

## Project introduction:

CAEM - The Water Commission of the State of Mexico is the second most importance in terms of the management and distribution of drinking water in México.

## The Challenge:

During a year and due to human errors or the absence of personnel in the facilities, at least two sewage overflows have been registered in dams that have affected the population and a flood of facilities in a drinking water storage tank. Both events lead to higher operating expenses for CAEM in terms of inconvenience to the population and repairing cost of damaged facilities.

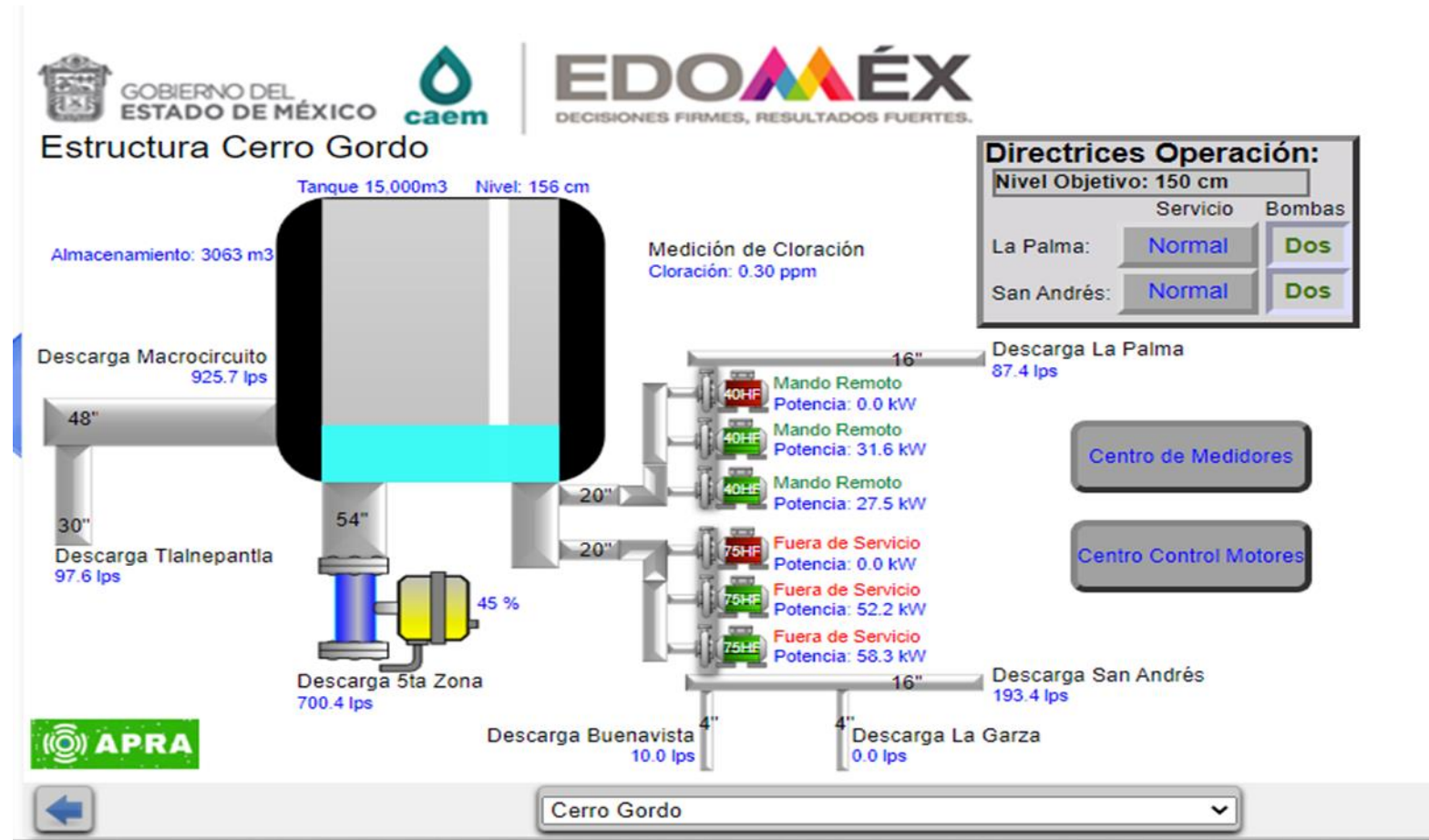
The facilities operation was entirely manual. Each facility had its own operational personnel who report to different regional managements. The noting down of readings was manual with unreliable metrics such as scales drawn on the wall, or paint marks in the case of the valve opening control. The operation of pumps, motors, electrical circuits and others, were manual and depended on human intervention for stopping / starting.

There was no preventive maintenance. Only flow rate was measured, and the readings were noted and calculated visually in front of the local instruments. Calculations were done manually, and Data obtained from instruments between One hour and Four hours were transmitted verbally by radio.

## The Solution:

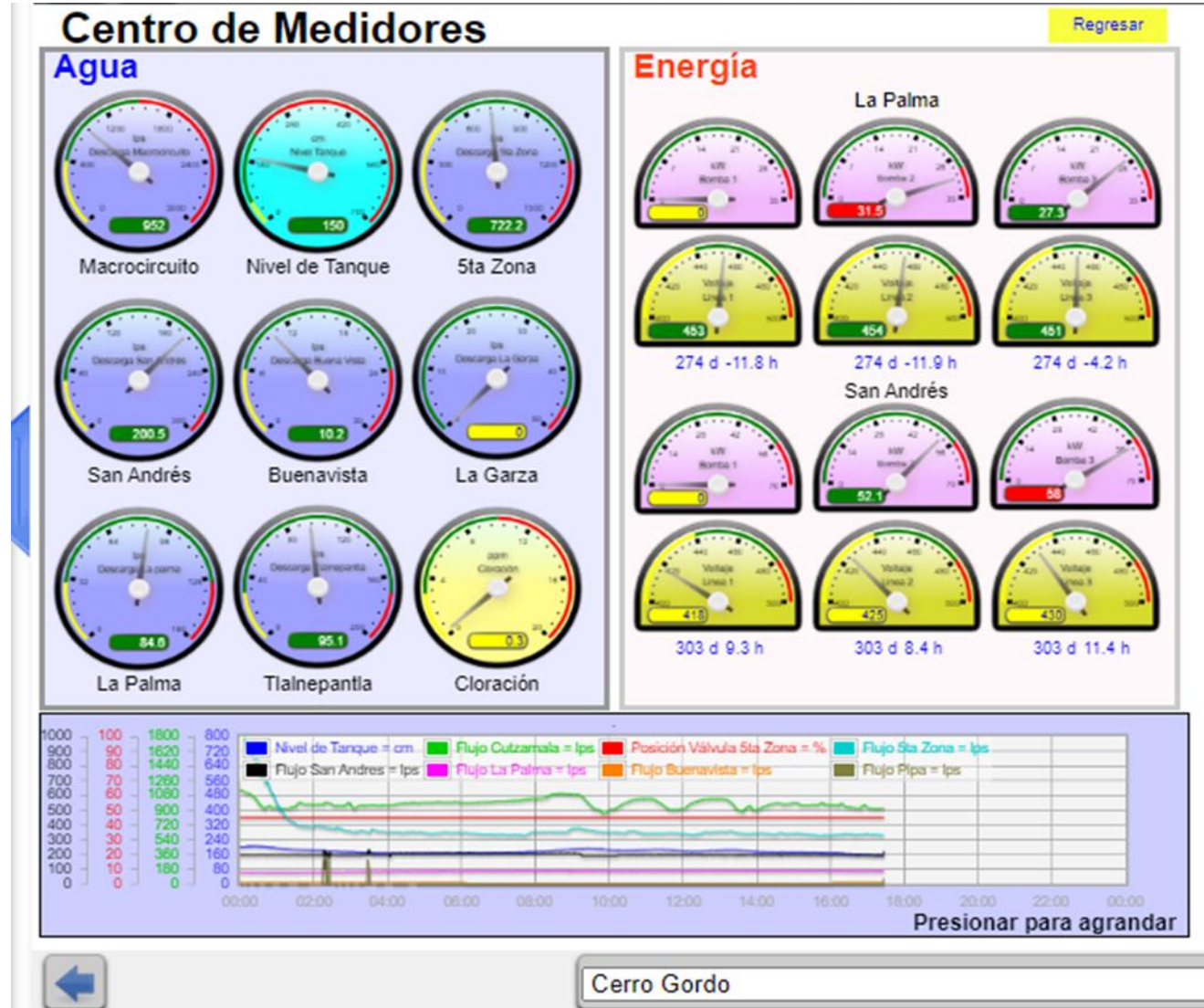
Our distributor in Mexico APRA started with a single installation with complex operation of Cerro Gordo station which receives flow from one of the main federal macro circuits that transport drinking water and pump it back to four sectors of densely populated cities that reach 1.4 million people.

APRA applied complete solution, including high level local automated control, connected to RealiteQ. This lets real time control of the entire system.



## The Project includes:

- Installation of electrical and communication network engineering to comply with the project specifications at each site.
- Automation configuration: networking, device programming, provision of various measuring instruments and sensors.
- 24/7 permanent maintenance of the automation system: maintenance and replacement of any device required in the operation of the tanks.
- Remote monitoring and control of site operation 24/7 from any place.
- All site are connected to one centralized remote monitoring and control system

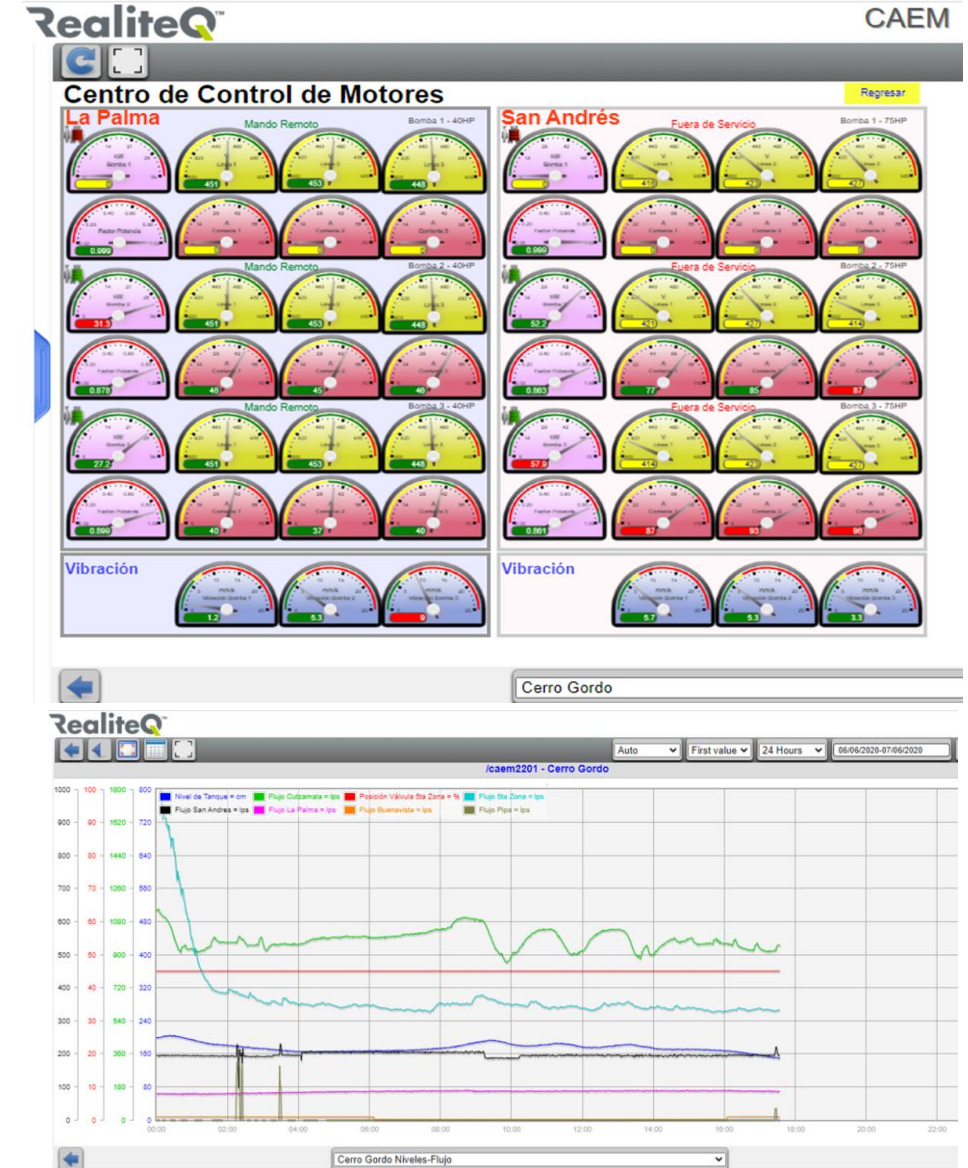


## The Results:

Remote monitoring and control of site operation 24/7 from any place. The facility can be operated under the guidelines authorized by the Operations DG remotely and in real time, without restriction of schedules or the distance it is.

Values of all measured and controlled parameters are presented in real time in an intuitive, easy to follow manner. Historical data of important measured parameters enables optimizing of different parts and the whole process.

- Increase in safety in the operating guidelines;
- Service without interruption;
- Stability in different basic parameters, such as:
- Storage levels;
- Exact water consumption for each circuit;
- Significant savings of water – about 50%
- Significant savings of electrical power – about 50 %



## The Extension:

As for the success of the first installation, the project was expanded to 20 sites and the plan is to connect all the sites along the distributor system to RealiteQ in order to have one centralized remote-control operation and management system to the entire water network.

