



## CUSTOMER CASE STUDY

The Federal Electricity Commission (CFE) is using AVEVA Smart Grid portfolio to align its assets, workforces and operations with International standards

CFE Mexico  
Industry - Power Transmission

## Goals

- Implement diverse information technologies and telecommunications like graphical systems and SCADA Systems that integrate mobile workforce operations
- Centralize visibility and control of over 38 transmission substations and 140 sub-transmission substations throughout Mexico's Northwestern territory
- Be a pioneer of the Smart Grid Maturity Model for Mexico and the world

## Challenges

- Respond to and comply with governmental energy reform standards
- Keep up with growing energy demands both within and outside of Mexico
- Structure its assets, workforces and operations to align with the Smart Grid Maturity Model (an international policymaking standard)

## AVEVA Solution

- AVEVA™ Workflow Management
- AVEVA™ System Platform, formerly Wonderware
- AVEVA™ Edge
- AVEVA™ BI Gateway
- AVEVA™ Mobile Operator

# Results

- Harnessing operator input to make predictive decisions, mitigate risks, and reduce costs
- Generating, distributing, and marketing electric power for almost 35.3 million customers and roughly 100 million people throughout Mexico and bordering nations
- Currently the government provider for 99% of power transmission throughout Mexico
- Created reusable substation templates to reduce re-engineering and enhance standardization
- Now orchestrating dynamic energy transmission models in real time
- Archived maintenance data to monitor and benchmark asset health
- Integrating AVEVA Mobile Operator with its SAP system to more effectively and transparently view energy assets, and share real-time information with mobile workforces

## About CFE

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### Federal Electric Commission (CFE) Provides Electricity to Millions in Mexico

**Hermosillo, Mexico** – At the heart of the Mexican state of Sonora is the Federal Electricity Commission, or CFE, a company created and owned by the Mexican government that generates, distributes and markets electric power for almost 35.3 million customers and roughly 100 million people throughout Mexico and bordering nations. The CFE incorporates more than a million new customers every year.

The CFE has 209 generating plants, 38 transmission substations, 140 sub-transmission substations, an installed capacity of 52,515 megawatts, and more than 756,000 kilometers of power lines that transmit and distribute electric power to households across Mexico. The Northwestern Regional Transmission Company in particular is one of CFE's newest companies, which services 2 million users distributed amongst the states of Sonora and Sinaloa.

To keep up with growing energy demands both within and outside of Mexico, CFE has structured its assets, workforces and operations to align with the Smart Grid Maturity Model, an international policymaking standard that helps utilities develop a vision and roadmap for adopting the Smart Grid.

### Visualizing Control and Analytics with AVEVA Solutions

CFE started its relationship with AVEVA in 1996 by integrating AVEVA InTouch HMI, formerly Wonderware. A few years later, the energy company began using AVEVA System Platform, formerly Wonderware. Currently, the AVEVA solutions in use are AVEVA Workflow management, AVEVA BI Gateway and AVEVA Mobile Operator.

In 2012, CFE partnered with AVEVA to develop CEMODAT, an information tool that integrates and processes the key parameters of transmission assets to determine the health of the systems. At the center of CEMODAT is an integrated control center, featuring a large-scale visualization wall that supports the modernization of CFE's workforce, and is part of the company's initiative to implement smart technology lines.

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“The principal stimulus behind CFE's implementation of the Smart Grid—specifically in this region—has been energy reform implemented by the federal government. This reform has opened opportunities to use diverse information technologies and telecommunications like graphical systems, and SCADA Systems that involve mobile workforce operations.”

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**Jorge Borbón,**

Asst. Director of Sub Stations & Lines, Northwest Transmission Management

While AVEVA BI Gateway is used to view key performance indicators, AVEVA Workflow Management is being used to orchestrate dynamic energy transmission models in real time. And by integrating AVEVA Mobile Operator with its SAP system, CFE is now able to more effectively and transparently view energy assets, and share that information with its mobile workforces, whenever and wherever its needed.

### Opening Opportunities for Mexico's Energy Future

While CFE continues to integrate more of its transmission substations into CEMODAT, the control center tool has become incredibly useful in terms of asset management. The utility provider reports that it's able to:

- Reuse Substation templates to reduce time and engineering effort required
- Leverage templates from AVEVA System Platform, formerly Wonderware to implement widespread standardization
- Digitize work orders and reduce paper
- Integrate AVEVA Mobile Operator into SAP PM in order to manage and enforce proper maintenance procedures

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“To be able to consult and archive maintenance enables us to know the health of our team from on base, and to monitor information updates. Beforehand, the tech had to report work order closing in PM. Now, with the use of IntelTrac, the moment that the tech is developing the order, the order is automatically closing itself out.”

–  
**Gilberto Felix,**

Head of Sub-management of Protection & Measurement,  
Northwest Transmission

Not only can they view information in real-time, they are using Intelligence to make predictive decisions, mitigate risk, and reduce costs.

The benefits of AVEVA Mobile Operator have been so well received that CFE intends to recommend empowering mobile workforces throughout the rest of the country's management initiatives with the solution.

As CFE continues its adoption and adherence to the Smart Grid Maturity Model in the Northwest region of Mexico, AVEVA solutions continue to provide the real-time, remote and user-friendly applications that empower the CFE to make Mexico's energy future more efficient, reliable, accessible and prosperous.

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