44I Coal Fired Power Plant Decisions

A service to aid power plants in making the lowest total cost of ownership (TCO) decisions. For those suppliers who offer the lowest TCO this is an opportunity to reach power plants around the world.

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44 I Provides Alerts, Answers, Analysis, and Advancement

- This service provides a connection for suppliers and coal fired power plants around the world. It is free of charge to any coal fired utility employee. It is designed to help owners make lowest total cost of ownership decisions. The service covers combustion systems and components, flow control and treatment, and air, water and solid waste pollution. It addresses the four knowledge needs: Alerts, Answers, Analysis, Advancement.
- Alerts: Six alerts and newsletters are included. The latest entries in the intelligence system are easily accessed. Daily entries in the LinkedIn discussion groups are also available.
- Answers: The intelligence system includes case histories, product information, regulatory analyses and all the past newsletters dating back to 1999 (over 1000 newsletters). Hundreds of hours of recorded webinars provide graphic as well as text answers.
- Analysis: Upcoming webinars, the newsletters, white papers in the intelligence systems and detailed discussions in the LinkedIn discussion groups provide analytical data. Focus on seeking the lowest total cost of ownership option is one of the most valuable aspects of the service.
- Advancement: The extensive webinar library and intelligence system provide the material for tailored training programs. 44I fills the needs of the trainee but also senior people who just want to keep up with the latest developments.

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Alerts include Monthly Publications and Daily Input to LinkedIn and the Intelligence System

- The Power Alert provides the latest updates to the intelligence system and news about burners and combustion, heat recovery, pollution control, cooling, water and solid waste issues.
- Other newsletters include FGD & DeNOx, Fabric Filter, Electrostatic Precipitator, and Monitoring & Sampling. The newsletters cover new technology, regulations, and the various capital equipment , operation, and maintenance issues.
- The daily input to the LinkedIn discussion groups is analyzed and articles written in the newsletters to reflect the insights generated in the discussions.
- The database in the intelligence system can be accessed by chronology of posting starting with the most current.
- The Alerts leverage the Mcilvaine intelligence gathering on specific products e.g. pumps, valves, filters, treatment chemicals etc. as well as the insights gathered by analysis of developments in other industries.

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Five Monthly Alerts

Alert	Article Title
Power Alert	GE applying digital twin to coal and gas plants – Insulation is an important factor in maximizing efficiency - Sub bituminous coal conference Asia papers by Korea Energy, B&W, Burns & Mc, KOSEP, Tai & Chyun, Petron, CLP Power, GLOW, Amec, BNF –Improving plant efficiency by capturing waste heat—smart valves & pumps
FGD & DeNOx	Mcilvaine PacifiCorp Webinar # 5 on NOx reduction at Hunter and Huntington - Catalytic filters with DSI are likely to be the best choice for some utilities. - Emerson silo optimization can achieve NOx levels as low as 0.1 lbs/mm btu - Co-locating municipal wastewater and power plants - Two stage scrubber to separate rare earths.
Fabric Filter	LIFO not FIFO if you are capturing SO2 along with particulate - Do membrane bags require special installation skills? Power plants in Chile, Italy, Russia and South Africa are switching from precips to baghouses - Jet pulse or high volume medium pressure cleaning? - FLS has commercial 10 meter catalytic filter bag.
Precipitator	Are wet precipitators downstream of the gypsum scrubbers the best upgrade choice for Chinese power plants - Can precipitators meet the new Indian standards? - How much efficiency improvement can be achieved by new power supplies? - ESP operating costs are lower with high frequency energization in intermittent mode.
Monitoring	BHE Mid American Neal using Hach pH monitors - ABB wins Vietnam Coal plant expansion contract - Xcel Energy reducing NOx with GE Neuco optimization system - Mercury limits in Europe are following the U.S. - Siemens TDL sensors measure O2 and CO at multiple points in the boiler - Remote control of power plants is coming.

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Intelligence System Provides Alerts, Answers, and Analysis

- The intelligence system is a database which can be accessed with a global search for specific answers. Since the database contains lots of information not available from Google it is a very valuable way to search.
- The search by decisively classified options provides answers but it also provides analysis. When you learn that there are just three ways to improve catalyst performance: cleaning, rejuvenation and regeneration you have taken the first analytical step.
- The searches by corporation are precise thanks to the system of identifying every company (especially Chinese companies) with a financial entity number and by immediately making corrections as mergers occur.
- White papers, webinar power point presentations, case histories, and regulatory documents are among the valuable resources which are quickly accessed.
- Thousands of documents have been posted in the last 17 years and can be immediately accessed.
- The more than 1000 individual newsletters published in the last 17 years can also be searched.

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LinkedIn Discussion Groups provide Answers and Analysis and with Daily Input also provide Alerts

Active Discussion Groups	Under Construction	Under Consideration
• NOx Scrubbing • Fabric Filter • Mercury Removal • Dry Scrubbing • High Performance Pumps • CCR and Wastewater • Ultrapure Water • HRSG Valve Decisions • Instrumentation and Controls • Flue gas Desulfurization	• NOx Reduction • Power Plant Valves • Electrostatic Precipitators • Heat Recovery • Cooling • Fans • Steam Generation • Biomass cofiring and gasification for reburn • Gas turbine inlet filters • Gas turbine emission control	• Insulation • Variable speed drives • Substations and transmission • Lubricants • Distributed Generation and CHP • Solar • Wind • Biomass • Geothermal • Engine energy recovery • Hard coatings

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Intelligence System
(Chinese equivalents being added to the keyword system)

General	Product	Process	Companies	Text Descriptor
Business	Absorber	Acid Gas Removal	A.H. Lundberg	Abstract
Transactions	Activated	Activated Sludge	Associates	Analysis
Company	Carbon 活性炭	Air Filtration	A.T. Biopower	Article
Information	Activated Carbon	Air Intake 空气进	Aalberts Industries	Biography
Conditions	Injection System	Air Monitoring	N.V.	Brochure
Conferences	Activated Carbon	Air Pollution	ABB	Case Study
Contaminants	Conveying	Control 空气污染	Acciona Aqua	Conference
Issues and Options	Actuator	控制	Accuseal	Diagram
Markets & Forecasts	Adsorber	Air Quality 空气质	Actuant Corporation	Event Participant
Performance & Optimization	Advanced Process	量	ADA-ES	Exhibition
Regulation & Policy	Control	Air Staging	Advanced Filtration	Installations
	Aerobic Digester	Ammonia	Concepts	InterWEBview
	Agitators	Injection 氨水加注	Advanced Power	News Release

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Recorded Webinars Provide Analysis

Hundreds of hours immediately available for Analysis but also for Advancement (training)

September 8, 2016	**PacifiCorp Webinar #5 on Front End NOx Reduction** 91 minutes
September 1, 2016	**PacifiCorp Webinar #4 on Back End NOx Removal** 84 minutes
August 25, 2016	**Oil, Gas, Refining** 60 minutes
August 2, 2016	**NOx Control for PacifiCorp: Back end NOx Control** 99 minutes
July 19, 2016	**NOx Control for PacifiCorp: Combustion Modifications and Neural Networks** 97 minutes
July 14, 2016	**NOx Control for PacifiCorp: Overview and Summary of Low NOx Options** 69 minutes
July 14, 2016	**Desalination** 42 minutes
June 16, 2016	**FGD and Acid Gas Separation** 104 minutes **MORE**
April 21, 2016	**Hot Gas Filtration** 65 minutes **MORE**
April 7, 2016	**Power Generation Technologies** 53 minutes **MORE**
March 24, 2016	**NOx Control** 85 minutes **MORE**
March 10, 2016	**Gas Turbine** 58 minutes **MORE**

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