



US Army Corps
of Engineers
Kansas City District

TUTTLE CREEK DAM

FACT SHEET

April 2001

THE OUTLET WORKS

Background

The outlet works of the lake consist of a concrete control tower near the right abutment of the dam in the lake, concrete conduits that pass under the dam, and a concrete stilling basin downstream of the dam (commonly called "the tubes"). The outlet works release water through two gate controlled, horse shoe shaped conduits, each 20 feet in diameter and 915.7 feet long. There are a total of four service gates (two in each conduit), each 10 feet wide and 20 feet tall, two 24-inch low flow pipes with butterfly valves (one in each conduit), and one emergency gate (serves both conduits). Discharge capacity of the outlet works varies with the level of the lake. Maximum discharge from the outlet works at the top of multi-purpose pool (el. 1075.0) is 31,300 cubic feet per second, at the top of the flood pool (el. 1136.0) is 45,900, and at the top of the surcharge pool (el. 1151.4) is 48,800. The two low flow pipes are capable of releasing a total of 252 cubic feet per second at the top of multi-purpose pool (el. 1075.0).

The start of appreciable damage downstream is estimated to occur from a release of water between 30,000 and 35,000 cubic feet per second. This discharge amount has only been exceeded one time in the history of the lake, in 1993, with water being discharged from the spillway, not the outlet works.

Key Points

-Maximum discharge actually discharged through the outlet works occurred in June 1967 and was 27,000 cubic feet per second

This fact sheet is published by the U.S. Army Corps of Engineers, the lead agency for the Tuttle Creek Dam Safety Assurance Program. Comments or questions about this fact sheet or the Dam Safety Assurance Program should be directed to Bill Empson of the Kansas City District, Corps of Engineers at (816) 983-3556 or by E-mail at tcdam.nwk@usace.army.mil. Questions or comments about lake operations or Tuttle Creek project office activities should be directed to the on-site Operations Manager, Brian McNulty at 785-539-8511. For additional information, visit our web site: <http://www.nwk.usace.army.mil/tcdam>



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