

Transmission line easement effect on rural land in northwest Wisconsin

by Craig L. Solum, SR/WA

To overcome subjective appraisal judgements, a dual method of evaluating the easement's market effects has been developed.

The northwest section of Wisconsin is predominately rural in character and is crossed by numerous electric transmission lines that supply power to the rural communities. Dairyland Power Cooperative is one of the largest suppliers of electricity to rural northwestern Wisconsin, with an excess of 3100 miles of transmission lines. The effect that rural transmission lines have on property values has become an ever increasing concern for property owners and utilities.

When construction of a new transmission line is planned, the professional real estate appraiser becomes involved in the acquisition process by estimating the effect on the market value of private property that will have a right of way easement imposed upon it.

Estimating the effect on value of rural property has and continues to be a formidable task. Estimates of diminished value have typically been based only on the opinion of the appraiser and have taken different formats almost as numerous as the number of appraisers involved in the easement appraisal process. In order to validate the appraisal of an easement partial acquisition, a method of research is necessary to estimate the devaluation attributable to the taking of a transmission line easement while eliminating subjective valuation based on opinion only.

The appraisal of easements typically involves the "before and after" valuation method, whereby loss of value to the partial acquisition area as well as damage to the remainder area are considered. In theory the appraisal process would be relatively uncomplicated, with the value and damage being estimated by comparisons of market sales of properties upon which transmission lines are located versus sales of similar unencumbered properties. The variance in sale prices would reflect the attitudes of a willing seller and willing purchaser in a competitive and open market situation, thereby awarding the property owner the market value of the easement.

The appraisal of an easement encumbrance is a difficult and demanding appraisal assignment. The Real Estate Appraisal Terminology Textbook of the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers defines an easement as:

A nonpossessing interest held by one person in land of another person whereby the first person is accorded partial use of such land for a specific purpose. An easement restricts but does not abridge the rights of the fee owner to the use and enjoyment of the easement holder's rights.



The installation of transmission lines on wooded recreational tracts creates breaks in the continuity of the woodland and requires special equipment, such as helicopter stringing of lines.

Craig Solum, SR/WA, worked for four years as Senior Staff Real Estate Appraiser for Dairyland Power Cooperative. Now he owns Shore Acres Appraisal and Research in Spooner, WI.

Solum is on both the Education and Professional Development Committees of Badger Chapter 17.

The transmission line easement right of way and property rights taken are those utilized for the construction, operation and maintenance of electrical transmission lines and not distribution lines.

The property rights taken from the fee ownership within the right of way are the legal rights with which the appraiser is concerned. The rights to be taken are normally spelled out within the right of way easement instrument.

Some of the property rights that are taken and conveyed via the easement may include:

- Right of way for construction, maintenance and repair;
- Right to keep the right of way clear of obstructions;
- Right to remove danger trees outside of the easement strip;
- Others depending on the type of line and circumstances of each individual property.

The elements of value involved in the appraisal of transmission line easements are:

- The easement estate — the value of the rights taken by the partial acquisition;
- The underlying fee — that which includes all the property rights of the fee ownership not contained in the easement estate;



The greatest encumbrance created by a transmission line is the structure installation within tillable acreage.

- The remainder — that which is the value of all the other land outside of the right of way, physically unencumbered by the easement, but none the less affected by its presence.

In the valuation of the remainder, consideration is given to any damage or benefit which may accrue to it by virtue of the easement imposition.

As previously stated the appraisal of a transmission line easement, requiring partial acquisition, would be uncomplicated if the market supplied comparison data. In the real market place there are sales of encumbered properties, however an extremely limited number of hundreds analyzed will document a loss in value attributable to the partial acquisition. Without sales documentation all too often the damage to the property is relinquished to a judgmental decision by the appraiser.

With insight into the damage valuation dilemma as a goal, a method of documenting the market effect of a transmission line easement encumbrance was sought. The solution which was adopted included a dual method approach.

The first method consisted of a response questionnaire presented to landowners whose properties has been previously encumbered by Dairyland Power Cooperative transmission line

easements. This method had the advantage of allowing a large sampling of effected landowners to be contacted in a relatively short time span. The survey questionnaire solicited responses to the effect that the transmission line had on the owner's property and to what degree the owner considered the effect detrimental.

The survey was presented to the landowners who had transmission lines constructed on their property with transmission load capacities ranging from 69 to 161 kilovolts.

In conjunction with the survey data obtained, the results of analyses of properties that sold after construction of transmission lines within their borders, were cross-referenced with the survey data to enact verification to the findings of the landowner survey. Although this method did not have the advantage of hundreds of responses, its results were valuable in that they supplied data that revealed attitudes of both the seller and purchaser in a market transaction situation.

The results of the questionnaire survey were compiled from the 180 replies received from an original 416 survey sample. This was a return percentage of 43%.

The questions forwarded on the survey were:

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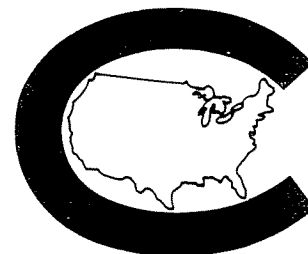
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1. How long has the powerline been installed on your property?
2. Do you believe the power line has affected the value of your property?
3. If the powerline has affected your property, in what manner?
4. Does the powerline present a hindrance to the use of your property?
5. If your land is agricultural, what area do you estimate to be out of production due to the powerline installation?

Of the 180 respondents there was a representation of three property types: agricultural — 127; recreational — 43; and residential — 10. The responses to the effect of the transmission line on their property are categorized in Illustration I.

The agricultural land classification was the most prevalent type of property in the survey. The responses gathered contained 127 of a total 180 responses, or 70.55%. A survey of the responses found 11 different replies to the effect questioning. The most prevalent reply with 71 or 56% of the agriculture property survey, was that there was no effect to property due to imposition of the transmission line easement. The second most prevalent response with 51, encompassing 35% of the responses was that the major effect of the transmission line easement was the frustration in use of the land for row crop farming caused by the placement of transmission structures within productive tillable acreage. These two responses comprised 91% of the total survey for the agricultural property. The remaining 9% of the responses included:

- Reduced television and radio reception;
- Provided a more reliable source of power;
- Caused damage to property outside of the right of way;
- Concerned with the possibility of stray voltages;
- Limited aerial spraying applications and the implementation of irrigation;
- Concerned with the effect of resale price in the future;
- One response reported improved TV reception;
- One response reported an advantage due to the removal of wooded area that allowed conversion to additional pasture land for cattle.

The recreational property classification included 37 of the 180 survey

Illustration I

TOTAL SURVEY RESPONSES RECEIVED — 180

Responses by Property Classifications

Agricultural	127
Recreational (wooded)	43
Residential (rural)	10

CONCERNS BY PROPERTY

Classifications	Agriculture	Recreational	Residential
Stray Voltage	2	0	0
Limits Aerial Spraying	2	N.A.	N.A.
Inconvenience for Field Work	51	N.A.	N.A.
Prevents Irrigation	1	N.A.	N.A.
Belief that Resale Price will be Affected	2	8	2
Aesthetic Loss	0	2	10
Loss of Future Timber Value	0	11	0
Loss of Building Site	0	3	5
Frequent Trespassing on Right of Way	0	2	0
Poor TV — Radio Reception	8	2	0
Damage to Property during Construction	3	1	0

BENEFITS

More Reliable Power Source to Farm	5		
Availability of Power	0	3	0
Improved TV Reception	1	0	0
Cleared Woodland to use for Pasture	1	0	0
Does not Effect Property Value or Use	71	5	0
TOTAL RESPONSES	147	37	17

responses or 20.5%. The most frequent response for recreational property with 11 responses or 30%, was the concern for the loss of future timber value where the timber was cleared away within the right of way. The second and third most prevalent responses at 22% and 14% of the survey total, were a concern that future resale prices would be lower due to the presence of the transmission line and that the transmission line had no effect on the property whatsoever.

The remaining five responses encompassed the other 34% of the survey and included:

- Loss of potential building sites;
- Availability of power that was not readily available before the installation of the transmission line;
- Concern over frequent trespassing that has occurred since the transmission line was constructed;

- Diminished TV reception;
- Damage to property outside of the right of way during the construction of the transmission line.

The residential property owners responding to the survey encompassed 17 or 9.4% of the survey. The most frequent response with 58.5% of the category was the concern for the loss of aesthetic beauty caused by the placement of a transmission line on their property. The other two responses which composed the remaining 41.2% of the survey category included loss of potential building sites and concern for lower resale prices at the time of sale in the future.

The analysis of the responses of the survey provided insight into the dilemma of the transmission line easement effect and produced several enlightening conclusions.

It was apparent from the survey responses that the type of property upon which a transmission line easement is imposed drastically influences the impact that the easement will have on the property. Of the three property types surveyed, agricultural, recreational, and residential, the greatest adverse influence was in residential properties, followed by recreational and finally agricultural properties.

The predominant effect of transmission line easement encumbrances on residential properties is the loss of aesthetics. This was the major concern voiced by owners of residential properties. Another prevalent concern was the loss of potential building sites due to the powerline construction which eliminates the area within the right of way for development. The damage to property from the easement encumbrance appears to be the greatest to the residential property. This can most probably be traced to the impetus of the residential purchaser who is most concerned with the aesthetics and amenities offered by the residential property.

The recreational property is also affected to a greater degree by the imposition of transmission line easements than are agricultural properties. However, the impact appears to be less as compared to the residential property. The majority of recreation land in north-west Wisconsin is wooded acreage and the major concern with recreational property owners is the loss of future timber value caused by the clearing of the right of way. Aesthetics loss and the fear of lower resale prices is a secondary concern to the recreational property owner. Another problem that has only recently become apparent is a marked increase in the evidence of trespassing on private property via the route provided by the transmission line right of way.

In agricultural property, there was a major concern over the effect of the placement of transmission line structures within areas that were being actively farmed. The inconvenience caused by working around the transmission line structures, as well as occasional damage, caused by the contact of farm machinery with the structures, are the dominant effects attributable to the transmission line easement encumbrance.



Location of line routes along property borders would eliminate the clearing of corridors through wooded recreational tracts. A major concern to recreational land owners.

A notable observation was that in all cases where there was an absence of structures within the tillable acreage of agricultural land, the land owners interviewed felt there had been no effect to their property caused by the imposition of the transmission line easement.

A common response for all three property categories was a concern that the price received for property in the future would be lessened due to the transmission line presence. This concern was relatively insignificant for agricultural property as only 2 of 147 respondents believed it to be a future problem. The recreational and residential property owner had a stronger reply to this possible effect with 22% of the recreational and 12% of the residential land owners expressing their concern. To further research this effect response, personal interviews with buyers and sellers of encumbered properties were instituted to ascertain if this concern was justified by market activity. A reconciliation of the interviews of 23 encumbered properties produced a common denominator to the question of lower resale prices. With one exception, all the properties were sold at prices comparable to equivalent non-encumbered properties and were purchased by buyers who did not present an offer to purchase the

property at lower than market prices due to the presence of the transmission line.

The one exception was a situation where the purchaser of an agriculture property was concerned with the considerable number of structures located within tillable acreage. He commented that he contemplated the purchase of the farm carefully due to the extraordinary number of structures in the field. As a final result he did purchase the property at a price that was not reduced, however he did iterate that if another farm had been available, unencumbered by structures, he would have purchased that farm instead. This instance is worth notation, yet two points of this transaction must be kept in perspective; the number of structures on tillable land were more numerous than on any other agricultural property observed, and the purchaser was enthused with the other attributes of the property so as to overshadow the negative influence of the presence of the transmission structures.

The overview of the resale of encumbered tracts documented that the future resale price of agricultural, residential and rural recreational lands was not reduced by the presence of a transmission line.

In addition to providing data support

to valuation premises, the analysis of market reaction to the imposition of transmission line easements provides the ability to review the effects of the easements on properties, then through consideration of the causative factors, delineate what items could have been altered to minimize the effect. The basic observations drawn from the market research and the manner in which their effect could be reduced include:

- The major effect to agricultural lands is structures placed within cropland. The effect from transmission line easements on private property is immediate and greatest in intensity at its inception. As time progresses it is apparent that the effect diminishes to the point that it is almost negligible to the property owner.

- The effect to agricultural lands could be diminished considerably, if in the planning and design stages, the tillable land of the farm was carefully observed and given the greatest consideration in regard to where the structures

are placed so that the majority are situated in non-tillable areas.

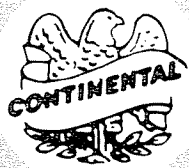
- In recreational properties, where there is no other alternative but to remove the forestation for the transmission line, the effects of the imposition would be minimized by location of the right of way along property borders. This would eliminate diagonal installations which produce non-continuous forested areas.

- The compensation payment for easement acquisitions over recreational properties should consider the premise of future value of timber discounted to present day value, as this is a major area of concern for recreational property owners.

- For residentially oriented areas major emphasis should be concentrated on the design of the transmission line so that potential building sites are affected to the smallest degree possible. By knowledgeable advance planning the aesthetic loss to residential property owners could be minimized.

The research conducted by the market survey and personal interviews of property owners allowed for the "market" to express what effect the imposition of the easement encumbrance has. The survey and interviews depicted a variance in the effect by the type of property. The survey showed that it is especially important to consider the type of property and the area where the easement is to be imposed in order to properly evaluate the effect to the property.

Once the effect to the area of the property has been observed and evaluated, it is still mandatory to search the market for sales of encumbered and unencumbered properties to determine if there is a significant effect in a particular market area. The true value of the survey and interview research comes from the support it provides to the appraiser in his justification of the just compensation for the property rights taken. It is market data that portrays the effect to rural properties in northwest Wisconsin.



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