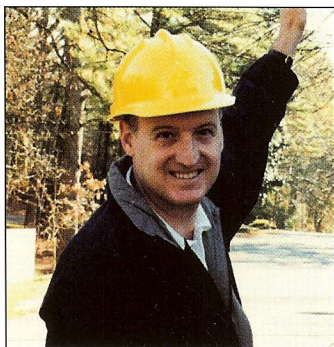




DECISION ANALYSIS HELPS QUANTIFY MAINTENANCE VALUE

By Daniel O'Neill, Vice President, Metzler & Associates



In this era of deregulation and competition, electric utilities are facing a new economic reality: the customer service value of maintenance programs such as vegetation control.

In the past, the spotlight focused on building new generating plants, which left

transmission and distribution (T&D) maintenance out of the limelight. Now, the emphasis is on customer service-related issues like power quality, service interruptions and restoration time.

As a result, many utilities that used to cut back on T&D projects to fund new power plants are now reallocating spending toward preventive maintenance. But this often involves some difficult budgeting problems.

Every utility wants to be more preventive than reactive, but to do so, it must "get ahead of the curve" — it must spend money on increased preventive maintenance before it can reap benefits in terms of fewer repairs. But the same delay that makes it hard to get ahead of the curve makes it easy to fall behind without noticing it, if preventive maintenance budgets are too small or not put to the best use.

Therefore, utilities should undertake a multistep decision analysis program to prioritize and justify maintenance budgets. The method focuses on quantifying the costs and benefits of strategic decisions in programs such as:

- Line clearing
- Lightning protection
- Pole replacement
- Line rehabilitation
- Capacity reinforcement
- Substation maintenance

The results of such a decision analysis provide a straightforward picture of the value of various reliability programs. This approach helps T&D managers in three ways:

- **Decisions based on facts.** It reduces opinion-based arguments like, "I don't think the money we spend on line rehabilitation is as effective as lightning protection." Instead, managers can present a fact-based comment like, "I don't think the failure rate due to deterioration of crossarms and pins is high enough to justify the funding, especially compared to the improvements in outage minutes that can be achieved through the same spending on grounds repair and installing lightning arresters."
- **Determines "bang for buck."** The decision analysis process lets managers focus on how different levels of spending on the various preventive maintenance programs can affect specific outcomes, like reducing customer outage minutes or costs. This lets managers prioritize efforts in order to achieve a desired result, such as a promise to increase reliability by a certain amount.
- **Provides consistency.** For utilities that have multiple regional operations, the decision analysis approach puts all managers on a level playing field. It helps upper management base funding allocation decisions on dollars-and-cents projections of results, rather than on the most eloquent presentation.

Decision analysis helps utilities direct scarce resources toward those projects that will be most effective in avoiding costs and improving customer service. 🌟

Daniel O'Neill, vice president of Metzler & Associates, a management consulting firm specializing in the utility and energy industries, has worked with utility clients to plan future maintenance budgets based on hard-number estimates of reducing outages and repair costs.