

High Voltage, High Stakes: Electrical injury cases demand familiarity with national, state rules and codes

By MARK McGRATH

Between 1992 and 1998, nearly 3,000 workers died from job-related electrical injuries. During that same period, another 32,309 workers suffered serious, but non-fatal, electrical injuries. Each year, thousands more Americans are injured or killed by coming into contact with electrical energy in some form. These cases range from contacts between sailboat masts and power lines to arc-flash incidents and catastrophic electrical dust explosions.

Electrical injury cases present steep challenges to plaintiff attorneys. Electrical injuries are typically devastating and can involve severe burns, internal injuries, paraplegia, organ damage and severe neuropsychological injuries. In most electrical injury cases the stakes are very high, and plaintiffs can expect to draw seasoned and capable defense attorneys on the other side. Accordingly, attorneys would be well-advised to familiarize themselves with the unique legal landscape of the electrical injury case before filing suit. This piece is intended as a basic primer on the legal principles that typically come into play in electrical injury cases.

Common law principles

Recognizing the potentially devastating consequences of negligence in the distribution of electricity, the North Carolina courts have imposed a heightened duty of care on public utilities and others involved with the generation and transmission of electricity. Our courts have held on numerous occasions that electricity is an inherently dangerous commodity and that entities involved with its generation and distribution must exercise the highest degree of care and utmost foresight and diligence in conducting their business. This enhanced duty applies to any entity involved with the use of electricity, including public utilities, electrical contractors and business owners. The duty imposes on such entities a duty to exercise care in the construction, maintenance, inspection and operation of its lines and other equipment carrying electrical current.

It is important to recognize that North Carolina law does not impose strict liability on persons involved with the distribution of electricity. Rather, it is incumbent on the plaintiff, as in all negligence cases, to prove by a preponderance of the evidence that the defendant deviated from the applicable standard of care. For example, it has been held that a public utility will not be deemed negligent for failing to insulate or remove power lines, or construct warning signs regarding their presence, unless the lines are located in a place where members of the public are likely to come into contact with them.

In determining whether a party was negligent in maintaining or operating its electrical system, the focus is whether it was reasonably foreseeable from the defendant's perspective that a person would come into contact with energized lines or components. Thus, where power lines were located 22 feet from a house and suspended 26 feet above the ground, it was not reasonably foreseeable that a construction worker would allow his ladder to come into contact with the energized lines.

Further, as in most premises liability cases, where a plaintiff alleges a dangerous condition involving the distribution of electricity, she must demonstrate that the defendant had actual or constructive knowledge of the condition.

Review of the case law suggests that our courts have been somewhat forgiving in assessing the conduct of plaintiffs in electrical injury cases. For example, it has been held that a crane operator was not contributorily negligent as a matter of law where the defendant assured the crane operator that power lines would be de-energized prior to commencement of a project, defendant failed to de-energize the lines, and the worker's crane subsequently came into contact with those lines.

Similarly, a worker was held to be free of contributory negligence where a project owner knew that a substation had been energized but failed to inform the plaintiff of that fact, and the plaintiff had no reason to presume that any portion of the substation would be energized prior to its completion.

Consistent with general negligence law, many other cases have held that the issue of contributory negligence is usually reserved for determination by the jury.

The categories of potential defendants are expansive. Most obviously, public utilities, municipalities, electric membership corporations and other companies owning and operating electrical distribution and transmission systems can be held liable for negligent operation of power lines, substations, transformers and other components. Property owners may also be held liable for failing to protect visitors from energized electrical lines and equipment that are located on their property.

Codes, rules and regulations

In addition to the unusually rich and well-developed common law established by the North Carolina courts, numerous codes, statutes, rules and regulations come into play in an electrical injury case. The following list is not exhaustive, but provides a useful starting point:

National Electrical Safety Code: The NESC is published by the Institute of Electrical and Electronic Engineers. The IEEE is composed largely of industry professionals and consulting engineers whose primary business is providing engineering services to public utilities and other entities involved with the ownership and operation of electrical distribution systems. The NESC establishes very precise requirements for such things as line clearances, tree trimming around power lines and methods for de-energizing equipment prior to performing work on it. The NESC will be the central focus in most electrical injury cases that involve contact with power lines, substation injuries and other cases that involve complex electrical equipment and installations.

National Electrical Code: The National Electrical Code is published by the National Fire Protection Association. The NEC addresses nuts-and-bolts electrical issues such as methods for wiring electrical systems, maintenance of electrical equipment, shielding of energized equipment in dusty industrial environments, and electrical requirements for electric-operated devices, including signs, cranes, elevators, X-ray equipment and industrial machinery. The NEC tends to have greater applicability to industrial settings than it does to electrical accidents that involve power lines, substations or other large electrical facilities.

North Carolina Overhead High-Voltage Line Safety Act: In 1995 the General Assembly enacted the Overhead High-Voltage Line Safety Act.⁹ The act prescribes various requirements for the use and operation of overhead power lines. It was intended to "promote the safety and protection of persons engaged in work in the vicinity of high-voltage overhead lines." The act forbids certain practices, such as requiring workers to perform work in close proximity to energized lines and using certain equipment in the vicinity of power lines, and establishes requirements as to the posting of warning signs when

performing work on or near power lines, and mandatory notification of power line owners prior to performing work on or near their lines. Strangely, the act also provides that violations of its provisions do not give rise to a statutory cause of action and shall not constitute negligence or contributory negligence. It is a curious piece of legislation, to say the least.

National Fire Protection Association codes and standards: The NFPA has promulgated numerous industry codes in addition to the NEC that frequently come into play in electrical injury cases. These include NFPA 70E (Standard for Electrical Safety in the Workplace), NFPA 70B (Recommended Practice for Electrical Equipment Maintenance), NFPA 484 (Standard for Combustible Metals, Metal Powders and Metal Dusts), and NFPA 1 (Fire Prevention Code).

Federal regulations: Federal labor and safety regulations also establish numerous requirements upon entities involved with the ownership, operation and maintenance of electrical systems and equipment. Some of the most relevant regulations can be found at 29 CFR 1910.269 (governing electric power generation, transmission, and distribution systems and equipment); 29 CFR 1910.302 to 1910.308 (design safety standards for electrical systems); and 29 CFR 1910.331 to 1910.335 (electrical safety-related work practices standards). The most frequently invoked subjects addressed in these regulations include methods for de-energizing equipment, use of lockout-tagout procedures to ensure equipment remains de-energized, use of insulating protective equipment, and maintaining safe distances from energized parts.

North Carolina Administrative Code and municipal codes: Provisions of the North Carolina Administrative Code adopt by reference portions of the NESC. For example, R8-26 of the NCAC establishes that the NESC shall apply to all public utilities operating within the state of North Carolina. Similarly, 13 NCAC 15 .0206 adopts by reference all provisions of the National Electrical Code. Provisions of other NFPA codes and standards are adopted by reference in other sections of the North Carolina Administrative Code. It is also critical to review applicable municipal codes. For example, in a recent case involving the City of New Bern, we learned that the city electrical department, which is not a public utility, had adopted and incorporated by reference the entire NESC. In conducting this analysis, counsel should be mindful of the fact that violations of applicable code provisions may support a claim for negligence per se. Even when it does not, violation of an applicable standard should constitute some evidence of negligence.

Conclusion

It would be a mistake to undertake a serious electrical injury case without possessing at least a conversational familiarity with the basic legal principles that apply in such cases. Thankfully, the Internet, partnership with a capable electrical expert, and a modest cache of intellectual curiosity will go a considerable distance toward getting you up to speed.