



## Emphasizing Validation & Human-Centered Generative Artificial Intelligence (GenAI): The “Report Review AI” Case Study

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Regulatory report review is a resource-intensive bottleneck in environmental and remediation projects, typically handled by a small cadre of subject-matter experts (SMEs). To relieve this pressure without sacrificing rigor, Jacobs has created Report Review AI—a generative-artificial intelligence (GenAI) solution that supports, rather than replaces, human reviewers. Report Review AI automates draft report review technical compliance checking, accelerates turnaround, and improves defensibility. It leverages the most recent large language model's (LLM's) on the market and fine-tunes them through semantic searching and project/state specific retrieval augmented generation (RAG) for both the project document and associated regulations.

We present a case study review on a publicly available report, *Operable Unit 5 – Libby Asbestos NPL Site remedial-investigation report (June 2013)*, as a demonstration. The AI solution can reduce first-pass quality assurance/quality control (QA/QC) performed by SME's from days to minutes while increasing confidence in citation accuracy and completeness of the draft report.

This presentation will focus on:

- The co-design process between AI engineers and environmental SMEs that shaped the validation checkpoints
- Metrics of trust—precision/recall of findings, reviewer agreement rates, and time saved across iterative cycles
- Lessons learned in building explainability features (e.g., inline citations, rationale snippets) that regulators and clients require
- The roadmap for scaling, multilingual support, and expanded reviewer analytics that keep humans firmly in control

Report Review AI embeds GenAI into a common compliance workflow that touches nearly every project environmental and remediation professionals support, streamlining regulatory reviews, accelerating QA/QC, and enhancing consistency across technical deliverables. Attendees will leave with practical guidance on embedding GenAI and human- in-the-loop into their existing workflows, helping free up specialists to concentrate on higher-value analysis and strategic decision-making, while maintaining quality, transparency, and regulatory defensibility in their deliverables.

### Todd Kremmin

Todd is a data scientist who helps lead the cultivation, development, and deployment of generative artificial intelligence (GenAI) use-cases and solutions globally across Jacobs. As a professional geologist in the State of Minnesota, he also works on innovative data & statistical analyses, data visualizations, along with supporting multiple domains globally including; environmental, engineering, energy, water, transportation, & construction. Todd leads the Digital & Data (D&D) Global Community of Practice (CoP) – Data Analytics, AI & Insights, the Environmental Data Management & Analysis AI Focus Group, and the Three-Dimensional (3D) Data Visualization CoP at Jacobs, helping foster innovation, best practices, and collaboration across all of Jacobs in these technical areas.