

APPENDIX 2-XXX

Capacitor Station Overview Presentation



Mica Units 5 and 6

Capacitor Station

Summary Overview of Completed Project Studies March 2009



Presentation Overview

- Hydrology and Water Quality
- Geo-physical Environment
- Atmospheric Environment
- Fish and Aquatic Habitat
- Vegetation
- Wildlife and Terrestrial Habitat
- Archaeology
- Noise



Presentation Overview

- First Nation Specific Interests
- Population and Demographics
- Economy & Regional Economic Benefits
- Accommodation
- Community / Public Services, Emergency Services
- Traffic
- Land Use



Presentation Overview

- Recreation
- Public Health & Safety
- Accidents & Malfunctions
- Cumulative Effects Assessment
- Environmental Management Plan



Hydrology & Water Quality (Capacitor Station)

- **Scope**

- Construction footprint and 100m buffer
- No wetlands/defined drainages in or near footprint

- **Results**

- No effects on hydrology or water quality anticipated
 - Effect of minor earthworks will be negligible
 - Distance to Celista Creek will allow containment of any spills



Hydrology & Water Quality (Capacitor Station)

- **Mitigation**
 - Sediment and erosion control plan
 - Reseeding or covering topsoil piles
 - Ensure design considers run-off and seepage
- **Residual Effects**
 - No residual effects



Geo-physical Environment

- **Study Area**
 - Project footprint (Mica Units 5&6, capacitor)
- **Results**
 - Construction sites for M5 already disturbed land
 - Capacitor station site has suitable geo-physical conditions for facility
- **Mitigation and Residual Effects**
 - No mitigation required, no residual effects



Atmospheric Environment (Capacitor Station)

- **Scope**
 - Study area 10km radius of capacitor site
 - Small diesel generator to operate 1% of time
 - SCREEN3 Model
 - worst-case effects with focus on NO₂ and PM_{2.5}
 - Continuous operation & “worst-case” meteorology
 - Maximum predicted results compared to most stringent provincial & federal air quality objectives



Atmospheric Environment (Capacitor Station)

- **Results**

- Predicted maximum concentrations of NO₂ & PM_{2.5} are 10% and 3% respectively of most stringent standards
- Concentrations at nearest industrial (1.5 km) & residential locations (2.2 km) are much lower

- **Mitigation and Residual Effects**

- Mitigation not required



Fish and Aquatic Habitat (Capacitor Station)

- **Scope**
 - Footprint and 100 m buffer
 - No fish or aquatic resources within study area
 - Resources in broader surrounding area described
- **Results**
 - Capacitor will not affect fish populations or habitat suitability within Celistia Creek watershed.
 - No mitigation required, no residual effects



Vegetation – Capacitor Station

- **Scope**
 - Study areas
 - Regional (Northern Shuswap Highlands)
 - Local (footprint and 100m buffer)
 - Literature review, site visits
 - Vegetation resources, rare plants and ecosystems, listed or noxious weeds



Vegetation – Capacitor Station

- **Results**

- 74 flora species
- 12 provincially listed species & 1 SARA species could occur
- Limited habitat found for 4 species, none observed
- No threatened ecological communities
- Several noxious weeds observed
- Minor loss of vegetation/wildlife habitat possible
- Possible but unlikely disturbance or loss of listed species and introduction or spread of weeds




Vegetation – Capacitor Station

- **Mitigation**
 - Maximize use of cleared areas
 - Mark areas to be cleared
 - Inspect area for rare/threatened species pre-clearing
 - Prepare and implement weed management plan
- **Residual Effects**
 - Loss of less than 2 hectares of mature forest



Wildlife and Terrestrial Habitat (Capacitor Station)


- **Scope**
 - Study areas
 - regional (Northern Shuswap Highlands)
 - local (footprint and 100m buffer)
 - Literature review
 - Field surveys, wildlife habitat assessments, incidental observations



Wildlife and Terrestrial Habitat (Capacitor Station)

- **Results**

- No areas of special ecological importance/sensitive habitat
- Site habitat abundant & not critical for wildlife life stages
- Birds, deer, moose, black bears observed near local study area; no reptiles or amphibians observed.
- Loss of less than 2 hectares forest & grassy habitat
- Loss of ROW berry patches (considerable similar habitat exists)
- Potential disruption to movement corridors



Wildlife and Terrestrial Habitat (Capacitor Station)

- **Mitigation**

- Minimize loss of wildlife trees (avoid where possible)
- Check for inhabited wildlife trees prior to clearing and leave trees intact until wildlife has moved on
- No clearing during winter when area used as refuge
- Employ a wildlife spotter during clearing.
- Position Reflector and transceiver at Capacitor to try and avoid clearing vegetation on line-of-sight.

- **Residual Effects**

- Permanent loss of 5 to 10 wildlife trees
 - effect minor



Archaeology (Capacitor Station)

- **Scope**
 - AOA
 - Project footprint & immediately surrounding area
- **Results**
 - Capacitor station surface soil mostly disturbed
 - No pre-contact deposits/features observed
 - Low potential overall, moderate in terraces outside footprint
- **Mitigation**
 - More study if intact soil disturbed outside ROW



Noise

- **Scope**
 - Project footprint & surrounding area
- **Results**
 - Noise levels within acceptable levels
 - No nearby receptors; workers covered by WCB requirements
- **Mitigation and Residual Effects**
 - Operations generator housed in structure
 - WCB requirements will be followed
 - No residual effects



First Nations Specific Interests

- **Setting and Overview**
 - Section 13 First Nations
- **Traditional Land Use and Knowledge**
 - Studies and/or discussions underway
- **Employment, Income and Business Opportunities**
 - CHC agreement
 - Discussions with Section 13 First Nations



Population and Demographics

- **Scope**
 - Mica townsite, Revelstoke, Seymour Arm
- **Results**
 - Temporary increase - Mica, Seymour Arm
 - Any increase in Revelstoke less than decrease since 2001
 - No operations impact
- **Mitigation and Residual Effects**
 - No mitigation required, no residual effects



Economy & Regional Economic Benefits

- **Scope**

- Mica, Revelstoke, CSRD Electoral Area B, Golden, Sicamous, Salmon Arm, Valemount, Nakusp
- CHC Agreement guides hiring for Mica 5 & 6
- BCTC responsible for capacitor station construction



Accommodation

- **Scope**
 - Mica townsite, Revelstoke, Seymour Arm
- **Results**
 - Mica townsite expansion to accommodate demand
 - Minimal impact on Revelstoke accommodation
 - Existing facilities in Seymour Arm could be re-activated to accommodate workers (e.g., hotel)
- **Mitigation and Residual Effects**
 - Monitor vacancies in Revelstoke during construction; address if project impact identified
 - No residual effects anticipated



Community/Public Services, Emergency Services and Facilities

- **Scope**
 - Mica, Revelstoke, Seymour Arm
 - Health, ambulance, police, fire, schools, childcare, recreation, adult education, social services
- **Results**
 - Effect on services generally related to population
 - Potential low effect on police & fire services related to incidents at Mica or on Highway 23
- **Mitigation and Residual Effects**
 - Fund overtime shifts for RCMP officers during construction
 - No residual effects



Traffic

- **Scope**
 - Highway 23 between Mica & Revelstoke
 - Road from Seymour Arm to capacitor station site
- **Results**
 - Potential impacts from increased traffic, winter conditions, road damage & accidents with animals
 - Increased traffic on forestry roads during capacitor construction but similar to existing traffic



Traffic

- **Mitigation**
 - Ask contractors to outline ways to reduce traffic
 - Provide information packages to workers
 - Encourage drivers to use same radio band as logging trucks
 - Improve signage on Highway 23 re animals, etc
 - Encourage contractors to schedule road use to minimize impacts on wildlife
 - Inform other users about construction traffic
- **Residual Effects**
 - No residual effects



Land Use

- **Scope**
 - Highway 23 corridor from Mica to Revelstoke
 - Immediate area around capacitor station
- **Results**
 - Mica Unit 5 & capacitor station are acceptable land uses
 - Other users include forestry, recreation, mining
 - Potential effects include:
 - reduced use of Mica townsite by others
 - increased traffic
- **Mitigation and Residual Effects**
 - No mitigation required, no residual effects



Recreation

- **Scope**
 - Revelstoke to Kinbasket forebay
 - Area surrounding capacitor station footprint
- **Results**
 - Potential use of resources near construction areas, including backcountry area, by workers
 - Increased noise, reduced aesthetics in immediate vicinity of the construction sites
 - Increased traffic



Recreation

- **Mitigation**

- Information package for construction workers re regulations, recreation opportunities & safety
- Monitor recreation use near Mica Dam/townsite and, as necessary, fund MOE Conservation Officer & ensure regular garbage clean-up.

- **Residual Effects**

- No residual effects anticipated



Public Health and Safety

- **Scope**
 - Project footprint, access corridors, 5L71/72 corridor (EMF)
 - Noise, air quality, EMF, traffic
- **Results**
 - Noise effects short-term and transient
 - No nearby air receptors, air quality at acceptable levels
 - Traffic effects discussed on previous slide
 - EMF levels below existing guidelines
- **Mitigation**
 - Noise, traffic and air mitigation discussed earlier
 - EMF mitigation not required




Accidents and Malfunctions

- Identify potential for accidents/malfunctions and their likely potential effects
- Document proposed mitigation measures
- Commitment to having an EMP in place for Project start-up



Cumulative Effects Assessment

- Methodology generally follows CEA Agency guidelines
- Identifies existing and foreseeable future projects
- Describes combined effects of the Project and other Projects



Environmental Management Plans

- Frameworks developed for inclusion in Application
- More detailed plans to be developed prior to construction
- Existing plans used for operations