

THE PENNSYLVANIA STATE UNIVERSITY

UNIVERSITY PARK, PENNSYLVANIA 16802

College of Engineering
Breazeale Nuclear Reactor

Area Code 814
865-6351

April 18, 1984

Cecil O. Thomas, Chief
Standardization and Special
Projects Branch
Division of Licensing
Nuclear Regulatory Commission
Washington, D.C. 20555

Docket No. 50-5
License No. R-2

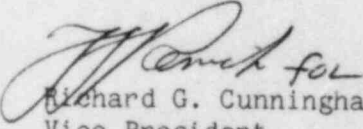
Dear Sir:

Your letter of February 27, 1984 included an Emergency Plan Review performed by the NRC staff. The conclusion of this review stated that our emergency plan was not acceptable "because it does not adequately address the requirements of Appendix E to 10 CFR 50 and the guidance criteria set forth in Revision 1 to Regulatory Guide 2.6 and ANSI/ANS-15.16-1982, "Emergency Planning for Research Reactors." Consequently, your letter requested additional information.

We have studied your Emergency Plan Review and have provided the additional information requested in the enclosure with this letter. The additional information requested is presented following the format of Section 3 of ANS I/ANS-15.16-1982 with NRC's comments given first followed by our answer.

We hope our modifications to the Emergency Plan meets NRC's requirements. If you have further questions, you may send them to me or to Prof. S.H. Levine or call him at (814) 865-3110.

Sincerely,


Richard G. Cunningham
Vice President
Research and Graduate Studies

RGC:SHL/skr

Enclosure

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ADDITIONAL INFORMATION REQUESTED
by the
U.S. Nuclear Regulatory Commission
In Their February 1984
Emergency Plan Review
of the
Pennsylvania State University
Research Reactor

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3.3 Organization and Responsibilities

1. Specify the means by which University personnel will provide assistance to Centre Community Hospital as addressed under item #3 of their agreement letter.

Answer:

Our plan is designed to use the Centre Community Hospital only when injury to persons is too severe for the University Ritenour Health Center to handle. The University will provide radiation detection equipment and personnel, with experience in decontamination and monitoring, to assist Centre Community Hospital in handling emergencies involving radioactive material even when not related to the University. In order to clarify this, the Emergency Plan has been changed to read:

3.1.9 The Centre Community Hospital

The Centre Community Hospital will provide medical facilities and care for radiation accident victims which can not be handled by the Ritenour Health Center. University personnel from the PSBR and/or the Health Physics Office will provide assistance to the Centre Community Hospital staff in radiation monitoring and decontamination; loan of radiation detection equipment is also provided.

3.7 Emergency Response

1. Describe the specific actions to notify and mobilize the emergency organization.

Answer:

The emergency organization is notified as described in Section 3.2 Notification. Once the event has been evaluated and determined to require activating the Emergency Plan, the emergency organization will be notified by telephone and/or two-way radio communication. The emergency organization is automatically mobilized once the emergency organization members receive notice. The two special forms described in this section and located in the Emergency Support Center (see Section 7.1 Notification) are used to assure

that all members of the organization are notified. Section 7.1 has now been changed to read:

7.1 Notification

When the event has been evaluated and determined to require activating the Emergency Plan, the emergency organization will be notified by telephone and/or two-way radio communication using notification forms designed for this purpose. Copies of the notification forms are stored in the Emergency Support Center and the Health Physics Office. These forms are used during the Emergency Plan to assure all organizations, e.g. Health Physics, are notified by telephone about the emergency. All agencies to be contacted; the NRC Region I Office, the Pennsylvania Emergency Management Agency, University Communication Center, the State College Borough Fire and Ambulance Co. and the State College Police Department have switchboards that are manned at all times.

3.7 Emergency Response

2. Identify the location of assembly areas and specify the methods to be used to assure personnel accountability and segregation of potentially contaminated personnel.

Answer:

Events that require evacuation of the facility are described in our Emergency Procedures. These procedures require evacuation to the entry gate at the chain-link fence at the reactor site boundary (see Section 2.1 Reactor Site Boundary and attached Fig. 2 of the Emergency Plan). Under normal conditions, personnel from the reactor assemble at the entry gate; however, if weather conditions are bad and when the Emergency Plan is activated, the Emergency Support Center becomes the assembly area. Personnel accountability methods are to be described in our procedures. The question of segregation of potentially contaminated personnel is addressed in 7.3 Corrective Actions. The accountability will be determined by visual observation and/or roll call. Accountability of visitors to the facility is the responsibility of their tour guides and escorts. We have changed our plan to read as follows:

2.1 Reactor Site Boundary

The reactor site boundary is that boundary defined by the chain-link fence surrounding The Pennsylvania State University Breazeale Reactor (PSBR) as shown in Figure 2. Entrance to the boundary is through the entry gate only, which can be locked or used as a control point for entry into the area. The reactor administration has direct authority over all activities within this boundary. The area within the site boundary is available to people not acquainted with the reactor operation.

2.5 The Emergency Support Center (ESC)

The Emergency Support Center (ESC) is a fenced-in area within Room 117 in the Academic Projects Building (see Fig. 2). This room is used by the Emergency Director as the operation center for the duration of the Emergency and as the assembly area for personnel from the reactor during the emergency. It also contains additional emergency supplies and equipment for use during the emergency.

7.3 Corrective Actions

The release of radioactive material from the reactor in an amount sufficient to be classed as an emergency would produce an alarm of the continuous air monitor and/or the reactor bridge monitors. This would shut down the reactor, sound the building evacuation horn and start the emergency ventilation system. The Emergency Procedures will then be followed as prescribed.

In the event radiation release indicates some personnel may have been contaminated with radioactive material, they will be isolated and surveyed for contamination and decontaminated as necessary by health physics and/or reactor staff personnel.

In the event of a pool water leak, civil disturbances, bomb threats, or reports of possible hurricanes or tornadoes, the Emergency Director shall determine whether the reactor should be shut down and secured and the Reactor Emergency procedures are to be followed as prescribed.

Fires shall be reported immediately to the Borough Fire Company of State College, PA. The Emergency Procedures for fires are to be followed as prescribed.

3.7 Emergency Response

3. Include provisions for isolation and access control of the facility.

Answer:

As stated in 3.7.2, the procedures require evacuation to the entry gate of the Reactor Site Boundary. Reactor staff and police services isolate and control entrance to the area during all evacuations and emergencies.

3.8 Emergency Facilities and Equipment

1. Identify the available non-radiological monitors, such as fire and combustion products detectors.

Answer:

We do not have a fire or smoke detector in the facility except in the hot cells. However, fire extinguishers are distributed in various places in our facility for emergency use. These items are covered by our insurance and standard University Safety Procedures and Requirements.

3.10 Maintaining Emergency Preparedness

1. Describe the type of training to be provided to members of the emergency organization and offsite support agencies.

Answer:

We have changed Section 10.4 to read as follows:

- 10.4 The operator and senior operator requalification programs keep the operating staff cognizant of features of

facility design, safety and emergency systems, emergency and standard operating procedures, radiation control and safety concepts, and other facility information needed to respond to an emergency situation. Competency of the reactor staff to respond appropriately to the emergency plan will be maintained by having an annual review of the emergency plan with the reactor staff. The Emergency Director or his designee will conduct this review. Following the annual and biennial emergency drill, the Emergency Director or his designee shall meet with the operating staff and health physics personnel to discuss and critique performance during the drill. Police services and Ritenour Health Center personnel will be invited to the critique. The regular annual police services training program has been modified to include a review of the Emergency Plan. The reactor staff will provide a biennial review of the Emergency Plan for Ritenour Health Centre medical and ambulance personnel. While the State College Borough Fire Department, ambulance service, and Centre Community Hospital emergency room staff are not under the control of the University, they will be invited to attend these reviews.

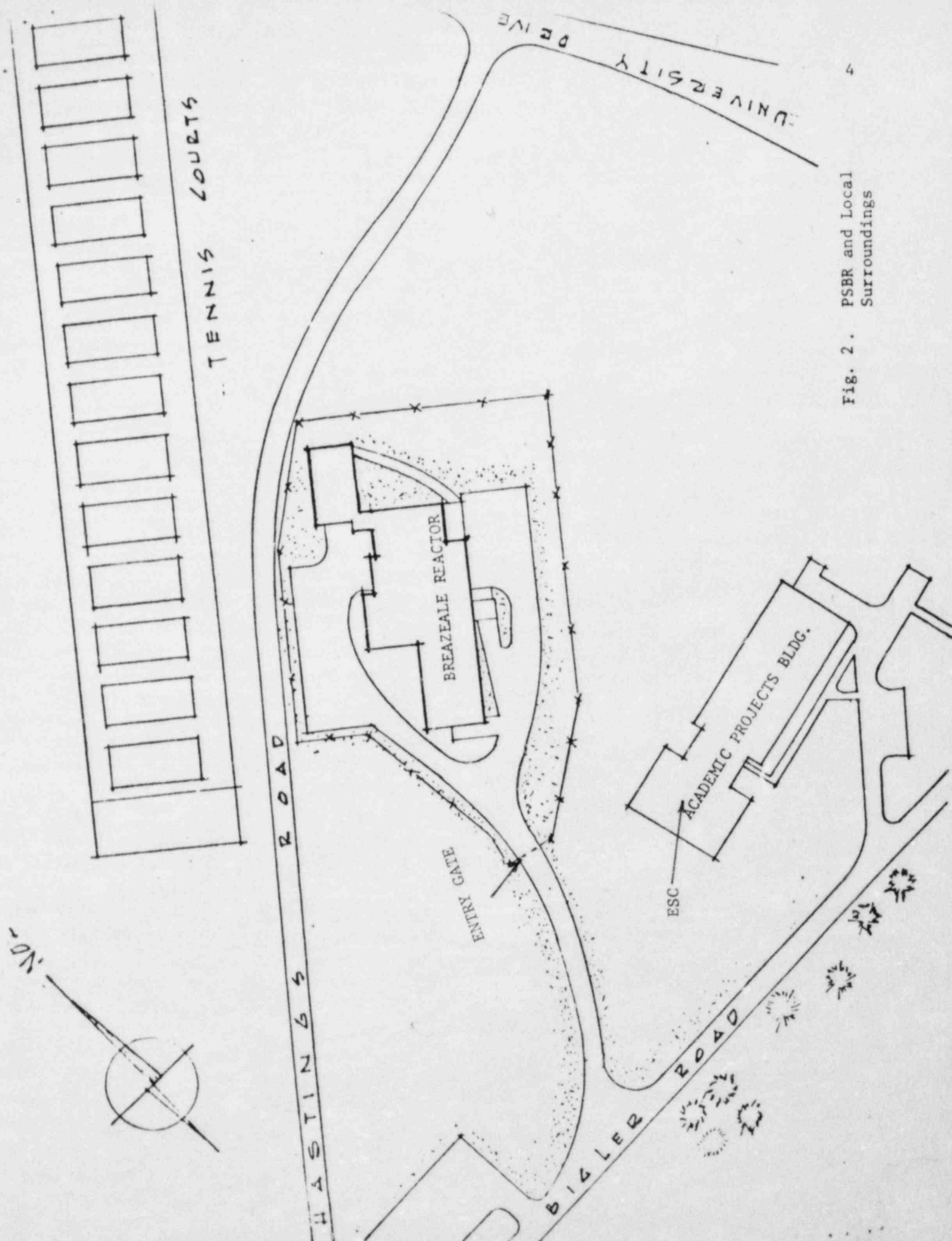


Fig. 2. PSBR and Local Surroundings