Professional Engineers Ontario

PEO Position Statement **Communications Infrastructure Engineering**

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Policy Statement	PEO recognizes Communications Infrastructure Engineering as the practice of professional engineering and a new discipline of professional engineering.
Definition	Communications Infrastructure Engineering (CIE) is the systems-level architecture, design, and management of trusted networks for mission-critical and safety-critical applications, including those that support other critical infrastructures.
Scope of Practice	To be included in the Phase 2 Report
Rationale	Cyber security has become a major concern for governments, businesses, and individuals throughout the world. Our dependence on the public internet is pervasive, and our vulnerability to cyber attacks is well established. Moreover, our other critical infrastructures such as energy, transportation, and health care are vitally dependent on communications networks. PEO recognizes that public accountability is enhanced by recognizing Communications Infrastructure Engineering as the practice of professional engineering by a regulatory body, established by statute in the public interest and accountable to the people of Ontario. Unless such accountability is specified in statute, the government and ultimately, the public assume the risk for non-licensed practitioners working in specific areas of engineering.
Core Body of Knowledge	**Real-time Systems**: as a function of communications applications and services that will not re-transmit data that is corrupted or lost due to their nature or design, such as certain video or audio; specifically, the design of reliable and fault-tolerant systems. **Communication**: an understanding of the core elements of modern networking, including the knowledge of both legacy and evolving networking systems; insight into the characteristics of networking that are not necessarily observable or obvious but are essential to CIE. **Networks**: an understanding of the relationships among networks, information assets and end-point devices; how they relate to and impact one another in a logical manner, and what intellectual tools and methods are used to understand and define networks for the purposes of CIE. **Risk Management**: an understanding of the practice of identifying possible threats to networks and network elements and the endpoints they support; judging the likelihood and potential severity of these threats and determining appropriate safeguards. **Governance**: an understanding that CIE must be conducted in accordance with the laws of the jurisdiction in which it is practised,

	and that data is subject to the laws not only of the jurisdictions in which it resides but also of those through which it travels. Also, an understanding of sound governance and accountability practices relevant to data reliability and security. PEO will consult with industry, universities and governments to gather feedback and enhance the core body of knowledge for the areas of practice as defined in the Phase 1 (Interim) Report.
Academic Requirements	University programs accredited by the Canadian Engineering Accreditation Board. Determination by the Academic Requirements Committee for individual applicants. Assessment versus the exam sylabi approved by Council [academic requirements (board sheets) for Communications Infrastructure Engineering to be developed by the Academic Requirements Committee].
Enforcement	In accordance with PEO's Enforcement Policy, PEO will provide practitioners the ability to comply with the requirements under the *Professional Engineers Act* before proceeding to an enforcement action in court. In addition, if the practitioner is a natural scientist, PEO will engage the Overlapping Practice Committee prior to proceeding to an enforcement action in court. This will be addressed in more detail in the Phase 2 Report.
Communication	PEO will provide a public awareness campaign centred on Communications Infrastructure Engineering as the practice of professional engineering and encouraging Ontario universities to consider developing and delivering engineering programs that would be accredited by the Canadian Engineering Accreditation Board.