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## Transition from Oxidic to Anoxic Conditions in a Nuclear Waste Repository

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# **Transition from Oxidic to Anoxic Conditions in a Nuclear Waste Repository**

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Nuclear power accounts for nearly 15% of electricity production in Canada. Continually use of Nuclear power strongly depends on the proper management of highly radioactive nuclear waste. The internationally accepted plan for nuclear waste disposal is to bury sealed used fuels in a corrosion-resistance container, in a deep geological repository. Once the copper coated container is emplaced in the repository, it will be exposed to the condition which evolve from oxidic and warm to anoxic and cool conditions over time. My research aims to fill the gap between short-term and long-term copper corrosion in order to investigate the effect of different oxide films that can be formed in the early stages of emplacement, on the copper corrosion induced by sulfide, the only possible oxidant under anoxic condition, in later stage. The conversion of copper oxides to sulfides, along with the associated corrosion impacts, is the main goal of my work.