licensee.

b. Letter referred to in CNRS's response to Interrogatory 15a(c), supra, states in pertinent part:
At 1117 a.m. on 30 July 1979 a reactor operator noticed that the fuel temperature indicators were not functioning properly while preparing to perform an experiment.

INTERROGATORY 19

a., c., f. To answer these sub-interrogatories, the Intervenor needs more detailed information from the Licensee regarding the sequence of events in this malfunction, the physical design of the pool water level sensing float switch and wiring, and related systems. The Intervenor therefore reserves its right to promulgate questions regarding the same in its second set of interrogatories to the Licensee.

b. Letter referred to in CNRS's response to Interrogatory 15a(d), supra, states in pertinent part:
At 11:52 a.m. on 10 July 1979 a reactor operator discovered that the float switch, which senses the reactor pool level, was not operable.

d. No. See CNRS's response to Interrogatory 15a, supra.

e. CNRS is unaware of any public record in which such a failure is documented to have caused releases to the environment.

INTERROGATORY 20

a., b., d. To postulate a scenario that would result in excessive releases, to propose additional safeguards, and to otherwise answer these sub-interrogatories, the Intervenor needs more detailed information from the Licensee regarding the sequence of events in this malfunction, the physical design of the radiation monitoring system, wiring, ventilation dampers, and related

systems. The Intervenor therefore reserves its right to promulgate questions regarding the same in its second set of interrogatories to the Licensee.

e. CNRS is unaware of any public record in which such a failure is documented to have caused releases to the environment.

INTERROGATORY 21

a., e. To posit how this malfunction could result in excessive releases and to propose additional safety features, the Intervenor needs more detailed information from the Licensee regarding the sequence of events in this malfunction, the physical design of the fuel temperature-automatic scram system, the T2 output meter, and related systems. The Intervenor therefore reserves its right to promulgate questions regarding the same in its second set of interrogatories to the Licensee.

b. See CNRS's response to Interrogatory 15a(f), supra.
No.

c. CNRS is unaware of any public record in which such a failure is documented to have caused releases to the environment.

d. The report entitled "Malfunction of T2 Fuel Temperature Scram Contacts," accompanying the letter referred to in CNRS's response to Interrogatory 15a(f), supra, states in pertinent part:

On 29 January 1974 at 0745, the reactor operator was accomplishing the scram checks (Inclosure 1, Section VIII, Item 18) for the daily Start-Up Checklist, and when the operator activated the test circuit for fuel element thermocouple (T2), the mechanical contacts on the meter failed to pick up and initiate and [sic] automatic reactor scram.

INTERROGATORY 22

a., d., e. To posit how excessive releases may occur and to propose additional safeguards, the Intervenor needs more detailed information from the Licensee regarding the sequence of events in this malfunction, the physical design of the reactor core position safety interlock system, and related systems. The Intervenor therefore reserves its right to promulgate questions regarding the same in its second set of interrogatories to the Licensee.

b. See CNRS's response to Interrogatory 15a(g), supra.

c. CNRS is unaware of any public record in which such a failure resulted in or contributed to a release to the environment above MPC.

INTERROGATORY 23

a. - j. See CNRS's Response to NRC Staff's First Set of Interrogatories, Questions 8-10, Stipulated Contentions, pp. 5-8. Said responses are incorporated by reference, in their entirety, into the responses to a.-j. herein.

INTERROGATORY 24

a. - h. See CNRS's Response to NRC Staff's First Set of Interrogatories, Questions 30 - 37, Unstipulated Contentions 1 and 2, pp. 11-14 (filed 12-3-81, Docket No. 50-170). Said responses are incorporated by reference, in their entirety, into the responses to a. - h. herein.

1. Natural("Act of God") accidents referred to by CNRS in this contention include but are not limited to earth tremors, earthquakes, hurricanes, tornadoes, and other severe weather conditions and geological events that threaten the physical integrity of the reactor parts and/or the structures and building surrounding them.

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Interrogatory 25

25a. 10 C.F.R. Part 50, Appendix E, Section I, paragraph 2 states, inter alia, that the Appendix "establishes minimum requirements for emergency plans for use in attaining an acceptable state of emergency preparedness."

Moreover, Licensee has stipulated to the following contention as an appropriate issue for determination in this proceeding:

Whether the Emergency Plan proposed by the applicant complies with the standards set forth at 10 C.F.R Part 50, Appendix E.

See Board's Special Prehearing Conference Memorandum and Order, September 1, 1981, at pp. 4 n.3, 18, see also Stipulated Contentions, March 31, 1981.

It is the Intervenor's position that Licensee's Emergency Plan fails to comply with the requirements of both 10 C.F.R. Part 50, Appendix E, and the USNRC Regulatory Guide 2.6.

25b. The Intervenor maintains that the AFRRI Emergency Plan ("the AFRRI Plan") does not adequately fulfill the requirements of the USNRC Regulatory Guide 2.6 ("the Guide") in the following manner:

Augmentation of Facility Emergency Organization

Section 3.2 of the Guide requires a description of the extension of the organizational capability for handling emergencies to be provided by ambulance, medical, hospital, and firefighting organizations. The Guide also requires that any such arrangements be described and any written agreements reached with such organizations be included.

The Plan is deficient because it does not describe these capabilities. The Plan merely states that AFRRI has a Host-Tenant Support Agreement with the National Naval Medical Center (NNMC), and the Plan lists a few services which the NNMC is supposed to provide. However, the Host-Tenant Support Agreement included in the Appendix to the Plan (Section 8.2), appears to consist solely of a lease-type arrangement between the NNMC and AFRRI. The support agreement makes almost no reference to the fact that the "tenant" is using the facilities to house and operate a nuclear reactor. The only indication of the existence of the nuclear reactor is a provision requiring the "host" to provide development and interpretation of film dosimeters and provide radioanalysis service should tenant's equipment be inoperative. The Support Agreement does not describe the extension of the organizational capabilities for handling emergencies that may be associated with a nuclear reactor.

Other emergency plans for other reactor facilities licensed by the NRC include a more complete description of the emergency capabilities to be provided by ambulance, medical, hospital and firefighting organizations. See for example, University of Virginia, Reactor Facility Emergency Plan, Docket No. 50-66, August 27, 1981, Section 3.2, p. 3. This section of the Virginia Plan identifies the various emergency service organizations that have agreed to respond to emergencies at the reactor facility and describes the services that these organizations would provide.

Also, other plans for other reactor facilities include copies of written agreements with emergency organizations that specifically provide for nuclear emergencies. See, for example, University of Maryland, Emergency Plan, Docket No. 50-166, March 1980, Appendix 8.2, pp. 19-24. These pages of the Maryland Plan consist of letters confirming emergency medical assistance for contaminated personnel by Walter Reed Medical Center and an agreement for the transportation of contaminated persons.

Coordination With Participating Government Agencies

Section 3.3 of the Guide requires that the principal state agency and other governmental agencies having action responsibilities for radiological emergencies be identified. A description should be given of the authority and responsibility of each such agency for emergency preparedness planning and for emergency response, particularly in relation to the responsibilities of the Licensee and of other agencies. Copies of any written agreements with such agencies should be included.

The AFRRI plan simply specifies that the Defense Nuclear Agency is the principal agency with responsibility for AFRRI and lists other federal agencies which may be contacted in event of an emergency. The plan does not describe the authority and responsibility of each such agency for emergency preparedness planning, nor does the plan include any written

agreements with such agencies. Nor does the AFRRRI plan include any such copies of agency emergency response plans.

Section 4 of the Guide requires that specific response measures should be identified for emergency class and related to action levels or criteria that specify when the measures are to be implemented. The AFRRRI plan does specify response measures for each emergency class, but it does not relate the measures to action levels or criteria that specify when the measures are to be implemented. Furthermore, the AFRRRI plan does not completely comply with the requirements of the specific provisions of Section 4 of the Guide. The deficiencies identified by the Intervenors, following the format laid out in AFRRRI's plan, are as follows:

Personnel Emergency

Activation of Emergency Organization

Section 4.1.1 of the AFRRRI plan does not note the existence of a message authentication scheme for offsite agencies as is required by Section 4.1 of the Guide.

Corrective Action

Section 4.1.3 of the AFRRRI plan merely states that in situations involving airborne radioactivity, ventilation and

air control measures shall be initiated. The AFRR I Plan does not describe corrective actions for any other form of radioactive contamination as is required by Section 4.3 of the Guide.

Emergency Alert

Activation of Emergency Organization

Section 4.2.1 of the AFRR I Plan identifies several people who shall be notified in the event of an emergency, but the plan does not describe how these people are to be notified nor what the activation levels are for the notification of offsite agencies as is required by Section 4.1 of the Guide. Also, the AFRR I Plan does not note the existence of a message authentication scheme for offsite agencies as is required by Section 4.1 of the Guide.

Assessment Action

Section 4.2.2 of the AFRR I Plan states that if the AFRR I facility is to be evacuated, the Director in conference with several others shall monitor the situation to determine whether to upgrade or downgrade the emergency classification. The AFRR I Plan does not describe the methodologies and techniques to be used.

This section of the AFRRRI Plan does not appear to comply with Section 4.2 of the Guide which requires that the plan include a description of the methodologies and techniques to be used to an extent sufficient to demonstrate, with reasonable assurance that in a timely manner (1) the magnitude of radioactive materials can be determined, (2) the magnitude of any resulting radioactive contamination can be determined, (3) projected exposures to persons within or beyond the facility boundaries can be estimated, and (4) emergency action levels specified can be determined.

Protective Action

Section 4.2.4 of the AFRRRI Plan merely states that the Director will effect evacuation of the buildings surrounding the AFRRRI facility. The plan does not specify the criteria for implementing the protective actions or the means for notifying or warning the persons at risk as required by Section 4.4 of the Guide.

Reactor Emergency

Activation of Emergency Organization

Section 4.3.1 of the AFRRRI Plan does not describe action levels for notification of offsite agencies, nor does it note the existence of a message authentication scheme for such agencies as is required by Section 4.1 of the Guide. The AFRRRI Plan does describe some of the people to be notified, but it does not describe how the notification is to occur.

Assessment Action

Section 4.3.2 of the AFRRI plan does not appear to comply with section 4.2 of the Guide. For example, the Plan merely states that both fixed and portable radiation monitoring devices are available for assessment. The Plan does not indicate how the monitors will be read if evacuation is necessary, nor who will read them in the event of an emergency.

Contamination Control Measures

Section 4.3.4.4 of the AFRRI Plan states that monitoring programs will be established to provide the information needed to ascertain when reentry can occur. However, the plan does not include the criteria for permitting return to normal use as required by Section 4.4.3 of the Guide. Also, this section of the plan does not include measures for isolation or quarantine areas as required by the Guide.

Other emergency guides for other reactor facilities provide much more complete information on what to do to prevent contamination. See, for example, University of Maryland, Emergency Plan, Docket No. 50-166, March 1980, pp. 31-35. This part of the Maryland Plan concerns the actions to be taken in the event of release of radioactivity. Specific instructions are included about how to cope with the contamination created by several different kinds of radiation release accidents.

Emergency Personnel Exposure

Section 4.3.5.1 of the AFRRI Plan does state exposure guidelines for rescue personnel. However, the plan merely states that the PIC shall determine the allowable dose for any personnel involved in emergency action in consultation with Health Physics. The plan does not ensure that methods for permitting volunteers to receive radiation exposures will involve expeditious decision-making and a reasonable balance of relative risks as required by Section 4.5.1 of the Guide. Nor does the AFRRI plan identify the criteria or types of criteria to be used in weighing risks.

Decontamination and First Aid

Section 4.3.5.2 of the AFRRI Plan briefly describes first aid and decontamination efforts for injured persons.

By comparison, other plans for other reactor facilities set forth the first aid and decontamination procedures to be conducted for injured personnel in much greater detail. See, for example, University of Maryland, Emergency Plan, Docket No. 50-166, March 1980, pp. 31-35. This part of the Maryland Plan gives specific instructions concerning decontamination and first aid for injured persons. See for further example, University of California at Los Angeles, Emergency Response Plan, Docket No. 50-142, February 28, 1980, p. iv/1-4, Attachment C, Attachment D. Page iv/1-4 describes transportation of contaminated personnel. Attachment C sets forth radiation accident procedure and management of contaminated personnel and those with other injuries. Attachment D is a checklist for handling contaminated and/or injured

Medical Treatment

Section 4.3.5.4 of the AFRI Plan merely states that the National Naval Medical Center has agreed to provide medical treatment in the event of a radiological emergency and asserts that the NNMC facilities and personnel are equipped to handle decontamination efforts. The plan does not describe the arrangements as required by Section 4.5.4 of the Guide, but simply mentions their existence. Also, the plan does not give sufficient description in detail to provide adequate assurance that the required services are available and that the persons providing them are prepared and qualified to handle radiological emergencies.

By comparison, the UCLA Emergency Plan, for example, states that the UCLA Emergency hospital has approved procedures for dealing with radioactively contaminated victims, and includes a description of these procedures in the appendix. University of California at Los Angeles, Emergency Response Plan, Docket No. 50-142, February 28, 1980, p. iv/1-4, Attachment C.

Furthermore, no written agreements with respect to arrangements are included in the AFRI plan. Other emergency plans, such as the University of Maryland's plan, includes such an agreement arranging for medical services for contaminated personnel. University of Maryland, Emergency Plan, Docket No. 50-166, March 1980, Appendix 8.2, pp. 20-21.

Facility Emergency

Section 4.4 of the AFRRI Plan states that no accident can be postulated for the TRIGA reactor in the AFRRI facility that could result in a facility emergency, but the AFRRI Plan could be expanded to accommodate emergency situations greater than a reactor emergency. However, according to Section 2.1.4 of the Guide, it is necessary and prudent to plan for a Facility Emergency if the reactor is authorized to operate at power levels of greater than 100 KW. Also, Section 4 of the Guide requires that emergency response measures should be identified for each emergency class, including Facility Emergencies.

Activation of Emergency Organization

Section 4.4.1 of the AFRRI Plan states that the PIC shall determine if a facility emergency exists and shall notify the Director. The Plan also says that the Director shall decide whether additional emergency support from the NNMC and outside groups is required. It is not apparent that any actual emergency plans exist for this type of emergency class. The AFRRI Plan does not describe communication steps to be taken to alert emergency personnel nor does it describe the action levels for notification of offsite agencies as required by Section 4.1 of the Guide. Also, the existence of a message authentication system for such agencies is not noted.

Assessment Action

Section 4.4.2 of the AFRI Plan states that the Director in conference with several other people shall monitor the situation to determine whether to downgrade the emergency classification. The AFRI Plan only addresses downgrading the emergency class, but does not address the measures to be taken to assess the situation and classify the emergency in the first place as is required by Section 4.2 of the Guide.

First Aid and Medical Facilities

Section 5.4 of the Plan does not provide reasonable assurance that appropriate measures can and will be taken to protect health and safety. For example, it does not describe any medical or first aid facilities which would be available to handle an emergency involving leaks, contamination, irradiation, or other radiological emergencies.

Maintaining Emergency Preparedness

Section 6 of the Guide requires that the plan include a description of how the plan will continue to be effective throughout the lifetime of the facility. The AFRI Plan does not include any such description.

Organization Preparedness

Training

Section 6.1.1 of the Guide requires that the plan include a description of specialized training to be provided to emergency personnel. The corresponding section in the AFRRRI Plan, section 6.1, merely states that a general training session will be held for all AFRRRI personnel to familiarize them with AFRRRI Instruction 3020.2. The training is not described. The AFRRRI Plan states that specialized training in emergency procedures will be given to those staff members with specific responsibilities in emergency situations, but this training also is not described.

Drills and Exercises

Section 6.1.2 of the Guide is very specific concerning the requirement of drills and exercise. Generally, the Guide requires a description of the drills and exercises and that they may be accompanied by preplanned simulations and

scenarios. The Guide requires provisions for emergency test exercises and coordination with offsite emergency personnel. The Guide also requires that provisions should be made for critiques of all drills and exercises. The corresponding section of the AFRRRI Plan, Section 6.2, simply states that the Radiological Safety Department shall conduct semiannual drills of the on-site emergency plan, and drills involving full coordination with offsite organizations will be conducted biannually. The AFRRRI Plan does not describe the drills in any of the detail required by the Guide.

Review and Updating of the Plan and Procedures

Section 6.2 of the Guide requires that provisions be made for a biennial review of the emergency plan for for updating and improving procedures to incorporate the results of training and drills and to account for changes in the facility or in the environs. The AFRRRI Plan, Section 6.3, merely states that review shall be conducted, but it does not make provisions for incorporating the results of training or to account for changes.

Maintenance and Inventory of Emergency Equipment and Supplies

Section 6.3 of the Guide requires that the operational readiness of all items of emergency and supplies should be ensured. The Guide requires that provisions for performing

maintenance, surveillance, testing, and inventory on emergency equipment and supplies should be described. The plan has no provisions addressing this section's requirements.

Recovery

Section 7 of the Guide requires that general plans, including applicable criteria, for restoring the facility to a safe status be described. The plan generally states that recovery efforts shall be initiated by the Director, and that he will assign responsibilities to others. The plan does not include the applicable criteria for restoring the facility to a safe status.

Appendix

Section 8.1 of the Guide requires that the plan include general building layout plans and area maps. The AFRI Plan does include maps which appear to be of the building and of the area. However, the maps are deficient in that they would not be useful to persons attempting to use them in the event of an emergency. The building layout plan does not clearly indicate stairways, exits or escape routes. The area map does not even indicate in which building the reactor is located.

Section 8, part 5, of the Guide requires that the appendix of the plan include an analysis that sets forth the basis for the emergency plan. However, the Guide states if this analysis has been submitted previously to the NRC, a clear

and specific reference thereto is acceptable. The plan does not include such an analysis of the basis for the emergency plan nor does the plan make a clear and specific reference to any analysis that has been submitted previously to NRC.

The Intervenor maintains that the AFRRRI Plan does not contain the following elements required by 10 C.F.R. Part 50, Appendix E.

A. Organization

- 1) Description of the normal plan operating organization.
- 2) Detailed discussion of plan staff emergency assignments and duties of an onsite emergency coordinator in charge of exchanging information with offsite emergency authorities.
- 3) Description of Applicant's headquarters personnel who will be sent to the plan to augment the onsite emergency organization.
- 4) Identification of and methods used by Applicant's personnel responsible for making offsite dose projections and transmitting the results to State and local authorities, NRC and other appropriate governmental entities.
- 5) Identification of Applicant's employees and consultants with special qualifications for coping with emergency conditions.
- 6) Description of local offsite emergency support services.

7) Identification of, and assistance expected from State, local and Federal agencies with emergency responsibilities.

8) Identification of State and local officials responsible for planning protective actions, including evacuations.

B. Assessment Actions

1) Description of offsite monitoring methods for determining the magnitude and continually assessing the impact of radioactive releases.

C. Activation of Emergency Organization

1) Description of emergency actions for notifying offsite agencies and notation that a message authentication scheme exists for such agencies.

D. Notification Procedures

1) Description of means for notifying and agreements reached with local, State and Federal officials and agencies for the prompt notification and evacuation of, and other protective measures for, the public.

2) Identification of the State and local government agencies within Applicant's Emergency Planning Zone (EPZ).

3) Description of provisions for yearly dissemination to the public within the plume pathway EPZ of information on emergency planning, nature and effects of radiation, and a listing of local broadcast stations.

4) Demonstration that the State/local officials can make a public notification decision promptly on being informed of an emergency.

E. Emergency Facilities and Equipment

1) Description of arrangements for transporting contaminated individuals to identified treatment facilities outside the site boundary (i.e., facilities other than the National Naval Medical Center).

2) Description of arrangements for treatment of said individuals at said facilities.

3) Description of a near-site emergency operations facility and offsite communications systems with a backup power source.

F. Training

1) Description of provisions for conducting a radiological orientation training program for local Civil Defense, law enforcement, and news media personnel.

G. Recovery

1) Description of criteria for determining when Applicant's facility may be re-entered or its operation may be resumed.

25c. The Intervenor has compared the AFRRI Emergency Plan with those prepared by licensees and/or applicants for relicensing for nuclear reactor facilities that have been approved by the NRC, and with Regulatory Guide 2.6, and 10 C.F.R., Part 50, Appendix E. Certain requirements of the Regulatory Guide and of 10 C.F.R., Part 50, Appendix E, are not complied with in the AFRRI Plan. For example, certain types of provisions included in these other emergency plans (and identified in the Answer to Interrogatory 25b., above) are not included in the AFRRI Emergency Plan.

(Answers continued on next page.)

INTERROGATORY 26

a. Presumably the radionuclides found by the Washington Suburban Sanitary Commission (see WSSC reports on AFRRI effluents) are generated by routine operations at AFRRI.

g., 1. To state how the Licensee's corrective actions are inadequate and to propose safeguards, the Intervenor needs more detailed information from the Licensee regarding the Licensee's methods of collecting and describing specimens, analysing, reducing and reporting data, and the use and calibration of its environmental monitoring equipment. The Intervenor therefore reserves its right to promulgate questions regarding these and related matters in its second round of interrogatories to the Licensee, in particular questions that will enable the Intervenor to more fully respond to Licensee's Interrogatories 26 - 31.

INTERROGATORY 27

- d. 10 C.F.R Part 20 and Appendices B and C thereto.
h. See CNRS's response to Interrogatory 26a, supra.

INTERROGATORY 28

a. The environmental monitors should, at a minimum, be able to detect the isotopes listed in Appendices B and C of 10 C.F.R. Part 20.

b.- k. Please refer to CNRS's responses to the NRC Staff's first set of Interrogatories, Stipulated Contention 4, Questions 14-27 (pp. 8-10, filed 12-3-81) for responses to the Licensee's interrogatories regarding environmental monitoring and measuring.

The Licensee is bound by the following in conducting and reporting the results of its environmental monitoring and measuring program:

1. 10 C.F.R. §20.1 (ALARA principle).
2. 10 C.F.R. §20.106(c).
3. 10 C.F.R. §20.201(b).
4. NRC Regulatory Guide 4.15 (2/79). This regulatory guide provides guidance for "assuring the quality of measurement of radioactive material in effluents and the environment outside of nuclear facilities" for which monitoring is required. The Guide states in pertinent part:

Every organization actually performing effluent and environmental monitoring, whether an NRC licensee or the licensee's contractor, should include the quality assurance program elements presented in this guide.

. . . 3. Operating procedures.

Written procedures should be prepared, reviewed, and approved for activities involved in carrying out the monitoring program, including sample collection . . . , preparation and analysis of samples; maintenance, storage, and use of radioactive reference standards; calibration

INTERROGATORY 28, cont'd.

and checks of radioactivity measurement systems; and reduction, evaluation, and reporting of data.

4. Records

The records necessary to document the activities performed in the monitoring program should be specified in the quality assurance program.

Regulatory Guide 4.15 goes on under "Records" to state that a key aspect of the quality assurance program is to keep records that track the progress of a sample through the entire sequence of the monitoring process, from initial collection and description through data reduction and verification.

5. NRC Regulatory Guide 8.25 (8/80). This regulatory guide cites 10 C.F.R. §20.106(c) for the proposition that a licensee's obligation to measure unrestricted area concentrations requires in many cases air monitoring beyond the restricted area. This guide also cites the American Conference of Governmental Industrial Hygienists' manual, "Air Sampling Instruments for Evaluation of Atmospheric Contaminants," 5th Edition, 1978 (copies available from ACGIH, P.O. Box 1937, Cincinnati, OH 45201). The Guide states that Part II, Sec. I, of the manual "provides instructions for acceptable methods of calibrating air volume and flow rate metering devices;" in particular Tables II, III, and IV provide sources of recommended and standard methods. The Guide supplements the manual's instructions by adding guidance for frequency of calibration, for acceptable error limits in volume measurement, and for documentation. The Guide states that "the licensee should maintain records of all routine and special calibrations of airflow or volume metering devices, including the primary or secondary standard used, method employed (emphasis added), and estimates of accuracy of the calibrated metering devices."

Regulatory Guide 8.25 states in its introduction that 10 C.F.R. §20.106(c)(4) "requires that licensees provide information as to the highest concentration of each radionuclide in an unrestricted area."

CNRS takes the position that the regulations, regulatory guides, and manual cited above require AFRRI to have a particulate monitor, an isokinetic gross activity detector, and other methods and devices recommended by CNRS in its response to the Staff's Interrogatories, because these things are necessary to meet the monitoring and documentation standards set forth in the cited references and to meet the standards imposed by the quality assurance program and the ALARA principle.

INTERROGATORY 29

a. - f. See CNRS's response to Interrogatory 28, supra.

INTERROGATORY 30

a. - d. See CNRS's response to Interrogatory 28, supra.

INTERROGATORY 31

b. - c. See CNRS's response to Interrogatory 28, supra.

INTERROGATORY 32

c. See CNRS's response to the NRC Staff's Interrogatories 31 and 32, Unstipulated Contention 1 (filed 12-3-81).

INTERROGATORY 35

e. See CNRS's responses to the NRC Staff's Interrogatories 34, 35, and 36, Unstipulated Contention 2 (filed 12-3-81, pp. 12-14).

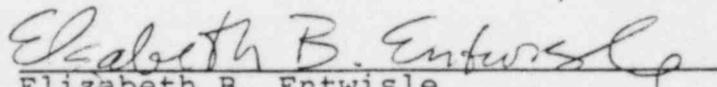
f. - 1. See CNRS's response to the NRC Staff's Interrogatory 37, Unstipulated Contention 2 (filed 12-3-81, p. 14).

INTERROGATORY 36

a(2) -(4), c, d, g. See CNRS's responses to the NRC Staff's Interrogatories 14 - 27, Stipulated Contention 4 (filed 12-3-81, pp. 8 - 10).

In supplementing its responses to the Licensee's First Set of Interrogatories, the Intervenor hereby incorporates by reference its responses, in their entirety, to the NRC Staff's Request for Admissions and First Set of Interrogatories. To the extent that any of the Licensee's interrogatories have not been adequately addressed in this Supplement, the Licensee is referred to the responses to the corresponding contentions in the incorporated document.

Respectfully submitted,


Elizabeth B. Entwisle
Counsel for Intervenor

DOCKETED
JUN 10 1982

AFFIDAVIT OF ELIZABETH B. ENTWISLE

OFFICE OF STATE
ATTORNEY GENERAL
BETHESDA

I, Elizabeth B. Entwisle, being duly sworn, do state:

1. That Intervenor CNRS's Supplementary Response to Licensee's First Set of Interrogatories was prepared under my direction and supervision.

2. That the responses contained therein are true to the best of my knowledge, information, and belief.

Elizabeth B. Entwisle

Elizabeth B. Entwisle

*County of Montgomery
State of Maryland*

SUBSCRIBED AND SWORN to before me this 2nd day of August, 1982.

Elizabeth M. Weyer

Notary Public

*My Commission
expires July 1, 1986*