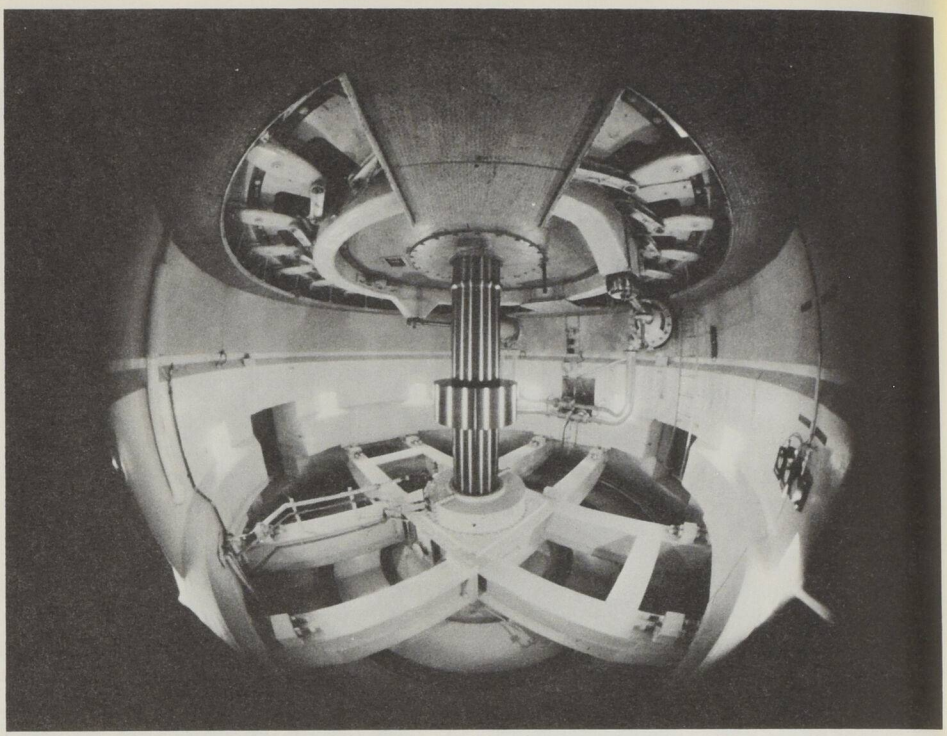
able effects. Such research will help in designing conductors capable of working efficiently at high voltages. The expertise and equipment at the field station has been put to use in testing alternative transmission lines for use in Manitoba (the Nelson River) and Newfoundland (Gull Island power projects).

What of the future for DC transmission? Bob Morris of Electrical Engineering's Power Engineering group believes that it will be used increasingly across the world. "Converter station costs are being steadily reduced through the introduction of improved "thyristors" (controlled solid state rectifiers), thereby making DC systems more cost competitive with AC. In addition, many technical problems are simplified with high voltage DC when power is to be transmitted over long distances by overhead lines or even at comparatively short distances through underground or underwater cables. We'll always need AC for homes and factories, but in some instances high voltage DC will be used for long distance transmission of power from generating sites to cities where it will be converted back to AC and stepped down to domestic voltages."

So a new battle is being won in this "War of the Currents" which has only one victor — the consumer. □

David Peat



Bruce Kane, NRC/CNRC

Turbines convert the energy of falling water to electric power.

Des turbines transforment l'énergie d'une chute d'eau en énergie électrique.

What appear to be lights strung along these transmission lines Christmas-tree style are actually examples of "corona discharge", an undesirable phenomenon that leads to power loss and can cause radio and television interference.

Ces lumières semblant accrochées aux lignes électriques comme des lampes à un arbre de Noël sont en fait des «décharges à effet de couronne». Il s'agit là d'un phénomène indésirable conduisant à des pertes d'énergie et à d'éventuelles interférences dans les gammes de fréquences utilisées pour la radio et la télévision.

Dick Phinney, NRC/CNRC