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High-Tech Digital Power Plant Technology

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By Ken Irvin and Grace Gerbas, Sidley Austin LLP

COVER FOCUS: CONNECTED PLANT

Dynamic Innovations in Power Sector Digitalization 18
New digital tools and approaches are fueling innovative applications in the power sector, promising to resolve long-standing or complex issues across the industry—from generator to consumer.

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CUG PLANT OF THE YEAR

A Long Time Coming: Rawhide Unit 1 Is Coal Users' Group Plant of the Year 22

A coal-fired power plant in a picturesque location in northern Colorado has been named the Coal Users' Group's Plant of the Year. The Rawhide Energy Station Unit 1 is owned and operated by the Platte River Power Authority.

FEATURES:

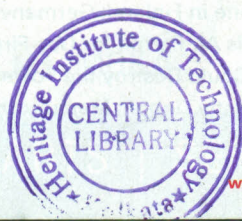
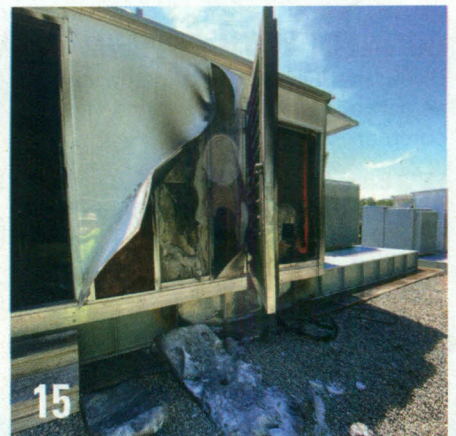
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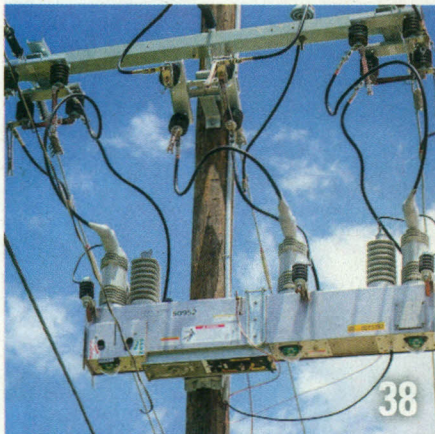
Reducing Operational Constraints and Emissions by Increasing Flexible Energy Capacity 26

It's important for companies that want to control energy costs, and be more sustainable, to set a baseline for their organization's energy usage and emissions. That will enable a more optimal use of flexible capacity when determining their energy profile.

ON THE COVER

Gecko's TOKA 4 robots scale a boiler collecting ultrasonic data to fuel an artificial intelligence-powered software platform, resulting in a comprehensive assessment of the asset's current condition and future reliability. The digital technology pinpoints exact locations of damage on an asset, calculates corrosion rates and trends, and predicts repair needs and remaining asset life to empower well-informed decision-making and planning at scale. *Courtesy: Gecko*






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ASSET MANAGEMENT

Five Reasons Why Power Plant Owners Should

Consider Repurposing Their Assets

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Power plants don't always have to be retired—in many cases, they can be repurposed. They can be converted to run on a different fuel, repowered to upgrade their performance—or even used as a modern synchronous condenser to support the power grid, taking advantage of the infrastructure already in place.

RELIABILITY & RESILIENCY

Rethinking Energy Reliability with Modern Power Systems

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Power system operators are facing new challenges when it comes to providing a reliable, resilient supply of electricity. The issues include more frequent extreme weather events, the introduction of new generation technologies, cybersecurity threats, and a power-consuming public placing more demands on the grid.

WIND POWER

New Tech Highlights Innovation, Spurs Growth in Wind Energy

36

Many advancements have been made in wind power technology in recent years, with developers in both the onshore and offshore sectors working to design turbines capable of capturing more energy and producing more power.

TRANSMISSION & DISTRIBUTION

Improving the U.S. Electric Power Grid:

Mitigating Vulnerabilities and Enhancing Operation

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Power companies, along with government entities, are investing in the U.S. power system as the importance of a strong power grid becomes more evident.

GAS POWER

Restoring Power Plants to Dependable Peak Efficiency

40

Reliability is a must for natural gas-fired peaker plants, which must be ready when called to produce power at times of heavy demand for electricity. It's important for plant operators to be proactive when it comes to maintenance to ensure their units are in top condition.

COMMENTARY

New Technologies Are Making Nuclear Energy Safer and More Efficient

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By Christopher Crosby, AVEVA

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