

EKATI DIAMOND MINE



HIGHLIGHTS

- New 69 kV Substation in NWT
- Transformer, breaker, and oil containment mounted on skid
- Compliance to CSA M421, Use of Electricity in Mines
- Complicated grounding issues required isolated ground safety bed
- Environment, remoteness and ice roads considerations in final design

PROJECT DESCRIPTION

New 69 kV substation for rock crusher at Ekati Diamond Mine in the Northwest Territories. Lex designed an outdoor 3.0 MVA 69 kV to 600 V outdoor substation mounted on a skid supported by piles to protect the permafrost. Due to the environment, remoteness and ice road access, design of substation and its equipment had to be procured in a tight timeline and be easily assembled at site with limited resources.

Because of mine grounding requirements, a remote safety ground bed had to be designed and isolated from the main 69 kV ground grid to limit the grid potential rise on the mobile equipment.

LOCATION

Ekati, NT