

Permanent Canal Closures and Pumps Project Demonstration Model Donated to LSU's Civil and Environmental Engineering Department

October 6, 2016

Patterson Pump Company's demonstration model of the permanent canal closures and pumps, or PCCP, drainage pump stations in New Orleans was generously donated to LSU's Civil and Environmental Engineering Department with the help of Ronnie Hebert of Environmental Technical Sales, Inc. to be used in the ETEC Hydraulics and Water Distribution Laboratory. The model will be temporarily housed in the Vincent A. Forte River and Coastal Engineering Research Laboratory until the ETEC Lab in Patrick F. Taylor Hall is completed in 2017.



The Corps of Engineers awarded the approximately \$615 million contract to construct the PCCP at the mouths of the 17th Street, Orleans Avenue and London Avenue outfall canals on April 17, 2013, to PCCP Constructors JV. The PCCP will provide a permanent and more sustainable measure for reducing the risk of a 100-year level storm surge entering the outfall canals. The PCCP will replace the interim closure structures, which were constructed in 2006. The notice to proceed was issued on May 6, 2013, and construction will be complete in 44 months (2017). The existing interim closure structures will continue to provide 100-year level storm surge protection.

The PCCP will be composed of permanently gated storm surge barriers and brick facade pump stations at or near the lakefront. The pumps will move rainwater out of the canals, around the gates and into Lake Pontchartrain during a tropical weather event, and be equipped with a stand-alone emergency power supply capacity so that it can operate independently of any publicly provided utility.

When complete, the PCCP at 17th Street will consist of six 1,800 cubic feet per second (cfs) pumps and two 900 cfs pumps and have a total pumping capacity of 12,600 cfs; the PCCP

at Orleans Avenue will consist of three 900 cfs pumps and have a total pumping capacity of 2,700 cfs; the PCCP at London Avenue will consist of four 1,800 cfs pumps and two 900 cfs pumps and have a total pumping capacity of 9,000 cfs.



The demonstration model donated to LSU has one working model pump and flows water. Up to three pump bays are represented in the model. The bay geometry is represented, including the trash rack, vortex breaker bars, and stop log slot. Only the outside pump bay and pump are visible and operational. The model is one thirtieth of the scale of the London Avenue outfall canal. The model weighs more than 1,500 pounds dry, and its water load is approximately 400 gallons.

LSU's Civil and Environmental Engineering Department is grateful to the Patterson Pump Company for this generous equipment donation that will enhance the classroom and lab experience for generations of students studying hydraulics and water distribution.

This gift would not have been possible without the aid of Ronnie Hebert of ETEC, Inc., whom the department also thanks.

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