

Amendment to the
Environmental Assessment
for the
Picatinny Lake Dam and Lake Denmark
Dam Safety Upgrades

Picatinny Arsenal, New Jersey

August 2011

Prepared by O'Brien and Gere

Revised by Picatinny Arsenal Environmental Affairs Division

EXECUTIVE SUMMARY

(a) Lead Agency and Location: U.S. Department of the Army, Picatinny Arsenal, New Jersey

(b) Proposed Action: Picatinny Lake and Lake Denmark Dam Safety Upgrades

(c) Responsible Officials: LTC Charles H. Koehler, Garrison Commander

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The U.S. Army proposes to continue to conduct safety upgrades to the dams located on Picatinny Lake and Lake Denmark to meet the dam safety standards mandated by the New Jersey Department of Environmental Protection (NJDEP). In order to perform these safety upgrades, the level of water must be lowered at a time deemed to be of minimal impact to aquatic biota. These safety upgrades began in 2010 but were not completed at the permit expiration requiring the lakes to be returned to their normal levels. The lake lowering must commence again in late-September and be completed by mid-December to comply with the permit submitted to the NJDEP. This amendment of the original Dam Upgrade Environmental Assessment (EA) assesses the potential environmental effects of the work associated with the dam safety upgrades.

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

Background: Incremental Hazard Evaluations conducted by O'Brien and Gere in 2008 indicated that both Picatinny Lake Dam and Lake Denmark Dam failed to meet New Jersey Department of Environmental Protection (NJDEP) Dam Safety Standards in their current condition. Safety upgrades were required to bring these dams into compliance. An environmental assessment (EA) was prepared in 2009 to assess the environmental, archaeological and historical effects resulting from the proposed safety upgrade. The 2009 EA concluded that the impacts associated with the upgrade of these dams would not result in a significant impact to the environment. A Finding of No Significant Impact was prepared on 9 September 2009 following the mandated 30-day public review period.

Reason for the Amendment: Among the potential impacts addressed, the 2009 EA evaluated the environmental impacts associated with a one-time, temporary lowering of the normal pools of both lakes during construction activities. The EA concluded that the above-described lowering would not significantly affect the environmental, archaeological or historical resources at Picatinny Arsenal as long as the conditions of a corresponding NJDEP Water Lowering Permit were followed and the lake drawdown occurred during the appropriate timeframe. Both lakes were lowered for construction activities during the fall of 2010, followed by the return to normal water levels in both lakes in the early part of summer 2011. However, the dam upgrades were not able to be completed during the time allotted in the water lowering permit and a second lake lowering will be needed at each lake to finalize the safety upgrades. This lake lowering will also require the issuance of another permit from the NJDEP.

Although done in accordance with the NJDEP Water Lowering Permit, the previous lake lowering actions in both Picatinny Lake and Lake Denmark were not conducted in strict accordance with those stated conditions described in the 2009 EA, which may have resulted in the unintended impact to natural resources in Lake Denmark. The impact to the natural resources may have included a fish kill of an undetermined level and deleterious effects to aquatic plant life. The impact analysis of the 2009 EA presumed the lake lowering to be restricted to the three months from mid-September to mid December and at water elevations higher than actually used to work on the dams. This amendment to the EA will examine the cumulative impacts to the provisions of the original lake lowering permit and the subsequent work necessary to complete the upgrades on the dams.

2.0 DESCRIPTION OF THE PROPOSED ACTION

The proposed action will require the normal pool of Lake Denmark to be temporarily lowered by approximately one foot during construction. The normal pool of Picatinny Lake will be temporarily lowered by approximately 3.25 feet during construction. The estimated duration of these reductions is approximately three months. There will be no permanent change in the elevation of the normal pools of either of the lakes as a result of the proposed action. These activities may require the normal spillway outflow be interrupted. In this case, normal outflow conditions will be maintained using pumps, siphons, and/or low level outlet valves.

3.0 ALTERNATIVES CONSIDERED

In accordance with both the Council on Environmental Quality (CEQ 1978) and Army regulations for the National Environmental Policy Act (NEPA), alternatives to the Proposed Action must be identified and must include the No Action Alternative.

The Picatinny Lake and Lake Denmark Dams must comply with NJDEP Dam Safety Standards to safeguard against the potential loss of life and property damage that may result from a sudden breach of the dams. The dams currently do not meet the safety standards so the “no action” alternative is not a viable consideration. However, Army NEPA regulations (Title 32, Chapter V, Part 651.34(d)) require that this Alternative be carried through the EA as a baseline for comparison with the Proposed Action.

4.0 EFFECTS OF THE PROPOSED ACTION AND ALTERNATIVES

There are two issues to consider when evaluating the potential for environmental impacts associated with a second temporary lowering on the subject lakes. These issues are discussed in turn.

1. Effect of the temporary lowering of the normal pool on fish species in the lakes – The normal pool of both lakes will be lowered (one foot for Lake Denmark and 3.25 feet for Picatinny Lake) for three months. An application for a Water Lowering Permit will be submitted to the NJDEP Division of Fish and Wildlife prior to lowering the lake. The Division of Fish and Wildlife issues permits under N.J.S.A 23:5-29 and its authority is limited to protecting the States’ aquatic biota. While a temporary reduction in the normal pool of a lake is unlikely to impact the fishery resources of the lake, the NJDEP permit

application states that fish are less likely to be impacted if the lake drawdown occurs in the fall (October to December). The timing, duration, and extent of lowerings are tailored to each situation and are designed to avoid or minimize the loss of fish, and impacts to other biota. As the receiver of the permit, the installation bears the responsibility to protect aquatic biota while the lakes are lowered.

2. Effects of the temporary lowering of the normal pool on state-listed endangered plants – As stated in Section 4.6 of the 2009 EA, there are eight state-listed aquatic plant species found within and along the periphery of Lake Denmark. It is possible the temporary lowering of the normal pool in Lake Denmark could have a negative impact on these species if the timing of the drawdown is not planned appropriately. There are also two documented state-listed plant species found on Picatinny Lake. The timing of the lake lowering is also important to protect those plant species. Lowering the water level of a pond during the summer or winter is a common management technique used to control undesirable aquatic plants. A summer drawdown works by desiccating plant root systems while a winter drawdown serves to freeze these systems. Of course, desirable species are also negatively impacted by a summer or winter drawdown. A fall to early winter drawdown will minimize the impact on aquatic plant species because these plants will be moving toward dormancy by September but are unlikely to be exposed to freezing temperatures until after mid-December.

In the “no action” alternative, there would be no impact to the natural resources located in and near Picatinny Lake and Lake Denmark from the upgrade of the dams. However, a breach of either dam could result in the “no action” alternative, which could result in an impact to natural resources.

5.0 CUMULATIVE IMPACTS

The water lowering conducted to allow for the upgrades on the dams and Picatinny Lake and Lake Denmark may have caused short-term damage to the aquatic biota in the form of a fish kill and impact on plant species on the lakes, though documented confirmation does not exist. The level of impact was caused by extending the exposure of the aquatic biota outside of the limited window used as the basis for analysis in the 2009 EA. The amount of time needed to lower the lake levels to complete the safety upgrades to the dams will not be extended past what was prescribed in the 2009 EA, which should allow for the rehabilitation of the aquatic communities in both lakes.

6.0 CONCLUSION

Implementing the proposed action will not have a significant impact on the flora and fauna of the subject lakes if this action is conducted in accordance with the conditions of the pending NJDEP Water Lowering Permit and lake drawdowns occur during the appropriate timeframe that extends from early from September to December. This impact analysis supports the preparation of a Finding of No Significant Impact (FNSI).

FINDING OF NO SIGNIFICANT IMPACT

Picatinny Lake Dam and Lake Denmark Dam Safety Upgrades Amendments

Picatinny Arsenal, New Jersey

August 2011

1. **Proposed Action** – The Proposed Action entails the continuation of the safety upgrades of Picatinny Lake Dam and Lake Denmark Dam to increase their capacity to safely pass their associated spillway design flood that began in 2010. The safety upgrades to the dam were not completed in the timeframe allotted in the Water Lowering Permit issued by the New Jersey Department of Environmental Protection (NJDEP). Therefore, the environmental assessment prepared in 2009 to address the impacts associated with these upgrades has been amended to include the second drawdown of the lake scheduled to begin in September 2011.
2. **Description of Alternatives** – The proposed action is the only viable alternative to meet the need of the project to conduct the safety upgrades of the dams at Picatinny Lake and Lake Denmark. The failure to implement the safety upgrades would result in an unsafe condition of the dams. Therefore, the only alternatives considered are the proposed action and the “no action” alternative, which is required by the National Environmental Policy Act.
3. **Anticipated Environmental Impacts** – The initial drawdown of the lakes to conduct the safety upgrades to the dams was done in accordance with the Water Lowering Permit issued by the NJDEP, though not in strict adherence to the originally prepared EA. The drawdown may have resulted in short-term impacts to the aquatic biota in the two lakes. However, the time needed to lower the water level will be restricted to the time prescribed in the original EA, which should allow for the rehabilitation of the aquatic communities in both lakes.
4. **Conclusion** – Based on a review of the amended EA, the continued upgrade of the dams at Picatinny Lake and Lake Denmark would not constitute a major federal action significantly affecting the quality of the human environment within the meaning of Section 102 (2) (c) of the National Environmental Policy Act. Accordingly, preparation of an Environmental Impact Statement is not required. This Finding of No Significant Impact (FNSI) is being made available for public review and comment for 30 days.
5. **Public Availability** – The Environmental Assessment and this draft FNSI for the Proposed Action are available for public inspection at the Public Affairs Office, Picatinny Arsenal. General questions concerning this EA can be directed to Mr. Peter Rowland (973-724-7243). Written comments should be mailed to Mr. Rowland at, Public Affairs Office, RDAR-AO (Building 1), Picatinny Arsenal, NJ 07806-5000. Public comment on this FNSI will be accepted for a period of 30 days from the date of this notice.

Approve:

HERB KOEHLER
LTC, LG
Garrison Commander

Date