



Energy



Engineering relationships.

Nexus Engineering Group is a full-service, independent engineering firm focused on supporting clients' specific project goals, from concept to startup. With fifteen years of proven engineering and design successes and a growing team with more than 225 professionals that you will enjoy working with, Nexus is more than your typical engineering firm. Clients come to us for our expertise, creativity, passion, and relentless focus on their goals.

**Business Case Development
& Front-End Loading**

Engineering & Detail Design

Project Services & Controls

**Construction, Commissioning,
Outage & Turnaround Support**



Energy

Our energy services offerings for power delivery (T&D) and distributed generation includes substation engineering, power systems analysis, and plant system design and maintenance solutions. Focused on medium and high-voltage applications up to 345kV, our industry-seasoned staff brings a wealth of project and system experience to develop safe, comprehensive solutions.



Renewables

Our experience includes working directly for clients in the renewable, biofuel, and green energy industry to provide process and project management expertise, helping integrate power from renewable sources into their existing operations, and consulting to vet sustainability investments, provide the economic analysis needed to project return on investment, and implement smart solutions. Nexus's process expertise makes us a trusted partner in designing more efficient facilities and processes that reduce carbon emissions and operational costs.



Oil Refining

Nexus brings a rare combination of technical skill and practical knowledge gained from years working with refining clients to help improve productivity and safety while meeting environmental standards. Our understanding of the refining business and its operational complexity helps us deliver quality, pragmatic designs that work.



Petroleum Midstream

Nexus professionals have the resources, skill and expertise to manage midstream projects and provide operational support for the processing, separation, storage, and distribution of natural gas, liquid petroleum gas, liquid natural gas, crude oil, and crude oil components.



Chemicals

Nexus offers full-service project design that drives efficiency, productivity, and improved quality and plant safety for specialty and commodity chemical companies. We have a deep understanding of continuous processing, solids handling, combustion, and distillation, with a proven track record in product and feedstock logistical planning and optimization.



Manufacturing

Our broad manufacturing expertise includes installation of new process lines, rearranging equipment to maximize logistical efficiencies, and designing equipment modifications that improve productivity, product quality, and safety while minimizing manufacturing costs and production line downtime.

Energy Projects and Services



TRANSMISSION & DISTRIBUTION

Projects

Greenfield Substations (138KV and below)
Brownfield Substation Upgrades (345KV and below)
Ring Bus Additions
Circuit Breaker Replacements & Additions
Transformer Replacements & Additions
Protection Replacements (Relay Panel, RTAC, RTU, SCADA)
Capacitor Bank Additions
Transmission Lines (138KV and below)

Services

Protection & Control Development
Single Line, Schematic, & Wiring Diagram Design
Substation Layout & Physical Design
Site Civil, Structural Foundation, & Bus Structure Design
Ground Grid & Lightning Protection Design
Capacity Assessments & Upgrade Design
Transmission Pole Line Design (138KV and below)
Underground Transmission Design (138KV and below)



POWER GENERATION

Projects

Fossil Fuel Plant Upgrades & Maintenance
Combined Heat & Power (CHP) to 100MW
Cogeneration
Biogas Generation
Balance of Plant
Wind Turbine Generation
Solar Generation

Services

General Arrangement Development
Process PFD & P&ID Development
Mechanical System Design & Equipment Specification
Process Piping 3D Design & Isometrics
Civil & Structural Design
Electrical System Design
Instrumentation & Control
SCADA
NERC Compliance



POWER DELIVERY & ANALYSIS

Projects

Power Distribution Systems (69KV, 34.5KV, 15KV and below)
Electrical Equipment Upgrades & Additions
Protective Device Upgrades & Additions
SCADA System Upgrades & Additions

Services

Single Line Diagram Development
Electrical Equipment Specification
Computer Modeling, Load Flow, Load Analyzer, Voltage Profiles
Short Circuit Analysis & Device Evaluation
Protection: Selectivity, Coordination, Relay Programming & Set-up
Motor Starting, Transient Stability, Acceleration Analysis
Harmonic Screening, DC Systems Analysis
Arc Flash Analysis & Mitigation
Distribution System Physical Design
System Grounding & Earthing Design
Fiber & Ethernet Network Development



DISTRIBUTED ENERGY

Projects

Microgrid Development & Design
Emergency Power
Generators, Boilers, HRSG's
Steam & Hot Water Systems
Chilled Water Systems
Energy Storage
Uninterruptible Power
Waste Heat to Energy
Compressor Stations & Pipelines
Fuel Storage & Distribution
Wind & Solar Generation

Services

Electrical System Development & Design
Process System Development & Design
Mechanical, Civil, Structural Design
Control System Architecture Development

You'll Want Us in Your Business.

You expect design, project management and controls expertise from an engineering design firm. What you may not expect is how our understanding of your business inspires creative approaches you hadn't considered. We call it Busineering, and it's how we ensure every engagement begins with our team learning your business objectives, not just your engineering needs.

We start by studying your operations, investment and desired outcome, which helps us evaluate the engineering problem from all angles. Then Nexus gets to work on how to best maximize your return. Business-first thinking inspires more creative design, and more effective communications throughout the project.

From project kickoff to closeout, we work hard to become the trusted partner you'll want to come back to for the next project or investment program. Our high-energy staff is made up of talented process, instrumentation and controls, structural, electrical, mechanical, and piping professionals with decades of hands-on conceptual and detailed system design, construction, commissioning and turnaround support, and project management experience. What we all have in common—a shared commitment to building engineering relationships that last for careers.



Cleveland

Nexus Engineering Group, LLC.
1422 Euclid Ave., Ste. 1400
Cleveland, OH 44115

Toledo

480 W. Dussel Dr.,
#250
Maumee, OH 43537

Midland

3900 Centennial Dr.,
Suite B
Midland, MI 48642

Chicago

1515 W. 22nd Street
Suite 500W
Oak Brook, IL 60523

