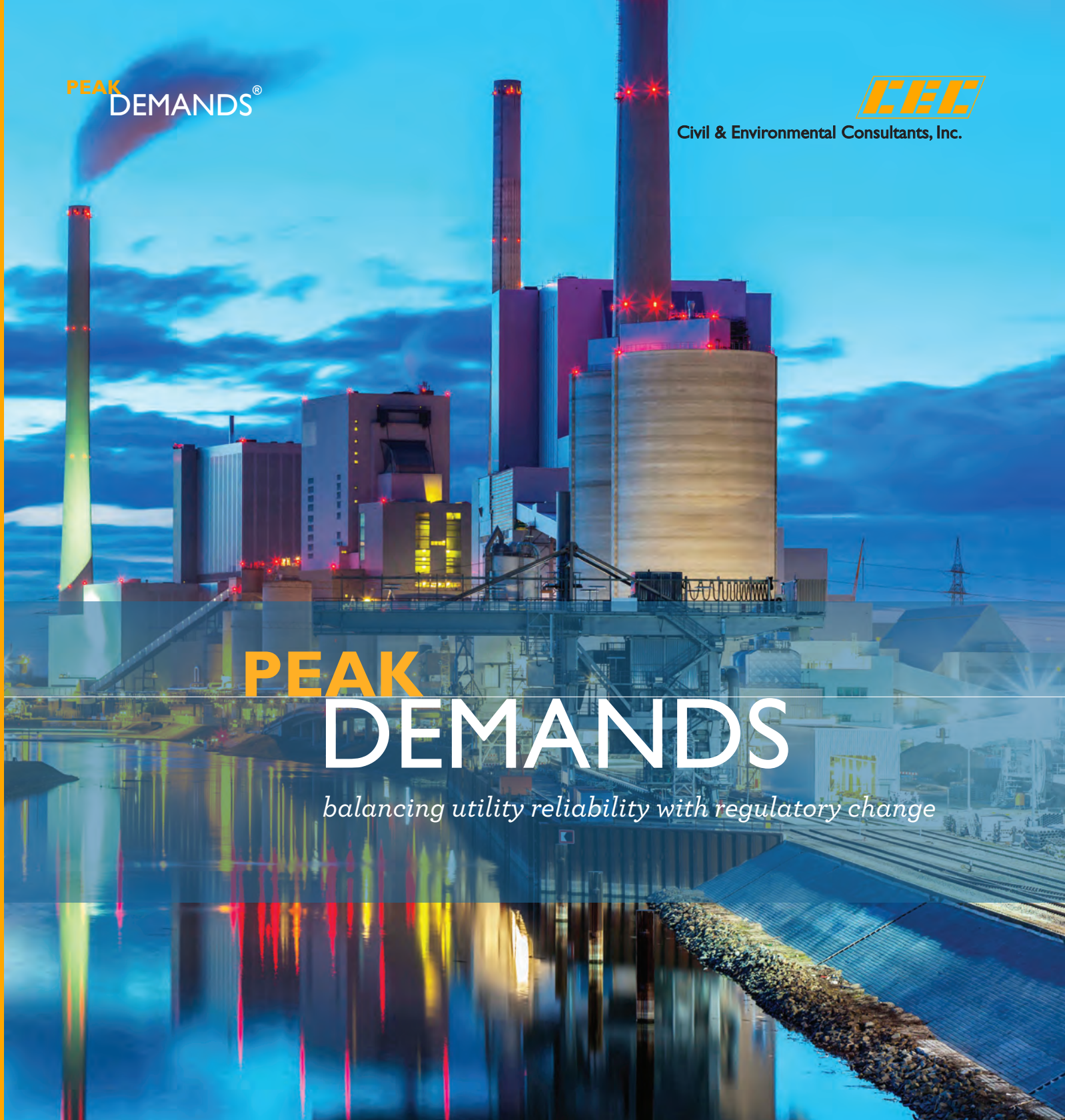
PEAK DEMANDS®

Civil & Environmental Consultants, Inc.



PEAK DEMANDS

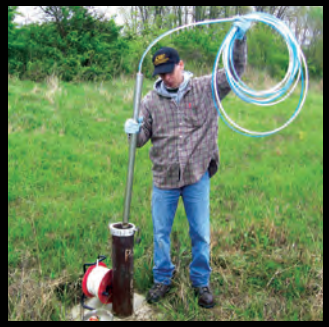
balancing utility reliability with regulatory change

PEAK DEMANDS®

In a complex regulatory environment, the power industry's focus remains on providing reliable service that balances expanding energy demands, risk, and financial expectations.

CEC POWER INDUSTRY CONSULTING GROUP (ICG)

This diverse team of engineers, scientists and professionals is our conduit to the latest thinking and advancements in the power industry; providing clients with concise, timely information and regulatory updates to facilitate informed decision-making.



Tightening regulations and changing market drivers are leading the industry to consider implementing costly changes, mothballing select facilities, or retiring marginal or less efficient power stations altogether.

As the industry continues to meet the demand for more power, maintain service reliability, and comply with complex state and federal environmental regulations, it also must take advantage of strategic opportunities to improve fiscal performance, reduce releases to the environment, and limit other potential liabilities.

With a portfolio that includes some of the largest, most complex power industry projects in the United States, CEC is well-equipped to help enhance operations or strategize for change as the demand for traditional fuels evolves.

Civil & Environmental Consultants, Inc. (CEC) is a company of professionals who provide comprehensive industry-focused consulting services that advance our clients' strategic business objectives. CEC scientists and engineers are recognized for delivering knowledge, innovative design solutions and integrated expertise in the primary practice areas of civil engineering, environmental engineering and sciences, ecological sciences, waste management and water resources.

THE CEC ADVANTAGE

What sets CEC apart is that we put ourselves in our clients' shoes and make recommendations from their strategic vantage point. These are the real differentiators:

Large and Complex Projects
In-depth and long-term experience with some of the most noteworthy power industry projects in the nation eliminates the learning curve. CEC addresses issues from a comprehensive and balanced perspective, considering all factors and long-term impacts at every stage.

Direct Industry Experience
CEC experts have worked in and with the power industry and understand client objectives and motivations. These experts combine past experience with established regulatory relationships and strong technical knowledge to tailor internal resources to best serve project and client needs.

Broad Industry Perspective
Having served a diverse array of industries, CEC brings a broad perspective to power industry consulting — from interacting with mining and natural gas companies, to identifying waste disposal options through coordination with solid waste management landfills, to recommending potential alternative uses for assets by applying real estate development knowledge.

Robust Ecological Services
CEC biological monitoring services support 401/404 permit applications, reducing the need to hire additional consultants. A leader in field investigations for threatened and endangered species, CEC is known for having highly knowledgeable, federally permitted U.S. Fish & Wildlife Service-approved surveyors.

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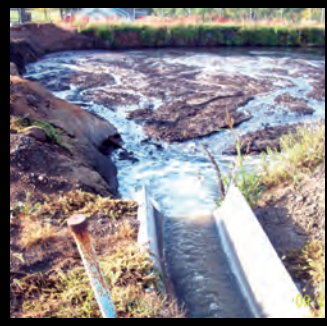
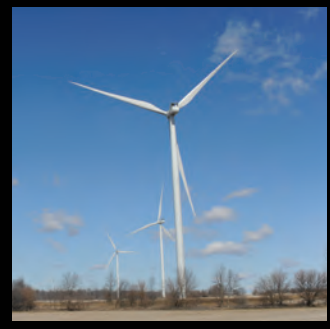




***TOP:** Sampling and on-site analysis on a 700-foot stack in Kansas to verify the effectiveness of activated carbon injection along with chemical addition to control mercury emissions.*

***LEFT:** Wastewater compliance, treatment, and long-term maintenance options for a coal-fired generating plant in Kansas.*

***RIGHT:** Mist-net surveying to identify potential Indiana bats followed by radio telemetry at multiple wind farms across Indiana and Ohio.*

ONLINE

CEC develops and implements strategies to minimize risk, optimize performance, and reduce costs associated with fossil fuel, nuclear, and renewable power generation and delivery.

Air Quality Consulting

Regulatory knowledge coupled with air permitting, air dispersion modeling, and stack testing/continuous emissions monitoring systems (CEMS) capabilities enable CEC to assist clients with air quality compliance needs.

Water and Wastewater Management

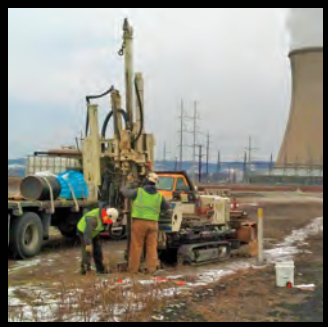
Challenging water management demands are addressed, from high-purity boiler make-up to FGD wastewater. CEC helps clients meet NPDES permit requirements, including the new Effluent Limitation Guidelines, and also conducts bench- and pilot-scale testing and studies at in-house treatability labs.

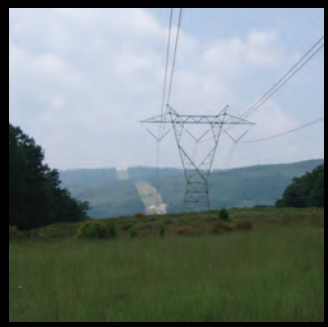
CCR Management

Expertise with the management of CCRs in landfills and impoundments includes design and permitting of management units, location restrictions, stormwater management, structural integrity, inspections, groundwater monitoring, and corrective actions in compliance with evolving regulations.

New Facility and Right-of-Way Services

For new facilities and infrastructure, CEC specializes in site selection, characterization, and state-specific public utility commission permitting. Multidisciplined transmission and distribution right-of-way services include performing wetland and stream delineations and ecological impact assessments while assisting with route development.





***TOP:** A combination of temporary caps, permanent caps, and liners were installed sequentially over the landfill at this 60-acre Class I residual waste disposal facility in Pennsylvania.*

***LEFT:** U.S. EPA award-winning beneficial use solution improved plant-available water holding capacity and permeability of soils and reduced borrow soil requirements at two facilities in Pennsylvania.*

***RIGHT:** Threatened and endangered species surveys and agency consultation for a 196-mile transmission line project through Pennsylvania, West Virginia, and Virginia.*

OFFLINE

CEC brings a history of successful site closure plan development when working with clients to transition facilities to an offline or retired status.

Decommissioning and Demolition

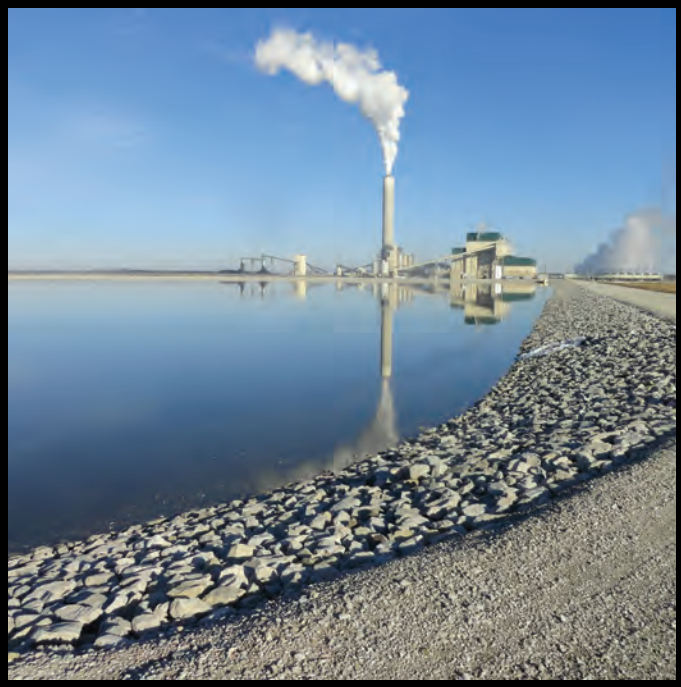
CEC's approach focuses on safety and compliance while assisting with facility demolition planning, permitting, characterization and management of waste materials, on-site management of demolition contractors, and feasibility and master planning. Conversion of existing coal-fired stations to natural gas prompts the need for CEC's expertise with the closure of CCR management units and coal piles, as well as permitting and routing natural gas pipelines.

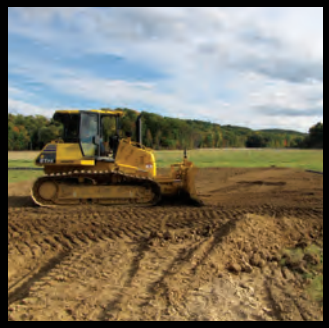
CCR Landfill and Impoundment Closure

Site configuration and closure plan designs include studies and monitoring at groundwater wells, surface water points, spring/seep locations, and domestic wells. With the use of digital groundwater flow and contaminant transport modeling, geologists are able to predict the impact of various closure scenarios. Capping scenarios are designed, permitted, field tested, and evaluated, and the constructability of promising alternatives is also field tested. CEC has developed and implemented plans for soil-less seeding of CCRs for interim erosion and dust control, including dustfall monitoring and modeling.

Remediation

Whether an asset is to be sold or mothballed at the end of its useful life, CEC performs remediation of soil and water to minimize risk and manage existing releases. Engineers provide remediation of contaminated manufactured gas plants by designing and implementing site remediation programs, perimeter air monitoring studies, and human health risk evaluations.





TOP: *Water quality and quantity were analyzed to adjust the original water balance at this Illinois coal-fired power plant designed for zero liquid discharge.*

LEFT: *Field testing of 15 capping scenarios and constructability of the most promising alternatives for a 965-acre CCR disposal impoundment in Pennsylvania.*

RIGHT: *Environmental investigation, mitigation, and demolition activities for numerous multi-unit boiler houses, ancillary structures, and equipment at six retired generation stations in Ohio.*

800.365.2324
www.cecinc.com

Manufacturing

Mining

Natural Gas

Power

Public Sector

Real Estate

Solid Waste

Air Quality Consulting

- Air Quality Testing, Monitoring, Permitting, and Compliance
- Air Dispersion Modeling
- Perimeter Ambient Air Monitoring
- Stack Testing and CEMS Certification and Auditing

Ecological

- Aquatic Biomonitoring
- Threatened and Endangered Species Evaluations
- Wetland and Stream Delineations, Permitting, and Mitigation
- Ecological and Cultural Resource Assessments and Mitigation

Environmental

- Phase I and II Environmental Assessments
- Human Health Risk Assessments
- Environmental and Multimedia Compliance Audits
- Environmental Impact Statements
- Environmental and Data Management Systems
- Radiological Environmental Monitoring

Site and Facility Planning

- Site Assessments, Characterization, and Planning
- GIS and Survey Services
- Geotechnical Subsurface Investigations
- Geotechnical Engineering
- Civil Engineering, Site Development, Redevelopment, and Facility Improvements
- Design/Build of Oil Containments for Substations
- Erosion and Sedimentation Control Plans
- Structural Condition Assessments
- Construction Inspection, Survey, and Management
- Land Use Options and Facility Repurposing

Site Closure Planning

- Facility Decommissioning and Demolition
- Site Closure Demolition, Permitting, Inspection, and Administration
- Underground Storage Tank Closure and Remediation
- Manufactured Gas Plant Remediation
- Site Remediation and Remedial Design
- Spill Prevention, Control, and Countermeasure Plans
- PCB Audits and Spill Cleanups

Solid Waste Management

- CCR Landfill and Impoundment Engineering, Permitting, and Compliance
- CCR Beneficial Use Evaluations
- Agronomic Studies and Revegetation Programs

Water Management

- Clean Water Act Permitting, Studies, and Compliance
- Effluent Limitation Guidelines Planning, Implementation, and Compliance
- Hydrogeology and Groundwater Assessment, Monitoring, and Modeling
- Hydrographic Surveys
- Water and Wastewater Treatment and Management
- Bench-scale and Large-scale Treatability Testing
- Water Balance Evaluations

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