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**EAST TOBA RIVER AND MONTROSE CREEK HYDROELECTRIC PROJECT  
INDEPENDENT ENVIRONMENTAL MONITOR TOBA VALLEY WEEKLY REPORT  
JULY 10 – JULY 16, 2010**

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DFO File Numbers: 08-HPAC-PA2-00008, 04-HPAC-PA1-000-000061  
Water File Number: A2005412

**ATTACHMENTS / WORK PLANS**

Turbidity Data Toba R 100m Downstream of Confluence July 9- July 16, 2010  
Turbidity Data Montrose Creek Below the Waterfall (Tailrace) July 9- July 16, 2010  
Turbidity Data Toba River 100m Upstream of the Tailrace July 9- July 16, 2010

**WEATHER**

July 10	Sunny, no precipitation.
July 11	Sunny, cloudy, no precipitation.
July 12	Sunny, cloudy, no precipitation.
July 13	Sunny, cloudy, no precipitation.
July 14	Sunny, no precipitation.
July 15	Sunny, no precipitation.
July 16	Sunny, no precipitation.

**FISHERIES OBSERVATIONS**

None.

**WILDLIFE SIGHTINGS**

No observations reported.

## CONSTRUCTION ACTIVITIES

### Filer Main

July 10      Worked on nozzles.  
Dry commissioning the powerhouse.  
Crushed material at 8+600.  
Stripped penstock pedestal forms on the surface mount.  
Pulled fibre optic and power cable along the penstock route.  
Backfilled pull boxes at PI 27.  
Excavated ditches and sloped at 11+250 and 11+500.

### Montrose Intake

None.

July 11      Worked on nozzles.  
Dry commissioning the powerhouse.  
Pecked and broke riprap at the powerhouse.  
Crushed material at 8+600.  
Stripped penstock pedestal forms on the surface mount.  
Scaled and removed safety fences on the penstock surface mount.  
Pulled fiber optic and power cable along the penstock route.  
Loaded riprap at 10+000 and hauled to the powerhouse.  
Reclamation of the lay down site at 10+000.  
Excavated ditches and sloped at 11+250 and 11+500.

Took turbidity readings for removal of the remaining silt curtain within the  
Montrose tailrace channel.  
Montrose tailrace channel powerhouse side of the silt curtain @ 12:20: 28.0NTU  
Montrose Creek (background) @ 12:25: 47.1NTU

### Montrose Intake

None.

July 12      Worked on nozzles.  
Dry commissioning the powerhouse.  
Pecked and broke riprap at the powerhouse.  
Stripped penstock pedestal forms on the surface mount.  
Scaled penstock surface mount and removed safety fences.  
Pulled fiber optic and power cable along the penstock route.  
Loaded riprap at 10+000 and hauled to the powerhouse.  
Reclamation of the lay down site at 10+000.

Montrose Intake

None.

July 13      Worked on nozzle timing.  
Install bifurcation manhole cover and torque bolts.  
Install and test orifice blocks.  
Strip and remove steep slope access.  
Remove fence between PI 12 and 13.  
Switchyard deficiencies.

Montrose Intake

None.

July 14      Complete switchyard grading.  
Place penstock overfill at 11.25 km.  
Remove silt curtain at tailrace (see environmentally sensitive works).  
Continue steep slope clean up.  
Work on nozzle orifices, timing, and deflectors.  
Work on TIV sensors.  
Work on 5 kV cable, 230 kV disconnect and terminate wires.

Montrose Intake

None.

July 15      Bull back and cover penstock at 11.25 km.  
Remove fencing from pedestal 2 to 10 on steep slope.  
Install nozzle orifices and adjust timing on Unit 1.  
Work on fire stop.  
Work on deflectors.

Montrose Intake

None.

July 16      Bull back and cover penstock at 11.25 km.  
Worked on nozzles.  
Install deflector tubing.  
Scale steep slope from PI 28 to pedestal 4.  
Excavate ditch beneath penstock on access road.  
Test pitting for compensation design.

Montrose Intake

None.

**Toba Main**

July 10 Ran units 1 and 2 (13m<sup>3</sup>/s each), conducted 400hr test, produced power. Sloped, ditched and placed armour along the tailrace access road. (Photo 1) Ditched and pulled back material at 1+500. Reclaimed PR 2I (2+000).

Toba Intake

None.

July 11 Ran units 1 and 2 (13m<sup>3</sup>/s each), conducted 400hr test, produced power. Sloped, ditched and placed armour along the tailrace access road. Ditched and pulled back material at 1+400. Reclaimed PR 2I (2+000). Manually brushed thistles between 13+500 and 8+500.

Toba Intake

None.

July 12 Ran units 1 and 2 (13m<sup>3</sup>/s each), conducted 400hr test, produced power. Sloped, ditched and placed armour along the tailrace access road. Ditched and pulled back material at 1+400. Reclaimed PR 2I (2+000).

Toba Intake

None.

July 13 Reclaim PR21 (2 km Toba intake access road). Ditching on powerhouse access road. Ditching and cross swales at 1.25 km intake access road.

Toba Intake

None.

July 14 Reclaim PR21 (2 km Toba intake access road). Ditching on powerhouse access road. Ditching and cross swales at 1.25 km intake access road. Set footings and tie rebar for permanent accommodations at powerhouse.

Toba Intake

None.

July 15 Pull back fill along tree line on penstock steep slope at 1.5 km.  
Ditching on powerhouse access road.  
Finish rebar and pour footings for permanent accommodations at powerhouse.

Toba Intake

None.

July 16 Complete footing pours and install formwork at permanent accommodations.  
Pull back fill along tree line on penstock steep slope at 1.5 km.  
Ditching on powerhouse access road.

Toba Intake

None.

**Transmission Line**

July 10- None.  
July 16

**ENVIRONMENTALLY SENSITIVE WORK**

Turbidity Monitoring for Montrose Creek Below the Waterfall (Tailrace)

July 09- A turbidity data logger was stationed in Montrose Creek in proximity of the  
July 16 tailrace, below the waterfall. Data was recorded during operations. (See attached  
Turbidity Data Montrose Creek Below the Waterfall)

Turbidity Monitoring for Toba R Upstream of Tailrace (background)

July 09- A turbidity data logger was stationed in Toba R approximately 150m  
July 16 upstream of the Tailrace. Data was recorded during operations. Data logger was  
unable to be downloaded at this time.

### Turbidity Monitoring for Montrose Creek 100m Downstream of the Tailrace

July 09- A turbidity data logger was stationed in Montrose Creek 150m downstream of the  
July 16 tailrace channel. (See attached Turbidity Data Montrose Creek 150m Downstream of the Tailrace). The data collected appears corrupt for this period.

### Turbidity Monitoring for Toba R 100m Downstream of East Toba R Confluence

July 09- Turbidity was monitored downstream of the Toba powerhouse. The turbidity data  
July 16 logger was stationed 100m downstream of the East Toba R and Toba R confluence. Data was recorded for the East Toba powerhouse wet commissioning and testing. (See attached Turbidity Data Toba R 100m Downstream of Confluence)

### Remove silt barrier ay Montrose Tailrace

July 14 The silt barrier curtain was removed. Turbidity measurements within the tailrace  
channel were 23.7 NTU at 11:00 and were lower than background within Montrose Creek, 29.4 NTU at 11:00.

### Reclamation of East Toba Intake Road

July 09- Reclamation works continued between 1+25 and 2+00 along the road  
July 16 alignment, penstock alignment, borrow sites and lay-down areas. Swales were excavated across the road, slopes were pulled back, areas were seeded and check dams were placed within the ditch line. Additional ditchwork was completed on the powerhouse access road.

### Reclamation of Montrose Intake Road

July 09- Reclamation works continued at borrow sites, spoil sites, penstock alignment and  
July 16 road alignment between 11+000 and 11.5km. Slopes were pulled back, ditches were excavated, swales constructed and seed was applied to disturbed areas.

## **NONCOMPLIANCES AND ENVIRONMENTAL ISSUES**

### Release of SF<sub>6</sub> at the East Toba Powerhouse

July 11 It was observed that a transformer breaker at the East Toba powerhouse had lost  
4psi over the last couple of months. The total psi was for the breaker was 87psi which represents a 4.6% total loss of moles (# of molecules). The nameplate specified a total of 161lbs (73.09kg) of gas per unit. The 73.09kg of gas

contained 0.14605kg/mol resulting in 500.4 moles of gas. The 4.6% loss equals 23 moles.

Bolts were tightened on a flange which is believed to be the cause of the slow leak. The release of SF<sub>6</sub> was reported to PEP (Provincial Emergency Program) by PKS on July 11, 2010.

### Black Bear Struck by Vehicle

July 13      A black bear was struck by a vehicle at 1+750 Filer Main at approximately 06:00. The bear wandered from the road to the wooded area. The regional Conservation Officer was notified of the accident. The bear was subsequently dispatched by members of the Klahoose First Nations.

### IFR Flow Violation

July 14-15      TMHI were out of compliance with the ILCO on 14 July from 10:35 am to 2:15 pm and 15 July from 9:20 am to 4:20 pm. During this period the IFR gauge recorded values below 4.19m, the lowest of which occurred on 15 July at 12:25 pm with a reading of 4.1783 m. This value corresponds with a flow of 1.009 m<sup>3</sup>/s according to the latest stage discharge formula. The 4.19 m IFR gauge value equates to a flow of 1.07 m<sup>3</sup>/s for reference.

For reference the 4.19 m value in the ILCO is due to significant uncertainty in the IFR stage discharge curve at the low flow end of the curve. When the IFR gate was commissioned a low flow value of 0.63 m<sup>3</sup>/s was measured in-stream and associated with an IFR gauge reading of 4.18 m. As a result the MoE would not accept the 4.149 m value that corresponds with 0.85 m<sup>3</sup>/s using the stage discharge formula currently being used. KP will need to return to update the IFR stage discharge relationship and increase confidence in the curve. This can only be completed during times of day that the facility is operating under headpond control.

As an interim measure the IFR gate was opened by 1 cm (from 27.5 to 28.5 cm). It is anticipated that this should add the required flow to the river such that the 4.19m stage level at the IFR gauge can be met. Additional flow measurements are being conducted by KP.

The incident was reported to MOE and DFO.

## Photos



Sloping, ditching and placing armour along the East Toba tailrace access road. (July 10, 2010 12:02)



(Photo 2) Breaking and stock piling riprap at the Montrose powerhouse. (July 11, 2010 12:25)





**Toba Montrose Hydroelectric Project: Toba Inlet Deficiency / Action Item List**

Last Updated: July 16, 2010

<b>Date</b>	<b>Location (km)</b>	<b>Description</b>	<b>Mitigation measures</b>	<b>Risk/priority</b>	<b>Status</b>	<b>Date completed</b>
March	Site	Live staking of disturbed riparian areas.	To be done during dormancy period.	Low	Independent site investigation done by Dave Polster and Associates, assessment to be presented to DFO, natural recruitment appears to be sufficient to remove this requirement.	Ongoing
Mar. 09	P60	Culvert improperly installed, hit bedrock, will be re-assessed for possible reinstallation or signed off as acceptable.	Requires reinstallation or design change.	Low	As built of all roads currently being undertaken by road design team.	Ongoing
Mar. 17	P84	Culvert improperly installed.	Requires reinstallation or design change.	Low	As built of all roads currently being undertaken by road design team.	Ongoing