

ENVIRONMENTAL ASSESSMENT  
PALISADES PLANT  
STEAM GENERATOR REPLACEMENT

CONSUMERS POWER COMPANY  
December 1979

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Revision 1, May 1980

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- d. Deliver Sheet Piling, March 1981
- e. Drive Sheet Piling, Start April 1981, Finish July 1981
- f. Dredge Channel, July 1981

Federal (COE) and State (MDNR) approval of the Application for an Act 247 Permit for the repair project is sought by January 1980 (one year after Application date) to avoid an adverse impact on this schedule.

The offshore sheet piling or sunken ship hulls that may be required temporarily in the Lake will be removed as soon as practicable after operations are completed. These temporary offshore wave protection facilities, if needed, will be in place for an estimated period of from three to eight months but will not be left in place during winter months. The decision on the ultimate disposition of the onshore facilities above the Ordinary High-Water Level of the Lake has not been finalized; however, their removal will be at Consumers Power's option.

## 6 IMPACTS

### 6.1 Primary Impacts

The primary impacts are those impacts associated with the temporary barge facility. This facility is discussed in Section 5 and shown in Figure 5-1. The impacts are categorized as construction impacts, dredge disposal impacts, shoreline impacts, and visual impacts.

The construction impacts would be those temporary impacts of construction, and are addressed in Appendix A, Sections 7.0 through 7.6.3. Within that Appendix, Section 7.2.3 discusses the effects on water resources. Other construction impacts, including noise and dust, are discussed in Section 7.4 of that Appendix. The noise levels at the Plant boundary given in Section 7.4.1 of the Appendix are estimated maximums. Because of local topography and vegetation and the greater distance to campsite locations in Van Buren State Park, the noise level attributable to construction activities should be lower in the campground area. The maximum estimated sound pressure level at the site boundary is within limits considered acceptable by the Department of Housing and Urban Development. Furthermore, construction activities which are likely to create such noise levels are not expected to be in progress during normal sleeping hours.

Dredging for the barge facility is expected to occur to an elevation of 568.5 feet (IGLD) as shown on Section B of Figure 3-1. Because the dredged material was shown to be nonpolluted (see Section 3.2), the relocation of this material will not have a significant impact. The offshore dredge material would be

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distributed on the sides of the dredge channel. The onshore excavated material would also be placed on the sides of the work area and remain onshore. Material from either source may be transported to a disposal area on site if they interfere with construction activities, or if it is found to be polluted at the time of dredging. Natural wave action will return the Lake bottom to its original contour. All unpolluted dredged material will be  
1 returned to the littoral zone at the end of the barge facility's use.

The shoreline concerns are: (a) restricted access, and (b) erosion. The temporary offshore installation, due to its physical limits, will preempt approximately 0.6 acre of the Lake surface and bottom. This portion of Lake

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8 PROPOSED MITIGATION

With specific regard to the proposed barge slip, several items have been identified that warrant continued appraisal and may result in the need for mitigative action to reduce adverse environmental impacts. These are identified separately below. In addition, construction activity will be controlled to mitigate, to the extent feasible, impacts associated with noise, dust, aesthetic intrusions and related activities that may be cause for local complaint.

A program of shoreline monitoring will be in effect during the period when offshore facilities may affect littoral drift, although the Company believes the project will have no significant impact on littoral drift. Visual inspection procedures, as well as aerial and land-based photography, will form the basis for identifying erosion patterns.

Additionally, Consumers Power Company will assess the effects of the barge slip on the shoreline in the immediate vicinity of the Plant and to a depth of 20 feet by conducting a bathymetric survey before initiation of the project and after barge removal. Upon identification of adverse effects, if any, quantitative estimates of material displacement would be developed and a program of corrective beach nourishment would be implemented after concurrence by the appropriate agencies and property owners. The program of corrective beach nourishment will include transporting unpolluted dredged materials to the affected area from the onsite disposal area where they are stored during dredging for the barge facility. This material will replenish beach areas affected by accelerated erosion due to the barge slip's influence.

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Representative samples of dredged material will be obtained to ensure that the material is disposed of in accordance with regulations which limit chemical constituents and particle size characteristics. Mitigative action may be necessary should the tests indicate an unexpected variance from anticipated characteristics. The Michigan Department of Natural Resources will be notified immediately if any significant variance is found.

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gallons for heater train, condensate polishers, and hotwell. This is the amount necessary to refill the systems if maintenance had been performed that required draining the systems. Approximately 75,000 gallons would be required for primary system dilutions to return to power. Depending on various chemical parameters, as much as 50% of this water could be recovered through the plant recovery systems, such as clean radwaste system, boric acid recycle system, and steam generator blowdown recovery system.

Following replacement of the steam generators, it is expected that forced outages associated with steam generator tube plugging and/or tube sleeving will be essentially eliminated; however, it is not anticipated that the water consumption associated with the current inspection program will be significantly reduced because of the continuing requirement to inspect (eddy current test) the steam generator tubing at regular intervals.

### 7.6.2 OPERATIONAL EXPOSURES

Section 4.3.7 discusses the future reduction in man-rem exposure as a consequence of the repair program. A potential savings of 250 man-rem/yr may be realized because of the expected elimination of the necessity to plug tubes in the repaired steam generators and the decrease in the number of inspections required (Regulatory Guide 1.83).

### 7.6.3 RADIOLOGICAL RELEASES

Although the Palisades Plant has experienced only seven primary-to-secondary leaks from tube failure, the repair of the steam generators should reduce the probability of future secondary releases as a consequence of the same tube failure mechanism.

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