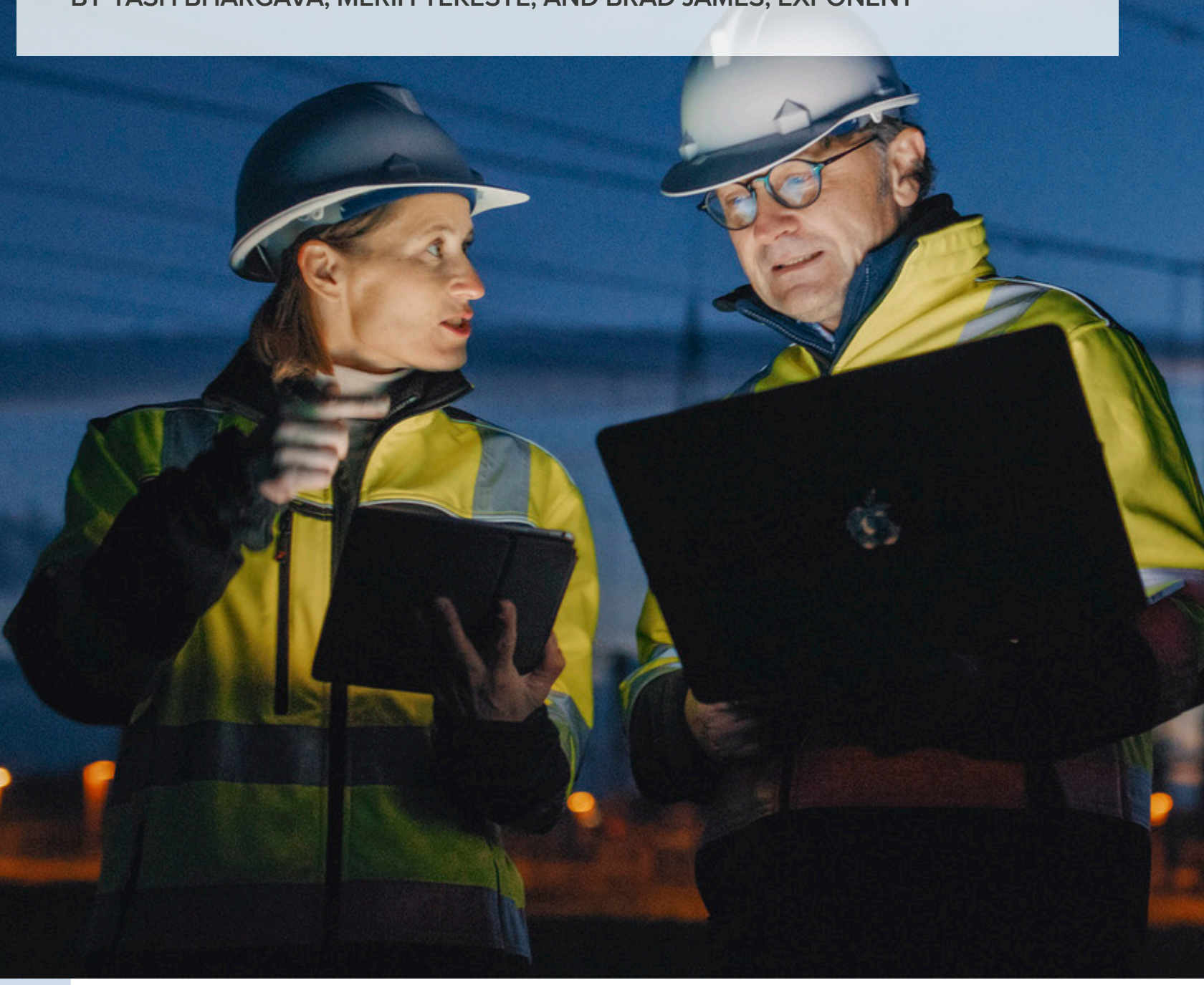


A BOTTOM-UP APPROACH TO UTILITY REGULATORY RATE CASES

INTEGRATING TECHNICAL AND REGULATORY
EXPERTISE FOR A DEFENSIBLE, DATA-BACKED CASE

BY YASH BHARGAVA, MERIH TEKESTE, AND BRAD JAMES, EXPONENT





When utilities need to improve their infrastructure, they can't simply raise rates. They must justify their infrastructure improvement projects and associated rate impacts on rate payers to an independent panel that represents customers — often a public utilities commission. The goal of the commission and the utility is balancing improving public safety with incremental increases in customer energy costs. These rate cases are becoming increasingly challenging for many utilities. Commissions demand detailed documentation and strong justification for rate increases and utilities may fall short of expectations, leading to approval of lower revenue requirements than anticipated and thus delayed or curtailed projects. Traditional approaches to rate cases are often not enough in today's climate of intensifying regulatory scrutiny. Rate cases and regulatory filings require more than generic project management and organizational support; they demand rigorous technical analysis, quantitative evidence, and strategic translation into legal proceedings that can withstand multilayered challenges.

By combining end-to-end technical depth with quantitative risk frameworks and strategic regulatory expertise, utilities won't just prepare filings but build data-backed cases that regulators respect and approve.

BEYOND TRADITIONAL RATE CASES: TECHNICAL AND REGULATORY INTEGRATION

Utilities often approach regulatory cases from a management or organizational perspective, presenting how the work will be done rather than the risks of not doing it. Regulators demand clear, evidence-based justifications for rate adjustments grounded in technical realities, especially if there is a significant increase in a program or if a program is new. This can be accomplished by conducting program health assessments, modeling risk scenarios, building mitigation programs, and linking

those findings to robust financial projections. These insights are then woven into testimony, workpapers, responses to intervenor data requests, and witness preparation, ensuring consistency and defensibility from technical diagnosis through to regulatory approval. This integrated model combines engineering, risk, finance, and regulatory positioning into a single compelling argument for rate adjustments.

WHY ARE QUANTITATIVE RISK ASSESSMENTS IMPORTANT?

Comprehensive, science-backed quantitative risk assessment frameworks that prioritize high-risk assets in their maintenance and improvement will typically employ vast quantities of data about the condition of infrastructure assets and their vulnerability to events like extreme weather, earthquakes, and other natural disasters, as well as

degradation due to age and lack of maintenance. Collecting this data involves not only reviewing maintenance records, but also performing surveys, integrating historical weather and geological data, and environmental data. While challenging and complex to build, quantitative risk frameworks are best practice for any industry that needs to predict and prevent risk — especially the utility industry.

CASE STUDY



SECURING OVER 90% OF A \$100M+ GAS PROGRAM REQUEST

A recent gas program within a rate case demonstrates how this approach creates tangible outcomes. Exponent began with a health assessment/gap analysis of the corrosion control program to identify where there was room for improvement in the current state of the program. The work compared the utility's internal standards and procedures to regulatory requirements, industry best practices, and the practices of other utilities. Once the gap analysis was completed, recommendations were provided on how to address specific issues. By using this approach, the utility was able to provide technical justification for the creation and/or expansion of sub-programs, ultimately justifying a funding increase from ~\$15 million to over \$100 million annually.

Our team took the lead role in preparing individual detailed workpapers and financial justifications for each of the sub-programs (such as atmospheric corrosion inspections, AC and DC interference, site-specific internal corrosion plans, casings mitigation, and enhanced cathodic protection monitoring), then distilled them into clear testimony. The workpapers and testimony provided both the technical justification and costs for the effort forecasting for a three-year period. After the filing of the testimony and workpapers, we supported the utility with dozens of data requests from intervenors (as the chapter was heavily scrutinized because of the large increase in forecast) that were focused on effectiveness of the programs, potential past imprudence (deferred work arguments), and the underlying development of the costs. Exponent was able to strategically leverage our experience and regulatory knowledge of past decisions and interpretations to support the utility's past practices and the need for the programs moving forward. Much of the strategic knowledge was leveraged in the rebuttal to the intervenor's testimonies, preparation of the witness, and in the development of the opening and reply briefs.

The result: Regulators approved more than 90% of the requested funding, affirming both the utility's strategy and the defensibility of the case. This outcome illustrates how technical rigor, combined with strategic regulatory process support, directly drives success.

Unlike qualitative approaches, these models allow utilities to measure the probability and consequence of asset failure, translating risk into decision-ready guidance for asset replacement, funding requests, and mitigation priorities.

These frameworks can help utilities map hazards against asset conditions and potential failure outcomes, providing a documented history of plans to dedicate capital funds where they will make the most difference. Regulatory agencies and intervenors are increasingly interested in substantiating the forecasted needs with their cost-benefit ratios (CBRs). Through these assessments, utilities can better show how preemptive asset repair/improvement can prevent potentially disastrous power outages that may cost much more to mitigate reactively than small proactive rate increases. These frameworks also improve operations while simultaneously strengthening regulatory filings by providing quantitative evidence that planned investments are the most cost-effective pathway to reducing safety and reliability risks.

CLIMATE CHANGE, RISK, AND LONG-TERM JUSTIFICATION

The role of climate change in asset risk management is impossible to ignore. From wildfire risk in California to storm resilience in the Midwest, utilities are under pressure to forecast climate-driven asset degradation and justify investments to regulators.

Climate vulnerability assessments enable utilities to quantify how climate conditions will impact long-term safety and reliability. These insights can guide internal investment decisions and provide regulators with assurance that a utility is proactively managing systemic risk.

Across rate cases, certain themes consistently drive approval:

- **Detailed Justification** – Generalities weaken filings, technical and financial detail wins confidence.

- **Cost-Effectiveness** – Regulators demand proof that the selected path is the most prudent among alternatives.
- **Consistency and Coherence** – From work papers to testimony, the narrative must remain uniform across every data request and hearing.
- **Non-Deferred Work** – The utility must be able to demonstrate that the funding requested in the rate case has not been previously approved and deferred.

Avoiding pitfalls such as inconsistent data, overgeneralized projections, or vague justifications has direct consequences on funding outcomes.


LOOKING AHEAD: SHARING LESSONS AND SHAPING THE INDUSTRY

As utilities nationwide grapple with climate risk, aging infrastructure, and evolving regulatory requirements, bottom-up, technically integrated models for making rate case requests will become more common.


Regulatory support cannot be detached from technical and financial realities — it must be built on them.

The utility sector is at an inflection point. Regulators are demanding greater rigor, climate change is amplifying risk, and public scrutiny of safety and reliability has never been higher. In this environment, successful regulatory filings require more than polished presentations — they demand evidence built on deep technical analysis, quantitative risk modeling, and strategic regulatory positioning.


By uniting engineering, finance, and regulatory support end-to-end, utilities can build a differentiated approach that not only helps get the best outcome but also strengthens their ability to manage risk, justify investments, and deliver resilient infrastructure for decades to come. **WE**



Yash Bhargava, Ph.D., P.E.
Principal Engineer, Metallurgical & Corrosion Engineering
 Dr. Yash Bhargava has been helping clients with their corrosion, materials science, and metallurgical needs for 17 years. He has extensive experience with utilities in conducting program evaluation and gap analysis, process improvement, regulatory interpretations, data management, direct and root cause analysis, integrity management, corrosion control evaluation, risk and threat evaluation, procedure development, and rate case development.



Merih Tekeste, P.Eng., PMP, MBA
Principal, Construction Consulting
 Merih Tekeste has extensive experience in construction engineering, project and program management, business operations, finance, and regulatory support for major utilities. He has worked for leading companies in Canada and the U.S. on large-scale projects and programs impacting assets in hydroelectric power generation, electric transmission and distribution, natural gas transmission and distribution, and various corporate functions.



Brad James, Ph.D., P.E., FASM
Group Vice President and Principal Engineer, Metallurgical & Corrosion Engineering
 Dr. Brad James has more than 30 years of experience in materials, mechanics, electrochemistry, and risk concepts. He has led investigations in power generation and transmission, oil and gas, transportation, aviation, mining, and fire protection. He is a Fellow of ASM International and has served on the editorial review board of the Journal of Failure Analysis and Prevention.