



Mike Corbin

Chief Operating Officer

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Bio

Mike Corbin has over 30 years of environmental experience, including over 20 years' experience with drinking water data, SDWIS/State, and coordination with state and federal employees to resolve issues with drinking water rules and data. Mike assists with SDWA rule training, data migration, data interchange, and training on SDWIS and interfacing applications. Mike has supported EPA and numerous states in drinking water implementation through multiple software design, development, and implementation projects, including CMDP pilot projects.

Education

M.B.A, Thomas College - 2000

B.A., Chemistry, University of Maine - 1990

Agile Certified Practitioner (PMI-ACP), Project Management Institute - 2013

EPA Certified Laboratory Auditor, Chemical Analysis (Organic and Inorganic) - 1997

AIHA Childhood Lead Analysis Certified – 1999

Experience

- Chief Operating Officer, GEC, 2019-present
- Domain Expert Consultant, GEC, 2004-2019
- Compliance and Enforcement Supervisor, State of Maine, 2000-2004
- Chemist/Supervisor, State of Maine, 1990-2000

Safe Drinking Water Act Rule Implementation

Virginia, West Virginia, Maine, Kansas, EPA Regions 3, 4, 5, 6, and 8, Rhode Island, Colorado, Missouri, Michigan, Louisiana, Oklahoma, Hawaii, North Carolina, Ohio, Nebraska, Nevada, Vermont

Safe Drinking Water Act Rule Implementation

2000-present

- Mike has worked with EPA Headquarters and over 20 different states, tribes, and EPA Regions. Leveraging over 30 years of experience in the Drinking and Clean Water industry, Mike assists state and federal clients with implementing the Safe Drinking Water Act (SDWA) requirements. Mike answers questions about the Drinking Water Rules, develops standard operating procedures for rule implementation, trains state and federal staff on rule requirements, and meets with staff to work through implementation challenges.
- Mike works closely with clients to understand their internal SDWA rule implementation policies and procedures. Mike works through processes and offers innovative solutions to help clients more efficiently and effectively meet the federal rule requirements. Mike has presented several times at the Association of State Drinking Water Administrators' (ASDWA) conferences on topics such as Ground Water Rule implementation, site visits, management reporting tools, and using data to anticipate issues.

SDWA Data Management

Arkansas, Alabama, Maine, Rhode Island, Vermont, North Carolina, Colorado, Ohio, Maryland, West Virginia, Louisiana, Georgia, Missouri, Kansas, Nebraska, Michigan, Delaware, Virginia, Virgin Islands, Nevada, Montana, Idaho, Hawaii, Navajo Nation, EPA Region 1 and 10, Vermont

SDWIS Installation, Upgrades, Data Migration, and Data Analysis

2000-Present

- Mike serves as an expert on using the Safe Drinking Water Information System (SDWIS) suite of applications and assists clients with updating the suite of SDWIS applications when EPA releases updates.
- Mike also assists clients with data migration efforts (moving data from interfacing applications or client-built and maintained applications to SDWIS, or to other applications, including GEC-developed applications). Mike works closely with clients throughout the transition process to ensure the data migration efforts meet or exceed client expectations.
- Mike also has extensive experience in developing queries from SDWIS to assist clients with data analysis, or for using the resulting query data in interfacing applications.
- Many states supported by Mike have been recognized by EPA as high achieving data quality primacy agencies.

SDWIS Training

2000-Present

- Mike has helped 10 states with SDWIS implementation and updates or new releases to add features or resolve any challenges experienced by state users.
- As a frequent trainer for primacy agencies on the SDWA and SDWIS, Mike has developed and conducted training sessions geared towards both SDWIS beginners and advanced users, conducting training sessions for primacy agencies and EPA via webinar or in user classrooms.

Interfacing Application Development

2000-Present

- Mike designed, developed, customized, and maintained numerous Microsoft Access databases which interact with SDWIS. Mike managed the design and customization projects from concept through implementation including initiation, requirements, design, build, test, and support.
- Mike translated user systems needs into technical solutions that integrate legacy data systems, data transfer with external partners, and reporting to regulatory agencies and the public.

Compliance Monitoring Data Portal

West Virginia, Virginia, Michigan, Maine, Rhode Island, Kansas

CMDP Implementation

2017-Present

- Mike's chemistry degree and experience as a former lab supervisor has helped him liaise between primacy agencies and laboratories to devise methods to provide high quality sample data electronically using GEC applications and the Compliance Monitoring Data Portal (CMDP). He supported two pilot states for CMDP, assisting with evaluation of the Data Synchronization Engine (DSE) and bringing his and participating laboratories' knowledge to bear on solving implementation issues with EPA. Mike participates in EPA's CMDP Power Users regularly scheduled calls.

CMDP Training

2020-Present

- Mike assists states and EPA Regions with all steps of CMDP implementation, including working with EPA to register the state or Region with the Shared CROMERR services website, developing internal policies for implementation, sharing best practices from previous experience, working with laboratories, troubleshooting common CMDP errors, and managing the DSE.
- Mike provides training webinars for laboratories and public water systems to introduce them to CMDP, answer questions, and expertly guide laboratories and public water systems on reporting drinking water data electronically to CMDP.

GEC Software

Connecticut, Indiana, Kansas, Louisiana, Maine, Maryland, Michigan, Missouri, Nebraska, Nevada, Ohio, Oklahoma, Rhode Island, South Carolina, West Virginia, Virginia, Vermont

GEC Application Development, Implementation, and Training

2004-Present

- Mike is GEC's lead in development and implementation of compliance software, which includes communication and coordination with external stakeholders, evaluation of the business requirements for primacy agencies, and system analysis and design. As the stakeholder for GEC's software development team, Mike evaluates the many needs for primacy agencies that are not met with current software, such as the SDWIS applications, or client-built applications, and leads design and development of interfacing applications to fill those gaps and improve and streamline data management processes.
- Mike helps with implementation planning and is the lead trainer on GEC software for over a dozen primacy agencies. Mike has overseen implementation of GEC software in many states, including desktop and cloud-based applications such as SWIFT Central, SWIFT Surveys, SWEET Central, SWCCR, SWIMR Central, SWIMR, SWIMR Buddy, SWOCS, Cert Tracker, Enforcement Tracker, and so on. Mike conducts webinars or in-person training sessions to train application administrators and users to expertly use GEC software applications. Mike will work onsite to perform training, collect business requirements, or support implementation of the SDWA and GEC software.

GEC Information Security

2019-Present

Mike works closely with GEC's Information Security Officer and Security Operations Center to ensure that all GEC applications meet or exceed SOC 2 Type 2, NIST 800-53 R4, and Azure Benchmark requirements. Mike develops and implements policies required by the audit and helps ensure that cybersecurity documentation meets the requirements of all GEC's clients.

Software Experience/Technologies

The suite of SDWIS State applications, SDWIS Fed, Enforcement Targeting Tool, EPA's Central Data Exchange and Shared CROMERR Services, CMDP, Microsoft suite of products, Microsoft Azure DevOps Adobe Acrobat Pro, Trello, Lucidchart, Zendesk.



Laurie Potter

Director of Business Development

Email: laurie.potter@1gec.com Phone: 603-397-7838

Bio

Laurie Potter has over 35 years of experience supporting EPA's Office of Water, states, and tribes with implementation of the Safe Drinking Water Act (SDWA). Laurie developed OGWDW's data verification program and developed the protocol for evaluation of program compliance with SDWA regulations and best business practices and conducted more than 200 file and program reviews of primacy agencies. With her extensive experience with various state programs, Laurie provided insight on possible implementation issues for proposed regulatory requirements and performed feasibility and options analyses for transitioning state and federal clients to new data systems. For ASDWA and EPA, Laurie has conducted four extensive analyses of state resources needed to implement the SDWA and funding sources available to them. Laurie has trained EPA and state staff and water systems on the SDWA, SDWIS, and SDWIS Rule implementation creating materials like: Standard Operating Procedures, guidance manuals and workbooks, fact sheets, quick reference guides, and more.

Education

B.A., Economics and Public Policy, Smith College - 1984

Experience

- Director of Business Development, GEC, 2019 – present
- Associate/Senior Associate/Principal, The Cadmus Group, LLC., 1991 – 2019
- Associate, Clark Management Associates, 1988 – 1991
- Research Associate, Temple, Barker & Sloane 1985 – 1988

Safe Drinking Water Act Rule Implementation

U.S. Environmental Protection Agency, Office of Water, Office of Ground Water and Drinking Water

File Review Audits and Program Reviews of State Drinking Water Programs

1991-present

- Laurie has a deep understanding of SDWA rules. Laurie supported EPA OGWDW to perform over 200 onsite audits to assess compliance with the SDWA regulations and drinking water primacy program policies and implementation of SDWA regulations in 9 EPA Regions, 50 states, 1 Tribal program, and 2 Trust Territories. Laurie visited all programs between three and seven times for audits, which involves use and understanding of data management systems in each agency. Tasks included review of completeness and accuracy of data in state information systems; affirmation of staff knowledge through review of compliance determination decisions; examination of water system files; and comparison of information in state and federal databases to confirm consistency. Reports identified efficiencies and program strengths and recommended program improvements.
- After lead contamination was identified in Flint, MI, in 2015 Laurie led data the verification team with EPA compliance and enforcement staff from Headquarters and the Region to evaluate data in SDWIS/State and state adherence to EPA regulations and guidance pertaining to all regulations. The audit was a random sample of public water systems in Michigan, but also heavily focused on Flint, MI.
- For EPA, Laurie analyzed errors causing inconsistency between state and federal information systems and developed SOPs and training to correct data quality problems.

EPA Protocol and Rule Summaries

1991-2019

- Laurie created and maintained the EPA protocol and rule summaries for conducting file review audits and program reviews. This included communication with EPA Headquarters and Regional personnel to resolve questions and discrepancies in rule interpretation, then documentation and discussion of issues identified during audits with primacy agencies.
- Laurie conducted multiple trainings, both in person and via webinar for state and EPA Headquarters and Regional personnel on using the protocol and conducting data verification audits and program reviews. Laurie supported EPA Regional staff in conducting audits, by training team leaders and answering questions on the protocol and history of decisions made in previous audits.

SWOT Analyses and Transition Planning 2021

2018-

- For Minnesota, Michigan, Virginia, and several EPA regions, Laurie led or participated in Strengths, Weaknesses, Opportunities, and Threats (SWOT) analyses or evaluation of existing business practices to help determine the best course of action for data management and program implementation and prepare transition plans.

Resource and Program Needs Evaluation

ASDWA/EPA Resource Needs Evaluation

File Review Audits and Program Reviews of State Drinking Water Programs

1999-2020

- In 1999, 2003, 2013, and 2020, Laurie supported the Association of State Drinking Water Administrators and EPA with comprehensive survey and modeling to analyze in detail the activities performed by state staff to implement the SDWA. Upwards of 300 activities were examined for every primacy agency and analyzed using publicly available data about water system characteristics, state organizational structures, and compliance data to develop an estimate of the resources that states had and that they needed. Laurie prepared a Report to Congress to present the resources gap and need for new funding and creation of information packets that could be used to educate state legislators about drinking water program needs. She prepared educational materials for state legislators and agency decision-makers. The projects resulted in increased resources at state and federal levels. Between 1991-2015, EPA asked Laurie to support state efforts to develop alternative funding mechanisms, such as fees, through documentation of workload and program costs, plus presentation of compelling arguments for increasing resources in state drinking water programs. Laurie led similar projects for the Underground Injection Control (UIC) program and Clean Water program to analyze resources needed for EPA Regions to implement their direct implementation responsibilities.

PWSS Grant Guidance

2022-2023

- For EPA, Laurie assisted with preparation of an updated guidance on the Public Water Supply Supervision Grant and prepared the section on Performance Partnership Grants.

SDWA Data Management

US EPA OW, OGWDW and private contracts with RI, KS, MI, OK, NV, VA, and WV

SDWIS Training 2014

1998-

- Laurie provided technical materials and QA/QC for the EPA Drinking Water Academy and the Drinking Water Training System. Laurie developed and conducted training to states and regions in early years of state implementation of new NPDWRs, including TCR, RTCR, CCR, Phase II/V, LCR, LCRMR, SWTRs, and D/DBPs. Laurie responded to questions and provided ad hoc training on regulatory requirements to EPA Region and state rule managers.

Interfacing Application Development

2009-present

- Laurie helped EPA Region 5 with the development and implementation of the Compliance Decision and Violation Reporting Tool (CDVRT). CDVRT updates and consolidates information for each NPDWR, including EPA's guidance documents, explanations of compliance determination and stipulated violation and enforcement reporting requirements and national criteria to return systems with violations to compliance (RTC), into a single e-document reference for states and Regions to use.
- Since joining GEC, Laurie has provided use cases and collected business requirements from clients to guide development of GEC software applications.

US EPA OW, OGWDW, Technical Support Center

Laboratory Certification Program Reviews

2014-2018

- Laurie supported EPA's Laboratory Certification Program (LCP) by revising the Certification Manual for laboratory assessments and audits and facilitating monthly technical discussions of the national workgroup of laboratory Certification Officers. Laurie developed checklists and templates for assessment and audit site visits and reports and researched topics related to Standard Methods and other issues governing laboratory procedures or audit procedures. Laurie participated in assessments of all EPA regional LCPs.

Compliance Monitoring Data Portal

EPA OW, Virginia, West Virginia, Michigan, EPA Regions 3, 5, and 8

CMDP Implementation

2017-2021

- Laurie assisted three states and three EPA Regions with CMDP implementation, including transition planning, development of language for websites, creation of a Best Practices notebook to share lessons learned across agencies, refinement of each agency's Path to Production, and training materials for state and EPA regional staff. She supported EPA's OGWDW on multiple projects to assist primacy agencies as they prepare for SDWIS modernization (formerly SDWIS/Prime) and implementation of CMDP. Laurie identifies business practices that may need refinement or change to ensure success, including facilitation of a Strength/Weakness/Opportunity/Threat analysis for Michigan and gap analysis between the legacy data system and SDWIS/State for Virginia. Laurie assists primacy agencies to develop a successful plan to transition from current data management systems and laboratory reporting methods to using SDWIS/State, the previous product known as SDWIS/Prime, and CMDP. Laurie develops best practices

guides for labs and state staff based on lessons learned from supporting multiple agencies. Laurie prepares SOPs, welcome letters, interest surveys, language and outreach materials for websites, and brochures that primacy agencies can use to encourage laboratory and PWS use of CMDP. Laurie provides guidance and assistance to primacy agencies in developing website content and training webinar content to help laboratories and PWSs successfully implement CMDP.

Subcontractor to Indus Corporation for US EPA OW, OGWDW

SDWIS Prime Business Rules Engine Development

2010-2012

- Laurie supported EPA's OGWDW development of SDWIS Prime by creating flow charts for all national primary drinking water regulations, which served as the basis for the business rules engine (BRE) used in SDWIS Prime. Laurie coordinated development of the flow charts with EPA OGWDW rule managers.

Software Experience/Technologies

The suite of SDWIS State applications, SDWIS Fed, Enforcement Targeting Tool, EPA's Central Data Exchange and Shared CROMERR Services, Suite of Microsoft Products, Adobe Acrobat Pro, Microsoft DevOps.



Sara Pierson

SME / Project Manager / SDWA

Email: sara.pierson@1gec.com Phone: 480-341-3687

Bio

Sara Pierson has 18 years of experience as a SDWA and SDWIS subject matter expert. Sara's experience includes overseeing rule implementation and regulatory compliance determinations for the SDWA in Indiana, serving as SDWIS database administrator, implementing the GEC SWIFT Surveys application, and implementing CMDP for over a hundred laboratories. Sara continues to support state and federal clients with data management solutions and the implementation of the SDWA, CMDP, and SDWIS. Sara manages multiple projects, including SDWIS hosting and Oracle/SQL Server conversions. Sara is also the product owner of GEC's Drinking Water Viewer (DWV) application.

Education

B.S., Environmental Biology, University of Dayton – 2003

Certified Scrum Master, Scrum Alliance - 2021

Experience

- Project Manager/Senior Technical Specialist, GEC, 2021-present
- Senior Environmental Manager Supervisor, Indiana Department of Environmental Management (IDEM), 2016 – 2021
- Senior Environmental Manager, IDEM, 2009 – 2016
- Environmental Manager, IDEM, 2004 – 2009
- Environmental Scientist, IDEM, 2003 – 2004

Safe Drinking Water Act Rule Implementation

Kansas, West Virginia, Indiana

Safe Drinking Water Act Rule Training and Implementation Support

2003-present

- Sara has in-depth knowledge of federal drinking water regulations enabling her to provide expert regulatory assistance to program staff in primacy agencies and provide training on Safe Drinking Water Act (SDWA) rules. Sara assists clients with SDWA rule implementation, including answering questions about the rules, developing standard operating procedures for rule implementation, and training staff on rule requirements.
- Sara works closely with clients to analyze and understand their internal SDWA rule implementation policies and procedures to help clients more efficiently and effectively meet the federal rule requirements.
- Sara works with West Virginia to develop SOPs and regularly discuss implementation tools and strategies.
- Sara provides training and materials to help new staff learn SDWA rules and consistently implement them according to their agency's protocols.
- Sara ensures clients have the tools they need to best implement SDWIS. For example, Sara helped Kansas create a Lead Service Line Inventory spreadsheet to be used in conjunction with their PWSDC tool to collect data for the new Lead and Copper Rule.
- Sara spent 18 years in the Indiana Department of Environmental Management (IDEM)'s Drinking Water Compliance Section, assisting Indiana staff with SDWA rule implementation daily, including answering questions about the drinking water rules, troubleshooting compliance activities, and developing standard operating procedures for rule implementation.

- Sara regularly trained state staff on rule requirements and provided technical and regulatory assistance and training to owners and operators of public water systems of all types and sizes.
- Sara improved processes to maximize efficiencies with extremely limited resources. Sara was instrumental in helping IDEM identify gaps and solutions in the sanitary survey process. In 2018, SWIFT was chosen as the optimal sanitary survey tool and proper equipment was procured and prepared.
- Sara coordinated the transition from the old environment and helped determine appropriate procedures and automation to support the new SWIFT process. Numerous metrics calculated after implementation showed that SWIFT implementation saved staffing resources and increased the efficiency of the sanitary survey process. For example, the time it took site visit summary letters and reports to be sent to water systems was reduced from weeks to an average of less than two days.

SDWA Data Management

Indiana, Michigan, Rhode Island, EPA Region 6 & Region 4

SDWIS Data Management, Data Analysis, and Interfacing Applications

2004-Present

- Sara serves as an expert on using the SDWIS and was previously the lead SDWIS Database Administrator for Indiana. Sara trained Indiana staff on using SDWIS and investigated and resolved issues with the suite of SDWIS applications and interfacing Microsoft Access databases.
- Sara reconfigured the SDWIS database to allow implementation of the revised Total Coliform Rule and worked with staff to ensure new database and reporting needs were met.
- Sara analyzed and modeled business processes for Indiana to enhance data accuracy, ensure that compliance determinations were accurate, and find efficient and optimal business processes.
- Sara leveraged the SDWIS relational database to develop and maintain Microsoft Access databases, compliance reports, and metrics, which helped to identify business processes needing improvement, identify gaps, improve data quality, and manage resources. Sara also participated in the governor's Data Management and Analysis Work Group for her agency.
- In Indiana, Sara designed, developed, customized, and maintained multiple Microsoft Access databases, which interact with SDWIS. Sara has extensive experience in developing queries and reports from SDWIS to assist state staff with data quality, data analysis, compliance determination, external data requests, and for developing Annual Compliance Reports.
- Sara continues to support Michigan with query and report creation and assisting with their Microsoft Access tool.
- Sara also helped develop a Safe Water Information Management and Reporting (SWIMR) report for Rhode Island, which is based on SDWIS data and used to notify systems of their requirements to resolve deficiencies.
- Sara helps clients with data management including migration of data into SDWIS. Sara helped EPA Region 6 with the migration of new schedules for a special sampling project and is helping Michigan with closing schedules and adding new ones when systems sampled earlier than required. Sara is also helping EPA Region 4 with data management and clean-up as they prepare to implement CMDP.

Indiana, West Virginia

SDWIS Training

2003-Present

- Sara routinely conducted training for Indiana compliance staff on the use of the suite of SDWIS/State applications.
- Sara also developed SOPs (i.e., SOP for RTRC Compliance Determination using SDWIS/State) and training tools for West Virginia and continues to support their training needs.

Kansas, Michigan, Nebraska

Project Management - SDWIS Installations, Upgrades, Data Migration

2021-Present

- Sara was the project manager for a SDWIS server migration project, moving Kansas' SDWIS database to GEC servers.
- Sara assisted with planning for the same effort for Michigan. Sara also managed the Kansas and Nebraska SQL projects, which converted all SDWIS and GECSWS applications and databases from Oracle to SQL Server. EPA Headquarters, Indiana

SDWIS Modernization

2010-2020

- For over a decade, Sara partnered with EPA on SDWIS modernization efforts. Sara was involved in many work groups and committees for the SDWIS NextGen and SDWIS Prime projects.
- Sara participated in the Interfacing Applications Workgroup, which was tasked with identifying all the interfacing applications primary agencies used in conjunction with SDWIS to implement the SDWA. As a member of this group, Sara identified data needs and features a modernized SDWIS would need to have available for interfacing applications to continue to function, like APIs, data latency needs, etc.
- Sara was part of the Inventory and Legal Entity workgroups for the projects, which were responsible for identifying business needs and required and optional data elements for those data modules.
- Sara performed in-depth testing of products and UIs (SDWIS NextGen, SDWIS Prime, the BRE, CMDP, etc.) throughout their development, to ensure the products would meet the needs of all primacy agencies in the Drinking Water community.
- Sara worked on the State User Acceptance Testing group (SUAT) for SDWIS Prime: identifying business needs and user stories, testing the UI, identifying data gaps, and verifying compliance was accurately determined in accordance with the SDWA regulations.
- Under Sara's leadership, Indiana was slated to be one of three Pilot States for SDWIS Prime. Sara also worked with EPA in using Indiana data to test proofs of concept and data validations.
- Sara was the state lead on a multi-state National Environmental Information Exchange Network (NEIEN) grant awarded to upgrade and modernize Drinking Water Watch, an application that allows the public to view SDWIS data.
- Sara led business needs gathering sessions with internal Indiana staff and staff from Louisiana, New Mexico, and North Dakota. Sara analyzed business needs, documented requirements, and translated business needs into user stories and a development plan.

Compliance Monitoring Data Portal

Indiana, Michigan, EPA Region 4

CMDP Implementation

2018-Present

- Sara led the CMDP implementation project in Indiana, overseeing the onboarding of over 130 laboratories to CMDP.
- Sara created an implementation strategy, developed guides, established data quality checks, and worked with labs and water systems to accurately report data electronically.

- Sara coordinated with the laboratory certification agency to communicate electronic reporting requirements to laboratories, sent out many rounds of communication to both public water systems and laboratories about the switch to electronic reporting, and made CDMP training and FAQ documentation available to the public and all parties concerned.
- Sara managed the in-person and webinar training provided to labs and developed queries and data pulls to assist labs with CDMP submittals and data quality.
- Sara answered questions and expertly guided laboratories and public water systems in reporting drinking water data electronically through CDMP.
- Sara also worked with EPA to streamline the process for adding CDMP method/analyte pairings.
- Sara continues to support CDMP implementation, helping state and federal agencies prepare for and transition laboratories to CDMP. Sara worked closely with Michigan to help with onboarding planning and strategy. Sara created an onboarding tracking spreadsheet, provided data on numbers and types of laboratories, and discussed options for internal processes to manage CDMP users and data.
- Sara also presented information about the Alaska Data Validator Tool, shared lessons learned and best practices, and answered questions about CDMP implementation and data quality. Sara has begun providing similar CDMP implementation support to EPA Region 4 as well. Sara regularly participates in CDMP power users group meetings sponsored by EPA.

GEC Software

Rhode Island, Virginia, Indiana, Louisiana, North Dakota, New Mexico

Drinking Water Viewer Development and Training

2021-Present

- As the Drinking Water Viewer (DWV) product owner, Sara works closely with stakeholders, GEC developers, and QA staff to evaluate business requirements and design needs for DWV.
- Sara also works closely with existing clients to determine essential features and enhancements for DWV.
- Sara writes the user stories, develops test cases, and performs user acceptance testing.
- Sara also conducts demos to show potential users the software features and demonstrate possible uses for DWV.

Software Experience/Technologies

The suite of SDWIS State applications, SDWIS Fed, EPA's Central Data Exchange and Shared CROMERR Services, Oracle Databases, Electronic Sanitary Survey Software, eSample Entry (ESE), the suite of Microsoft Products, Microsoft Azure DevOps, Adobe Acrobat Pro, Miro, LucidChart, R statistical analysis, Dreamweaver 4, Zendesk, and SWIFT, Drinking Water Viewer, and other GEC Applications.



GEC

Kim Clemente

Project Manager

Email: kim.clemente@1gec.com

Phone: 623-404-1874

Bio

Kim Clemente 25 years of environmental consulting experience, with over a dozen years of project management experience. Kim is a certified Advanced Scrum Master who has managed various software design, development, and implementation projects. Kim has supported EPA and numerous states with GEC software implementation, with drinking water rule development and implementation, guidance, and analysis, and with Compliance Data Management Portal (CMDP) planning, training, and implementation.

Education

M.A., Energy and Environmental Studies, Boston University, 1997

B.A., Political Science, Boston University, 1995

Experience

- Project Manager, GEC, 2018-present
- Associate, The Cadmus Group LLC, 1997-2018

Safe Drinking Water Act Rule Implementation

Multiple Primacy Agencies

Safe Drinking Water Act Rule Implementation

1998-present

- Kim performed on-site audits of State Drinking Water Programs for the Environmental Protection Agency's (EPA's) Public Water System Supervision Program. Kim conducted extensive interviews of state staff to assess effectiveness of state programs, identified successes and challenges that states face in implementing the federal drinking water regulations, and provided recommendations for improving implementation. Kim reviewed drinking water monitoring data onsite to ensure that states implement the federal regulations as required. Kim developed reports of findings from the on-site review, including an analysis of data reviewed.
- Kim has developed standard operating procedures for West Virginia and Virginia for implementing and determining compliance with drinking water rules. Kim also created flow diagrams of drinking water regulations in Microsoft Visio, mapping out compliance decisions for EPA drinking water regulations.
- Kim supported EPA during the development of four Unregulated Contaminant Monitoring Regulation (UCMR) cycles. Kim developed cost estimates for EPA, states, and public water systems to implement UCMR 3 and 4 and wrote the Information Collection Request detailing all costs associated with the program. Kim also developed fact sheets and guidance documents for UCMR 2 and 3.
- Kim wrote technical guidance documents on various EPA drinking water regulations, and she supported EPA through the regulatory development process for numerous drinking water regulations, including the arsenic rule.
- Kim developed a screening analysis cost estimate for small public water systems to implement changes to the lead and copper rule. Kim served as the senior product reviewer on white papers, meeting minutes, and other documents reviewed by the EPA lead and copper workgroup to assist EPA in options decision making for the revised rule. Kim also drafted the administrative requirements section for the draft economic analysis document.

Project Management

Multiple Federal and State Clients

Project Manager

2007-Present

- Kim oversees projects and budgets for more than 20 projects with a total ceiling exceeding \$2.4 million. Kim closely manages the GEC development process, from designing new features and applications, to writing user stories, managing the daily stand ups and development sprints, verifying that internal and external user acceptance testing is complete, confirming that documentation is complete before production releases, and ensuring that applications and updates to applications are released to production in a timely manner. Kim provides oversight and guidance to junior project managers and helps manage and guide the GEC Application Development process and priorities. Kim also provides quality assurance reviews for project deliverables and invoices.
- Kim managed the primacy application process for Kentucky, California, and Delaware to ensure that state drinking water regulations met the requirements of the federal drinking water regulations.
- Kim managed the development of a web-based tool to track sustainable operations and maintenance information for a federal agency. Kim worked with information technology subcontractors using Agile methodology to guide improvement to the tool. Kim also conducted user acceptance testing, wrote user manuals, provided customer support, and worked with the client to move the tool behind their firewall. Kim managed subcontractors, wrote subcontracts, developed technical and price proposals, and designed proactive solutions to forecast technical or budgetary issues.
- Kim was the project manager on a project with Kansas to move the suite of SDWIS applications from the state's servers to a new server environment in 2020 and 2021, which included managing the systems architecture process. Kim is also managed the server and suite of SDWIS applications move for Michigan to GEC servers in 2021-2022.

Compliance Monitoring Data Portal

Virginia, West Virginia, Maine, Michigan, Kansas, EPA Regions 4, 5, and 8

CMDP Implementation

2018-Present

- Kim serves as a liaison between primacy agencies and laboratories to provide high quality sample data electronically. Kim's experience with implementation of CMDP for several clients includes training state staff, helping with questions about compliance with Cross-Media Electronic Reporting Rule (CROMERR) criteria and registration with Shared CROMERR Services, developing training materials, and assisting the laboratories with implementation.

CMDP Training

2018-Present

- Kim assists states and EPA Regions with all steps of CMDP implementation, including working with EPA to register the state or Region with the Shared CROMERR services website, developing internal policies for implementation, sharing best practices from previous experience, working with laboratories, and troubleshooting common CMDP errors.
- Kim develops and provides training webinars for laboratories and public water systems to introduce them to CMDP, answer questions, and expertly guide laboratories and public water systems on reporting drinking water data electronically to CMDP.

Software Experience/Technologies

SDWIS, EPA's Shared CROMERR Services, CMDP, Microsoft Suite of Applications, Microsoft Azure DevOps, JIRA, Adobe Acrobat Pro, Trello, Lucidchart, Miro, Zendesk.



Ian Robinson, MBA/MS

President/COO

Ian manages day-to-day operations and implementation of the organization's strategy. He has worked with more than 50 cities in helping them use machine learning to develop a lead service line inventory. He co-authored a white paper on data science for LSL replacement with ASDWA and is leading an effort on AWWA's Lead in Water Subcommittee to develop a guide for service line replacement plans.

Relevant Experience

Lead Service Line Replacement Program

City of Toledo, OH

Advising project with the city of Toledo in its long-term service line replacement project. Work included applying for and receiving US EPA environmental justice grant to engage the city and community organizations in using AI to accelerate the replacement of lead service lines.

Lead Service Line Replacement Program

East Coast Utility

Advised the use of predictive models for service line replacement program for an east coast utility that manages water distribution for over 35 communities. Over two years, BlueConduit has helped this utility improve the efficiency of the replacement program by 20 percentage points and save millions. Utility name withheld per contract agreement.

EDUCATION

MBA, Business Administration,
University of Michigan, 2017

MS, Environmental Policy,
University of Michigan, 2017

BA, Business Administration,
University of Michigan, 2008

BA, Judaic Studies, University of
Michigan, 2008

ASSOCIATIONS

AWWA Distribution Systems
Committee

AWWA Premise Plumbing
Committee

AWWA Lead-in-Water
Subcommittee

MI-AWWA Education and
Training Council

Lead Service Line Replacement Program

Trenton Water Works, NJ

Advised project with Trenton Water Works to develop a service line inventory to reconcile “unknown” in the city’s records, allowing them to budget and plan future phases of the utility’s replacement program.

Lead Service Line Inventory Project

Municipal Water Utility in Canada

Advising a Canadian city in the use of predictive modeling software for service line inventory. There are large gaps in the utility’s records, and BlueConduit’s modeling is reducing uncertainty to support long-term planning and asset management. Utility name withheld per contract agreement.

Lead Service Line Replacement Project

Benton Harbor, MI

Advised the City of Benton Harbor in the development and use of predictive models for service line replacement. BlueConduit is working with the city of Benton Harbor and its engineer to develop an actionable service line inventory to guide replacements.

Lead Service Line Inventory Project

Municipal Utility in the Midwest

Working alongside an engineering company, Ian is advising on the use of machine learning for service line inventory development. This community has limited records of service line materials, and the predictive model is helping reduce uncertainty in developing the service line replacement plan.

Service Line Inventory Project

Detroit Water and Sewerage Department, MI

Advised project with Detroit Water and Sewerage Department in securing foundation and state funds to use machine learning to develop service line inventory to support DWSD’s \$450 million service line replacement project.

Service Line Replacement Project

Flint, MI

Worked with community organizations, the Natural Resources Defense Council, and other stakeholders in the development and release of a public-facing map of the service line inventory and progress on the replacement program.



Jacob Abernethy, Ph.D.

Jacob Abernethy is the co-founder and co-CEO of BlueConduit alongside Eric Schwartz. He helped develop the use of predictive modeling to locate lead service lines in Flint, Michigan in 2016. His efforts have been recognized by many as the standard for identifying LSLs. In addition, Jacob is currently an assistant professor at the Georgia Institute of Technology for the school of computer science. With over 10 years experience in machine learning and predictive modeling, he is a pioneer in the realm of predicting customer behavior.

EDUCATION

Ph.D. Computer Science) UC Berkeley, Dept. of Computer Science, Fall 2011

M.S. Computer Science, Toyota Technological Institute at the University of Chicago 2006

B.S. Mathematics, Massachusetts Institute of Technology 2002

Relevant Experience

Co-Founder of BlueConduit & In8

BlueConduit is a data science startup company that helps city governments find their lead pipes (June 2019 - Present). In8 is a machine learning and control startup company, in collaboration with Prof. Elad Hazan, that has since been acquired by Google in January 2018.

Management & Development

Chief Data Quality Officer for Captricity.com that developed algorithms and strategies for processing paper forms through Mechanical Turk into structured data (May-October 2011). Was also the co-Founder and Designer of MLcomp.org – Primary developer (with Percy Liang) of MLcomp, a collaborative environment for objectively executing and comparing machine learning programs. We hope to make MLcomp a central hub for experimental ML research (March 2008 to Present)

Lead Service Line Replacement Program

Municipal Water Utility in Canada

Advising a Canadian city in the use of predictive modeling software for service line inventory. There are large gaps in the utility's records, and BlueConduit's modeling is reducing uncertainty to support long-term planning and asset management. Utility name withheld per contract agreement.

Lead Service Line Replacement Project

Benton Harbor, MI

Advised the City of Benton Harbor in the development and use of predictive models for service line replacement. BlueConduit is working with the city of Benton Harbor and its engineer to develop an actionable service line inventory to guide replacements.

Lead Service Line Inventory Project

Municipality Utility in the Midwest

Working alongside an engineering company, Jacob is advising on the use of machine learning for service line inventory development. This community has limited records of service line materials, and the predictive model is helping reduce uncertainty in developing the service line replacement plan.

Service Line Inventory Project

Detroit Water and Sewerage Department, MI

Advised project with Detroit Water and Sewerage Department in securing foundation and state funds to use machine learning to develop service line inventory to support DWSD's \$450 million service line replacement project.

Service Line Replacement Program

Flint, MI

Worked with community organizations, the Natural Resources Defense Council, and other stakeholders in the development and release of a public-facing map of the service line inventory and progress on the replacement program.

Lead Service Line Replacement Program

City of Toledo, OH

Advising project with the city of Toledo in its long-term service line replacement project. Work included applying for and receiving US EPA environmental justice grant to engage the city and community organizations in using AI to accelerate the replacement of lead service lines.



Sheela Lal, MBA

Director of State Sales & Initiatives

Sheela manages BlueConduit's relationships with public sector entities, elected officials, regulatory agencies, state revolving funds, nonprofit and philanthropic organizations. She works to ensure a cross-functional dialogue between water stakeholders addressing lead service line identification and replacements. Since joining BlueConduit, she has succeeded in developing engagement and education strategies with state and local government agencies, greatly expanding awareness for the role of data science in Lead Service Line replacement activities.

Relevant Experience

Management & Development

Prior to joining BlueConduit, Sheela held several leadership roles in the field of IT Consulting. She made significant contributions as a Program Officer for a global leader in IT Services, greatly improving business processes and improving supplier diversity.

Government Relations

As a Research Director for Progress Missouri, Sheela greatly expanding the organization's reach, building partnerships and creating new relationships with elected officials. She built a name for herself in Missouri as a trusted advisor, diligently working with legislators to drive new initiatives.

EDUCATION

M.B.A., University of Michigan
School of Business 2019

B.A., International Business,
University of Missouri 2012

B.S., Statistics, University of
Missouri 2012



Jared Webb

Data Science

Jared Webb is BlueConduit's Chief Data Scientist. His responsibilities include processing and analyzing customer data, managing relationships with technical service partners, and producing Machine Learning models. He has been a member of Dr. Schwartz and Dr. Abernethy's team since 2016 and has served as Chief Data Scientist since the formation of BlueConduit. Jared received his Undergraduate/Masters in applied mathematics from Brigham Young University, where he focused on the mathematical foundations of machine learning models.

Relevant Experience

Lead Service Line Inventory Project

Bloomington, IN

BlueConduit is applying its predictive modeling software to refine the city's service line inventory. This community has limited records on the private side of the service line. BlueConduit is working to develop an actionable service line inventory to guide the replacement project.

EDUCATION

M.S. Mathematics, Brigham Young University, 2013

B.S. Mathematics, Minor Computer Science, Brigham Young University, 2011

Detroit Water and Sewerage Department Service Line Project

Detroit, MI

BlueConduit is working with the Detroit Water and Sewerage Department to develop a complete service line inventory by 2025 to meet regulatory requirements and ensure the efficiency of the city's service line replacement program. The city is required to replace 5% of its service lines per year, an effort that is estimated to cost \$450 million. BlueConduit's predictive model informs the city's planning and execution for the replacement program.

Benton Harbor, MI Service Line Inventory

City of Benton Harbor, MI

Jared is assisting with the accelerated lead service line replacement program in Benton Harbor. The city has fast-tracked the program in response to multiple action level exceedances. BlueConduit is working with the city of Benton Harbor and engineering partners to develop a service line inventory to guide replacements.

Municipal Utility in the Southeast

Utility name withheld per contract agreement.

BlueConduit is working as a subcontractor to a national engineering firm to develop a service line inventory for a community in the southeast that serves more than 1 million people. This community has limited records of service line materials. BlueConduit's predictive model is helping that utility reduce the unknowns and develop a service line replacement plan.

Service Line Inventory Project

Trenton Water Works, NJ

BlueConduit is working with Trenton Water Works to develop a service line inventory. BlueConduit is helping Trenton Water Works develop a service line inventory to reconcile "unknown" materials in the city's records, allowing them to budget and plan future phases of the utility's replacement program.

Lead Service Line Inventory Project

Municipal Water Utility in Canada

Jared is instrumental on an ongoing project with a utility in eastern Canada that is developing its service line inventory. There are large gaps in the utility's records, and our modeling is reducing uncertainty to support long-term planning and asset management. Utility name withheld per contract agreement.