Powering Intelligence: AI Workforce Readiness for Operations and Reliability

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Artificial intelligence is beginning to change how electricity assets are planned, operated and maintained across Canada, with direct implications for offshore wind and other marine renewables. Drawing on EHRC's *Powering Intelligence* research, this presentation examines how AI adoption is reshaping operational tasks, skill requirements and governance needs in a more digital electricity system.

Three findings are especially relevant to marine renewables. First, AI is already being used for load forecasting, outage prediction, customer engagement and distributed energy resource management, signalling near-term applications for offshore wind operations, remote monitoring, maintenance planning and grid coordination.

Second, workforce readiness is lagging deployment: 60% of employers report employees are actively using AI at work, but only 34% of organizations have implemented AI policies and just 24% of respondents have received formal AI training.

Third, rising electricity demand from AI-intensive data centres, alongside more complex renewable integration, is increasing the need for coordinated planning, digitally fluent talent and clear human oversight.

For marine renewables, these findings show that AI readiness is not only a technology issue but also an operations, reliability and workforce issue. The session will present evidence on changing task profiles, emerging hybrid skill needs and governance gaps, and will identify practical priorities for supporting safe, resilient and scalable offshore wind deployment in Canada.