

9 Technology-Based Business Planning Information and Services (TAG)

Program Overview

Program Description

This program focuses on ongoing research and development. It delivers time-critical, technology-based business planning information, tools, and services that help planners, technologists, engineers, marketers, and financiers optimize capital investments in generation, storage, and transmission and distribution infrastructure. Tools offered through this program include cost and performance reports and analysis, such as the current escalation of costs involved in building new power plants; customizable software; technology planning case studies; and the EPRI Technical Assessment Guide (TAG®). The TAG® encompasses 19 technologies—all major fossil and nuclear plant types, several energy storage options, small-scale generation, renewable resources, and transmission and distribution facilities—used by strategic planners to meet the demands of operating in a competitive marketplace.

Industry Needs and Issues Addressed

Faced with an aging infrastructure, increasing demand, a competitive and increasingly complex marketplace, and changing regulatory environment, the electric industry needs a variety of resources.

They include:

- Comprehensive information on and analyses of current and future escalating costs to build new power generation units
- Consistent, credible, up-to-date data on and analyses of technology trends, performance and cost (capital and O&M) of conventional and emerging electricity technologies
- Consistent methodologies for comparing technology costs and performance, and for determining the implications of a mix of technologies in a system
- Analysis of market impacts on technology procurement and implementation
- Methods for technology screening in system- and market-oriented approaches
- Collaborative and customized tools and information for short- and long-term planning

Impact

- As a source of benchmark data, information, and analysis, TAG® saved utility staff time and consultant costs, and facilitated positive interaction with regulatory agencies. Benefit-cost ratios of 5-to-1 and as much as 10-to-1 have been reported.
- Proven cost and performance data and evaluation tools help members make key decisions on technology choices, and facilitate integrated resource planning and interaction with regulatory agencies.

Key Accomplishments

- Recognized in the electricity industry as the authoritative source for up-to-date information on power generation and storage technologies and market trends
- Provided information well-accepted by regulators
- Recognized by industry leaders for innovative approach to ongoing research to keep up with technology and market trends
- Methodology adapted by international energy and environmental consortiums and foreign governments
- Provided continuity and consistency in tools and information in a dynamic environment
- Developed “one-stop” information for planning

- Developed individual technology database and system planning software as supplemental projects
- Built well-represented advisory structure to act as a forum to share ideas and concepts

Current Year Objectives

- Year-end TAG® report, plus online information on current technology and market trends
- TAGWeb Internet-accessible technology evaluation customizing software, as supplemental project
- EGEAS system-wide evaluation software, as supplemental project

Industry Involvement

- Estimated 2009 funding: \$0.4M

Program Technical Lead

Gopalachary Ramachandran, 650-855-2722, gramacha@epri.com

Summary of Projects

Project Number	Project Title	Value
P09.001	Power Generation Planning	This project provides the Technical Assessment Guide (TAG®), a report with information on conventional and advanced power generation and storage technologies. The information is critical for capacity planning and addressing related transmission issues. This project also provides the Electric Utility Planning User Group (EUPUG), a forum for planning managers to discuss issues and solutions with peers.

Project Descriptions

P09.001 Power Generation Planning (065783)

Issue

With demand for power and costs for new power generation facilities increasing, energy companies need credible and consistent information on the performance and cost of both conventional and emerging power system technologies. Implementation of capital-intensive and long-asset-life technologies is more important than ever before. Developing and implementing strategic technology solutions requires linking technology plans to business plans, and that requires critical information on the technologies. This includes consistent, credible, up-to-date data on the performance and cost of conventional and emerging electricity technologies.

Description

This program helps energy companies make technology-related investment decisions consistent with their long-term business goals. The program offers a range of tools, from cost and performance reports to customizable software and technology planning case studies, which target current specific issues while staying focused on technology trends. Research in 2008 covers eight different issues, in addition to the annual cost and performance update for as many as 10 power generation and storage technologies. Examples include understanding and clarifying escalations in project costs, an evaluation of dry/hybrid

cooling in response to increasing concerns about water resources, and a review of CO₂ control options. As much or more activity is anticipated in 2009.

Customization of technology evaluation is offered through the TAGWeb software as a supplemental project, and system-wide planning is offered through the EGEAS software.

Program membership includes participation in the Electric Utility Planning User Group (EUPUG) which serves as a forum for planning managers and directors to share ideas and concepts in a peer group.

Value

- Collaborative effort increases efficiency and productivity of staff. Benefits include:
- Up-to-date market and technology-relevant databases, methods, and tools
- Fast responses to current issues
- A well-structured program with results. Cost and performance data and evaluation tools help members make decisions on technology choices and facilitate integrated resource planning and interaction with regulatory agencies.
- TAG[®] is an authoritative source of cost and performance information on advanced and conventional generation, storage, transmission and distribution, and environmental control technologies. The TAG[®] program format and content is annually updated to meet changing industry conditions.
- Technology planning case studies provide information “upstream” of technology information.

How to Apply Results

Project technical reports help members with preliminary technology screening, preliminary project planning, negotiating with vendors, and communicating options for new generation capacity to company upper management and regulatory agencies where applicable. EPRI program staff perform industry issue-specific analyses to enhance application of results.

2009 Products

Product Title & Description	Planned Completion Date	Product Type
Power Generation & Storage Technology Options: This online report provides a comprehensive view of current commercial and near-term (3 to 5 years) emerging generation and storage technology options. By consistently monitoring technology and market trends, this report helps members make better business planning decisions. Potential cost savings of more than \$150,000 are possible through more effective planning of engineering and site studies, vendor negotiations, and benchmark cost comparisons.	12/31/2009	Technical Report
