TERA

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

July 20, 1979

Docket No. 50-344

Mr. Charles Goodwin, Jr.
Assistant Vice President
Portland General Electric Company
121 SW Salmon Street
Portland, Oregon 97204

Dear Mr. Goodwin:

In conducting our review of PGE-1020, "Report on Design Modifications for the Trojan Control Building," as supplemented and amended, we have determined that we will need the additional information identified in the enclosure to continue our review.

In order for us to maintain our review schedule, your response is requested as soon as possible. Three signed originals and forty copies are required.

Please contact us if you have any questions concerning this request.

Sincerely,

for Charles M. Trammell
A. Schwencer, Chief
Operating Reactors Branch #1
Division of Operating Reactors

Enclosure:
Request for Additional
Information

cc: w/enclosure
See next page

671 357

7908160 082 P

Mr. Charles Goodwin, Jr.
Portland General Electric Company

cc: Mr. H. H. Phillips
Portland General Electric Company
121 S.W. Salmon Street
Portland, Oregon 97204

Warren Hastings, Esquire
Counsel for Portland General
Electric Company
121 S.W. Salmon Street
Portland, Oregon 97204

Mr. J. L. Frewing, Manager
Generation Licensing and Analysis
Portland General Electric Company
121 S.W. Salmon Street
Portland, Oregon 97204

Columbia County Courthouse
Law Library, Circuit Court Room
St. Helens, Oregon 97501

Director, Oregon Department of Energy
Labor and Industries Building, Room 111
Salem, Oregon 97310

Dr. Hugh D. Paxton
1220 41st Street
Los Alamos, New Mexico 87544

Michael Malmrose
U. S. Nuclear Regulatory Commission
Trojan Nuclear Plant
P. O. Box O
Rainier, Oregon 97048

Dr. Kenneth A. McCollom, Dean
Division of Engineering,
Architecture and Technology
Oklahoma State University
Stillwater, Oklahoma 74074

Mr. John A. Kullberg
Route One
Box 250Q
Sauvie Island, Oregon 97231

Ms. Nina Bell
728 S.E. 26th Street
Portland, Oregon 97214

Mr. Stephen M. Willingham
555 N. Tomahawk Drive
Portland, Oregon 97217

Mr. Eugene Rosolie
Coalition for Safe Power
215 S.E. 9th Avenue
Portland, Oregon 97214

Richard M. Sandvik, Esquire
Frank W. Ostrander, Jr.
Counsel for Oregon Dept. of
Energy
500 Pacific Building
520 S.W. Yamhill
Portland, Oregon 97204

Maurice Axelrad, Esquire
Lowenstein, Newman, Reis,
Axelrad and Toll
Suite 1214
1025 Connecticut Avenue, N.W.
Washington, D. C. 20036

Mr. David B. McCoy
348 Hussey Lane
Grants Pass, Oregon 97526

Ms. C. Gail Parson
800 S.W. Green #6
Portland, Oregon 97526

Mr. Charles Goodwin, Jr.
Portland General Electric Company

cc: William Kinsey, Esquire
1002 N.E. Holladay
Portland, Oregon 97232

Ronald W. Johnson, Esquire
Corporate Attorney
Portland General Electric Company
121 S.W. Salmon Street
Portland, Oregon 97204

Mr. Donald W. Godard, Supervisor
Siting and Regulation
Oregon Department of Energy
Labor and Industries Building, Room 111
Salem, Oregon 97310

Robert M. Hunt, Chairman
Board of County Commissioners
Columbia County
St. Helens, Oregon 97051

Marshall E. Miller, Esquire, Chairman
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Atomic Safety and Licensing Board Panel (5)
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Docketing and Service Section (4)
Office of the Secretary
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Alan S. Rosenthal, Esquire
Atomic Safety and Licensing Appeal Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. John H. Buck
Atomic Safety and Licensing Appeal Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. W. Reed Johnson
Atomic Safety and Licensing Appeal Board
U. S. Nuclear Regulatory Commissio
Washington, D. C. 20555

671 359

REQUEST FOR ADDITIONAL INFORMATION
TROJAN CONTROL BUILDING MODIFICATIONS

1. Since the proposed control building modifications are to be made while the plant is operating, with the aid of drawings, provide the following:

   a. Identify and describe each critical load that will be handled during the control building modifications. (A critical load is defined as a load which if dropped or handled in an uncontrolled manner can be a direct or indirect cause of the plant's loss in ability to attain and maintain a cold safe shutdown or to cause an unacceptable release of radioactivity). The description of the loads should include the weight, size, orientation when being handled, maximum potential drop height, and the load path.

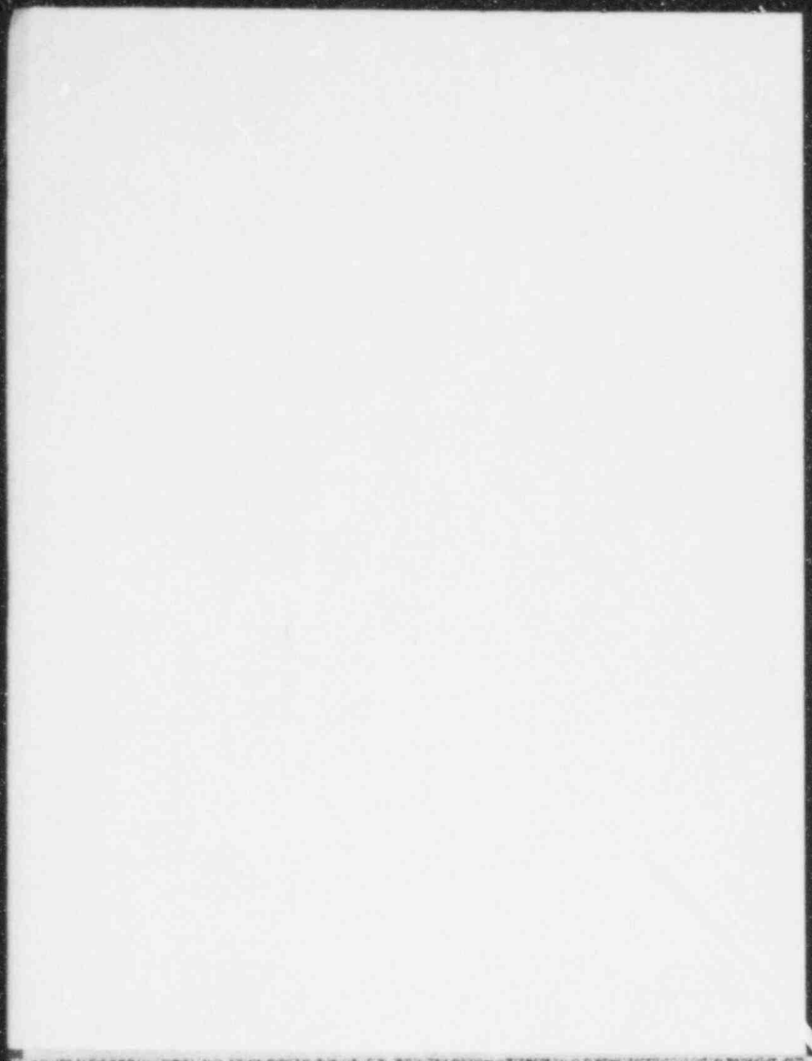
   b. In regard to the movement of the mobile, temporary and/or construction type equipment employed on the plant site, describe and discuss those measures which will be taken to preclude damage to essential plant equipment located below grade. Within the areas where the above equipment may be positioned or travel, identify and indicate the location, depth and construction of all essential plant equipment located below grade.

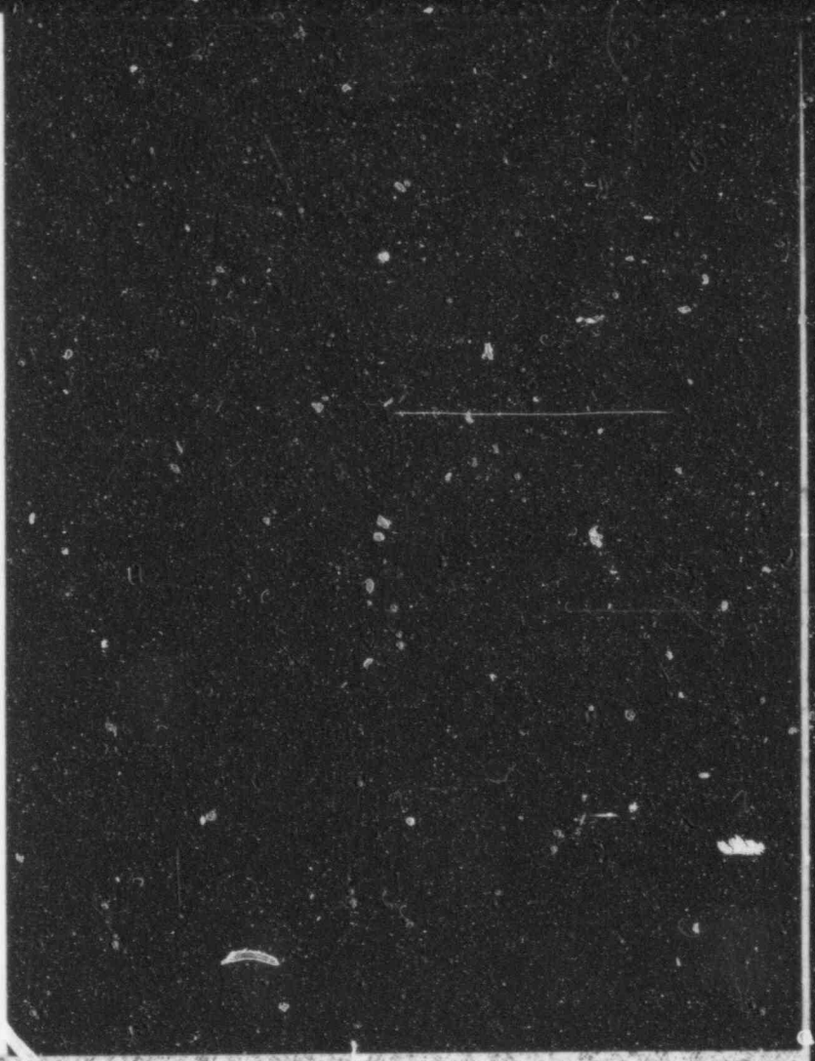
   c. In regard to the construction people engaged in the handling of critical loads, describe their training, qualifications, and familiarity with the critical load handling equipment as well as the written procedures to be followed during the handling of critical loads.

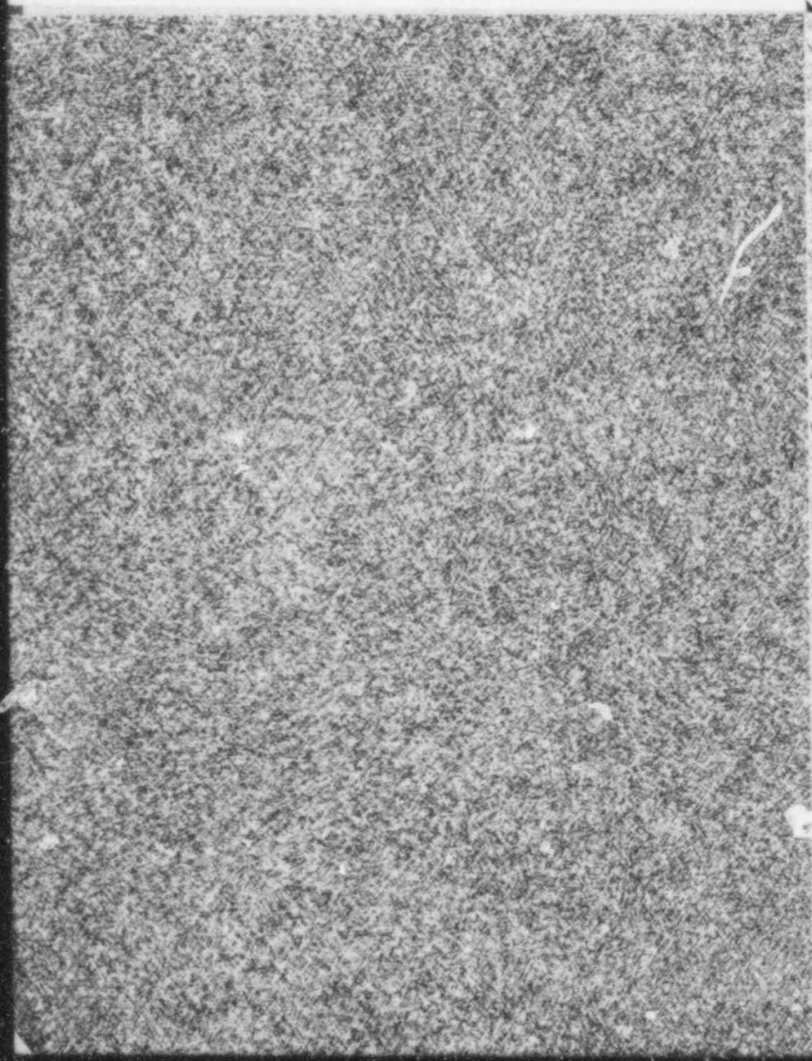
   d. In addition to the train A cable trays, for each critical load handling operation, identify and describe all plant equipment essential for normal plant operation and/or essential in attaining and maintaining a cold safe shutdown that is located beneath or within the area of influence of uncontrolled movement or dropped loads.

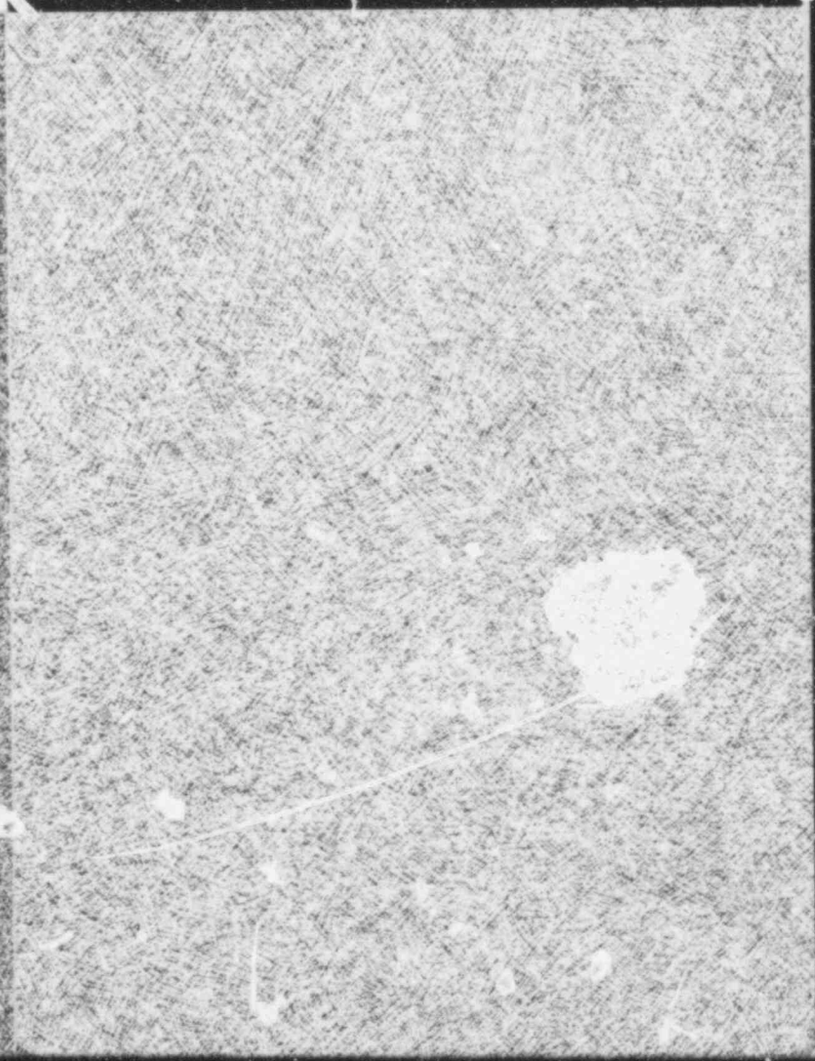
   e. For all essential equipment identified above, analyze the potential consequences of a load drop and uncontrolled movement of the load. Describe all assumptions made in the analyses and all intervening structures or other conditions which mitigate the consequences of the accident. Indicate the results of each analyses.

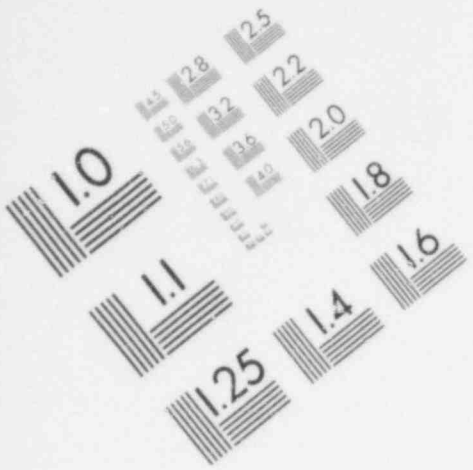
2. From the plant visit, and your submittal entitled, "Report On Design Modifications for the Trojan Control Building," it appears that there are at least four cable trays passing between the control building west wall and the turbine building in the vicinity where the three inch thick plates are to be added. Further, it is our understanding that the equipment associated with these cables is limited to train A equipment.











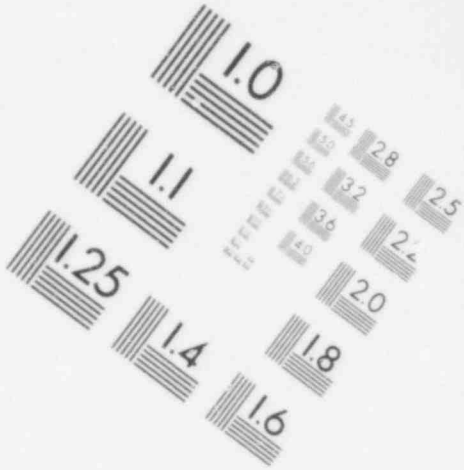
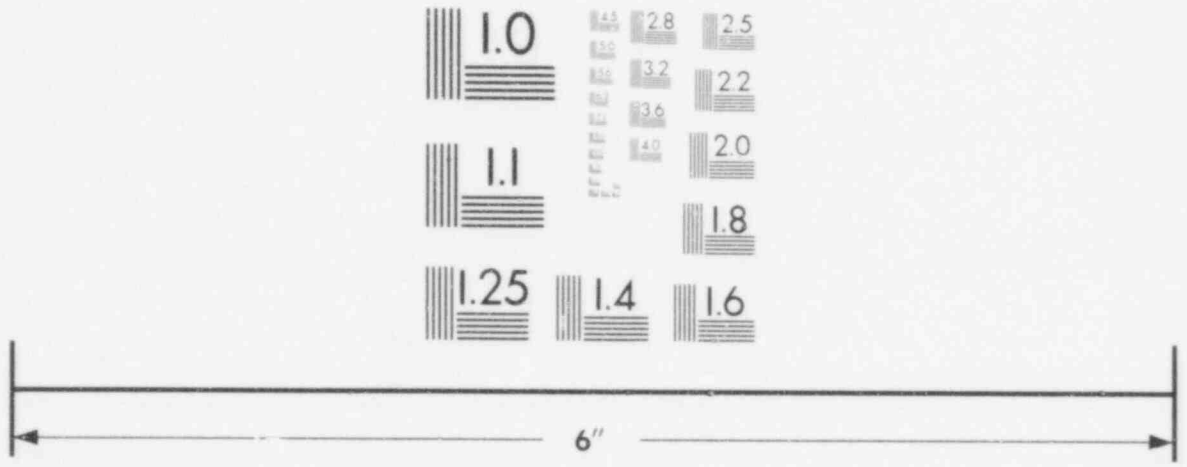
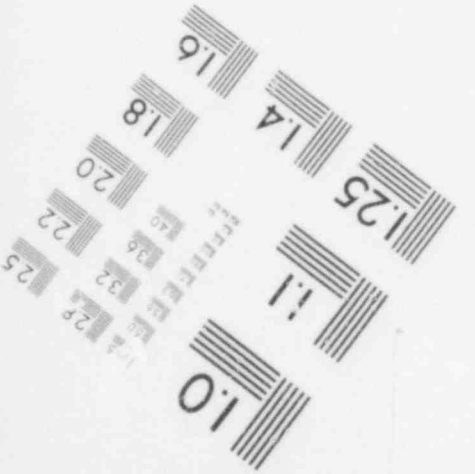
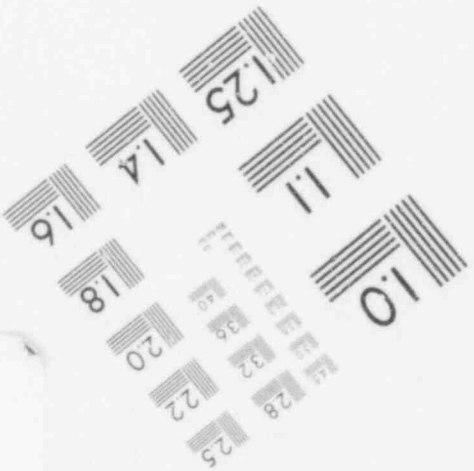
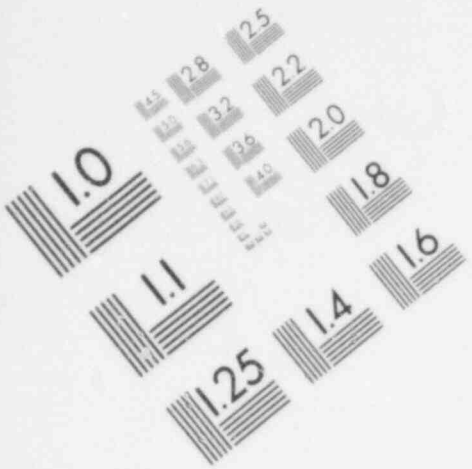


IMAGE EVALUATION
TEST TARGET (MT-3)









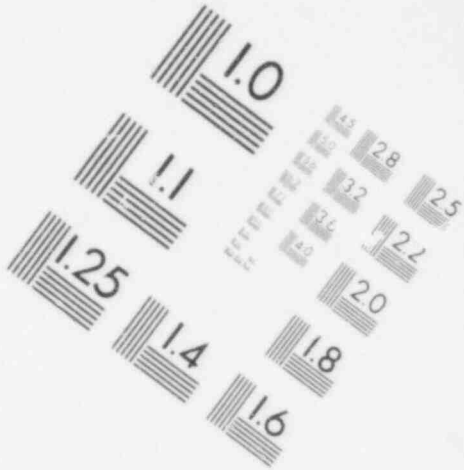
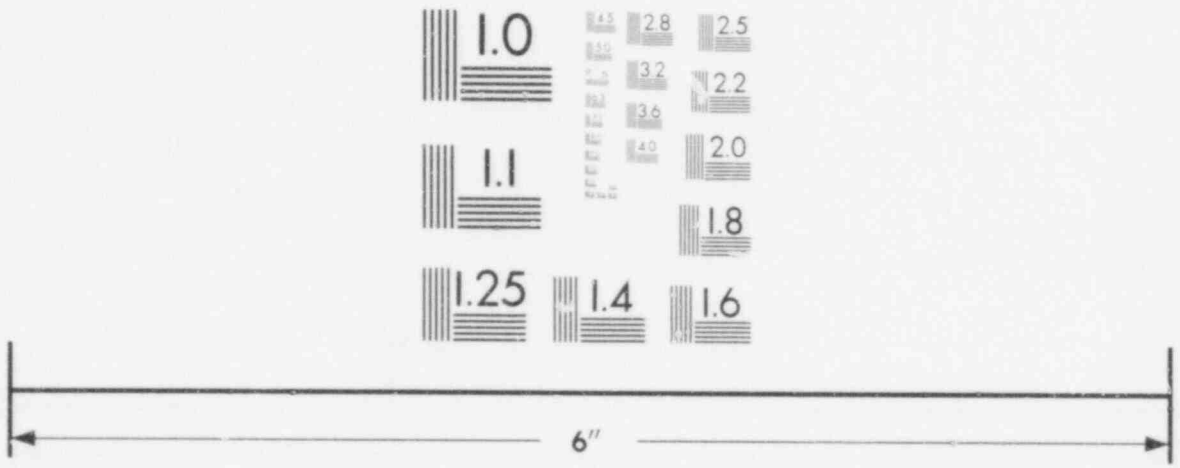
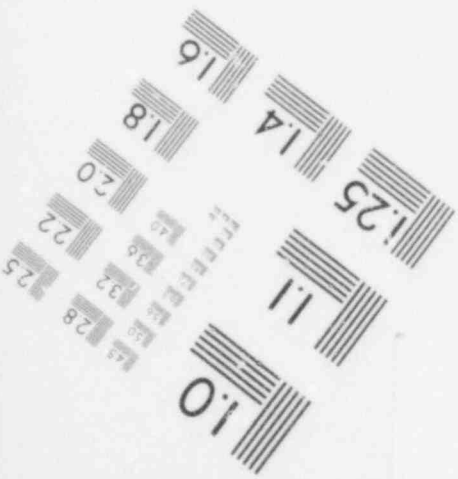
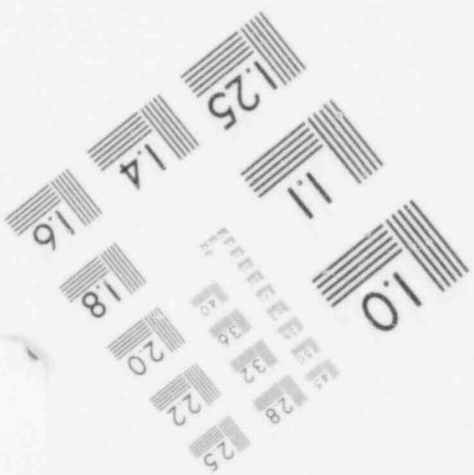
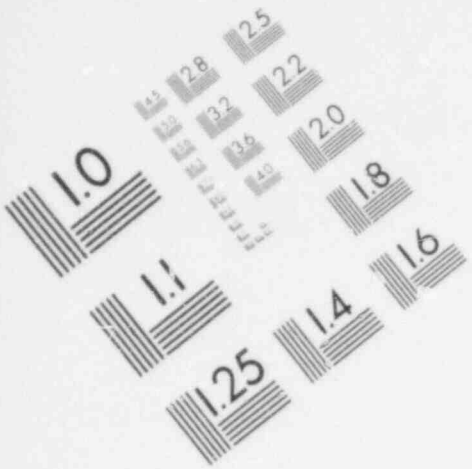


IMAGE EVALUATION TEST TARGET (MT-3)









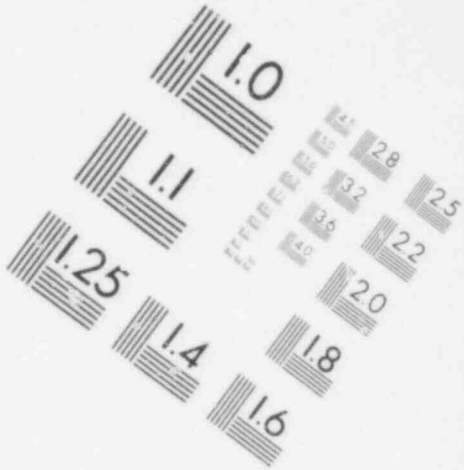
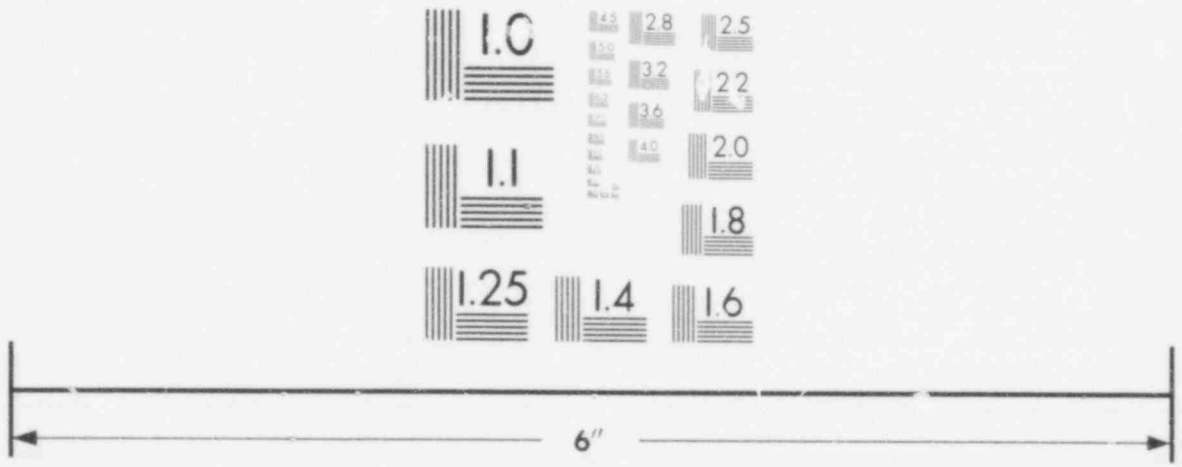
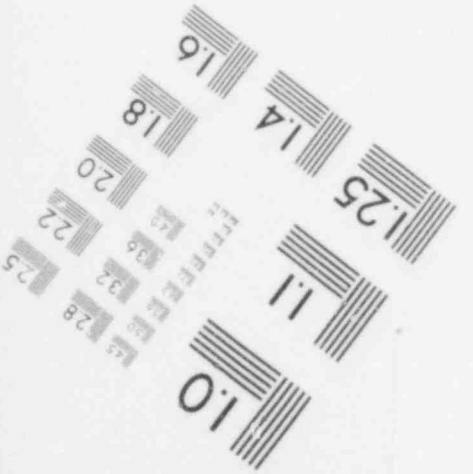
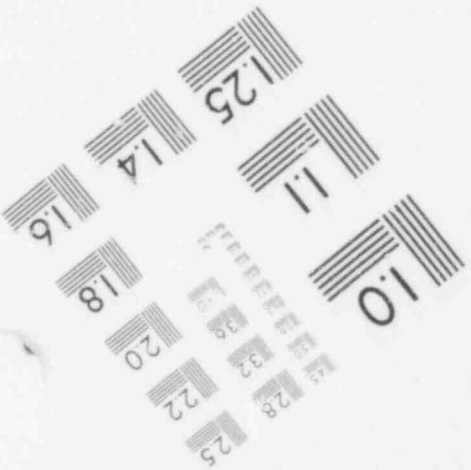


IMAGE EVALUATION
TEST TARGET (MT-3)







In reference to the handling of plates 7 and 8, described in the July 5, 1979 submittal, which are handled above train A cable trays, provide us with the results of analyses that demonstrates that the plant can be maintained in a cold safe shutdown condition. The analyses shall make the following assumptions:

a. the plates are dropped from the maximum drop heights.

b. the most adverse combination of adverse results in terms of severed train A cables and damage to other essential systems located below or within the area of influence of the dropped plates; and

c. the most adverse "single failure" (as defined in 10 CFR 50 Appendix A) occurs in train B equipment.

The analyses results shall clearly indicate how long the reactor has been in a cold shutdown condition before the plates are dropped.

3. In reference to plates 7 and 8, on Bechtel drawing RSK-1, provide additional information on the rigging used in moving the plates from the transporter (elevation 45'-0") to the turbine building floor (elevation 93'-0"). The additional information should include the redundancy and safety margins. (From OSHA 1910.184 Table N 184-3 or N 184-4 it appears that the two legged sling shown on drawing RSK-1 for handling the 47 Kip load, plate number 8, could be marginal as well as not being single failure proof).

4. Provide additional descriptive information on the operations involving the plate support framing, shown on Bechtel drawing RSK-1, as it relates to the safety margins, redundancy and control over plate number 8 when the load is being transferred from the auxiliary hoist to the plate support framing, moved into position where the chains hoists will pick up and control the load.

5. Provide information on the methods that will be employed to sequentially move plates 1 through 6, Bechtel drawing RSK-1, from the incoming transporter to a position where they are lifted by the chain hoists. The information should include the safety margins and redundancy which will enable one to preclude uncontrolled load movements or drops. Further, should a drop or uncontrolled movement take place from its maximum carrying height demonstrate that the consequences are acceptable in terms of attaining and maintaining a cold safe shutdown.

6. Identify any safety related equipment which will be disabled during any part of the modification work while the plant is in operation. If so, justify. Does it constitute a violation of any Tech. Spec.?

7. Identify and describe in detail all the safety related equipment and cables located within each of the work zones of the areas in which modification work is to be done.

8. Identify any area containing safety related cables and or equipment in which equipment or materials of construction will be stored. Describe the safety related cables and equipment in these areas and the equipment and materials to be stored. Describe how the storage will be accomplished so that operators will have the necessary access to the equipment in these areas.

9. Provide in more detail the type of cable tray cover to be used for protecting cables during installation of the plate washers and justify its adequacy.

10. For areas containing unqualified walls in which safety related cables are located and for which there is potential for chunks of debris from the wall to impact safety related cables in open trays or to cause damage to other safety related equipment, describe the area and what measures will be taken to mitigate the effects of falling debris.

11. Describe how safety related cables will be protected to prevent damage during construction activities. Describe the drilling equipment to be used and measures to protect cables during drilling.

12. Describe the areas containing safety related cables where modification work will have some potential for ignition sources (welding, cutting grinding, etc.) and for additional combustibles. For any areas where this potential will exist during modification work, describe the fire protection measures to be taken to assure that fires are not likely to result from the work and the means to detect and extinguish them quickly should one start.

13. Assess the impact of drilling on any ventilation system differential pressure requirements and discuss how these requirements will continue to be met during construction. Will removal of the equipment access door (east wall, el. 65) have a similar impact? If so, discuss.

14. Describe and discuss what measures will be taken to minimize the naturally airborne and construction created dust, dirt, and grit from being drawn into the emergency diesel generator compartments and being deposited on the electrical equipment located within the compartment during and following the completion of the building modifications. Inpreparing your response see the recommendations in NUREG/CR 0660, "Enhancement of Onsite Emergency Diesel Generator Reliability."

15. Demonstrate that the relocated diesel generator air intake system will not be impaired by all natural phenomena such as earthquakes, wind, tornado, rain, ice and snow.

16. Describe and discuss the precautionary measures that will be taken to exclude dust, dirt and grit created by construction activities from being drawn into other areas of the plant housing essential electrical equipment, in order to avoid the failure or sporadic operation of essential electrical equipment whose operation is dependent upon electrical contacts.

17. The control building modifications involve the removal of concrete which requires the use of equipment that may create vibration in the structures. Describe and discuss what measures will be taken to prevent failure or sporadic and unreliable operation of essential plant equipment due to vibration created during the construction activities.

18. In regard to the noise level created by construction activities, describe and discuss what measures have or will be taken to preclude an unacceptable chain of events from taking place due to the operating personnel not hearing an alarm or being unable to satisfactorily conduct voice communication during plant operation.

    As mentioned in your July 5, 1979 letter, will a noise test program be conducted? If so, provide details and results.

19. In regard to the June 22, 1979 response to question 23, provide the following information on the Burlington Northern bumping post:

    a. Parametrically present the energy absorption characteristics of the bumping post in terms of the mass and velocity of the rolling transporters.

    b. Indicate the mass and velocity of the various transporting devices which may impinge on the bumping post throughout the life of the plant.

    c. Describe the measures that will be taken to provide assurance that the transporters will be stopped before contacting the bumping post. Further, in the unlikely event that it should contact the bumping post indicate what measures will be taken to be assured that the contact velocity will be below the design limitations of the bumping post.

    d. Provide a drawing of the bumping post.

    e. Describe what is meant by the phrase "draft gear."

20. The June 22, 1979 Trojan response to staff question 1 states in effect that certain equipment which was formerly qualified would not be re-qualified to the new response spectra.

    With regard to this response:

    a. Clarify the sentence under CVCS, subheading "Piping."

b. Clarify which sampling system lines will not be seismically qualified. State clearly whether or not the Containment Hydrogen Sampling System is to remain seismic Category I.

c. The fact that RG 1.29 Rev. 3 does not apply to the gaseous waste system or to the sampling system is not an acceptable reason for excluding portions of these systems from seismic requalification. Provide your analyses which demonstrate that a rupture anywhere of those portions of these systems you desire to exclude has acceptably low radiological consequences and is otherwise acceptable from the standpoint of safe plant operation.

d. To eliminate any concern for synergistic mechanisms, discuss the safety impact of a simultaneous rupture or maloperation of all the excluded systems and components.

e. Indicate on FSAR Fig. 11.3-4 the exact boundaries of the WGS that will remain seismically qualified. Specifically discuss the boundaries of the waste gas decay tanks and connected piping. Discuss why it is unlikely that the contents of more than one tank would be released (contents limited per Appendix B Tech. Spec. 2.4.5.e.).