

HQT POINT

"HQT" Point

"HQT" Point basics

TransÉnergie uses the "HQT" point as a representation of its system as a whole, excluding the other OASIS reception and delivery points. Such a representation optimizes the offering of transmission services. This representation is particular to TransÉnergie as it is made possible through some physical and commercial aspects unique to Québec.

TransÉnergie's network is strongly "radial". It is based on long high voltage lines connecting large remote hydro production centers to a major load center located in the southern part of Québec, mainly in the Montréal region. It is also electrically isolated from the neighbouring systems as it is not synchronised with them. It is interconnected to its neighbours through controllable ties (DC links, radial interties). Providing for the local load therefore relies on the continuous possibility to transfer remote generation without being able to rely on instant support from neighbouring systems. As a consequence, TransÉnergie's network has been developed to avoid congestion on the main system in order to be able to provide reliable service to the Québec local load at all times using generation sources situated on its system. The lack of free flowing ties with neighbouring systems means that TransÉnergie's network is not affected by loop flows, therefore is not subject to congestion that could result from activities on other systems, a common problem on interconnected systems. Such an absence of congestion makes possible modeling of the main TransÉnergie system by a single point.

The Québec local load's main source of electricity is provided through the Patrimonial Decree (1277-2201 du 24 octobre 2001 concernant les caractéristiques de l'approvisionnement des marchés québécois en électricité patrimoniale). Hydro-Québec Production is the sole producer of this very large quantity of electricity for Hydro-Québec Distribution which provides for most of the Québec load. Moreover, Section 49 of the "Loi sur la Régie de l'énergie" specifies in paragraph 11 that "uniform rates throughout the territory served by the electric power transmission system" must be maintained. Those characteristics, particular to the Québec wholesale market, make its representation as a single point possible.

The "HQT" point can therefore represent both TransÉnergie's main system and the Québec wholesale market. It optimizes the offer of transmission service, for the local load as much as for point-to-point services, as capacity calculations need only be performed for the interties with neighbouring networks. Hence, Wheel-through transactions can be identified by linking two interties through point "HQT", exports can be identified by linking point "HQT" to an intertie and imports can be identified by linking an intertie to point "HQT".

Use of point "HQT" for Wheel-through transactions

Wheel-through transactions are represented on OASIS by a link between the intertie identification points established through the use of point "HQT". A Wheel-through transaction to deliver a specific power quantity to a neighbouring system is therefore represented by a reception identified as "XXXX-HQT" for the specified power quantity plus electrical losses related to a delivery of the specified power quantity identified as "HQT-YYYY".

The generation source and the load served being outside of point "HQT", TransÉnergie does not require their localization.

Use of point "HQT" for Wheel Out transactions

Exports are represented by a "HQT-YYYY" relation.

Since the generation source is inside TransÉnergie's system represented by point "HQT", TransÉnergie requires its localization in order to proceed with the studies required to provide the requested transmission service.

Use of point "HQT" for Wheel In transactions

Imports are represented by a "XXXX-HQT" relation.

Since the load served is inside TransÉnergie's system represented by point "HQT", TransÉnergie requires its localization in order to proceed with the studies required to provide the requested transmission service.

Use of point "HQT" for generation interconnection directly to TransÉnergie's network

In order to keep its main system congestion free, TransÉnergie studies generation interconnections "to point HQT" by simulating the associated generation delivery through a proportional increase of the Québec local load by the same generation amount on the whole network.

Hydro-Québec TransÉnergie
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