



# case study

## How AI Automates Regulatory Compliance for Utility Companies

A major utility company struggled to keep pace with rapidly evolving environmental regulations from the EPA and other federal agencies. The manual process of monitoring, evaluating, and summarizing regulatory documents consumed significant staff time and resources, while the complexity and volume of regulatory changes continued to increase.



### Objectives

1. Monitoring and identifying relevant regulatory changes and agency actions that might impact operations
2. Analyzing relationships and dependencies between new and existing rules.
3. Identifying how those rules impact the deployed energy producing assets and summarizing proposed regulations to expedite review across multiple internal teams.



### The Solution

PMSquare designed and implemented ARDES (Automated Regulatory Document Evaluation System), a comprehensive AI-powered platform that transforms the regulatory review process. Built on Azure cloud infrastructure with Snowflake as the primary data store, the solution provides an intelligent web application for document analysis and collaboration.



The platform delivers:

- **Intelligent document processing:** Advanced indexing and vectorization of regulatory documents enables semantic search and contextual understanding across large document collections
- **AI-powered analysis:** Large language models summarize complex regulations, identify dependencies between a proposed rule and the deployed energy producing fleet, and surface relevant impacts to specific operational areas
- **Natural language querying:** An interactive chat interface allows analysts to ask questions about regulations and receive contextual, citation-backed answers
- **Document comparison:** Side-by-side analysis highlights changes between regulatory versions and enables tracking of rule evolution over time
- **Collaborative workspaces:** Team members can organize documents, share insights, and coordinate review activities within dedicated project areas
- **Enterprise-ready architecture:**
  - RESTful APIs for document management, chat, and reporting
  - CI/CD pipeline for automated deployment
  - Robust data model for storing AI-generated insights

PMSquare partnered closely with stakeholders through iterative development cycles, refining capabilities based on real-world regulatory documents and use cases.



## Results

- **Dramatic Time Savings:** processes that previously consumed days now complete in minutes
- **Enhanced Accuracy:** reduces compliance risk
- **Improved Team Coordination:** seamless collaboration across departments
- **Scalable Document Processing:** handles large volumes of regulatory documents efficiently
- **Accelerated Review Cycles:** Automation expedites distribution and reduces lag



## Impact

ARDES positioned the utility company at the forefront of AI-enabled regulatory compliance, demonstrating how Generative AI can augment expert analysis rather than replace it. The platform's success with high-volume, complex document processing showcases the power of modern AI to tackle traditionally labor-intensive professional workflows.