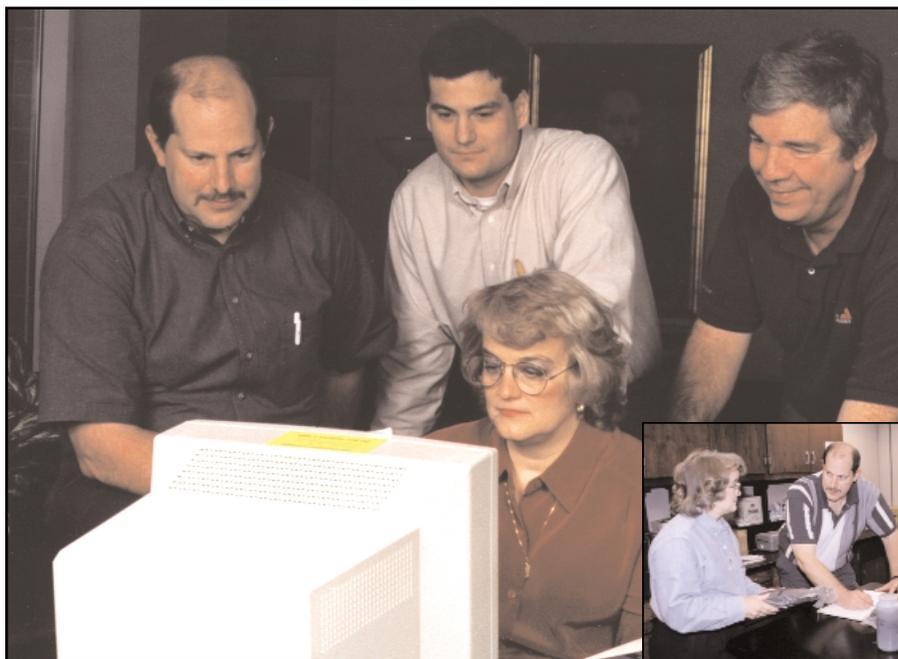


innovators

WITH EPRI TECHNOLOGY

EPRI-Developed Software Streamlines TRI Reporting at 27 Southern Company Facilities

*Groundwater and Combustion By-Products Management Target
Land and Groundwater Business Area*



"We've made the LARK-TRIPP software the basis for Toxic Release Inventory reporting companywide."

- Donna Hill
Southern Company



Benefits

- Southern Company estimates that use of LARK-TRIPP avoided at least four person-years of staff time in 1998 alone, saving \$500,000.
- Of perhaps greater benefit are the unquantifiable savings due to the increased confidence in the accuracy and consistency of the TRI reporting data across all affected Southern facilities.

Challenge

Beginning in 1998, fossil fuel-fired power plants were required to estimate and report their annual mass emissions to the national Toxic Release Inventory (TRI). The TRI is a publicly reported

inventory of emissions to air, water, and land of approximately 640 chemicals and chemical categories that the U.S. Environmental Protection Agency (EPA) designates as "toxic." EPA has estimated that as many as 1000 facilities, representing one-third of the U.S. electric power sector, are affected. With 27 fossil fuel burning facilities required to report TRI data for as many as 25 different chemicals and chemical compound emissions annually, Southern Company faced a significant task.

Response

EPRI was developing a software product called Land Release Estimation and Record Keeping for TRI at Power Plants

(LARK-TRIPP)—a tool using coal ash composition data (*ash basis*) for estimating land releases of various chemicals. To support Title 5 permitting and other state reporting requirements, Southern had been using EPRI's emissions factors handbook (EPRI TR-105611), which uses a *coal basis* method to estimate air toxic emissions from fossil fuel-fired power plants. To ensure consistency in its reporting methods, Southern suggested that EPRI expand LARK-TRIPP's capabilities to include coal basis estimations. EPRI convened a workshop with a number of interested energy companies to determine other potential improvements that could be incorporated into

LARK-TRIPP during its development. Workshop attendees expressed the need for a consistent approach to estimating total sulfuric acid emissions from coal fired plants, as well as a way to estimate releases related to flyash and bottom ash. In response, EPRI incorporated Southern-developed approaches to addressing these two needs into the software and delivered LARK-TRIPP Version 1.0. This software provides an easy-to-use data estimation system from which energy companies can generate TRI data to complete EPA-required Form R. For Southern Company, LARK-TRIPP supports a consistent methodology across 27 power plants. Southern even uses LARK-TRIPP to examine "what-if" scenarios, enabling a plant manager, for example, to estimate the potential impact on emissions of switching coals. In addition, Southern

has combined supporting spreadsheets with LARK-TRIPP to enable TRI reporting for its few oil- and gas-fired units.

EPRI Perspective

All energy companies that operate fossil fuel-fired power plants face challenges in the area of TRI reporting. LARK-TRIPP Version 1.0 provides a streamlined approach in a single simple tool that allows energy companies to focus on data collection, rather than data calculation. By the end of 2000, EPRI's planned LARK-TRIPP upgrade (Version 2.0) will include the following improvements:

- Summary table reporting (e.g., the sum of air, land, and water releases per unit and per facility)
- Threshold and release estimates for oil, gas, and alternative fuel combustion
- Categories for off-site transfer, scrubber waste, and "otherwise use"
- Inclusion of new TRI chemicals and revised thresholds based on the final

PBT rule, as well as threshold and release calculations of organic combustion compounds

- Incorporation of links to import existing TRI databases into LARK-TRIPP
- Linking of LARK-TRIPP's output files to EPA's Automated Form R software

References

- *User's Guide for LARK-TRIPP Version 1.0, A Toxic Release Inventory Estimation Tool for Land Release Estimating and Record Keeping at Power Plants*, EPRI computer code manual, CM-112371, April 1999.

EPRI software is available from the EPSC, (800) 763-3772, and publications are available from the EPRI Distribution Center, (925) 934-4212.

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Interest Categories

- Groundwater and combustion by-products management program

Calculated Benefits of Southern Company's Application

Basis for Benefits

- For 1998 alone, Southern estimates that TRI estimation and reporting without LARK-TRIPP would have required 2 person-months per generating unit. Extrapolating to 27 units, the effort would have required 8640 hours of staff time.

- Using LARK-TRIPP, Southern personnel were able to complete 1998 TRI estimation and reporting companywide in 6 person-months of staff time (960 hours). Hence, LARK-TRIPP avoided 7680 hours of staff time (4 person-years). At an assumed loaded hourly rate of \$65/ hour, the software saved Southern \$500,000 in 1998.