



THE BENEFITS OF INDEPENDENT ENGINEERING TECHNICAL DUE DILIGENCE SERVICES



WHAT IS IE TECHNICAL DUE DILIGENCE?

How does it add value to your project?

Independent Engineering (“IE”) is a highly specialized field in which an IE is trained and experienced in the comprehensive evaluation of a project to identify risks that may adversely impact the development, construction, operation, and economics of the project. Adding an experienced IE, a third-party technical advisor, to your team will provide additional value beyond the contractors and engineers involved with the project.

While calculating the return on investment for hiring an IE to provide technical due diligence on a project is inherently difficult, projects developed with a third-party advisor tend to be more profitable and perform within or exceed financial expectations.

The most common culprits for a facility’s underperformance in energy generation stem from avoidable risks associated with environmental planning and permitting, equipment technology and design, construction site conditions, contractual risks during development, or operation and maintenance planning. Such risks can be mitigated with the help of an experienced IE review during the project’s development to ensure optimal performance during operation.





A well-rounded IE has experience in all stages of project development

An IE may be engaged at any point in the project's life-cycle. Whether the project is in early-stage development prior to construction to provide environmental, technology, and contract reviews or during financial close or sale to help the transfer of ownership or tax credit issuance. A well-rounded IE has experience in all stages of project development and is trained to identify risks along the way.

An IE's role extends beyond that of the initial design, providing comfort that the project's development, construction, and budget are proceeding on schedule and in accordance with major contracts.



Some of the in-depth measures an IE provides include:

~Evaluating all environmental investigations, geotechnical reports, required permits, and land lease or purchase agreements provides assurance the site is not only adequate for the development of the project but also ensures the project design is aligned with land requirements and confirms the correct lease payments are included in the financial projections.

~Reviewing electricity Off-Take Agreements to ensure the terms of the Interconnection Agreement and Power Purchase Agreement are included in the project's design, accurately represented in the financial model, and all performance downfalls or liquidated damages are considered.

~Analyzing the project's financial model to verify it adequately represents the project's design, all project contract requirements, schedule, revenue projections, and provides sensitivity cases to better understand the range of performance during its life-cycle.





~Finally, examining all terms outlined in the Engineering Procurement and Construction Agreement and Operations and Maintenance Agreement to verify the engineering design meets minimum industry standards and is aligned with energy projections used in the financial model. This includes a review of the assumptions used for the energy projections, verification that the site plans are aligned with design and schedule requirements under the Off-Take Agreement, assurance the contracts include recommended commercial backstops for underperformance from contractors during construction and operation, and confirmation the construction schedule and budget are represented in the financial model.





In-depth technical due diligence can help better understand what warranties and guarantees are provided in the contracts against the industry standard to provide commercial backstops for technical and production shortfalls.

Third-party advisory services during operation help gain assurances that the project is being properly maintained throughout its years of operation and will continue to produce and provide the required revenue to support the terms of the loan.

Overall, an IE reduces the possibility of a project becoming unsustainable or unprofitable. A complete and independent technical due diligence review will evaluate all aspects that affect the project's financial success and its ability to perform, adding value by addressing underperformance risks upfront.

At Ensign Energy, we are here to be your trusted third-party technical advisor and provide tailored guidance for your project needs. For expert IE and technical due diligence services throughout the development, construction, and operation of your energy project, contact us today.



ABOUT THE AUTHORS



Isabella Argow

Isabella has over 10 years of experience in the energy and power generation industries, specializing in technical and financial due diligence, bankability studies, construction monitoring, and independent engineering reviews. She holds a Bachelor of Science in Mechanical Engineering and has worked with Luminate LLC and SAIC. As a lead engineer, she has conducted solar resource assessments and feasibility studies for distributed solar projects, including those over capped landfills. She also assesses utility-scale solar projects in the U.S., Canada, and Puerto Rico, reviewing major contracts and design parameters to evaluate financial risks for lenders.

Aidan Thomas

Aidan is a Professional Engineer with over 10 years of project management, coordination, and technical writing experience, including 6 years in precast concrete engineering and design. He holds a Bachelor of Science in Civil Engineering from Colorado State University. His experience includes managing multi-million dollar construction projects, engineering design and quality assurance, site auditing, procurement strategy, and BIM modeling with expertise in both remote and on site team coordination and process improvement. He has developed process flow maps, hazard analysis studies, 3D building models, technical reports, and marketing content for client consumption.

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