Enhancing Electric Reliability, Improving Customer Service
Enhancing Electric Reliability, Improving Customer Service

Reliable electric networks are essential to making sure customers get the service they deserve. Reliability, therefore, is one of National Grid’s top priorities – a commitment we have backed up with significant financial and human resources.

With dependence on electricity increasing, driven by growing demands for PCs, televisions, microwave ovens and other appliances, we know residential and industrial customers are more inconvenienced than ever by interruptions in service. As expectations intensify, the need to address customers’ demands for reliable electric service at a fair price has never been greater.

Like many providers across the country, we face reliability challenges as we contend with increasingly intense and unpredictable weather conditions, aging distribution equipment, and other factors. But we are determined to address them proactively to improve reliability and enhance customer satisfaction.

National Grid is making major investments in its infrastructure, to be sure that customers receive reliable electric service for their energy dollar. We are proud of our success and we will continue to upgrade our system.

“This critical investment will enable us to enhance reliable service to customers and prepare our system to meet the needs of our region and communities as we get further into the 21st century.”

Cheryl LaFleur, Acting CEO

In the US, we expect to spend more than $3 billion over five years on our system to strengthen reliability. We’ve taken a hard look at our reliability performance and assessed major causes of service interruptions. Then we made a bold commitment to upgrade our transmission and distribution infrastructure and transform the way our company delivers electricity to its customers.
Measuring – and Improving – Reliability
Before addressing the specifics of our reliability program, it’s important to understand what exactly constitutes reliable electric service. Utilities use three basic metrics to measure reliability:

- **SAIFI** – System Average Interruption Frequency Index, the number of times the average customer is without power during the year.
- **SAIDI** – System Average Interruption Duration Index, the time the average customer is without power each year.
- **CAIDI** – Customer Interruption Duration Index, the average amount of time customers are without power when they have a service interruption. We consider CAIDI a key indicator of customer satisfaction and are determined to reduce customer “downtime.”

Assessing our reliability performance for 2006, we found that the average National Grid customer experienced a single power interruption lasting about 2 hours, excluding major storms. While that figure is below our expectations, 2006 studies show that we are performing better than many of our industry peers when it comes to providing reliable electric service.

Identifying Causes of Interruptions – and Taking Action
Several factors contribute to service interruptions. Among the most common are trees, animals and deteriorating equipment. These, in fact, constitute 50 percent of all our interruptions. Other issues include adverse weather and lightning, which account for a combined 10%.

To reduce the frequency and duration of service interruptions, National Grid is investing in substantial infrastructure improvements – updating and replacing equipment, strengthening transmission and distribution lines – and aggressively managing trees and other vegetation that cause problems.

Our Augmented Clearance of Trees (ACT) Project is a major multi-year tree management program in New England that identifies poorly performing power lines with chronic tree issues. These include dead, dying or diseased trees, which are identified, then reviewed with community arborists in a public forum and removed at National Grid’s expense.

In New York, where increased lightning strikes and more frequent and intense weather result in trees bringing down electricity wires and poles, we have a similar program to actively remove tree branches that hang over power lines and to remove trees that are next to our lines and pose a risk to reliability.

For the 2006-07 fiscal year, crews completed more than 22,000 removals and pruned more than 10,000 trees to improve reliability and remove hazardous conditions.

National Grid’s comprehensive reliability plan addresses common causes of outages.
Investing Heavily in Reliability Improvement

Those successes are the result of National Grid’s strategic — and growing — investment in upgrading our transmission and distribution infrastructure. Moreover, we have made major investments to add, upgrade or replace older equipment, and taken measures to help minimize damage to our infrastructure from lightning and animals. These steps are in addition to such ongoing actions as inspection and maintenance.

In the first year of our five-year plan we have:

- Inspected and upgraded more than 1,300 miles of major electric distribution lines, replacing fuses, poles, transformers and related equipment. Animal guards and lightning protection devices were also installed.
- Replaced approximately 45,000 cutouts, or line fuses, that isolate portions of a line experiencing an outage and prevent the outage from affecting a larger customer group.
- Replaced more than 7,000 insulators, more than 9,000 transformers, and more than 18,000 wood poles.
- Installed more than 4,000 animal guards and more than 1,300 lightning arresters.

At National Grid, we are taking a focused and proactive approach to asset management across our business. That includes:

- A targeted inspection program to identify the areas that require reliability enhancement;
- A coordinated system-wide program for replacing equipment, cables, cross-arms and poles; and
- An advanced approach to vegetation management that will not only help avoid service interruptions, but will also greatly improve performance during storms.

Through our reliability program, we’ll focus on preventing service interruptions and getting the lights back on as quickly as possible when the interruptions do occur. We will continue to improve reliability throughout our service territory. That is our commitment to our customers, our regulators and the communities we serve.