

**DEVELOPMENT OF A MONITORING, VERIFICATION, AND ACCOUNTING PLAN
FOR A POTENTIAL CCS PROJECT AT FORT NELSON, BRITISH COLUMBIA,
CANADA**

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ABSTRACT

The Plains CO₂ Reduction (PCOR) Partnership and Spectra Energy Transmission (SET) are investigating the feasibility of a carbon capture and storage (CCS) project to mitigate CO₂ emissions produced by SET's Fort Nelson Gas Plant (FNGP) near the town of Fort Nelson in northeastern British Columbia, Canada. If a CCS project is determined to be feasible, the CO₂ will be injected into a deep saline carbonate formation. Baseline characterization data have been collected on potential injection target and sealing formations and used to create static petrophysical models of potential CO₂ storage reservoirs and conduct dynamic simulation modeling of potential injection scenarios. The baseline data and initial modeling results were then used to conduct a risk assessment of potential operational scenarios. While a final injection strategy has not yet been determined, a draft monitoring, verification, and accounting (MVA) plan has been developed using assumptions based on those previous characterization, modeling, and risk assessment efforts. The draft MVA plan covers the surface, near-surface, and deep subsurface environments in the area of the FNGP and includes specific technologies, spatial locations of measurements, a monitoring schedule, and baseline data necessary to address critical project risk and regulatory requirements and identify any deviations from expected conditions in a timely manner. The project's integrated philosophy of geologic characterization, modeling, and risk assessment will ensure that MVA strategies remain fit for purpose and cost-effective. The key elements of the proposed draft Fort Nelson MVA plan have been considered and presented in the context of how they individually and/or collectively address the guidelines enumerated in the Canadian Standards Association standard for geologic storage of CO₂. This material is based on work supported by the U.S. Department of Energy National Energy Technology Laboratory under Award No. DE-FC26-08NT43291.