

STATE OF NEW YORK  
PUBLIC SERVICE COMMISSION

At a session of the Public Service  
Commission held in the City of  
New York on December 15, 2004

COMMISSIONERS PRESENT:

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

CASE 04-M-0159 – Proceeding on Motion of the Commission to Examine the  
Safety of Electric Transmission and Distribution Systems.

ORDER INSTITUTING SAFETY STANDARDS

(Issued and Effective January 5, 2005)

BY THE COMMISSION:

In the aftermath of the tragic death of a New York City resident in January 2004, we began an investigation into Consolidated Edison Company of New York, Inc.'s (Con Edison) procedures to ensure the public's safety from its electrical facilities.<sup>1</sup> Although the proceeding was commenced specifically to examine the safety of Con Edison's electric system, the information gathered as part of our investigation demonstrates that stray voltage concerns are not limited to Con Edison's service territory, they encompass electric facilities in operation throughout the State. Therefore, in July 2004, we broadened the scope of the proceeding to consider the need for and

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<sup>1</sup> Case 04-M-0159, Proceeding on Motion of the Commission to Examine the Safety of Consolidated Edison Company of New York, Inc.'s Electric Transmission and Distribution Systems, Order Instituting Proceeding, Requiring Additional Testing and Any Necessary Repair and Report on Status of Electric System (issued February 11, 2004).

appropriateness of state-wide measures to address situations related to stray voltage and other potential electrocution risks to the public.<sup>2</sup>

We then issued a Notice Soliciting Comments seeking input on proposed measures the electric utilities, both investor-owned and municipal, should take to minimize the potential exposure of the public to stray voltage conditions.<sup>3</sup> The Notice included a series of general questions and a set of proposed safety standards developed by Department of Public Service Staff (Staff Proposal). Additionally, notice of the proposed rulemaking was published in the State Register on August 18, 2004, in accordance with State Administrative Procedure Act §202(1). We received comments from 16 interested parties.

The State Legislature has granted us plenary power in Articles 1 and 4 of the Public Service Law (PSL) to regulate utility safety, including the authority to impose safety-related requirements. These requirements replace and supersede any similar efforts taken on a localized basis.<sup>4</sup> Pursuant to this general and comprehensive authority, we are adopting a set of state-wide safety standards that will apply to all electric utilities subject to our jurisdiction. The safety standards are described in Appendix A. They include: (1) annual stray voltage testing of utility electric facilities accessible to the public, using qualified voltage detection devices; (2) inspections of utility electric facilities on a minimum of a five-year cycle; (3) recordkeeping, certification, and reporting requirements; and (4) adoption of the National Electric Safety Code (NESC) as the minimum standard governing utility construction, maintenance, and operations. The standards require that where a utility finds stray voltage, it must immediately make the facility safe and repair it within a short time period thereafter. We are also adopting a performance mechanism to ensure that the utilities maintain proper focus on safety and compliance with these safety standards.

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<sup>2</sup> Case 04-M-0159, supra, Order on Staff Proposal (issued July 30, 2004), p. 7.

<sup>3</sup> Case 04-M-0159, supra, Notice Soliciting Comments (issued July 30, 2004).

<sup>4</sup> The legality of those prior localized efforts is questionable but need not and will not be addressed in this Order.

Definitional Issues

The safety standards apply to all investor-owned and municipal electric corporations subject to our jurisdiction that own and/or operate transmission or distribution facilities, whether fully or lightly regulated. As appropriate, the safety standards also apply to the corporations subject to our jurisdiction that own and/or operate electric generating facilities within the State, whether fully or lightly regulated. As used in this Order, the terms “electric utilities” and “utilities” refer to all of these corporations.

The term “electric facilities” means and refers to any electric plant, as that term is defined in PSL §2(12), that is used to modulate, transmit, and/or distribute electricity, or is related to its modulation, transmission, and/or distribution. The term “overhead facilities” generally includes the electric facilities that are part of a utility’s overhead distribution system (e.g., the system that serves rural areas and includes towers, poles, and aerial cable and conductors). The term “underground facilities” generally includes the electric facilities that are part of a utility’s underground distribution system (e.g., the system that serves urban areas and includes manholes, service boxes, and underground cable and conductors).

Some parties express concern that the term “stray voltage” does not properly describe the situation our safety standards primarily address. For example, Central Hudson Gas & Electric Corporation (Central Hudson) suggests that the term “stray voltage” is not precise because it also refers to naturally occurring phenomena; it suggests that we use the term “errant voltage,” instead. Central Hudson is correct that in different contexts the term “stray voltage” can have different meanings. In this proceeding we have consistently used that term to mean voltage conditions on electric facilities that should not ordinarily exist. These conditions may be due to one or more factors, including, but not limited to, damaged cables, deteriorated, frayed or missing insulation, improper maintenance, or improper installation. The public has also understood the term to have this meaning as it relates to the matters discussed in this Order. Therefore, the concerns are noted, but we will continue to use the term “stray voltage” to refer to the condition addressed by the safety standards.

In a number of instances, the safety standards make reference to streetlights and traffic signal poles and devices. As used in this Order, the term “streetlights” means and includes utility-owned streetlights and municipal-owned streetlights located on, along, or adjacent to public thoroughfares and areas and traffic signal poles and devices to which a utility provides direct service. It does not include privately-owned light fixtures, such as those located in private parking lots.

### Implementation of Safety Standards

#### General Comments

Virtually all of the parties acknowledged the importance of safety and support the overall goal behind the safety standards. The parties disagreed, however, on the content and breadth of the safety standards and offered various alternatives.

Con Edison supports adoption of electric safety testing, inspection, and reporting standards. Central Hudson, New York State Electric & Gas Corporation (NYSEG), Niagara Mohawk Power Corporation (Niagara Mohawk), Orange and Rockland Utilities, Inc. (O&R), Pennsylvania Electric Company (Penelec), and Rochester Gas & Electric Corporation (RG&E) suggest alternate programs that, they say, are entirely consistent with our objective of promoting public safety, compatible with the engineering design of the companies’ systems, and less costly to customers. O&R seeks clarification of the standards, relief from unnecessary and overly broad requirements, and consideration of a proactive and symmetrical enforcement program. Con Edison and O&R describe the standard setting process as a dynamic work in progress, with possible additional review after obtaining the benefit of more information, experience, and improved technologies.

Central Hudson, Niagara Mohawk, NYSEG, and RG&E propose a set of principles to guide safety standards. They request that we consider these principles in our determination of this matter. These principles provide that any testing and inspection standards should: (1) contribute to safety; (2) consider differences in utility systems, type of facilities used (i.e., overhead and underground), and population densities (urban, suburban, and rural); (3) focus on electric facilities identified as presenting the greatest potential exposure to the public, based on type, location and public access, and recognize

that the majority of electric utility infrastructure is designed to incorporate devices and schemes for public and system protection; (4) provide consistency with the NESC requirements for testing, inspection, and maintenance of electric equipment at such intervals as experience has shown to be necessary; (5) consider cost effectiveness to ensure costs of the safety program are commensurate with added safety or reliability; and (6) provide that utility responsibility for testing and inspection extends only to its facilities and not to facilities owned by others. These utilities also assert that establishing rate adjustments for failure to meet test and inspection targets is unnecessary, duplicates reliability standards, and contributes to higher costs without improving safety, and that they should be permitted to recover, or defer for later recovery, all incremental costs related to additional requirements imposed by the safety standards. They estimate that the state-wide cost to implement the Staff Proposal would be approximately \$100,000,000 annually.

Each utility provides the details of the safety testing and inspection programs it conducts and disputes the underlying rationale stated in the Staff Proposal and our July 30 Order for establishing standards.<sup>5</sup> That is, the utilities disagree with the proposition that certain electric corporations did not engage in any voltage testing and are not properly focused on providing safe service.

Central Hudson, NYSEG, and RG&E acknowledge their responsibility under PSL §65(1) to furnish safe and adequate service. Their preference is to enter into a constructive technical dialogue to develop improvements in the standards to serve the public interest in a cost-effective program. Central Hudson claims that following the

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<sup>5</sup> NYSEG and RG&E specifically request a correction of the record to acknowledge that they disclosed plans to conduct testing in a March 11, 2004 letter to Staff. No changes to the record are required. The letter stated, among other things, that the companies are planning a pilot incorporating new practices into their existing procedures, but it did not provide any time frame for their plans. The companies state that the lack of a Staff response to the letter indicated Staff's acceptance of their proposal. The companies are cautioned not to generally interpret lack of a response to a letter as an indication of assent, and in this case should not have so interpreted Staff's silence.

incident in New York City, it reviewed its construction and inspection practices to determine if its facilities were subject to the same risks of stray voltage as identified by Con Edison. It concluded that its facilities are not likely to experience the same conditions and that its inspection program should be adequate in identifying unsafe conditions. While it identified a number of streetlights to which it provides service, it did not perform any stray voltage testing on them.

Niagara Mohawk notes that much of its system is overhead and located in rural areas, which it claims limits public access and opportunities for public contact. It maintains that potential exposure is confined to a small subset of the company's facilities (0.1% of company facilities), and, where risk exists, the probability of experiencing stray voltage is very small. It therefore proposes an alternative program for its service territory that reflects geographic and economic constraints. The program would: (1) focus on reliability and safety and but not mandate inspections, which the company claims accrue a high cost and do not fix anything; (2) include a performance-based ratemaking scheme with positive incentives for good performance; (3) exclude application of the safety standards to its transmission system, which it reports are generally located on company owned or private rights-of-way with limited public access, and to its distribution facilities located in remote or lightly populated areas; and (4) provide for visual inspection of overhead transmission and distribution facilities on a five-year cycle. The company believes that this program will provide similar public safety benefits, provide greater reliability to its customers, and result in more efficient use of its resources.

The company maintains that a thorough visual inspection can identify the need for repairs, and, as its system ages, a program of this nature is important to make informed decisions about improvements. It states that proposed stray voltage tests are a redundant measure. Considering the geographical and physical restrictions Niagara Mohawk claims limit public access to its overhead facilities, and the efficacy of its inspection programs, the company believes that an increase in public safety from a testing program is negligible. However, the company commits to checking for stray voltage at all work sites, and to performing remedial action, as necessary, to eliminate any stray voltage found before leaving the site. Given this proposal, the company does not believe

imposition of a whole new regime of incremental testing and inspection is warranted. It argues that non-discriminate application of state-wide standards may detract resources from infrastructure improvements.

NYSEG and RG&E jointly submitted comments in which they describe the actions they propose to take to test and inspect facilities for stray voltage. The companies maintain that greater benefit to the public safety will result if they, in cooperation with Staff, develop testing and inspection programs that are specific to their operations and experiences. They state that the proposed generic approach does not achieve maximum public benefit, although some aspects of the Staff Proposal are suitable for state-wide uniformity. The companies state that Staff did not justify or provide a rationale for the Staff Proposal, and that Staff should have provided its analysis and evaluation to the companies.

NYSEG/RG&E's program would concentrate on low voltage equipment, which, they claim, poses a greater potential risk to the public because the design, construction and operation of high voltage equipment tends to minimize its probability as a source of shocks. They also point out that testing provides only a snapshot of the voltage level at the time of the test because variable conditions may change test results. The companies recommend limiting the testing and inspection program to facilities that are publicly accessible (i.e., metallic street light poles, switchgear, pad-mounted transformers, distribution pedestals, and handhold covers, which they collectively refer to as "priority facilities"), and incorporating it into existing programs with testing on an agreed upon cycle, instead of the annual testing program.

They also recommend use of the pilot program results to design company-wide testing and inspection programs. They expect the pilot to provide a more accurate indication of the extent of stray voltage on the companies' facilities.

Similar to the other utilities' arguments, Penelec urges that we promote reasonable measures that balance costs and benefits, recognize differences in operations and operating territory, and ensure cost recovery. The company submits that there is no supporting justification in the Staff Proposal for the extreme level of mandatory testing and inspection standards which tend to micromanage the utility's operations and fail to

strike the proper balance between costs and benefits. It claims that routine testing is not necessary to maintain safety, and requests that we do not adopt measures that would micromanage its responsibility to provide safe and adequate service.

The New York Municipal Power Agency (NYMPA) claims that its member municipal systems are very small, unlike the systems of the investor-owned utilities, and should not be subject to the same requirements. Its members can agree to conduct an initial round of testing but propose to do so in 18 months. NYMPA claims that its members' safety records demonstrate that a more aggressive schedule is unnecessary and that the 18-month schedule would allow its members to avoid adverse impacts on their operations and significant increased costs. It recommends postponement of subsequent testing requirements and the development of an inspection program until the initial round of testing is completed and the results analyzed.

NYMPA claims that its member systems already conduct extensive monitoring and inspections, and that such efforts are supplemented by reports received from other municipal employees. As a result, it claims, the members' day-to-day knowledge of their systems is far greater than that of the investor-owned utilities. This heightened awareness also results, according to NYMPA, in no occurrence of a safety, or a stray voltage, incident on any of its members' systems. Specific to the stray voltage issue, NYMPA claims that its members have remediated stray voltage concerns in agricultural settings for decades.

Eight municipal electric utilities jointly filed comments that strongly support our goal of ensuring the public's safety from stray voltage.<sup>6</sup> Like NYMPA, the NY Municipals claim that they have not experienced any of the problems of the type that caused us to commence and expand the scope of this proceeding. They urge us to proceed on a cost effective basis and balance the level of risk involved with the extent of

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<sup>6</sup> These utilities, which filed joint comments, include the Villages of Bergen, Rockville Centre and Sherburne, Freeport Electric Department, Green Island Power Authority, Greenport Municipal Utilities, and City of Jamestown and Salamanca Boards of Public Utilities (the NY Municipals).



the requirements, focusing on the facilities that pose the greatest potential risk (e.g., metallic streetlights, manhole covers, and service boxes). The NY Municipals also request 18 months to complete the initial round of testing and authority to incorporate testing and inspection requirements into their maintenance practices.

The New York State Consumer Protection Board (CPB) fully supports the proposed safety standards and urges us to implement them on a state-wide basis. It believes the standards are an important step in minimizing the public's exposure to stray voltage and generally ensuring the safety of the utilities' electric systems.

The City of New York (City) supports the proposed safety standards, in particular, the provisions relating to streetlights, no currents and the use of temporary shunts, and believes that the safety standards will help ensure the safety of Con Edison's electric system.<sup>7</sup> The City interprets the safety standards as incremental to Con Edison's current maintenance obligations and seeks assurances that the standards will not diminish or detract from the company's current responsibilities.

The Public Utility Law Project of New York, Inc. (PULP) supports implementation of safety standards.

Local 1-2, Utility Workers Union of America, and Locals 83, 97, and 503, International Brotherhood of Electrical Workers (the Unions) collectively submitted comments. They support the implementation of safety standards and our overall effort to improve the safety of utility facilities. They believe that enforcement of the standards is as important as enactment of the standards. They express concern that the utilities are not placing enough focus on their infrastructure and that the safety standards will likely influence the utilities to concentrate on maintaining their systems.

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<sup>7</sup> The City offers a number of comments and recommendations that appear to be focused solely on Con Edison's system. We will therefore consider the City's recommendations as applying only to Con Edison, not state-wide.

Roger Lane states that he and his family support the implementation of safety standards to prevent other tragic incidents.<sup>8</sup>

Discussion

Ensuring the safe operation of the state-wide electric system is one of our most important roles and responsibilities. Based on the information before us, we find that, while the electric system cannot be considered unsafe, the utilities can and should do more to monitor their electric facilities and protect the safety of the public from their facilities. Contrary to the utilities' assertions, the safety standards we are adopting are not unnecessary or overbroad.

While there are certainly costs associated with maintaining a safe electric system, there can be tremendous costs—economic, societal, physical, and emotional—associated with failing to properly monitor and maintain the system. Therefore, on balance we do not consider the costs associated with the safety standards to be unreasonable, unfair, or an inappropriate burden to place on the utilities and their ratepayers.

The record and facts before us are sufficient to demonstrate that testing and inspections are warranted and should assist in identifying, preventing, and repairing conditions that present, or could present, hazards to the public. They should also assist in maintaining, if not enhancing, the reliability of the utilities' electric systems by finding and correcting problems before they cause deleterious consequences.

Because only Con Edison has performed widespread testing of its electric system, sufficient information on the condition of the other utilities' systems is needed. Therefore, it is premature and potentially arbitrary to draw distinctions between service territories or types of facilities, as the upstate utilities propose. It is also inappropriate, based on the record before us, to conclude that different standards should apply to different communities or that people living in rural areas are not entitled to the same level

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<sup>8</sup> Mr. Lane is the father of Jodie Lane, the Manhattan pedestrian who was tragically killed when she came into contact with an electrified service box cover and whose death caused us to commence this proceeding.

of focus as people living in urban areas. Once we have a sufficient quantity of data, we may find that modifications to the standards, that maintain the same level of protection for all New Yorkers, are appropriate. For now, though, we will establish uniform, state-wide safety standards, not separate standards tailored to each utility's particular characteristics.

While we are instituting a uniform set of safety standards, no one should interpret them as altogether new requirements. The utilities are required by PSL §65(1) to provide safe and adequate service and to safely maintain their systems. As part of these responsibilities, the utilities already conduct programs to protect against stray voltage and inspect their facilities. In the prudent operation of their businesses, they should be routinely monitoring and tracking the condition of their facilities. It is not our intent to duplicate or supplant existing programs; the safety standards should be incorporated into those existing programs, and where the utilities are already performing the same tasks and appropriately documenting their activities, no additional actions are required. Also, within the parameters we are establishing, the utilities will have flexibility to decide how to implement the safety standards and operate their companies.

Finally, we reject NYSEG/RG&E's contention that Staff was required or obligated to justify its proposal or provide its analysis to the utilities. In this matter, Staff is acting in an advisory capacity to us; accordingly, Staff's analysis was not subject to disclosure to the parties. Moreover, there is no legal requirement that Staff provide to utilities the basis for its proposals and recommendations to us.

#### Stray Voltage Testing

Staff recommends that the utilities conduct stray voltage testing on all electrical facilities accessible to the public, regardless of whether they are served by underground or overhead systems. These facilities include, but are not limited to, manholes, service boxes, transformer vaults, pad-mounted transformers, poles (all metallic poles and wooden poles with a riser, ground, or guy wire); customer meters are not included. While substation equipment need not be tested, metallic fencing that surrounds substations could conduct electricity and pose a safety risk and should be tested. Staff proposes that initial testing be completed within six months of the date of

this Order, with additional testing occurring annually thereafter. Staff further proposes that utilities may petition for future modification of the annual testing requirement, except in New York City, after a baseline is established and based on good cause shown.

Central Hudson opposes Staff's recommendation for stray voltage testing and instead recommends adoption of its alternate program. The company contends that because Staff did not perform a cost-benefit analysis or provide a rationale for requiring testing outside New York City, is not appropriate to impose any testing requirement elsewhere in the State. As to immediately testing its facilities, the company is concerned that the quality of the testing data would be low and would not provide useful information.

Con Edison states that it completed its initial round of stray voltage testing last spring and that it will complete its second round of testing on its underground facilities and all streetlights located in New York City by the end of 2004. It states that it will test the other facilities, such as grounds or guy wires on wooden poles, within six months of the date of this Order. The company states that it will begin a November to November annual test cycle commencing November 2005.

Con Edison and O&R suggest that the scope of testing be clarified to encompass only utility-owned electrical facilities, exclude customer-owned facilities, and cover risers, grounds, or guy wires on wooden poles rather than the poles, themselves.

Niagara Mohawk believes testing of risers, grounds, and guy wires is unnecessary because those facilities are included in the company's visual inspection program. Testing of underground facilities are also not necessary, it continues, because the company limits the use of temporary repairs and inspects the facilities when work is performed on or in them. It opposes the initial six-month testing requirement due to weather, manpower, and cost reasons.

NYSEG/RG&E also oppose Staff's recommendation for stray voltage testing and instead recommends adoption of their alternate program. They assert that there is no need to test their high voltage facilities because such facilities do not normally cause stray voltage. Instead, they suggest focusing the testing on low voltage facilities.

Contrasting the size, diversity, and composition of their systems and experiences with stray voltage to Con Edison's, they do not believe conducting an initial round of testing within six months is necessary. Due to the size of their service territories, they do not believe they could complete the testing within that time frame. Further, to the extent testing is required, it should be limited to certain facilities.

The companies approach annual testing from the opposite perspective as Staff and other parties. They do not accept that testing could contribute to safety and contend that there must be a demonstration that annual testing will enhance safety before it should be required. They also propose to continue their pilot testing programs and request that we defer implementation of the safety standards until after we review the results from those programs.

O&R reports that the results of its 2004 testing and inspection efforts indicate that only aluminum street light poles exhibited signs of stray voltage and warrant annual full system testing. Based on these results and the design of its system, it does not believe annual testing is necessary. Rather, it proposes to implement an annual testing and inspection program for all aluminum street light poles, limited scope testing for stray voltage on guy wires and ground wires, and two percent sample testing of other electrical facilities susceptible to stray voltage. O&R also states that NESC grounding requirements may result in voltages that should not be interpreted as stray voltage problems. The company requests an exemption for facilities tested in 2004 and an 18-month period to complete stray voltage testing on its remaining facilities.

Penelec contends that annual testing is not reasonable, and that it could not comply with the six-month initial testing period set forth in the Staff Proposal. However, the company could incorporate a reasonable additional level of testing of equipment most likely to pose a hazard into its inspection practices.

The City proposes that we expand the scope of the testing program to all electric facilities, including those that are not accessible to the public. It contends that all electric facilities could pose a public danger and therefore should be tested.

The Unions request that we review the testing performed to date and examine whether it was performed by qualified personnel. If not, the Unions continue, it does not constitute adequate initial testing and should be redone. While the Unions prefer annual testing thereafter, they recognize that alternate cycles may be appropriate but urge that any request to change the test cycle be subject to public comment.

Discussion

Voltage testing is the most direct means of determining whether stray voltage is present and to what extent it exists in electric facilities across the State. Staff recommends a proactive, annual voltage testing program that includes only the facilities that are accessible to the general public. While the utilities contend the Staff Proposal is too broad, the City argues that it is not broad enough. We reject both contentions.

The utilities contend that, based on the testing performed to date across the State, the incidence of stray voltage on overhead facilities is far lower than on underground systems and that there is less risk associated with the overhead facilities. For example, Niagara Mohawk and O&R report that sample testing they performed on overhead facilities did not reveal any stray voltage conditions. Based on these arguments, they assert that annual testing of facilities in rural areas is unnecessary.

While we do not dispute these results, the quantity of facilities tested was relatively small and possibly not fully indicative of the condition of the utilities' entire systems. In contrast, Con Edison did detect stray voltage conditions on some overhead facilities. Our records also demonstrate that we have received several shock incident reports involving overhead facilities.

Niagara Mohawk's claim that testing is unnecessary because of its maintenance and inspection practices is not persuasive. Visual inspections cannot detect stray voltage on risers or guy wires, and the company's lack of a specific inspection program for underground facilities indicates that a stray voltage problem could remain in existence for an extended period of time without being detected. Also, the company does use temporary repairs, which can lead to stray voltage conditions.

The record before us demonstrates that we do not have enough information to draw a general conclusion that the risks from overhead versus underground facilities are so different as to warrant different testing cycles. While we acknowledge that the greatest risk is in densely populated areas with high pedestrian traffic, we do not have sufficient information to quantify the risks in medium or low density areas or to conclude that there are no risks in such areas. For these reasons, we will not accept Central Hudson's conclusion that there are no stray voltage concerns outside New York City and that state-wide testing is unnecessary.<sup>9</sup>

We reject the contention that transmission facilities located on company-owned or private rights-of-ways are not accessible to the public and need not be tested. Ownership of land does not constitute a reasonable barrier to public access, and even a cursory examination of the location of transmission facilities across the State reveals that they exist in close proximity to residential houses, businesses, and land open to the public (e.g., parks, hiking trails). We agree with Con Edison's and O&R's proposed clarification. Testing should occur on the facilities that may conduct electricity, not on the wood poles to which they are attached.

It is not necessary or appropriate to test all electric facilities. For example, it is neither practical nor productive to test underground or aerial cables for stray voltage. Since the purpose of our safety standards is to protect the general public, it is not necessary to test facilities that are not accessible to the public.

Annual voltage testing of all overhead and underground electric facilities that are accessible to the public, regardless of whether they are located in urban, suburban, or rural areas, is reasonable and provides the most protection to the public. We therefore adopt the voltage testing program that Staff proposes. Once we have better and more complete data on the results of utility-wide testing, we will revisit this issue to determine if different testing cycles are appropriate in certain areas or for certain types of facilities.

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<sup>9</sup> Central Hudson's concerns about the absence of a cost-benefit analysis or rationale for the safety standards are addressed above.

We recognize that it may take the utilities some time to ramp up their testing efforts and that seasonal variations in weather may impede testing of all facilities within the next six months. Further, we do not see any reason to differentiate between the initial and subsequent rounds of testing and will not do so. Each utility shall test its publicly accessible facilities at least annually, starting January 2005. Requests for exemption from the testing requirement for testing performed during 2004 are denied. Because the utilities must test their facilities annually, testing conducted in 2004 will not satisfy the testing requirement for 2005.

Given our decision, we need not consider whether and to what extent prior testing should be considered as “initial testing.” However, the Unions raise a valid concern relating to the qualifications of the employees and contractors who perform the testing. While we will not set minimum qualifications or review the qualification of particular individuals, the utilities are expected to properly train their personnel on all aspects related to testing.

Finally, we recognize that utilities regularly visit their facilities for many purposes. We encourage them to integrate stray voltage testing into this work to avoid duplication of effort and the incurrence of unnecessary costs.

#### Inspections

Staff recommends that every utility develop and implement a formal inspection program that applies to all transmission and distribution facilities, except customer meters, and provides for the inspection of each facility at least once every five years. It proposes that the inspections be conducted as part of routine maintenance activities, and that they must be properly documented and certified.

Central Hudson opposes the Staff’s recommendation for stray voltage testing and instead recommends adoption of its alternate program. Niagara Mohawk states that it visually inspects its overhead facilities every five years but has no specific inspection program for underground facilities. It therefore supports a five-year inspection cycle for overhead facilities but recommends that inspections of underground facilities be limited to observing the ground conditions above the facilities; it does not consider



opening and inspecting manholes, service boxes, or other types of facilities to be useful or cost-effective.

Con Edison and O&R recommend that we emphasize the safety purpose of the inspection program and limit the scope of the inspections to facilities that are accessible to the public. Con Edison agrees that a five-year inspection cycle is reasonable but considers it a challenging goal. It requests that we clarify that the utilities may conduct inspections in conjunction with ongoing work.

NYSEG/RG&E offer the same comments and recommendations for inspections as they do for testing. O&R generally supports the use of inspections but notes that it will require a robust and accessible information system for documentation. It recommends that we establish the inspection cycles based on reliability-centered maintenance principles, statistical sampling, and risk assessment. Applying these principles, the company proposes a 15-year inspection cycle with a mid-point evaluation check.

Penelec reports that it performs circuit by circuit distribution inspections of its equipment on a five-year cycle. The NY Municipals request that they be exempt from any requirement to conduct inspections.

The City proposes that Con Edison coordinate its inspections with the City to reduce the frequency of street openings. It also recommends that inspections be conducted annually, instead of on a five-year cycle, due to what it characterizes as a high and widespread incidence of stray voltage conditions identified over the past six or so months.

The Unions believe further definition of what constitutes an inspection is needed. They contend there is a difference between cursory visual inspections and detailed inspections. They also recommend that underground systems be inspected on a three-year cycle rather than a five-year cycle. They also urge that we require the utilities to address all hazardous conditions found during inspections, not just conditions that may cause stray voltage.

Discussion

Utilities should be taking proactive steps to prevent stray voltage and not just reacting to stray voltage conditions found as a result of voltage testing. One of these proactive steps is to conduct periodic inspections of electric facilities. As some commenters have observed, testing will provide the condition of a facility only as of the point in time the testing occurred. Inspections, however, provide opportunities to carefully examine the condition of facilities and are more likely to result in identification and elimination of conditions, such as deteriorated or missing insulation, that may lead to stray voltage conditions or other problems affecting safety or reliability. For this reason, we find no basis to exempt the municipal electric utilities from the inspection requirements.

The utilities conduct inspections of varying types and to varying degrees as part of their routine maintenance programs. Given this fact, we will not be dissuaded by their objections to the inspection element of the safety standards. Moreover, incorporation of the inspection requirement into existing work practices and maintenance programs will minimize costs and avoid significant operational changes. We reject Con Edison's and O&R's proposal to limit the scope of the inspections to publicly accessible facilities and Niagara Mohawk's proposal to limit inspections to overhead facilities and the ground above underground facilities. Because the inspections will serve to ensure the safety of the public and the continued safe and reliable operation of the utilities' electric systems, it is not appropriate to limit their scope in the same way as the scope of the testing program. We therefore adopt the inspection program Staff proposes.

With respect to the cycle for the inspections, many utilities currently use a five-year inspection cycle. For the reasons set forth in our July 30 Order, we find no reason to adopt a longer cycle. Shortening the inspection cycle is not likely to further improve safety because deterioration of facilities takes time. Also, some of the upstate utilities have expansive service territories and a significantly large number of facilities and may therefore have difficulty in completing the inspections in three years, as the Unions propose. Further, while Con Edison's recent testing identified a large number of

locations where stray voltage was found, we do not consider that initial round of testing as forming a reasonable basis for requiring more frequent inspections.<sup>10</sup>

Therefore, we adopt Staff's recommendation that every utility develop and implement an inspection program in which every electric facility is inspected at least once every five years. Additionally, and as appropriate, the utilities should continue to inspect certain facilities on a shorter cycle where premature deterioration is found, above-average instances of stray voltage are detected, or for other reasons.

Some parties seek clarification as to what constitutes an inspection for purposes of these safety standards. We define an inspection for this purpose as a visual examination of towers, poles, guy wires, risers, overhead cables and conductors, transformers, breakers, switches, and other aboveground equipment and facilities, and of the interior of manholes, service boxes, vaults, and other underground structures.<sup>11</sup> Inspection of equipment should be performed in a manner that allows the inspector to examine its components, except those that are ordinarily encased in sealed compartments. We do not expect the utilities to perform destructive testing as part of this inspection program, except as otherwise required by their more intensive inspection procedures. This inspection requirement is intended to complement, not supplant, the inspections any utility already performs. To the extent a utility's inspection program is broader or more intensive than the program described herein, the utility should continue to follow its own program.

When a visual inspection indicates the need for a more intensive examination, the utilities shall perform infrared testing and/or other inspection procedures. When an inspection reveals a hazardous condition or other problem, whether related to stray voltage or otherwise, the utility must make all repairs necessary to

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<sup>10</sup> It should be noted that in each instance where stray voltage was found, the facility was immediately made safe.

<sup>11</sup> Where debris or water is found in the structure, it must be removed before commencing the inspection so that all of the facilities in the structure, and the structure itself, may be fully inspected.

eliminate the condition. While it is not our intent to be prescriptive in detailing the inspection requirements because there is no “best” inspection practice, the utilities are encouraged to discuss their programs and inspection results with each other and Staff in order to develop best practices, to the extent possible, over time.<sup>12</sup> For example, Central Hudson describes an inspection program that would meet our expectations and could be used as a model by other utilities.

Finally, we agree that Con Edison, and all utilities, should coordinate street opening and other activities that affect traffic with municipalities. However, mandating such coordination as a component of the safety standards is not necessary.

#### Corrective Actions Required

In the event stray voltage is detected during testing or an inspection, Staff proposes that the utility guard the facility until the condition is made safe. In cases where utility-owned facilities are determined to be the cause of the stray voltage conditions, the utility should be required to make permanent repairs within 45 days.

Con Edison and O&R agree with the Staff Proposal but request a modification that permits utilities to maintain temporary repairs, with periodic visits to the sites, when circumstances beyond their control or operating reasons prevent a permanent repair within 45 days. O&R points out that the Staff Proposal involves any stray voltage and that this is a more conservative and unrealistic threshold than the eight volt threshold application to the testing program.

Niagara Mohawk states that its current practice is consistent with the Staff Proposal.

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<sup>12</sup> We recognize that each utility’s work practices are somewhat different, and that the integration of the inspection program into each utility’s practices and procedures will entail some variation. It is nevertheless possible that certain inspection techniques and methods could be considered commonly employed as best practices.

Discussion

The utilities' concerns are valid, and delays could occur anywhere in the State for reasons beyond their control. Therefore, we adopt a requirement that utilities make permanent repairs with 45 days, unless they demonstrate that external factors prevented them from meeting this deadline. Where permanent repairs cannot be made within 45 days, the utility shall make periodic site visits to ensure that the temporary repair is not deteriorating or becoming damaged and that the facility remains safe and free from stray voltage. The utilities shall describe and justify all claimed exceptions to this requirement in their annual reporting.

While we require the utilities to conduct the testing using an eight volt threshold, they are not excused from correcting any stray voltage conditions that are not due to naturally occurring causes or inherent to the proper functioning of the subject electric facility. For example, if during an inspection an inspector identifies a cable with damaged insulation but which is only emitting five volts, the utility must comply with these corrective action requirements. In contrast, if the inspector detects a minimal voltage level that is attributable to the design of the facility and not the result of an improper condition, no corrective action is needed.

Analysis of Causation

Some parties assert that the Staff Proposal does not go far enough, and that testing and inspecting electric facilities is not sufficient to properly address the stray voltage issue. They contend that the information obtained via these efforts must be analyzed and the factors that are causing stray voltage identified.

We agree. Testing and inspections are important to identify and correct hazardous, or potential hazardous, conditions, but they do not fully address the issue. We therefore direct the utilities to analyze the stray voltage conditions they encounter in order to determine if there are common causes of the conditions. To the extent common causes are identified, the utilities should ascertain the measures they could take to prevent future or recurring stray voltage incidents, including, but not limited to, changes in maintenance practices and construction procedures or modifications to facilities that are more prone to stray voltage conditions. The annual reports the utilities file related to the

safety standards shall include a discussion of the analyses undertaken, the conclusions drawn therefrom, the preventative and remedial measures identified, and the utilities' plans to implement those measures.<sup>13</sup>

#### Quality Assurance

Staff recommends that each utility be required to develop a quality assurance program to ensure timely and proper compliance with our safety standards.

Niagara Mohawk reports that it will develop a quality assurance program. O&R reports that it will manage its testing program to comply with the requirements. The City suggests that we approve the details of the utilities' quality assurance programs after an opportunity for public comment. The Unions propose that the utilities' compliance with the safety standards be subject to audit by third parties, as well as Staff.

#### Discussion

In order to ensure that the utilities fully comply with the safety standards and properly implement and conduct the testing and inspection programs, quality assurance programs are essential and shall be implemented. While the utilities have primary responsibility for ensuring their compliance with the standards, we direct Staff to monitor and audit the utilities' efforts. At this time, we anticipate that the combination of the utilities' quality assurance programs, the extensive reporting requirements, the performance mechanism, and Staff's involvement in the process will provide an appropriate level of oversight. Therefore, we do not find any reason to require third-party audits or another layer of review.

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<sup>13</sup> Some utilities already conduct such analyses. For example, Con Edison has identified salt deposition as a primary cause of deterioration of its underground facilities and is conducting research and development on ways to address the salt issue. The company routinely reports on its ongoing analysis of and progress in this matter. Those reports should be merged with the reporting required herein, and, as appropriate, the company should expand its investigation of the causes of stray voltage on or emanating from its facilities.

Recordkeeping

Staff recommends that each utility develop procedures and protocols to track the stray voltage testing and inspection dates and results for each facility. These records should be kept in a manner that is readily accessible and searchable, continuously updated, and subject to review and audit.

Con Edison requests clarification of the extent of active management of the testing program to assure adherence to and recording of testing schedules. It points out that it does not maintain a searchable database for streetlights that it does not own. Niagara Mohawk states that it already utilizes a database to track its inspections. The company proposes to incorporate the testing information into this database. NYSEG/RG&E maintain that the proposed recordkeeping requirements are unduly burdensome and suggest requiring records only when stray voltage exceeding 10 volts is discovered and corrective action taken. O&R requests an 18-month grace period for meeting this requirement. Penelec proposes that records be maintained at the circuit level, with more detailed information maintained on an exception-only basis.

The City seeks clarification as to the contents of the records kept, recommending that they include the details on each piece of equipment tested and inspected, such as location, where on the equipment stray voltage was found, if at all, and the date the condition was repaired. Mr. Lane recommends that we require the utilities to track dates of testing and test results by location.

Discussion

Recordkeeping is an important aspect of the safety standards, given the numerous facilities involved. In addition to allowing careful tracking of progress, maintenance of complete and accurate records will make possible close monitoring of the condition of the utilities' facilities and assist in locating potential safety problems, developing maintenance enhancements, identifying the need for capital investments, and improving the reliability of the electric system.

An exception-based approach wherein only locations where stray voltage or other problems are identified are recorded would not provide adequate support of the number of facilities tested and inspected. Additionally, such an approach would not be

consistent with the tracking needed for the performance mechanism, the quality assurance programs, or audits.

The information provided by Central Hudson refutes the argument advanced by NYSEG/RG&E that maintaining detailed records would be too burdensome and demonstrates that there are commercially available software packages that can be used or adapted to meet the recordkeeping needs associated with the safety standards. Simply certifying that a circuit has been tested and inspected, as Penelec proposes, is not acceptable because it does not provide a sufficient level of detail of the company's actions and findings. While we will not specify the manner in which each utility must maintain its records for these efforts, we require that complete and auditable records be maintained.

#### Certifications

Staff recommends that each utility certify its annual compliance with the safety standards.

Con Edison and O&R interpret this requirement as permitting a manager to provide written certification for testing and inspections conducted by others. The companies recommend that we require filing of this certification by January 15 of each year. Con Edison requests that we specify that the certification may contain exceptions for untested facilities, provided that they are identified and justifications for noncompliance are included. Con Edison and O&R request that we require one day's notice for a request to review certifications and other documentation.

Niagara Mohawk recommends that we perform a cost-benefit analysis of this requirement and ensure that the costs to certify compliance do not exceed the benefits obtained. NYSEG/RG&E assert that certifications are not necessary for accountability or responsibility as safety is paramount at the companies and is demanded by management. They request that, if certifications are required and made available to the public, only persons with a valid purpose should have access. O&R requests that we clarify that the certification may rely upon the certifier's knowledge, information and belief.



Discussion

The certification requirement is appropriate because it is a clear demonstration of each utility management's focus on safety and the safe operation of the utility's electric systems. Provided that the utilities maintain accurate and complete records, and that their managements oversee these efforts, as they prudently should, certifications will not be burdensome. Niagara Mohawk's request that a cost-benefit analysis be performed seems misplaced. There should not be a significant or material cost associated with the act of certifying compliance with the safety standards, and no such analysis is warranted.

With respect to access, the utilities have not established legitimate reasons for requiring advance notice to review the certifications or other documents related to the safety standards. We do not believe such a requirement is necessary or appropriate. This matter clearly and directly affects the public; the public has a right to review documents relating to public safety and to confirm that the utilities take their responsibilities seriously and are taking steps necessary to make their electric systems and facilities safe. The availability of public inspection of the documents may also increase public confidence in the safety of the electric system. Accordingly, the utilities shall maintain the certifications and the reports related to the safety standards in locations that are accessible to the public and shall provide them upon request. A requirement that a person must first state a valid purpose for access to this information is a very general limitation that may result in discriminatory application. We are not aware of any reason that would justify denial of access to the public. Therefore, the utilities may not place any special requirements or burdens (e.g., advance notice, reason for access) on the public as a condition to providing access to this information.

Reporting Requirements

Since the spring of 2004, and as a direct outcome of its investigation in this proceeding, Staff requested the utilities to notify the Department of all incidents involving shocks and events affecting system reliability or the provision of electric service to customers. Staff recommends that we formalize these notification requirements. Staff also proposes that, within 30 days of the date of this Order, each

utility file a report that provides: (i) the details of its voltage testing program; (ii) the details of its inspection program; (iii) the safety criteria it will apply as part of each program; (iv) an inspection schedule that demonstrates how the utility will comply with the requirement to inspect all of its electric facilities at least once every five years; (v) the details of its quality assurance program; (vi) its plans to train its employees and contractors to perform the testing and inspections; and (vii) a description of any research and development activities the utility is conducting or plans to conduct related to stray voltage and safety issues. Staff recommends that the utilities file reports on the findings of their initial round of stray voltage testing no later than one month after testing has been completed, and to file, on or before January 15 each year, reports detailing the results of stray voltage tests and inspections conducted over the prior 12-month period ending November 30.

Con Edison states that the utilities should not be required to independently determine whether an injury has occurred; instead, they should be permitted to rely upon medical reports. It seeks clarification that reports are required for shocks to domesticated animals (e.g., dogs, cats, horses) but not non-domesticated animals (e.g., squirrels, birds). Con Edison and O&R seek clarification that the report on research and development activities is limited to activities related to stray voltage.

NYSEG/RG&E believe that the additional reporting requirements are not necessary and instead propose limiting reporting to the events described in 16 NYCRR Part 125. The companies note that because Staff's April 2004 request to notify the Department of all shock-related incidents went beyond the requirements of our regulations, they had no obligation to comply with it.

O&R interprets the Staff Proposal as meaning that one-hour reporting is required for an injury, subject to employee awareness, physical ability to report, and no intervening conditions, such as acts of God. It maintains that 30 days for the initial report is an unreasonable short time for such an important and wide-ranging initiative; it proposes six months. Also, it requests at least 90 days to develop and file its initial and subsequent stray voltage testing results reports, claiming that it needs time to collect the data and prepare the reports. The company recommends a consolidated filing date for all

information related to the safety standards, and that the filing reflect any authorized annual inspection requirements for a utility (if less than 100%).

The City recommends that the reports should be accessible by interested parties electronically. PULP suggests modifications to the reporting requirements. It recommends that we adopt a uniform reporting standard that would allow for comparisons among utilities and identification of best practices. Pointing to the inconsistent reporting by the gas utilities of gas leaks, PULP contends that permitting individualized electric safety reports will prevent productive use of the information provided. It recommends that we commence a collaborative to develop common definitions and a uniform reporting format and content. The Unions argue that the testing and inspection records should be available on our web site and subject to audit by a third-party as well as the Department. They suggest that the reports contain descriptions of the process used to verify qualifications of the workers performing the safety-related tasks. Mr. Lane recommends that the utilities file quarterly reports on the status of their activities.

#### Discussion

Expansion of the scope of reporting will permit greater understanding of the stray voltage problem throughout the State and development of a more complete picture of the nature and scope of the situation. It will also allow us to more closely monitor and oversee the reliability of the electric system and immediately respond to events that occur. We therefore adopt and require each utility to comply with the notification requirements set forth in Appendix B. We reject O&R's interpretation as inconsistent with the express requirements of Part 125. NYSEG and RG&E are correct that Staff's April request is more expansive than the requirements in Part 125. While they were also accurate that there was no legal requirement that they comply with the request, there is no legal prohibition from imposing, via this Order, notification or filing requirements that exceed the specific requirements of our regulations, provided they remain within the scope of our authority under the Public Service Law. Here, the reporting is within the scope of our authority under Articles 1 and 4 of the Public Service

Law. Therefore, to ensure that every utility complies with these notification requirements, we order them to do so.<sup>14</sup>

As for the various recommendations on the reporting requirements, it is important that the utilities maintain, and that we receive, a complete description of the utilities' activities and findings. In addition to providing a better understanding of the issue, the inclusion of complete information will aid us in evaluating the appropriateness and effectiveness of the safety standards and in considering future modifications thereto. While we appreciate the concerns expressed as to the volume of information the annual reports will contain, we do not see a need for quarterly reports. Staff will closely monitor the utilities' efforts and can report to us on an interim basis if a problem is identified. We do not, at this time, see a need to specify the structure or contents of the reports, or to establish a uniform format. We will give the utilities flexibility in the structure and format of their reports, but they shall not omit any required information. In the event that improvements or uniformity is needed, we will establish additional reporting requirements.

Because we are eliminating the initial six-month testing requirement and instead establishing an annual requirement, no separate report within 30 days of the completion of the first round of voltage testing is required. Rather, the results from that testing are to be included in the first annual report. It is reasonable to allow the utilities additional time to file reports detailing the manner in which they will comply with the safety standards. Those reports will be due within 45 days of the date of this Order. We accept Con Edison's and O&R's clarifications on the animals for which the notification requirement applies and on the scope of the research and development reporting requirement. Also, while we do not expect the utilities to review and confirm the findings of others as to whether an injury has occurred, in the absence of a medical or

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<sup>14</sup> Typically, we do not have to convert Staff's informal requests to the utilities to formal requirements. However, the tenor of NYSEG/RG&E's comments suggests that those companies have an incorrect understanding of their responsibilities and of the role of Staff. We take this action so that there is no misunderstanding of the companies' obligations.

other report, the utilities must analyze incidents involving their facilities and take reasonable actions to ascertain whether an injury was involved.

We find no reason to require third-party audits of the reports or explanations of training and qualification procedures for the personnel who will conduct the testing and inspections. At this time, we will not require electronic availability of the reports or posting on our web site.

Adoption of the National Electric Safety Code

Staff recommends that we adopt the NESC, which is the national standard for the installation, construction, maintenance, and operation of electric facilities, as the minimum safety requirements with which each utility should comply. Staff proposes, though, that the utilities be permitted to petition for exemptions from provisions of the NESC, if valid technical reasons make compliance impossible or inappropriate.

Con Edison supports formal adoption of the NESC's safety standards and recommends that we authorize deferral of any increased costs of compliance with those standards. It also recommends that OSHA Standard 1910.269 govern electrical safety-related work practices for utility employees. Con Edison and O&R recommend that we expand the basis for exemption from the NESC to allow the utilities to demonstrate that using a different approach provides comparable safety at less cost.

Niagara Mohawk notes that the inspection requirements are not mandated by the NESC. O&R states that this proposal is a significant change in Commission policy. It points out that utilities have historically operated under our guidance, with reliance on the NESC to examine safety on a case-by-case basis. Formal adoption of the NESC and application to existing facilities would require O&R to review all of its existing facilities and procedures for NESC compliance, develop compliance programs, and incorporate NESC design into all future projects. It proposes grandfathering of current facilities, and a minimum 18-month transition period to achieve compliance for future facility designs and installations and for ongoing operation and maintenance practices. It also suggests that we maintain our current practice of assessing existing facilities on a case-by-case basis, using NESC rules as guidelines.

Penelec reports that it already complies with the NESC. The NY Municipals support adoption of the NESC. The Unions urge that any requests for waiver of the NESC be first subject to public comment.

Discussion

The NESC is the basic standard for safeguarding persons from hazards arising from the installation and operation of electric utility facilities. The NESC is recognized as an American National Standard and acknowledged, in some manner, in the regulations of 48 other states. Although not heretofore formally adopted, we have long expected, and understood, that the utilities design, construct, operate, and maintain their facilities in compliance with the NESC or more stringent standards. Also, our Staff uses the NESC as the standard when investigating consumer complaints and incidents involving electric facilities.

It is not our intent that the utilities reduce any standards they employ that are more stringent than the requirements of the NESC. The NESC shall be considered the minimum standard to be employed. Henceforth, the NESC or more stringent, utility-specific standards shall apply to all new projects undertaken by the utilities, but the utilities are not required to retrofit their existing facilities to comply with the latest version of the Code. To the extent that projects currently being constructed do not comply with the NESC or more stringent standards, exemption from compliance will be considered on a case-by-case basis. Given this clarification, and our understanding of the utilities' operations, we find no merit to the utilities' claim that converting the NESC from an informal to a formal minimum standard will result in additional costs.

The NESC contains provisions related to testing and inspection of utility facilities that vary from the safety standards set forth herein. Where any such conflict exists, these safety standards shall control. We reject the request to broaden the scope of potential reasons for exemption from the NESC. Cost concerns are not a controlling factor or reason for deviating from minimum safety requirements. The applicability of OSHA standards and regulations are a matter of federal law and need not be addressed herein.

Target Levels for Testing and Inspections

Staff recommends a 100% annual performance target for stray voltage testing. It does, however, provide for exemption of certain physically inaccessible facilities when calculating a utility's performance.<sup>15</sup> Situations involving winter parking rules and temporary street closings, for example, would not qualify because the utilities will have one year to complete each round of voltage testing. Staff recommends that the annual performance target for inspections be set at 95% of the level needed to assure that all facilities are inspected on a five-year cycle. It includes no exemptions or exceptions. Finally, it recommends the use of certified testing devices that reliably measure a range of 8 to 600 volts.

Central Hudson supports targets for testing and inspection but proposes that we set more reasonable targets, after consideration of the type, location, public accessibility of equipment, and extent of possible public contact. It recommends an evaluation of the results obtained from testing and inspections and adjustment of the targets, as appropriate, to the frequency of testing and inspections. Also, the company expresses concern with the detection devices Con Edison is using, suggesting that the devices are not designed or intended for the use to which they are being put.

Con Edison generally supports annual target levels for testing and inspection but contends that the proposed 100% stray voltage testing target is unnecessarily rigid, unfair, and unrealistic. Some recognition is needed of the possibility for inadvertently missing some facilities despite best efforts. The company proposes that the standards permit electric corporations to request adjustment of the targets for good cause, if supported by data, experience, or technology, and provide for waivers in the event of extraordinary circumstances. It does not oppose a 95% annual inspection target, but it recommends a phase-in of this target over three years, starting with a target of 80%

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<sup>15</sup> Exemptions may include facilities located in construction zones where scaffolding is in place over a manhole for an extended period of time, or where fencing or the construction of a structure temporarily (one year or more but not permanently) precludes access to otherwise publicly accessible facilities.

and phasing up to a the 95% target. This phase-in is needed, it explains, because of formidable logistical and resource requirements to initiate the program and need to hire and train workers.

With respect to the voltage testing range, Con Edison states that its analysis indicates that stray voltage detection at eight volts is a conservative level that is substantially lower than the threshold voltage level that is hazardous to the public. It asserts that the upper limit detection level of 600 volts is not necessary and recommends 300 volts. Its secondary electric system generally operates in a narrow range of about 120 volts, with some customer installations at 277/480 volts, for which the maximum voltage to ground is 277 volts. The company explains that two kinds of proximity-type detectors are commercially available—proximity voltage detectors equipped with adjustable sensitivity controls with a threshold sensitivity of eight volts or less when correctly adjusted for field conditions, and probes that do not require a sensitivity adjustment and have a threshold sensitivity of about 15 to 16 volts. The proximity voltage detectors, the company states, may inadvertently be improperly set or the setting may change while in use, thereby producing false-negative results. Con Edison is working to develop a non-adjustable proximity voltage detector; production units are expected to be available in the first quarter of 2005. Until the units are available, Con Edison states that it plans to use the non-adjustable commercially available detectors.

Niagara Mohawk recommends alternative annual target levels: five-year detailed visual inspection of all overhead transmission and distribution facilities; five-year underground exterior visual inspections; and metallic streetlight standard stray voltage inspections completed concurrent with bulb outage cycles. On the voltage testing level, the company reports it uses eight volts as its lower testing limit.

NYSEG/RG&E see no need for annual target levels because rate adjustments are not appropriate. The companies propose incorporation of the tests and inspections into their existing programs. They claim more experience is needed to establish reasonable targets that recognize their expansive service territories. With respect to the testing level, the companies contend that numerous factors, including the



resistance of the human body, must be considered. Based on information they present in their comments, they recommend 10 volts as the appropriate level for testing purposes.

O&R contends that Staff's proposed target levels are unfair and unrealistic. The company states that annual targets are appropriate for some equipment, but that only sampling is needed for other equipment. Also, the target must reflect that some facilities could be missed inadvertently and that other events or unusual system conditions could prevent achievement of a target. Therefore, it proposes exceptions for major events and unusual circumstances. As to the testing level, the company believes eight volts is very conservative and that commercially available, pre-calibrated testing devices have a threshold of 15 volts. Therefore, it proposes to test for 15 volts until future research determines 15 volts is not a reasonable threshold and pre-calibrated devices that can reliably measure eight volts are readily available.

Penelec claims that we should not set specific target levels but should instead rely on the NESC's testing and inspection requirements. The NY Municipals urge us to wait until the initial round of testing is completed before imposing inspection or further testing requirements or performance targets. Any future requirements should reflect the potential risk of different types of facilities and the different maintenance cycles of each utility. They also contend that testing at the levels specified in the Staff Proposal is unnecessary and possibly very costly. They recommend a lower threshold of between 10 and 20 volts and request clarification of the upper threshold for stray voltage testing. They claim that voltage levels of 600 volts are a concern but indicative of problems other than stray voltage and should not be included in the range of stray voltage testing.

The City supports Staff's view that targets and associated ratemaking adjustments are needed to ensure that the utilities comply with the safety standards. It notes that the provision of electric service is a natural monopoly and customers have virtually no other options if they are dissatisfied with the service they receive. The performance mechanism set forth in the Staff Proposal, the City continues, protects customers by imposing economic consequences for poor performance, thereby ensuring that the utilities adhere to the standards and place safety above shareholder value. The

City also recommends that the testing equipment used be able to detect any stray voltage (i.e., any voltage above zero volts).

Mr. Lane believes it is very important to set frequency and target levels for testing and inspections in order to provide a means of measuring performance and effectiveness of the safety standards, as well as to enhance safety. Acknowledging that testing and inspections capture conditions only at the time of the activity, Mr. Lane believes that there should be an ongoing assessment of the impact of the programs on safety, and the frequency may be modified over time as circumstances warrant. As to the target voltage level, Mr. Lane contends that the presence of any stray voltage indicates a problem and the possibility of an unsafe condition. He therefore recommends that the target voltage level be reduced from eight volts to four volts.

#### Discussion

Initially, we reject the suggestions to defer consideration of any performance targets. Concomitant with the establishment of testing and inspection requirements, we need to establish metrics against which we will measure and determine the utilities' performance and compliance.

We find no reason to set the performance target for the voltage testing program at a level less than full compliance. Given the level of effort involved in performing the testing, there is no legitimate reason why the utilities cannot test all of the publicly accessible facilities over a 12-month period. The inspection program is more intensive than the testing program, and the utilities' contention that they need time to integrate it into their routine maintenance activities is reasonable. Therefore, we will phase-in the performance targets for annual inspections. Doing so, however, does not change the requirement that all facilities be inspected at least once every five years. Starting with this overall requirement, the utilities should inspect at least one-fifth of their facilities each year. We therefore base the performance targets on a percentage of the average number of facilities that must be inspected each year. The specific targets for purposes of the performance mechanism will be 85%, 90%, and 95% of the one-fifth amount for calendar years 2005, 2006, and 2007, respectively. Each year thereafter, the performance target will be 95%, except that in every fifth year, each utility must ensure

that it has inspected all of its facilities.<sup>16</sup> In the event that a utility inspects all of its facilities pursuant to a compressed schedule and completes its inspection cycle prior to the end of the five-year period, we will consider it to have satisfied this safety standard.

The final target level to be addressed is the voltage level at which the testing must occur. Many different thresholds and ranges have been offered. Some parties express concern that any stray voltage is unsafe, others are concerned that no probes that comply with the proposed testing range are commercially available.

As a practical matter, testing to zero volts is not feasible. As noted by O&R, utility systems inherently create current imbalances that cannot be entirely eliminated. It would require tremendous resources to reach such a low threshold, whereas accomplishing the testing required by the safety standard will require the use of a portable device capable of easily measuring low voltage levels. Such devices are commercially available, but they are capable of detecting low voltages only above a minimum threshold.

Quantifying the level of voltage that places public health and safety at risk is not easily accomplished. Staff recommends a threshold of eight volts based on its research, the research conducted by Con Edison, the analysis performed by the independent expert commissioned by Con Edison at Staff's request, and the results of testing performed by Con Edison and an independent laboratory retained by Con Edison. These sources conclude that commercially available, hand-held, easy to use devices exist that are capable of reliably detecting eight volts. Based on the record before us, we find that the eight volt threshold is reasonable. Therefore, the objections to it are rejected and

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<sup>16</sup> An example will assist in understanding this metric. If a utility must inspect 100,000 facilities in total, it will need to inspect approximately 20,000 facilities each year. In 2005, to achieve the performance target it must inspect 85% of 20,000 facilities, or at least 17,000 facilities. In 2006, it must inspect at least 18,000 facilities (90% x 20,000), and in 2007, and in each year thereafter, it must inspect at least 19,000 facilities (95% x 20,000). At the end of 2009, and each five-year period thereafter, it must complete the inspections of all 100,000 facilities.

it is adopted. Moreover, to ensure the accuracy and reliability of the detectors used, they must be certified to a level of eight volts by an independent laboratory.<sup>17</sup>

The record also indicates the testing could not be reliably performed at four volts, as recommended by Mr. Lane, so his proposal is not feasible. Nevertheless, the theory he espouses is as valid at eight volts as at four volts. That is, although the detection of eight volts may not pose an immediate safety hazard, it is an indication of a problem and a potential safety hazard. As discussed in the Corrective Action section, whenever stray voltage is found, no matter the level, the utility should investigate its cause and repair any improper conditions that are discovered.

The 600 volt limit Staff recommends is a typical upper rating by manufacturers in the electric utility industry for low voltage equipment. While some utilities operate their low voltage systems at lower voltages, our goal is to set a uniform, state-wide testing range. Therefore, there is no need to lower the upper threshold below 600 volts.

Finally, we find Central Hudson's contentions about the devices used by Con Edison to be unfounded. First, at Staff's direction, Con Edison had its probes tested by its laboratory and an independent laboratory. All of the test results indicate that two of the detectors it was using, both of which are readily available, could reliably test at the eight volt level. Second, we do not find the information Central Hudson submitted on the differences between Category III and Category IV ratings to be controlling. Our understanding of the ANSI categorizations is that they are primarily safety guidelines for workers; Category IV devices have a much higher peak impulse voltage rating and are necessary for direct testing and maintenance of electric cables and circuits. Here, the testing is to occur on facilities that are not supposed to register any voltage. While it is essential that the utilities implement appropriate safety protocols for its workers when

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<sup>17</sup> Once one utility has certified a detector, it need not be recertified by other utilities. The utilities are encouraged to work together both on identifying and certifying appropriate detectors and on developing next generation detectors that may be better suited to their needs.

using these devices, the information before us demonstrates that the available probes are safe and appropriate for this use.

Performance Mechanism to Incent Compliance

Staff recommends a range of 50 to 100 basis points each for failure to achieve the annual testing and inspection targets described above.

Central Hudson states that the incentives are actually penalties and provide no opportunity for consideration of any relevant exculpatory factors. It asserts that PSL §25 establishes a remedy for violations of the standards under consideration, that imposition of a generic ratemaking adjustment is not authorized, and that the proposed incentives are not appropriate.

Con Edison does not support imposition of rate adjustments. It maintains that utilities are required by law to comply fully with our orders. The company asserts that no basis exists for the assumption that an industry-wide punitive measure is needed to promote compliance; record keeping and reporting will provide inducement to comply. It adds that any rate adjustment should be set at the level of avoided costs, and that any rate adjustment that reduces earnings in excess of costs is an unauthorized penalty unless imposed under the process established in PSL §25.

Niagara Mohawk asserts that stray voltage conditions may impact reliability and trigger sanctions for failure to achieve its system reliability targets. It claims that the proposed rate adjustments are redundant to existing reliability standards and could result in increased costs of capital. The company states that, in view of the nature of its system, the effort invested in system inspections, maintenance and reliability, the proposed rate adjustments are excessive and unwarranted. However, it believes that incentives for good or superior performance should be considered.

NYSEG/RG&E recommend against rate adjustments because the companies are required to provide safe and adequate service under PSL §65(1). The companies assert that the rate adjustments are tantamount to amendments to their rate plans, and it is inappropriate to modify the plans through an unrelated proceeding. They assert that they are committed to maintaining practices to enhance public safety.

O&R states that sanctions are incompatible with the company's program and more likely to impede than advance a successful program. It believes that rate adjustment mechanisms are a last resort for willful violations or associated with chronic failure to comply with standards or a willful disregard of safety. The company points to proactive initiatives established by other government agencies responsible for safety as the better models. Finally, it suggests that we institute matching incentives for superior performance if we adopt a performance mechanism containing possible rate adjustments.

Penelec asserts that rate adjustments are not needed to maintain a safe and reliable system. It urges us to instead focus on cost recovery of incremental programs we impose. Such focus, it believes, will foster a cooperative environment between the utilities and the agency.

CPB views the performance mechanism as being different from the penalty provisions of PSL §25. It notes that we are pursuing a penalty against Con Edison related to the death of Ms. Lane.<sup>18</sup> It argues that we have broad authority to impose rate adjustment mechanisms in the context of setting rates, and that the mechanism set forth in the Staff Proposal will help to ensure that the utilities commit the resources necessary to provide safe service to their customers and the public.

The City recommends the immediate correction of all stray voltage conditions, including those arising from customer-owned facilities, and that the Commission impose upon Con Edison a penalty of \$1.00 per day per occurrence for failure to permanently restore service and/or implement a permanent repair within 45 days of the date of detection. The City asserts that the use of a temporary shunt should not be considered a permanent restoration or repair, and that the same penalty should apply for failure to remove temporary shunts within 45 days of the date of their installation.

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<sup>18</sup> Case 04-E-0160, Proceeding on Motion of the Commission Investigating the Death of a Manhattan Pedestrian and Whether Consolidated Edison Company of New York, Inc. Violated the Public Service Law, Order Initiating Proceeding and To Show Cause (issued February 11, 2004).

PULP fully supports the performance mechanism set forth in the Staff Proposal. It expresses concern that utilities may be deferring capital and maintenance expenditures and shifting associated cost savings to unregulated activities of the utilities' affiliates. As to the size of the rate adjustment, PULP cautions that it must not be set at too low a level and thereby provide the wrong incentive to the utility to choose to pay the adjustment instead of undertaking the more costly compliance with the safety standards.

The Unions recommend the rate adjustment for the performance mechanism be set at 100 basis points to ensure that this issue receives primary attention by the utilities. Mr. Lane contends that the performance mechanism is appropriate to demonstrate to the investor-owned utilities that their failure to make safety paramount will have economic consequences.

#### Discussion

As we noted in our July 30 Order, we commonly adopt performance-based multi-year rate plans for the investor-owned electric utilities. In virtually every rate plan, there are a number of incentive mechanisms, both positive and negative, to encourage the utilities to maintain and improve their performance. These mechanisms are applicable to many aspects of utility service, including, but not limited to, earnings sharing, reliability performance, and customer service. Contrary to the utilities' assertions, these mechanisms are not akin to penalties under PSL §25; they constitute a proper form of ratemaking that provides targets and goals for areas of performance combined with consequences for exceeding, or failing to achieve, those targets and goals. The performance mechanism Staff recommends is designed to operate in a similar fashion. Here though, the mechanism is asymmetric because the utilities don't need additional positive incentives to safely and adequately maintain their systems; the rates of return upon which the utilities' revenue requirements are based, and associated earnings sharing mechanisms, provide sufficient incentives to do so.

The purpose of a performance mechanism associated with the safety standards is to ensure that the utilities continue to place the appropriate focus and emphasis on safely maintaining their electric systems and invest the capital and maintenance dollars necessary to do so. We recognize the competing demands of providing safe and adequate service to customers and providing value and benefits to shareholders, and we do not want to see safety sacrificed, or investments and expenditures deferred, in order to improve earnings or increase other shareholder benefits. Because the ability of a utility to comply with the safety standards rests with its management and the focus its management places on this effort, and because the utility will be able to wholly avoid the possibility of rate adjustments by its decisions and actions, the mechanism is neither unreasonable nor punitive.

Further, as noted by CPB, there is a difference between the imposition of penalties under PSL §25 and the ratemaking adjustments contained herein. The former addresses specific instances in which a utility has failed to obey or comply with the provisions of the Public Service Law or our orders. The latter ensures that in this era of performance-based rate plans, the utilities place the proper focus and emphasis on monitoring, investing in, and safely maintaining their electric systems.

As to the comments on our ability to adopt this performance mechanism, the utilities appear to have misinterpreted our ratemaking authority under the Public Service Law. Their contentions that the rate plans we have approved and adopted for their electric businesses cannot be amended without their consent or outside of their rate proceedings are wrong as a matter of law. We may modify rate plans within rate proceedings or in other proceedings provided that we have a rational basis for doing so. This Order fully provides the basis for the rate plan modifications we are adopting, so we have satisfied the requisite legal requirements and the utilities' claims are without merit.

Recordkeeping requirements do not provide adequate inducement to comply with the safety standards and supplant the need for the performance mechanism. We do not consider a requirement to maintain records of the actions taken as a motivating factor to actually undertake the actions. We also reject the notion that the stray voltage issue is already encompassed with the system reliability mechanisms in place for some



utilities. The incidence of stray voltage is relatively isolated and typically does not affect an entire operating area. Also, the presence of stray voltage does not necessarily indicate a diminution in system reliability. Therefore, this performance mechanism is not redundant or duplicative of other mechanisms already in place.

We find that the implementation of a performance mechanism to incent the utilities to comply with the safety standards is appropriate. We further determine that setting the potential rate adjustments at 75 basis points each for the annual testing and inspection targets is fair and reasonable. Although these rate adjustment levels are equivalent to an amount that is in excess of the compliance costs reported by the utilities, they are not punitive, confiscatory, or prohibited by law. The performance mechanism provides the proper economic signals to the utilities to comply with the safety standards and take the steps necessary to ensure the safety of their systems. It also removes any unintended benefits the utilities may otherwise attempt to realize by paying the rate adjustments, avoiding the investments and expenditures needed to properly maintain their electric systems, and employing their capital elsewhere. Finally, this mechanism sends a clear message to the utilities, their customers, and the public of the importance we place on safety.

Given this performance mechanism, we do not see any reason to impose a one dollar per day penalty for certain violations, as suggested by the City. Additionally, inasmuch as the City's proposal constitutes an administrative penalty rather than a ratemaking adjustment, there may be legal impediments associated with it. Moreover, the City's concerns appear to be very fact-specific and related solely to conditions in New York City; they are more properly raised in Con Edison's ongoing rate proceeding, or, to the extent they are considered a utility/customer issue, in a complaint filed with our Office of Consumer Services.

#### Incentives for Compliance by Municipal Electric Utilities

Con Edison, O&R, Central Hudson, NYSEG/RG&E, and the City did not comment on this question. Niagara Mohawk points out that shifting responsibility to the utility for municipal equipment (e.g., streetlights) would serve as a disincentive for compliance by municipalities with the proposed standards. Penelec states that the

municipal electric utilities should be required to comply with the NESC and all other requirements imposed on the investor-owned utilities.

NYMPA claims morale at its member systems is high and no incentives are needed for its members to ensure that their systems are safe. Given the structure of their companies, added financial costs would not improve performance but would only raise costs to their customers; they claim positive incentives would be inconsistent with the function and purpose of public power companies. The NY Municipals share NYMPA's position on the need for incentives. Instead, they urge us to promptly approve their requests for rate increases related to the safety standards and associated recordkeeping requirements.

Mr. Lane believes that the performance mechanism should be equally applicable to the municipal electric utilities and that the incentive amount be progressive and material, potentially leading to revocation of the utility's monopoly. He also recommends that, as appropriate, company employees, officers, and/or directors be held personally accountable for non-compliance with the safety standards.

#### Discussion

Municipal electric utilities are different from investor-owned utilities. Given their purpose and structure, the use of performance-based ratemaking is not a preferable or appropriate approach. These companies do not earn a return on equity or focus on making profits, and any negative incentives we may impose would be paid by the companies' customers. Therefore, based on the record before us, we find that the municipal electric utilities have sufficient reasons to safely and adequately maintain their systems and additional incentives, whether positive or negative, are unnecessary. Nevertheless, we require the municipal electric utilities to fully comply with the safety standards and performance targets set forth above.

As to Niagara Mohawk's concerns, it is not our intent in adopting safety standards to have the utilities supplant the responsibilities of municipal owners of streetlights. The primary responsibility for safely operating and maintaining such facilities clearly rests with their owners. However, the information before us indicates that, in a significant percentage of incidents where stray voltage is found on streetlights,

the cause can be traced to the utility's cable providing service to the streetlight. Thus, the obligation to maintain safe service to such facilities is shared, and the utilities should coordinate with the municipalities to which they provide service to develop procedures to ensure achievement of the testing and inspection requirements of our safety standards.

Additional Standards, Programs, and Procedures

Central Hudson, Niagara Mohawk, NYSEG, and RG&E recommend adoption of their guiding principles and the design of safety programs based on those principles. Con Edison states that the safety standards constitute a comprehensive program for minimizing the occurrence of stray voltage on its electric system and does not propose any additional programs or procedures. Because the program is relatively new within the electric industry, data collection, experience, and technology advances may provide valuable information and opportunities for making the standards more effective and efficient. It recommends that we periodically review the standards to ensure their continued effectiveness.

Penelec contends that the only standards that should be imposed are those set forth in the NESC. In the alternative, it recommends approval of its proposed testing and inspection program. O&R recommends approval of its company-specific program. NYMPA recommends coordination among the electric utilities, telecommunications and cable companies, and highway departments to ensure that all potentially involved entities work together to ensure the safety of the utilities' systems and of the public.

CPB expresses concern that the utilities may not be providing enough attention to other aspects of their operations, including sag and tension of overhead lines, clearance between overhead lines and trees and structures, and security issues. CPB proposes that we review the utilities' practices and procedures related to providing safe service and determine whether additional measures are needed.

The City proposes that we adopt requirements related to new service requests, arguing that Con Edison's response time has gotten progressively worse. It contends that delays in making new connections can cause public safety concerns, including higher risk of traffic accidents and criminal activity. It believes that all new requests should be accommodated within 90 days and imposition of a performance metric

for noncompliance. Specifically, it proposes a rate adjustment of between 50 to 100 basis points in the event Con Edison does not provide service to at least 95% of the City's new service requests within the 90 day period.

The City also proposes that Con Edison conduct outreach and education about stray voltage, including how to identify and protect one's self and the public from it. Additionally, the City suggests that we require the company to identify locations at which stray voltage is frequently found and to insulate its facilities with materials designed to protect the public from stray voltage.

PULP recommends additional performance metrics.<sup>19</sup> It proposes metrics related to the number of shock incidents occurring each year, manhole explosions, and property damage caused by unsafe practices (e.g., tree trimming). It also proposes that we expand the reporting requirements set forth in the Staff Proposal to include incidents of property damage caused by unsafe utility practices and facilities, which we already require for incidents involving gas systems.<sup>20</sup> PULP urges us to require the utilities to log all safety-related complaints they receive, periodically publish information related to safety complaints in the same manner we publish information related to consumer complaints, and broaden our outreach and education efforts about our role in resolving issues associated with utility repairs of unsafe conditions.

Arguing that safe service entails routine maintenance, PULP proposes that we require the utilities to track and report on their financial expenses for and personnel assigned to complying with the safety standards and routine maintenance activities. It

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<sup>19</sup> PULP requests that we further expand this proceeding to encompass gas and steam utilities and establish safety standards for those types of utility service as well. This proceeding is focused on the safety of electric facilities; we are not aware of similar problems confronting the safe provision of gas or steam service that are not being addressed in other proceedings or by the utilities directly or are not covered by our extensive gas safety regulations. Therefore, we will not expand the scope of this proceeding to include those utility services.

<sup>20</sup> PULP recommends that we modify 16 NYCRR §255.801 to reduce the monetary threshold property damage related to gas incidents. That issue is beyond the scope of this proceeding and will not be considered herein.

also believes the utilities should file root cause analyses of the stray voltage conditions they discover so that we and interested parties may understand the reasons the conditions occur and the steps necessary to avoid their reoccurrence. On quality assurance, PULP recommends that compliance with the safety standards should be audited by an unaffiliated third-party. We should also, it continues, specify the consequences for improper certification of compliance with the safety standards.

The Unions similarly request that we specify the consequences for improper certification. They also recommend that we require utilities (and their contractors) to test and inspect each facility before leaving a job site. If a job requires multiple days, the testing should occur at the end of each day. They assert that we should establish standards for mandatory replacement of equipment and correction of dangerous conditions. Like CPB and PULP, the Unions contend that additional performance metrics are needed, relating to the number of stray voltage incidents, temporary shunts, and manhole incidents, and that the maximum rate adjustment applicable to each utility associated with these metrics be based on the utility's size and operating characteristics.

Mr. Lane suggests that we require the utilities to comply with the National Electric Code (NEC) in addition to the NESC. Where deviations from the NESC or NEC are requested, Mr. Lane suggests that we require the utilities to demonstrate clear and compelling evidence supporting the waiver and proposed alternative. He contends that we should require the utilities to report on modifications they make to their systems to prevent the occurrence of stray voltage and to detect and rectify stray voltage on a real-time basis.

#### Discussion

We have already discussed the upstate utilities' proposed guiding principles and utility-specific programs that have been offered. We choose to establish uniform state-wide standards, as set forth herein, and will not adopt the utilities' proposals that are inconsistent with our standards. Con Edison's suggestion that we revisit the standards over time has merit and we will do so, as necessary based upon the information and analyses before us. If a utility or other party believes that the standards should be modified at any point in time, it may petition us to do so.

We have addressed the application of the NESC above. While we find it acceptable as a minimum standard, it is not acceptable as the exclusive standard. In some areas, such as testing and inspection, the NESC is not as stringent as our standards, and for the reasons we discuss throughout this Order, stringent testing and inspection requirements are needed to protect the public from stray voltage and electrocution risks caused by the utilities' electric systems. We agree with NYMPA that utilities should coordinate their efforts with the municipalities in which they operate. We also agree that the electric utilities should work together to address safety issues and strongly encourage them to coordinate their efforts and develop best practices. Coordination with telecommunications companies is also important and should occur.

CPB raises valid concerns about other aspects of the utilities' operations and maintenance practices. The Department devotes significant resources and effort to these issues and works closely with the utilities and others to analyze the potential problems that may arise and appropriate solutions to those problems. Given these activities, we need not undertake additional investigations into the utilities' practices at this time.

The City's new service request issue is not directly related to the safety issues addressed in this proceeding. The appropriate forum for consideration of this issue is Con Edison's ongoing rate proceeding, Case 04-E-0572, and this matter is transferred to that proceeding.<sup>21</sup> As for its proposed outreach and education effort, it is not clear how the public might identify stray voltage without a detection device or what such an effort might entail. The notification proposal is unnecessary. Under our safety standards, the utilities are required to repair all stray voltage conditions they find. Therefore, we do not expect recurring problems at any particular facility. Finally, the City's insulation proposal is confusing. Underground electric cables are insulated, and it is not necessary

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<sup>21</sup> To the extent the City considers its problems to be a customer/utility dispute, it may also file a complaint with our Office of Consumer Services.

to insulate overhead conductors as they are usually not the cause of stray voltage.<sup>22</sup>

While the utilities should continue their research and development efforts on making their facilities safer, we will not impose any specific requirements at this time.

We reject PULP's and the Unions' recommendations to expand the performance mechanism. The mechanism we are adopting is sufficient to address the concerns associated with stray voltage. An additional metric based solely on the number of shock incidents is not likely to improve any utility's performance in this area and is arguably punitive since there are no qualifiers related to knowledge, cause, or responsibility (utility or third-party) of the incident. Manhole explosions are a concern, but there are numerous causes for them, some of which are outside the utilities' control (e.g., salt deposition). There is no easy fix to the problem, and the utilities, especially Con Edison, continue to study and investigate possible solutions. Under the circumstances, a performance metric for this problem is not warranted.

We also reject PULP's proposals to establish a performance metric and reporting requirement for property damage situations. Stray voltage of the type discussed herein does not typically result in property damage, and even if it did, the goal of our efforts is to protect the public, not property. To the extent PULP seeks a performance metric related to property damage arising from other utility practices, the request is outside the scope of this proceeding and will not be addressed. We find the reporting requirements discussed herein to be adequate, so there is no reason to expand the reporting as PULP suggests.

The financial reports PULP seeks are matters for rate-setting, and PULP may request such information in each utility's rate case, provided the requests are relevant to the issues in dispute and comply with our discovery regulations. The personnel information is an unnecessary level of detail. The proposal on performing

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<sup>22</sup> Doing so would require the redesign and reconstruction of all supporting structures due to the added weight of the insulation. There is no reason to undertake such a massive effort. Similarly, retrofitting or redesigning and rebuilding all underground structures to protect against the possibility of stray voltage is not feasible or an appropriate or necessary response to this matter.

analyses of the causes of stray voltage conditions is valid and has been adopted, as discussed above. Its general request for third-party audits has also been addressed. The consequences for improper certifications are matters of law and need not be specified herein. Finally, the suggestion to broaden our outreach and education efforts to discuss our role in safety matters is reasonable and sensible. We direct the Office of Consumer Services to incorporate such information in its programs and presentations.

The Unions' daily job-site test requirements are reasonable, are not burdensome, and do not entail incremental costs or efforts. The utilities shall test each job site for stray voltage at the end of each work day and before departing the site upon completion of the work assignment. There is no basis for establishing standards for the mandatory replacement of equipment. Each utility must, in the prudent operation of its electric business, make continuous capital improvements and replace equipment that can no longer function as intended.

We will not accept the recommendation to adopt the NEC; by its express terms, it does not apply to installations by electric utilities. In instances where the utilities seek exemption from the NESC, we will not require that they satisfy any particular legal standard. Such decisions should, and will, be based on technical reasons, not satisfaction of legal standards of review. The additional reporting requirements Mr. Lane proposes, while informative, will not serve a regulatory purpose separate and distinct from the reporting requirements we are adopting. However, the utilities should share information of this type among themselves.

#### Program Cost and Rate Implications

Central Hudson estimates that it requires \$2.7 million annually to implement and maintain the testing and record keeping system and \$600,000 for data management system (an approximate 2% rate increase). It states that, under its rate plan, incremental costs are deferred for subsequent recovery.

Con Edison states that it will incur substantial costs, which should be reflected in its revenue requirement and recovered in rates. It proposes deferral of any incremental costs until included in its revenue requirement. The annual costs, according to the company, are estimated at \$7 million for testing, \$93.5 million for inspection, and



\$2.9 million for a data management system. It proposes that any deferral of additional costs required for compliance with NESC rules and a petition for authority to recover the costs in rates.

Niagara Mohawk provides an extensive breakdown of its total estimated annual costs of \$13,765,000. It states that it has a program in place for conducting inspections that provides adequate testing opportunities, and, based on its tests, the potential occurrence of stray voltage is limited to a small subset of company equipment. It points out that the substantial incremental costs for implementing the proposal would need to be recovered or deferred for subsequent recovery under its rate plan.

NYSEG/RG&E assert that their total estimated \$40,500,000 costs (\$8,100,000 for RG&E and \$32,400,000 for NYSEG) far exceed enhancements to public safety resulting from the Staff Proposal and are disproportionate to the companies' risk profile and experience with incidents of stray voltage. The estimated annual costs, after implementation, are approximately \$5,100,000 for RG&E and \$20,000,000 for NYSEG. They assert that their proposed alternative programs are cost-effective.

O&R states that it will incur substantial incremental costs to test and inspect its entire electric system: \$725,000 for a field assessment, \$2,300,000 for testing and inspection of its New York service territory; additional costs not yet determined for a data management and reporting system and its integration with other asset management data systems. This process is estimated to require 12 to 18 months. It requests deferral of incremental costs until they can be reflected in its revenue requirement and recovered in rates.

Penelec estimates its cost for complying with the Staff Proposal at a minimum of \$125,000 annually. It proposes the use of a surcharge mechanism for contemporaneous recovery or authority to defer the costs for recovery in future rate proceedings. The NY Municipals do not have specific cost estimates for compliance with the Staff Proposal; they state that their systems will incur incremental costs because they will likely need to hire contractors or new employees to comply with the requirements.

CPB recommends that we consider cost recovery on a case-by-case basis and, in each case, determine whether the utility's current rates are already sufficient to

provide safe and adequate service. If they are, CPB continues, there is no need for cost recovery specifically for compliance with the safety standards.

The City presumes that the costs associated with complying with the safety standards are included in the utilities' maintenance budgets because the utilities are already required to provide safe and adequate service. It recommends that any utility seeking incremental cost recovery be required to prove that its rates are insufficient to allow it to comply with the standards; if the utility can do so, the City believes cost recovery should be addressed in the context of the utility's next rate case.

PULP shares CPB's view, arguing that downward trends have occurred in utility maintenance spending. As an example, it notes that Con Edison's second stray voltage report indicates that it intends to "increase" maintenance funding to the level it spent prior to the year 2000. PULP asserts that the utilities should not receive cost recovery for compliance with the safety standards except in the context in a full rate case when all of a utility's costs can be examined.

Mr. Lane believes the costs associated with the safety standards are nominal, at least for Con Edison, and would not result in a rate increase. Generally, he asserts that, when the costs and benefits are balanced, the need to maintain safe systems justifies increasing rates to pay for compliance with the safety standards.

#### Discussion

While there is a cost associated with mandating and implementing the safety standards, the costs of not adopting the standards could be much higher and those costs cannot easily or accurately be quantified. Moreover, it is not appropriate to look at safety and the protection of the public from exposure to stray voltage solely in economic terms. The societal and emotional costs and impacts are equally, if not more, important, and all reasonable steps must be taken to ensure the risk to the public is minimized to the maximum extent possible. Therefore, we decline to decide this matter solely or primarily on an economic cost-benefit basis.

Nevertheless, we must look at the costs of the safety standards because of our statutory responsibility to ensure that electric rates remain just and reasonable. The cost data provided by the utilities shows that, for a majority of the utilities, implementing

annual stray testing is more expensive than implementing the visual inspection requirements. This is not surprising because those utilities already have inspection programs in some form (most of which are already on a five-year cycle), but they do not have voltage testing programs. Additionally, the costs involved with voltage testing a large number of overhead facilities in non-urban areas, especially where located off road, is greater than the costs involved in voltage testing in urban areas.

Each utility's rate plan contains different provisions relating to incremental costs and cost recovery for new programs. Moreover, it is not evident whether the costs reported by the utilities remain valid for the specific safety standards we are adopting. Since the details of each utility's submission have not yet been fully evaluated, the accuracy of the utilities' estimates is uncertain.

The comments of the non-utility parties raise an important issue. Many utilities have on-going inspection programs, and most engage in at least some level of stray voltage testing. To the extent that compliance with the safety standards encompasses activities currently undertaken and reflected in rates, the costs are not properly considered incremental. We therefore agree with the recommendation that any utility seeking cost recovery for complying with the safety standards must demonstrate that the costs it incurs are incremental to the amounts included in its rates. Additionally, the utilities are cautioned that, in considering such petitions, we will apply our traditional process for evaluating deferral accounting requests and would not favorably consider requests that do not satisfy the three elements of that process.<sup>23</sup>

Given the foregoing and the potential for different treatment for each utility, we will not approve cost recovery for any utility at this time. Rather, each utility that seeks authorization to recover costs for complying with the safety standards as an incremental expense is directed to file a detailed estimate, with supporting documentation

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<sup>23</sup> To qualify for deferred accounting treatment, an item must be incremental to current rates; the amount must be material to the utility's earnings; and the utility cannot be over earning.

and work papers, of its costs for implementing the safety standards.<sup>24</sup> To be considered, the filing shall include the following elements: (i) identification and justification of the extent to which the costs are incremental to the utility's existing programs and procedures; (ii) an explanation of the extent to which the costs are incremental to the utility's responsibility and obligation under PSL §65(1) to provide safe and adequate service; (iii) a demonstration that the costs satisfy the three-prong test for deferral accounting; (iv) a description of the provisions of the utility's current rate plan as it relates to these activities; (v) a proposal of the type of cost recovery the utility is seeking;<sup>25</sup> and (vi) an exposition of the potential rate and bill impacts to customers.

#### Customer-Owned Equipment

Staff recommends that, in instances where stray voltage is determined to be caused by customer-owned equipment, the utilities should be required to make the area safe and to notify a responsible person associated with the premises or equipment. The utilities would be required to inform the person that permanent repairs are necessary before placing the equipment back in service.

Central Hudson states that every person operating electrical equipment should be held to the same standards of knowledge and performance as the utilities. The utilities should provide electrical service, and be responsible for problems occurring, up to the demarcation, or delivery, point. It asserts that a utility lacks a right to enter onto customer premises to do any work beyond the demarcation point, such as red tagging. Its only recourse is to turn off power at the demarcation point. Therefore, the company continues, a governmentally mandated role to assist the customer would subject the utility to a claim that it contributed to any accidents caused by the customer's equipment.

According to Con Edison, its tariff authorizes it to "disconnect service to a building, unit or piece of equipment, at any time," for several reasons, including an

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<sup>24</sup> This requirement does not apply to Con Edison to the extent the compliance costs are addressed in its ongoing rate case.

<sup>25</sup> If the utility is seeking contemporaneous recovery instead of deferral authorization, the rationale for such recovery should be provided.

emergency that threatens the health or safety of a person or the area surrounding the company's generation, transmission or distribution systems. Con Edison states that, upon finding stray voltage, it isolates and tags the defective equipment and notifies the owner that repairs are required. It argues that the customer, not the utility, is responsible for correcting the condition.

Niagara Mohawk uses electric Operating Procedures NG003 and NG004, involving a warning tag and notice to the customer that a licensed electrician is needed to investigate the problem identified. The company objects to notifying customers of the manner in which to correct a stray voltage condition. It does not believe it should have any responsibility for conditions arising on or from customer-owned equipment.

NYSEG/RG&E state that the utilities should be responsible for testing and inspecting only their own facilities. When a stray voltage condition emanates from customer-owned facilities, the companies continue, they may provide notice and reasonable assistance to the customer, as determined by the attendant circumstances. They state that a red tag procedure is not appropriate because it would impose obligations and responsibilities on the companies that belong to the customer.

O&R states that the transfer of responsibility to a utility for customer-owned equipment is inequitable, difficult because of lack of reasonable access and a reliable inventory, and improperly places the costs of such testing on ratepayers. It proposes that, if the cause of stray voltage originates from customer-owned equipment, it will notify the customer and assist in identification and isolation of the source and, if notification and/or access are not possible, it will isolate and re-energize after a repair. The company agrees with Con Edison that the customer, not the utility, is responsible for correcting the condition. If we require it to test or inspect customers' facilities, then O&R requests authority to impose a charge for those activities and any associated repairs it makes.

Penelec claims that, when it finds hazardous conditions such as stray voltage, it requests its customers to repair the problems. If they do not, the company disconnects its service. It believes this practice should continue and that customers, not the utilities, should be responsible for their own equipment.

The NY Municipals believe their responsibility should be limited to alerting customers to the problems and making repair recommendations. They request that we clarify that the utilities may shut off service where the customers do not fix stray voltage problems for which their equipment is the cause.

The City agrees with the Staff Proposal's treatment of this issue. Mr. Lane argues that both the customer and a utility that is aware of a stray voltage problem should be responsible for protecting the public by making the facility safe.

#### Discussion

The utilities raise valid concerns regarding this aspect of the Staff Proposal. Staff's recommendation could be interpreted as expanding the utilities' legal responsibilities and obligations for facilities over which they have no control or that are inaccessible. At the same time, however, we cannot lose sight of the fact that utilities are frequently called when a customer experiences a shock condition and may be in the best position to deal with such hazards on an emergency basis.

Accordingly, we establish the following requirements applicable to customer-owned equipment. Where a utility finds stray voltage and identifies its source as customer-owned equipment, it shall immediately make the area safe and notify the customer or a responsible person, as appropriate, that a dangerous situation exists. The utility shall advise the customer or responsible person that the cause of the stray voltage must be immediately remedied.

The appropriate course of conduct where customer-owned equipment is the cause of stray voltage should be determined, within these parameters, on a case-by-case basis. As appropriate, the utilities are encouraged to work with their customers to determine and rectify any problems. If a utility chooses to do so, it may charge a reasonable cost for this effort, consistent with a tariff that specifies the amount and manner in which the charges will be calculated. Also, depending on the circumstances involved and in accordance with the provisions of each utility's tariff, the utilities may temporarily remove a customer's meter or take such other actions as are appropriate and necessary to protect the public. Should any utility's tariff not contain provisions related to such actions, the utility is directed to file appropriate tariff amendments. Any such

amendments must specify the procedures the utility will follow and the conditions under which this action is taken.

### Streetlights

Staff recommends that the utilities test both the streetlights they own and those to which they directly provide power. Staff further proposes that if a streetlight to which a utility provides service is owned by another entity, and that entity conducts stray voltage testing meeting the requirements described herein, the utility may substitute that testing program for its own, provided the utility can certify the other entity's results. Finally, Staff asserts that all testing associated with streetlights should be conducted when the light is activated (i.e., at night).

As noted above, Niagara Mohawk recommends testing streetlights concurrent with replacing their bulbs, or about once every three to five years. The company opposes testing or inspecting any streetlight that it does not own, regardless of whether it directly supplies power to the facility; it argues that the municipalities that own the facilities should be solely responsible for their maintenance.

O&R states that it should test only company-owned facilities and collect a charge for testing non-company facilities. It agrees with night testing of streetlights. The City suggests that Con Edison has primary responsibility for testing streetlights unless it reaches an agreement with the City that provides otherwise.

### Discussion

Given the proximity of streetlights to pedestrian pathways, stray voltage on these facilities is a primary safety concern. In addition to their proximity to the public, utilities often provide service to streetlights via direct and unmetered connections to their distribution systems. The testing conducted by Con Edison, Niagara Mohawk, and O&R found numerous instances of stray voltage on streetlights, and subsequent investigations of these conditions revealed that problems emanate from both the utility's service and the streetlight apparatus.

Given the importance of protecting the public from stray voltage on these facilities, and inasmuch as the utilities are responsible for at least some of the stray voltage conditions, requiring the utilities to test all streetlights to which they provide

service is a proper use of utility resources and ratepayer funds. O&R's request to charge municipalities for this effort is rejected. We disagree with the City's position that responsibility for the safety of municipal-owned streetlights rests with the utility. The municipalities have primary responsibility for safely maintaining their facilities, and should take all appropriate actions to satisfy this responsibility. However, because we do not have jurisdiction over such entities and for the foregoing reasons, we are imposing a concurrent responsibility on the utilities. We encourage the municipalities and the utilities to work together and coordinate their efforts in order to address this important safety issue.

New York City Streetlight Issues

Staff's investigation and comments from the City revealed that Con Edison has a large number of streetlights where power is not provided or is provided via a temporary shunt. The reasons for this vary, but Staff reports that it has seen credible evidence that an unacceptably high level of the stray voltage locations involving streetlights occurred at previously identified no current locations. Therefore, the Staff Proposal includes a specific discussion of and separate recommendations on this issue.

Staff recommends that Con Edison permanently repair all street light and traffic signal poles to which power is currently not provided (i.e., no currents) within three months of the date of this Order. Staff also proposes that Con Edison permanently repair and remove the temporary shunts that provide power to streetlights within three months of the date of this Order. In both instances, the work should be undertaken in a manner such that no other operation, maintenance, or capital work is adversely affected or delayed. Also, Con Edison should coordinate its repair efforts with the appropriate City agencies so that streetlights are not left inoperable after the temporary shunts are removed. Finally, Staff recommends the permanent repair of new no current and temporary shunt conditions within 45 days.

Con Edison reports that it hopes to complete all repairs in compliance with the proposed schedule but that resource constraints may prevent it from doing so. As for the 45-day requirement, the company expresses concern that reasons beyond its control may prevent it from achieving this deadline.



Discussion

We understand that there has been an ongoing dialogue among Staff, Con Edison, and the City to try to resolve these particular issues. We also understand that the Joint Proposal recently filed in Con Edison's electric rate case proposes resolution of these issues. Accordingly, we are transferring this matter to Case 04-E-0572 and will address it there. The Administrative Law Judge presiding over that proceeding will advise the parties of the manner in which he will address this issue.

Other Issues

There are aspects of the Staff Proposal that have not been expressly discussed. This lack of discussion is attributable to the fact that no commenters disputed or offered modifications to those aspects. We have thoroughly reviewed and considered all of Staff's recommendations and adopt without modification all provisions that are not discussed above. Attached hereto as Appendix A is a complete recitation of the safety standards we are adopting and that, as of the date of this Order, apply to each and every electric utility subject to our jurisdiction.

Some parties have raised tangential issues that have not been specifically discussed in this Order. We have fully considered such issues, and they do not warrant specific discussion, changes to the safety standards, or other actions on our part.

CONCLUSION

Public safety is one of our top priorities in meeting the obligations that we have under the Public Service Law. The safety standards adopted herein will take a positive, proactive step towards ensuring the safety of the public from stray voltage and enhancing electric utility reliability. In reaching this conclusion, we have considered all of the comments submitted and balanced the interests and needs the utilities, their ratepayers, and the public.

The Commission orders:

1. The safety standard discussed in the body of this Order and detailed in Appendix A are adopted.

2. The event notification requirements discussed in the body of this Order and detailed in Appendix B are adopted.

3. Each and every electric utility that owns transmission or distribution facilities and is subject to the jurisdiction of the Public Service Commission shall file an original and three copies of a report, within 45 days of the date of this Order, that provides: (i) the details of its voltage testing program; (ii) the details of its inspection program; (iii) the safety criteria it will apply as part of each program; (iv) an inspection schedule that demonstrates how the utility will comply with the requirement to inspect all of its electric facilities at least once every five years; (v) the details of its quality assurance program; (vi) its plans to train its employees and contractors to perform the testing and inspections; and (vii) a description of any research and development activities the utility is conducting or plans to conduct related to stray voltage and safety issues.

4. The provisions of the National Electric Safety Code, including all prospective amendments thereto, are adopted as the minimum safety standards to which all electric utilities subject to our jurisdiction must adhere. Where the safety standards discussed in the body of this Order or a utility's own standards are more stringent, such standards shall apply. A utility may petition for exemption from one or more provisions of the National Electric Safety Code based on a demonstration that valid technical reasons prevent compliance with such provision(s). The burden of proof for every exemption request will reside solely with the utility.

5. All requests for recovery of costs related to development and implementation of the safety standards are denied. Any utility that seeks authorization to recover the costs for complying with the safety standards as an incremental expense shall file a detailed estimate, with supporting documentation and work papers, of its costs for implementing the safety standards. The filing shall include the following elements: (i) identification and justification of the extent to which the costs are incremental to the utility's existing programs and procedures; (ii) an explanation of the extent to which the costs are incremental to the utility's responsibility and obligation under Public Service Law §65(1) to provide safe and adequate service; (iii) a demonstration that the costs satisfy the three-prong test for deferral accounting; (iv) a description of the provisions of

the utility's current rate plan as it relates to these activities; (v) a proposal of the type of cost recovery the utility is seeking (if contemporaneous recovery instead of deferral authorization is sought, the rationale for such recovery shall be provided); and (vi) an exposition of the potential rate and bill impacts to customers.

6. The issues raised by the City of New York in its comments dated July 9, 2004 and October 4, 2004 regarding the electric service it receives from Consolidated Edison Company of New York, Inc. are transferred to Case 04-E-0572, Consolidated Edison Company of New York, Inc. – Electric Rates and shall be addressed by the Administrative Law Judge presiding over that proceeding in the manner he deems appropriate.

7. To the extent any party's comments and proposals have not been accepted or incorporated into the safety standards, they are denied.

8. This proceeding is continued.

By the Commission,

(SIGNED)

JACLYN A. BRILLING  
Secretary

## ELECTRIC SAFETY STANDARDS

### SECTION 1: DEFINITIONS

- (a) Utilities – The term "utilities" includes all investor-owned and municipal electric corporations subject to the Commission's jurisdiction that own or operate transmission or distribution facilities, whether fully or lightly regulated. As appropriate, the term also includes companies subject to our jurisdiction that own or operate electric generating facilities within the State, whether fully or lightly regulated
- (b) Electric facilities – The term “electric facilities” means and refers to all electric plant, as that term is defined in Public Service Law §2(12), that is used to modulate, transmit, and/or distribute electricity, or is related to its modulation, transmission, and/or distribution. The term “overhead facilities” generally includes the electric facilities that are part of a utility’s overhead distribution system (e.g., the system that serves rural areas and includes towers, poles, and aerial cable and conductors). The term “underground facilities” generally includes the electric facilities that are part of a utility’s underground distribution system (e.g., the system that serves urban areas and includes manholes, service boxes, and underground cable and conductors).
- (c) Stray Voltage –The term “stray voltage” means voltage conditions on electric facilities that should not ordinarily exist. These conditions may be due to one or more factors, including, but not limited to, damaged cables, deteriorated, frayed or missing insulation, improper maintenance, or improper installation.
- (d) Streetlights – The term “streetlights” means and includes utility- and municipal-owned streetlights located on, along, or adjacent to public thoroughfares and areas and traffic signal poles and devices; it does not include privately-owned light fixtures, such as those located in private parking lots.
- (e) Stray Voltage Testing – The process of checking an electric facility for stray voltage using a hand-held device capable of reliably detecting and audibly and/or visually signaling voltage in the range of 8 to 600 volts.
- (f) Inspection – A careful and critical examination of an electric facility by a qualified individual to determine the condition of the facility and the potential for it to cause or lead to safety hazards or adverse effects on reliability.

## ELECTRIC SAFETY STANDARDS

## SECTION 2: NATIONAL ELECTRIC SAFETY CODE COMPLIANCE

- (a) The installation, construction, maintenance, and operation of electric facilities shall comply with the latest version of the National Electric Safety Code (NESC), except where a utility's practices, procedures, and protocols are more stringent.
- (b) Utilities are not required to retrofit their existing facilities to comply with the latest version of the NESC, unless the latest version of the NESC requires a retrofit.
- (c) To the extent that projects currently being constructed do not comply with the NESC or a utility's more stringent standards, exemption from compliance will be considered on a case-by-case basis.
- (d) If a utility believes that it cannot satisfy any provision of the NESC for a valid technical reason, it may petition the Commission for an exemption from compliance with that provision.

## SECTION 3: STRAY VOLTAGE TESTING

- (a) Stray voltage testing shall be conducted on all electric facilities that are capable of conducting electricity and are publicly accessible. Testing is not required on customer meters and customer-owned facilities, except municipal-owned streetlights.
- (b) Stray voltage testing shall be conducted on all streetlights.
- (c) For underground electric facilities that are publicly accessible, including, but not limited to, manholes, service boxes, and transformer vaults, stray voltage testing shall be conducted on the exposed surfaces of the facilities.
- (d) Stray voltage testing of streetlights shall be conducted when the light is activated (i.e., at night).
- (e) Stray voltage testing shall be conducted on an annual basis.
- (f) If a streetlight to which a utility provides service is owned by another entity, and that entity conducts stray voltage testing meeting these safety standards, the utility may substitute that testing program for its own, provided the utility can certify the other entity's results.
- (g) All equipment used for stray voltage testing must be certified by an independent test laboratory as being able to reliably detect voltages of 8 to 600 volts.
- (h) Any facility for which the testing device indicates the presence of voltage shall be guarded by the utility immediately and continuously until the utility has eliminated the stray voltage and made the area safe. The utility must take corrective action irrespective of whether the stray voltage is determined to be caused by its own or a customer-owned facility.

## ELECTRIC SAFETY STANDARDS

- (i) In each instance where stray voltage is determined to be caused by a utility-owned facility, best efforts shall be used to effect a permanent repair of the facility as soon as possible, but not later than 45 days after discovery of the stray voltage condition. A temporary repair to the facility may remain in place for more than 45 days only in extraordinary circumstances, and in such event the utility shall periodically perform site visits to monitor the condition of the temporary repair. All exceptions must be identified and justified as part of the reporting requirements under Section 9.
- (j) In instances where stray voltage is determined to be caused by customer-owned equipment, the area must be immediately made safe. The utility shall immediately notify the customer or a responsible person associated with the premises or the customer-owned facility of the unsafe condition and the need for the customer to arrange for a permanent repair to the customer's equipment.

## SECTION 4: INSPECTIONS

- (a) Inspections shall include, at a minimum, visual examination of towers, poles, guy wires, risers, overhead cables and conductors, transformers, breakers, switches, and other aboveground equipment and facilities, and of the interior of manholes, service boxes, vaults, and other underground structures. Where debris or water is found in an underground structure, it must be removed before commencing the inspection so that all of the facilities in the structure, and the structure itself, may be fully inspected.
- (b) Inspection of equipment should be performed in a manner that allows the inspector to examine its components, except those that are ordinarily encased in sealed compartments. Utilities need not perform destructive testing as part of this inspection program, except as otherwise required by their more intensive inspection procedures.
- (c) When a visual inspection indicates the need for a more intensive examination, the utilities shall perform infrared testing and/or other inspection procedures.
- (d) When an inspection reveals a hazardous condition or other problem, whether related to stray voltage or otherwise, the utility must make all repairs necessary to eliminate the condition.
- (e) All electric facilities shall be inspected at least once every five years. Certain facilities may warrant shorter inspection cycles.
- (f) Each utility shall develop and implement a formal inspection program that complies with these safety standards.

## ELECTRIC SAFETY STANDARDS

- (g) Inspections conducted during routine maintenance and other work not directly related to the inspection program may count as an inspection visit, provided that the inspection is performed using the same safety and reliability criteria and to the same extent as would otherwise be required under these standards. Inspections occurring during these field visits must be properly documented and certified.
- (h) This inspection requirement is intended to complement, not supplant, the inspections any utility already performs; to the extent a utility's inspection program is broader or more intensive than the program described herein, the utility should continue to follow its own program.
- (i) The testing and inspection programs may be combined, where practical and feasible, provided the synergy satisfies all the requirements contained within these safety standards.

### SECTION 5: QUALITY ASSURANCE

Each utility shall develop a quality assurance program to ensure timely and proper compliance with these safety standards.

### SECTION 6: RECORDKEEPING

- (a) Each utility shall develop procedures and protocols to track the stray voltage testing dates and results for each electric facility.
- (b) Each utility shall develop procedures and protocols to track the inspection dates and results for each electric facility.
- (c) These records shall be kept in a manner that is readily accessible and searchable, continuously updated, and subject to review and audit by Staff and the Commission.

### SECTION 7: CERTIFICATION

- (a) Written certification of the completion and results of every stray voltage test and inspection undertaken and that all unsafe conditions identified have been remediated shall be made by an appropriate utility employee.
- (b) The President or officer of each utility with direct responsibility for overseeing stray voltage testing shall provide an annual certification to the Commission that the utility has tested all of its publicly accessible electric facilities and all streetlights.

## ELECTRIC SAFETY STANDARDS

- (c) The President or officer of each utility with direct responsibility for overseeing facility inspections shall provide an annual certification to the Commission that the utility is in compliance with its inspection program and has inspected the requisite number of electric facilities. Additionally, at the end of five-year inspection cycle, the officer shall certify that all of the utility's electric facilities have been inspected at least once.
- (d) Each utility shall maintain its written certifications and other documentary proof of its testing and inspections at its corporate office located within the State of New York. These documents shall be available to the public for review upon request and without conditions.

## SECTION 8: NOTIFICATION REQUIREMENTS

Each utility shall comply with the Event Notification Requirements attached hereto.

## SECTION 9: REPORTING REQUIREMENTS

- (a) Each utility shall file a report, within 45 days of the date these safety standards take effect, that provides: (i) the details of its voltage testing program; (ii) the details of its inspection program; (iii) the safety criteria it will apply as part of each program; (iv) an inspection schedule that demonstrates how the utility will comply with the requirement to inspect all of its electric facilities at least once every five years; (v) the details of its quality assurance program; (vi) its plans to train its employees and contractors to perform the testing and inspections; and (vii) a description of any research and development activities the utility is conducting or plans to conduct related to stray voltage and safety issues.
- (b) Each utility shall file a comprehensive report by January 15 each year that:
  - 1. details the results of stray voltage tests and inspections conducted over the 12-month period ending November 30 of the prior calendar year;
  - 2. addresses the performance mechanism specified in Section 10;
  - 3. contains the certifications described in Section 7;
  - 4. discusses the analyses undertaken on the causes of stray voltage within the utility's electric system, the conclusions drawn therefrom, the preventative and remedial measures identified, and the utility's plans to implement those measures; and
  - 5. includes all other information that is pertinent to the issues addressed by the safety standards.



ELECTRIC SAFETY STANDARDS

SECTION 10: PERFORMANCE MECHANISM

- (a) The annual performance target for stray voltage testing shall be 100% of all electric facilities and streetlights that must be tested. Facilities that are inaccessible and which pose no risk to public health and safety will not be considered in the determination of whether the target has been achieved.
- (b) Failure to achieve the annual performance target for stray voltage testing shall result in a rate adjustment of 75 basis points.
- (c) The annual performance target for inspections shall be based on the percentage of the average number of electric facilities that must be inspected each year in order to comply with the five-year inspection cycle. That is, the target is based on the one-fifth of the total number of the utility’s electric facilities. The specific targets will be as follows:
 

First year inspection goal	85%	of annual target
Second year inspection goal	90%	of annual target
Annual inspection goal thereafter	95%	of annual target
Fifth year inspection goal	100%	of all facilities to be inspected
- (d) Failure to achieve the annual performance target for inspections shall result in a rate adjustment of 75 basis points.

## EVENT NOTIFICATION REQUIREMENTS

ALL NOTIFICATIONS SHALL BE MADE WITHIN ONE HOUR OF AN INCIDENT OR EVENT UNLESS OTHERWISE SPECIFIED.

### **I. System Control - Reports of Impending Emergencies, Emergencies, and Load Curtailment**

- A. Requests for curtailed electric use, voltage reductions, and load shedding initiated to maintain the adequacy of the electric system and significant bulk supply outages or accidents of consequence are to be reported to the Office of Electricity and Environment by telephone. The specific items to be brought to the Office's attention are as follows:
1. Any decision to issue a request for customer reduction in use of electricity. The Office of Electricity and Environment is to be notified at the time of decision to issue any such request.
  2. Any action to maintain the adequacy of the bulk electric system by reducing firm customer loads by voltage reductions, manual switching, operation of automatic load shedding devices, or any other means. The Office of Electricity and Environment is to be notified at the time of decision to take such action.
  3. Any bulk supply outage that has, or could have, a significant impact on the utility's electric system or the state-wide system.
- B. The following information is to be included in the reports:
1. For Items I.A.1. and I.A.2., the utility shall provide the approximate area(s) affected, the time(s) of the action, the time(s) and/or an estimate of the time(s) of restoration of normal service (or cancellation of a customer request), an estimate of the amount of load reduction expected or load interrupted, and the number of customers affected if load is interrupted.

## EVENT NOTIFICATION REQUIREMENTS

2. For Item I.A.3., the utility shall provide a description of the incident and events leading to its occurrence, the time of occurrence, the system(s) affected, and an evaluation of the effect on the system(s).

**II. Loss of Electric Service**

- A. Written reports of electric service interruptions of five minutes or more are required by 16 NYCRR Part 97. Such reports are to be prepared in accordance with the regulations and submitted to the Office of Electricity and Environment.
- B. Additionally, telephone notice is to be made for each of the following events:
  1. Loss of electric service to 5,000 customers or more lasting 30 minutes or more.
  2. Any loss of a distribution system network.
- C. Telephone notice of these events occurring after business hours shall be made no later than 8:30 a.m. of the next business day, unless they receive significant media attention, in which case notice shall be provided within one hour.
- D. The following information should be provided in the telephone notice:
  1. The approximate territory affected.
  2. The date and time of the incident causing the interruption.
  3. The expected duration of the interruption.
  4. If restored at the time of the call, the date and time of restoration.
  5. The number of customers affected and amount of load involved.
  6. A listing of any critical services affected.

## EVENT NOTIFICATION REQUIREMENTS

7. A description of the incident and its cause.
8. Any follow-up actions planned.

**III. Reports of Personal Injury Accidents**

- A. Written and telephone reports of electric system personal injury accidents and deaths are required by 16 NYCRR Part 125. This requirement applies to all electric system accidents that result in injury or death to a non-employee and/or inpatient hospitalization or death to an employee or contractor employed by the utility, including accidents that occur at generating plants. There is no exception for vehicular accidents.
- B. All electric shock incidents shall also be reported regardless of whether there was a verifiable injury or not. Electric shock incidents involving animals shall also be reported.
- C. All written and telephone reports are to be made in accordance with the regulations and the following requirements and submitted to the Office of Electricity and Environment.
  1. Reports for accidents, except those involving a fatality or major media attention, occurring after business hours shall be made no later than 8:30 a.m. of the next business day.
  2. The written reports shall be made using the Department's standard form and may be submitted via e-mail or fax.
  3. The telephone reports should include the following information:
    - a. The location of the accident.
    - b. The date and time of the accident.
    - c. Whether or not the injured party is a utility employee or contractor.
    - d. A description of the injuries sustained and the status of the injured party.
    - e. A description of the accident and its cause.

## EVENT NOTIFICATION REQUIREMENTS

- f. The time the utility received notification of the incident.
- g. The time the first utility personnel arrived at the scene.
- h. The time qualified utility personnel arrived at the scene (i.e., personnel capable of addressing any safety hazard).
- i. Whether response operations were affected until utility personnel arrived.

**IV. Unusual Events****A. Major Events**

Immediate telephone notification is to be made for major events associated with a utility's electric system that will likely result in considerable media attention. Examples of major events include, but are not limited to, load shedding, catastrophic storm emergencies, boiler explosions, or nuclear radiation releases.

Immediate telephone notification is also to be made whenever a utility's corporate emergency command center (e.g., storm center) becomes operational.

**B. Media Attention**

Incidents involving utility facilities that are likely to receive attention from the news media are to be immediately reported by telephone. Examples of such events include, but are not limited to, fires, manhole explosions, equipment damage of \$1 million or more, and nuclear plant incidents.