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Columbia Gas and Columbia Gulf Transmission

Natural Gas STAR Case Study Series

Since 1993, Columbia Gulf Transmission and Columbia Gas Transmission have prevented the release of more than 9.7 billion cubic feet (Bcf) of methane valued at more than $19.4 million. These reductions have the same environmental benefit as planting 1.2 million acres of trees or taking 864,695 cars off the road for 1 year. Columbia achieved these remarkable results using a team-based approach integrating the Natural Gas STAR Program into everyday operations.

PARTNER PROFILE

Formerly subsidiaries of Columbia Energy Group, Columbia Gas Transmission and Columbia Gulf Transmission are now part of NiSource Inc. NiSource is a holding company with headquarters in Merrillville, Indiana, whose operating companies engage in virtually all phases of the natural gas business from exploration and production to transmission, storage, and distribution, as well as electric generation, transmission, and distribution. NiSource companies serve a high-growth energy corridor from the Gulf of Mexico to the Midwest to New England.

Columbia Gulf Transmission, based in Houston, Texas, transports about 2.5 Bcf of natural gas per day through its 4,200 miles of pipeline. This pipeline interconnects with virtually every major producer in the Gulf of Mexico. Columbia Gas Transmission, with offices in Charleston, West Virginia, and Fairfax, Virginia, transports 3 Bcf of natural gas per day through its 12,550-mile pipeline network that reaches across 10 Midwestern, Northeastern, and Mid-Atlantic States. Columbia Gas Transmission also operates one of the nation's largest natural gas storage systems (239 Bcf of working capacity). Together, these two companies operate more than 16,000 miles of transmission pipeline connecting U.S. natural gas production in the Gulf of Mexico to premium markets extending from Lake Erie, New York to the Eastern Seaboard. Total peak-day gas throughput capacity for Columbia's transmission pipelines is about 7.4 Bcf per day.

Making a Case to Join Natural Gas STAR

For companies skeptical about joining Gas STAR, Columbia suggests they start by asking employees about methane emission reduction activities. Columbia Gulf Transmission and Columbia Gas Transmission carefully assessed the Gas STAR Program before joining. Both companies wanted to make sure that participation made sense for them and that they could follow through with energetic, innovative performance. By talking to employees about reducing methane emissions, Columbia discovered that more people than expected had valuable contributions to make to the program. Columbia also found that several Natural Gas STAR activities were standard practices.

To further assess whether the Gas STAR Program was compatible with existing business practices, the companies created a Natural Gas STAR Steering Team. The Steering Team was composed of representatives from key groups accross the organization which included:

- Senior management
- Field staff
- Environmental health and safety management
- Strategic Initiatives group
- Government relations
- Public relations
- Technical support

The Steering Team's major considerations were whether the Gas STAR partnership made good business sense for Columbia's pipelines and if the partnership could have a positive environmental impact. Other serious considerations were the costs of implementing the program and the level of program participation to which the pipelines could commit. Neither company wanted to join to simply add its name to a list of supporters. If they joined, the companies were determined to have a meaningful, exemplary program.

Catherine Abbott, President and CEO of Columbia Gas Transmission and CEO of Columbia Gulf Transmission, signed the Natural Gas STAR Memorandum of Understanding with EPA on September 27, 1999, committing both companies to full Gas STAR partnership. The companies immediately began implementing their program and compiling emission reduction data. This flurry of activity culminated in the submission of the transmission companies' first annual report on March 8, 2000. This report cataloged methane emission reduction measures dating back to 1993.

Taking time at the outset to form the Steering Team and organize the program management structure has made daily program operation and expansion easier. Having team representatives from all levels of the company (i.e., senior managers, middle managers, field managers, and staff) facilitates decision-making. Since representatives from all sections of both transmission companies are involved in program decisions, multiple levels of review and sign off are unnecessary. In addition, with the Steering Team serving as the focal point for the program, employee participation is simplified. Employees know that if they identify an innovative emission reduction opportunity, sending a simple e-mail to a Steering Team member starts the ball rolling.

First Steps—Education and Enthusiasm

Members of the Steering Team began by contacting field managers and technicians to assess and catalog methane emission reduction opportunities company-wide. The portfolio of opportunities identified through this process served as the platform from which the group operated. Steering Team members conducted phone conversations and interviews with key staff, visited numerous field operation sites, and reviewed historical documentation (e.g., workplans, handbooks, and reports) to gather information about methane reduction opportunities. This was also the team's chance to promote participation and enthusiasm for the program. It was important to educate employees about the connections between methane emissions and climate change. People appreciated that they could make a difference and have a positive impact on a global environmental issue.

The field technicians and managers were in the best position to identify reduction opportunities and implement such measures. The Steering Team has tried to expand these groups' capabilities through technical training like Gas STAR-sponsored workshops. Steve Wilner, Vice President of Environmental Health and Safety, thinks one of the most valuable aspects of sending employees to these workshops is the information sharing that occurs. "Employees have told me about all kinds of innovative techniques and practices they learned about through presentations and casual conversations at these workshops."

Building the Portfolio of Opportunities

Through conversations, surveys, site visits, and onsite meetings with field personnel, individual best management practices (BMPs) and partner reported opportunities (PROs) were identified. The Steering Team members worked closely with the field experts to determine what emission reduction activities were currently in place and to establish methods for calculating the reductions. They used EPA's emission factors as a guide, but used real data whenever possible to get the most accurate estimate of emission reductions. One key

COLUMBIA'S KEYS TO SUCCESS

- **Integration is the key.** Integrating your Gas STAR program into existing practices and programs promotes participation and gives Gas STAR instant credibility. By making methane emission reduction an integral part of each employee's everyday responsibilities the program can grow quickly.
- **Team approach.** Creating a leadership team composed of employees from all levels and all divisions ensures company-wide buy-in. Including decision-makers from all divisions can make the decision-making process easier and more rapid.
- **Planning is important.** Carefully considering up front the program's ultimate goals and how it fits into the existing corporate structure and lays necessary groundwork for proper integration and implementation.
- **Measure it.** Setting goals and objectives, measuring them, and following through to maintain and increase momentum is essential. Devising metrics to measure and report your reductions and savings, or better yet, incorporating measurement into existing reporting and measuring systems streamlines data collection. Using real numbers wherever possible provides more accurate estimates.

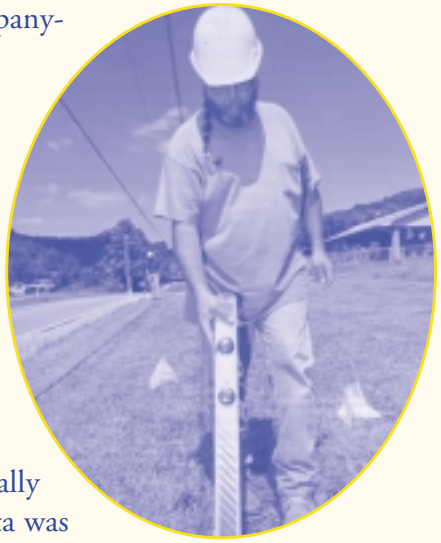
to Columbia's success is the use of outside references like Gas Technology Institute operating handbooks, and consultants to verify internal assumptions and estimates. Measuring and calculating actual methane emission reductions is a continuing challenge for Columbia's transmission companies, but identifying solutions is easier with their team approach.

Integrating with Existing Infrastructure

The companies' overall approach to implementing their Gas STAR Program was to integrate it into existing programs and operational infrastructure to the greatest extent possible. The Steering Team worked to promote an understanding of the importance of methane emission reductions in daily operations to all employees.

An example of this approach was the integration of the Gas STAR Program into Columbia's Environmental Excellence Program. The primary goal of the Environmental Excellence program is to "promote best practices and innovative ideas that protect the environment and bring benefit to the company." In place since 1996, the program has saved more than $7.1 million and has generated more than 100 new ideas. All employees have access to the on-line database of ideas and suggestions, and employees who submit ideas to the program are recognized and rewarded. In 1999, several of the Natural Gas STAR PROs were a product of the Environmental Excellence program. The Steering Team plans to submit more BMPs and PROs for consideration in 2000. Columbia believes that integrating Gas STAR into established and highly regarded programs not only encouraged employee involvement, but also gave Gas STAR instant credibility with employees.

Gas STAR data collection presented another opportunity for program integration. Gathering the necessary data to complete the annual report presented the pipelines with their greatest challenge during their first year as a partner. Although numerous methane emission reduction measures were being implemented company-wide, neither Columbia Gulf Transmission nor Columbia Gas Transmission had a centralized system for gathering emission reduction data. The process of contacting station managers individually to compile this data was time-consuming. In an effort to streamline this process for future reporting, both companies developed a centralized database to collect and track the raw data necessary for calculating emission reductions. Once the database was functional, Columbia's pipelines fully integrated it into their existing internal environmental data collection system. The existing system was primarily created to track Clean Air Act permitting and reporting information but was easily upgraded to incorporate methane emission reduction reporting. Although this took considerably more up-front time and resources, it established a streamlined system for future reporting that will reduce administrative costs in the future. By incorporating methane emission reduction reporting into the existing system, Columbia's pipelines made Gas STAR an integrated part of daily operations, simplifying subsequent reporting efforts.



Integration into its internal environmental audit program is yet another example of how Columbia Gulf Transmission and Columbia Gas Transmission have strengthened and promoted Gas STAR Program participation company-wide. Originally designed to ensure compliance with regulations and company policies, the auditing program broadened its scope to include information about BMPs and PROs. Today, auditors also question how certain methane reduction practices are being implemented at a site and make recommendations to help field operators assess the cost-effectiveness of implementation.

Gaining and Maintaining Momentum

To help create and maintain program momentum, Columbia's pipeline companies published numerous articles concerning its newly formed Gas STAR Program in weekly and quarterly internal newsletters. The articles covered events and efforts related to designing and implementing the program, such as when the companies became a Gas STAR Partner, when the Steering Team solicited ideas and input from field workers, when field visits were made, and when employees attended workshops or conferences. The goal of the initial articles was to introduce the program and build awareness company-wide. The ensuing articles kept the program in the forefront of employees' minds and maintained the momentum.

After the first annual report was submitted, Columbia Transmission Natural Gas STAR golf shirts were sent to more than 70 employees who assisted in compiling data for the report. The Steering Team believed that the shirts would prompt inquiries and discussions among field staff at company functions and workshops and promote information sharing among different facilities. The team also felt that the shirts would serve as an inspiration and create healthy competition that would further promote the program. Ultimately, they believed that this effort would generate increased interest and expand participation and reporting in the future. So far, the shirts have been well received by the employees and have realized the Steering Team's objective of promoting the program internally.

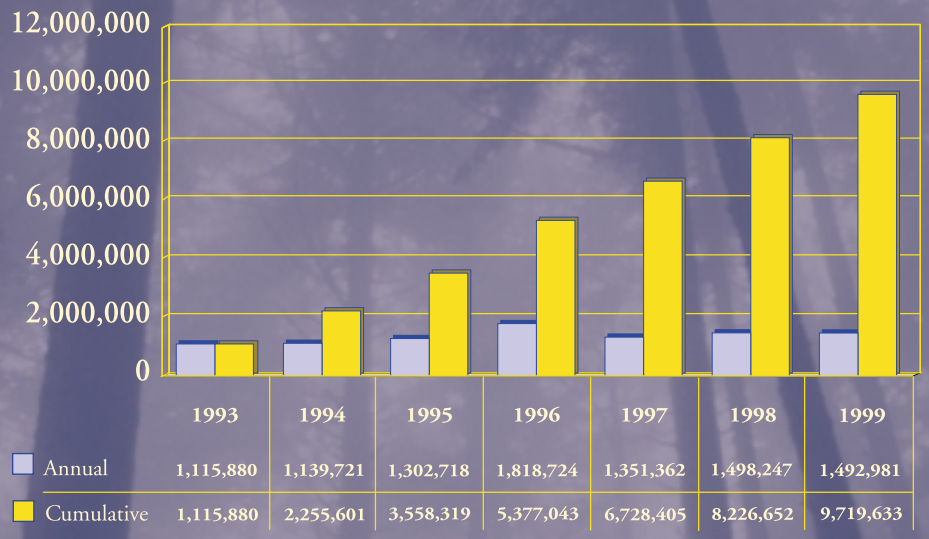
Another eventual goal is including Gas STAR annual and cumulative emission reductions, as well as Environmental Excellence Program winners, in Columbia Energy Group's annual report to investors and customers. Columbia's pipelines believe sharing their environmental programs with the public, including potential investors, will further illustrate the companies' commitment to be environmentally conscious and responsible organizations. It will also demonstrate to employees how important and serious these efforts are to the company.

> "We're convinced that proactive environmental responsibility is good business. Efforts to reduce our methane emissions often improve the operating efficiency of the pipelines, and that leads to financial reward."
>
> *Steve Wilner*
> *Vice President,*
> *Environmental Health and Safety*

Although Columbia Gulf Transmission and Columbia Gas Transmission have only been partners since 1999, their actions clearly show how committed they are to serious long-term methane emission reductions. Integrating Gas STAR into their Environmental Excellence Program, data collection and reporting system, and everyday operations ensures that the companies' remarkable methane emissions reductions will continue to grow. The use of newsletter articles, onsite visits, the Environmental Excellence Program, and other program promotional materials ensure that methane emission reductions remain in the forefront of every employee's mind.

COLUMBIA GULF AND COLUMBIA GAS TRANSMISSION'S GAS STAR PROGRAM ACHIEVEMENTS

Annual and Cumulative Emission Reductions (Mcf)



	1993	1994	1995	1996	1997	1998	1999
Annual	1,115,880	1,139,721	1,302,718	1,818,724	1,351,362	1,498,247	1,492,981
Cumulative	1,115,880	2,255,601	3,558,319	5,377,043	6,728,405	8,226,652	9,719,633

Columbia Gulf Transmission and Columbia Gas Transmission have averaged more than 1.3 Bcf annual emission reductions since 1993.

These methane emission reductions have saved both companies a combined average of more than $2.7 million annually.

Columbia's Cumulative Emission Reduction Savings