

Task Report for

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**ROADMAP FOR IMPROVING MATURITY OF
DER MANAGEMENT AT DISTRIBUTION UTILITIES**

CASE STUDY: FORTISALBERTA

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ABSTRACT

This report documents the findings of a case study at FortisAlberta to create a “*Roadmap for Improving Maturity of DER Management*”. It is a follow-up to a 2017 impact analysis report, “*Impact on Distribution Operations when Integrating DER*” under the CEATI project T164700-3804.

The prior study identified potential operational impacts, created a technical-architecture framework, and outlined a generic operational maturity roadmap and methodology. The objective of this case study was to utilize the framework and methodology to develop a customized technology roadmap for FortisAlberta focused on improving grid operations under increased DER penetration.

This project report includes stakeholder interviews, material reviews, current state assessment, operational impact analysis, business processes impacts, maturity gap analysis, future scenario analysis, and a recommended technology roadmap. We also present our conclusions and recommendations.

While specific to FortisAlberta, this report should help distribution utilities and grid operators understand the issues and solutions necessary to integrate DERs into their grid operations and prepare for increasing levels of DER penetration.

Keywords:

Distributed energy resources, DER, Distributed generation, Energy storage, Demand responses, Aggregated energy resources, Grid operations, Renewable energy, Distributed energy aggregations, Community choice aggregations, Smart grid, Operations maturity model.

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