

Date: August 24, 2017

Katherine Kelly Gatten, Director Science and Research Branch
Ontario Research Fund – Research Excellence Applications
Ministry of Research, Innovation and Science
56 Wellesley Street West, 11th Floor
Toronto, Ontario M7A 2E7

Dear Ms. Gatten,

Re: Letter in support of Ontario Research Fund – Research Excellence Round 9 application entitled “Resilient Flywheel-Based Energy Storage Platform for Power Grid Substations in Ontario” submitted by Dr. Hossam Gaber at the University of Ontario Institute of Technology.

IESO is the Independent Electricity System Operator who is a statutory corporation responsible for operating the electricity market and directing the operation of the bulk electrical system in the province of Ontario, Canada. It is one of eight Independent System Operators in North America.

The IESO is an independent, not-for-profit entity. It is governed by a board whose directors are appointed by the government of Ontario, its fees and licences are set by the Ontario Energy Board and it operates independently of all participants in the electricity market. The Independent Electricity System Operator (IESO) works at the heart of Ontario's power system. The IESO delivers key services across the electricity sector including: managing the power system in real-time, planning for the province's future energy needs, enabling conservation and designing a more efficient electricity marketplace to support sector evolution.

We are pleased to write this support letter to show our high interests in this project where it presents a new technology for energy storage with flywheel system which will provide adaptive energy storage to support stability, quality, and also provide cheap power supply to the regions supported by each utility substations.

The expected outcomes from this project is to enable our enterprise and associated clients to have reliable power supply in normal and emergency situations with reduced risks to our business, investment, and profits.

The benefits of the project to IESO are as follows:

- Synthesize and verification of policies, regulations, standards and codes for the operation and integration of electric buses, utility grids and microgrids.

- These standards and codes will be consistent with the Canadian codes, adopted city policies, and adopted buses design plans.
- It guarantees that any development, upgrading, or changes in the utility and transportation networks and adopted technologies will satisfy the national/international safety, security, and reliability requirements.
- Synthesize Implementation and operational utility scenarios (infrastructures / technologies)
- Performance indicator modeling and optimization of transportation implementation and operational scenarios (infrastructures and technologies)
- As all interested evaluation attributes (KPIs) are modeled and included, an optimal planning, design/configuration, operation, and control can be guaranteed.

We strongly recommend this project to be funded to support Durham region, Ontario, and Canada, with real demonstration of advanced flywheel-based energy storage platform.

Also, we trust the capabilities and research innovation of Professor Hossam Gaber and his team at UOIT and other collaborating institutions from Canada and internationally. We believe that the team has strong research skills and able to deliver the expected research outcomes. Dr. Gaber has experience in managing large scale projects with national and international reputation and scholarly research in the area of smart energy grid engineering, which will enable the team to bring novel ideas and implement in the proposed flywheel-based energy storage platform.

We expect enhanced return on investment with increased profit and employment in the region.

Name

Signature