

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

At a session of the Public Service
Commission held in the City of
Albany on June 15, 2005

COMMISSIONERS PRESENT:

William M. Flynn, Chairman
Thomas J. Dunleavy
Leonard A. Weiss
Neal N. Galvin

CASE 04-E-0822 - In the Matter of Staff's Investigation into New
York State's Electric Utility Transmission
Right-of-Way Management Practices, filed in Case
27605.

ORDER REQUIRING ENHANCED TRANSMISSION
RIGHT-OF-WAY MANAGEMENT PRACTICES
BY ELECTRIC UTILITIES

(Issued and Effective June 20, 2005)

BY THE COMMISSION:

INTRODUCTION

Given the inherent vulnerability of New York State's electric power grid to system outages that can be triggered by individual component failures, and the potential serious consequences in terms of economic, personal and societal losses that may be suffered in a "blackout" by the people and communities affected, electric system reliability is of primary concern to the Commission. For electric power to be provided to consumers, it must first be transmitted from the sources of generation to the places of distribution and consumption. Reliable power delivery in New York depends upon the competent maintenance and operation by public utility companies of over 15,000 miles of electric transmission facilities. Therefore, effective transmission facility right-of-way (ROW) management is

an essential bulwark against electric system outages and cannot be taken for granted.

On November 19, 2004, the Commission issued a Notice of Proposed Rulemaking concerning certain Department of Public Service Staff (Staff) recommendations for changes to the procedures and practices for transmission ROW management activities by New York's six electric public utility companies (utilities).¹ The recommendations were made to improve the framework by which the utilities maintain electric transmission ROW to minimize vegetation-caused outages.

A notice was published in the State Register on December 1, 2004. Comments were received from each of the affected utilities. The following discussion identifies the preliminary Staff recommendations that were issued for comment, summarizes and analyzes the major substantive comments (including suggested alternatives) made by the utilities, and sets forth the Commission's resolution of the issues presented.

Where appropriate, the Commission has modified the Staff recommendations and now adopts applicable rules. In adopting this order, the Commission further demonstrates its commitment to maintaining the highest degree of electric system reliability for the benefit of New York's customers.

¹ The public utility companies subject to this order are Central Hudson Gas & Electric Corporation (Central Hudson), Consolidated Edison Company of New York, Inc. (Con Edison), New York State Electric & Gas Corporation (NYSEG), Niagara Mohawk Power Corporation (Niagara Mohawk), Orange and Rockland Utilities, Inc. (O&R), and Rochester Gas and Electric Corporation (RG&E).

ANALYSIS OF RECOMMENDATIONS AND COMMENTS

Preliminary Staff Recommendations on Program
Management and Staffing

1. All utilities should be required to maintain sufficient qualified staff to implement their Commission approved ROW management plans.
2. All utilities shall retain ROW management personnel with appropriate education or experience in ROW management to be thoroughly familiar with all phases of ROW management including expertise in herbicide use.
3. NYSEG should be required to restore its forestry staff to historical staffing levels of one forester per district and a corporate system forester.

Utility Responses

As a general proposition, the utilities acknowledge that they have an obligation to maintain sufficient qualified personnel to accomplish their public service duties regarding ROW management. Most of the utilities seek clarification that utility management is free, in its discretion, to hire qualified contractor personnel in lieu of in-house staff to perform ROW management tasks. Central Hudson asks whether it is the Commission's intention to specify performance objectives or to prescribe both the performance objectives and the details of the staffing to accomplish them. The utilities generally say that staffing decisions should be left to their discretion and that whether the number of personnel is sufficient should be measured based on performance results of the program rather than on a numerical formula. Some concerns are also raised about the use of the word "retain" and whether that word is intended to mandate that utilities try to prevent particular employees from leaving the company or to prevent in-house training of personnel. Con Edison states that the utility staff managers

responsible for the management of a ROW program should have reasonable overall experience in the field, but should be permitted to rely on the expertise of qualified consultants in particular disciplines.

NYSEG comments that Staff's recommendation on the number of its foresters went beyond regulation and into the management or micromanagement of NYSEG's operations. It states further that Staff supported this recommendation only with a concern of possible program degradation and overlooked the efficiencies gained through the recent merger with RG&E. NYSEG also points to a new "master alliance" with a vegetation management contractor that could provide additional vegetation management functions (e.g., inspection, consultation and technical recommendations), if needed. NYSEG states that since there is no evidence that it will not be able to perform its ROW management obligations with its current staff, and given that other vegetation management resources are available to NYSEG as needed, the Staff recommendation should be rejected.

Discussion

It is incumbent upon the utilities to have an adequate number of appropriate personnel to maintain compliance with their Commission-approved ROW management plans. ROW management activities can affect reliability, public health and the environment. It also is an activity that affects many landowners and is a primary contact activity between the utility and the public. Thus, it is important to have sufficient staff with the necessary expertise to implement each utility's ROW management plan. ROW management personnel must be knowledgeable regarding vegetation management and how their work protects the operation of utility transmission systems.

It is the Commission's general intention to specify performance objectives to be accomplished in a manner to be

determined by utility management. Due to the importance of maintaining electric system reliability, however, it is necessary in this instance for the Commission to be somewhat prescriptive in specifying the manner in which utilities conduct their ROW maintenance responsibilities. Each utility will be required to maintain a minimum level of qualified in-house personnel for this function. At this time the Commission is satisfied that each utility, except NYSEG, has a sufficient base of qualified in-house personnel.

The Commission's regulations, at 16 NYCRR §84.2(f), already recognize that the work force to provide ROW maintenance may consist of both in-house "company" and outside "contractor" personnel, and nothing in this order is intended to eliminate entirely the use of contractors. However, it is the utility, not the contractor that is ultimately responsible for the maintenance and reliability of electric facilities and systems. A utility cannot solely rely on a contractor to approve specifications or perform supervisory functions to ensure work is completed to specification. Independent oversight must be exercised by utility personnel with sufficient expertise to make competent and independent decisions to ensure that contractor performance meets utility specification. Each utility's ROW management plan must clearly and separately specify the personnel qualifications necessary to accomplish the in-house functions and the functions that may be performed by an outside contractor. The specification of personnel qualifications should also explicitly address the conditions under which on-the-job training is appropriate. Nothing in this order is intended to require utilities to "retain" particular individuals.

Most utilities have maintained program personnel with the appropriate training and expertise; in recent years, however, NYSEG has reduced the number of its forestry personnel. We note that records indicate that tree-caused outages on NYSEG's system are more than twice that of any utility in New York on a per line mile basis. Consequently, we cannot accept NYSEG's argument that there is no evidence to support Staff's recommendation. Electric system reliability is too important.

NYSEG's service territory presents a somewhat unique situation in that many of its divisions cover non-contiguous parts of the State. NYSEG has generally had rate support for a forester in each division for many years. Over time, the amount of transmission and distribution line ROW mileage to be maintained has increased, not decreased. In addition to handling the transmission vegetation work for each division, the division foresters also handle the distribution vegetation management, customer inquiries (related to both transmission and distribution vegetation management activities), contract management and other duties. As noted above, NYSEG must provide independent oversight to approve contractor specifications or perform supervisory functions to ensure contractor work is completed to specification. Those roles must be performed by utility personnel with sufficient expertise to make competent and independent decisions. Simply put, NYSEG needs to have an adequate in-house forestry presence in each division to provide the proper oversight to monitor contractor performance to ensure conformance with its ROW Management Plan. NYSEG shall, by August 31, 2005, submit for review a quality assurance plan that will allow the company independently to verify ROW vegetation management contractor performance. NYSEG shall implement the plan by September 30, 2005.

Preliminary Staff Recommendation on Program Budgeting

4. Staff should continue to monitor program expenditures closely and make recommendations as required.

Utility Responses

All of the utilities indicate that they have no objection to monitoring by Staff. NYSEG and RG&E, however, express a concern that the recommendation might be interpreted to mean that Staff will "direct" utility expenditures. Central Hudson questions whether Staff is to make its recommendations to the utility or to the Commission. Central Hudson also notes that increased utility expenditures on ROW management may not translate into easily-measurable increases in reliability. It expresses a concern that some time may be needed to gauge the results of the funding increases and questions whether the utilities would be subject to criticism if additional expenditures for ROW management do not yield an improvement in reliability indices.

In response to a Staff request for information regarding ROW management budgets and planned increases, Con Edison, Niagara Mohawk, Central Hudson and NYSEG all report that they anticipate increases in funding for ROW management activities. O&R and RG&E report that they have no plans to increase funding. Most, if not all, of the funding increases are for either increased removal of side/danger trees or shortening ROW maintenance cycle lengths. Staff believes that the utilities' ROW maintenance program budget increases (shown in the following chart) appear reasonable and necessary to maintain system reliability, although it will take some time to gauge the efficacy or results of the funding increases.

ROW MAINTENANCE EXPENDITURES (in dollars)		
	Actual 2003	Projected 2005
Central Hudson	631,151	633,151
Con Edison	1,257,550	1,757,550
NYSEG	1,616,686	1,896,686
Niagara Mohawk	2,719,493	2,930,493
O&R	1,191,000	1,191,000
RG&E	156,500	156,500

Discussion

The Commission is charged with the responsibility to review and oversee utility expenditures and results of ROW management [see particularly, 16 NYCRR §§84.2(f) and (i)]. Staff investigates such matters for the Commission and does not "direct" utility expenditures. In performing its monitoring function, Staff will make any recommendations it may have either to the utility or to the Commission as it deems appropriate in a particular instance.

Regarding the concerns raised by Central Hudson, the Commission remains mindful of the difficulty of measuring reliability improvements.

Preliminary Staff Recommendation on Ground and Aerial Patrols

5. All Transmission Owners (TO) should be required to maintain ROW management plans that specify a minimum of one ground and one aerial patrol per ROW per year.

Utility Responses

Con Edison and O&R do not oppose this recommendation, so long as it is not interpreted to preclude cost recovery for an even greater number of patrols. Central Hudson opines that the Commission should allow utilities to incorporate consideration of the differing functions of transmission facilities in their determinations of the extent to which ground patrols are appropriate. Niagara Mohawk opposes the recommendation as arbitrary, claiming that a need for increasing the frequency of ground patrols has not been demonstrated for Niagara Mohawk's system and that the added time and expense of increased aerial and ground patrols would be significant and does not seem justifiable given Niagara Mohawk's performance record. NYSEG and RG&E see the recommendation as an intrusion on their utility management responsibilities and say that their "comprehensive" aerial patrols provide an accurate assessment of on- and off- ROW vegetation conditions. RG&E claims that, since it has been conducting aerial patrols, there has been no degradation in its vegetation management program. In fact, according to RG&E, there has been an overall reduction in tree-related forced outage rates.

Discussion

The failure of bulk transmission lines (transmission facilities of 200 kV and above), and other lines defined as critical facilities,² has the potential to initiate large scale outages. The reliability of the bulk transmission system and other critical transmission facilities is too important to rely

² "Critical facilities" is defined as those transmission facilities designated by the Northeast Power Coordinating Council to be critical to the reliability of the electric system.

on aerial patrols alone. The quality of data collected by hovering above a power line in a helicopter simply cannot match that of a properly conducted ground patrol.³ In particular, aerial patrols cannot substitute for an accurate ground inspection to find and assess all, or even most, danger trees, whether located on or off the ROW. Danger trees, by definition, contain defects such as cracks, decay, lean, root damage, etc., that are not readily visible from the air.

All of the utilities except Niagara Mohawk already perform the recommended annual ground patrols on bulk transmission ROW. To ensure reliability, it is reasonable to extend such annual ground patrols to all utilities and to all critical transmission facilities. The Commission is, however, mindful that a balance must be struck between line priority, maintenance costs and outage performance. At this time, the Commission will not require annual ground patrols of non-bulk and non-critical transmission facilities.

Preliminary Staff Recommendation on Right-of-Way Records and Reporting

6. Each TO should be required to prepare Section 84.3 herbicide application filings in a format provided by Staff, including the amount and cost of herbicide applied, by acre and technique, for each application management type employed.

Utility Responses

None of the utilities oppose this recommendation, and most are already reporting this information in a generally consistent format. NYSEG and RG&E state that they cannot

³ Utility Vegetation Management and Bulk Electric Reliability Report from the Federal Energy Regulatory Commission (FERC)(September 7, 2004) at 9; CN Utility Consulting, Utility Vegetation Management Final Report (March 2004) at 49.

comment until they see the proposed format. NYSEG and RG&E further opine that it may be possible that the information sought by Staff may not be retrievable by the utilities. NYSEG and RG&E suggest that the recommendation be modified to require Staff and the utilities to consult and develop a format that is workable for all.

Discussion

Staff reports that it found substantial inconsistencies in the areas of record keeping and reporting between NYSEG and the other utilities. Because the information on this critical ROW maintenance component has not been provided in a uniform format, Staff has not been able to assess and compare program effectiveness on a state-wide basis.

While the Commission's regulations require certain herbicide reporting, the utilities do not report this information in a uniform manner. Keeping detailed and accurate information regarding ROW herbicide treatments in a uniform manner is logical. Section 84.3(a)(5) requires the "preparation and use of standardized reports of all ROW maintenance and vegetation treatments [that] must include type, location, acreage and date of all mechanical, chemical or other treatments..." All of the utilities, except NYSEG, report this information in a suitable and relatively consistent format. Having this information filed by all the utilities in a similar format will allow Staff to improve its assessment of the programs on a state-wide basis. Staff will develop a standardized format, after consultation with NYSEG and the other utilities, and this should be used for future reporting.

Preliminary Staff Recommendation on Danger Tree Management and Tracking

7. Each TO should be directed to develop and implement, in consultation with Staff, a side and danger tree program to include at a minimum: inspection schedules, ranking protocol, removal timeframes, appropriate forms, general budget requirements, and ROW line prioritizing.

Utility Responses

All of the utilities agree with this recommendation, and some offer possible program language. O&R recommends that a danger tree be defined as a dead, dying or declining tree within the ROW boundary and whose failure may result in contact with a conductor, pole plant or other appurtenance. According to O&R, a side tree should be defined as a tree on or off the ROW whose limb sections enter the wire security zone. O&R would apply these definitions only to the ROW of transmission facilities with voltages over 100 kV. Con Edison recommends adding "topping", the practice of removing the top of a tree to attain suitable wire clearance when the tree may not be removed completely due to authorization issues with the property owner, into the danger tree program.

Discussion

So-called "side" and "danger" trees represent a great threat to electric system reliability. Staff reports that it requested information concerning the level of statistical information that each utility maintains regarding outages from trees, information about any computer programs used to assess danger tree outage trends, and future plans for reducing off-ROW tree-caused outages. When queried on the percentage of outages caused by side and danger trees, not all utilities could provide a complete response to Staff. Annual danger tree work among the utilities, as a percentage of total line miles and expenditures,

varies greatly. Record keeping and maintenance planning also vary substantially by utility. Most utilities could not provide exact expenditures associated with side and danger tree work by line.

All utilities are in the process of, or have completed, revising their ROW management plans to address side and danger tree management. Not all utilities, however, have put the same level of emphasis on danger trees in their plans. While it may not be possible to eliminate tree-caused outages completely, the utilities should continue to strive toward that goal. They must continue to evolve and develop effective danger tree programs that incorporate the appropriate balance between attempting to attain zero tree-caused outages and the corresponding cost, public acceptance and environmental impact of these programs.

Within a ROW, there is no need to designate and track particular undesirable vegetation as "danger trees". All undesirable vegetation within a ROW should be tracked and removed in accordance with the degree of threat it poses to the transmission facilities. No tree having the characteristics of what has been called a "danger tree" should ever be permitted to remain on a ROW, including in buffer areas. Side trees, trees outside the ROW (that due to their condition or location) pose a particular danger to the transmission facility, are what the utilities should designate and track as "danger trees". O&R's proposed limitation on the application of the definition to facilities that are 100 kV and above has no justification and is unacceptable. For consistency sake, the Commission will define a "danger tree" as any tree rooted outside of a ROW that due to its proximity and physical condition (i.e., mortality, lean, decay, cavities, cracks, weak branching, root lifting, or other instability), poses a particular danger to a conductor or other

key component of a transmission facility. Utilities shall establish programs as recommended by Staff to track and remove such danger trees.

Preliminary Staff Recommendation on Danger Tree Work Reporting

9. Each TO should be required to report annually the amount of danger tree work completed by line. Reported data should include line name or number, miles trimmed and/or number of trees removed, and program expenditure.

Utility Responses

O&R states that it would support this reporting of work if done consistently with its response to Recommendation No. 7 discussed above. O&R is concerned that comparison of programs among the utilities would be highly misleading and that ROW plans should focus on a few broad goals, such as decreasing tree-related outages, and that the Commission should resist micro-managing ROW programs by dictating an unnecessary level of detail in its procedures. Con Edison responds that it does not currently compile this information and seeks a period of time to implement this capability. NYSEG and RG&E argue that Staff did not support the need for, or benefit of, this information and opine that the need for, and content of, the annual report should be made part of its ongoing discussions and consultations with Staff regarding revision of its plan. Central Hudson reports that it recently developed a database for this information, but that it does not differentiate between on- or off- ROW danger tree work, nor does it contain historic data. Niagara Mohawk contends that, rather than reporting the number of miles trimmed or trees removed, a circuit-based assessment and reporting related to the reduction of danger trees may be more beneficial.

Discussion

Staff reports that, based on its investigation, the utilities are not always maintaining the vegetation along the full width of their ROW or keeping detailed up-to-date inventories of ROW edge-to-wire clearances. Staff also found that the utilities do not track, by year and line, the amount of side tree trimming or removal work that has been performed. Without this information, it is difficult to assess the adequacy of current work or efficiently plan future work. Furthermore, each utility must exercise its full rights for vegetation management (and acquire such rights where necessary to ensure system reliability) and not allow either vegetation or other incompatible uses to threaten lines.

Reporting vegetation work performed on transmission ROW, such as acres treated or danger trees removed, is clearly required by 16 NYCRR Part 84. Robust danger tree management is a relatively new component of each ROW management program. Each utility should become familiar with its various program expenditures and results to assess efficacy. Comparing the expenditures for tree removal among utilities has value, but, as with all benchmarking, certain assumptions and allowances for differences between utilities need to be made. This recognition does not reduce the value of having certain information in a benchmark process. This recommendation is supported by the reporting required under §84.3 and is appropriate.

Preliminary Staff Recommendation on Tree-Caused Outage Reporting

8. Each TO should be directed to investigate, record and report each tree-caused outage. Information on each outage should include line number, location (e.g., tower number), tree location, species, height, condition, and distance from conductor to base of tree, slope conditions and weather condition at the time of the outage.

Utility Responses

All of the utilities comment that, to varying degrees, they are reporting this information to the North American Electric Reliability Council (NERC) and the New York Independent System Operator (NYISO). Most of the reporting, however, includes bulk and critical lines only, at voltages usually above 200 kV. The utilities all request that this reporting be used to satisfy the recommendation. Niagara Mohawk seeks clarification as to the definition of a "tree-caused" outage and recommends using 115 kV as the threshold because it already investigates outages at this level and higher. Central Hudson comments that it will be investigating tree-caused outages and recording the line designation, location, proximity of the tree to the line, species, height, condition, site conditions, and weather condition at the time of the outage, as well as the need for follow-up work if required.

Discussion

The Commission fully expects no outages from vegetation growing inside the ROW limits. Outages due to vegetation growing on the ROW are indicative of a serious lapse in ROW management. The utilities should have all rights necessary to remove any hazardous tree growing on the ROW, and they are expected to exercise such rights. Each utility operates a transmission system with somewhat differing needs and priorities. Niagara Mohawk's system is comprised of voltage

classes from 23 to 345 kV, while Con Edison operates mostly a 345 kV system with some 138 kV lines. Conversely, Central Hudson and O&R rely on their 69 kV lines for the majority of the electric transmission infrastructure. Because different voltage systems exist among the utilities, a voltage level threshold for reporting needs to be as inclusive and meaningful as possible. Therefore, 69 kV appears to be a reasonable voltage threshold. Relying on the NYISO, Northeast Power Coordinating Council (NPCC), or NERC for certain outage information will not provide a comprehensive picture for most of the transmission line outages in New York with respect to the lower voltage classes. Accordingly, the Commission will adopt the recommendation, modified to require the utilities to report annually by March 31, all on- and off- ROW vegetation-caused transmission outages on all voltage classes down to 69 kV (in addition to any previously established notification requirements). Given Niagara Mohawk's request for clarification, Staff will consult with the utilities and clarify what constitutes a vegetation-caused outage.

Preliminary Staff Recommendations on Program Cycle Length

10. NYSEG and Niagara Mohawk should be directed to continue to work with Staff to implement their 6-year cycles.
11. All utilities should be required to track hot spot work on an annual basis.

Utility Responses

NYSEG agrees with Recommendation No. 10 as it relates to NYSEG. Niagara Mohawk objects to the "seemingly arbitrary"

6-year mandated cycle length,⁴ citing the fact it is diligently and voluntarily moving to an average 6.5-year cycle. It says that the added expenses of moving to a 6-year cycle for its system will yield no improvements in reliability.

As to "hot spot"⁵ work, Con Edison requests that, to the extent such data is not currently captured, a period should be allowed for implementation of data-capture measures, and reporting should only be prospective following such implementation period. NYSEG argues that: (a) no rationale was proffered by Staff to support this recommendation; (b) the utilities cannot track hot spot work without modifying their records system; (c) NYSEG is reducing its treatment cycle, so the need for hot spot work should diminish; and (d) there is no indication that other utilities perform a significant amount of hot spot work. Central Hudson indicates that it is already tracking hot spot work. Con Edison and O&R indicate that they will comply with the recommendation.

Discussion

Specific cycle lengths are not required by Part 84, but Part 84 does require that each utility include, in its ROW maintenance plan, a vegetation treatment cycle length and the rationale for that cycle length. NYSEG and Niagara Mohawk historically relied on the relatively long average cycle length of eight years, while the other utilities average 3- to 5-year

⁴ Cycle length is defined as the period of time required for a utility to perform maintenance including the pruning of all vegetation and the removal of all vegetation of concern on its entire transmission system.

⁵ The term "hot spot" refers to the removal of vegetation mid-cycle in order to keep the lines free of any encroaching vegetation until the next scheduled treatment cycle.

cycles. An optimal cycle will vary based on each utility's unique ROW management needs. FERC recently noted that "the August 14, 2003 blackout was caused by trees that were managed on a five-year vegetation management cycle" and cited a report that "concluded that a five-year cycle, while the industry norm, is not effective nor adequate for assuring transmission reliability across much of North America."⁶

The Commission is encouraged that both Niagara Mohawk and NYSEG are working with Staff to reduce their cycle lengths. At the time the Staff recommendation was made, Staff believed that Niagara Mohawk was working toward a 6-year cycle. Starting out with a 6.5-year cycle, in the case of Niagara Mohawk, should not hamper the efforts of Niagara Mohawk to improve its ROW management practices. While even shorter cycle lengths are suggested as appropriate in the FERC Report, the Commission's insistence on annual ground patrols and hot spot work and tracking may mitigate the need to move immediately to shorter cycles. However, Staff will closely monitor the need to further reduce cycle length.

Regarding Recommendation No. 11, tracking all facets of ROW management activities is a prudent and cost-effective business practice. Hot spot work, in particular, is an important component of the Commission's decision not to require even shorter cycles and must be tracked. A utility's reluctance to change its record-keeping practices would be a poor excuse for not implementing reliability improvements.

⁶ Utility Vegetation Management and Bulk Electric Reliability Report from the Federal Energy Regulatory Commission (September 7, 2004) at 18.

Preliminary Staff Recommendation on Removal of Undesirable Vegetation

12. Each TO should be directed to ensure that all undesirable vegetation is removed along the full width of the ROWs.

Utility Responses

NYSEG and RG&E suggest that the vegetation removal proposal be modified to limit clearing within ROW to the standard clearing width established by the utility for the particular voltage and structure design, so as to eliminate unnecessary clearing in situations where the ROW is wider than is needed for the current facilities. They also raise a concern that easement restrictions may prohibit removal of all undesirable vegetation along the full width of the ROW. Central Hudson says that the immediate cropping of undesirable species that do not present a threat now or until the next cycle appears unjustified from a cost standpoint, would require additional funding beyond current rate allowances, and is not preferable to establishing removal of undesirable vegetation across the full width of transmission ROW as a long-term objective, to be attained over a period of years. Central Hudson also points out that its ROW widths were based, to a significant extent, upon the Commission's EMF Guidelines, as contrasted with consideration of the lateral vegetation clearance distances required for transmission line reliability. Con Edison raises the concern that full removal of all undesirable vegetation in a ROW at one time might prompt an adverse reaction from the community that could be avoided if the removal were to occur gradually over several cycles.

Discussion

Although nomenclature may differ by utility, each utility has established wire security zones around conductors

into which vegetation should never enter, and wider priority zones that, when vegetation enters, trigger immediate or future clearing activities to ensure that the vegetation is not allowed to continue to grow into the wire security zone. Based on the comments, it appears that the utilities would benefit from unambiguous guidance from the Commission to distinguish between necessary and unnecessary clearing in the ROW. As a general rule, for clarification, any undesirable vegetation rooted within the ROW that in any way encroaches into a priority zone is to be completely removed to the floor or ground-level of the ROW. Mere trimming of such undesirable vegetation rooted within the ROW so that it no longer encroaches into a priority zone is not an acceptable or cost-effective practice. Any undesirable vegetation rooted outside of the ROW that in any way encroaches into a priority zone is to be trimmed to the edge of the ROW consistent with industry standards in effect at the time of trimming. Centerline easements, without definite ROW edges, should be interpreted and applied by utilities in a manner that any undesirable vegetation that in any way encroaches into a priority zone is removed completely to the floor. Application of these rules will provide a natural and practical limit on clearing within the ROW, such that they will not result in any unnecessary clearing. The Commission expects that the utilities should be able to complete this work during a single maintenance cycle,⁷ and not longer.

⁷ The utilities have a floor treatment cycle length detailed in their ROW management plans ranging from an average of 3 to 6.5 years.

Preliminary Staff Recommendation on Right-of-Way Widths

13. Each TO should be directed to provide a plan to Staff, by May 31, 2005, for securing rights or ROW widths in order to maintain industry standards for adequate vegetation maintenance.

Utility Responses

Niagara Mohawk comments that this recommendation poses several problems in that the term "industry standards for adequate vegetation maintenance" requires definition and the task of assessing exact ROW widths for its many miles of ROW would be "monumental" and costly. Moreover, securing additional rights outside the ROW would be unwelcome to neighboring landowners. As an alternative, Niagara Mohawk suggests that the Commission recognize an approach that identifies specific areas where additional rights may be needed to prevent off-ROW tree-caused outages, based on an assessment of the distance from the conductor to the tree edge, tree height, and conductor height. O&R says that it currently has adequate ROW widths and rights to trim or remove trees and that widening its ROW may be impossible due to the high cost of condemnations and the increasing density of the population along transmission corridors in its service territory. NYSEG and RG&E say that imposition of an "artificial" deadline for submitting a plan is not necessary or beneficial to improve ROW vegetation management. NYSEG and RG&E propose to review the easements encountered during each successive year of the regular treatment cycle work until all have been reviewed. After each year's review is complete, a plan would be formed to acquire rights where needed. Con Edison acknowledges that it has extremely narrow ROW in some locations, that it must actively monitor such areas, and that it must seek landowner permission to trim or remove trees outside of the ROW when needed. Con Edison is concerned that the acquisition of vegetation removal rights where land is densely populated and

property values are very high would be a very expensive and long-term process, if at all practical. Con Edison argues for flexibility for each utility to propose some plan that is workable, yet preserves reliability, and requests that the deadline for providing a plan for securing necessary rights be changed to August 1, 2005. Central Hudson states that it has produced a list of locations not meeting its typical widths for 345 kV ROW and that it will also produce a similar list for 115 and 69 kV lines, to be used to facilitate discussion regarding the need to secure additional rights in connection with its ROW, but notes that its "typical widths" were set based on criteria other than vegetation management. Central Hudson asserts that, if the Commission is going to require the purchase of additional rights outside of existing ROW, it must make the case for public need and thus for the right to condemn property.

Discussion

Transmission ROW must be wide enough to satisfy multiple concerns. They must be wide enough to provide the minimum conductor clearances required by the National Electric Safety Code and, where applicable, the Commission's standards on maximum electric and magnetic field strengths at the edge of the ROW. Based on the utility responses, those standards have been the primary determinant in establishing required ROW widths. Another equally important concern, however, is the need for transmission ROW to be sufficiently wide to ensure that undesirable and potentially damaging vegetation can be removed by the utility so that it does not pose a risk to the transmission facility or to overall system reliability. It is untenable for a utility to have only minimally adequate ROW widths or tree removal rights, particularly on bulk and other critical transmission ROW.

It also appears from the comments that the utilities would benefit from unambiguous guidance from the Commission as to what is expected in terms of securing rights or ROW widths in order to ensure adequate vegetation maintenance. As discussed above, each utility has established priority zones that, when vegetation enters, trigger immediate or future clearing activities to ensure that the vegetation is not allowed to continue to grow into more restrictive wire security zones. As a general rule, ROW should be sufficiently wide not merely to trim, but to remove completely to the ground-level, any undesirable vegetation that in any way encroaches into a utility-established priority zone. In practical application of the rule by its terms, the utilities must consider particular conductor heights and the relative location and characteristics of undesirable vegetation. This recommendation will allow utilities to calculate optimal ROW widths based on actual conditions, rather than on somewhat arbitrary voltage designations, and to compare existing ROW widths to the optimal widths to identify deficient ROW.

The potential for vegetation-related outages is of such concern to the Commission that it is unacceptable to wait for a full treatment cycle (3-6 years or more) simply to complete the review and planning process envisioned by the recommendation. It is reasonable, however, for the utilities to prioritize their plans and reports first to include bulk and other critical facility's ROW. Due to the concerns raised about cost and practicality and the unknown scope of deficiencies, the Commission will not require the acquisition of additional ROW at this time; utilities will be free to continue to exercise their judgment in performing their public service responsibilities in a prudent manner in that regard. The plans shall be provided in a report to Staff by September 30, 2005, regarding bulk and

other critical transmission facilities, and by October 31, 2005, for non-critical transmission facilities.

Preliminary Staff Recommendation on Vegetative Buffers in Rights-of-Way

14. Each TO should be directed to review the need to retain tree buffers on transmission line ROW and submit a report to Staff by May 31, 2005. Priority should be given to bulk transmission or lines classified as critical by the RRC.

Utility Responses

NYSEG & RG&E say it is not necessary to submit the report recommended by Staff by May 31, 2005. For reasons of operational efficiency, NYSEG & RG&E contend that the determination of the retention of tree buffers should be made with respect to each ROW during each cycle when it is being inspected and cleared. Central Hudson says that Staff's recommendation has not been sufficiently explained to provide guidance to the utilities on how to accomplish the proposed review. Central Hudson asserts that the goal should be to strive to remove the tall growing, incompatible vegetation from all buffer zones by the end of the next treatment cycle, up to the limits of the easement and/or special permitting requirements, and to convert all buffers to naturally occurring compatible species that can be maintained at high use road crossings and other areas of high visual sensitivity, while managing the height of vegetation in these buffer zones to assure maximum wire clearances and system reliability. Niagara Mohawk also seeks clarification of what should be reported and says that any significant effort could not be accomplished by May 31, 2005.

Discussion

Vegetative buffers on the ROW are the exception to the general rule described in the discussion above regarding Recommendation No. 12. Buffers are maintained at high use road crossings and other areas of high visual sensitivity, primarily for visual amelioration or unique environment preservation. In many cases they were established as mitigation measures during the construction of new lines, often as a condition of approval, or over time based on the concerns of adjacent landowners. In some cases, the buffers consist of undesirable tree species that must be constantly trimmed. Buffers of tall growing trees are a known area where vegetation-caused outages can occur, as was the case in the widespread 2003 blackout.

The Commission's goal is for the utilities to inventory the buffer areas, evaluate whether they are still needed, assess whether it is feasible for any tall growing, incompatible vegetation found in them to be removed and replaced with naturally occurring compatible species or newly formed vegetated berms, and to establish a schedule to complete the conversion or elimination work within the next vegetation management cycle. In addition, the annual ground patrols of bulk and other critical transmission facilities should inspect and record their findings as to the condition of all buffer areas and "hot spot" corrective actions should be taken as often as necessary.

The Commission is persuaded that the utilities will need more time to complete the inventory and review process. The Commission will allow until September 30, 2005, for the filing of reports on bulk and other critical transmission facility ROW and October 31, 2005, for the filing of reports on all other ROW for transmission lines in voltage classes down to 69 kV. The long-term work indicated by the reviews should be

accomplished during the next vegetation maintenance cycle following submission of the reports.

CONCLUSION

The comments have been helpful in focusing and refining the proposals made by Staff. In accordance with the discussion set forth in the body of this Order, the Commission now adopts rules requiring the electric utility companies to enhance their transmission ROW vegetation management practices.

The Commission orders:

1. Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation (NYSEG), Niagara Mohawk Power Corporation (Niagara Mohawk), Orange and Rockland Utilities, Inc., and Rochester Gas and Electric Corporation (collectively, the "utilities") shall maintain sufficient qualified staff to implement their respective Commission-approved right-of-way (ROW) management plans.

2. Each of the utilities shall maintain a minimum level of in-house ROW management personnel, with appropriate education or experience in ROW management, to be thoroughly familiar with all phases of ROW management, including herbicide use. Each utility ROW management plan shall clearly and separately specify the personnel qualifications necessary to accomplish the in-house functions and the functions that may be performed by an outside contractor. The specification of personnel qualifications shall also explicitly address the conditions under which on-the-job training is appropriate.

3. NYSEG shall, submit to the Secretary, by August 31, 2005, or as the Secretary may require, for Staff's review, an original and two copies of a quality assurance plan that will allow the company independently to verify ROW

vegetation management contractor performance. NYSEG shall implement the plan by September 30, 2005.

4. Each of the utilities shall maintain ROW management plans that specify a minimum of one ground and one aerial patrol per ROW per year for all bulk transmission facilities, and for all other "critical" transmission facilities, as defined by the Northeast Power Coordinating Council (NPCC).

5. Each of the utilities shall prepare §84.3 herbicide application filings in a format to be provided by Staff, including the amount and cost of herbicide applied, by acre and technique, for each application management type employed.

6. Each of the utilities shall develop and implement, in consultation with Staff, a danger tree program to include, at a minimum, inspection schedules, ranking protocol, removal timeframes, appropriate forms, general budget requirements and ROW line prioritizing.

7. Each of the utilities shall submit to the Secretary annually by March 31, or as the Secretary may require, for Staff's review, and original and two copies of a report, discussing the amount of "danger tree" work completed by line in the preceding calendar year. Reported data shall include line name or number, miles trimmed and/or number of trees removed and program expenditure.

8. After consultation with Staff concerning the appropriate definition of "vegetation-caused outage", each of the utilities shall investigate, record and submit to the Secretary, for Staff's review, a report annually by March 31, discussing each vegetation-caused outage in the preceding calendar year (in addition to any reporting that has been previously required). Information for each outage in voltage

classes 69 kV and above shall include line number, location (i.e., tower number), tree location (i.e., inside or outside the ROW), species, height, condition, distance from conductor to base of tree, slope, and weather condition at the time of the outage.

9. NYSEG and Niagara Mohawk shall continue to work with Staff and implement their respective vegetation treatment cycles of 6 and 6.5 years.

10. Each of the utilities shall track "hot spot" work on an annual basis.

11. Any undesirable vegetation rooted within the ROW that in any way encroaches into a priority zone shall be completely removed by each of the utilities to the floor or ground-level of the ROW. Any undesirable vegetation rooted outside of the ROW that in any way encroaches into a priority zone shall be trimmed to the edge of the ROW. Centerline easements, without definite ROW edges, shall be interpreted and applied by the utilities in a manner such that any undesirable vegetation that in any way encroaches into a priority zone is removed completely to the floor. The utilities shall complete this work during a single maintenance cycle, and not longer. Any request for waiver of these provisions shall be fully justified.

12. Plans as described in the body of this order for identifying deficiencies in maintenance rights or ROW widths to ensure reliability shall be provided by each of the utilities in reports, an original and two copies of which shall be submitted to the Secretary, for Staff's review, by September 30, 2005, or as the Secretary may require, regarding bulk and other critical transmission facilities, and by October 31, 2005, or as the Secretary may require, for non-critical transmission facilities.

13. Plans as described in the body of this Order for the evaluation of vegetative buffers on ROW shall be provided by each of the utilities in reports, and original and two copies of which shall be submitted to the Secretary, for Staff's review, by September 30, 2005, or as the Secretary may require, regarding bulk and other critical transmission facilities, and by October 31, 2005, or as the Secretary may require, for non-critical transmission facilities.

14. This proceeding is continued.

By the Commission,

(SIGNED)

JACLYN A. BRILLING
Secretary