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HVDC PLAYS IMPORTANT ROLE IN ENERGY FUTURE

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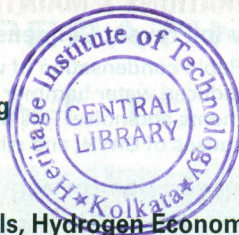
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By Karl Choltus, Brown & Brown

COVER FOCUS: TRANSMISSION & DISTRIBUTION

The Vital Link: How HVDC Is Modernizing the Grid

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Advances in high-voltage direct current (HVDC) transmission are transforming applications of the technology that has mostly been appreciated for its capacity to transmit power across long distances. In step with rapid changes to energy systems worldwide, HVDC lines are increasingly bolstering transmission from renewable sources, facilitating power exchanges between asynchronous networks, and offering a resilient and reliable framework for future changes.

FEATURES:

COMMERCIAL & INDUSTRIAL POWER

Reliability, Resiliency, Cost, and Climate Driving C&I Power Systems

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Businesses, college campuses, healthcare facilities, and other commercial and industrial sites are increasingly turning to onsite power generation as they work to control energy costs, and ensure a more reliable and resilient supply of electricity.

PLANT DECOMMISSIONING

New Life for Dead and Dying Coal Plants?

24

Real estate is valuable, and the sites of retired coal plants are no exception. Plants have valuable materials that can be recycled, and there are instances where demolition is not needed—the buildings can be repurposed, including using infrastructure to support new generation resources, or even as commercial space.

PLANT SUPPLIES

Gaskets and Fasteners: What Sets a Supplier Apart?

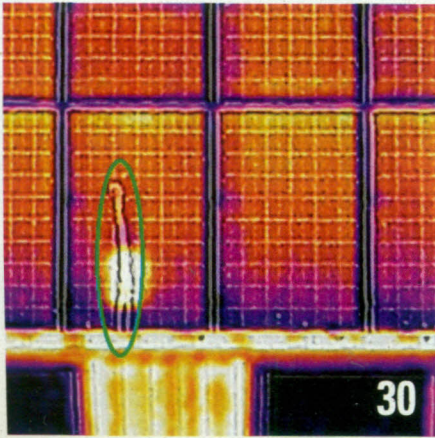
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Gaskets and fasteners may seem like mundane power plant items, but if you don't have the one you need to get your unit back online, that pocket-change item could end up costing your company thousands of dollars in lost productivity. Having the right supplier could be a difference-maker.

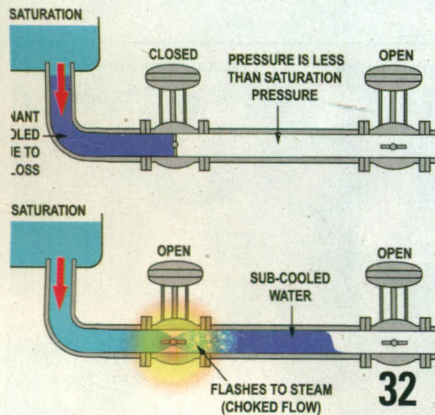
ON THE COVER

High-voltage direct current (HVDC) technology is optimal for applications such as interconnecting national power grids, integrating offshore wind parks with mainland transmission systems, feeding more power into congested city centers, interconnecting asynchronous networks that operate at different frequencies, and more. HVDC Light is a voltage source converter technology that was pioneered by Hitachi Energy. Its defining features include uniquely compact converter stations, exceptionally low electrical losses, and black-start capability to restore power after a grid outage. *Courtesy: Hitachi Energy*





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SOLAR POWER

Solar Power Plant Maintenance with Thermal UAV Inspection Technology 30

Unmanned aerial vehicles (UAVs) save time and make completing inspections far easier and safer than performing the task with hand-held devices. With dual-camera attachments, inspectors can feel confident that no real anomalies will be missed and that false indications can be quickly identified and rejected.

OPERATIONS & MAINTENANCE

How to Prevent Condensation-Induced Water Hammer 32

Rapid condensation of water vapor by cold water can create condensation-induced water hammer (CIWH), a condition that can produce pipe movements and noise. This article provides information about the types and causes of CIWH, and what can be done to prevent it.

MARNIE SURFACEBLOW

What Is Killing This Biomass Boiler? Marnie and Maya Are on the Case! 36

When a Louisiana power plant with a stoker furnace designed to burn sugar cane waste adds poultry litter to its fuel supply, slag becomes a problem. Marnie and Maya investigate the situation, find a few contributing factors, and resolve the issues.

PLANT FLEXIBILITY

Optimizing Power Plant Load Flexibility 40

Managing the variability of renewable energy resources is of increasing importance to traditional power generators. Implementing field-proven control solutions provides a way to mitigate impacts on efficiency and reliability.

ELECTRICAL

Commissioning and Acceptance Testing Are the Foundation for Total Electrical System Lifecycle Management Web

To manage the challenges of today's complex electrical power systems and tightening budgets, facility managers need to understand the critical connection between electrical commissioning and acceptance testing, and planning for lifecycle management. This article reviews the scope of services required for each stage of the process. (Visit powermag.com and search "Total Electrical System Lifecycle Management" to read this online-only exclusive.)

COMMENTARY

Energy Security = National Security: How the West Needs to Reindustrialize, Rethink Energy Policy 44

By Craig Golinowski, Carbon Infrastructure Partners

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