

JUL 2 1990

Docket No. 50-255

Consumers Power Company  
ATTN: David P. Hoffman  
Vice President  
Nuclear Operations  
1945 West Parnall Road  
Jackson, MI 49201

Gentlemen:

This refers to the special team assessment conducted by Mr. C. F. Gill and other NRC and contractor personnel on May 13-31, 1990, of activities at the Palisades Nuclear Generating Plant authorized by NRC Provisional Operating License No. DPR-20 and to the discussion of our findings with you and others of your staff at the conclusion of the inspection.

The assessment was conducted to evaluate the effectiveness of licensee actions to keep radiation doses at the Palisades Plant as low as reasonably achievable (ALARA). The historically high collective radiation dose incurred at the Palisades Plant prompted this assessment. The team used selective examinations of procedures and representative records, interviews with personnel, independent measurements and observations of activities in progress to perform the evaluation.

Within the scope of the assessment, no violations or deviations were identified. However, a number of weaknesses, which are discussed in detail in the enclosed report, were identified which in our view contributed to your historically high radiation dose at Palisades. During our meeting on July 18, 1990, you described actions that you have initiated to address many of these identified weaknesses. We also are aware that you are conducting your own self assessment of your health physics program. As we discussed, after you have completed your evaluation of this report and after completion of your self-assessment, we would like to meet with you again to discuss the progress of improvements in your health physics/ALARA programs. We will contact you to set up the meeting in early September.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter and its enclosures will be placed in the NRC Public Document Room.

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We will gladly discuss any questions you have concerning this assessment.

Sincerely,

Charles E. Norelius, Director  
Division of Radiation Safety  
and Safeguards

Enclosures:

- 1. Executive Summary
- 2. NRC Inspection Report  
No. 50-255/90013(DRSS)

cc w/enclosures:

Mr. Kenneth W. Berry, Director  
Nuclear Licensing  
Gerald B. Slade, General Manager  
DCD/DCB (RIDS)  
Licensing Fee Management Branch  
Resident Inspector, RIII  
James R. Padgett, Michigan Public  
Service Commission  
Michigan Department of  
Public Health

- bcc:
- R. R. Bellamy, NRC RI
  - D. M. Collins, NRC RII
  - B. Murray, NRC RIV
  - G. P. Yuhas, NRC RV
  - C. S. Hinson, NRR, PRPB
  - T. F. Dragoun, NRC RI
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RIII  
3  
Paul/gmd/mj  
Greger  
7/16

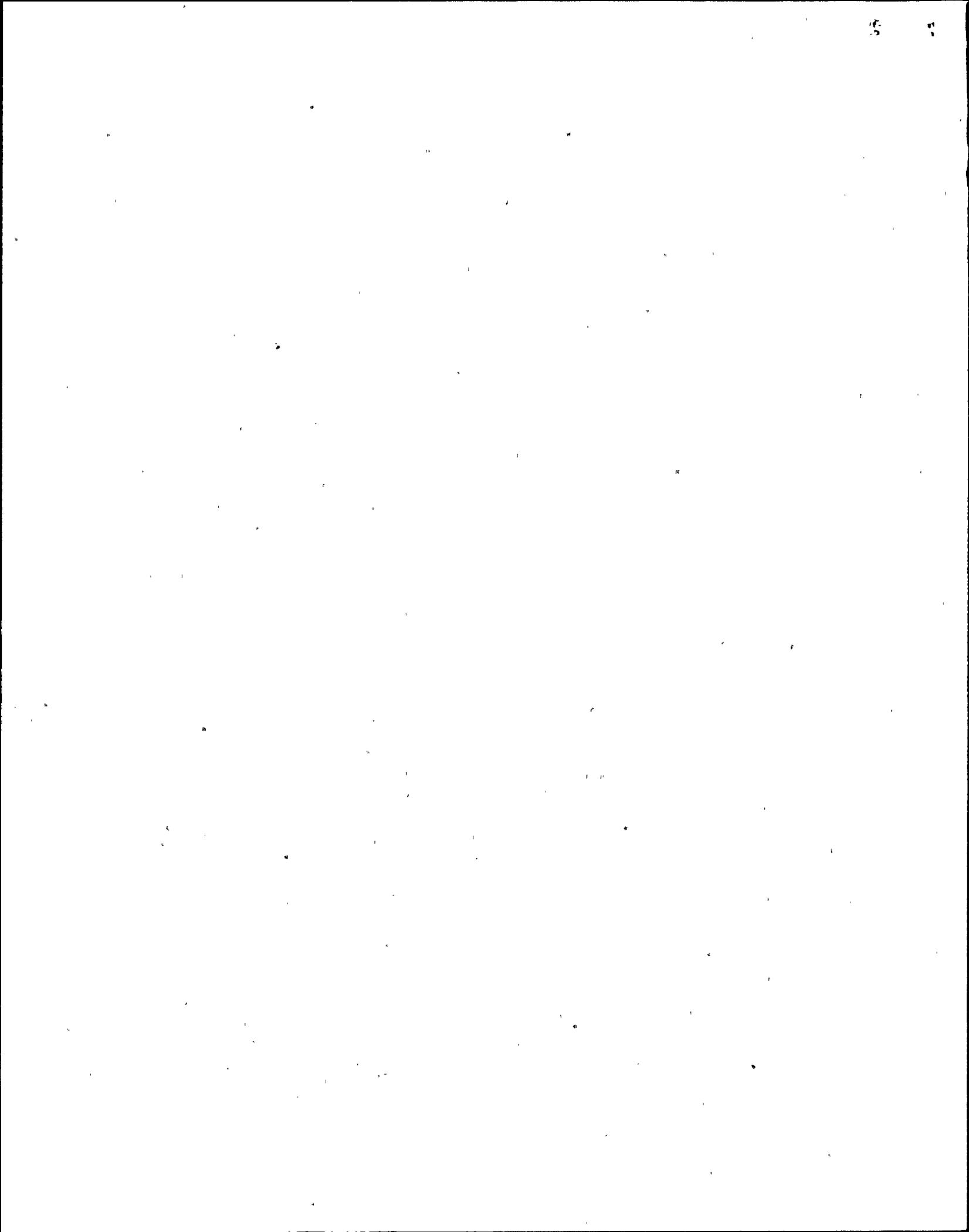
RIII  
6/16 for ye  
Kunowski  
Norelius  
7/20/90

yes  
RIII  
Markley  
7/13/90

yes  
RIII  
Gill  
7/12/90

yes  
RIII  
Shell  
7/12/90

RIII  
Burgess



EXECUTIVE SUMMARY

In 1988 the annual collective radiation dose at the Palisades Nuclear Generating Plant was more than twice the national average for Pressurized Water Reactors (PWRs). Including 1988, the Palisades plant was above the U.S. PWR average dose for 10 of the last 13 years. A special radiological team inspection conducted at Palisades during late 1988 (Inspection Report No. 50-255/88021(DRSS)) concluded that although the licensee incurred much of the 1988 radiation exposure on unanticipated outage work and on unusually extensive or one-time modification/maintenance activities, work planning deficiencies appeared to have contributed to the high dose. Also, because of initial poor plant system design and previous poor operational and maintenance activities, the plant had been plagued with hot spots and relatively high general area radiation fields which impacted the dose. It was also concluded that although the licensee had implemented a radiation source reduction program three years before, it had not been as effective as anticipated and that much additional effort appeared necessary to adequately reduce personnel exposure. At a meeting with NRC regional management on December 8, 1988, the licensee indicated, in part, that planned improvements in the ALARA program were expected to significantly improve future dose saving efforts.

The collective dose for Palisades declined from 730 person-rem in 1988 to 294 person-rem in 1989. This value is expected to be about the same as the national average for PWRs; however, the lack of a Palisades refueling outage in 1989 significantly contributed to the decline in annual collective dose. The annual dose goal for 1990 at Palisades was established at about 1200 person-rem which includes about 700 person-rem allotted for the Fall steam generator replacement project (SGRP). Because of past high dose expenditure and the high-dose jobs anticipated during the Fall 1990 SGRP/refueling outage, the NRC concluded it was appropriate to conduct another special review of the Palisades ALARA program.

During the period of May 13-31, 1990, a special team assessment was conducted by the NRC to evaluate the licensee's efforts for maintaining occupational radiation doses as low as reasonably achievable (ALARA). The assessment included a review of the causes of the past high radiation doses; an evaluation of the licensee's current organization and program for keeping radiation doses ALARA; a review of past and current licensee initiatives to bring the radiation doses to within industry norms; and an evaluation of licensee management's awareness of, involvement in, and support for the ALARA program.

The team identified ALARA program weaknesses which indicate that a broadscope, proactive ALARA implementation improvement plan should be initiated by the licensee. The identified weaknesses included:

- o Although the team noted that management support of the ALARA program was evident through such mechanisms as the Scope Control Team and the ALARA Committee, the lack of an overall management-directed ALARA improvement plan appeared to contribute toward inconsistent levels of ALARA awareness and differing levels of involvement in ALARA initiatives among various station groups.



- ALARA considerations were not well integrated into work planning activities.
- Weak procedures governing ALARA activities appeared indicative of a lack of firm ALARA commitment.
- With some notable exceptions, there appeared to be a cultural attitude that ALARA activities and concerns were solely the responsibility of the Radiological Services Department (RSD).
- ALARA concepts have not been fully incorporated into the training program, including general worker and radiological safety technician training lesson plans and procedures.

In addition to the above concerns, the team had concerns regarding the RP/ALARA readiness for the steam generator replacement project (SGRP)/refueling outage scheduled for mid-September 1990. The inspectors concluded that not only would the licensee have difficulty in significantly improving the plant ALARA program before the SGRP, but the licensee might also have difficulty in adequately addressing the following ALARA concerns before the outage.

- The licensee had not developed corrective action assignments and schedules to resolve internal recommendations and lessons learned from the 1988 refueling outage.
- The licensee's self assessment of the RP/ALARA program, begun in February 1990, is not scheduled for completion until August 1990. ALARA corrective actions had not been assigned and scheduled for implementation during the Fall 1990 outage.
- SGRP RP/ALARA organizational structure, assignments, duties, responsibilities, authority and interface with the plant RP/ALARA organization had not been determined. Numerous similar projects at other facilities had delineated these organizational/managerial functions much earlier in the planning stage.

Subsequent to the team inspection, the licensee informed Region III that an implementation plan to ensure RP/ALARA readiness for the Fall 1990 SGRP/refueling outage, as well as a long-term improvement plan, has been developed. A meeting is scheduled on July 18, 1990, to determine RP/ALARA readiness for the Fall 1990 outage.

Several program strengths were also identified and are summarized as follows:

- Dose savings have been achieved for certain repetitive high-dose jobs.
- Superintendents have been involved in setting annual dose goals for 1990 and have established additional "exceptional" target levels.
- The quality of post-job ALARA reviews has been good.



- The ALARA staff is proactive and conscientious. The ALARA/refueling engineering interface appears to be working well. Also, the assignment of some RWP/ALARA personnel to various project work groups to expedite RWP preparation and ALARA reviews appears to be a positive initiative.
- Use of the Five-Year Plan for planning long-term, large-capital ALARA initiatives has been beneficial.
- Improved design and electro-polishing of new steam generators is indicative of positive actions to reduce future dose.
- The surrogate tour system is a useful training and familiarization tool.
- Contractor fees have been tied to ALARA performance. Further monetary incentives have been developed to elicit worker ALARA suggestions and to induce department managers to meet annual department ALARA goals.
- A comprehensive self assessment of the ALARA program is underway.

A more detailed listing of both strengths and improvement items are set forth in each section of the report details.