

## North Appleton-Morgan at a glance

**Voltage:** 345 kV and 138 kV

**Length:** About 45 miles

**Estimated cost:** \$327 million

**Southern end point:** North Appleton Substation, French Road, Town of Freedom, Outagamie County

**Northern end point:** Morgan Substation, CCC Road, Town of Morgan Oconto County

**Typical pole type:** Side-by-side single-circuit steel monopoles

**Typical pole height:** 85 feet for 138 kV and 120 feet for 345 kV

**Typical span length:** Between 600 and 800 feet

## Project schedule

Property owner notifications ..... June 2015

Begin easement negotiations..... Late 2015

Start construction ..... July 2016

In-service date.....Second quarter 2019



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### Who is ATC?

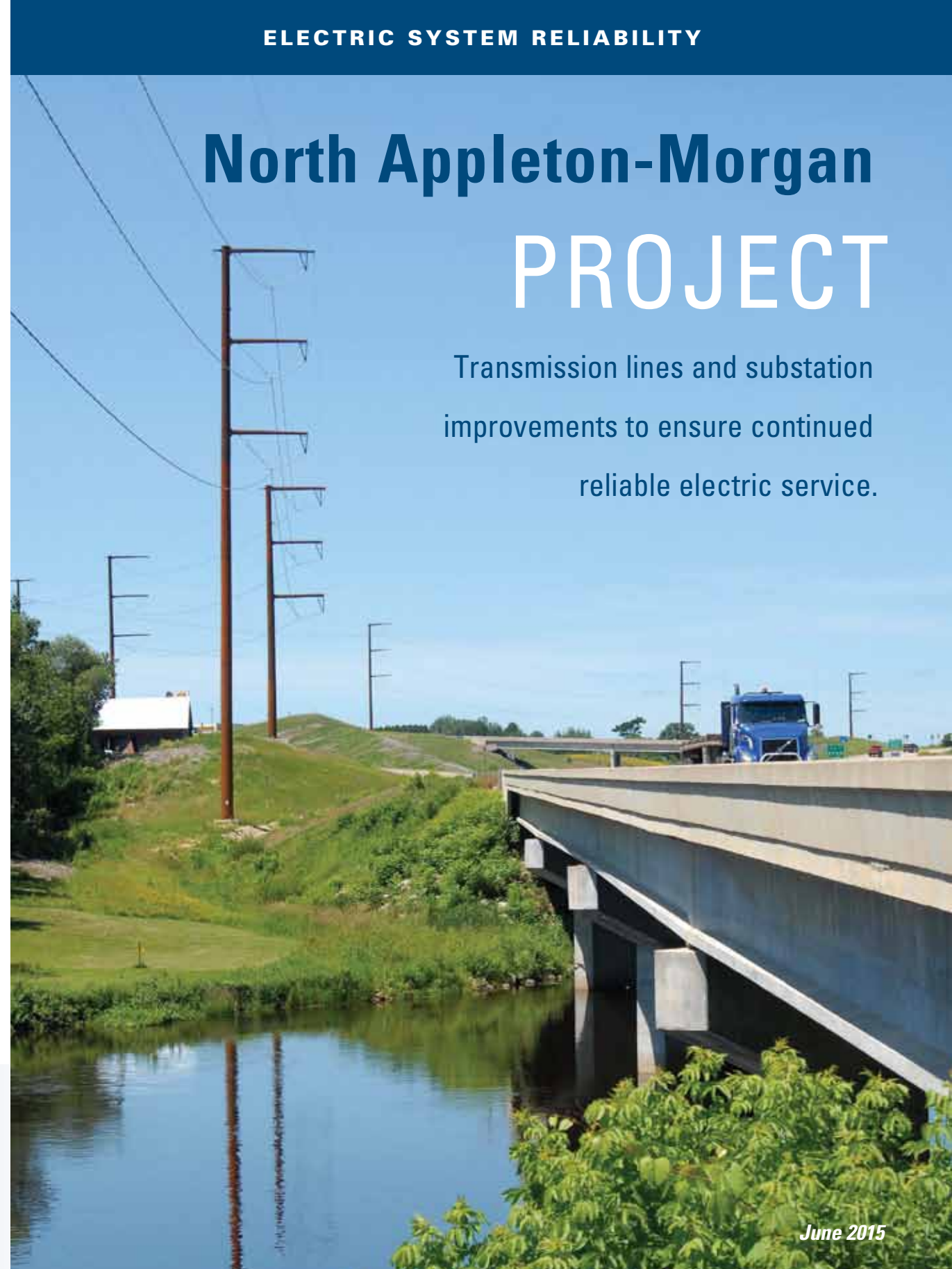
ATC is a transmission-only utility that owns, operates, builds and maintains transmission facilities in portions of the Upper Midwest. Everything ATC does is focused on ensuring the reliable operation of the electric transmission system. For more information about ATC and the North Appleton-Morgan Project, please visit [www.BayLakeProject.com](http://www.BayLakeProject.com).



ATC is a proud participant of Wisconsin's Green Tier program.

# North Appleton-Morgan PROJECT

Transmission lines and substation improvements to ensure continued reliable electric service.



June 2015

Helping to **keep the lights on,** businesses running and communities strong®

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# PSC approves North Appleton-Morgan transmission lines

## Identifies route through Outagamie, Shawano, Brown and Oconto counties

After three years of public involvement and regulatory review, the Public Service Commission of Wisconsin approved two transmission lines as part of American Transmission Co.'s Bay Lake Project. A 138,000-volt and a 345,000-volt line will run between ATC's North Appleton Substation in the Town of Freedom in Outagamie County and the Morgan Substation in Oconto County. The route selected is about 45 miles long.

**"We value the input of those who participated in the process. Information and feedback from local residents was critical in helping us understand the challenges and opportunities we faced in developing this project."**

— David Hovde, senior local relations representative

"The new transmission lines and associated substation facilities will strengthen the electric transmission grid in northeastern Wisconsin," said David Hovde, senior local relations representative for ATC. "We appreciate the effort and patience

of landowners, local officials and others over the last few years to develop a project that will help us maintain a reliable electric grid in the region."

Initially announced in 2012 as part of a package of projects to reinforce the transmission network in northern Wisconsin and the Upper Peninsula of Michigan, the North Appleton-Morgan project includes:

- A new 138-kV line and a new 345-kV line between the North Appleton Substation on French Road in the Town of Freedom in Outagamie County and the Morgan Substation in Oconto County,
- Expanded facilities at North Appleton and Morgan substations,
- A new Benson Lake Substation at the site of the Amberg Substation in Marinette County to accommodate a large voltage-control device and
- Additional work at 11 substations in northern Wisconsin and Michigan's Upper Peninsula.

ATC met with about 5,000 landowners, business representatives, elected officials and others at a series of open houses between 2012 and 2013 to identify potential route alternatives and substation locations. An application that identified 16 potential route options was submitted to the PSC in May 2014. PSC staff published an environmental impact statement in late 2014 and conducted public and technical hearings in January and February 2015.

"Siting electric infrastructure is never easy," Hovde said. "We value the input of those who participated in the process. Information and feedback from local residents was critical in helping us understand the challenges and opportunities we faced in developing this project."



While construction won't begin until 2016, some activities, including surveying and soil boring, will occur later this year.

## Frequently asked questions

### Why are these two lines being built on separate structures?

One of the primary needs for this project is to avoid outages that occur when two lines (a double-circuit) are carried on the same structure. A lightning strike that occurred on a double-circuit line during a maintenance outage of another line caused a widespread outage north of Green Bay in 2011, prompting a review of our transmission facilities in the region. By building these two lines on separate structures, we reduce the risk that an outage on one of these lines would adversely affect the second line, thus increasing reliability for northeastern Wisconsin. Reliability standards allow double circuits if the system can reliably deliver power during an outage. If not, the risk of outages is addressed by limiting the combined line lengths of double-circuit sections to less than a mile. The North Appleton-Morgan lines may be constructed in a double-circuit configuration in some limited locations.

### What will the structures look like?

Single-circuit, self-supporting steel monopoles will be the most commonly used structures for both the 345- and 138-kV lines. The typical height will be 85 feet on the 138-kV line and 120 feet on the 345-kV lines.



138-kV structure



345-kV structure

### What is involved in building the lines?

Construction isn't scheduled to begin until 2016, but preliminary activities, including a helicopter flyover, surveying and soil boring, will take place this year. It is our intent to host pre-construction open houses in late spring 2016. Once construction is underway, activities will include surveying and staking, right-of-way clearing, foundation installation, pole installation, wire stringing, wire stringing, clean up and right-of-way restoration.

### Why does the entire right-of-way need to be cleared for construction?

Clearing the right-of-way from edge to edge is necessary to allow the safe movement of construction equipment and crews. After construction, the corridor will be repaired, graded and, where applicable, restored with appropriate vegetation. Proper restoration is necessary to prevent erosion and the spread of invasive species, as well as to preserve access to the transmission line for maintenance.

