

COAL COMBUSTION RESIDUALS (CCR)

DESIGN | CONSTRUCTION | REMEDIATION | CLOSURE





OVERVIEW

The United States has 2 billion cubic yards of Coal Combustion Residuals (CCR). The potential for groundwater contamination from CCR has become the focus of many environmental groups across the country. Regulators are debating the future of storage and disposal methods while court cases sway politicians and public opinion.

In 2015, the Environmental Protection Agency (EPA) finalized the first set of national regulations governing the safe disposal of CCR. In 2022, the EPA launched a series of enforcement actions under the CCR rules to ensure that groundwater contamination at coal ash sites is being addressed.

It is vital that all utility companies with CCR disposal facilities have a thorough grasp of potential groundwater impacts and have plans in place to mitigate future liability.



OVERVIEW

ENGINEERING &
REMEDATION

HYDROGEOLOGY &
GROUNDWATER MODELING

CONSTRUCTION
MANAGEMENT

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ENGINEERING & REMEDIATION

From conceptual design to closure, NewFields engineers and geologists have designed and overseen the construction of hundreds of tailings and waste storage facilities around the world for the management of over **19 trillion cubic yards** of materials. NewFields has a deep bench of engineers and scientists with experience in design and material dewatering and handling of massive volumes of materials. NewFields has advanced the art of large-scale material handling of saturated soils and slimes through experience and in-house geotechnical and water treatment laboratories.



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HYDROGEOLOGY & GROUNDWATER MODELING

CCR is a liability due to the public and regulatory belief that it poses a risk to groundwater. Cost for mitigation is driven by the default expectation that removal from contact with groundwater is the only viable alternative. Passive management techniques can provide groundwater protection with superior performance, sustainability, and holistic environmental improvement relative to removal and landfilling. Examples of such techniques are: (A) microbially induced calcium carbonate precipitation (MICAP), (B) in situ customized nano technology, (C) biochar filters, (D) tree well hydraulic head reduction, and (E) water feature hydraulic head increase.

NewFields' engineers, groundwater and surface water modeling experts, geotechnical and water treatment laboratories, and collaboration with research universities provides the ability to design the right solution for each unique situation.

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CONSTRUCTION MANAGEMENT

Traditionally owners have used Engineering, Procurement, Construction Management (EPCM) companies to manage projects. This approach is typically more costly and offers less owner control.

While NewFields can provide construction management, NewFields has a track record of working with owners to augment their staff and build effective integrated management and execution teams. NewFields fills technical and administrative gaps with experienced project personnel, and this combined team addresses all aspects of project oversight and management. This model allows clients to develop a more dynamic and fluid project team as technical needs change.

Our experienced staff understand the importance of practical, constructible designs and how to execute them in the most challenging environments. The client/NewFields teams are highly efficient and typically result in projects that are lower cost and more easily executed.



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Our knowledge of the historical CCR standard of care, past and current regulations, as well as civil engineering expertise provides our clients the ability to challenge the perception that past handling of CCR material was inappropriate.

NewFields has provided expert engineering support to legal counsel for more than 50 facilities with a total CCR volume of over 150 million cubic yards of material. The commonality of NewFields' unique expertise for all these cases is its focus on advanced data analytics to deliver the right information in the right form to the right decision maker at the right time.

Areas of Technical Support

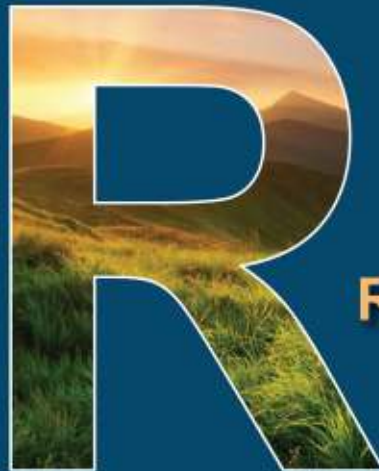
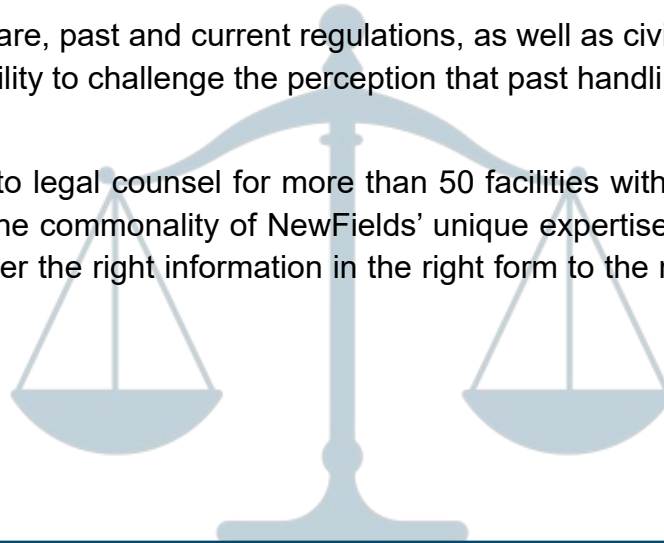
Data Management & Analytics
→ Regulatory Negotiation

Insurance Recovery

- Coverage triggers
- Standard of care
- Regulatory history
- Allocation

3rd Party Claims

- Standard of care
- Nuisance trespass
- Toxic tort



Right info
Right form
Right people
Right time

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New initiatives around issues of Environmental Justice (EJ), as well as publicity surrounding CCR facilities, have raised awareness in many communities. It is imperative that utility companies understand their surrounding communities and possible EJ concerns.

The best time to engage communities is before there is a problem. Companies can take several proactive steps including outreach, a communications plan that clearly explains the actions taken by the company to keep the environment safe, and convening community advisory councils. NewFields can assist in the relevant data analysis, community engagement, and media monitoring to assist companies in managing their relationship with their neighbors and navigating interactions with agencies.

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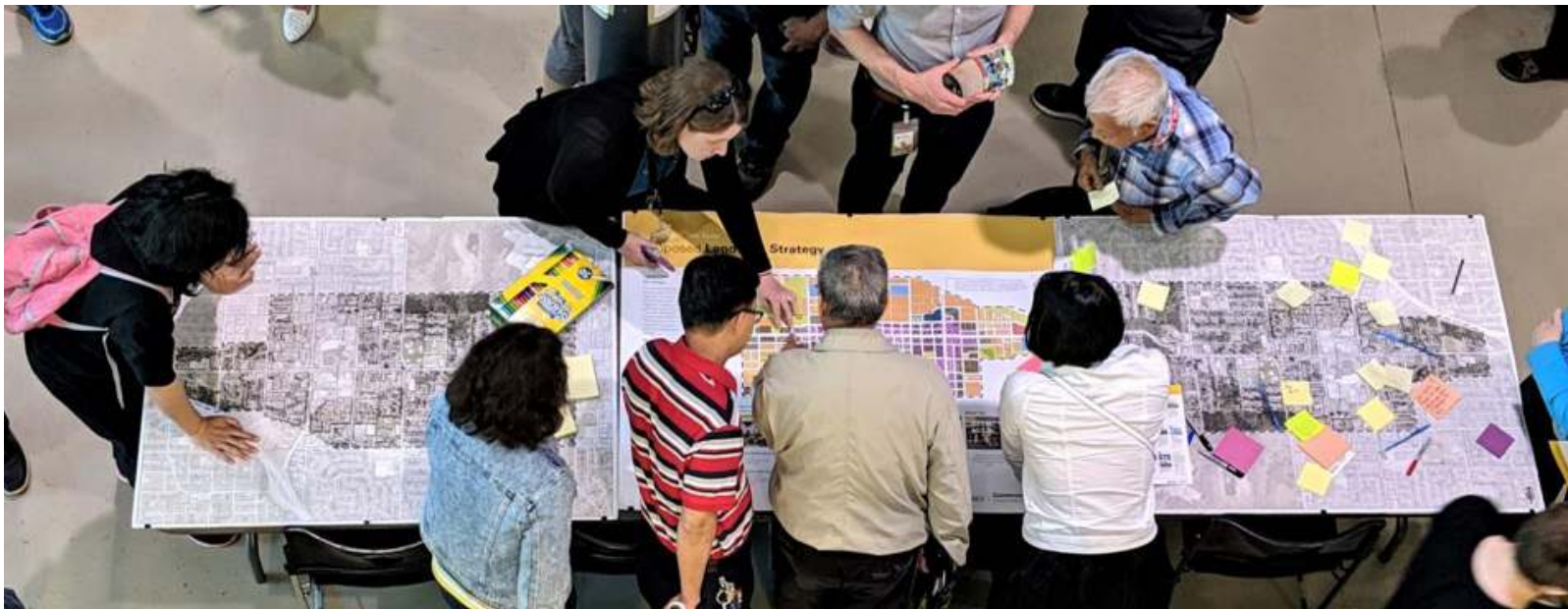
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If you would like to know more about NewFields' CCR capabilities or any of our other services, please contact one of the NewFields representatives below.



Marjorie Hall M.S.
Public Engagement
mhall@newfields.com
(678) 472-3946



William Hall P.E.
Litigation
bhall@newfields.com
(404) 347-9050



Amelia Tallman M.S.
*Hydrogeology and
Groundwater Monitoring*
atallman@newfields.com
(406) 531-7216



Irina Mamonkina Ph.D
Remediation
imamonkina@newfields.com
(713) 898-5659



Joseph Namlick MSc, P.G
*Construction &
Commissioning*
jnamlick@newfields.com
(303) 842-3864



James Kendrick P.E
*Engineering and
Remediation*
jkendrick@newfields.com
(214) 392-3994

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About NewFields

NewFields is an environmental, engineering, and construction management consulting firm. We provide access to a global network of recognized experts and professionals who work together to resolve our clients' complex business needs. Our talented staff is a diverse group of accomplished individuals, most of whom are senior level engineers, scientists, and specialists, who offer our client base both practical and strategic solutions. We look forward to helping you achieve success and sustainability in a rapidly changing, interconnected world.



Corporate Headquarters

Two Midtown Plaza
1349 Peachtree Street, Suite 1950
Atlanta, GA 30309
(404) 347-9050
www.newfields.com