

May 13, 2025

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

RE: RAMTeCH's response to RFP 25-21 ESRI Utility Network Design Services Vendor Selection

Dear Cleve:

RAMTeCH Software Solutions, Inc. (RAMTeCH) is pleased to present our proposal to Greenville Utilities Commission (GUC) for Esri Utility Network (UN) Network Design Services. RAMTeCH, a global services company to utilities, telecommunications, and engineering firms, delivers our proposal to GUC through our Utilities Division, also known as Spatial Enterprise Solutions (SES), a division dedicated completely to the delivery of spatial-related services to utilities and telecommunications companies throughout North America and abroad.

As an Esri Gold Partner and 20-year Esri Utility Partner, RAMTeCH is known throughout the industry for delivering services to utilities of all sizes with a focus on geospatial solutions. As a matter of routine, RAMTeCH services a very large number of multi-commodity utilities including CPS Energy, Eversource, Avangrid, Consolidated Edison, Consumers Energy, CenterPoint Energy, Pacific Gas & Electric, Central Hudson Gas & Electric, Eugene Water & Electric Board, and others. To service utilities with the transition of its GIS technology, no matter the legacy platform, RAMTeCH developed our Utility Network Advantage Program (**UNAP™**) in 2017. In 2018 we were awarded an Esri Partner Award for its soundness and creativity to bring structure to plans for utilities of any size to the UN. Because of its comprehensiveness and adaptive framework, RAMTeCH has exercised **UNAP™** on over 25 utilities since its inception. Today, we believe **UNAP™** is the most recognized framework to move utilities from their legacy platform to the Esri UN, and it will be utilized for our services to GUC.

As examples of our UN expertise and specifically toward multi-commodity utilities for UN services, RAMTeCH has worked or is working with several including Eugene Water & Electric Board (critical data services), CPS Energy (data, remediation, and consulting), Consumers Energy (UN planning, budgeting, and implementation as the SI), and Central Hudson Gas & Electric (UN planning, budgeting, and implementation). At each of these, we work with a range of partners including Esri, Scheider Electric, Geonexus, Deloitte, and others. In addition, RAMTeCH demonstrates that our services are absolutely scalable and adaptable.

RAMTeCH will address the key projects areas of Data Readiness, Design, Migration and System Integration planning for the gas and electric domains with our Utility Network Advantage Program (**UNAP™**). The **UNAP™** framework is designed specifically to follow a thorough, structured IT roadmap focused on the UN that will ensure GUC's UN plan is complete. From the core system and integrations for IT to user needs and budgets within each commodity, and then to be able to move the necessary components of its legacy GIS to its future state UN environment, including applications and data.

"Our commitment to excellence in providing the customer with the most accurate, reliable, and high-performance products is the key to our success and shall continue to be the underlying tenet in all our endeavors." – RAMTeCH Mission Statement

Moreover, it will address and rationalize the needs and priorities of each commodity in parallel including those that impact system design, software, integrations, application carryover, and certainly, evaluation of legacy data for its readiness for UN. In other words, **UNAP™** follows an absolute framework for structure, but it is adaptable by design through necessity and focused on each customer's needs, including GUC.

Finally, **UNAP™** offers options to focus on specific areas of interest and value including establishing test datasets so that GUC can evaluate how its data will manifest itself in the UN. The resultant plan will present the recommended implementation of the UN reflected through combined implementation priorities that the technology requires along with GUC's priorities because it is likely that GUC's commodities, electric, water, sewer and gas will need to fit into a sequenced schedule. This is the strength of UNAP; to ensure the path is clear and reflects GUC's needs and priorities.

RAMTeCH commits to GUC that, through our **UNAP™** model, GUC's priorities and interests will be reflected in a practical and functional UN roadmap that has GUC's acceptance for implementation by commodity as required by GUC and that GUC can support through ensuing years.

The following contact from RAMTeCH will support communications between us and GUC through this important evaluation process:

John Bourguignon
 Director, Sales & Marketing
 Phone: 920.309.2287
 Email: jbouguignon@ramtech-corp.com

On behalf of RAMTeCH, we thank GUC for its consideration of our proposal. As a company recognized for our absolute commitment to our customers and their success through high-value services, we commit to you that the services we propose herein will result in a highly supported and effective UN implementation plan through the execution of our proven and scalable **UNAP™** framework. We look forward to the opportunity to present our plan to your team and thank you for your interest in RAMTeCH.

Sincerely,

RAMTeCH Software Solutions, Inc.



John G. Bourguignon
 Director, Sales and Marketing

"Our commitment to excellence in providing the customer with the most accurate, reliable, and high-performance products is the key to our success and shall continue to be the underlying tenet in all our endeavors." – RAMTeCH Mission Statement

RAMTeCH

Proposal
to



in response to
**RFP 25-21 ESRI Utility
Network Design Services
Vendor Selection**

Due Date: May 13, 2025

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SECTION 1 - COMPANY BACKGROUND AND RELEVANT EXPERIENCE

1.1 Company Overview

Founded in 1992, **RAMTeCH Software Solutions, Inc. (RAMTeCH)** launched its core business with a focus on geospatial data and technology services to utilities. RAMTeCH is located in Stillwater, Minnesota, USA, and is a wholly owned subsidiary of RAMTeCH Software Solutions Pvt. Ltd., an Indian corporation based in Delhi, India.

With consistent high-quality performance and exceptional value through intellectual property (IP)-based solutions, RAMTeCH has propelled into a global geospatial leader. In our 30+ years of business, RAMTeCH has grown to encompass three primary business units:

1. Spatial Enterprise Solutions (SES, Utilities)
2. Energy Data Management
3. Engineering Services

The SES business unit will provide the proposed services to Greenville Utilities Commission (GUC) SES encompasses a full range of geospatial services including utility network, data management, professional services, managed services, asset services, and engineering services supporting Utility, Telecommunications, and Oil & Gas industries. Our Energy Data Management business unit focuses on the processing and analysis of geophysical data for energy exploration, and technology support for midstream pipelines, while our Engineering Services business unit focuses on make-ready engineering and fiber network engineering for the Telecommunications and Buildings & Infrastructure industries. Furthermore, RAMTeCH is the world's recognized leader in delivering data services to the Building Information Management industry.



RAMTeCH's SES team brings extensive asset and operational data expertise due to successfully executing over 200 utility projects. RAMTeCH employs over 3,000 people worldwide and is an ISO 9001:2015 and ISO27001:2013 certified company. We bring certified technical and practical expertise in supporting a variety of geospatial platforms and technologies with an emphasis on Esri ArcGIS, Schneider Electric ArcFM, GE Smallworld, Autodesk AutoCAD, and an array of other systems associated with design and engineering, asset management, operations, and mobile. RAMTeCH offers a full range of solutions, identified in the chart below, to help our clients successfully plan, deploy, and support geospatial technologies and data. As a trusted leader in geospatial data management, RAMTeCH develops geospatial systems and prepares data to support consumption by critical operational systems.



1.1.1 RAMTeCH's History with Esri and Business Partner Ecosystem

1.1.1.1 History with Esri

As one of the longest tenured Esri utility industry partners for nearly 20 years, RAMTeCH is often referred to as Esri's go-to data provider for utility migration projects.



For over 20 years, RAMTeCH's name has become synonymous with Esri, high-quality, and timely execution of work.

Today, as an Esri Gold Partner, RAMTeCH has become the recognized market leader in moving data not only from legacy Esri systems, but also from legacy non-Esri GIS environments including GE Smallworld and AutoCAD/Oracle, to Esri's future UN state.



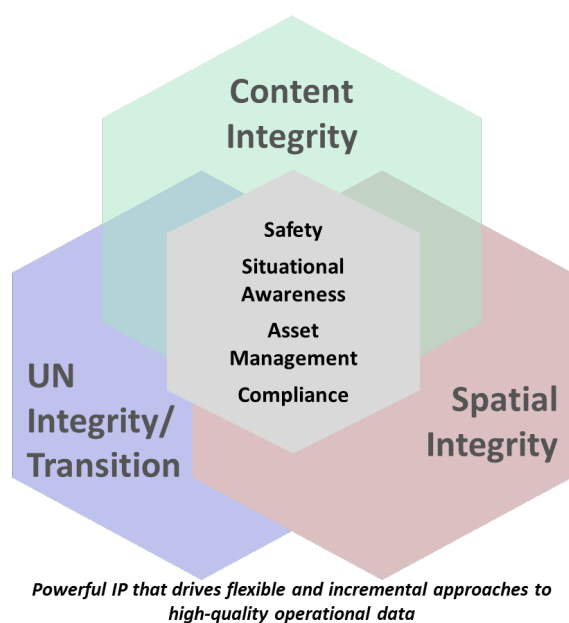
Utility Network Management
Specialty



ArcGIS System Ready
Specialty

RAMTeCH's solutions are driven by our internally developed Intellectual Property (IP). Over 90% of RAMTeCH's internal IP investments are based on Esri-based solutions. Our commitment to Esri has been targeted toward making it easier to migrate to Esri and making customer experiences within Esri better. Today, we carry a widely recognized and powerful portfolio of IPs to support our utility customers, but the focus of our IPs is on the improvement of data integrity to support safer and higher quality actions by our customers through routine business operations.

Comprehensive Data Integrity Program



uNet™

- UN-Specific Preparedness
- Data Fidelity



gReady™

- Content and GIS-Specific
- Database Integrity



gConflate™

- Unique to the GIS
- System-Wide Consistency of Placement



1.1.1.2 Partner Ecosystem

At RAMTeCH, we work hard to build the most competitive and powerful solutions in the industry. While we do this mostly through our own internal development, in today's business climate, it is often necessary and prudent to partner with companies to deliver extensive solutions to our customers. We can maintain our partners for years based on one simple principle; continually deliver work at the highest level of quality, consistency, and integrity possible. By proving this consistently, we have become the go-to data partner for Esri, Schneider Electric, and other companies. We work hard to deliver for these companies in

return for their trust. We are not only trusted to deliver but also to contribute beyond what we are contracted to deliver to make both our customer's and our partners successful.

The longevity of our partnerships is a testimony of our continual ability to deliver and stay abreast of the latest technology. We work hard to remain relevant. A few examples include our Esri utility partnership for nearly 20 years, Schneider Electric implementation partner for nearly 15 years, and we are currently engaged in several projects with each of these companies today.

1.2 Relevant Project Experience

RAMTeCH started working with the Esri Utility Network (UN) in 2017 with our program, **UNAP™**, which stands for Utility Network Advantage Program, an Esri Partner Award-winning program in 2018. RAMTeCH is primarily a data company, and UN upgrades are data centric upgrades. Over the years, as a direct result of our consistent performance and success in making our customers successful, we have amassed the following experience, all of which we were able to expand into easily as a result of the success of our data work. Today, we have performed over 20 UNAP studies for a range of customers that include Investor-Owned Utilities (IOUs), telecommunications companies, and municipalities from among the largest utilities in the country to mid-sized municipalities. Our business model has proven to be able to support each size and type of institution very consistently and successfully, and we believe that is due to the way we engage our customers.

The following table depicts our strength in large-, medium- and small-scale UN planning and budgeting, system implementations, data migrations, data assessments, and data remediation programs. It also shows how our success at UN data has led to customer confidence in securing RAMTeCH for expanded roles encompassing full system implementation, systems integration, and contract software services. We can also show GUC which customers involved work that required us to interact with other contracted companies, including where we have been a subcontractor.

CUSTOMER	PLATFORM	PLANNING	DATA ASSESSMENT	DATA REMEDIATION	DATA MIGRATION	SYSTEM IMPLEMENTATION	MOBILE IMPLEMENTATION	SOFTWARE DEVELOPMENT	STATUS
Tier 1 Electric Transmission Company	Esri	●	●						Completed
Tier 1 Telecommunications Company	Esri				●	●			Ongoing
Tier 1 Gas Company	GE Smallworld		●		●				Completed
Tier 1 Electric and Gas Company	Esri		●						Completed
Tier 2 Electric Company	Esri	●	●						Completed
Tier 1 Electric and Gas Company	Esri		●	●	●				Completed
Tier 2 Electric and Gas Company	Esri/ GE Smallworld	●	●						Completed
Tier 2 Municipal Utility	Esri	●	●						Completed
Tier 1 Electric and Gas Company	MicroStation				●				Completed
Tier 1 Electric and Gas Company	Esri	●	●		●	●		●	Ongoing (Data Migration / System Implementation)
Tier 1 Electric and Gas Company	Esri		●	●	●				Completed
Tier 1 Gas Company	Esri	●	●						Completed
Tier 2 Municipal Utility	Esri				●				Completed
Tier 1 Electric Company	AutoCAD/ Oracle		●		●				Completed
Tier 1 Electric Company	G/Technology		●		●				Ongoing (Data Migration)
Tier 1 Gas Company	GE Smallworld		●						Completed
Tier 2 Gas Company	GE Smallworld				●	●	●	●	Ongoing
Tier 2 Electric Company	Esri	●	●						Completed
Tier 1 Pipeline Company	Esri	●							Completed
Tier 1 Electric and Gas Company	Esri	●	●						Completed
Tier 2 Electric, Gas and Water Company	Esri	●	●			●		●	Ongoing (System Implementation)
Tier 1 Electric and Gas Company	Smallworld		●						Ongoing
Tier 1 Electric Company	Esri				●				Ongoing
Tier 1 Gas Company	Esri	●	●						Completed
Tier 1 Gas Company	Esri	●	●	●			●		Completed
Tier 1 Electric Company	Esri	●	●	●					Completed
Tier 1 Electric Company	Esri/ GE Smallworld		●		●				Completed
Tier 1 Electric Company	Esri		●		●				Ongoing
Tier 1 Electric and Gas Company	GE Smallworld		●		●				Completed
Tier 2 Gas Company	Esri		●						Ongoing
Tier 1 Municipal Electric	Esri				●				Completed
Tier 3 Electric Company	Esri	●	●						Completed
Tier 1 Electric Company	Esri	●	●		●				Ongoing (Data Migration)
Tier 1 Electric and Gas Company	Esri		●	●					Completed
Tier 3 Electric Company	Esri					●			Completed
Tier 2 Electric Company	Esri/ GE Smallworld	●	●						Completed
Tier 1 Electric and Gas Company	Esri		●	●					Completed

RAMTeCH would be pleased to discuss any of the projects and specific customers listed above and how we have delivered to their expectations in each instance, as well as the challenges we have faced and how we worked to overcome them to ensure our customers' success.

For relevance to GUC's business, RAMTeCH is providing additional information for four customers:

- CPS Energy
- Allete/Minnesota Power
- City of Naperville Electric

- Eugene Water & Electric Board

1.2.1 CPS Energy

Company Name	CPS Energy
Relevance to GUC	CPS Energy is municipally owned electric and gas utility servicing greater San Antonio with nearly 1 million electric customers and 390,000 gas customers. CPS has been working toward its goal of implementing UN for the past three years. It has approached the UN by contracting a few key companies to contribute to the program. RAMTeCH has been a contractor to CPS for several years including work on its legacy GIS platform and field inventory, and now as CPS's primary data provider to its UN program.
Scope & Objectives, Dates of Service	RAMTeCH has a long-term contract with CPS first to move its land, electric distribution, and transmission GN data to the UN. Ensuing work in the next phase will include the migration of gas data to the UN. However, as part of a parallel set of services, RAMTeCH was awarded a contract by CPS for multi-year work order posting to maintain the level of backlogged work orders. As with all our UN data projects, RAMTeCH's work includes data modeling. RAMTeCH works alongside other contractors who perform other complementary services.
Outcomes Achieved	RAMTeCH's migration work has resulted in very high-quality data for networks and subnetworks delivered to CPS. Work is continuing into the next phase.
Scalability	The CPS program is designed to extend the GIS to support engineering design and ADMS.
Adaptability to Technology Changes	CPS's internal operations are driving change to support the UN and are aggressively pursuing the entire program.

1.2.2 Allete/Minnesota Power

Company Name	Allete/Minnesota Power
Relevance to GUC	While Allete, who owns and operates Minnesota Power and Superior Water Light & Power, is a privately held company, it operates its subsidiary, SWLP for the municipality of Superior, Wisconsin. In 2019, Allete needed a UN strategy, and RAMTeCH and a partner were contracted to perform the strategy work including scope, movement of applications, data, integrations, and budget. RAMTeCH's used our UNAP™ model to design, plan, and budget for Allete's upcoming UN transition from its legacy GN program.
Scope & Objectives, Dates of Service	The UNAP™ plan was successful. Another company was contracted by Allete, after the initial plan was developed, to implement UN. The project is ongoing, and the UN system has not yet been used for editing. Because of RAMTeCH's performance on the UN plan and for other GIS conflation work performed for Allete, in August 2024 RAMTeCH was direct-awarded two scopes of work, a parallel backlog job posting contract to eliminate the backlog so the system will go live with no backlogged work, and an

Company Name	Allete/Minnesota Power
	intensive implementation of Schneider Electric's ArcFM XI Editor technology for each entity – Minnesota Power for electric and SWLP for Gas and Water. The backlog posting contract concluded successfully on April 30, 2025, and the ArcFM XI Editor workstream is nearing completion for October 1, 2025.
Outcomes Achieved	By implementing the new ArcFM XI Editor application, Minnesota Power can finally go live with its UN system for editing for each of its utilities, and it can then eliminate the costly data synchronization process that remains in place today.
Scalability	The system is scaled for future editing needs, as well as integration needs with ADMS and its EAM.
Adaptability to Technology Changes	Allete/Minnesota Power management have been actively supporting the program so that the GIS contract work can stabilize once the system goes live.

1.2.3 City of Naperville, Illinois Electric

Company Name	City of Naperville Electric Utility
Relevance to GUC	The City of Naperville Electric required a UN migration plan and budget for its entire electric distribution and fiber communication networks with the intent of understanding what it needs to do to prepare the electric utility, Naperville IT, and its budget for an ensuing UN implementation project for the electric utility. RAMTeCH was awarded the contract to perform a complete assessment in 2024.
Scope & Objectives, Dates of Service	RAMTeCH was awarded the UN planning contract in September 2024 and completed in March 2025. The base scope was to create a plan to evaluate Naperville's current state and then develop a technical and financial plan to move its entire electric and fiber environments to its future state including applications, integrations, and data. Naperville opted for additional scope that added substantial value to help understand the future system and how its data will manifest itself in the UN environment. The additional scope items include a detailed system design and a RAMTeCH UN Jumpstart, where a base UN system with customer data is quickly implemented to allow users to become familiar with the UN before a full implementation is complete.
Outcomes Achieved	Naperville successfully defended the project plan, scope, and budget plan and is planning for its implementation in 2027. RAMTeCH successfully executed the work to Naperville's expectations including on time.
Scalability	The UN plan is designed to address the exact footprint as today's system but with the intention to handle integrations with Naperville's future state OMS and ADMS.
Adaptability to Technology Changes	Naperville has been researching ArcGIS Enterprise, Pro and UN and have prepared itself for the changes. The additional scope of system design and the UN Jumpstart enabled Naperville to understand and have a hands-on test of its data in the future system.

1.2.4 Eugene Water & Electric Board

Company Name	Eugene Water & Electric Board (EWEB)
Relevance to Greenville	EWEB is a longstanding customer of Schneider Electric (SE). RAMTeCH and SE have been close partners for nearly 20 years and maintain a number of contracts together. EWEB was in the process of developing a long-term automation program for its water and electric entities that encompassed EAM and GIS.
Scope & Objectives, Dates of Service	In 2023 EWEB selected SE and RAMTeCH to perform the migration of its legacy Esri SE system to the latest Esri UN and SE XI technology. RAMTeCH's role with SE was to perform the migration and also perform extensive data modeling to ensure business needs are met for the data to support EAM and other critical systems, including OMS. The upgrade, which concluded in late-2024, was a complete success.
Outcomes Achieved	EWEB's data model and data are fit to support EWEB's future business model with an upgraded EAM and OMS, and its data has proven fit for both purposes for the water and electric entities.
Scalability	The system operates as designed for EWEB's future operational model.
Adaptability to Technology Changes	EWEB has grasped the changes that the UN has brought to their business and aggressively implemented it for both its water and electric utilities.

1.3 Project References

RAMTeCH is providing the following four references to support similar work that GUC is requesting. GUC is requesting that references be multi-utility and while RAMTeCH works for many multi-utility companies, one of our references, Naperville Electric, is a single commodity utility, whose UN planning work we believe applies to Greenville Utilities, so we are providing four references. RAMTeCH's references reflect a range of work under the UN banner, including our **UNAP™** program, showing that we have a strong grasp of not only the business aspects of each type of utility, but IT needs, Esri technology, third party technology providers, budgeting, and most importantly, strong performant work to make our customers successful.

Company Name	City of Naperville Electric Utility, Illinois
Relevance to GUC	Naperville Electric, a single commodity business, contracted RAMTeCH to perform a full UNAP™ UN planning study, with the addition of a detailed IT system architecture design and a UN Jumpstart to migrate a subset of feeders to assess its data in the UN data model in the new system as a takeaway from the study. The study also included an in-depth project plan, so the work could be well thought out, and a project budget. The work for Naperville was completed successfully and on time in March 2025.

Company Name	City of Naperville Electric Utility, Illinois
Reference Contact	Jim Kivela Utility Integration Manager Naperville Electric P: 630.420.4112 E: Kivelaj@naperville.il.us
Outcomes Achieved	The plan was successful, and Naperville is on track to expect its implementation in late 2026 or early 2027.

Company Name	CPS Energy, Texas
Relevance to GUC	CPS Energy, a gas and electric commodity utility servicing greater San Antonio, Texas, is in the midst of a major Esri UN upgrade. CPS's preference is to include more than one contractor to support its implementation, and RAMTeCH is contracted by CPS as its trusted data provider, where data is the most complex aspect of a UN upgrade because it must support both standard and clean gas and electric networks and UN subnetworks. RAMTeCH is contracted for a multi-year engagement on the UN program and based on our performance, have since expanded our role at CPS to include a parallel workstream of work order posting. The work has been ongoing for two years and is expected to continue for the next two years.
Reference Contact	Bob Strachon GIS Manager P: (210) 353-2585 RDStrachan@cpsenergy.com
Outcomes Achieved	RAMTeCH's work on the electric networks, including data modeling support, has led to a very high-quality deliverable to support the electric UN system. We expect a continuance of the program to support the gas network transition to UN.

Company Name	Central Hudson Gas & Electric, New York (CHGE)
Relevance to GUC	CHGE is a mid-size IOU electric and gas utility serving 300,000 electric customers and 80,000 gas customers. RAMTeCH has been a service provider to CHGE for a wide range of services, which as of 2024 include a UNAP™ plan to help CHGE plan and budget for its UN program encompassing a technology upgrade, data migration and integrations, of which CHGE is planning to start with RAMTeCH as the System Implementer in the next few months.
Reference Contact	Ian Smith Associate Manager - GIS Data P: (845)219-0540 ISmith@cenhud.com

Company Name	Central Hudson Gas & Electric, New York (CHGE)
Outcomes Achieved	RAMTeCH successfully completed the UNAP™ plan in 2024 leading to a budgeted project for 2025-2027 starting with electric followed by gas. The project includes two key RAMTeCH business partners, Schneider Electric for its UN applications and Geonexus for its EAM integration technology.

Company Name	Eugene Water & Electric Board, Oregon (EWEB)
Relevance to Greenville	EWEB is Oregon's largest customer-owned utility serving approximately 200,000 customers with water and electricity. EWEB contracted SE to implement its UN technology to replace the legacy Esri/SE system, and RAMTeCH was contracted to perform the data work to move both water and electric GN data networks to the new UN environment. RAMTeCH's work included extensive data modeling support which is normal for the data provider for UN projects.
Reference Contact	Caleb Anderson, GISP GIS Supervisor - EWEB P: (541) 685-7747 caleb.anderson@eweb.org
Outcomes Achieved	The project is successful and was completed in mid-2024.

SECTION 2 - PROJECT APPROACH AND DESIGN

RAMTeCH's proposed services focus on GUC's project goal to design and prepare for deployment of ESRI Utility Network (UN) by providing comprehensive analysis, design, migration planning, and risk mitigation for implementation of the UN for electric and gas domains beginning summer of 2025 and concluding by end of year.

2.1 System Design

RAMTeCH implements a proven methodology that provides the general design of UN systems for multi-utility environments and an actionable roadmap of project efforts for the implementation. It begins with upfront workshops to document the current state of the GIS and define the future state vision and goals for the gas and electric UN GIS and perform UN readiness assessments of the current GIS data. Once the future state is clearly understood and documented with prioritized requirements, RAMTeCH will provide recommendations of system components, required out of the box tools or the need for custom tools, integrations, and data model recommendations.

The data model recommendations used by GUC to select a target data model and understand the level of customization will be based on the requirements, the UN data readiness assessment results from the **gReady™** data assessment, and the preliminary data mapping. RAMTeCH will perform preliminary data mapping of GUC existing gas and electric data models to the target UN data models to inform the final UN data model decisions.

RAMTeCH also recommends an optional UN Jumpstart. For the UN Jumpstart, RAMTeCH will provide GUC with geographically contained section of gas distribution data representing different pressures, and a section of two electric circuits converted directly into the Esri UN standard gas UPDM and electric foundation models for GUC's internal use, evaluation, and demonstration when planning the future use of ArcGIS Pro. The jumpstart datasets are an accelerator for GUC to understand data model selection and customization decisions that will need to be made with the full UN implementation project. Additionally, it will provide both GUC and RAMTeCH with a working example of some of the data issues encountered during the data assessment step, and remediation strategies for dealing with these conditions. The data will be delivered in UN File Geodatabase (.gdb) format to GUC for use on its servers.

For the jumpstarts RAMTeCH will:

- Work with GUC to choose a geographically contained section of gas distribution data representing different pressures, and a section of electric covering two circuits converted directly into the Esri UN standard gas UPDM and electric foundation models
- Convert the data into the Esri UN standard gas UPDM and electric foundation models at the Asset Group/Asset Type level with minimal attribution
- Enable the UN topology and create a subnetwork(s)
- Conduct a workshop with GUC to review the data conversion results, fidelity (feature templates), editing tools, workflow, etc.
- Deliver the data to GUC for its internal use (file gdb format)

The supplemental project methodology section provided in Section 7 outlines how this project will be executed to define the UN design, data assessment, and data model selection.

2.2 Integration Strategy

RAMTeCH will work with GUC business and technical staff to understand and document the current state GIS integrations with other systems including CIS, SCADA, GIS, OMS, Synergy, Windmill, ArcFM/Designer/Session Manager. RAMTeCH will gain an understanding of the integration data input/output, transfer frequency, and technology type (point to point or web service), for each of the integrations. Additionally, RAMTeCH will work with GUC to understand UN compatibility and readiness for the third-party solutions and provide technical recommendations for integrating with the UN. Through our experience, we have seen that many third-party solutions are not compliant with the UN data models or feature services. In these cases, there may be a need to plan for a data synchronization solution to replicate changes from the new UN environment as the edits are made back to the legacy GN environment to continue to feed legacy integrations until they are updated to be UN compliant.

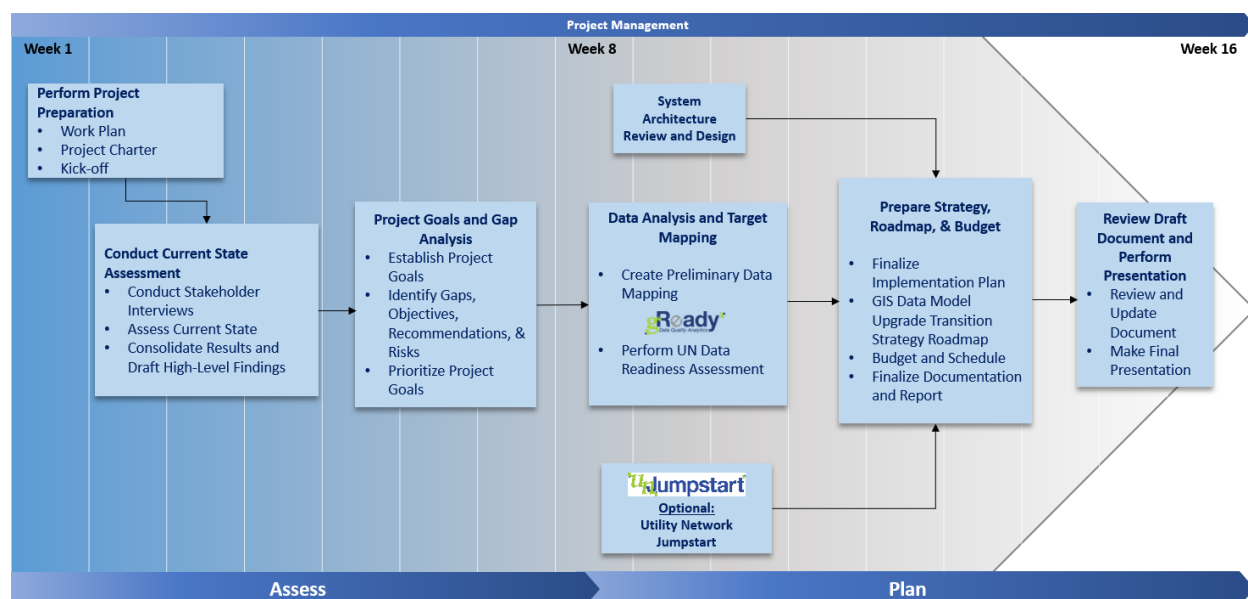
RAMTeCH has performed analysis of GIS integrations with operational and planning systems in numerous UN planning projects. The results of the analysis will provide GUC with a roadmap of efforts to implement the integrations. Integration examples include the following:

- For two in-progress projects, RAMTeCH will implement a Customer Linking solution that provides integration between GIS and CIS to assign customer meters to transformers.
- RAMTeCH is currently implementing ArcFM XI and Session Manager for a multi-domain utility.
- Based on the results from a UN planning project similar to this one, RAMTeCH is under contract to implement a UN to GN synchronization process to process changes made in the UN back to a GN to continue to feed a legacy gas modeling application until it is updated to work with the UN.
- RAMTeCH has developed GIS to ADMS integration for a customer with the GN and that integration will be updated when the customer moves to the UN.

The supplemental project methodology section provided in Section 7 outlines how this project will be executed to assess integrations with GIS and how those will be factored into an implementation plan.

2.3 Work Plan

RAMTeCH has a proven methodology to provide a UN readiness data assessment to identify data issues and corrections, preliminary UN data mapping, UN data model selection and customization, analysis of integrations, risk identification and mitigation strategies, and a roadmap of project efforts. The following methodology will be followed for this project.



The supplemental project methodology section provided in Section 7 outlines how this project will be executed to provide GUC with the UN project planning information that is needed to prepare for the future full UN implementation project.

2.4 Transition Management

Key items that need to be considered when developing the transition plan are the following:

- Fully vetted and approved gas and electric business goals and requirements to ensure scope alignment
- Esri UN training and overall change management to enhance adoption of the new UN GIS
- Business resource planning for requirements definition, UN data model decisions, data and application testing, and training
- IT resource planning for the implementation of the new Esri software releases, web service management, performance monitoring and tuning, and administrator training
- IT and business resource planning if the UN is implemented with a sync process to replicate changes back to the legacy GN database

The supplemental project methodology section provided in Section 7 outlines how this project will be executed to provide GUC with the UN project key items in regard to scope, required resource roles, and responsibilities to ensure success for the future full UN implementation project.

2.5 System Architecture

RAMTeCH has performed the UN architecture definition for several UN planning projects. RAMTeCH will consider the following when defining the future gas and electric UN architecture.

- Architecture vision and constraints
- Business drivers
- Sites (e.g., offices, data centers)

- User workflows
- Database architecture
- Server architecture
- System security
- Capacity planning / High Availability (for GUC's Dev, Test, and Production environments)

RAMTeCH defined architecture and successfully implemented the UN for a gas customer with ArcGIS Pro users using out of the box tools for data maintenance, and mobile field crews using RAMTeCH's **gMobile™** mobile application for online/offline field inspections.

The supplemental project methodology section provided in Section 7 outlines how this project will be executed to provide GUC with a defined UN system architecture that aligns with GUC IT standards for the future full UN implementation project.

SECTION 3 - PROJECT MANAGEMENT STRATEGY

3.1 Project Plan

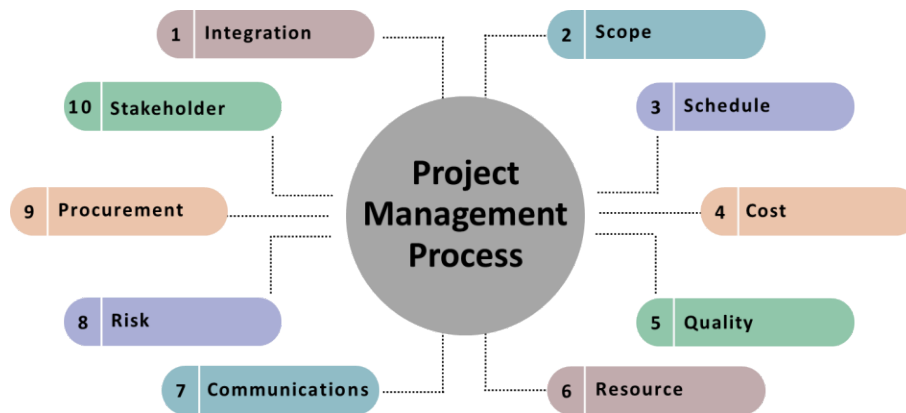
RAMTeCH estimates the project will be completed in approximately four months starting with a Project Kickoff meeting in July 2025. The following is a representative example of the project plan that would be executed over four months. The supplemental project methodology section provided in Section 7 includes a full description of a typical UN planning project.

Task Name	Duration	Start	Finish	Resource Names
Greenville UN Plan	91 days	Mon 7/21/25	Tue 11/25/25	
Step 1 - Project Preparation	6 days	Mon 7/21/25	Mon 7/28/25	
Gather materials, work plan, project charter	5 days	Mon 7/21/25	Fri 7/25/25	Project Manager
Kick-off Meeting	1 day	Mon 7/28/25	Mon 7/28/25	GIS Analyst, Greenville, Project Manager, Senior Consultant
Step 2 - Conduct Current State Assessment	12 days	Tue 7/29/25	Wed 8/13/25	
Assess Current State, Identify High-Level Needs and Opportunities - Gas and Electric	4 days	Tue 7/29/25	Fri 8/1/25	Greenville, Senior Consultant
One Day on-Site Current State Assessment Workshop	1 day	Mon 8/4/25	Mon 8/4/25	Greenville, Senior Consultant
Consolidate Findings for Review	5 days	Tue 8/5/25	Mon 8/11/25	Senior Consultant
Greenville Review	2 days	Tue 8/12/25	Wed 8/13/25	Greenville
Step 3 - Project Goals and Gap Analysis	5 days	Thu 8/14/25	Wed 8/20/25	
Define Utility Network Project Goals and Future state for GIS in the UN	2 days	Tue 8/12/25	Wed 8/13/25	Greenville, Senior Consultant
Gap Analysis between Current State and Planned Future State GIS in UN	3 days	Thu 8/14/25	Mon 8/18/25	Greenville, Senior Consultant
Step 4 - Conduct GIS Data Quality Assessment	40 days	Tue 8/19/25	Tue 10/14/25	
Data Assessment Preparation	2 days	Tue 8/19/25	Wed 8/20/25	Senior Consultant
Evaluate Current Gas and Electric GIS Data	11 days	Thu 8/21/25	Fri 9/5/25	Senior Consultant
Data Quality Assessment Report Delivery and Review	2 days	Mon 9/8/25	Tue 9/9/25	Senior Consultant, Greenville
Evaluation of Current data model to Future State UN	5 days	Wed 9/10/25	Tue 9/16/25	Senior Consultant
Develop Data Remediation Plan and Recommended Actions	5 days	Wed 9/17/25	Tue 9/23/25	Senior Consultant, GIS Analyst
Preliminary Source to Target Data Mapping	10 days	Wed 9/24/25	Tue 10/7/25	Senior Consultant, GIS Analyst
Greenville Data Mapping Review	5 days	Wed 10/8/25	Tue 10/14/25	Greenville, Senior Consultant
Step 5 - Conduct a UN Jumpstart	30 days	Wed 10/8/25	Tue 11/18/25	
Greenville UN Jumpstart Review	5 days	Wed 11/19/25	Tue 11/25/25	Greenville
Step 6 - Conduct System Architecture Design	20 days	Wed 9/17/25	Tue 10/14/25	
Step 7 - Prepare Strategy, Roadmap, and Budget	15 days	Wed 10/15/25	Tue 11/4/25	
Step 8 - Prepare UN Final Report	15 days	Wed 11/5/25	Tue 11/25/25	
Prepare Final UN Plan Report Document	5 days	Wed 11/5/25	Tue 11/11/25	Senior Consultant, Project Manager
Prepare and Deliver Final Report and Presentation	5 days	Wed 11/12/25	Tue 11/18/25	Senior Consultant, Greenville
Greenville Review	5 days	Wed 11/19/25	Tue 11/25/25	Greenville

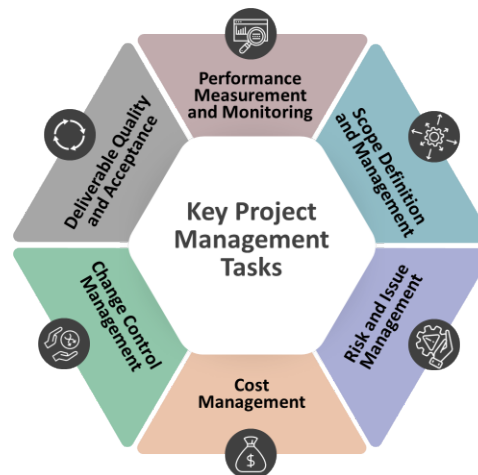
3.2 Project Management

RAMTeCH understands the importance of strong project management to ensure project success for GUC's ESRI Utility Network Design Services. We have an established Project Management Office (PMO) that will provide oversight, maintain standards, structure, and implement best practices for this project.

RAMTeCH's corporate project management methodology is based on the Project Management Body of Knowledge (PMBOK® Guide - Sixth Edition) developed by the Project Management Institute (PMI). RAMTeCH's project management methodology follows five process groups: Initiating, Planning, Executing, Monitoring & Controlling, and Closing. Project Management processes are categorized into ten areas.



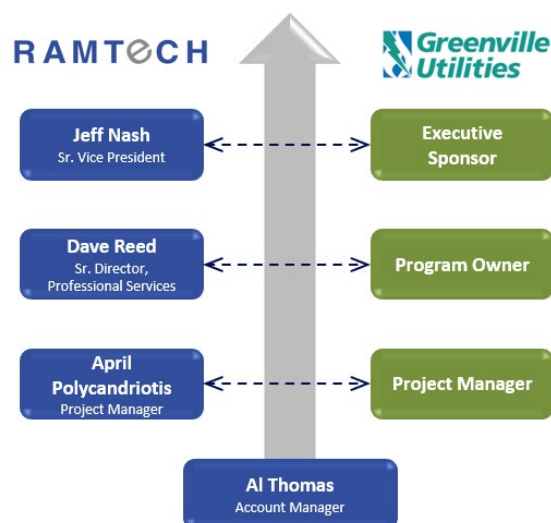
The key project management tasks that will be the focus of the team’s efforts for the successful execution of this project are:



RAMTeCH’s PMO will monitor this program for adherence to quality standards. The PMO will support, define, and manage processes and procedures used to ensure customer requirements, needs, and expectations are satisfied during the delivery of projects. The PMO, with input from the project managers and directors, is responsible for the continual improvement of RAMTeCH’s processes and customer deliverables. RAMTeCH utilizes Microsoft Project for project planning and proprietary tools for managing resources and project financials. The RAMTeCH team will use a waterfall project approach for the overall project.

3.2.1 Escalation and Change Management

There are a range of reasons why issues require escalation, and a functional escalation procedure must be in place for a project of this nature to be executed in an efficient manner. Issues can be raised by either party and the process of escalation is simply designed to instill a recognized procedure that both parties actively embrace to clear roadblocks before they impact production. As part of the process, individuals involved must be aware of and willingly accept their role in this process to ensure that the project flows as smoothly as possible with few interruptions in the production. The escalation process must maintain an active connection with the executive sponsors. The following chart illustrates the escalation process for this project:



From time-to-time certain technical, data, performance, or financial issues will require escalation. Should escalation be necessary, the GUC and RAMTeCH will employ the following hierarchy to escalate.

Escalation	Designation
Level 1	Project Manager
Level 2	Program Manager
Level 3	Executive Sponsor

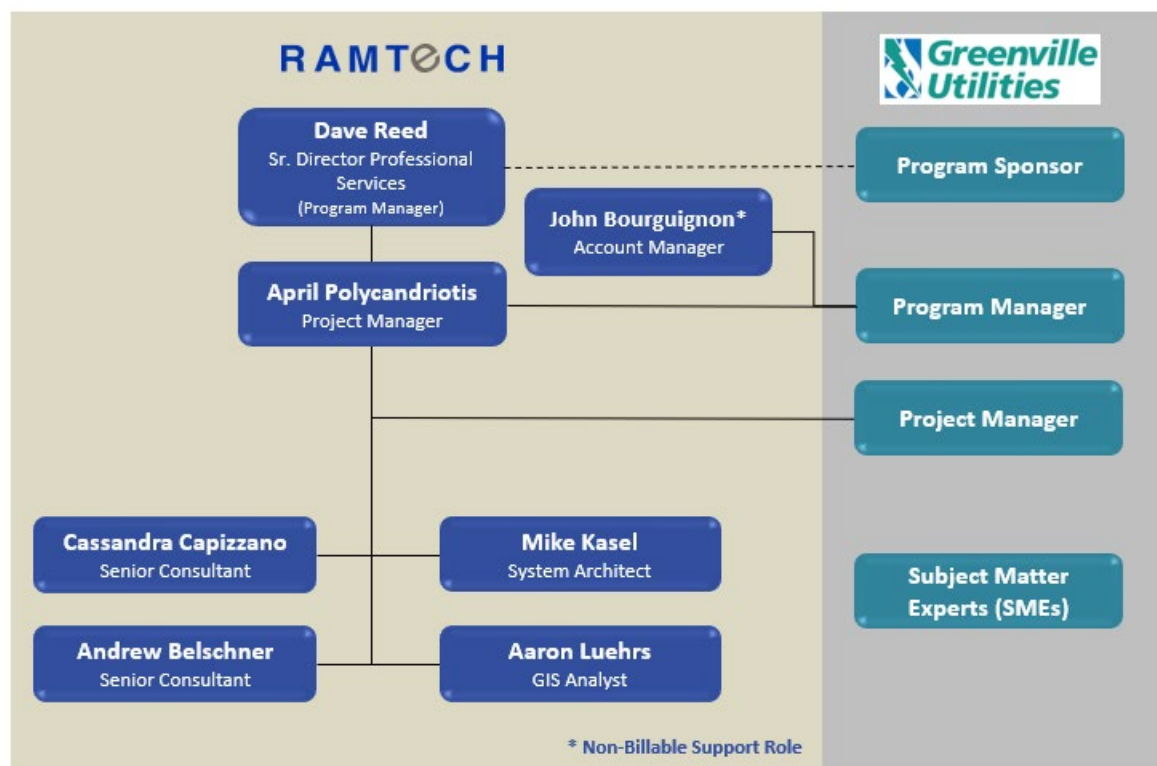
With escalation, there may be changes to the work that are driven by new observations by GUC or RAMTeCH, or changes requested by GUC through the course of executing this work. GUC or RAMTeCH can utilize a formal change control and escalation process to identify, document, and approve changes to the project. This will be accomplished by using a change control process that is used to communicate, quantify, and approve or reject proposed scope changes and their schedule and cost impacts for this project. For protection of GUC and RAMTeCH, the proposed changes to the project scope or specifications will not be acted upon until a mutually signed change request is on file, assuming this is warranted as part of the process.

3.3 Project Team

To execute GUC's UN design work, RAMTeCH will use our proven global delivery model by leveraging our US management and technical team to interface directly with GUC on all aspects of the project. GUC and RAMTeCH's management and technical teams will work together to coordinate milestone deliveries, schedule synchronization, and rapid response to day-to-day operational needs.

3.1 Project Team Org Chart

The organization chart below lists the key personnel anticipated for the GUC UN design work. Final project assignments depend upon timing of contract execution.



3.2 Project Team Qualifications

The following is a high-level description of each key RAMTeCH team member, including their responsibilities and qualifications for each of their respective roles within GUC's UN Planning project. Sample resumes for the technical resources are provided in Section 8.

Name	Jeff Nash
Office Location	US Office
Project Role	Sr. Vice President (Executive Sponsor)
Responsibilities	Jeff will serve as the executive sponsor providing overall ownership to the project, including management oversight for all business, contractual, and escalation related matters.
Resource Qualifications	As Sr. Vice President, Jeff is responsible for RAMTeCH's North American SES business unit and is responsible for all business, client, and project activities associated with RAMTeCH North America.

Name	Dave Reed
Office Location	US Office
Project Role	Director, Professional Services
Responsibilities	Dave will serve as the Program Manager and provide project oversight.
Resource Qualifications	Dave has over 23 years of experience supporting the IT and geospatial technology needs of the gas, electric, and telecommunications industries. As a director, Dave has successfully managed and delivered highly complex projects.

Name	April Polycandriotis
Office Location	US Office
Project Role	Project Manager
Responsibilities	April will serve as the Project Manager and will be responsible for project management, day-to-day activities, and ensuring quality and timely delivery. April will also be responsible for change management and issue escalation and reconciliation.
Resource Qualifications	April has over 10 years of leading projects for gas, electric, and telecommunications industries.

Name	Andrew Belschner
Office Location	US Office
Project Role	Sr. Consultant
Responsibilities	Andrew will serve as a Sr. Consultant and lead the workshops, data quality assessment, and creation of all deliverables.
Resource Qualifications	Andrew has over 20 years of experience leading projects with Geographic Information Systems for electric utilities and oil and gas companies and has performed numerous Esri UN planning projects.

Name	Cassandra Capizzano
Office Location	US Office
Project Role	Sr. Consultant
Responsibilities	Cassandra will serve as a project consultant, assisting in the workshops, and creation of all deliverables and documentation.
Resource Qualifications	Cassandra has over 12 years of experience supporting and leading Geographic Information Systems projects for gas utility companies and spent seven of those years participating in large-scale Esri Utility Network implementation projects.

Name	Aaron Luehrs
Office Location	US Office
Project Role	GIS Analyst
Responsibilities	Aaron will serve as the GIS Analyst for this project. He will participate in the workshops and support the Preliminary UN data modeling.
Resource Qualifications	Aaron has over eight years of experience supporting and leading GIS projects for electric, gas, and water utilities, and has contributed to numerous Utility Network implementations.

Name	Mike Kasel
Office Location	US Office
Project Role	Solution Architect
Responsibilities	Mike will serve as the GIS UN Solution Architect and will lead the enterprise architecture review and design portion of the project
Resource Qualifications	Mike has over 20 years of experience designing, implementing, and optimizing enterprise - scale geospatial solutions for utilities, government agencies, transportation, and defense. He also has a deep domain knowledge in utility network management, asset data integration, system design, and web - GIS architectures.

SECTION 4 - COSTS

RAMTeCH is pleased to present its Pricing Proposal to GUC in the tables below. Pricing is inclusive of all labor and expenses, including AWS and travel expenses, except for taxes. RAMTeCH assumes that its work is not subject to taxes since GUC is a government entity. Therefore, our proposed price is exclusive of taxes.

4.1 Proposed Pricing Table

In the RFP, GUC requested both fixed price and time and materials not to exceed pricing. The following subsections provide that information in tables, respectively. RAMTeCH has not included any contingency in this estimate as we are confident in our proposed fixed fee and time and materials pricing.

4.1.1 Fixed Price Pricing

The following table provides RAMTeCH's fixed fee price for the project.

Fixed Price Proposal	
Description	Price
Project Preparation and Initiation	\$ 8,466.00
Conduct Current State Assessment	\$ 13,178.00
Conduct Data Quality Assessment	\$ 13,831.00
Define Goals, Prioritization, and Risk Analysis	\$ 9,751.00
Prepare Roadmap and Budget	\$ 10,016.00
Create Preliminary UN Data Mapping	\$ 8,323.00
Define System Architecture	\$ 9,221.00
Create and Present Final Report (Onsite)	\$ 15,220.00
Travel	\$ 7,000.00
AWS	\$ 3,000.00
Subtotal	\$ 98,006.00
OPTIONAL - UN Jumpstart	\$ 14,324.00
Total with Option	\$ 112,330.00

4.1.2 Time and Materials Pricing

The following table provides RAMTeCH's time and materials pricing for the project. Note that the Time and Materials price includes the optional UN Jumpstart.

Time and Materials Proposal			
Position	Hourly Rate	Estimated Hours	Estimated Fee
Director	\$214.20	10	\$2,142.00
Project Manager	\$132.60	42	\$5,569.20
Sr. Consultant 1	\$173.40	212	\$36,760.80
Sr. Consultant 2	\$142.80	212	\$30,273.60
System Architect	\$132.60	64	\$8,486.40
Analyst	\$81.60	136	\$11,097.60
India Developer	\$40.00	200	\$8,000.00
Travel	N/A	N/A	\$7,000.00
AWS	N/A	N/A	\$3,000.00
Project Total			\$112,329.60

4.2 Proposed Payment Milestones

Due to the short duration of the project, RAMTeCH proposes the following simplified milestone structure. The payment milestones also include the UN Jumpstart as a separate milestone.

Pricing and Payment Milestones			
Milestone	Description	%	Price
01	Delivery of Project Initiation and Kickoff	13.09%	\$ 14,701.00
2	Delivery of Data Quality Assessment Report, Preliminary Data Mapping, and System Architecture Definition	43.62%	\$ 49,003.00
3	Delivery of Final Report	30.54%	\$ 34,302.00
4	Delivery of UN Jumpstart	13.09%	14,324.00
Total		100%	\$ 112,330.00

Payment terms will be in accordance with the Master Services Agreement negotiated between RAMTeCH and GUC.

4.3 Assumptions

The following are the key assumptions that RAMTeCH has used as the basis for our pricing to GUC to execute this project.

- GUC will provide business and IT documentation as needed about the current state processes and technical landscape.

- GUC will provide a file geodatabase copy of the electric and gas GIS databases to be referenced by the Data Readiness Assessment and Preliminary UN Data Mapping.
- GUC will provide appropriate staff commitment levels to ensure the success of the project.
- RAMTeCH will coordinate with GUC for a mix of onsite and remote workshops and meetings to make the best use of RAMTeCH and GUC's resource time.
- The (optional) jumpstart will be processed and hosted on a multi-factor secured, RAMTeCH managed, U.S.-based AWS environment.

SECTION 5 - DATA SECURITY AND COMPLIANCE STRATEGY

5.1 Security Framework and Protocols

RAMTeCH is certified for ISO/IEC 27001:2013, which is for Physical, Data, and IT Security and has stringent Information Security Management System Policy (ISMS) that are formal documented policies and procedures to provide a secure platform and environment for all RAMTeCH and client data. Additionally, it protects data and information integrity and reputation from potential threats, while protecting all company employees and assets. This system also includes information back-up processes and procedures as well as a comprehensive business continuity strategy and plan.

A copy of the RAMTeCH Security Management Policy is included as an attachment to this proposal.

SECTION 6 - REQUIRED FORMS AND ADHERENCE TO GUC POLICY AND OTHER REQUIREMENTS

RAMTeCH has included the required forms as attachments to its proposal.

6.1 RFP Acknowledgement and Signature Form

RAMTeCH’s signed RFP Acknowledgement and Signature Form is provided in a file attachment named “RAMTeCH - RFP Acknowledgement Form-signed.pdf.”

6.2 Insurance Acknowledgement Statement

RAMTeCH’s Certificate of Insurance (COI) for 2025 and 2026 is provided in a file attachment name “RAMTeCH 2025-26 COI.pdf.”

6.3 Terms and Conditions

RAMTeCH has reviewed the terms and conditions provided in the RFP and would like to request the following highlighted redline:

Minority Business Participation Program

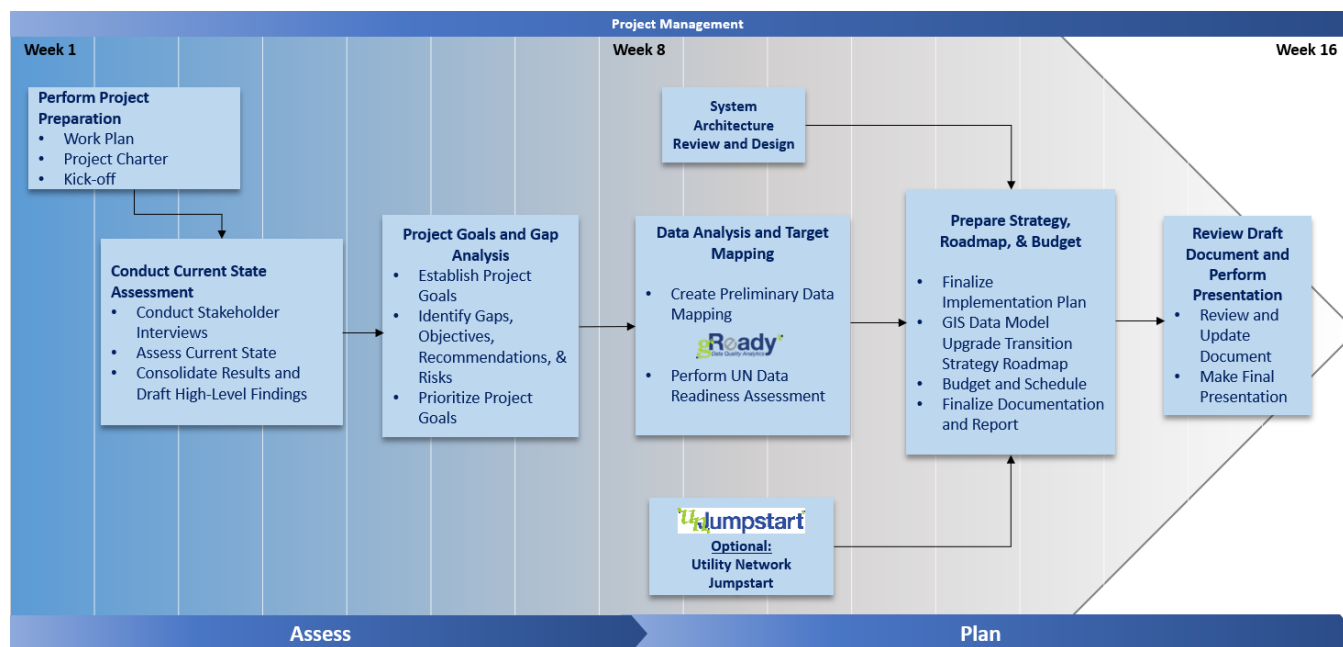
GUC has adopted an Affirmative Action and Minority and Women Business Enterprise Plan (M/WBE) Program. Firms submitting a proposal are attesting that they also have taken affirmative action to ensure equality of opportunity in all aspects of employment, and to utilize M/WBE suppliers of materials and/or labor, **where applicable.**

6.4 E-Verify Form

RAMTeCH’s signed E-Verify Form is provided in a file attachment named “RAMTeCH – E-Verify Form-signed.pdf.”

SECTION 7 - PROJECT METHODOLOGY

The following describes the UN planning methodology and key steps necessary to provide services in the areas of GIS UN readiness and data assessment to create a comprehensive plan and design for transition to the Esri UN data model and tools. The activities and deliverables with this approach provide GUC with the desired comprehensive analysis, design, migration planning and risk mitigation for implementation of ESRI Utility Network for electric and gas domains.



7.1 Perform Project Preparation (Work Plan, Project Charter, Kick-off Meeting)

This step includes identifying existing materials relating to GUC's current electric and gas GIS business workflows, as well as GIS architecture, technology, and data for use through the duration of the project. In addition, this step includes defining key individuals within GUC to be interviewed and subsequent interview/workshop schedules. GUC will support RAMTECH's development of a UN readiness project charter through this step. RAMTECH will work with the project team representatives to draft the project charter that will outline the project objectives and goals, identify the main stakeholders, define the responsibility of the project team members, develop the project communication plan for all stakeholders, and serve as a reference during the project. This activity will also include validating existing GIS program goals and identifying both short-term and long-term goals aligned with other major project objectives for transitioning to the UN. In addition, this step includes the project kick-off meeting and a UN overview session if desired.

7.2 Conduct Current State Assessment

7.2.1 Assess Current State, Identify High-Level Needs and Opportunities

During this activity, RAMTECH will perform interview sessions with the IT and business GIS team leads to assess the current state of the electric and gas GIS operations at GUC and identify areas of opportunity that need to be addressed as a part of the UN transition plan. The GIS team leads will be expected to have a comprehensive understanding of the current state of operations at GUC including constraints and

current technology footprint; electric and gas GIS data; how it is maintained and who consumes it; how it is staffed; the general organizational structure overall; and current data governance requirements.

The goal of this step's sessions is to identify and review the current GIS staffing, business processes, technology, data, and integrations related to the GIS and associated groups and systems. The interviews and exploration of the current state will be inclusive of GUC's current Esri spatial data management and geometric network data modes that support modelling network assets. All discussions of the current GIS data repositories will be incorporated into the plan and recommended for the transition to the UN.

During the interview process, RAMTeCH will lead discussions with stakeholders to understand current and future data needs supporting accuracy (both content and spatial), data completeness, data integration, data storage, and data requirements for any third party or internal integrations. Data and GIS dependencies across various enterprise systems including existing and future network management systems will be explored.

RAMTeCH will lead discussions and interviews to cover the current state of the applications and integrations that interact with or manage related data within GUC's electric and gas enterprise GIS. This can include, but is not limited to, network asset management, continual data maintenance and editing processes, work and asset management, scheduling, inspections, system integration, viewing and reporting, and mobile applications.

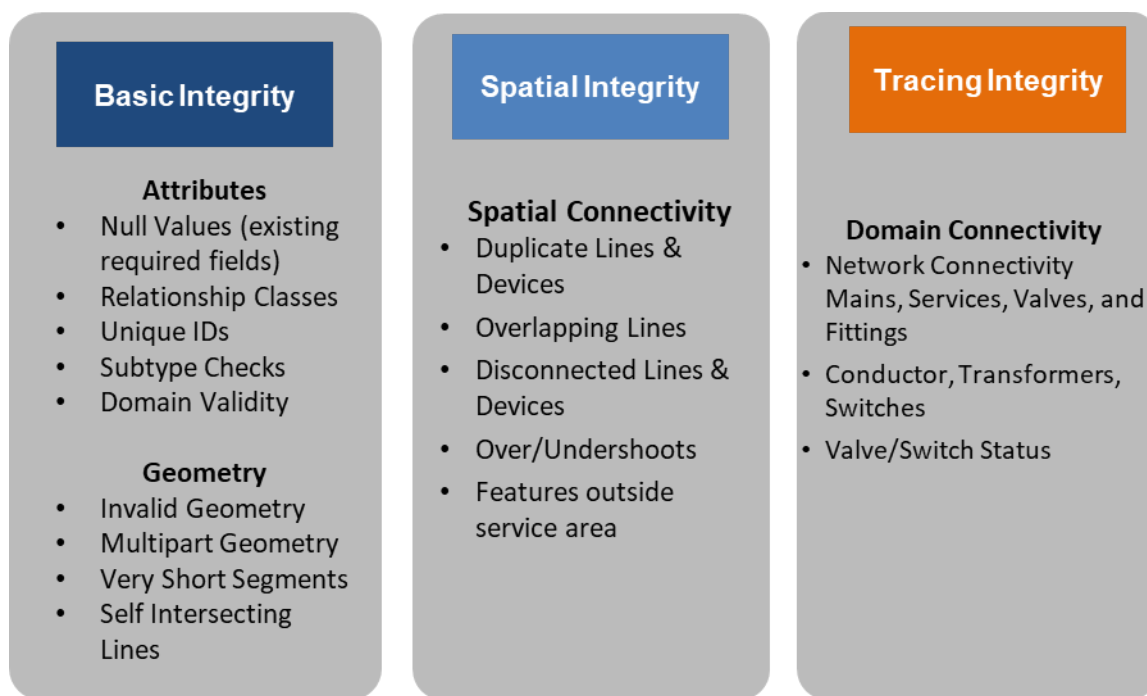
7.2.2 Conduct UN GIS Data Quality Assessment

RAMTeCH will then work with GUC to thoroughly understand the current GIS data models and business rules in order to calibrate and configure our **gReady™** data quality analytics toolset to perform a UN GIS data readiness assessment. RAMTeCH will examine the existing geodatabase (via a provided FGDB) structure and associated network data for both electric and gas provided by GUC and perform a preliminary data assessment. The results of the evaluation will be used to prepare for a subsequent data assessment workshop meeting to review the preliminary assessment and inform data model selection decision making.

The workshop will include a discussion and demonstration of RAMTeCH's data quality analytics solution to provide GUC with an understanding of the various data validations that will be used during the assessment and how the findings will impact the data migration to the UN. The results of the workshop will allow RAMTeCH to accurately build-out the configuration specifications for execution of RAMTeCH's data assessment tools. To the greatest extent possible, where the data allows, RAMTeCH will assess GUC's data in the following areas:

- Attribute completeness
- Geometry validations
- Feature connectivity and Network connectivity
- Relationship validations
- Electric and Gas domain-specific validations related to accurately establishing clean Utility Network topology

The following data readiness evaluation areas will be included in the assessment:



After tool configuration, RAMTeCH will execute the final (production) data assessments for electric and gas. The results of the assessments will consist of summary reports and detailed lists of all the issues, including quantified results categorized by asset, type of issue, and impact to the future UN migration.

7.2.3 Consolidate Findings for Review

Once the current state review and UN data readiness assessments are complete, RAMTECH will consolidate and provide the interview session summary findings to GUC. This will be inclusive of the current state system, data findings, data model recommendations, integrations, organization, and workflows covered during the onsite workshops. During this phase, time is allotted for RAMTeCH's planning and analysis following the staff interviews to consolidate the findings and submit for GUC's review. Time will also be allotted for review by GUC following the final workshops.

7.3 Define UN Future State Goals, Prioritization, and Risk Analysis

RAMTeCH will work with the GUC project team to analyze and document differences between the current GIS technical and data environments and the desired future state necessary to support a successful upgrade to the UN that meets GUC's needs. The analysis will examine the current state and identify opportunities for specific GUC work groups and technologies, how to transition them to the recommended and desired future state, and any associated operational and financial risks to accomplish the defined goals.

The risk and impact analysis will focus on:

- Corporate Key Performance Indicators (KPI) and initiatives (compliance, safety management, reliability, and system modernization)
- Impacts to the data migration including geometry and attribute data quality (remediation and enhancement), data models, data gaps, and enterprise GIS data content
- Application functionality for electric and gas data/solutions

- Custom and third-party tools (replace, retire, reconfigure)
- Integrations to other GUC systems (CIS, SCADA, GIS, OMS, modeling, planning and design, and future ADMS and DERMS) and third-party applications
 - Analysis of whether the integrations are compliant with the UN data models and feature services
- Enterprise architecture (architecture, hardware, software, networks, infrastructure gaps, and interdependencies)
- Account for GUC-specific IT and cybersecurity related requirements
- Business and IT staffing, skills, and training needs

Based on the findings of the current state assessment, RAMTeCH will collaborate with GUC in developing the future state UN project goals for both electric and gas. Once the goals and supporting work tasks necessary to accomplish the goals have been mutually agreed upon, they will be prioritized during a follow up workshop using the MoSCoW prioritization method, or a similar ranking approach:

- **MUST** – goal is critical to the project success and must be included in the current delivery in order for it to be a success (Note: goals can be downgraded from MUST, by agreement with all relevant stakeholders; for example, when new requirements are deemed more important)
- **SHOULD** – goal is important to the project success, but it is not necessary to address it in the current delivery; SHOULD goals are as important as MUST goals, although SHOULD goals are often not as time-critical or have workarounds, allowing another way of satisfying the requirement, so it can be held back until a future delivery
- **COULD** – goal is less critical and often seen as nice to have; a few easily satisfied COULD goals in a delivery can increase customer satisfaction for little development cost
- **WON'T** – goals are either the least-critical, lowest-payback items, or not appropriate for the roadmap; as a result, WON'T goals are not planned into the roadmap and are either dropped or reconsidered for inclusion in the future

During this step of the project, RAMTeCH will review the initiatives that could limit or fail to meet one or more of the identified goals and success criteria. This will include things such as invalid assumptions, lack of user requirements, technical limitations with new software and architecture, or unrealistic implementation strategies relative to one or more of the following areas:

- Organization and governance
- Integration with key systems (CIS, SCADA, GIS, OMS, modeling, planning and design, ADMS and DERMS)
- Key cost components
- Program resources – internal GUC (business and IT) and external (contract)

Throughout the course of the project, RAMTeCH will work to anticipate and identify both internal and external threats and barriers to the project success.

7.4 Create Preliminary UN Data Mapping Documents

The objective of this task is to demonstrate to GUC the source-to-target move of its electric and gas data to the future state of the Esri UN data models and understand data requirements for UN workflows.

RAMTeCH will compare the current state data models and data to the future state version of the Esri Electric Foundational Model and Gas UPDM UN asset groups and asset types. This direct comparison will identify changes, gaps, needed enhancements, and format differences that will form the foundation of this evaluation. RAMTeCH will document the comparison by conducting preliminary source-to-target data mappings and provide narrative as needed to describe the path to the future state models. This mapping will also highlight opportunities to enhance the data to take advantage of the UN where significant changes or gaps exist to support UN system functionality. RAMTeCH will facilitate interactive working sessions as needed with GUC for clarifications through this comparison process. This step will provide GUC with a better understanding of the Esri UN electric and gas models and highlight data modeling decisions that will need to be addressed by GUC in the future UN implementation project.

7.5 Evaluate System Architecture

RAMTeCH will lead a system architecture review and design workshop. The purpose of the engagement is to determine a system architecture specific to GUC's multi-utility needs and business drivers identified during this activity. The following topics will be covered in the workshop:

- Architecture vision and constraints
- Business drivers
- Sites (e.g., offices, data centers)
- User workflows
- Database architecture
- Server architecture
- System security
- Capacity planning (for GUC's Dev, Test, and Production environments)

This workshop will assist RAMTeCH in identifying appropriate system architecture and configuration design opportunities while considering technical inputs including non-functional requirements, constraints, standards, and policies. Upon completion of this workshop, RAMTeCH will prepare a system architecture design report.

7.6 Define Implementation Strategy and Roadmap

Using the tasks identified to address gaps in the areas noted above, RAMTeCH will develop an organized implementation strategy and roadmap for GUC that presents a comprehensive look at the steps necessary to make a successful move to the electric and gas Utility Network platform. The key objective is to understand and address the technology, data, organizational, and process needs, and then describe a clear project plan for transitioning to the UN.

Based on the work of the previous activities and steps, RAMTeCH will collaborate with GUC in development of the UN roadmap. The content of the roadmap document will include:

- Implementation Strategy
 - Executive summary
 - Introduction and current state summary
 - Vision and business drivers
 - Resource plan, roles, and responsibilities

- Data improvement recommendations
- Data migration strategy
- Integrations, third-party tools, and custom applications upgrade strategy
- UN to GN synchronization (if required for non-UN compliant integrations)
- Training strategy
- Estimated project budget and costs
- Roadmap: Project timeline, durations, migration and deployment schedule, and milestones

7.7 Review and Deliver Final Document and Presentation

During this final activity, RAMTeCH will conduct a review session with the GUC project team and other stakeholders to review the draft UN transformation business plan documents. After any input is gathered, the documents will be revised as needed. The revised documents will be delivered to the GUC PM and project team for sign off. GUC may then conduct further review and provide feedback for incorporation into the final report. Upon receipt of sign-off from GUC, RAMTeCH will develop an executive summary presentation and will provide it to the PM, project team, and other stakeholders. RAMTeCH will travel onsite to present the summary of the UN implementation strategy and roadmap.

GUC will then have time to review the documentation. RAMTeCH will be available during this review period to answer questions and provide input around requested changes. RAMTeCH will make changes to the document based upon mutual agreement and will return the final document to GUC for final acceptance.

7.8 (Optional) Conduct Utility Network Jumpstarts – Electric and Gas

This step includes a jumpstart to the UN. RAMTeCH will provide GUC with geographically contained section of gas distribution data representing different pressures, and a section of 2 electric circuits converted directly into the Esri UN standard gas UPDM and electric foundation models for GUC's internal use, evaluation, and demonstration when planning the future use of ArcGIS Pro. The jumpstart datasets are an accelerator for GUC to understand data model decisions that will need to be made with the full UN implementation project. Additionally, it will provide both GUC and RAMTeCH with a working example of some of the data issues encountered during the data assessment step, and remediation strategies for dealing with these conditions. The data will be delivered in UN File Geodatabase (.gdb) format to GUC for use on its servers.

For the jumpstarts RAMTeCH will:

- Work with GUC to choose a geographically contained section of gas distribution data representing different pressures, and a section of electric covering 2 circuits converted directly into the Esri UN standard gas UPDM and electric foundation models
- Convert the data into the Esri UN standard gas UPDM and electric foundation models at the Asset Group/Asset Type level with minimal attribution
- Enable the UN topology and create a subnetwork(s)
- Conduct a workshop with GUC to review the data conversion results, fidelity (feature templates), editing tools, workflow, etc.
- Deliver the data to GUC for its internal use (file gdb format)

7.9 Project Deliverables

The following table contains the deliverables that RAMTeCH will provide during this engagement. RAMTeCH owns each deliverable; however, both RAMTeCH and GUC are required contributors, and RAMTeCH will coordinate each deliverable for approval by GUC so they can be used formally to support the work in a functional manner.

Project Stage	Deliverable	Description
1 - Project Preparation	UN planning project charter	Project charter with stakeholders, core team members, objectives, deliverables, schedule, milestones, and risks
1 - Project Preparation	Project kick-off meeting (including PowerPoint presentation)	Kick-off meeting presentation with project charter information
1 - Project Preparation	Project work plan	Project schedule and resources
2 – Current State Assessment	Workshops with GUC SMEs to conduct current state assessment	Two-day onsite workshop (can be remote if desired by GUC)
2 – Current State Assessment	Workshop notes and consolidated summary of findings from all interviews and workshops	Detailed notes and summary from the workshops
3- Define Future State	Document with prioritized list of UN project goals including functional and technical requirements for the UN implementation	Prioritized list of GUC project goals and drivers for the UN implementation
4 - Create Preliminary UN Data Mapping	Source to target data mapping spreadsheet for gas and electric asset groups and asset types	Data mapping from the current GIS databases to the UN model (Gas – UPDM, Electric – Esri Electric Foundations) for asset group/asset type and UN critical attribute fields
4 - GIS UN Data Readiness Assessment	UN data readiness plan document for gas and electric	List of issues identified by updated runs of gReady prioritized by the impact and criticality to the UN implementation, and data correction strategies
4 - Develop System Architecture Design	System architecture recommendations	System architecture review and design report document
5 - Create Future State Implementation Roadmap and Budget Estimate	Implementation strategy and roadmap document and budgetary estimate	Roadmap of business and IT efforts required for the UN implementation project including timeline and duration for key activities with budget estimate

Project Stage	Deliverable	Description
5 - Prepare UN Transition Plan Document	UN Roadmap plan document	Document and PowerPoint with all required transition plan information
6 - Deliver UN Transition Plan	UN Roadmap plan document	Onsite Presentation (typically 2 hours) of the UN Roadmap plan to Key Stakeholders
(Optional) Conduct a UN Jumpstart – Electric and Gas	File Geodatabase with a subset of the GUC electric and gas data converted to the latest UN asset packages/data models	File geodatabases with geographically contained section of electric data and gas data in the UN model that can be used with ArcGIS Pro to demonstrate UN capabilities

7.10 Assumptions

The following are the key assumptions that RAMTeCH has used as the basis for our pricing to GUC to execute this project.

- GUC will provide business and IT documentation as needed about the current state processes and technical landscape
- GUC will provide a file geodatabase copy of the electric and gas GIS databases to be referenced by the Data Readiness Assessment and Preliminary UN Data Mapping
- GUC will provide appropriate staff commitment levels to ensure the success of the project
- RAMTeCH will coordinate with GUC for a mix of onsite and remote workshop and meetings to make the best use of RAMTeCH and GUC's resource time
- The (optional) jumpstart will be processed and hosted on a multi-factor secured, RAMTeCH managed, U.S.-based AWS environment

SECTION 8 - SAMPLE RESUMES

The following pages contain representative resumes for RAMTeCH resources who could be assigned to work on GUC's UN Planning Project.

David Reed

Senior Director, Professional Services

David offers 29 years of experience supporting the IT and geospatial technology needs of the Electric, Gas and Telecommunications industries. He has a strong background in critical operational systems such as GIS, Outage Management System, Work Management, SAP, Customer Information Systems, AMI, ADMS, Energy Management System, Data Historian and Substation Automation. David's valuable utility, architecture and program management experience allow him to deliver the strategic insight necessary to maximize the value of GIS and associated systems. David currently leads the Professional Services organization at RAMTeCH.



PROFESSIONAL EXPERIENCE:

RAMTeCH Software Solutions, Inc.

- Director, Professional Services – Oct 2018-Present
- Senior GIS/IT Consultant – May 2016 – Oct 2018

Dominion Resources Services

- IT Account Manager Electric Transmission, April 2013 – May 2016
- IT Enterprise Architect Electric Distribution/Transmission/Customer Service, April 2010 - April 2013
- IT Systems Architect Electric and Gas Distribution GIS, August 2004- April 2010
- GIS Specialist, August 1999- August 2003

Timmons

- IT Account Manager, June 1994 – August 1999

AREAS OF EXPERTISE:

- Project delivery resource management
- IT & GIS business case, strategy and roadmap development for Utilities and Telecommunications Companies
- Large project concept development, management and implementation
- Enterprise architecture standard development and implementation
- Systems integration with GIS, OMS, Work Management, SAP, CIS, AMI, ADMS, EMS, Data Historian and Substation Automation

EDUCATION:

BS Geography

James Madison University, Harrisonburg, VA

RECENT PROJECT EXPERIENCE:

- Provided oversight for Esri Utility Network data assessment and migration for Gas distribution and transmission utility.
- Provided Esri Utility Network strategic business case and roadmap development and project planning for Electric and Gas utilities.
- Provided oversight for mobile GIS application development projects delivering Leak Survey, Tracking and Traceability and Design functions for a Gas Distribution utility.
- Provided oversight for complex Electric Distribution GIS to ADMS system integration project.
- Managed large software development project to implement GIS tools to manage Gas assets and integration to legacy systems.
- Managed COAX GIS data conversion, Esri solution implementation and developed enterprise strategies and roadmaps.
- Provided oversight of system implementations and upgrades for the following: Esri GIS, SAP Asset Management/Compliance Inspections, Substation Physical Security technologies, Electronic Switching, OSIsoft Data Historian, EMS, Facility Ratings, Right of Way Management, Substation Automation, Synchrophasor and PV solar data integration.
- Management of system integration for Smart Grid - AMI, Meter Data Management, Outage management systems, Network Management/Switching, ADMS, GIS, Customer Information System - front end user interface, external account access and bill pay, Right of Way Management, Outage reporting and Mobile Work Management.
- Managed the technical architecture and systems integration performance on projects involving: Esri GIS Upgrades, Interfaces to Work Management/OMS/CIS, Operations, Construction and Metering mobile workforce hardware and applications, Distribution GIS data accuracy improvements and ArcGIS/ArcFM/Designer and custom software tools.

April Polycandriotis, PMP

Sr. Project Manager

April offers 12 years of expertise in complex GIS projects with a focus on project management. Her project management experience includes both agile and waterfall methodologies on development and implementation projects for Utility clients. April focuses on managing all aspects of the project to assure timely implementation of all project deliverables and managing customer expectations through regular communications to ensure the success of the project.



PROFESSIONAL EXPERIENCE:

RAMTeCH Software Solutions, Inc.

- Project Manager – Aug 2020 – Present

Clearion Software

- Senior Solutions Specialist– 2019-2020
- Project Manager–2015-2019
- Project Analyst – 2013-2015

Rolta International

- Project Team Lead – 2010-2013

OneGIS

- GIS Technician – 2009-2010

AREAS OF EXPERTISE:

- GIS Project Management and Delivery
- Technical Writing & Documentation
- Technical Training and mentoring

EDUCATION:

BS Geographic Information Systems

- Kennesaw State University- Kennesaw, GA

CERTIFICATIONS:

Project Management Professional

- Project Management Institute (PMI), December 2023

RECENT PROJECT EXPERIENCE:

• **PPL - Project Manager**

Data quality assessment, data modeling, and migration of Pennsylvania electric distribution and transmission legacy data, Rhode Island electric distribution and transmission legacy data, and Rhode Island gas distribution legacy data to the Esri Utility Network.

• **Atmos Energy - Project Manager**

Data quality assessment, data modeling, and migration of Atmos' legacy gas distribution and transmission network data from GE Smallworld data to the Esri Utility Network.

• **FirstEnergy - Project Manager**

Data quality assessment, data modeling, and migration of FirstEnergy electric network data from AutoCAD Map data to the Esri Utility Network.

• **Eversource Energy - Project Manager**

ETL tool development and execution, and manual clean-up of field verified data.

• **ITC, Black Hills Energy, Essential Energy (NSW) - Project Manager**

Design, configuration, and implementation of comprehensive vegetation management software suite including desktop and mobile crew applications.

• **Alabama Power Company - Team Lead**

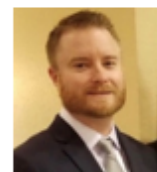
Manual Conflation of Distribution Electric Network.

• **RCN - Technical Lead**

Manual Conversion of Fiber network assets from AutoCAD to Esri ArcMap utilizing ArcFM Fiber Manager.

Andrew Belschner
Sr. Consultant

Andrew has over 20 years of experience supporting, implementing, and using Geographic Information Systems. His experience includes engineering and electric distribution for utilities as well as providing IT-GIS support to the upstream Oil and Gas industry. Andrew has worked in and led IT teams to understand and deliver desktop, mobile, and web capabilities of geospatial technology to meet business needs and has a history of translating GIS technology concepts to drive business value.



PROFESSIONAL EXPERIENCE:

RAMTeCH Software Solutions, Inc.

- Senior Consultant, Professional Services – Jan 2022-Present

ExxonMobil

- Product Owner, Enterprise GIS, August 2020 – January 2022
- GIS Team Lead – Upstream/Unconventional, April 2016 - August 2020
- Senior GIS Analyst – Upstream /Unconventional, November 2013- April 2016

CoServ Electric

- Senior GIS Analyst, August 2007 – November 2013

Halff Engineering

- GIS Analyst, March 2006 – August 2007

AREAS OF EXPERTISE:

- Electric Data Assessment for Utility Network migration
- Utility Network Planning/Budgeting
- Geographic Information Systems architecture, implementation, and best practices
- ArcGIS Enterprise installation and administration
- Systems integration with GIS

EDUCATION:

MAGeo - Masters of Applied Geography /GIS
Texas State University, San Marcos, TX

Bachelor of Fine Arts and Communication
Southwest Texas State University, San Marcos, TX

Computer Science and Programming
Tarrant County Community College

RECENT PROJECT EXPERIENCE:

- **NGRID – Senior Consultant - Data Assessment**
Lead for Utility Network readiness and migration. {2025}
- **Sask Energy – Senior Consultant - Data Assessment**
Lead for Utility Network readiness and migration. {2025}
- **Naperville – Project Lead – Lead Utility Network Planning (UNAP) for Naperville Utilities in preparation for future UN migration project.**
{2024/2025}
- **FortisAlberta – Senior Consultant – Data Assessment**
Lead for Utility Network readiness and migration. {2023}
- **Consumer's Electric/Gas – Senior Consultant – Conducted current state assessments and goal setting workshops as part of ESRI Utility Network Business planning.**
{2023}
- **Astound – Senior Consultant - Lead Utility Network Planning (UNAP) for Astound Broadband in preparation for future UN and Fiber Manager 11 migration project.**
{2023}
- **PPL Electric Utilities, Senior Consultant - Data assessment for Utility Network migration.**
{2022}
- **FortisBC – Senior Consultant – Data Assessment**
Lead for Utility Network readiness and migration. {2022}
- **Upgrade/Deployment of multiple ArcGIS Enterprise sites, including licensing, user roles, permissions, add on licenses and security certification requirements.**

Aaron Luehrs GIS Analyst

Aaron has worked in the GIS industry for seven-years – the first year’s work was both as an intern and as a GIS technician for McLeod County and Crow Wing Power. After 2 years at Crow Wing Power, Aaron was hired by RAMTeCH in 2019 as a GIS Technician I. At 5-months, he was promoted to GIS Technician II, and expected to be one of the lead technicians supervising other technicians work while completing a large 1.5 year-long conflation and QA/QC project. Upon successful completion, he transitioned to a large data management project. After six months, Aaron was promoted to GIS Technician III, where he focused on QA/QC of team outputs. His areas of expertise include Electric Utility mapping, Eversource Electric’s direct buried network, communication, QA/QC, data procurement and cleaning, and geodatabase generation and management. He is equally confident, and proficient, when working in either GE Smallworld or ESRI’s ArcPro and Arc Online tools.

PROFESSIONAL EXPERIENCE:

RAMTeCH Software Solution, INC

- GIS Technician I 10/2019 – GIS Technician III 11/2023
- Associate Analyst 11/2024 - Present

Crow Wing Power

- GIS Technician October 02/2017 – 1/2018

McLeod County Highway Department

- GIS Intern May 2017 – August 2017

AREAS OF EXPERTISE:

- Electric
- Lead technician, process documentation, QA of other technician’s work.
- Manual Data Conflation Operations
- Quality Control / Quality Assurance
- Experience using ESRI Products (ArcPro and online tools), GE Smallworld, Microsoft Office

EDUCATION:

BS Geography, Bemidji State University

- Specializing in GIS

RECENT PROJECT EXPERIENCE:

- **Eversource Electric, On-site Project Lead**
Supervise a team conflating four-million devices belonging to approximately nine-thousand Underground Residential Development (URD) Direct Buried maps.

- Conflation, QA/QC, and Consolidation of disparate source maps to a new programmable digital map sheet boundary.
- Generation of process documentation intended for use by both CT and India-based teams.
- Procured for consolidation Connecticut’s most current town-specific parcel data for those municipalities which had formerly been less-accurately visualized or were not publicly available. This to ensure an accurate land base, and thus, the most-accurate electric mapping as possible.
- **Central Hudson Gas and Electric**, Started the project as a GIS Technician II, and after approximately five months, was promoted to GIS Technician III, taking on a leadership role as one of the lead technicians responsible for QA/QC accuracy. Also tasked with reviewing and providing feedback on the work of others, and documenting observations for a five-year network data management project.
- Processed as built work orders.
- **CPS Energy, lead analyst** for the migration from Geometric Network to Utility Network.
- Management of PARs, both from CPS and India-Based team, ensuring that they were effectively documented and implemented.
- Generation of input source files intended for use by CPS and India-based teams.

Mike Kasel
Systems Architect

Mike offers over 20 years of expertise with Esri GIS technologies, system design and implementation, and data management. He has extensive experience in the design and management of highly available on-premises and cloud enterprise GIS deployments with large datasets in data intense, agile software development environments. Mike demonstrates a proven record of success in designing and administering enterprise GIS solutions, streamlining geospatial processes and managing multiple projects delivered on time and within budget. Mike has a strong background with GIS system implementations and maintenance to provide a foundation for GIS deployments for utilities.

**PROFESSIONAL EXPERIENCE:****RAMTeCH Software Solutions, Inc.**

- Systems Architect, May 2021 - Present

FEMA through ArdentMC

- GIS Administrator, September 2020 – May 2021

Explore Information Services

- GIS Manager, January 2013 – February 2020

Blue Cross Blue Shield of Minnesota

- Healthcare Analyst Sr., November 2010 – January 2013

City of Rosemount, MN

- GIS Coordinator, August 2005 – November 2010

WSB & Associates

- GIS Specialist, May 2001 – August 2005

CERTIFICATIONS:

- Esri Enterprise Administration Professional
- ArcGIS Utility Network Management Specialty

AREAS OF EXPERTISE:

- Esri and SE implementations and upgrades
- Esri Utility Network Implementations
- Experience architecting, managing, and upgrading a highly available/redundant enterprise GIS
- Design, implementation, and maintenance of production enterprise geospatial databases
- Ability to integrate Enterprise GIS with multiple software systems and envision future opportunities

EDUCATION:**M.S. in Geographic Information Science**

University of Minnesota, Minneapolis, MN

B.S. in Natural Resources/Environmental Studies

University of Minnesota, Minneapolis, MN

RECENT PROJECT EXPERIENCE:

- **Pedernales Electric Cooperative, Systems Architect**
Provided Esri Portal administration support and implemented a data synchronization process. This solution provided updates both ways between AGOL and on-premise Esri enterprise geospatial databases.
- **Avangrid Networks, Systems Architect**
Provides ongoing system administration support for ArcGIS Enterprise, Geocortex, and ArcFM Web.
- **Hope Gas, Systems Architect**
Designed and implemented the Esri platform (ArcGIS Enterprise, ArcGIS Pro with the Utility Network UPDM Gas model for a Gas Utility. Supported the data migration from GE Smallworld to Esri. Provides ongoing Esri system maintenance and administrative support.
- **Truckee Donner PUD, Systems Architect**
Upgraded ArcFM and Responder and implemented Field Maps for an Electric Utility.
- **Armstrong One Wire, Systems Architect**
Implemented and configured Schnieder Electric Fiber Manager.
- **Consumers Energy, Systems Architect**
Upgraded the Electric and Gas GIS to Esri 10.8.1.
- **gReady for UN, Systems Architect**
Provided support for the development of RAMTeCH's gReady for UN software solution and development of a near real time Esri Dashboard update process.