

Water Utility Management

Client
San Antonio Water System

Location
San Antonio, TX, USA

Electronic Operations Manual System

Project Description

In January 2001, CH2M HILL began work as Program Manager for the San Antonio Water System (SAWS) Carrizo Aquifer Storage and Recovery (ASR) Project. This project involves the construction of approximately 30 miles of 60-inch steel pipeline, a 30 mgd water treatment facility, a 60 mgd high service pump station, and 29 ASR wells.

SAWS wanted an interactive, web-based Electronic Operations Manual System (EOMS) that would contain the operations manual for the treatment plant, pump stations and wellfield. In addition to the operations manual, this system would also include the following documents:



- Record Drawings
- Specifications
- Photographs
- Procedures
- Vendor equipment manuals
- Easements

CH2M HILL developed a web-based EOMS to allow users to access all of the above documents. Organization of all documents on the EOMS is maintained within a database, allowing the user to search for documents based on specific criteria. Full-text indexing of the documents is also available on the system allowing users to search for documents that contain a specific word or phrase. An administration area of the EOMS allows authorized users to upload new information (photographs, drawings, etc.) and have it immediately accessible by any user on the network.

CH2M HILL worked closely with SAWS staff throughout the development stage of the EOMS. Workshops were held with the appropriate Client staff to review the writing standards for the operations manual, and also to establish the look and feel of the user interface. A Guidance Document was created to summarize these standards and can serve as a guideline for the addition of future documents to the EOMS.

A web-based system allows many options and styles for the user interface (menus, icons, buttons, etc.). To ensure that the final system delivered to SAWS would meet its needs and expectations, regular workshops were held with appropriate staff to review the progress and discuss any issues that arose. These workshops allowed CH2M HILL to customize the system to the Client requirements.

An initial draft of the operations manual and the available contract drawings were installed on the Client's server for the equipment start-up and commissioning period. After the commissioning period, a method was required to update the existing files and database with new versions of the files, and also to add new documents to the system when they were



submitted by the contractors. CH2M HILL was able to prepare updates for the EOMS allowing SAWS staff to easily update the system with the new documents and information. The updates consisted of revised files and scripts, with simple instructions on performing the updates. The design of the EOMS even allows modifications to the main menu system through the execution of simple scripts. CH2M HILL posted the updates to an FTP site and SAWS staff was able to download and perform the updates.