Agricultural Impact Statement

Wisconsin Department of Agriculture, Trade and Consumer Protection

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## Acronyms

<table>
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<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEA</td>
<td>Agricultural Enterprise Area</td>
</tr>
<tr>
<td>AIS</td>
<td>Agricultural Impact Statement</td>
</tr>
<tr>
<td>ATC</td>
<td>American Transmission Company LLC</td>
</tr>
<tr>
<td>DATCP</td>
<td>Department of Agriculture, Trade, and Consumer Protection</td>
</tr>
<tr>
<td>FPP</td>
<td>Farmland Preservation Program</td>
</tr>
<tr>
<td>kV</td>
<td>Kilo Volt</td>
</tr>
<tr>
<td>NEV</td>
<td>Neutral-to-Earth Voltage</td>
</tr>
<tr>
<td>NRCS</td>
<td>Natural Resources Conservation Service</td>
</tr>
<tr>
<td>PSC</td>
<td>Public Service Commission of Wisconsin</td>
</tr>
<tr>
<td>REPS</td>
<td>Rural Electrical Power Service</td>
</tr>
<tr>
<td>ROW</td>
<td>Right-of-Way</td>
</tr>
<tr>
<td>USDA</td>
<td>U.S. Department of Agriculture</td>
</tr>
</tbody>
</table>
1. Introduction

The Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) has prepared this agricultural impact statement (AIS) in accordance with §32.035, Wisconsin Statutes. DATCP is required to prepare an AIS when the actual or potential exercise of eminent domain powers involves an acquisition of interest in more than 5 acres of land from any farm operation. The term farm operation includes all owned and rented parcels of land, buildings, equipment, livestock, and personnel used by an individual, partnership, or corporation under single management to produce agricultural commodities. DATCP may choose to prepare an AIS if an acquisition of 5 or fewer acres will have a significant impact on a farm operation. Significant impacts could include the acquisition of buildings, the acquisition of land used to grow high-value crops, or the severance of land.

The AIS is an informational and advisory document that describes and analyzes the potential effects of the proposed project on farm operations and agricultural resources. The AIS reflects the general objectives of DATCP in its recognition of the importance of conserving important agricultural resources and maintaining a healthy rural economy. DATCP is not involved in determining whether or not eminent domain powers will be used or the amount of compensation to be paid for the acquisition of any property.

DATCP should be notified of such projects regardless of whether the proposing agency intends to use its condemnation authority in the acquisition of project lands. The proposing agency may not negotiate with or make a jurisdictional offer to a landowner until 30 days after the AIS is published. Please see Appendix I for the Wisconsin Statute regarding AISs.
2. Description of the Project

Project Description, Location, and Existing Facilities

American Transmission Company LLC (ATC) is proposing to construct a new substation in section 9 of the town of Franklin (T20N-R22E) in Manitowoc County. The proposed substation will interconnect with two existing 345 kilovolt (kV) transmission lines: Circuit 111 (Point Beach-Sheboygan Energy Center) and Circuit 121 (Point Beach-Forest Junction). ATC has identified two potential sites for the substation (Figure 1).

Each proposed substation site is immediately adjacent to the existing Circuit 121 transmission line right-of-way (ROW). Regardless of which site is chosen, two existing circuit lines, Circuit 121 and Circuit 111 will be split and routed through the new substation. Circuit 121 will be split, creating Circuit 121E (Point Beach-Branch River) and Circuit 121W (Branch River-Forest Junction). Circuit 111, which is approximately 1 mile south of the proposed substation sites, will also be split, creating Circuit 111E (Point Beach-Branch River) and Circuit 111S (Branch River-Sheboygan Energy Center). Splitting the lines will facilitate connections within substation facilities. Circuits 111E and 111S will be routed to the proposed substation primarily as a double-circuit line within existing transmission line ROW on existing structures presently occupied by the 138 kV circuit 971K51 (Forest Junction-Howards Grove).

ATC has indicated that the project would strengthen ATC’s transmission system and increase operational flexibility in eastern Wisconsin. ATC further states that this improved flexibility will remove operating restrictions on the Point Beach Nuclear Plant generating units that are currently necessary to ensure reliable operation of the transmission system. The proposed project will ensure that the full capacity of this economical generating source is available to Wisconsin customers under a wider range of operating conditions. Currently, power output is limited at the Point Beach generating units to prevent generator instability that could be caused by transmission system outages and system faults. According to ATC, the addition of the proposed substation will allow ATC to improve the level of service it provides to the Point Beach generators and improve the reliability of power delivery to its customers.
Figure 1. Project Location Map
Project Alternatives

ATC has identified two alternative sites for the proposed substation (Figure 1). They are both located in the southwest quarter of section 9 of the town of Franklin (T20N-R22E) and adjacent to the east side of Menchalville Road.

South Site: The south site is located on 40 acres of land northeast of the intersection of Polifka Road and Menchalville Road. Daryl and Karen O’Hearn own it. Due to the configuration of the substation and transmission line as well as a planned water detention pond, ATC does not anticipate leasing any of this parcel back for farming if this site is chosen.

North Site: The north site is located on 33.8 acres of land adjacent to the east side of Menchalville Road and just north of the South Site. Carol Schwan owns this parcel. There are about 5 acres of land on this site that could be leased back for farming if this site is chosen.
3. Agricultural Setting

The information provided in this section is intended to describe the existing agricultural sector of Manitowoc County in general terms. Individual farm operations will be described in Section 4 – Agricultural Impacts.

In a 2011 report, the University of Wisconsin Extension describes agriculture’s contribution to the Manitowoc County economy. Researchers estimated that agriculture provides jobs for 4,871 people in Manitowoc County, which represent 11 percent of the county’s 44,046-member workforce. Agriculture accounts for $1.4 billion in business sales or about 18 percent of Manitowoc County’s total business sales. Every dollar of sales from agricultural products generates an additional $0.11 of business sales in other parts of Manitowoc County’s economy. Agriculture also contributes $276 million to county income, 9 percent of Manitowoc County’s total income. Manitowoc County agriculture pays more than $20 million in taxes. This does not include property taxes for local school districts.

**Agricultural Productivity**

According to the *Annual Wisconsin Agricultural Statistics Bulletin*, in 2013 Manitowoc County ranked fourth out of Wisconsin’s 72 counties in the production of milk and in corn for silage. It ranked sixth in the production of winter wheat and fifteenth in alfalfa hay.

Table 1 displays the amount of harvested acres for selected crops in Manitowoc County from 2009 to 2013. A large decline in the acres of corn for grain harvested was seen in 2013 as well as a large increase in the number of acres of corn for silage harvested. (USDA NASS Annual Wisconsin Agricultural Statistics Bulletin).

<table>
<thead>
<tr>
<th>Crop</th>
<th>Harvested Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009</td>
</tr>
<tr>
<td>Corn for Grain</td>
<td>35,000</td>
</tr>
<tr>
<td>Corn for Silage</td>
<td>32,600</td>
</tr>
<tr>
<td>Soybeans</td>
<td>23,500</td>
</tr>
<tr>
<td>Winter Wheat</td>
<td>17,900</td>
</tr>
<tr>
<td>Alfalfa Hay</td>
<td>33,200</td>
</tr>
</tbody>
</table>

**Land in Farms**

Manitowoc County is classified as an urban county, which is defined as having an average of more than 100 residents per square mile. According to the 2012 *Census of Agriculture*, Manitowoc County has 230,735 acres of land in farms, which represents 60.9 percent of the total land area.
(Figure 2). Land in farms consists primarily of agricultural land used for crops, pasture, or grazing. It also includes woodland and wasteland not actually under cultivation or used for pasture or grazing, providing it was part of the farm operator’s total operation. The average for urban counties is 188,648 acres of land in farms or 56.3 percent of the total county land area. These can be compared to the average of 202,346 acres or 42 percent of land in farms among all Wisconsin counties.

![Figure 2. Percentage of Land in Farms.](image)

According to the 2012 Census of Agriculture, Manitowoc County experienced a loss of 7.1 percent of its land in farms between 2007 and 2012, compared to just a 4.1 percent average loss for the state of Wisconsin as a whole (Table 2).

<table>
<thead>
<tr>
<th>Location</th>
<th>2012 Farmland (Acres)</th>
<th>2007 Farmland (acres)</th>
<th>Change in Acres</th>
<th>Change in Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manitowoc County</td>
<td>230,735</td>
<td>248,238</td>
<td>17,503</td>
<td>-7.1</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>14,568,926</td>
<td>15,190,804</td>
<td>621,878</td>
<td>-4.1</td>
</tr>
</tbody>
</table>

**Number of Farms**

According to the 2012 Census of Agriculture, Manitowoc County saw a 15.2 percent decrease in the number of farms in the county between 2007 and 2012. Wisconsin as a whole had an 11.1 percent loss of farms during the same period. (Table 3).
Table 3. Change in the Number of Farms, 2007 to 2012.

<table>
<thead>
<tr>
<th>Location</th>
<th>Number of Farms (2012)</th>
<th>Number of Farms 2007</th>
<th>Change in the Number of Farms</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manitowoc County</td>
<td>1,224</td>
<td>1,444</td>
<td>-220</td>
<td>-15.2</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>69,754</td>
<td>78,463</td>
<td>-8,709</td>
<td>-11.1</td>
</tr>
</tbody>
</table>

**Size of Farms**

The average size of farms rose 9.9 percent from 2007 to 2012 in Manitowoc County compared to 7.7 percent in Wisconsin as a whole (Table 4; 2012 Census of Agriculture).

Table 4. Change in the Average Size of Farms, 2007 to 2012.

<table>
<thead>
<tr>
<th>Location</th>
<th>2012 Size of Farms (acres)</th>
<th>2007 Size of Farms (acres)</th>
<th>Change in Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manitowoc County</td>
<td>189</td>
<td>172</td>
<td>+17</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>209</td>
<td>194</td>
<td>+15</td>
</tr>
</tbody>
</table>

Manitowoc County has proportionately more farms than Wisconsin that are smaller than 50 acres in size. These operations tend to be specialty crop, organic, and/or hobby farms. Farms that include livestock, like the farms that could be affected by the Branch River Substation project, tend to have more acres so they can grow the needed livestock feed and have adequate space for spreading manure.

Table 5. Percentage of Farms per Size Category in 2012.

<table>
<thead>
<tr>
<th>Location</th>
<th>0 to 49 Acres</th>
<th>50 to 179 Acres</th>
<th>180 to 499 Acres</th>
<th>More than 500 Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manitowoc County</td>
<td>39.1</td>
<td>32.6</td>
<td>20.4</td>
<td>7.9</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>32.1</td>
<td>36.6</td>
<td>22.5</td>
<td>8.8</td>
</tr>
</tbody>
</table>

**Property Taxes and Values**

Assessed values and property taxes are based on the “use value” of agricultural land. *Wisconsin Statutes* §70.32(2)(c)1g. define agricultural land as “land, exclusive of buildings and improvements and the land necessary for their location and convenience, that is devoted primarily to agricultural use.” (Table 6)
Table 6. Farmland Taxes and Value.

<table>
<thead>
<tr>
<th>Location</th>
<th>2013/14 Dollars per Acre of Farmland</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average Tax ($)</td>
</tr>
<tr>
<td>Manitowoc County</td>
<td>3.35</td>
</tr>
<tr>
<td>Urban Counties</td>
<td>3.70</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>3.32</td>
</tr>
</tbody>
</table>

In 2013/14, average property taxes on Manitowoc County agricultural land were 9.5 percent lower than the average for urban counties and 0.9 percent higher than the average for Wisconsin.

The assessed value of farmland in Manitowoc County was 7.5 percent lower than the average for urban counties and 9.4 percent higher than the average for all Wisconsin counties (Wisconsin Department of Revenue).

The average sale price of farmland in Manitowoc County was 1.9 percent higher than the average for urban counties and 44.6 percent higher than the average for all Wisconsin counties (USDA NASS 2014 Wisconsin Agricultural Statistics Bulletin). These values do not include farmland sold and converted to nonfarm use and do not include agricultural land with buildings or improvements.

**Cash Rent on Non-Irrigated Cropland**

Over the last five years, the average cash rent for non-irrigated cropland has increased in both Manitowoc County and in Wisconsin as a whole. However, Manitowoc County has seen a much greater increase.

Table 7. Cash Rents ($) for Non-Irrigated Cropland, 2010 through 2014

<table>
<thead>
<tr>
<th>Location</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>% Change 2010-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manitowoc County</td>
<td>79</td>
<td>89</td>
<td>117</td>
<td>127</td>
<td>148</td>
<td>+87.3</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>87</td>
<td>96</td>
<td>112</td>
<td>120</td>
<td>130</td>
<td>+49.4</td>
</tr>
</tbody>
</table>

**Farmland Preservation**

The Wisconsin Farmland Preservation Program (FPP) provides counties, towns, and landowners with tools to aid in protecting agricultural land for continued agricultural use and to promote activities that support the larger agricultural economy. Through this program, counties adopt state-certified farmland preservation plans, which map areas identified as important for farmland preservation and agricultural development based upon reasonable criteria. The Manitowoc County Farmland Preservation Plan was certified by DATCP in 1981 and recertified in 2005. The plan...
identifies farmland preservation areas in the county and provides tax credit eligibility to farmers who wish to participate in the FPP.

Within FPP, local governments may choose to adopt and have certified an Exclusive Agricultural zoning ordinance to ensure that landowners covered by the ordinance are eligible to claim farmland preservation tax credits among other reasons. The town of Franklin has adopted its own exclusive agricultural zoning ordinance. Under the FPP, landowners can receive $7.50 per acre in tax credits on land zoned for exclusive agricultural use. Both parcels are zoned for exclusive agricultural use. After a parcel is acquired for this project, the former landowner cannot continue to collect tax credits on that farmland parcel.

In the FPP, owners of farmland can petition for designation by the state as an Agricultural Enterprise Area (AEA). This designation highlights the importance of the area for agriculture and further supports local farmland preservation and agricultural development goals. Designation as an AEA also enables eligible landowners to enter into farmland preservation agreements. Through an agreement, a landowner agrees to voluntarily restrict the use of their land for agriculture for fifteen years and to follow the state soil and water conservation standards to protect water quality and soil health. Neither of the two parcels are located in an AEA and neither of them are covered by a FPP agreement.

In addition, the loss of any farmland enrolled in the federal government’s various commodity programs could affect a farmer’s base acreage resulting in lower revenue from these programs.

Soils

Important characteristics for each of the soils identified are listed in Table 8. Additional information regarding the definitions of farmland classes and descriptions of soil capability classes can be found in Appendices II and III.

South Site (40 acres): About half of this parcel is covered by the Kewaunee-Boyer-Nichols complex with 12 to 20 percent slopes and about a quarter is covered by Symco silt loam with 0 to 3 percent slopes. Overall, this parcel consists of approximately 50 percent soils that are not prime, 25 percent prime farmland where drained, 14 percent prime farmland, and 11 percent soils of statewide importance. The prime and prime where drained soils tend to be located in the southeast part of the parcel. Moving north, the slopes become steeper and more susceptible to erosion.

North Site (33.8 acres): The soils on this parcel are almost all from the Kewaunee-Boyer-Nichols complex. With slopes ranging from 6 to 20 percent, erosion is a concern. The South Site consists of over 50 percent farmland that is not prime and 40 percent farmland of statewide importance. The prime farmland on this parcel is located in the very northwest corner.
Figure 3. Soils within Project Area
Table 8. Mapped Soil Units Within the Proposed Project Area.

<table>
<thead>
<tr>
<th>Map Unit Symbol</th>
<th>Soil Name and Slope</th>
<th>Farmland Class</th>
<th>Capability Class</th>
<th>Drainage Class</th>
<th>Permeability</th>
<th>Depth to Water Table (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KpB</td>
<td>Kewaunee-Boyer-Nichols complex with 2 to 6 percent slopes</td>
<td>Prime</td>
<td>2e</td>
<td>Well drained</td>
<td>moderate</td>
<td>60 to 80</td>
</tr>
<tr>
<td>KpD</td>
<td>Kewaunee-Boyer-Nichols complex with 12 to 20 percent slopes</td>
<td>Not prime farmland</td>
<td>IVe</td>
<td>Well drained</td>
<td>low to high</td>
<td>60 to 80</td>
</tr>
<tr>
<td>KpC2</td>
<td>Kewaunee-Boyer-Nichols complex with 6 to 12 percent slopes-eroded</td>
<td>Farmland of statewide importance</td>
<td>IIIe</td>
<td>Well drained</td>
<td>low to high</td>
<td>60 to 80</td>
</tr>
<tr>
<td>SyA</td>
<td>Symco silt loam with 0 to 3 percent slopes</td>
<td>Prime if drained</td>
<td>IIw</td>
<td>Somewhat poorly drained</td>
<td>high</td>
<td>0 to 24</td>
</tr>
<tr>
<td>HrB</td>
<td>Hortonville silt loam with 2 to 6 percent slopes</td>
<td>Prime farmland</td>
<td>IIe</td>
<td>Well drained</td>
<td>high</td>
<td>80</td>
</tr>
<tr>
<td>HrC2</td>
<td>Hortonville silt loam with 6 to 12 percent slopes-eroded</td>
<td>Statewide importance</td>
<td>3e</td>
<td>Well drained</td>
<td>High</td>
<td>More than 80</td>
</tr>
<tr>
<td>HrD2</td>
<td>Hortonville silt loam with 12 to 20 percent slopes-eroded</td>
<td>Not prime</td>
<td>4e</td>
<td>Well drained</td>
<td>high</td>
<td>More than 80</td>
</tr>
<tr>
<td>BrC2</td>
<td>Boyer sandy loam with 6 to 12 percent slopes-eroded</td>
<td>Farmland of statewide importance</td>
<td>IIIe</td>
<td>Well drained</td>
<td>low</td>
<td>80</td>
</tr>
<tr>
<td>Pa</td>
<td>Palms muck with 0 to 2 percent slopes</td>
<td>Farmland of statewide importance</td>
<td>IIIw</td>
<td>Very poorly drained</td>
<td>high</td>
<td>0</td>
</tr>
</tbody>
</table>
4. Agricultural Acquisitions and Potential Impacts on Agriculture

DATCP contacted each of the affected landowners and renters by mail. DATCP requested information about each parcel and any concerns the owners and renters may have about this proposed project and potential impacts on their land. Their responses are summarized below.

**Landowner Comments**

There are two potential sites for the proposed substation. If the project is approved, the Public Service Commission (PSC) will select one of these sites for construction.

**South Site**

**Farmland Owners:** Daryl and Karen O’Hearn  
**Renters:** Robert and Joseph O’Hearn  
**Proposed Acquisition:** Fee-simple acquisition of 40 acres

Daryl and Karen O’Hearn own 370 acres of land consisting of 280 acres of cropland, 70 acres of woodland, 10 acres of wetland, 3 acres for the buildings, 1 acre of pasture, and 6 acres on other use. They rent all of their farmland to their sons, Robert and Joseph O’Hearn. In an average year, they grow 130 acres of corn, 130 acres of hay, and 20 acres of soybeans. They also custom raise 280 head of dairy heifers. If the South Site is selected, the amount of land the O’Hearns own will be reduced to 330 acres.

There is drainage tiling throughout the parcel identified as the South Site. The O’Hearns are concerned that the addition of electrical facilities just ¼ mile away from where they house their livestock could cause stray voltage. The South Site acquisition would not include any buildings and it would not affect access to the remaining O’Hearn property.

The owners and renters of this parcel are strongly opposed to the acquisition of this land for the substation. The renters need all of the existing farmland they have to sustain their operation and they indicated that replacement farmland is very difficult to find in the area. Without this parcel, they may have to purchase feed off the farm to sustain their livestock, which could place financial stress on the operation. Losing this parcel will also reduce their land base on which they can sustainably spread manure.
North Site

Farmland Owner: Carol Schwan
Operators: Jason and Katie Baroun
Proposed Acquisition: Fee-simple acquisition of 33.8 acres

Carol Schwan owns 80 acres, which is all cropland and rented to Jason and Katie Baroun. Although Ms. Schwan did not identify any concerns about the proposed project, if the North Site is chosen for the proposed project, the acquisition would represent just under half of her cropland and would likely have a significant impact on her rental income. No buildings would be included in a North Site acquisition and access to adjacent land would not be affected.

Jason and Katie Baroun indicated that they typically grow corn and hay on this land. In years with adequate rainfall, the Barouns indicated that their average yields on the cropland they rent from Ms. Schwan are 160 bushels of corn per acre and 5 tons of hay per acre. This is higher than the 5-year average yields in Manitowoc County of 152.6 bushels of corn per acre and 3.1 tons of hay per acre. The Barouns also indicated that the price of farmland that comes on the market is skyrocketing now because of the expansion of some of the large dairy operations in the area.

Mr. and Mrs. Baroun are very concerned about the transmission line connection from the existing transmission lines to this substation because those lines will run close to their dairy facility. The Barouns are concerned the lines will cause stray voltage on their operation, that sound from the substation will disturb their livestock, and the location of the substation will be close to homes and other farms.

Loss of Farmland

The acquisition of the South Site would represent a 10.8 percent loss of land to the O’Hearns and the acquisition of the North Site would represent a 42.3 percent loss of land to Carol Schwan.

Drainage

Neither of the proposed substation sites is located in a drainage district, although there is drainage tiling on part of the South Site.

If drainage structures are damaged on the acquired parcel or if the flow of surface water is impaired, this could affect drainage and runoff on adjacent farmland. Proper field drainage is vital to a successful farm operation. Construction can disrupt improvements such as drainage tiling, grassed waterways, ditches, and culverts, which regulate the drainage of farm fields. In addition, construction of impervious surfaces can impede drainage and increase runoff. If drainage is impaired, water can settle in fields and cause substantial damage, such as harming or killing crops and other vegetation, concentrating mineral salts, flooding farm buildings, or causing hoof rot and
other diseases that affect livestock.

Landowners who are concerned that damage to drainage on adjacent land could affect drainage on their land should consult with ATC’s real estate representatives during the easement negotiation process. This would be especially important if drainage tiling on an acquired parcel connects to tiling on adjacent land. Where they are available, any maps showing the location of the drainage tiles should be shared with ATC. ATC should maintain existing drainage patterns as much as possible to avoid damage to adjacent land.

**Stray Voltage**

Stray voltage is defined by the PSC as a natural phenomenon that can be found at low levels between two contact points in an animal confinement area where electricity is used. Electrical systems, including farm-wiring systems and utility distribution systems, must be grounded to the earth according to the electrical safety code to ensure continuous safety and reliability. A small electrical current flows through the earth at each point where the electrical system is grounded, developing a small voltage called neutral-to-earth voltage (NEV).

Stray voltage often goes unnoticed by humans, but can affect cows on dairy farms. Small stray voltage shocks are created when a cow makes contact between an energized point, such as a feeder, and the earth or concrete floor at a different voltage. Dairy cows can show changes in behavior or milk production if a level of stray voltage above a few volts is present, but these behavioral changes alone are not good indicators of the electrical situation. DATCP and the PSC Rural Electrical Power Service (REPS) program suggest that all farms routinely (every year or two) have their electrical systems tested for stray voltage and other electrical safety concerns. Refer to the REPS website at [http://datcp.wi.gov/Farms/Wisconsin_Farm_Center/Farm_Rewiring/Stray_Voltage/index.aspx](http://datcp.wi.gov/Farms/Wisconsin_Farm_Center/Farm_Rewiring/Stray_Voltage/index.aspx) for additional information about stray voltage and on-farm testing for stray voltage.

According to the PSC docket 05-EI-106, the case that defines stray voltage, the response level for stray voltage is 1.0 volt at cow contact from all sources. This level of stray voltage is considered to be below the level at which most cows would react. If an investigation determines that the utility is contributing 0.5 volts or more to the cow contact voltage, the utility will take immediate action to lower its contribution.

Free investigative services are available to landowners who have livestock containment facilities through their electric service provider. Farmers with confined livestock facilities near the proposed power line can request their electricity provider test for stray voltage before the project is constructed and then repeat the test after construction is completed. This will create the documentation to begin to address any problems that may exist or have been created by the project. Additional information is available at the PSC’s Stray Voltage website at [http://psc.wi.gov/utilityInfo/electric/strayVoltage.htm](http://psc.wi.gov/utilityInfo/electric/strayVoltage.htm). DATCP’s Farm Rewiring website
Distribution lines carry lower voltages (12.5 kV or less) than transmission lines and they distribute power to neighborhoods and individual homes and businesses. Although it is not common, there is a possibility that a transmission line paralleling a distribution line may induce a measurable steady voltage or NEV on the distribution neutral.

Induction and its potential impacts can be mitigated through implementation of appropriate design measures and techniques, such as:

- Cancellation – The arrangement of transmission line conductors and shield wires to lower electric and magnetic field levels;
- Separation – Increasing the distance between the transmission line and other conductors or conductive objects. Electric and magnetic field levels decrease rapidly with distance; and,
- Grounding of non-energized conductors or conductive objects.

DATCP recommends that ATC work with landowners concerned about stray voltage to mitigate its effects. DATCP recommends that ATC consult with the landowner to determine if modifications to the location and/or design of the substation can be made to minimize the effects of stray voltage.

DATCP also recommends that ATC assist farms in obtaining NEV testing of their facilities, if the landowners chooses to do so. This testing will measure the amount of cow contact voltage that currently exists on the farm. Once the project is constructed, NEV testing should be performed again to verify that any NEV levels present are below the allowable limits set by the PSC.

**Appraisal Process**

If the project is approved by the PSC, one site will be selected as the location of the substation. ATC will provide an appraisal of the selected site to the affected property owner(s). An appraisal is an estimate of fair market value. The fair market value should be based on the “highest and best use” which refers to the most economically advantageous land use in the foreseeable future.

The amount of compensation is based on the appraisal(s) and is established during the negotiation process between ATC and the individual landowner. ATC is also required to provide landowners with information about their rights in this process before negotiations begin.

Landowners have the right to obtain their own appraisal of their property and will be compensated for the cost of this appraisal if the following conditions are met:

1. The appraisal must be submitted to ATC within 60 days after the landowner receives ATC’s appraisal.
2. The appraisal fee must be reasonable.
3. The appraisal must be complete.
5. Summary of Recommendations

DATCP recommends the following as ways to mitigate the potential adverse impacts to agriculture associated with the proposed project:

1. If the project is approved and before construction begins, ATC should identify dairy operations or other confined animal operations within ½ mile of any new facilities associated with this project. ATC should assist those farmers in obtaining Neutral-to-Earth-Voltage (NEV) testing of their facilities if those farmers choose to do so. This testing will measure the amount of cow contact voltage that exists on the farm before construction of the substation facilities. Once the project is constructed, the NEV testing will be performed again to verify that any NEV levels present on the farm are still below allowable limits set by the PSC.

2. To address potential drainage problems that may occur as a result of the project, ATC should discuss design and construction plans with the Manitowoc County land conservationist during the design process of this project.

3. ATC should ensure that construction proceeds in a manner that minimizes crop damage, soil compaction, and soil erosion on adjacent farmland.

4. Landowners and operators should be given advanced notice of acquisition and construction schedules so that farm activities can be adjusted accordingly. To the extent feasible, the timing of the acquisition and construction should be coordinated with them to minimize crop damage and disruption of farm operations.
Literature Cited


Wisconsin Department of Revenue, Division of Research and Policy, Sales and Property Tax Policy Team.
Appendix I: Agricultural Impact Statements

The following Wisconsin Statute provides information on the purpose and role of the AIS.

Section 32.035 of the Wisconsin Statutes: Agricultural impact statement.

(1) Definitions. In this section:
   (a) "Department" means department of agriculture, trade and consumer protection.
   (b) "Farm operation" means any activity conducted solely or primarily for the production of one or more agricultural commodities resulting from an agricultural use, as defined in s. 91.01 (1), for sale and home use, and customarily producing the commodities in sufficient quantity to be capable of contributing materially to the operator's support.

(2) EXCEPTION. This section shall not apply if an environmental impact statement under s. 1.11 is prepared for the proposed project and if the department submits the information required under this section as part of such statement or if the condemnation is for the purpose of constructing or operating an electric transmission line, except a high voltage transmission line as defined in s. 196.491(1)(f).

(3) PROCEDURE. The condemnor shall notify the department of any project involving the actual or potential exercise of the powers of eminent domain affecting a farm operation. If the condemnor is the department of natural resources, the notice required by this subsection shall be given at the time that permission of the senate and assembly committees on natural resources is sought under s. 23.09(2)(d) or 27.01(2)(a). To prepare an agricultural impact statement under this section, the department may require the condemnor to compile and submit information about an affected farm operation. The department shall charge the condemnor a fee approximating the actual costs of preparing the statement. The department may not publish the statement if the fee is not paid.

(4) IMPACT STATEMENT. (a) When an impact statement is required; permitted. The department shall prepare an agricultural impact statement for each project, except a project under ch. 81 or a project located entirely within the boundaries of a city or village, if the project involves the actual or potential exercise of the powers of eminent domain and if any interest in more than 5 acres from any farm operation may be taken. The department may prepare an agricultural impact statement on a project located entirely within the boundaries of a city or village or involving any interest in 5 or fewer acres of any farm operation if the condemnation would have a significant effect on any farm operation as a whole.

   (b) Contents. The agricultural impact statement shall include:
      1. A list of the acreage and description of all land lost to agricultural production and all other land with reduced productive capacity, whether or not the land is taken.
2. The department's analyses, conclusions and recommendations concerning the agricultural impact of the project.

(c) Preparation time; publication. The department shall prepare the impact statement within 60 days of receiving the information requested from the condemnor under sub. (3). The department shall publish the statement upon receipt of the fee required under sub. (3).

(d) Waiting period. The condemnor may not negotiate with an owner or make a jurisdictional offer under this subchapter until 30 days after the impact statement is published.

(5) PUBLICATION. Upon completing the impact statement, the department shall distribute the impact statement to the following:

(a) The governor's office.
(b) The senate and assembly committees on agriculture and transportation.
(c) All local and regional units of government which have jurisdiction over the area affected by the project. The department shall request that each unit post the statement at the place normally used for public notice.
(d) Local and regional news media in the area affected.
(e) Public libraries in the area affected.
(f) Any individual, group, club or committee which has demonstrated an interest and has requested receipt of such information.
(g) The condemnor.
Appendix II: NRCS Soil Farmland Classification

Prime Farmland
Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land, but not urban built-up land or water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.

Unique Farmland
Unique farmland is land other than prime farmland that is used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods. Examples of such crops are citrus, tree nuts, olives, cranberries, fruit, and vegetables.

Additional Farmland of Statewide Importance
This is land, in addition to prime and unique farmland, that is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. Criteria for defining and delineating this land are to be determined by the appropriate state agency or agencies. Generally, additional farmlands of statewide importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable. In some states, additional farmlands of statewide importance may include tracts of land that have been designated for agriculture by state law.

Additional Farmland of Local Importance
In some local areas there is concern for certain additional farmland for the production of food, feed, fiber, forage, and oilseed crops, even though these lands are not identified as having national or statewide importance. Where appropriate, these lands are to be identified by the local agency or agencies concerned. In places, additional farmlands of local importance may include tracts of land that have been designated for agriculture by local ordinance.
Appendix III: Soil Capability Classes

Land Suited to Cultivation and Other Uses:

Class I soils have few limitations that restrict their use.
Class II soils have some limitations that reduce the choice of plants or require moderate conservation practices.
Class III soils have severe limitations that reduce the choice of plants or require special conservation practices, or both.
Class IV soils have very severe limitations that restrict the choice of plants, require very careful management, or both.

Land Limited in Use-Generally Not Suited to Cultivation

Class V soils have little or no erosion hazard but have other limitations impractical to remove that limit their use largely to pasture, range, woodland, or wildlife food and cover.
Class VI soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife food and cover.
Class VII soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to grazing, woodland, or wildlife.
Class VIII soils and landforms have limitations that preclude their use for commercial plant production.

Soil Capability Subclasses

A subclass is a group of capability units within a class, which has the dominant soil or climatic limitations for agricultural use. Capability Class I has no subclasses. There are four subclasses, designated by letter symbols and defined as follows:

- **e** Erosion susceptibility is the dominant problem or hazard. Both erosion susceptibility and past erosion damage are major soil factors for placement in this subclass.
- **s** Soil limitations within the rooting zone, such as shallowness of rooting zones, stones, low moisture-holding capacity, low fertility that is difficult to correct, and salinity or sodium, are dominant.
- **w** Excess water is the dominant hazard or limitation. Poor soil drainage, wetness, high water table, and overflow are the criteria for placing soils in this subclass.
- **c** Climate (temperature or lack of moisture) is the only major hazard or limitation.
# Mailing List

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| 310 S CAPITOL |
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| 2109 SOUTH STOUGHTON ROAD |
| STATE DOCUMENTS SECTION  
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