Fisheries & Oceans Canada's
Small Hydro Instream Flow Risk Management Framework

The Department of Fisheries and Oceans has responsibility under the federal *Fisheries Act*s to ensure sufficient flows for fish; to prevent the harmful alteration, disruption or destruction (HADD) of fish habitat or the killing of fish by means other than fishing. Where the Department is satisfied that all reasonable and feasible measures have been employed to avoid or mitigate such impacts and any residual impacts are determined to be acceptable, an authorization under the appropriate section of the *Fisheries Act* **may be** issued .

DFO is also required to conduct an environmental assessment under the *Canadian Environmental Assessment Act (CEAA)* prior to authorizing a HADD, and to take into account the habitat requirements and anticipated level of harm to any species at risk under the *Species at Risk Act (SARA)* prior to determining and authorizing a HADD.

The footprints and impacts associated with construction and installation of powerhouses, intakes, turbines, tailraces and other hydro generation infrastructure have the potential to create a physical HADD. In addition impoundments, intakes, diversions and operating requirements of the facility which alter natural flow regimes can result in a flow related HADD or insufficient flows for protection of fish. Where facilities are located in fish bearing waters, entrainment leading to fish mortality may also become an issue which could require a federal authorization under the *Fisheries Act.*

In order to conduct an environmental assessment of your project and ensure compliance with the federal *Fisheries Act*, DFO will require adequate hydrometric and hydrologic data, analyses and assessments of flow modifications associated with your project, as well as appropriate mitigation plans to address any physical HADD's or entrainment issues. This information must accompany your application for any permits, approvals or authorizations.

As collection and analyses of this information can be time consuming and cause delays in assessments and regulatory reviews, it is srongly recommended that you initiate data collection and development of appropriate mitigation plans well in advance of preparing and submitting an application.

In order to expedite reviews of IPP projects, DFO has also developed a Instream Flow Risk Management framework for regulatory review of projects according to their potential risk to fish and fish habitat. The following is based on DFOs Policy for the Management of Fish and Fish Habitat, and guidance from the Risk Management Framework. Four (4) potential risk categories have been identified:

Low Risk projects are generally smaller projects located in non fish bearing waters, have reduced information and assessment requirements, and undergo a more streamlined and expeditious review and approval process.

Low to Moderate Risk projects have greater risks associated with fish and fish habitats, but do not affect federally or provincially managed species of concern. All HADD's of fish habitat, including fish passage and entrainment issues, can be mitigated.. These projects will need additional hydrometric assessments and mitigation measures, more detailed and extensive baseline information, and a more extensive review and approval process.

Moderate to High Risk projects are often more complex, difficult to mitigate and represent greater uncertainty with respect to fish and fish habitat. These projects are in fish bearing waters and are considered high risk as footprints and/or flow related HADD's can not be fully mitigated. These projects will not affect federally or provincially managed species of concern. An environmental assessment under CEAA will be required for projects where residual HADDs occur. Most projects in this category will need to be authorized with appropriate compensation. Time lines from project proposal to potential authorization will be dependent upon the adequacy of the information provided, including appropriate mitigation, habitat compensation, and monitoring plans. In the past project proposal time lines have exceeded multiple years.

Very High to Unacceptable Risk projects propose impacts to fish and fish habitat that are unlikely to be successfully mitigated or compensated, and therefore are unlikely to be authorized as proposed. Proponents will be asked to **re-design or relocate** a project where federally or provincially managed species of concern are present (e.g., anadromous salmon, species at risk, provincially listed species). These projects will require all of the upfront information as moderate to high risk projects as indicated above. Significant stream flow alterations and interbasin transfers of water are examples of impacts that may also pose an unacceptable risk.

Please note if your project's generating capacity is in excess of 200 MW, you will need to contact the Canadian Environmental Assessment Agency for further guidance on how to proceed.