

## MEMORANDUM

**TO:** Governing Board Members

**FROM:** George L. Horne, Deputy Executive Director, Operations & Maintenance

**DATE:** February 27, 2006

**SUBJECT:** OT060709, 710, 711, & 712 – Equipment Monitoring MOSCAD

### **Background**

In 1999, the District issued a RFP for a new Commercial Off-the-Shelf (COTS) technology to replace the RACU/MCU field systems. Motorola (Motorola Supervisory Control and Data Acquisition) RTUs (Real-Time Units) and communications components were selected. Beginning in 2000, all new flood-control and other critical sites have been equipped with MOSCAD systems. To date, approximately 178 MOSCAD sites have been installed, and approximately 50 more are in design or implementation phases. The District also plans to retrofit existing RACU/MCU sites (approximately 125 still in place) with MOSCAD units over the next 5 years. The District also supports a network of CR10 monitoring sites. To support its mission, the District operates and maintains a surface-water network that includes 1,800 miles of canals and levees, 25 major pumping stations, and about 200 larger and 2,000 smaller water control structures.

### **How this helps meet the District's 10-year Strategic Plan:**

This installation contract is vital in supporting the District's mission of flood control, and environmental monitoring, assessment and protection as mandated by the Federal Government. To support its mission, the District operates and maintains a surface-water network that includes 1,800 miles of canals and levees, 25 major pumping stations, and about 200 larger and 2,000 smaller water control structures. Supervisory Control and Data Acquisition (SCADA) Systems monitor and control a network of more than 700 operational sites. Radio-frequency (RF) feeders tied to the Operations Control Center (OCC) support real-time telemetry by spread-spectrum (SS) and microwave communication backbones.

**Funding Source:** This is a three (3) year work order contract in the amount of \$1,092,500 using ad valorem and dedicated funds (Everglades Trust Fund), of which \$155,500 is budgeted and the remainder is subject to Governing Board approval of the FY07-FY09 budget(s).

**This Board item impacts what areas of the District, both resource areas and geography:**

The MOSCAD SCADA installation and related work under this contact will target new sites being added to the system and retrofit existing sites that are located in optimum geographic locations throughout the entire District.

**What concerns could this Board item raise?**

The District does not have the necessary manpower to perform the required work at these sites and to ensure operational readiness, which is vital to support the District's mission.

**Why should the Governing Board approve this item?**

The District did an analysis of the costs to build SCADA equipment internally, and compared it to the cost of purchasing new commercial off-the-shelf (COTS) SCADA products. The result of this comparison proved significant cost savings in favor of using COTS SCADA technology. The District selected the Campbell Scientific SCADA equipment as the best available to meet immediate and future needs. The selection of this new remote SCADA equipment is a complement to the new Water Management System (WMS), which is an ongoing project to upgrade the District's entire SCADA system to meet the District's ever increasing needs. With the construction of the STA's and the impending CERP program, it became very evident that the existing SCADA system is insufficient to handle the number of new SCADA sites that will be installed to accommodate the District's needs. It is evident that the District needs a more robust and expandable SCADA system. These sites provide communication and control functions to the District, which are monitored and controlled by the Operation and Control's Division, as mandated by the Federal Government. These flood control sites operate via RF Network and provide real-time data and control functions which are critical to the District's mission of flood control, and environmental monitoring and assessment. Currently, these sites are serviced and maintained by District personnel. Due to limited personnel resources, the District is requesting all services be placed under contract which will allow us to continually provide accurate and reliable data to our customers for all monitored hydrologic and rainfall parameters and to ensure the protection of life and property through flood control.

GLH/la