# Greenville Utilities Commission

RFP 25-21 ESRI Utility Network Design Services

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POWER ENGINEERS
MEMBER OF WSP

# Table of Contents

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## SECTION 1: COVER LETTER

May 13, 2025

Cleve Haddock
Lifetime CLGPO, Procurement Manager
Greenville Utilities Commission
PO Box 1847
Greenville, North Carolina 27835-1847

Subject: RFP 25-21 ESRI Utility Network Design Services Vendor Selection

Dear Cleve:

POWER Engineers, Incorporated (POWER) is pleased to provide this proposal to support the Greenville Utilities Commission's (GUC) vision of migrating to a new Esri Utility Network. Our Team understands the challenges associated with a Utility Network project of this magnitude. We offer extensive knowledge and project design for utilities managing Electric, Gas, Water and Sewer operations. Our dedication and commitment will ensure a highly effective partnership, benefiting the GUC's customers, stakeholders, and operations personnel.

Summary of Experience

Partnering with POWER offers numerous advantages such as:

- *Proven Experience* – the POWER Team can provide the necessary expertise to assist in the conversion from an ArcGIS Geometric Network model to a new Utility Network structure. Our innovative and reliable processes ensure seamless and efficient Utility Network conversions, tailored to meet the unique needs of each client. POWER was the first company to receive the Network Management Specialty designation from Esri
  - POWER has significant experience in developing strategic roadmaps for UN projects
  - Our Team has a proven track record of providing clear direction, identifying potential risks, allocating resources efficiently, engaging stakeholders, and enabling informed decision-making
  - We have successfully developed roadmaps for numerous GIS projects, including the migration to Esri's ArcGIS platform, expertly managing the transition from the Geometric Network to the Utility Network
- *Production Utility Network* – POWER is one of a select few companies to complete many full production implementations of the Utility Network. We have completed nearly a dozen full production Utility Network deployments for electric, gas and water, storm and sanitary sewer utilities

esri Network Management Specialty

*The Esri specialty endorsement recognizes our expertise with utilities and the implementation of solutions and services using the ArcGIS Utility Network Management Extension.*

esri Partner Network Gold

esri CERTIFIED Enterprise Geodata Management PROFESSIONAL

*POWER is an Esri Gold Business Partner and has assisted 26 utilities in transitioning to the Utility Network.*

As demonstrated in our qualified reference projects, comprehensive resources, and detailed approach, the POWER Team fully grasps the complexity of this project. Thank you for considering our proposal. We are excited about the prospect of collaborating with GUC to support the design of Utility Network project.

We appreciate the opportunity to present this proposal for your review. We look forward to working with the Greenville Utilities Commission to assist with supporting the Utility Network Conversion.

Statement of Commitment

POWER affirms its commitment to delivering a scalable, adaptable, and future-ready solution that aligns with the best practices of deploying the Esri Utility Network for electric and gas networks for the Greenville Utility Commission (GUC). We recognize the importance of a solution that not only meets current operational needs but also evolves with the Commission's long-term vision for innovation, efficiency, and service excellence.

Contact Information

If you have any questions regarding our response or would like to discuss any details regarding our approach, please feel free to contact me at (920) 217-1558 or bill.hoisington@powereng.com.

Sincerely,

Bill Hoisington

Bill Hoisington
Business Development Manager
POWER Engineers, Inc.

920-217-1558
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## SECTION 2: COMPANY BACKGROUND AND RELEVANT EXPERIENCE

### Company Overview

Describe the vendor's history, years in the utility industry, size, and core areas of expertise. Include information about ownership structure, location of headquarters, and any relevant subsidiaries or partnerships that support capabilities.

POWER Engineers, Incorporated, a wholly owned subsidiary of WSP USA Inc., was founded in 1976, and is an employee-owned company with more than 4,000 employees in 45 offices throughout the United States. POWER began as a provider of design services for power delivery infrastructure. We have been providing GIS services since 1989. We have since grown into a leading consulting and engineering firm with a top-five ranking by Engineering News Record.

POWER Engineers was acquired by WSP, a leading global professional services firm, on October 1, 2024. WSP is one of the world's leading professional services firms, uniting its engineering, advisory and science-based expertise to shape communities to advance humanity. From local beginnings to a globe-spanning presence today, WSP operates in over 50 countries and employs approximately 73,000 professionals, known as Visioneers. Together, POWER and WSP are helping clients and communities around the world adapt to the changing energy landscape, drawing on the expertise of our professionals who provide solutions to the energy, transportation, infrastructure, environment, building, water and mining sectors.

POWER Engineers corporate headquarters is in Hailey, ID.

### Relevant Project Experience

Provide high-level descriptions of at least three Utility Network projects that include electric and/or natural gas utilities, preferably projects similar in scale to Greenville Utility Commission's requirements.

For each project, detail the scope, objectives, challenges encountered, and the outcomes achieved, emphasizing multi-utility deployments, scalability, and adaptability to technological changes.

If available, include references to relevant case studies, white papers, or public-facing project summaries that highlight successful implementations.

POWER has been involved in GIS services for decades and became an Esri business partner in 1989. Very few companies have worked with Esri as long as POWER (our Esri customer number is #244) and we were recently awarded the Foundation Partner Award from Esri for 30+ years of partnership. As a Gold level business partner, POWER was in the very first group to achieve the Utility Network Specialty certification. We also received a special award from Esri at the IMGIS conference for our work in helping to get the first electric utility into full production on the UN.

POWER offers a full range of geospatial and asset management solutions for electric and gas utilities, telecommunications, water, wastewater, treatment plants, municipal permitting, and public works companies. Our Advanced Utility Solutions (AUS) team has 70 professional consultants from multiple industries with solid records of successful geospatial technology implementations and an average of 20 years of experience in the industry. POWER's deep knowledge of networks and linear assets positions us uniquely in the geospatial industry. Our team of professionals takes pride in providing top-notch service.

These are just a few of the strengths that set us apart:

- Our resources are strong contributors to the success of Esri, Cityworks and other software that is used for enterprise operations in the municipal utility industries. We apply best practices to increase the value of your data investment in a connected GIS model
- Our experience extends from the legacy Esri tools to the Utility Network Model Extension. There is no other full-service engineering firm that has the level of GIS expertise of POWER

- Our deep utility experience with many of the municipal and water utilities in the US allow us to understand and support the goals of your business and provide knowledgeable and cohesive resources for your project
- We have all the resources in-house to complete a GIS project that requires strategic planning, design, data migration, data manipulation/augmentation, quality assurance, implementation, integration, training, deployment, and ongoing support

Our client projects range in size from small municipalities and public utility districts like Provo, UT, Green Bay Water Utility and Kaukauna Utilities to large-scale projects at PNM Resources, Idaho Power, and Los Angeles Department of Water and Power.

Our principal consultants are recognized for their contributions to award-winning projects and are highly regarded in the industry for their commitment to the success of each project.

POWER has performed dozens of successful Utility Network (UN) projects using a proven process to complete them effectively and efficiently for each client. POWER was the first company to receive the Network Management Specialty designation from Esri. This endorsement recognizes our expertise with utilities and the implementation of solutions and services using the ArcGIS Utility Network Management Extension. This experience also allows us to understand the impact and requirements of migrating to the UN. Including:

Project Management: The UN conversion can greatly impact GUC and will benefit from POWER's project management experience. The project will be run by experienced project managers who have successfully completed multiple UN projects. POWER's project management approach aligns with the industry standard Project Management Institute's (PMI) best practices tailored to GUC's requirements.

Industry Expertise: The POWER team has the expertise to understand and discuss the unique concerns of GUC, from engineering to the source GIS that provides quality network and asset data for operations. No other team will combine the expertise and resources that provide:

- Utility design knowledge of the Electric and Gas features that make the Esri data model and digital representation of the network
- Consultants who know how the UN can support executive and operational requirements
- The understanding of the source data and the utility-specific operational systems that utilize and leverage the GIS
- The importance of the network model and how your Esri GIS will evolve in both the short and long term
- Project managers that have commodity-specific hands-on experience with implementation and integration to Esri's UN
- POWER has provided infrastructure, system architecture, custom development, system integration, business process analysis, data modeling, and data migration services to a large Telecommunication Design, Engineering, and Construction firm to migrate their operations to the AWS cloud

Integrations and Applications: GUC will benefit from POWER's extensive experience integrating systems and applications to GIS and the UN, including:

- Advanced Distribution Management Systems (ADMS)
- Customer Information Systems
- Enterprise Resource Management Systems
- Design and Engineering Software
- Enterprise Asset and Work Management Systems (Trimble, Maximo, Cityworks, SAP, etc.)
- GIS and Disparate Data Source Migrations and Synchronizations
- Custom Applications

Data Assessment and Management: The POWER team has a well-defined and proven process for developing a comprehensive and detailed assessment of utility data to support the planning and implementation of the UN. Deliverables include detailed data mapping documents, detailed error remediation reports, and sample client data migrated to the UN. POWER doesn't just provide a cursory UN assessment. POWER's process includes an initial conversion of GUC data to the UN using POWER's complete suite of data tools that have been developed and refined over numerous migrations. The complete migration to the UN allows for GUC to test the full functionality of the UN (subnetworks, tracing, containment) while reducing risks for full deployment of the UN.

Change Management: POWER aims to manage the implementation process effectively to minimize disruption to the organization and its stakeholders.

GIS Infrastructure, Environment, and Software: POWER's approach to system Architecture Design/Support is focused on effectively managing hardware infrastructure, software infrastructure, and dependencies on current and future vendor architecture throughout the lifetime of the GIS applications and systems. POWER's System Architecture team has developed, deployed, and supported ArcGIS Enterprise for our UN clients in both on-premises architecture and cloud architecture.



In addition to being an Esri partner, our team also holds certifications as Enterprise System Administration Professional, Amazon Web Services (AWS) partner, Certified Cloud Practitioner, Certified SysOps Administrator, and Certified Solution Architect.

Successful Utility Network Projects

POWER has performed Utility Network assessments, road maps and migrations/conversions for similar organizations. Below are some of the successful Utility Network projects we have completed or are currently in progress.

Utility Network Clients

Schneider Electric Partner

As a longtime partner of Schneider Electric, POWER has extensive experience implementing and integrating Schneider's ArcFM, ArcFM Designer, as well as the new ArcFM Solution XI Series. These experiences include implementing, integrating with other solutions, and supporting day to day operational use of applications.

## Trimble Experience:

As an organization that has been providing Asset Management consulting and System Implementation services for over 25 years, POWER is uniquely qualified and experienced with enterprise asset management consulting and software implementation projects.

With POWER, GUC will gain the following:

- Industry Specific Experience and Knowledge. POWER's consulting team is recognized for their industry expertise that helps our clients save money by doing things right the first time. We understand the pros and cons of various industry-specific asset management workflows, processes, and business requirements necessary for GUC to reach their project goals
- Trimble Platinum Partner. POWER has helped numerous customers integrate Trimble with their migrated Utility Network GIS data. As a Trimble Platinum partner, POWER is uniquely qualified and experienced with Trimble implementation and integration projects

Proven Success and Experience. POWER is an expert in the Trimble platform, with more than 200 implementations for cities and utilities around the country. We are one of the preeminent Unity Maintain (Cityworks) consulting firms and our experts are frequently requested across the utility industry to design, develop and deploy Unity integrations to utility-specific business systems. Our certified Asset and Project Management Professionals have established and used industry standards and workflows in successful implementation projects.

Trimble Platinum Services Partner

Institute of Asset Management IAM CORPORATE MEMBER

## Milsoft Windmil Experience:

The POWER Network Extractor can export and transform your Utility Network model into third-party application input formats such as Milsoft's WindMil. With the POWER Network Extractor, you gain a greater return on investment from your Utility Network model and help advance your utility's business processes through seamless integrations. Many of POWER Engineer's Utility Network clients are using this extractor to the interface to Windmil.

## Transition Management

There are basically two approaches most clients are using when transitioning to the Utility Network. The first approach is the "Big Bang" approach. This approach switches all systems over to the Utility Network at once. This approach requires that all interfaces be built and operational when the UN goes live.

The second approach is the Dual Network approach. This approach allows for the GN and UN to be run in parallel. This is typically a sync process that runs at certain times to refresh the UN from the GN data. This allows integrations such as Engineering Analysis, OMS, and ADMS to be incrementally transitioned to run against the UN.

Most clients are selecting to do the Dual Network UN approach because of the time it takes to develop the new interfaces and deploy new software that is compatible with the UN. POWER has experience developing and deploying tools to implement the Dual Networks approach.

## Integration Experience

The Utility Network Model is designed to seamlessly integrate with third-party applications and tools through standardized APIs, ETL workflows, and interoperability frameworks. Integration designs are very dependent on clients operational and technical requirements, and we adapt to develop solutions that fit each client's specific

needs. For the UN, RESTful services for the basis for consistent and API based solutions need to integrate data flows and workflow processing event. Our unique ability to adapt to fit client's needs has allowed us to develop solutions that leverage technologies such as FME, Apache Kafka, and POWER's own integration technology where utilities can facilitate real-time data exchange with SCADA, ADMS, OMS, EAM, and analytics platforms. Additionally, custom Python scripts, ArcGIS Pro SDK, and web services enable enhanced automation and workflow customization. This integration capability ensures that external systems can consume and update Utility Network data while maintaining data consistency, security, and performance, supporting a fully connected and interoperable digital grid ecosystem.

Examples of POWER's integration to the Esri Utility Network:

| | | |
|---|---|---|
| Denton Municipal Electric | OSI ADMS<br>SE Designer<br>Maximo<br>Harris Northstar | POWER supported the system architecture and the design of the UN to support ADMS and Designer software at DME. We also assisted with the development of UN services to integrate with Maximo. We are in the process of developing an UN integration to Harris Northstar. |
| Connexus | *CIS to GIS – Meters*<br>*CIS to GIS - Account/Meters for MDM*<br>*CIS to GIS - Active customers and premises*<br>*GIS to EDW - GIS Transformer Hierarchy*<br>*GIS to NISC - Service Location Changes - Updated GIS Service Points*<br>*GIS to WAMS - Equipment Re-Sync*<br>*WAMS to GIS Equipment - Equipment*<br>*WAMS to GIS Equipment - Update and Post to GIS* | POWER developed a number of integrations as part of the Connexus Utility Network deployment. |
| Milsoft Windmil | Network Extractor | The POWER Network Extractor can export and transform your Utility Network model into third-party application's input formats such as Milsoft's WindMil, CYME, Synergi, or ETAP |

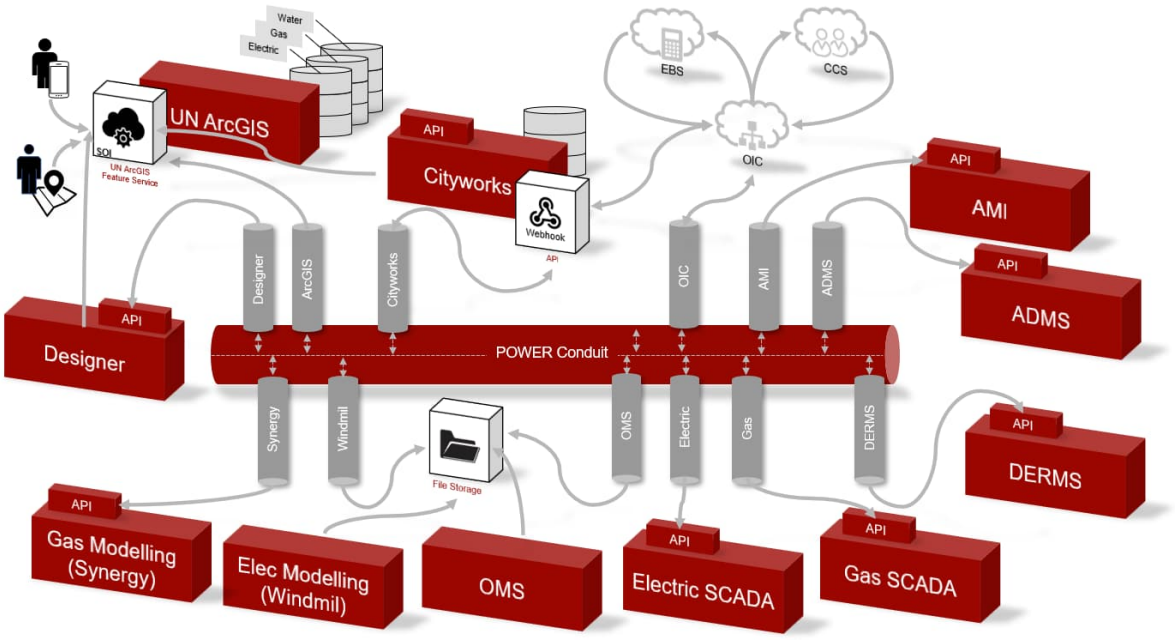
One project that highlights our integration experience is the Los Angeles Department of Water and Power GIS project. LADWP selected POWER's AUS division to implement an enterprise-wide Esri-based GIS platform. POWER served as the prime contractor managing the data conversion from FRAMME to Esri utilizing Safe Software's FME product and the customization and development of GIS applications to support LADWP Power Systems Engineering. This $12M project included all the integrations that were incorporated in the legacy mapping system and new integrations with Oracle CC&B. The system allows LADWP to serve their 1.4 million customers better and provide mobile and web-based capabilities for the largest municipal utility in the US.

The implementation of ArcGIS and ArcFM form the basis for the Enterprise GIS. The addition of Cityworks Asset Management fulfilled the system requirements to manage the enterprise task flows for inspection, maintenance, and engineering design activities.

Integrating the GIS with other systems (Oracle CC&B, Schneider Electric ArcFM and ArcFM Designer, CGI Pragmaline, Bentley ProjectWise document management, CGI Asset & Resource Management (ARM), Cityworks Asset Management) was a large component of the project.  POWER has experience designing, building, and managing production level interfaces for the energy industry.

When our System Architecture team works with our client's IT and GIS teams, integrations can often be developed with different designs based on client needs. It is notable to mention that POWER has a standard approach offered to clients for integrating data and processing between disparate systems (see included diagrams based on GUC's current and potential future needs). The POWER Conduit is based on a pluggable message broker implementation leveraging the Advanced Message Queue Protocol (AMQP) to support both near real-time and scheduled data migrations between multiple services simultaneously. This integration design provides for flexible, scalable, loosely coupled application integrations, and a consistent management of communication patterns between different systems.

POWER provides the POWER Conduit solution as fully managed cloud service offering, or alternatively as on on-premises solution. The advantage of the cloud solution is that the deployed integrations are monitored, supported and administered to meet the messaging service level agreement.



The POWER Conduit can support event-driven or scheduled integration between producers and consumers of different application data. Each integration typically relies on published APIs from each application vendor and the POWER Conduit translates and orchestrates the data exchange between applications. The consistent integration methodology can be implemented for as foundation for the data exchange/processing related to ADMS, DERMS, OMS, AMI, Schneider ArcFM and Designer, Trimble Unity, Milsoft Windmil, CCS and reporting solution integration as required.

As illustrated in the diagram above, integrations supported can be message based, file based, or multi-bus integrations such as Kafka for streaming internal operational SCADA data or as pictured integrating with OIC for Oracle cloud services integration with CCS.

The POWER Conduit consists of the main Conduit message bus that manages the delivery of messages. Developers will create Couplings that act on and process messages that are of interest.

The Coupling serves as a bridge between different systems and the Conduit message bus, enabling them to communicate effectively. As previously mentioned, the POWER Network Extractor is an example of processing logic that forms a component of a Coupling to detect changes in the UN GIS database. Key features of a Coupling include:

- Translation: It translates message formats and protocols between the Conduit message bus and the connected systems, ensuring compatibility
- Routing: It facilitates the correct routing of messages to the appropriate destinations within the Conduit message bus infrastructure
- Integration: It allows external applications to hook into the Conduit message bus without needing to refactor their existing messaging protocols
- Command Handling: It supports a common command structure that all participants in the Conduit message bus can understand and execute

Overall, a POWER Conduit Coupling simplifies the integration process, making it easier for disparate systems to work together in a unified manner. We believe this approach improves business technology operations aimed at improving reliability, performance, and resiliency through the enhancement of business infrastructure and our approach provides solutions that automate and optimize the extraction of data from multiple sources and load it efficiently into data platforms.

### Project References

List three client references with contact information (name, title, organization, phone, and email) for similar UN projects. These references should reflect the vendor's experience in multi-utility Utility Network implementations.

## Modern Electric Network Management

| | |
|---|---|
| Client: | City of Denton, Denton Municipal Electric (DME) |
| Location: | Texas |
| Reference: | Jerry Looper, *System Operations and Compliance Division Manager* \| (940) 349 7676 \| jerry.looper@cityofdenton.com |
| Duration: | 2 Years |

Recognizing the need to enhance its electric system management, Denton Municipal Electric (DME) embarked on a significant project to upgrade its GIS systems. With the goal of achieving operational excellence, DME

partnered with POWER Engineers for their proven expertise in modern network management and intense focus on client needs.

The project entailed a comprehensive transformation, moving from Esri's Geometric Network to the sophisticated Utility Network using Esri's ArcGIS Pro and ArcGIS Enterprise solutions. This integration included implementing Esri's Utility Network Management extension alongside ArcFM enterprise solutions, signifying not just a technological leap but also a strategic advancement for DME.

### Highlights

- DME shifted from a legacy model to a state-of-the-art GIS-based network model that allowed for intricate modeling of substations and transmission systems
- The new system introduced advanced analytics capabilities, resulting in improved precision in managing electric networks and elevating service reliability
- Standardization across data sets enhanced overall data quality, facilitating better asset management within DME's Advanced Distribution Management System (ADMS)

### Project Features

- A shift from the Geometric Network to the Utility Network paved the way for more intelligent system management
- Implemented technologies include ArcGIS Enterprise, ArcGIS Pro, Utility Network Management extension by Esri, and ArcFM solutions
- POWER's customizable approach ensured alignment with DME's specific goals of upgrading their network

By utilizing POWER's exclusive tools and methodologies tailored for utility networks, DME is now equipped with a robust platform capable of performing detailed asset analysis. This pivotal upgrade has laid a solid foundation for informed decision-making processes that are critical in modern utility management.

The successful implementation stands testament to POWER's capacity to deliver innovative solutions that resonate profoundly with utility providers' ambitions—transforming their operational frameworks while optimizing customer engagement strategies through cutting-edge GIS technology.

## Utility Network Migration

| | |
|---|---|
| Client: | Connexus Energy |
| Location: | Minnesota |
| Reference: | Matt Claypool, *Manager, Electric Operations Services* \| (763) 323 2600 \| matt.claypool@connexusenergy.com |
| Duration: | 4 Years |

Connexus Energy embarked on a transformative journey to migrate its existing interfaces, applications, and business processes to the Esri Utility Network (UN), partnering with POWER Engineers to achieve their strategic goals.

### Highlights

- With a focus on establishing a resilient Enterprise GIS to streamline business operations, enhancing efficiency in planning and engineering analysis, improving data management capabilities, and laying the foundation for future Advanced Distribution Management System (ADMS) integration, this collaboration led to significant milestones

### Project Features

This project was scoped into 3 phases:

- Phase 1. Utility network readiness assessment and roadmap
- Phase 2. Established an initial Utility Network model that serves as a like-for-like replacement of the existing GIS and replacement of the ArcFM Web
- Phase 3. Go-live of existing interfaces and applications for the new UN, including Graphic Work Design tool, the OMS, the SCADA system, Web Applications, and Mobile applications

## Utility Network and IT Planning Support

Client: New Braunfels Utilities

Location: Texas

Reference: Karen Lizcano, GIS Admin | (210) 669 3083 | klizcano@nbutexas.com

Duration: 6 Months

New Braunfels Utilities (NBU) had been using Esri's GIS platform (including ArcMap and the Geometric Network) along with Schneider Electric's ArcFM suite of products for many years.

### Highlights

- Their legacy GIS was the source of truth for most of NBU's electric, water, wastewater, and fiber assets. It was integrated with a variety of systems and was used by many NBU departments as well as customers
- At the time of this project, the Esri market was making a major transition from the Geometric Network (GN) to the Utility Network (UN), and NBU needed a solid roadmap to navigate from the current legacy GIS to a new, modern GIS over the span of several years
- NBU reached out to POWER Engineers to guide them in outlining the steps, timelines, budget, and resources required to successfully modernize these important technologies

### Project Features

- First, POWER performed a needs assessment to gather and document current state details, high-level business requirements, and organizational priorities
- Based on the needs assessment and knowledge of industry trends and best practices, POWER then developed a tailored four-year roadmap with a phased implementation schedule and budgetary estimates that NBU could use to secure the required budget and move forward with confidence

## Esri UN Assessment and Roadmap

Client: Turlock Irrigation District

Location: California

Duration: 5 Months

Since the Esri market was in the early stages of making a major transition from the Geometric Network (GN) to the Utility Network, there were a lot of unknowns with the new platform. Before embarking on a major GIS replacement project, Turlock Irrigation District TID brought in POWER to perform a Utility Network Readiness Assessment and provide a strategic roadmap for future implementation activities.

### Highlights

- The needs assessment evaluated TID's business requirements for GIS at a high level and included interview sessions
- POWER reviewed existing diagrams and documents from TID that showed the systems with which the GIS was interfaced to better understand the existing TID environment
- After evaluations and interviews, POWER prepared, reviewed, and finalized the GIS Strategic plan roadmap with TID
- Once complete, POWER prepared a presentation for TID to communicate the results with TID's management team and other stakeholders

### Project Features

- Onsite interview sessions with management and key stakeholders
- Successful finalization of GIS Strategic Plan roadmap
- GIS Strategic Plan presentation
- Utility Network Readiness Assessment
- Gathered, documented, and classified basic business requirements that were relevant to the GIS strategy

## UN Migration for Electric and Irrigation

Client: Turlock Irrigation District

Location: California

Duration: 4 years

POWER Engineers has been engaged by Turlock Irrigation District (TID) in a multi-year effort to provide improved GIS capabilities via Esri’s ArcGIS Utility Network (UN).

### Highlights

- After a thorough road-mapping effort in 2020, POWER partnered with TID in 2021 to execute Phase 1 of UN migration for their Electric and Irrigation networks

- Those preparatory efforts included in-depth data assessments, source data cleanup planning, establishing UN standards, an extension of the UN model, and generating a Shadow UN geodatabase
- Subsequent phases performed extensive source data cleanup and implemented the Shadow UN in TID's production environment
- The Shadow UN was updated automatically while TID's editors continued to operate in the existing geometric network

### Project Features

- POWER also developed automated extracts from the Shadow UN to support dependent applications such as their engineering analysis tools
- The final phase links the Shadow UN to all other interfacing applications, tools, and reports
- At that time, the geometric network will be turned off, and all user interaction will be in the Utility Network

## Utility Network Planning and Implementation

**Client:** PNM Resources

**Location:** New Mexico

**Duration:** 4 Years

To gather the entire impact of the migration to the UN, PNM Resources (PNMR), which includes Public Service New Mexico (PNM) and Texas New Mexico Power (TNMP), employed POWER to assess the entire migration, customizations, integrations and provide a comparison of third-party tools against out of the box capabilities. This was the predecessor of the creation of a detailed task plan with a timeline to make a full migration to the Utility Network.

PNMR relies heavily on ArcFM tools to provide workflow and quality assurance to their electric network topology. Years of customizations and integrations needed to be cataloged to understand the magnitude of the migration and the change needed to get closer to an out-of-the-box solution. This was also the time to re-evaluate design solutions and prepare for operations changes in Advanced Distribution Management.

Realizing this deprecation of their existing GIS and the amount of time needed to prepare and plan for this undertaking, PNMR turned to POWER to lay out a roadmap to the Utility Network. POWER completed an assessment of both PNM and TNMP's Geometric Networks so they could be combined into a single model with common domains and nomenclatures.

Along with the standard assessment tasks, POWER dug deep into custom code and integrations to evaluate the rewrite capabilities needed for the requirements going forward. There was also support for the selection of a new graphic work design package that was subsequently added to the roadmap.

Phase 2 of the project implementation has been awarded to POWER and is just starting its 2-year journey to completion.

### Highlights

- Consolidated Model: POWER supported a consolidated model between features used at both PNM and TNMP to better prepare for Utility Network migration
- New Graphic Work Design Tools: POWER supported demonstration scripts and requirements for a GWD product that would not complicate the Esri Versioning system

- Custom Code Requirements and Cataloguing: All customizations were cataloged and categorized for rewrite, contained in the core products, or no longer required. Additional requirements were cataloged to meet the needs of the consolidated model

Project Features

- UN mapping standards workshops to combine 2 operating utilities into a single model
- Technology audit that identified and categorized 95 customizations and 31 integrations to determine the level of effort needed going forward
- Complete functional requirements traceability for GIS, Work Management, Asset Management, Graphic Work Design, and Fiber Optics mapping

## Utility Network Readiness Assessment and Data Conversion

Client: SEMCO Energy Gas Company

Location: Michigan

Duration: 3 years

Recognizing the benefits of the Utility Network, but unsure of the level of effort and cost to convert its current ArcGIS system to the UPDM 19 Utility Network data model, SEMCO Energy was looking for a low risk and cost-effective way to assess their data while gaining valuable insight into ArcGIS Pro and the UPDM 19 gas data model. SEMCO Energy chose to perform a Utility Network Readiness Assessment (UNRA), which included deploying and establishing an internal UN sandbox environment to prepare for acceptance of the UN Asset Package deliverable containing SEMCO's gas data and provide hands-on experience to SEMCO's resources with the new technology. The primary objectives of the UNRA were:

- Gain insight into how existing (and future) GIS interfaces, third-party tools and customizations might be met using core Esri Utility Network functionality and third-party tolls that support the Utility Network
- Support budgetary planning with confident estimates for the level of effort required to convert SEMCO’s gas networks to the Utility Network
- Increase the level of Utility Network expertise within SEMCO for both managers and technical staff and to facilitate internal knowledge transfer
- Gain sufficient insight into the Utility Network to develop an obtainable schedule for their transition to this new technology
- Better understand the level of effort and cost to standardize SEMCO's gas GIS model across all five of its service regions
- Understand the capabilities of ArcGIS Pro and the UN to model city gate stations and regulator stations in more detail in the GIS
- Build and implement a data model which will support SEMCO's GIS growth for the next decade

After the UNRA was completed, SEMCO and POWER worked together on source data cleanup, system integrations, tailoring and end user training before deploying the Utility Network solution into SEMCO’s production environment.

### Highlights

- Delivery of a comprehensive Data Assessment Report, including a gap analysis between the five existing SEMCO data models and the current core Gas geometric network schema, documenting gaps and recommendations on extending the model to support the Utility Network
- Delivery of a customized and comprehensive Go Forward Plan
- Pilot Data (UN Asset Package) loaded in the Enterprise Development environment at SEMCO
- Built and deployment of Feature Services and Web Maps published for use in the development environment

### Project Features

- Utility Network UPDM19
- ArcGIS Enterprise 10.6.1
- ArcGIS Pro 2.2.2
- Project Service

### Project Services

- ArcGIS Pro Installation
- Data assessment
- Data model analysis
- Pilot Data Conversion
- Automated and Manual data and network cleanup
- Strategic consulting for developing and implementing a GIS UN Go Forward Plan
- Gather and document the integration requirements for Synergi pipeline integrity software
- Gathering and documenting the integration requirements for OnBase document management software

## Utility Network Migration Support

Client: City of Provo

Location: Utah

Duration: 3 years

The City of Provo's GIS is an integral part to the organization. It plays a key role in the successful operation and maintenance of the City's water, sewer and stormwater assets. In order to better support their operation and maintenance of their assets, the City determined they would need to migrate their data model from the Esri Geometric Network to the new Esri Utility Network which would mean a complete change in workflows, map products, data models and software.

In order to maximize their investment in the new technology for their organization and customer base, the City hired POWER as a technical advisor and mentor for their internal staff. This leveraged the City's strong internal knowledge of processes, challenges and data while also having access to technical experience and advice as they moved to the Utility Network.

The initial migration focused on a core set of network attributes for all the feature classes required in the Domain and Structure networks in the Utility Network Asset Packages (Water, Storm, Sewer). Automated data cleanup fixes were applied to resolve any configuration or data enrichment issues encountered during the network build and subnetwork tracing processes. The type and frequency of issues encountered were fully described in the data assessment document. The automated fixes included implementing an additional set of rules that allowed the core asset package to reflect the current data model and business practices. Recommendations for data model extensions, source data cleanup, data enrichment, and configuration changes were fully described in the Data Assessment document.

### Highlights

- Established Development Environment
- Performed a Gap Analysis
- Installed Core GIS software (Storm, Water, and Wastewater)
- Loaded Initial Model
- Completed Initial Data Mappings
- Assisted with Selection of the Conversion Tool
- Identified Data Quality Issues and Created Quality Assurance Document
- Provided Data Conversion Assistance
- Completed a Data Assessment
- Miscellaneous support
- Type of Experience
- Final Review and Wrap-up

### Project Features

- ArcGIS Enterprise 10.7.1
  - ArcGIS Server
  - ArcGIS Portal
  - ArcGIS Data Store
  - ArcGIS Web Adaptor
- ArcGIS Pro 2.5
- Utility Network model for water, wastewater and storm

### Project Services

- Established Development Environment
- Performed a Gap Analysis
- Installed Core GIS software (Storm, Water, and Wastewater)
- Loaded Initial Model
- Completed Initial Data Mappings
- Assisted with Selection of the Conversion Tool
- Identified Data Quality Issues and Created Quality Assurance Document
- Provided Data Conversion Assistance

- Completed a Data Assessment
- Miscellaneous support
- Type of Experience
- Final Review and Wrap-up

# SECTION 3: APPROACH AND SOLUTION DESIGN

## System Design

Provide a high-level description of the vendor’s approach to designing UN systems for multi-utility environments, including key points of data model selection and modification.

Our approach to designing Esri's Utility Network systems for electric and gas utility environments follows a methodical, enterprise-focused framework that maintains separate network structures while leveraging enterprise-wide data management practices. We begin with a comprehensive assessment of the organization's current systems, workflows, and business requirements across both electric and gas domains. This evaluation ensures that the resulting design addresses the distinct operational needs of each utility while maximizing enterprise efficiency.

Key Design Principles

1. Segregated Network Architecture: Implement separate electric and gas network models, each optimized for its specific domain requirements and regulatory compliance needs
2. Service-Oriented Foundation: Leverage Esri's service-based architecture to build scalable, interoperable systems that can grow with organizational needs
3. Phased Implementation Strategy: Design with modular components that enable phased deployment, allowing for implementation of one utility domain before extending to the other
4. Business Process Alignment: Prioritize workflows and data structures that support core business processes for each utility domain

## Integration Strategy

Summarize the vendor’s approach to integrating UN with CIS, SCADA, GIS, OMS, modeling, planning and design, and potentially ADMS and DERMS, providing examples from similar projects where multi-platform integration was successfully achieved.

The POWER Team will conduct several integration discovery sessions to identify and document the detailed system integration requirements. The Integration Workshops will help GUC's team identify the scope of the integrations that needs to be created by addressing the following questions:

- How systems will be integrated?
- What Data Objects will be integrated?
- What is the data structure?
- What is the best integration approach?

The deliverable for this task will include a 3-day integration workshop and a high-level integration plan.

Once the integration plan has been developed, POWER will document the integration design. POWER has experience developing and supporting the requested integrations including, ADMS, OMS, AMI, Schneider ArcFM and Designer, Trimble Unity, Milsoft Windmil and CIS.

## Work Plan

Compile an overview of the approach to work plan generation to accomplish data model selection, identification of data issues, and data corrections. Include a high-level example of a plan that was successfully executed.

### GIS Data Readiness Assessment

POWER will complete a GIS data readiness assessment for the electric and gas data models. This assessment will compare the GUC data models against the UN data models and evaluate the electric and gas data sets for migration into the UN.

### Data Modeling

POWER will perform a fitting analysis for the GUC Electric and Gas data models against the corresponding Esri Utility Network data models to document gaps and opportunities for extending the Utility Network data model. Upon completion of the fitting analysis, POWER will meet with the GUC to review any issues and to plan for the resolution of the found issues, including any requirements for extending the Esri Utility Network data model schema.

- Identify all objects that are to be converted to the new GIS database
- For those objects to be converted to UN features, review the existing data, field types and values to determine potential mapping issues
- Identify existing fields that could potentially be added to extend the model
- Identify source data updates that should be made prior to a conversion

### Data Quality Assessment

- POWER will utilize its existing tools and processes to perform a data quality assessment on the GUC 's GIS data once it has been migrated to the Utility Network model
- POWER will identify and document the rules and configuration required to support the connectivity, network tier, and device groupings required for the Electric and Gas models, Utility Network Configurations, capturing the results in the Data Assessment Report
- POWER will document the data issues encountered and the recommended cleanup process in the Data Assessment Report

### Data Assessment Report

- POWER will compile a Data Assessment Report that provides a detailed breakdown of the electric and gas data models, data quality, and data conversion issues that will need to be resolved to establish a connected and traceable Utility Network model. POWER will identify the resolutions that can be automated, and which issues will require manual cleanup
- The Data Assessment Report will include the following information:
    - Data Model Gap Analysis
    - Opportunities for extending the data model
    - Data Quality Issues identified
    - Preliminary source data cleanup recommendations
    - Preliminary Utility Network geodatabase

- File geodatabase containing the source data cleanup issues

### Transition Management

Notate key items for consideration when developing a transition plan from Geometric Network to Utility Network including resources and impact to processes while maintaining concurrent deployments.

Switching from the Geometric Network to Utility Network is a significate business change that requires careful planning. One approach is the Parallel Network Strategy. The dual-network implementation framework includes the following:

1. Transitional Architecture Design:
    - Deploy Utility Network alongside existing Geometric Network in parallel environments
    - Establish clear data ownership and system of record designations during transition
    - Design synchronized update processes between networks to maintain consistency
    - Implement validation routines to ensure data integrity across both networks
2. Synchronization Strategy:
    - Develop scheduled ETL processes for data updates between networks
    - Implement automated validation checks to verify successful synchronization
    - Configure error handling and notification systems for synchronization failures
    - Establish cadence for synchronization based on operational requirements
3. Integration Management:
    - Maintain existing integrations with OMS and other systems via the Geometric Network
    - Gradually transition integrations to the Utility Network as system readiness permits
    - Configure planning and design systems to leverage Utility Network capabilities
4. Change Management:
    - Implement version management strategies across both network environments
    - Establish conflict resolution procedures for simultaneous updates
    - Create audit trails to track changes across both environments
    - Design rollback procedures for unsuccessful synchronization events
5. Transition Timeline:
    - Define clear criteria for full migration to Utility Network as the system of record
    - Establish deprecation schedule for Geometric Network functionality
    - Create training and transition plan for users and dependent systems
    - Develop contingency protocols for critical operational processes

This parallel operations approach allows for gradual adoption of Utility Network capabilities while maintaining operational continuity through existing systems and processes. The staged transition minimizes risk while allowing the organization to begin leveraging advanced Utility Network functionality for planning, design, and analytics immediately.

The POWER Team will conduct a transition workshop to identify the best approach for GUC and outline the preferred approach in the assessment documents.

## System Architecture

Outline approach of addressing architectural changes and considerations. Include examples of successful implementations where users have high confidence in reliability of data and system availability.

POWER's System Engineering team will assess and design a robust system architecture for ArcGIS implementation, ensuring it meets the client's operational requirements and strategic goals. Solution design, architecture sessions and reviews will be conducted, resulting in the recommended design and architecture consistent with currently available Esri recommendations and the GUC technology requirements.

Experience and Capabilities

Extensive Client Engagements: Since 2018, our System Engineering team has collaborated with over 100 clients, providing expertise in system architecture, administration, maintenance, upgrades, and managed services for ArcGIS projects and system integration projects. Our clients range from small utilities in electric, gas, water, and local governments to large organizations and cities, including the City of Los Angeles Department of Water and Power.

Collaborative Approach: We work closely with client GIS and IT teams to create best-in-class architecture for ArcGIS. Our experience spans on-premises data centers, co-location facilities, and public cloud providers such as Amazon AWS and Microsoft Azure. We support both Windows and Linux-based server deployments and various database management systems, including Microsoft SQL Server, Oracle, and PostgreSQL. Our solutions cater to a wide range of users, from a handful to over 700 active in-office and field users.

Managed Services: We offer fully managed AWS cloud services and GIS Managed Services for monitoring and administration of clients' on-premises or cloud environments. Our monitoring software ensures optimal performance and reliability.

Certifications: Our System Engineering team holds numerous certifications, demonstrating our expertise and commitment to excellence:

- AWS Certified Solutions Architect - Associate
- AWS Certified SysOps Administrator – Associate
- AWS Certified Cloud Practitioner
- AWS Certified AI Practitioner
- AWS Certified AI Practitioner - Early Adopter
- ISC2 Certified in Cybersecurity
- Esri Enterprise Administration Professional 2201
- Esri ArcGIS Online Administration Associate 2024
- Esri Enterprise Geodata Management Professional

Assessment Approach

The approach we take in developing a robust system architecture design for clients begins with listening to clients as they describe their current operating environment, challenges, and opportunities. This assessment of the current state is accomplished with two primary activities.

1. Comprehensive Requirements Analysis

We begin by evaluating all aspects of the current GIS and how it operates in context with the business processes. This includes:

- User Workflows: Define how users access and use the GIS environment
- User Demographics: Assess the number of desktop users, web users, and field workers, along with their locations
- Data Volumes: Determine the volumes of data to be managed
- IT Standards: Align with client IT standards and best practices
- Disaster Recovery: Define disaster recovery requirements
- Infrastructure Needs: Assess data center or cloud capacity requirements
- Integrations: Identify the number and type of integrations needed
- Security: Evaluate security access control and data security requirements
- Non-production Environments: Determine needs for development, test, and staging environments
- Cloud Connectivity: Assess cloud connectivity requirements
- Network Performance: Consider network performance, especially for remote workers in rural or satellite office locations
- Performance, Scalability, Security, Reliability: Ensure the system meets these critical requirements

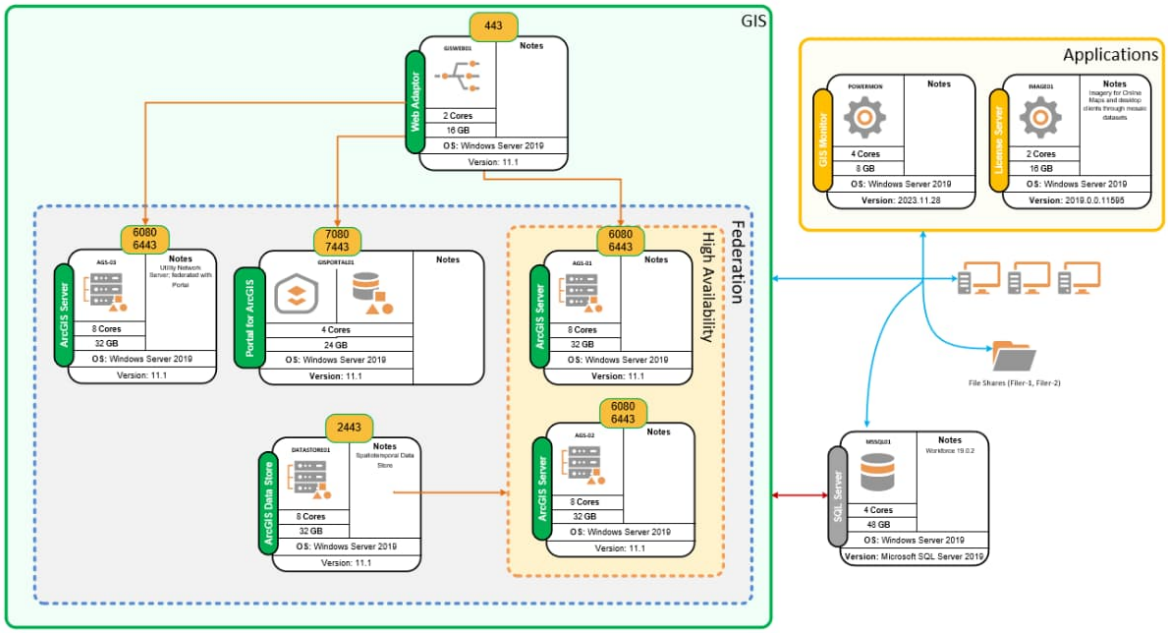
This activity is performed through workshops usually with the GIS teams, IT teams, and in some cases with external system stakeholders. The number of workshops often depends on the size of the organization, the complexities of the GIS operating environment, external system dependencies and integrations.

2. Current GIS Environment Evaluation

Our team reviews the existing operating environment and the client's strategic plans, whether they involve on-premises solutions or a shift towards cloud-based systems. We also define monitoring, maintenance, and administration requirements to ensure ongoing system health and performance. This effort also includes a GIS System Health Check which is a comprehensive review of actual data processing that occurs within the current ArcGIS Enterprise and servers that supports it. The Health Check also includes a review of the GIS database and statistics that are analyzed from SDE, session management, etc.

The System Architecture document deliverable will provide a detailed summary of the recommended server, storage, database, and network design that supports the collected requirements. This ensures a comprehensive and future-proof infrastructure.

An example System Architecture diagram can be seen below for on-premises environment:




Since GUC has specified significant dependencies on applications external to GIS and integrations, the deliverable will include a System Context Deliverable. Our Solution/Enterprise Architects follows the TOGAF (The Open Group Architecture Framework) system context deliverable component in the Architecture Development Method (ADM). It provides a comprehensive overview of the system architecture within the context of the enterprise. Here's a summary of its purpose and contents:

1. System Boundaries: Clearly defines the scope of the system, including what is included and excluded
2. Interactions: Describes how the system interacts with other systems, including data flows, dependencies, and interfaces
3. Stakeholders: Identifies key stakeholders involved in or affected by the system
4. Requirements: Outlines the functional and non-functional requirements that the system must meet
5. Constraints: Lists any constraints that impact the system, such as regulatory requirements, technological limitations, or organizational policies
6. Architecture Principles: Defines the guiding principles for the system architecture, ensuring alignment with the overall enterprise architecture

The system context deliverable aims to define the boundaries and interactions of the system within the enterprise architecture. It helps stakeholders understand how the system fits into the larger organizational structure and interacts with other systems and processes.

By creating a system context deliverable, organizations can ensure that their system architecture is well-defined, aligned with enterprise goals, and effectively communicated to all stakeholders.

GIS System Health Check

POWER's ArcGIS Health Check: This service helps clients upgrading to new versions of ArcGIS or related applications, investigating performance issues, assessing their architecture against best practices, adding administration and monitoring support from POWER GIS Managed Services, or proactively determining the health of their operating environment.

Scope: The health check focuses on core ArcGIS server and ArcGIS Desktop software, with a review of Schneider ArcFM and Designer applications and data.

GIS System Health Check Approach

Inspection and Survey: POWER will inspect and survey the configuration, status, and usage of key applications within the production environment, including:

- ArcGIS Desktop
- ArcGIS Enterprise (Server, Portal, Data Store, Web Adaptor, IIS)
- ArcGIS Online
- SDE and Data Maintenance Scripts
- ArcFM client workflows
- Designer workflows

The focus is on aligning these applications with best practices and assessing their performance.

Data Collection: We will run tools and scripts over several days to collect operational information. This data will be summarized, and recommendations for improvements will be documented.

Collaboration: Close collaboration with the client's GIS team and potentially the IT teams is essential. Discussions with GIS support or project teams will provide a full perspective of user behavior, application usage, and integrations.

## SECTION 4: PROJECT MANAGEMENT STRATEGY

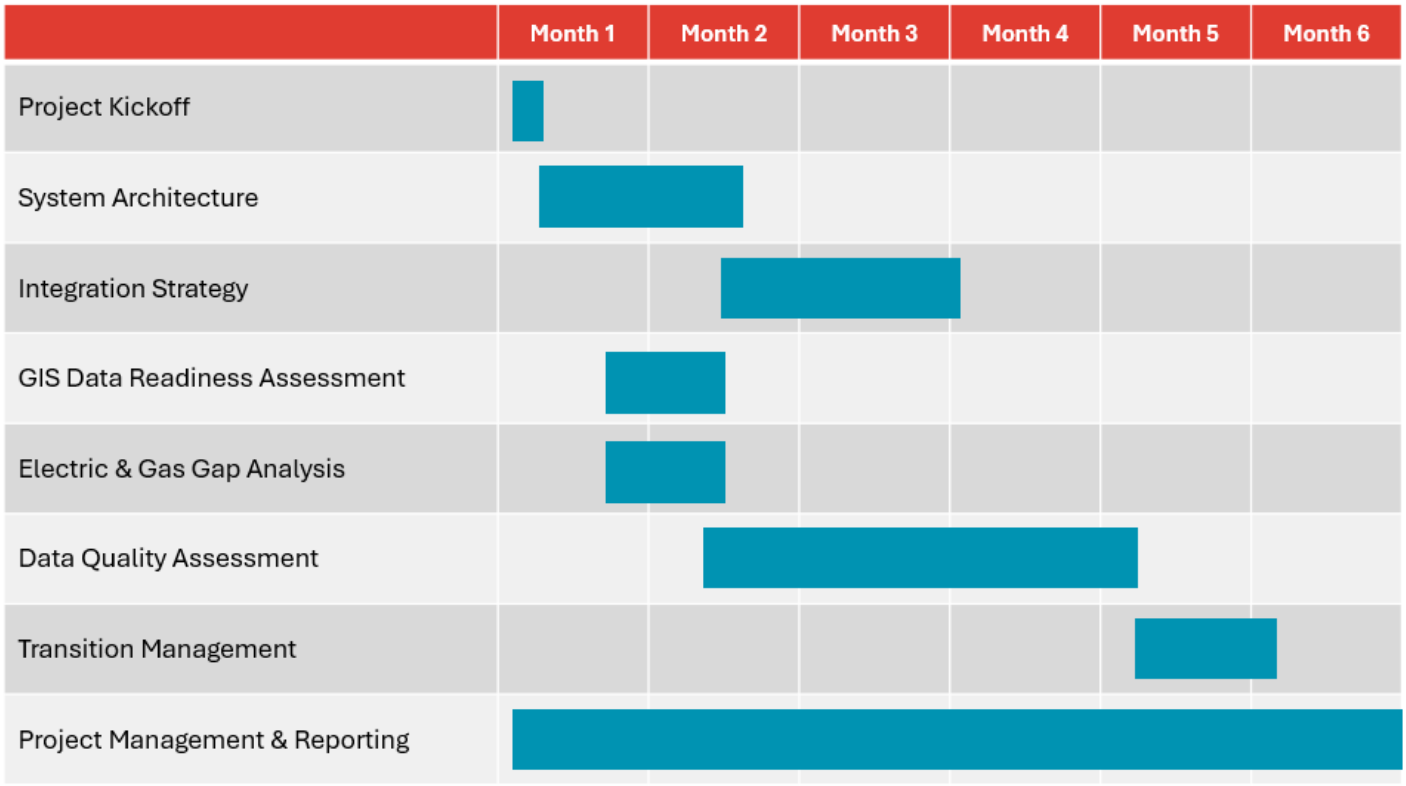
### Project Plan

Provide a sample project plan with potential resources adhering to a reasonable timeline that meets the design specifications listed above. An approach with remote resources will be considered.

POWER will provide project supervision and monitor the progress of work. POWER will hold internal team meetings as required and host meetings with GUC as needed. POWER’s project management team will also provide project controls such as document control, invoicing, and engineering schedule management. Documents provided will include meeting minutes, invoicing, and a brief status report. Meetings will be conducted using Teams.

POWER will host a project kickoff meeting to review the planned tasks, deliverables, project assumptions, and overall project schedule. The team will also decide on the mechanism for status reporting and will create and/or update a project communication plan.

Below is the proposed schedule for the project, all dates and duration are subject to change based on the contract signature dates and resource availability.



## SECTION 5: COSTS

Respondents should provide a detailed cost breakdown for services, including a proposed fee schedule for design services. Your proposal should outline both fixed-cost services and a time-and-materials approach, with a not-to-exceed price. Any cost option you present must clearly identify the necessary contingency amount.

POWER proposes to perform the tasks described above on a Firm Fixed Price basis for $189,366. POWER will invoice monthly based upon percent complete by task. Additional services can be provided at the Time and Materials rate. All POWER invoices are due 30 days after date of the invoice. Payments made after 30 days will be subject to a 1½ % per month late charge. All travel expenses, if any, for POWER project staff will be billed to GUC at cost plus a carrying and handling charge of 10%. All change orders will be performed on a time-and-expense basis using POWER's 2025 schedule of charges. This quote is valid until July 1, 2025.

## SECTION 6: DATA SECURITY AND COMPLIANCE STRATEGY

### Security Framework And Protocols

Provide an overview of the vendor's security framework, including encryption standards, access control, device authentication, and intrusion detection measures.

ISO 27001 Certification

POWER takes cyber security seriously. We hold an ISO 27001 certification. ISO 27001 is a series of international standards that provide best practices for information security management systems (ISMS). The benefits of ISO 27001 certification include the following:

POWER's ISO 27001 Security certification means:

- We take extensive security control measures to protect confidential and proprietary information
- We follow international best practices to mitigate cyber threats and have security incident response and management processes in place to respond to cyberattacks
- We established a formal information risk management process and a functioning Information Security Management System (ISMS) program

What POWER's ISO 27001 certification means:

- Top-notch Security: Your data and confidential information gets the highest degree of protection by keeping it safe and secure
- Less Risk, More Peace of Mind: ISO 27001 lowers security risks and keeps your information safe. We proactively detect and mitigate security risks, which gives you an added layer of protection
- Trustworthy Partners: We value your trust and confidence, and our ISO 27001 certification proves our dedication to robust security
- Compliance-Ready: You can trust that your data is managed according to global information security standards, reducing any legal concerns
- Simplified Audits: Our certification means security audits are more streamlined, which benefits our clients
- Fewer Interruptions: With ISO 27001, our security operations run efficiently resulting in fewer interruptions for you

- Always Improving: We are committed to continually improving our security practices, so your data continues to stay safe from new threats

Our ISO 27001 certification is just one example of our commitment to security. POWER has a robust set of 46 Corporate Information Security Policies that govern of security procedures. These policies include:

- Access Controls and Standards
- Document and Record retentions
- Incident Response Policy and Standards
- Information and Data Classifications and Handing Standards
- Removable Media Policy and Standards
- Password Standards

Project Managers ensure secure project delivery exists in the preliminary stages of the project during initiation and planning. This sets the tone for continuation throughout the phases. It is important to note that information security is considered regardless of the project type, personnel, technology, or processes.

Cloud and System Architecture Best Practices

At the core of our cloud and system architecture lies a commitment to security, compliance, and operational excellence. Our approach ensures that data is safeguarded, access is controlled, and systems are resilient.

Data Security: We prioritize the protection of data by implementing robust encryption standards. Data is encrypted both in-transit and at-rest, ensuring that sensitive information remains secure during transmission and storage.

Authentication and Access Control: Our authentication mechanisms are designed for maximum security and convenience. We support federated authentication and leverage Multi-Factor Authentication (MFA) to enhance security. Role-Based Access Control (RBAC) is enforced with the principle of least privilege, ensuring that users have only the access necessary for their roles.

Environment Isolation: To maintain a secure and organized infrastructure, we isolate environments through separate accounts and further segment them using Virtual Private Clouds (VPCs). This isolation minimizes the risk of unauthorized access and enhances security.

Traffic Control: We implement stringent traffic control measures using security groups and network Access Control Lists (ACLs). These controls regulate the flow of traffic to and from our systems, protecting against unauthorized access and potential threats.

Web Application Security: Our Web Application Firewall (WAF) provides robust protection against Distributed Denial of Service (DDoS) attacks and other web application threats. This ensures that our applications remain available and secure.

Audit Logging and Monitoring: We maintain comprehensive audit logs of all account activities, providing a detailed record for security and compliance purposes. Our systems are equipped with full monitoring and alerting capabilities, offering real-time performance insights and ensuring prompt response to any issues.

Compliance Standards: Our cloud service provider's architecture meets stringent industry standards, including ISO 27001, SOC 1/2/3, HIPAA, GDPR, and FedRAMP. This compliance demonstrates our commitment to maintaining the highest levels of security and data protection.

Vulnerability Management: We employ automated vulnerability scanning to identify and address potential security weaknesses proactively. This continuous scanning helps us maintain a secure environment and mitigate risks effectively.

Built-In Security Frameworks and Tools: Our infrastructure is equipped with built-in security frameworks and tools, providing a solid foundation for secure operations. These tools help us enforce security policies, monitor compliance, and respond to threats efficiently.

By adhering to these best practices, we ensure that our cloud and system architecture is secure, compliant, and resilient, providing a robust foundation for our operations and services.

Software Engineering, Operations and Integration Services

At POWER Engineers we understand the risks to your customers' data and privacy.  Security is not an afterthought or tacked on component, but an integral part of all our solutions.

Passwords and Encryption:

- Communications between servers and applications are conducted with end-to-end TLS encryption
- All PII data is encrypted at rest in file systems and databases
- Passwords are hashed using Argon2 salted hashes.
- Multifactor app-based (OTP) authentication is enabled for sensitive data.
- We follow the latest NIST standards for password security, including:
- Favoring long passphrases over cryptic passwords
- Eliminate mandatory password rotation
- Optional support for passwordless authentication and passkeys
- Encourage the use of password managers

Access:

- We follow the Principal of Least Accessibility
- Access to PII data requires two-factor authentication and confirmation
- Any PII data is redacted from application logs
- No PII data is included in metrics
- We do not index PII data in search engines or LLMs
- Servers are firewalled for minimal access on specific ports
- Cloud deployments are secured in a VPC
- Servers are accessed using SSH keys with password-based access disabled

Supply Chain:

- Any applications managing secure data use minimal dependencies (third-party libraries).
- When we do leverage a third-party library, it is reviewed prior to use and after any updates for potential security issues
- We use automated tooling like GitHub's Dependabot to automatically scan for vulnerabilities in dependencies.
- We automate secret scanning to detect and resolve passwords and other security vulnerabilities unintentionally committed to source-controlled code
- We do not share internal source code with LLMs such as GitHub Copilot or Claude Code.

Monitoring and Logging:

- We remote log and monitor access to all secure data

- We monitor for excessive access, probing, or other subversive security risks
- We log to an ELK stack and regularly review our logs for potential vulnerabilities
- We implement Elastic Endpoint Security in our ELK stack

Backups:

- We perform nightly backups of our data archived to offsite servers
- We maintain short term and long-term backups in case of data corruption or ransomware attacks

Training:

- All POWER employees receive regular training in the basics of cybersecurity for day-to-day operations
- POWER software engineers and SREs receive additional cybersecurity training
- All POWER employees are regularly tested for ransomware/malware attacks

## SECTION 7: REQUIRED FORMS AND ADHERENCE TO GUC POLICY AND OTHER REQUIREMENTS

The Respondent must fill out all the forms included in this RFP and return them with your submission. Failure of the Respondent to provide any of the required forms may result in your proposal being rejected for non-responsiveness. These required forms will not count against the maximum page count (indicated above) for your response.

Please refer to the following pages for these completed required forms:

1. RFP Acknowledgement and Signature Form
2. Insurance Acknowledgement Form (COIs)
3. E-Verify Form
4. Certified Good Faith Form
5. POWER's 2025 Schedule of Charges

## SECTION 8: PROJECT PERSONNEL AND RESUMES

Understanding your project goals, POWER is committed to delivering exceptional value to GUC by assembling a team of experienced professionals with diverse expertise tailored to your project needs. Our team brings valuable experience and intimate knowledge to ensure a smooth transition to the Utility Network. GUC benefits from our team's successful track record in Utility Network projects and experience seamlessly integrating advanced applications. By collaborating closely with you and bringing in the right resources at the right time, we enhance the efficiency, reliability, safety, and scalability of your organization's energy infrastructure. Resources are representative and POWER reserves the right to switch resources depending upon availability at contract signing. POWER is including full resumes detailing the experience of each team member, which can be found in the pages at the end of this document.

# RFP Acknowledgement and Signature Form

**RFP No.: 25-21, Utility Network Vendor Selection**

The undersigned having carefully examined the location of the proposed work, the local conditions of the place where the work is to be done, the Invitation, the General Conditions, the Specifications and all of the documents for this project, proposes to enter into a contract with Greenville Utilities Commission in Greenville North Carolina perform the work listed in this RFP, including all of its component parts, and to furnish any and all required labor, materials, equipment, insurance, bonding, taxes, transportation and services required for this project in strict conformity with the plans and specifications prepared, including any Addenda, within the time specified.

**Addendum Acknowledgement:**

The following addendum (addenda) is (are) acknowledged in this RFP: _____

**Acknowledgement and Signature:**

1. No Proposal is valid unless signed in ink by the person authorized to make the proposal.
2. I have carefully read, understand and agree to the terms and conditions on all pages of this RFP. The undersigned agrees to furnish the services stipulated in this RFP.

**Respondent's Name and Title:**

Company Name: POWER Engineers, Inc.

Address: 3940 Glenbrook Drive, Hailey, ID 83333

Telephone: 208-788-3456 Fax: _____

Email: mike.vessel@powereng.com Cell Number: 303-914-2297

Contractor License # (if applicable): _____ Expiration Date: _____

Federal Tax Identification Number: 82-0324246

Authorized Signature:  Date: 4-17-2025

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**Decline RFP:**

We **do not** wish to submit an RFP on this Project. Please state your reason below. Please also indicate if you would like to remain on our Supplier list.

Reason: _____

_____

_____

Company: _____ Address: _____

Name: _____ Signature: _____ Date: _____

# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 4/25/2025

**THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.**

**IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).**

**PRODUCER**
Arthur J. Gallagher Risk Management Services, LLC
300 Madison Ave 28th Floor
New York NY 10017

**CONTACT NAME:** AJG Service Team
**PHONE (A/C, No, Ext):** 212-994-7020 **FAX (A/C, No):**
**E-MAIL ADDRESS:** GGB.WSPUS.CertRequests@ajg.com

| INSURER(S) AFFORDING COVERAGE | NAIC # |
|---|---|
| INSURER A : Zurich American Insurance Company | 16535 |
| INSURER B : Liberty Insurance Corporation | 42404 |
| INSURER C : AXIS Surplus Insurance Company | 26620 |
| INSURER D : American Guarantee and Liability Ins Co | 26247 |
| INSURER E : Admiral Insurance Company | 24856 |
| INSURER F : | |

**INSURED** WSPGLOB-01
POWER Engineers, Inc.
3940 Glenbrook Drive
P.O. Box 1066
Hailey ID 83333

**COVERAGES** **CERTIFICATE NUMBER:** 1418255984 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS | |
|---|---|---|---|---|---|---|---|---|
| A | X **COMMERCIAL GENERAL LIABILITY**<br>CLAIMS-MADE X OCCUR<br>GEN'L AGGREGATE LIMIT APPLIES PER:<br>POLICY X PRO-JECT X LOC<br>OTHER: | | | GLO9835819-12 | 5/1/2025 | 5/1/2026 | EACH OCCURRENCE<br>DAMAGE TO RENTED PREMISES (Ea occurrence)<br>MED EXP (Any one person)<br>PERSONAL & ADV INJURY<br>GENERAL AGGREGATE<br>PRODUCTS - COMP/OP AGG<br> | $ 3,500,000<br>$ 3,500,000<br>$ 10,000<br>$ 3,500,000<br>$ 14,000,000<br>$ 7,000,000<br>$ |
| B<br>C<br>E | **AUTOMOBILE LIABILITY**<br>X ANY AUTO<br>OWNED AUTOS ONLY<br>HIRED AUTOS ONLY<br>SCHEDULED AUTOS<br>NON-OWNED AUTOS ONLY | | | AS7-621-094060-035<br>P-001-001008908-04<br>UX000001676-01 | 5/1/2025<br>5/1/2025<br>5/1/2025 | 5/1/2026<br>5/1/2026<br>5/1/2026 | COMBINED SINGLE LIMIT (Ea accident)<br>BODILY INJURY (Per person)<br>BODILY INJURY (Per accident)<br>PROPERTY DAMAGE (Per accident)<br>XS COMB. SINGLE LIMIT | $ 5,000,000<br>$<br>$<br>$<br>$ 5,000,000 |
| D | X **UMBRELLA LIAB** X OCCUR<br>**EXCESS LIAB** CLAIMS-MADE<br>DED X RETENTION $ 179,800 | | | AUC0144386-09 | 5/1/2025 | 5/1/2026 | EACH OCCURRENCE<br>AGGREGATE<br> | $ 1,000,000<br>$ 1,000,000<br>$ |
| B<br>B<br>B | **WORKERS COMPENSATION AND EMPLOYERS' LIABILITY**<br>ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N: N<br>**(Mandatory in NH)**<br>If yes, describe under DESCRIPTION OF OPERATIONS below | N / A | | WA7-62D-094060-015<br>WA7-62D-095609-075<br>WC7-621-094060-915 | 5/1/2025<br>5/1/2025<br>5/1/2025 | 5/1/2026<br>5/1/2026<br>5/1/2026 | X PER STATUTE OTH-ER<br>E.L. EACH ACCIDENT<br>E.L. DISEASE - EA EMPLOYEE<br>E.L. DISEASE - POLICY LIMIT | <br>$ 2,000,000<br>$ 2,000,000<br>$ 2,000,000 |

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)**
THIRTY (30) DAYS NOTICE OF CANCELLATION.
AS A MATTER OF RECORD

**CERTIFICATE HOLDER**

AS A MATTER OF RECORD

**CANCELLATION**

**SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.**

**AUTHORIZED REPRESENTATIVE**

# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 3/27/2025

**THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.**

**IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).**

| | |
|---|---|
| **PRODUCER**<br>Edgewood Partners Insurance Agency<br>3780 Mansell Rd. Suite 370<br>Alpharetta GA 30022 | **CONTACT NAME:** Mitchell Walck<br>**PHONE (A/C, No, Ext):** 470.582.9324 **FAX (A/C, No):** 470.582.9324<br>**E-MAIL ADDRESS:** greylingcerts@greyling.com |
| | **INSURER(S) AFFORDING COVERAGE** / **NAIC #**<br>**INSURER A :** Lloyd's of London / 85202 |
| **INSURED** POWEENG1<br>POWER Engineers, Inc.<br>3940 Glenbrook Drive<br>P.O. Box 1066<br>Hailey ID 83333 | **INSURER B :**<br>**INSURER C :**<br>**INSURER D :**<br>**INSURER E :**<br>**INSURER F :** |

**COVERAGES** **CERTIFICATE NUMBER:** 170970410 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

| INSR LTR | TYPE OF INSURANCE | ADDL INSD | SUBR WVD | POLICY NUMBER | POLICY EFF (MM/DD/YYYY) | POLICY EXP (MM/DD/YYYY) | LIMITS | |
|---|---|---|---|---|---|---|---|---|
| | **COMMERCIAL GENERAL LIABILITY**<br>☐ CLAIMS-MADE ☐ OCCUR<br>GEN'L AGGREGATE LIMIT APPLIES PER:<br>☐ POLICY ☐ PRO-JECT ☐ LOC<br>☐ OTHER: | | | | | | EACH OCCURRENCE<br>DAMAGE TO RENTED PREMISES (Ea occurrence)<br>MED EXP (Any one person)<br>PERSONAL & ADV INJURY<br>GENERAL AGGREGATE<br>PRODUCTS - COMP/OP AGG<br>[blank] | $<br>$<br>$<br>$<br>$<br>$<br>$ |
| | **AUTOMOBILE LIABILITY**<br>☐ ANY AUTO<br>☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS<br>☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY | | | | | | COMBINED SINGLE LIMIT (Ea accident)<br>BODILY INJURY (Per person)<br>BODILY INJURY (Per accident)<br>PROPERTY DAMAGE (Per accident)<br>[blank] | $<br>$<br>$<br>$<br>$ |
| | ☐ **UMBRELLA LIAB** ☐ OCCUR<br>☐ **EXCESS LIAB** ☐ CLAIMS-MADE<br>☐ DED ☐ RETENTION $ | | | | | | EACH OCCURRENCE<br>AGGREGATE<br>[blank] | $<br>$<br>$ |
| | **WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N<br>ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐<br>**(Mandatory in NH)**<br>If yes, describe under DESCRIPTION OF OPERATIONS below | N / A | | | | | ☐ PER STATUTE ☐ OTH-ER<br>E.L. EACH ACCIDENT<br>E.L. DISEASE - EA EMPLOYEE<br>E.L. DISEASE - POLICY LIMIT | <br>$<br>$<br>$ |
| A | Professional/Pollution Liability | | | W13B97251301 | 4/1/2025 | 4/1/2026 | Per Claim<br>Aggregate | 1,000,000<br>1,000,000 |

**DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)**

Evidence of Coverage

**CERTIFICATE HOLDER**

For Proposal Only

**CANCELLATION**

**SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.**

**AUTHORIZED REPRESENTATIVE**

# E-Verify Form

Letter of Compliance to E-Verify for Greenville Utilities Commission. Please complete the form below.

1. 1.I have submitted a bid for contract or desire to enter into a contract with the Greenville Utilities Commission;
2. As part of my duties and responsibilities pursuant to said bid and/or contract, I affirm that I am aware of and in compliance with the requirements of E-Verify, Article 2 of Chapter 64 of the North Carolina General Statutes, to include (mark which applies):
3. X After hiring an employee to work in the United States I verify the work authorization of said employee through E-Verify and retain the record of the verification of work authorization while the employee is employed and for one year thereafter; or
4. ____ I employ less than twenty-five (25) employees in the State of North Carolina.
5. As part of my duties and responsibilities pursuant to said bid and/or contract, I affirm that to the best of my knowledge and subcontractors employed as a part of this bid and/or contract, are in compliance with the requirements of E-Verify, Article 2 of Chapter 64 of the North Carolina General Statutes, to include (mark which applies):
6. ____ After hiring an employee to work in the United States the subcontractor verifies the work authorization of said employee through E-Verify and retains the record of the verification of work authorization while the employee is employed and for one year thereafter; or
7. ____ Employ less than twenty-five (25) employees in the State of North Carolina.

Specify subcontractor: _____

POWER ENGINEERS, INC. (Company Name)

By: Mike Vessel (Typed Name)

 (Authorized Signatory)

Vice President and Division Manager (Title)

April 17, 2025 (Date)

It is certified that this proposal is made in good faith and without collusion or connection with any other person bidding on the same above listed items. It is also certified that this proposal is made in good faith and without collusion or connection with any GUC employee(s).

Certified check or cash for N/A or bid bond for N/A attached.

Firm Name: POWER Engineers, Inc. Phone: (208) 788-3456

Address: 3940 Glenbrook Drive

City Hailey State ID Zip Code 83333

Fax (____)_____ E-mail mike.vessel@powereng.com

Authorized Official Mike Vessel Title Vice President and Division Manager

Typed Name

_____ Date April 17, 2025

**Your Proposal should be received no later than Mayl 13, 2025, 3:00PM (EDT)**

# POWER ENGINEERS, INC.
# SCHEDULE OF CHARGES – 2025

This standard Schedule of Charges is for professional services. Unless agreed otherwise, charges for work on continuing projects will be based on the then current Schedule of Charges. A new Schedule of Charges will be issued to be effective January 1 of each new year and as necessary on an intermediate basis to accommodate new items or revised charges. Invoices will be submitted monthly and/or upon completion of the work and will be due and payable when issued. All accounts not paid within thirty (30) days after Owner's receipt of the invoice will bear a **SERVICE CHARGE OF 1.0% PER MONTH** for each month the invoice is unpaid.

| GRADE | PERSONNEL CLASSIFICATION | |
|---|---|---|
| 13 | President<br>Executive Vice President<br>Senior Project Manager IV | $355.00/hr. |
| 12 | Project Manager Director<br>Senior Project Manager III | $335.00/hr. |
| 11 | Senior Project Manager II<br>Senior Program Manager II<br>Principal Engineer II | $325.00/hr. |
| 10 | Senior Project Manager I<br>Senior Program Manager I<br>Senior Project Engineer III<br>Senior Project Lead III<br>Strategic Consultant III<br>Principal Engineer I | $305.00/hr. |
| 9 | Project Manager III<br>Senior Project Lead II<br>Construction Manager III<br>Senior Project Engineer II<br>Strategic Consultant II<br>Senior Consultant III<br>Senior Engineer II | $290.00/hr. |
| 8 | Project Manager II<br>Senior Project Lead I<br>Strategic Consultant I<br>Senior Consultant II<br>Senior Project Engineer I<br>Construction Manager II<br>Senior Engineer I | $260.00/hr. |
| 7 | Project Manager I<br>Project Lead II<br>Construction Manager I<br>Environmental Specialist IV<br>Project Engineer II<br>Engineer IV<br>Designer V<br>Project Administrator III<br>Senior Consultant I | $230.00/hr. |
| 6 | Project Lead I<br>Project Engineer I<br>Engineer III<br>Designer IV<br>Environmental Specialist III<br>Procurement Specialist III<br>Scheduling Specialist III<br>Project Administrator II<br>Consultant III | $220.00/hr. |
| 5 | Engineer II<br>Designer III<br>Technician IV<br>Environmental Specialist II<br>Procurement Specialist II<br>Scheduling Specialist II<br>Project Administrator I<br>Consultant II | $205.00/hr. |
| 4 | Engineer I<br>Designer II<br>Drafter IV<br>Technician III<br>Environmental Specialist I<br>Procurement Specialist I<br>Field Representative IV<br>Scheduling Specialist I<br>Project Managers Assistant III<br>Consultant I | $190.00/hr. |
| 3 | Designer I<br>Drafter III<br>Technician II<br>Field Representative III<br>Staff Assistant II<br>Project Managers Assistant II | $160.00/hr. |
| 2 | Drafter II<br>Staff Assistant<br>Field Representative II<br>Project Managers Assistant I | $130.00/hr. |
| 1 | Drafter I<br>General Office Assistant<br>Field Representative I | $110.00/hr. |

Personnel with specialized experience are employed by or on retainer to POWER. Charges for these specialists are negotiated on an individual basis depending on the assignment. Professional time for depositions and testimony is charged at 1.5 times the rate for services; full-day minimums apply.

**2025 Fees (11/15/2024)**

**POWER ENGINEERS, INC.**
**SCHEDULE OF CHARGES – 2025**

This standard Schedule of Charges is for professional services. Unless agreed otherwise, charges for work on continuing projects will be based on the then current Schedule of Charges. A new Schedule of Charges will be issued to be effective January 1 of each new year and as necessary on an intermediate basis to accommodate new items or revised charges. Invoices will be submitted monthly and/or upon completion of the work and will be due and payable when issued. All accounts not paid within thirty (30) days after Owner's receipt of the invoice will bear a **SERVICE CHARGE OF 1.0% PER MONTH** for each month the invoice is unpaid.

## REPRODUCTION

### Drawings – Black & White

| | |
|---|---|
| Large Scale Drawings (C Size) | $2.25/ea. |
| Large Scale Drawings (D Size) | $3.95/ea. |
| Large Scale Drawings (E Size) | $6.50/ea. |

### Drawings – Color

| | |
|---|---|
| Large Scale Drawings (C Size) | $7.00/ea. |
| Large Scale Drawings (D Size) | $13.10/ea. |
| Large Scale Drawings (E Size) | $21.00/ea. |

### Documents – Black & White

| | | | |
|---|---|---|---|
| Single-sided Copies | 8 x 11 $0.13/ea. | 11 x 17 | $0.20/ea. |
| Double-sided Copies | 8 x 11 $0.26/ea. | 11 x 17 | $0.41/ea. |

### Documents – Color

| | | | |
|---|---|---|---|
| Single-sided Copies | 8 x 11 $0.60/ea. | 11 x 17 | $1.20/ea. |
| Double-sided Copies | 8 x 11 $1.20/ea. | | |
| Spiral Comb | | | $3.20/ea. |
| 3 Ring Binder | | | Dependent on size |
| Special Copy Center Projects (Labor) | | | $105.00/hr. |

Other expenses including but not limited to subcontractors, airfare, lodging, meals, postage and shipping, purchases, rentals, survey equipment are charged at cost plus a carrying and handling charge of 10%.

Communication Charge - including but not limited to VOIP charges, file sharing cloud services, and web collaboration sites, charged at 1% of labor billing charges.

CAD and Software Usage Charge – charged at 3% of labor billing charges. This charge covers CAD application and design software including: AutoCAD, MicroStation, Autodesk Revit, PLS-Cad, Smart Plant P&ID, electrical studies software, and other design software as required.

# Tyler Perrenoud

Utility Network Technical Specialist

## WHY TYLER?

11 YEARS OF EXPERIENCE

EDUCATION

- B.S., Geography, University of Wisconsin-River Falls
- Geographic Information Systems, University of Wisconsin-River Falls

AREAS OF EXPERTISE

- Esri Utility Network
- Python Programming
- Data Migration
- Technical Requirements
- Business Analysis
- Distribution Design
- Utility Field Operations

SPECIAL TRAINING

- ArcGIS Utility Network Specialty Certification

HARDWARE/SOFTWARE

- Esri ArcGIS Pro
- Esri ArcGIS Enterprise
- Esri ArcMap
- Safe Software FME
- Milsoft WindMil
- Trimble Cityworks
- Schneider ArcFM
- Schneider Designer
- SBS AUD
- GE Smallworld
- Sparx Systems Enterprise Architect

## EXPERIENCE SUMMARY

Mr. Perrenoud is a Utility Network expert and Senior Consultant with a background in both GIS and the utility industry. He has experience in gas and electric distribution design, work coordination, and team supervision. As a result, he brings subject matter expertise and in-depth knowledge of utility field operations. As a consultant, he has extensive experience implementing the Utility Network for a variety of utilities. He has performed many Utility Network Readiness Assessments for our clients. In addition, he has played a key role in ensuring the success of our clients who are currently migrating to or in production on the Utility Network.


Mr. Perrenoud has earned the ArcGIS Utility Network Specialty certification and was among the first fifty individuals in the world to achieve this. To achieve the ArcGIS Utility Network Specialty certification and become a proficient expert Utility Network Technician, Tyler showed extensive knowledge of Esri's ArcGIS platform, including ArcGIS Pro and ArcGIS Enterprise, as well as experience in utility network data management, migration, and design.

He has an in-depth understanding of network topology and connectivity, configuring and deploying utility networks, performing geodatabase administration tasks, creating custom data models, integrating third-party tools, implementing data quality control measures, designing appropriate symbology for cartographic representation, and troubleshooting technical issues. Additionally, he contributes strong communication skills and the ability to collaborate with stakeholders are essential for success in this role.

Tyler has been pivotal in the following 14 Utility Network Projects ranging from small electric and gas utilities to large and extensive electric utilities.

## UTILITY NETWORK DATA AND CONFIGURATION LEAD

### Large Electric Transmission Utility, Electric Utility Network Implementation

PACIFIC NORTHWEST AND SURROUNDING AREA

### PNM Resources, Electric Utility Network Implementation

NEW MEXICO AND TEXAS

# Tyler Perrenoud

Utility Network Technical Specialist

Kansas City Board of Public Utilities, Electric Utility Network Implementation
KANSAS

Kaukauna Utilities, Electric Utility Network Readiness Assessment and Utility Network Implementation
WISCONSIN

Alaska Electric Light and Power, Electric Utility Network Readiness Assessment and Utility Network Implementation
ALASKA

City of Lodi, Electric Esri Utility Network Implementation
CALIFORNIA

Shawano Municipal Utilities, Electric Utility Network Implementation
WISCONSIN

Semco Energy Gas Company, Gas Utility Network Readiness Assessment and Utility Network Implementation
MICHIGAN

Turlock Irrigation District, Electric Esri Utility Network Assessment & Roadmap
CALIFORNIA

City of Anaheim, Electric Esri Utility Network Assessment
CALIFORNIA

Umatilla Electric Cooperative, Electric Esri Utility Network Assessment
OREGON

Rochester Public Utilities, Electric Esri Utility Network Assessment
MINNESOTA

Los Angeles Department of Water and Power, Full-scale GIS Implementation and Data Conversion
CALIFORNIA

# Brittany Dizdar

Technical Architect/Senior Consultant

## WHY BRITTANY?

26 YEARS OF EXPERIENCE

EDUCATION

- B.S., Computer Science, University of South Carolina

AREAS OF EXPERTISE

- IT/OT
- GIS & ADMS
- Electric Data Design and Modeling
- Performance Tuning
- Project and Change Management

HARDWARE / SOFTWARE

- ArcGIS Enterprise
- ArcFM
- Schneider ADMS
- aspentech ADMS (OSI)
- Oracle ADMS
- Autodesk Products
- CYME
- SQL Server
- Programming: Visual Basic 6, C++, SQL, UNIX Shell Scripting, VB .NET, C# .NET, VBA, Arc Objects, Python, HTML
- Maximo, Maximo Spatial
- TIBCO

## EXPERIENCE SUMMARY

Mrs. Dizdar is a highly skilled and experienced professional serving as a Utility Solutions Architect and Senior Consultant, specializing in Geographic Information Systems (GIS) and Advanced Distribution Management Systems (ADMS). With a track record of success, she has effectively led high-performing project and support teams in the development, configuration, integration, and implementation of a diverse range of GIS, Asset Management, and Distribution Management applications and databases. With 24 years of industry experience, Mrs. Dizdar has demonstrated expertise in data integration and data modeling, driving positive transformations and enhancements to applications, and effectively managing and promoting data across multiple systems. Her key strengths lie in customer service, team building, effective communication, fostering accountability, and making informed decisions.

Mrs. Dizdar's knowledge and extensive work experience extend to customizing and configuring Utility product solutions to meet the unique requirements of customers, as well as integrating these solutions with other software products. Mrs. Dizdar is a highly accomplished professional in the field of IT/OT, leveraging her comprehensive skill set, vast experience, and strong commitment to delivering tailored solutions to effectively address complex challenges in the utility industry.

### Pacific Gas & Electric, Network Model Lead for Advanced Distribution Management System

CALIFORNIA

Technical Lead responsible for building the Network Model to support the transition from RT SCADA and ABB NMS/DMS to Schneider ADMS. POWER created a comprehensive network model for the distribution system. This involved gathering and validating data from multiple sources, building the network topology, assigning attributes to network elements, and performing various network analysis tasks. POWER also established data interfaces, implemented maintenance processes, and integrated the network model within the ADMS platform. Additionally, POWER configured the OMS for outage management and created UI specifications to support SCADA and OMS operations.

### Arizona Public Service Company, Network Model Lead for ADMS

ARIZONA

Technical Lead providing APS with a single source of truth for all operations data. The project involves replacing the existing ABB NMS/DMS with Schneider ADMS. The POWER team successfully executed the export and import of the electric distribution network data from APS's enterprise data repositories, incorporating the geographic information system (GIS). Additionally, the project encompassed ArcGIS and ArcFM software upgrades to version 10.2.1, geodatabase modifications, and multiple enhancements to APS's Enterprise Electric Distribution geodatabases and mapping application.

### Connexus Energy, SCADA Support

MINNESOTA

Technical Lead providing subject matter expertise to CE in supporting the maintenance of the Supervisory Control and Data Acquisition (SCADA) system within OSI. POWER was responsible for ensuring the smooth operation and optimal performance of the SCADA system.

### Los Angeles Dept of Water and Power (LADWP), GIS Conversion/Implementation

CALIFORNIA

Solution Architect responsible for designing and overseeing the overall data model, application infrastructure, and integrations of the Advanced Distribution Management System (ADMS) with various systems, including Maximo, CIS, OMS, and WMS. In addition, you have identified unique scenarios specific to an all-delta configured sub-transmission and distribution system, enabling the utilization of software add-ons such as ArcFM to achieve greater efficiencies.

# Dario Silva

System Architect

## WHY DARIO?

21 YEARS OF EXPERIENCE

EDUCATION

1. B.B.A., Networking and Telecommunications, Boise State University

AREAS OF EXPERTISE

- IT
- Systems Administration
- Networking
- Cloud Administration

HARDWARE/SOFTWARE

- Routers/switches
- Servers (blades)
- Microsoft SQL
- Microsoft TFS (2010-2018)
- IIS
- PowerShell
- Microsoft System Center (SCVMM, SCOM, SCCM, SCAC, SCDPM, etc.)
- Hyper-V/VMware
- Azure DevOps (VSTS)
- GitHub (Enterprise)
- AWS (EC2, S3, CloudFormation, etc.)
- Azure
- Linux (Ubuntu, Debian)
- Docker
- Active Directory
- DHCP/DNS
- GPO
- VLANs
- Firewalls

## EXPERIENCE SUMMARY

Mr. Silva is an accomplished IT Systems Administrator with extensive experience in both physical and virtual deployments. His experience covers every layer of systems administration, from physical build-outs to automated software deployments and configuration. He also has extensive experience with cloud-based services such as AWS and Azure. Mr. Silva has built new environments from scratch as well as fully reconfigured existing environments to meet best practices and increase efficiency. He has a deep knowledge of server environments and automated deployment methods, which has resulted in his ability to quickly assess the situation and put a plan into action.

### Denton Municipal Electric, Utility Network Design and Discovery

TEXAS

Senior Consultant responsible for expertly designing an ArcGIS Enterprise cloud environment system architecture tailored to the utility's needs. Mr. Silva's responsibilities included implementing Portal for ArcGIS, ArcGIS Server, ArcGIS Pro, ArcFM Editor, ArcFM Mobile, and ArcFM Web Data Store, ensuring a robust and efficient solution for the organization.

### PNM Resources, Utility Network Implementation

NEW MEXICO

Senior Consultant responsible for upgrading and deploying DEV/TEST/PROD ArcGIS Enterprise UN environment. Mr. Silva's expertise ensured the successful implementation of Portal for ArcGIS, ArcGIS Server, ArcGIS Data Store, ArcGIS Pro, and ArcFM Web to create a robust and efficient utility network infrastructure.

### Idaho Power Company, Utility Network Design and Discovery

IDAHO

Senior Consultant who played a crucial role in the planning and analysis phase of the utility network project. His expertise in ArcGIS Enterprise environments contributed to the successful design and discovery of system requirements for efficient utility network implementation. Mr. Silva's responsibilities included technical guidance, solution architecture, and collaboration with stakeholders to ensure streamlined execution and seamless integration.

- High Availability
- Disaster Recovery
- Pentesting
- Clustering

VPN

## Turlock Irrigation District, Esri 10.6.1 Upgrade

CALIFORNIA

Technical Lead responsible for helping with upgrade to SQL Server versions. After the upgrade, he assisted in copying database from the PROD servers to new servers to be used for DEV/TEST, and then upgraded the geodatabases from 10.2.1 to 10.6.1. He was also responsible for creating scripts to apply permissions changes to the new databases, saving several hours of manual work. After completion of the migration/upgrade, he ran performance testing/tuning on the SQL server.

## City of Green Bay, ArcGIS 10.7.1 Upgrade Services

WISCONSIN

Technical Lead responsible for assessing the City of Green Bay's current ArcGIS environment across multiple servers. Following the assessment, he recommended an upgrade path and reviewed recommendations with the client. After reviewing, he upgraded the City's ArcGIS environment from 10.5 to 10.7.1, following Esri's best practices, including multiple servers and databases. After the upgrade, he walked City staff through the new environment.

## Los Angeles Department of Water and Power, Full-scale GIS Implementation and Data Conversion

CALIFORNIA

Senior Consultant responsible for troubleshooting performance issues in the environment. This project is a unique implementation of Schneider/ Esri and Bentley software. The implementation includes the migration of data from Intergraph FRAMME and an existing inspection package, along with the deployment of mobile GIS and inspection software.

## Semco Energy Gas Company, Utility Network

MICHIGAN

Senior Consultant responsible for creating an ArcGIS Enterprise cloud environment, including Portal for ArcGIS, ArcGIS Server, Web Adaptor and Data Store.

# Jennifer Maney

Utility Network Technical Lead

## WHY JENNIFER?

30 YEARS OF EXPERIENCE

EDUCATION

- B.S., Geology, University of South Florida

AREAS OF EXPERTISE

- Utility Network conversions
- ArcGIS Pro development
- ArcGIS development
- ArcFM/Designer development/upgrades
- Object-oriented programming
- Electric utility GIS mapping solutions
- Database management
- Custom data editing interfaces
- Spatial analysis
- Data analysis
- Data conversion

SPECIAL TRAINING

- Configuring Utility Networks
- Implementing & Managing Utility Networks
- Arcade for Utility Networks
- WiX 3.6
- C# for Experienced Programmers
- .NET Framework Design & Guidelines
- Visual Basic .NET for Experienced Programmers
- Programming with ArcObjects
- Programming Oracle with SQL
- Customizing ArcInfo with AML
- Programming with Avenue
- Computer Cartography

## EXPERIENCE SUMMARY

Ms. Maney specializes in Utility Network conversions and implementations as well as custom application development for utility GIS mapping. She leads POWER's team of Utility Network experts and is involved in each project undertaken. Combining her Utility Network expertise with her development experience gives her the ability to provide full-rounded solutions. Using widely accepted framework design guidelines and principles, Ms. Maney can develop reusable object-oriented libraries for a wide variety of custom tools. She has designed and developed mapping tools for database management, custom data editing interfaces, spatial analysis, data analysis, and data conversion. With her many years in software development, she serves as a resource for other developers advising on strategy and direction of code development. She is also responsible for keeping projects on track and assigning tasks to team members.

### ENSTAR Natural Gas Company, Utility Network Data Assessment and Data Conversion

ALASKA

Technical Lead responsible for the end-to-end conversion of ENSTAR's geometric network-based natural gas distribution and transmission asset data to the Utility Network platform, ensuring alignment with the UPDM data model and utility-specific industry standards. Conducted an in-depth data assessment and source-to-target mapping, identifying gaps, inconsistencies, and legacy schema structures requiring transformation. Designed and configured Utility Network schema including domain networks, tiers, subtypes, asset groups/types, and network rules to reflect real-world gas system operations. Developed ETL (Extract, Transform, Load) workflows using to migrate assets, attributes, and connectivity while preserving spatial accuracy and relational integrity. Created and applied data validation scripts to ensure geometric accuracy, topological correctness, and compliance with Utility Network rules. Collaborated with SMEs to define business rules and asset classification logic to support downstream workflows like tracing, outage analysis, and network editing. Performed iterative QA/QC and reconciliation of migrated data, using attribute checks, topology validation, and network consistency testing. Worked closely with internal GIS/IT teams to troubleshoot migration issues, optimize performance, and align with enterprise GIS architecture.

POWER ENGINEERS MEMBER OF WSP

# Jennifer Maney

Utility Network Technical Lead

HARDWARE/SOFTWARE

- Arcade
- FME
- Python
- C#
- ArcGIS Pro .NET SDK
- ArcGIS Pro
- Visual Studio
- ArcGIS 10.x
- ArcObjects
- ArcFM SDK
- Designer
- WiX
- Visual Basic .NET
- Visual Basic 6
- XML
- JavaScript/Bootstrap/Angular
- VBScript
- Microsoft Office
- SQL Server
- Oracle
- SQL
- WPF
- HTML

## Turlock Irrigation District, Utility Network Assessment, Migration and GIS Support

CALIFORNIA

Utility Network Technical Lead responsible for overseeing Utility Network Implementation project. Leveraging her expertise in utility network conversions and ArcGIS development, Ms. Maney ensured efficient data migration and system upgrades, including overseeing data quality assurance, implementing ArcGIS Pro tools, managing team collaboration, and addressing technical challenges. Drawing on her experience with object-oriented programming and electric utility GIS mapping solutions, she delivered exceptional results throughout the project's lifecycle. Currently, she supports UN migration while focusing on building and implementing integrations such as OMS and ADMS. As data model changes are required to support these integrations, she updates the conversion process and provides an updated UN to ensure seamless project progression.

## Connexus Energy, Utility Network Assessment, Migration and GIS Support

MINNESOTA

As the Utility Network Technical Lead for the Connexus Energy project, Ms. Maney applied her extensive expertise in utility network conversions and ArcGIS development to ensure a smooth data migration and system upgrade process. Her key responsibilities included overseeing data quality assurance, implementing ArcGIS Pro tools, managing team collaboration, and addressing technical challenges. that arose during the project. Utilizing her experience in object-oriented programming and electric utility GIS mapping solutions, Ms. Maney delivered exceptional results throughout the project's lifecycle while meeting client expectations and ensuring overall success.

## Semco Energy Gas Company, Utility Network Readiness Assessment and Utility Network Data Conversion

MICHIGAN

Technical Lead responsible for holding daily standup calls, performing code reviews, running technical workshops and demos, and solving any issues that arose during development and conversion activities. Completed a Utility Network conversion cycle utilizing lessons learned from a previous cycle as well as developing mechanisms to reuse Utility Network configurations from the previous cycle. Her responsibilities also included overseeing the testing cycles and triaging bug tickets. For any issues that were unresolved, they were escalated to the Project Manager for resolution.

# Jim Plummer

Strategic Consultant

## WHY JIM?

38 YEARS OF EXPERIENCE

EDUCATION

- Electrical Engineering, Carleton University
- Technology Managers Development Program, Northwestern University, Kellogg Graduate School
- Outside Plant Engineering, Texas A&M

AREAS OF EXPERTISE

- Cloud infrastructure
- Project management
- Software engineering
- Data strategy
- Disaster recovery planning and implementation
- Data warehouse and BI development
- Database managed services
- Data visualization

SPECIAL TRAINING

- Professional Development in Project Management
- Software Engineering and Design
- Presentation and Technical Writing

HARDWARE/SOFTWARE

- Cloud Services (Amazon AWS, IBM SoftLayer, CenturyLink, RackSpace Exchange)
- Oracle
- Power BI
- SQL Server, SQL Tuning
- Data Analysis

## EXPERIENCE SUMMARY

Mr. Plummer is a technology leader with operational, hands-on experience in a broad mix of industries including electric utility, oil and gas midstream, water, communications, financial, and healthcare. He has served as a product manager, principal consultant and managing director for numerous technology companies in his career. He applies his service-oriented approach in leading large or small project or development teams to consistently deliver high quality results for clients.

He has been responsible for delivering managed services, developing solutions and architectures, and aligning service offerings with the right technology to meet client needs. His background encompasses strategic consulting, business intelligence, product development, project management, application infrastructure, cloud strategy, data visualization, and Oracle technology.

### Los Angeles Department of Water and Power, Full-scale GIS Implementation and Data Conversion

CALIFORNIA

Technical Architect and Project Manager for over 6 years, responsible for the LADWP Power Systems Enterprise GIS operational system management, maintenance, development and integration. The GIS Operating Environment includes Oracle, ArcGIS Enterprise, ArcFM, Designer, MIMS, and integrations with WMIS, ProjectWise, CGI PragmaLine, Oracle CC&B, among others. Mr. Plummer architected reporting solutions, and search technology to simplify end user access to many web-based reports, ArcGIS Portal applications and maps, and custom web applications. Custom web applications included a workflow management for redlines collected in the field by MIMS users. The overall architecture was centered on ArcGIS data, Oracle database technology, Oracle Rest Data Services and reporting and application solutions utilizing Oracle APEX as a platform to transition legacy mainframe application to web-based applications. Infrastructure support included implementing best practices for Oracle database and GIS disaster recovery, patching, upgrades, and coordination of production and non-production environments.

### DBAK, Oracle Technology Partner

COLORADO

Principal Consultant and SVP responsible for managing the development of client solutions, including management, technical architecture, managed

- Data Modelling
- Qlik Sense
- Tableau
- OBIEE/OBIA
- BI Publisher
- GIS
- IPSec Tunnels
- Brocade Vyatta
- Vyos
- PL/SQL
- Python
- Oracle APEX
- Oracle BI Publisher
- SQL Server Reporting Services
- VBA
- T-SQL
- C
- PowerShell
- csh/ksh/bash
- Oracle SQL Developer, Oracle SQL Developer Data Modeler
- Erwin, ER/Studio
- Web Design
- Apache
- Tomcat
- VisualBasic
- WebLogic
- SOA
- Windows
- OS X
- Red Hat
- AIX
- Virtual Box

services and development of strategic projects based on Oracle database technology. Responsible for developing DBAK's information security standards and program. Key clients included Cablevision, DCP Midstream, AAA Colorado, API Hotels, eTeamSponsor, MarkWest, Red Robin, Tri-State Generation & Transmission, Kaiser Permanente, and Ultimate Electronics.

### DexOnline (R.H. Donnelly, Qwest)

COLORADO

Senior Director of Internet Technology responsible for the development, maintenance and operations of one of the most successful internet yellow page search engines.

### Statera, Client Services

COLORADO

Principal Consultant responsible for leading delivery efforts, developing service offerings, and providing enterprise web technology, solution architecture and management consulting services to Statera clients. Fulfilled additional roles as required to help define, administer and maintain Statera's internal IT systems. Key clients included Executive Wealth Management (EWM), Maxtor, Holland & Hart, Janus, and University of Denver.

### Multiple Clients, Utility GIS Application Implementation

COLORADO

Application manager for GeoVision Systems responsible for the delivery of applications, including the design, development and management of multiple GIS products for the following clients:

- U S West/Qwest
- North West Water
- City of Calgary
- City of Calgary Electric / Enmax
- Ohio Edison
- Telstra
- SIGIS
- New England Electric
- Long Island Lighting
- Leon County Florida
- City Of Vancouver

# Jordan King

Project Manager

## WHY JORDAN?

10 YEARS OF EXPERIENCE

EDUCATION

- M.A. Industrial/Organizational Psychology, Touro University
- B.A. Psychology, Washington State University

CERTIFICATIONS

- Project Management Professional
- Certified Scrum Master
- Certified Change Practitioner

HARDWARE/SOFTWARE

- Smartsheet
- MS Project
- Jira
- ADO
- LoadSEER
- Esri Utility Network
- MapFrame
- IQGeo
- Field Manager
- Maximo

## EXPERIENCE SUMMARY

Ms. King is an agile Project Manager with extensive experience driving business solutions and successfully implementing a variety of Utility projects, including GIS, IT & OT Cybersecurity, DERMS, and software implementations for both Operations and Office teams. She's known for applying a human-centered, evidence-based approach to project delivery, bringing trusted leadership and fostering a culture of collaboration, partnership, and empowerment within teams. She's skilled at navigating complex ambiguity and risk, delivering high-impact results and continuously striving to enhance team performance.

### Exelon, LoadSEER Implementation

VARIOUS

Project Manager responsible for assisting with implementation of a new Capacity Planning tool across three Operational Companies (OpCos), ensuring seamless integration and adoption. Led User Acceptance Testing (UAT) for OpCos, managing defect resolution processes, facilitating effective collaboration with the vendor, and aligning expectations between the client and vendor to ensure satisfaction and quality delivery. Developed a comprehensive roadmap for future tool enhancements and releases, working closely with the vendor and aligning with leadership priorities and strategic objectives.

### Northwest Natural, Esri UN Implementation

PORTLAND, OR

Change Manager responsible for creating a strategy for smooth implementation of the Esri Utility Network, relying on Stakeholder Analysis and Impact Assessments for effective transitions. Developed and executed a Communication Plan to keep stakeholders informed. Conducted Risk Assessment and created a Mitigation Plan aligned with organizational processes. Maintained engaged leadership support, ensuring successful change adoption.

### Northwest Natural, Legacy Mapping Replacement Project

PORTLAND, OR

Change Manager created a strategy based on Stakeholder Analysis and Impact Assessments for smooth transition and adoption to a new mapping software. Developed and executed a Communications Plan to engage stakeholders throughout project lifecycle. Conducted Risk Assessment and created a Mitigation Plan aligned with organizational processes and leadership

expectations. Led training development with the System Integrator, ensuring quality across materials. Delivered training to 60+ supervisors, who were accountable for training their 500+ employees.

### Portland General Electric, IQGeo Implementation

PORTLAND, OR

Project Manager overseeing an $11 million budget, including tracking Change Orders, labor, and contingency expenses. Developed and maintained the Project Plan, communicated schedule variances, and managed risks by identifying and mitigating potential issues. Led stakeholder engagement, aligning leadership, end-users, and vendors on goals and timelines. Managed defect backlog resolution and facilitated decision-making. Led a cross-functional team of 10+ members, including both onshore and offshore, ensuring efficient collaboration throughout. Ensured clear vendor expectations and partnered with the Change Manager for seamless adoption and implementation.

### Portland General Electric, DCS Upgrades

PORTLAND, OR

Project Manager responsible for directing multiple DCS upgrade projects across Wind, Natural Gas, and Hydro facilities, with a combined budget of $6 million. Created and executed a detailed Project Plan to identify and communicate schedule variances. Owned risk management process, including identifying risks, developing mitigation strategies, and escalating critical issues. Managed stakeholder engagement by aligning leadership, end-users, and vendors on goals, timelines, and deliverables. Oversaw a cross-functional team of 10+ people, ensuring collaboration and milestone achievement, while maintaining strong vendor relationships and integrating Project and Change Management plans for seamless implementation.

### Portland General Electric, Endpoint Anti-Virus Implementation

PORTLAND, OR

Project Manager responsible for end-to-end project lifecycle, beginning with facilitating the RFP process with vendors and supply chain. Facilitated vendor comparison and selection process, project initiation and funding request. Coordinated with IT to ensure Change Control Board processes were followed and appropriate notifications to end-users were sent. Proactively managed project risks and communicated during the project lifespan.

### Portland General Electric, Network Segmentation

PORTLAND, OR

Project Manager led a team of 5+ members on a high-visibility initiative with a demanding deadline. Coordinated the segmentation of over 90 devices across

more than 10 locations within the service territory. The project was successfully delivered, with all tasks completed ahead of the established deadline.

### Portland General Electric, Field Manager & Maximo Implementation Stabilization

PORTLAND, OR

Project Manager accountable for developing and managing a recurring, in-person training schedule for over 500 employees across 15+ offices, conducting trainings every 6 weeks. Designed and delivered training for 60+ employees per session, collaborating with IT, leadership, and SMEs to align training with business goals. Managed knowledge assessments to identify gaps in understanding and created comprehensive training materials for future use.

# Kelda Kenessey

Department Manager, Project Services

## WHY KELDA?

28 YEARS OF EXPERIENCE

EDUCATION

- Geographic Information Systems,
- Pennsylvania State University
- B.A., Interdisciplinary Studies, Florida
- Atlantic University

SPECIAL TRAINING

- POWER Management Training
- POWER Micro-MBA Program
- Distribution and Relationship Marketing (DRM) Next Step Mentoring Program, IHG
- IHG On Track, Emory Goizueta Business School, Executive Education
- Project Management, Emory University Beta Group at InterContinental Hotels Group
- Public Speaking, SpeakEasy
- Geographic Information Systems, Penn State University Online

CERTIFICATIONS

- SAFe Agilist
- Lean Agile Leader, SAFeExecutive Bootcamp

HARDWARE/SOFTWARE

- Blueprint
- Business Objects
- Esri ArcGIS Pro
- IHG Tools and Systems
- Jira
- Mingle

## EXPERIENCE SUMMARY

Ms. Kenessey is a versatile Senior Consultant with 28 years of proven success in executing transformation projects on various scales, ranging from local to global. She's adept at bringing together various vendors, processes, approaches, and technical skill sets to build more efficient means of successful project delivery. She has demonstrated consistently strong results while helping organizations transform their systems, applications, processes, and teams, resulting in more engaged team members, better collaboration, and communications, reduced operating costs, increased revenue, improved implementation processes, more efficient delivery, and faster incident resolution.

### ENSTAR Natural Gas Company, Utility Network Data Assessment and Data Conversion

ANCHORAGE, AL

Project Manager and trusted advisor responsible for oversight of implementation of an automated process to migrate GIS data into an agreed Utility Pipeline Data Model (UPDM). This project allows ENSTAR to gradually ease into leveraging the full capabilities of the UPDM and Utility Network at a pace that works for their resource availability and budgets. This strategy relieves the pressure of shifting to a new technology all at once, reducing risk to the client while allowing them to leverage significant benefits of the Utility Network platform. Leading efforts to further enhance their GIS and mobile applications to further overhaul and streamline their field operations.

### SEMCO Energy Gas Company, Isolation Tier Utility Network Configuration

PORT HURON, MI

Project Manager and Account Manager responsible for assisting with a multi-phased project to transition to the Utility Network with low risk while leveraging Utility Network capabilities to support compliance. Within the SEMCO projects, the project approach and plans were converted to expedite completion of a cost-effective transition to the Utility Network. The POWER team tailored end-user training before deploying the Utility Network solution into SEMCO's production environment. Leading efforts to further enhance SEMCO's GIS capabilities via an Asset Management pilot.

- Rally
- Red Brick Query Tools
- SAS
- SQL
- Tableau

## Lodi Electric, UN Implementation

LODI, CA

Project manager responsible for the multi-phased project to convert the City of Lodi's data to the Utility Network via a custom approach that incorporates and transforms data from both Milsoft and CAD on a timeline with support for environment buildout and training that provides minimal impact to end users.

## Idaho Power Company, Utility Network Design and Discovery

BOISE, ID

Project manager responsible for leading discovery and design for multi-year Utility Network migration, incorporating synchronization process, integrations, key interdependencies with other strategic client projects, and organizational change management for Idaho Power Company.

## Talquin Electric Cooperative, Utility Network Readiness Assessment

QUINCY, FL

Project manager responsible for leading Utility Network Readiness Assessment for three commodities of Talquin Electric. Project included assessments, recommendations, and planning for multiple strategies to accommodate Talquin's budget and timeline requirements.

## Kansas City Board of Public Utilities, Utility Network Assessment and Go Forward Plan

KANSAS CITY, KS

Senior Consultant and Project Manager responsible for management and oversight of POWER and the City's resources for design & discovery of a multi-phased project to transition from a Geometric Network to a Utility Network. Successfully converted the project approach and plan to expedite completion of the transition to the Utility Network, with proposals for both Electric and Water, identifying efficiencies for running both projects in tandem.

## Intercontinental Hotels Group (IHG)

ATLANTA, GA

Director of Applications Development and Integration, responsible for leading global teams to implement and support all revenue-generating Commercial applications. Instituted continuous improvement, standardized documentation, and communications, yielding transparency and understanding at all levels of the organization, and improved time to production.

# Ruben Valcarcel Feliu, MSc.

Smart Grid Mod Lead

15+ YEARS OF EXPERIENCE

EDUCATION

- Computer Science
- Power Systems Engineer, MSc

AREAS OF EXPERTISE

- Team leadership
- SME Technical Lead
- Service Delivery, Deployment and Implementation
- Strategy migration and future strategies onto smart grid technology
- Consulting.
- Schneider Electric ADMS/DMS/DERMS/EMS/SCADA/GIS adv applications (VVWO, FLISR, LAR, DA, Load Relief, etc.) implementation and tuning
- OSII DERMs
- GE GridOS
- Oracle
- AMI integration and strategy ADMS/OMS
- Network Modeling, GIS cleaning DATA, Load Flow and State estimation tunning.
- System Integration
- Data Assessment

## EXPERIENCE SUMMARY

With over 15+ years of experience in the Smart Grid and Electric Utility Sector, I specialize in planning, implementing, and leading advanced Smart Grid solutions as a recognized SME in ADMS, DERMS, and EMS. I have successfully designed and deployed Schneider Electric, GE, AspenTech OSII and many other systems globally, leveraging 6+ years as a Control Room Engineer, Network Planner, and Simulator Trainer to ensure operational excellence. Additionally, I drive innovation through strategic partnerships and collaborations focused on advancing Smart Grid initiatives. By leading cross-functional teams and strategic partnerships, I enable utilities to unlock the full value of Smart Grid technologies—from meter-to-transformer architecture, field operations, and DER integration to financial modeling, change management, and performance analytics—ensuring scalable, secure, and future-ready solutions.

### Austin Energy

AUSTIN TEXAS

Description

- Implementation Lead & Subject Matter Expert (SME): Led the implementation of Schneider Advanced Distribution Management System (ADMS), providing technical expertise and strategic oversight.
- Mesh Network Expertise: Served as SME Lead for the modeling, implementation, and performance tuning of the Mesh Network for Austin Energy.
- Workshop Leadership: Facilitated and led multiple workshops focused on ADMS, Outage Management Systems (OMS), and field client applications, ensuring stakeholder engagement and solution alignment.

### PG&E

SAN FRANCISCO

Description

- Subject Matter Expert (SME): Lead for Advanced Distribution Management System (ADMS) project implementation, providing strategic guidance and technical expertise.
- Testing Team Oversight: Direct and manage the Testing Team to ensure high-quality deliverables and robust system performance. Oversee the Testing Team.

- Architecture Team Leadership: Spearhead the Architecture Team, driving the design and development of scalable and efficient system frameworks. Lead of the Functional and Technical team.
- Functional and Technical Team Leadership: Lead the Functional and Technical teams, fostering collaboration and innovation to deliver comprehensive solutions.

### PSEG LI and NJ

LONG ISLAND AND NEW JERSEY

Description

- Led the strategic implementation of the project plan.
- Led the utility readiness assessment.
- Subject Matter Expert (SME): Lead for AspenTech OSII Distributed Energy Resources Management System (DERMs) project implementation, providing strategic guidance and technical expertise.
- Testing Team Oversight: Direct and manage the Testing Team to ensure high-quality deliverables and robust system performance. Oversee the Testing Team.
- Architecture Team Leadership: Spearhead the Architecture Team, driving the design and development of scalable and efficient system frameworks. Lead of the Functional and Technical team.

### APS

ARIZONA

Description

- Mesh Network Expertise: Served as SME Lead for the modeling, implementation, and performance tuning of the Mesh Network for APS within the Schneider ADMS.
- Schneider DERMS Expertise: Acted as SME Lead for the implementation of Schneider Distributed Energy Resource Management System (DERMS), providing strategic direction and technical leadership.

### Hydro One

TORONTO

Description

- Utility Control Center Readiness: Led the ADMS readiness assessment for the utility control center, ensuring operational preparedness and alignment with system requirements. Lead for ADMS upgrade pre implementation planning.
- Pre-Implementation Planning: Directed pre-implementation planning efforts for an ADMS upgrade, laying the foundation for a seamless transition.

» ADMS/OMS Implementation & Upgrades: Successfully led the implementation and upgrade of Advanced Distribution Management Systems (ADMS) and Outage Management Systems (OMS), delivering enhanced functionality and performance.

### PSE
WASHINGTON

Description
» Utility Control Center Readiness: Led the ADMS readiness assessment for the utility control center, ensuring operational preparedness and alignment with system requirements. Lead for ADMS upgrade pre implementation planning.
» Pre-Implementation Planning: Directed pre-implementation planning efforts for an ADMS upgrade, laying the foundation for a seamless transition.
» ADMS/OMS Implementation & Upgrades: Successfully led the implementation and upgrade of Advanced Distribution Management Systems (ADMS) and Outage Management Systems (OMS), delivering enhanced functionality and performance.

### EPCOR
WASHINGTON

Description
» Utility Control Center Readiness: Led the ADMS/EMS readiness assessment for the utility control center, ensuring operational preparedness and alignment with system requirements. Lead for ADMS upgrade pre implementation planning.
» EMS/ADMS Implementation & Upgrades: Successfully led the implementation and upgrade of Advanced Distribution Management Systems (ADMS) and EMS, delivering enhanced functionality and performance.

### WEC
MILWAUKEE

Description
» Subject Matter Expert (SME): Lead for Schneider EMS/ADMS/OMS project implementation, providing strategic guidance and technical expertise.
» Architecture Team Leadership: Spearhead the Architecture Team, driving the design and development of scalable and efficient system frameworks. Lead of the Functional and Technical team.
» Functional and Technical Team Leadership: Lead the Functional and Technical teams, fostering collaboration and innovation to deliver comprehensive solutions.

# Ruben Valcarcel Feliu, MSc.

Smart Grid Mod Lead

## Nova Scotia Power

HALIFAX

Description

- Subject Matter Expert (SME): Lead for Schneider ADMS/OMS project implementation, providing strategic guidance and technical expertise.
- Utility Control Center Readiness: Led the ADMS readiness assessment for the utility control center, ensuring operational preparedness and alignment with system requirements. Lead for ADMS upgrade pre implementation planning.
- Architecture Team Leadership: Spearhead the Architecture Team, driving the design and development of scalable and efficient system frameworks. Lead of the Functional and Technical team.
- Functional and Technical Team Leadership: Lead the Functional and Technical teams, fostering collaboration and innovation to deliver comprehensive solutions.