

Electrical Safety Regulations in a Restructured Utility Industry

In the fall of 2000 ESA wrote to the provincial government recommending a review of the electrical safety regulatory framework that applied to electric generation, transmission and distribution. Following a meeting with the MCCR and Ministry of Energy Science and Technology, ESA undertook the development of a discussion paper, which it committed to present to the MCCR and MEST in earlier 2001.

In this review, the ESA evaluated the approach taken in other jurisdictions and industries, including the Ontario natural gas industry, the availability of technical standards for reference in regulations, and held discussions with 13 key stakeholders (approximately 42 individuals) to obtain their feedback and input.

The Ontario Electricity Market restructuring and the impact on Public Electrical Safety

Section 113 (1) of the Electricity Act provides the statutory framework within which the ESA operates. Within this legislation ESA may, with the approval of the Lieutenant Governor in Council, introduce regulations related to public electrical safety matters in the utility sector. In essence, this statutory authority assigns to the ESA the responsibility and accountability for ensuring electrical safety in all electrical installations, which includes introducing measures which serve to reduce the number of electrical accidents occurring in the utility sector to as low a number as possible.

However, the Ontario Electrical Safety Code currently referenced by regulation exempts utility functions. Under the largely publicly owned utility structure that existed in Ontario, individual electric utilities established and maintained their own safety standards.

Given the restructuring of the electricity industry, questions arise as to whether the current regulatory framework and the concept of "self regulation" will continue to ensure high levels of electrical safety.

Even though the Electricity Act gives the ESA statutory authority over all electrical infrastructure - including utility plant - there is presently no mandated code with defined public electrical safety standards or processes to proactively require compliance, or processes to address specific public electrical safety hazards. In short, therefore, the ESA has no authority to respond to public safety concerns around utility installations.

There are currently no public electrical safety performance standards defined within the OEB licensing regime, and a lack of detail as to how public safety will be protected and ongoing safe practices assured by regulatory bodies.

ESA believes that all generation, transmission, and distribution facilities should be subject to required minimum safety standards and a defined compliance process. At the same time, the ESA believes that it should not duplicate the activities of other major governmental / quasi-governmental bodies in the Ontario marketplace, nor add more regulatory / cost burden to industry participants without demonstrating benefit to public electrical safety. ESA therefore initiated a review of how the province might revise the safety oversight system so as to accomplish this goal in an effective way.

Results of ESA review:

Regulatory Practice in Other Jurisdictions

As a matter of public policy, legislators in other jurisdictions (i.e. New Zealand, California, Alberta and New Jersey) and other industries (i.e. natural gas in Ontario) have chosen to obligate parties to adhere to safety standards as defined in regulation. In some cases, compliance processes are also specified in regulation.

Technical Standards

The ESA initially identified certain key areas where the potential risk of electrical incidents was thought to be highest, namely:

- Clearances (i.e. from overhead lines and underground cable burial depths, working space around equipment);
- Access by unauthorized personnel to live parts (e.g. fences, warning signs);
- Grounding, and;
- Mechanical / Structural and Operating Standards (i.e. protection and control).

In these areas, research has determined that CSA International and other accepted standards exist in the areas of design and construction. These standards could be prescribed as a mandatory minimum for new utility infrastructure.

Stakeholder Feedback

Evidence collected to date from stakeholder interviews suggests that the obligation to comply with these standards, by regulation, will not place significant incremental burden on current Ontario utility participants since the majority of them feel they already meet or exceed these standards.

Going forward, it was felt that mandatory standards would guard against lowering of the standards in the future, provide a safety focus for progressively eliminating public electrical safety hazards and, over time, encourage greater consistency in the design of utility systems.

Following discussions with both the OEB and the IEMO, ESA confirmed that the OEB and IEMO as bodies rely upon ESA to fulfill its legislated mandate to address the electrical safety interest of the public. They confirmed that electrical safety standards are not within their mandates. Specifically, while each of the Distribution System Code, Transmission System Code, and Market Rules provide for compliance to the requirements of the ESA, they have only a few safety and design requirements to address public electrical safety specifically. Further, no independent body is evaluating new facilities from a public electrical safety and safe design perspective.

Some organizations, such as the Ministry of Labour, International Brotherhood of Electrical Workers, and the Power Workers Union are anxious to work with the ESA to recognize safety standards and integrate activities. Utility players, while cautious about any incremental burden (time and cost) that new regulations may represent, also recognize the value of safety as "good business practice" and a way to "level the playing field" between themselves and new entrants.

Recommendations

The ESA believes it is the appropriate time to define and prescribe standards for the utility sector and implement a compliance mechanism. Given the high level of expertise in the Ontario electrical industry, the ESA believes that an audit based compliance system, is an appropriate starting point. The ESA believes it would be prudent to present the recommended approach to industry participants and finalize, through industry consultation, what regulatory changes should be enacted to ensure that electrical safety is maintained and continues to improve.

Specifically, the ESA recommendations include:

- Explicit reference to national design standards in legislation. The function of standards is to serve as a floor to protect against degradation in infrastructure design and construction over time and /or the introduction of lower standards by participants seeking a short term cost advantage.
- Develop a compliance process based substantially on certification of design and an audit framework.
- Reinforce the ESA public interest mandate to continue to work to promote and enhance awareness of public electrical safety in the utility and non-utility sectors.

In introducing new regulations, the ESA wants to follow existing processes and adopt existing technical standards to the greatest extent possible so as to

minimize the incremental cost burden of compliance to industry participants. ESA estimates that the annual cost of this safety oversight framework is \$3 to \$6 million. Opportunities for utility participants to defray costs of safety oversight will be further explored through the consultation process.

Next Steps

In response to ESA's recommendations the Minister of Consumer and Business Services has asked that ESA submit its recommendations for regulatory reform by May 2002.

The work plan to develop the regulations for electric utilities is in place.

Deliverables include:

- Detailed assessment and establishment of appropriate technical standards and specific recommendations related to the safety standards to be referenced in regulation
- Definition of the audit and certification compliance processes
- Establish and conduct broad based public consultation meetings. Ensure industry and stakeholder buy-in to the proposed regulations.
- Development and submission of draft regulations to the Lieutenant Governor in Council for approval (technical /safety standards, compliance processes and fee schedule).

Successful completion of this project will include approval and enactment of these new regulations by the Province.

A consultation process similar to that used by the Ontario Energy Board to develop the Distribution Standards Code will be used by ESA during its industry discussions.

ESA will produce a series of documents titled "Summary of Recommendations (SORs)" that deal with each of the critical safety areas to be covered by the proposed regulations. The SORs will also detail the proposed compliance process and fee structure. SORs will be produced for Distribution, Transmission and Generation.

SORs are being developed and will be issued for comments by September. Industry participants and other interested stakeholder groups will be provided opportunity for comment. SORs will be posted on ESA's web site to allow broad based review and comment. Following the receipt and review of comments, stakeholder meetings will be held to resolve any issues or concerns.

Following completion of the stakeholder meetings a final draft regulation will be submitted to the Ministry of Consumer and Business Services in early 2002.