

Geosyntec consultants

# AIR PERMITTING & COMPLIANCE
## FOR DATA CENTERS

### AIR PERMITTING & COMPLIANCE SERVICES

- Title V and Minor Source Permits
- Prevention of Significant Deterioration (PSD)
- Nonattainment New Source Review (NNSR)
- Operating Permit Modifications and Renewals
- Air Dispersion Modeling
- Annual Emission Inventory Reporting
- Semiannual Compliance Reporting
- Greenhouse Gas (GHG) Reporting
- Deviation Reporting
- Visual Monitoring and Recordkeeping
- Permit Renewals and Modifications
- Corrosive Air Quality Risk Assessment
- Noise Mitigation
- Indoor Air Quality

In today's rapidly evolving digital landscape, robust and resilient infrastructure is crucial for supporting the growing demands of data centers. Permitting strategies should account for future expansions and maintenance schedules, and early-phase due diligence is critical to avoid project delays.

Geosyntec provides extensive air quality and permitting services tailored to the unique operational demands of data centers:

**AIR PERMITTING:** Air permitting for data centers is primarily driven by the need to regulate emissions from generators and on-site generation, cooling towers, and other equipment that may emit pollutants. Geosyntec develops air permitting strategies to provide operational flexibility, minimize compliance burdens, and expedite the permitting process.

**AIR MODELING:** Before construction or operation, data centers often need to conduct air dispersion modeling to demonstrate compliance with ambient air quality standards. Geosyntec routinely conducts modeling to evaluate potential off-site impacts associated with risk assessments and hazard analyses.

**NOISE MITIGATION & INDOOR AIR:** Noise pollution and indoor air quality can cause serious consequences for data center employees. Geosyntec's team of air quality experts assess and mitigate indoor air quality issues such as dust and humidity and conduct noise assessments using predictive modeling and on-site measurements to achieve and maintain compliance with local regulations.

**AIR QUALITY COMPLIANCE OBLIGATIONS:** Once permitted, data centers must maintain compliance through routine reporting and recordkeeping reporting, adhering to site-specific permit conditions. Geosyntec supports development of streamline compliance programs to support facilities with day-to-day compliance.



# AIR PERMITTING & COMPLIANCE
FOR DATA CENTERS

## PROJECT EXPERIENCE

With a multidisciplinary team of experts, Geosyntec is uniquely positioned to deliver innovative and sustainable solutions in response to regulatory mandates, decarbonization and energy efficiency, water conservation, and smart-site development goals.



### **Air Permitting and Registration for Three Data Centers |** China and Thailand

Following the acquisition of several land parcels for the establishment of its data centers and given the sensitivity of data center equipment to both humidity and airborne contaminants, Geosyntec staff supported a comprehensive assessment of the site suitability and potential exposure to corrosive air quality.



### **Air Permitting and Modeling for Data Centers |** California, US

Geosyntec assessed air permitting options and strategies associated with emergency generators, cooling towers, fire pumps, heating equipment, and other regulated air emissions sources. Emissions were calculated for the new regulated sources, and an air permit application and air dispersion modeling report were prepared and submitted to the regulating authority.



### **Air Consulting Services for Data Centers |** Multiple Sites, US

At new data center sites that were ready to begin construction, obtaining required air permits was critical to meeting the project schedule. Geosyntec evaluated the sites, supported generator selection, and secured air permits for associated generators in multiple states, including Arizona, California, Georgia, Illinois, Kentucky, New Jersey, Ohio, Texas, and Virginia.



### **Noise Assessment for Data Centers |** US and Canada

Geosyntec staff prepared noise assessment studies for multiple data center clients for existing and proposed sites. The work included supporting on-site noise measurements and monitoring, developing noise prediction models to review noise impacts, performing due diligence noise reviews, conducting feasibility noise studies, and implementing noise abatement solutions to comply with applicable limits.

### **Data Center Emissions Inventory |** Arizona, US

Geosyntec completed an annual air emissions inventory report for a data center facility's emergency generators and developed tracking for ongoing compliance monitoring and reporting.

### About Geosyntec

Geosyntec is a consulting and engineering firm that works with private and public sector clients to address new ventures and complex problems involving our environment, natural resources, energy, and civil infrastructure.

With a combined staff exceeding 3,000 engineers, scientists, and related technical and project support personnel, we serve our clients from more than 140 offices in the United States, Canada, the United Kingdom, Ireland, Sweden, Finland, Spain, Saudi Arabia, the United Arab Emirates, and Australia.

Geosyntec consultants