

Unit 6 Transformer Fire and Insulating Oil Spill

**Questions and Answers, Chronology,
Maps and Media Releases**

Questions and answers: April 15 transformer fire and oil spill

What happened?

A fire in a transformer outside the Bruce B Generating Station unit 6 at 7:45 p.m. on Friday April 15, 2005, resulted in the release of a quantity of transformer insulating oil into Lake Huron. No one was injured. A preliminary investigation has determined that a short circuit caused the fire. For a day-by-day report of our clean-up activities and the movement of the oil sheen, please see the chronology document on this web page.

Who did Bruce Power notify?

As part of our immediate response, we immediately activated our emergency response organization and contacted the Ministry of Environment Spills Action Centre, the Canadian Nuclear Safety Commission, the Ontario Provincial Police and the mayors of Saugeen Shores and Kincardine. On Friday evening, they were informed of the transformer fire and subsequent spill to the lake. A media release was issued across Canada explaining the details of the fire and the efforts to clean-up the spill to the lake.

On Saturday, clean-up was well underway and Ministry of Environment and Environment Canada staff arrived on site to observe the efforts. We notified the Grey Bruce Health Unit, Lake Huron Fishing Club and issued a second media release informing the public of the progress of clean-up efforts.

On Monday, we updated interested community, government and business leaders on the progress of the clean-up and issued a third media release to outline the likely cause of the fire and update the public on the progress of the clean-up.

What is a transformer?

The purpose of a transformer is to change the voltage of the electrical current transported on grids and power lines. Most large transformers consist of a core and conductors covered with insulating oil for cooling and insulating purposes. The oil released from Unit 6 transformer does not contain PCBs or radioactive material.

What effect could the oil have on the environment?

While we are monitoring this event closely, the release of oil is not expected to pose any significant danger to the environment. The oil is biodegradable, has very low levels of toxicity and contains no PCBs or radioactive material. It breaks down naturally over time in sunlight and exposure to various weather conditions. The oil is called Voltesso 35 and is petroleum-based and is a type of mineral oil.

Is it harmful to people?

The ingestion of small quantities of oil is not considered a health threat. On Tuesday, the Local Medical Officer of Health issued an advisory warning people to avoid the affected area. We fully support the Medical Officer of Health's advice for caution until the clean-up is complete. There is a potential for respiratory impact, but in order to have such impact, the oil and water would need to aerosolize to the point where it forms a fine mist to be inhaled.

Is it harmful to birds?

We believe certain birds, in particular those that inhabit shallow waters, are at some risk should they come into contact with the oil, which could coat their feathers and impede their ability to fly. We have seen one bird, a grebe that appeared to have come into contact with oil. The bird was rescued and is being sent for assessment. We do have employees monitoring the shoreline for any indications that the oil has impacted waterfowl and ask that if anyone discovers wildlife that appears to be impacted by the oil, please contact Bruce Power's Environment Group at pager number 519 374-6320.

Is it harmful to fish?

The oil is insoluble, meaning it does not mix with the water but remains as a very thin sheen on the surface until it biodegrades. For this reason, it is very unlikely to have any harmful effect on fish.

How much oil was released?

The transformer holds approximately 17,000 imperial gallons of oil. Approximately half of the oil has been collected to date and we are excavating the sand and gravel base around the transformer to determine how much more was collected there. The source of the oil has been isolated from the lake and recovery of remaining oil at the incident site continues. A quantity of oil was carried to Lake Huron through surface drains when the fire was doused by the automatic sprinkler system.

How is the oil being contained?

PSC Industrial Services Inc., a company that specializes in cleaning up oil and chemical spills, is assisting with the effort. While the oil is biodegradable, we will not wait for it all to dissolve naturally, but intend to contain and recover as much as possible using a series of oil skimming and absorbent booms. Observational flights are being conducted three times a day, weather permitting, to monitor the oil's movement and to guide the tug boats doing the clean-up.

Crews are patrolling the Lake Huron shore line, as directed by aircraft to monitor the shore, observe wildlife and clean up any small amounts of oil residue, as necessary.

How long will the clean-up take?

Crews will require several days to excavate, collect remaining residual oil and replace the gravel and sand around the transformer. In addition, our crews will remain on the lake doing clean-up as long as it is necessary.

What's next?

Lake clean-up is our number one priority with boats dragging booms in the area of greatest concentration. The sand and gravel used to absorb the oil at the incident site is being removed and replaced. We are testing this material to determine how much oil was collected and how much was released into the lake. Since the event, staff has been monitoring the shoreline and waterways for environmental impacts. Hydro One maintenance crews have been called in to assist in the replacement of the transformer.

Chronology of spill and clean-up initiative

Apr. 15, 2005

Unit 6 at the Bruce B generating station is safely shut down at 7:45 p.m. following a transformer fire outside the generating station. As a result of the event, which occurred on the non-nuclear side of the plant, some transformer insulating oil has entered Lake Huron, likely through a storm drain. The insulating oil contains no PCBs or radioactive material and is a type of mineral oil. Bruce Power crews stop the oil release through the drain and set up absorbent booms in the station's outflow to contain the material, which forms a thin sheen on the surface of the water.

Apr. 16, 2005

The sheen is visible beyond the station outfall and small quantities of sheen are visible in the station outfall upstream of the booms. Information obtained from boats deployed in the lake and from aircraft inspections indicate the sheen has spread from Bruce B and is approximately 300 metres wide and 5 km long and is extending north towards Port Elgin. A slight petroleum odour is evident when the boat enters the more dense sections of the sheen. Inspections of the shoreline are done all day and no oil is detected along the shoreline and no apparent environmental impact on wildlife is reported. The Ministry of Environment (MOE) and Environment Canada are on site to inspect the situation and offer advice. They tour the spill area and outfall. Crews continue to clean up the sheen in the lake.

Apr. 17, 2005

Some oil sheen continues to be visible in the outfall upstream of booms. A new oil skimming boom together with additional absorbent booms are placed at the security barrier this morning. No sheen is visible beyond this boom. The noon-hour inspection flight indicates the sheen continues to spread and currently extends from near Kincardine airport to MacGregor Point. Two pockets have been identified, one to the south and one to the north. They are moving in towards shore at Baie du Dore, at the site shoreline and at Inverhuron. The petroleum odour continues to persist when the survey boat is in the heavier sections of sheen. Shoreline inspections are carried out throughout the day and no oil is detected along the shoreline at Inverhuron or Baie du Dore. A second oil skimming boom is being dragged by boats where sheen is heaviest in the lake to 'corral' as much of the sheen as possible and it is then cleaned up with absorbent. Lake water samples are shipped to an independent lab for rush analysis. There is no indication of concern and no report of complaints received by the MOE.

Apr. 18, 2005

A very light sheen continues to be visible in the outfall. Aerial inspection confirms that no oil sheen is leaving Bruce B. Sheen has spread and continues to do so through the day. It extends from near Kincardine airport to MacGregor Pt with most of the sheen being barely visible from the boat. Sections exist where the sheen is heavier and is clearly visible, both to north and south. Noon hour and 3:30 p.m. flight indicates there are now four main areas of sheen with smaller pockets that continue to spread/dissipate. Wind direction continues to be monitored for potential to push areas of sheen ashore. Shoreline inspections continue all day. Staff are being directed to where the sheen is potentially making landfall according to aerial reports. No oil is being detected along shoreline at Inverhuron or Baie du Dore. This evening, sheen is visible on shore and in water at the Douglas Point shoreline. This is also being seen at Scott's Point. The MOE is on site and touring the area.

The aircraft reports that the sheen has reached the shore at Douglas Point. Inspection and clean up crews are dispatched this evening at 17:30h. They are patrolling the area and cleaning up small patches of residue until dusk. A decision is made to deploy inspection/clean-up crews to the north and south of the facility daily. Aircraft and boat sightings will be used to direct the activities of the crews.

Apr. 19, 2005

Samples are taken by boat in the sheen out in the lake and sent for analysis. All absorbent booms in the discharge channel are being maintained and additional ones added as deemed necessary. Weather permitting, flights continue to take place three times per day and more if deemed necessary. In addition to monitoring the sheen, the aerial flights are being used to direct the activities of crews on shore and also direct the four tugs and several small boats skimming the sheen with ~3000ft of oil skimming boom. Reports from the boats indicate that this is effective in removing the sheen. This is confirmed by the pilot. The sheen has spread over a much wider area and has broken up into several large patches. Most of it is still offshore, however with south-west winds today, it is starting to move inwards and several streamers are seen to be making landfall mainly north of the plant. The plume currently extends from Inverhuron in the south to just north of MacGregor Point in the north. Crews have been inspecting the shore line to the south and north of the plant each day for sheen being washed ashore and for potential impact on wildlife.

Apr. 20, 2005

The sheen has spread over a much wider area and has broken up into several patches. The plume currently extends from Kincardine to just north of Port Elgin approximately 1 km from shore. Crews continue to inspect the shoreline south and north of the plant each day for sheen being washed ashore and for potential impact on wildlife. One grebe was retrieved and has been sent for assessment and treatment. It is expected to survive and be released.

April 21, 2005

Aerial surveys indicate streamers of sheen extending from the shoreline and moving off shore. The sheen was clearly breaking up and was intermittent with streamers visible from Point Clark in the south to 3 km south of Sauble Beach in the north. There was a light southwest breeze and the sheen was touching the shore in some places near the site. Crews walking the shoreline reported only small amounts of sheen, typically too little for effective clean-up with absorbent. Four dead birds were found around Inverhuron. Two cormorants and two grebes are being sent to University of Guelph to determine the cause of death.

April 22, 2005

Reports from the flights this morning indicate that the sheen does not extend much beyond Kincardine airport. Very small, barely distinguishable streamers were visible just south of Kincardine and nothing more to the south. Some streamers persist off of Port Elgin as well. Current evidence suggests that the streamers continue to break up.

April 23, 2005

Due to severe weather, there will only be two flights today, one at 7 a.m. and one at 10 a.m. There are four streamers off Douglas Point and one off of Inverhuron and some remain off of Port Elgin as well. Tugs continue to absorb the material but shoreline and aerial inspections are suspended until the weather improves. There is a moderate-to-strong wind from the northeast today pushing the sheen to the south. There has been no further sign of distressed wildlife.

April 24, 2005

Due to severe weather, there will be no flights today. There are streamers off Douglas Pt and Port Elgin as well. Tugs continue to absorb the material but shoreline and aerial inspections are suspended until the weather improves.

April 25, 2005

We have four boats on the water today, two off Port Elgin in the area of Chantry Island about ½ km to 1 km offshore and two about 4 km out, just north of our site. Aerial inspections resume at 15: 20 today. Nothing is seen to the south of site. Very narrow, barely visible streamers are observed off-shore between Baie du Dore and just south of Port Elgin. An area of sheen is observed about 6-7 km west of the Bruce Power site.

April 26, 2005

The weather continues to hamper the off-site activities, except for shoreline clean-up which is underway all day. Twenty-nine deceased waterfowl, were collected just south of Inverhuron and just north of Kincardine in the Lurgan Beach area. Canadian Wildlife Service, Ministry of Natural Resources, and Ministry Of Environment were all notified. The birds are being sent to University of Guelph to determine cause of death. All flights were suspended today due to poor weather. It is too rough for boats to perform clean-up operations on the water today.

April 27, 2005

Shoreline inspection and clean-up was underway all day. Two dead loons were collected south of Inverhuron. They will be sent to University of Guelph. All flights were suspended today due to weather. Nothing is seen to south of site. Four boats remain available. It was too rough to do significant amount of oil skimming/collection today.

April 28, 2005

This morning, the plane reported a very faint sheen in only one area, extending southward from the site boundary to just north of Kincardine airport. It is currently approximately 0.5 km off-shore. Winds today are very light from the west. There is no indication of any sheen anywhere else. The tugs are out in this area of sheen cleaning it up. No significant oil sheen and virtually no residue is visible on shore.

April 29-30, 2005

Plane and boats were at work over the weekend. No sheen has been seen for the last two flights. Some whitish foam, which has no petroleum odour or visible sheen is visible to the north of the site. The boats are at work collecting the foam

May 1, 2005

There is no sheen spotted anywhere on the lake. Some whitish foam is visible north of site but samples have no petroleum odour. It is believed to be decomposed oil mixed with natural organics and silt. The number of flights will be reduced to once every two days later this week, then weekly until the end of month if nothing new is observed. The boats are now off the water but will be available until the end of month should a need arise. Examination of samples and absorbent booms from boats working the lake on weekend showed no evidence of oil.

May 2-3, 2005

Bruce Power is notified by the University of Guelph that preliminary necropsy results show the twenty-nine birds found on April 26 did not die as a result of the spill. Most died prior to the April 15 event and none showed any signs of succumbing due to the spill. A full report as to the cause of death is to follow in a few weeks. There has been no sign of sheen on the lake for several days now.

Week of May 30

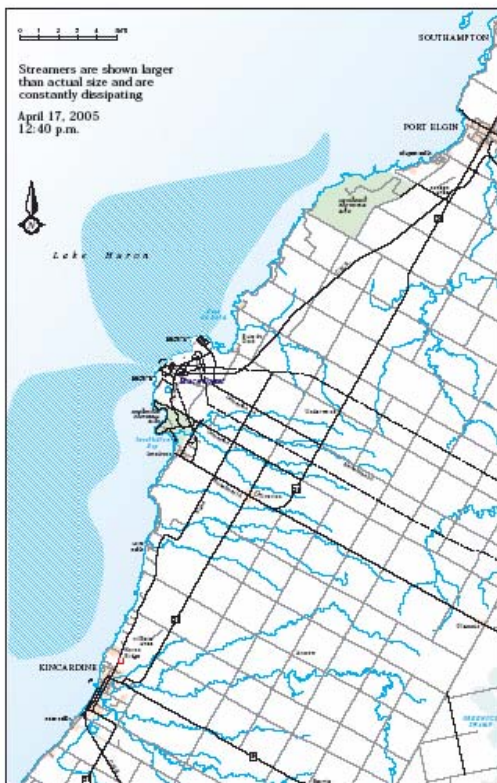
Working in consultation with the Ministry of Environment and the Medical Officer of Health, Bruce Power is removing trace amounts of oil that have been safely contained in the Bruce B recirculation duct since the April 15 transformer fire. The duct is essentially a channel that connects the Bruce B inflow and discharge channels. Crews are using absorbent booms to collect the traces of oil and the work will continue Monday, June 6 with up to four tugs stationed at the mouth of the discharge channel should any material bypass the on-site booms. Bruce Power is asking for the co-operation of boaters to stay clear of the tug boats during this work.

June 8

Work resumes today to remove small amounts of mineral oil from an on-site duct using a series of absorbent booms in the Bruce B inflow and discharge channels. During this process, area residents and boaters are being reminded that up to six tug boats with absorbent booms will once again be stationed off the Bruce Power site to collect any material that may bypass the on-site booms. These boats were present on Monday and Tuesday, but crews opted to wait for calmer water conditions before proceeding with the oil removal. This biodegradable material has been safely contained in the Bruce B recirculation duct since an April 15 transformer fire outside the generating station. Bruce Power, working in consultation with the Ministry of Environment and Medical Officer of Health, is once again asking for the co-operation of boaters to stay clear of the tug boats during this work.

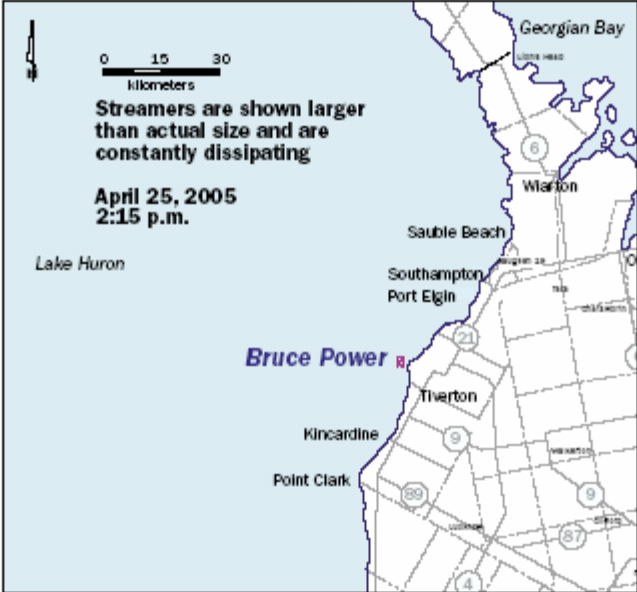
June 10

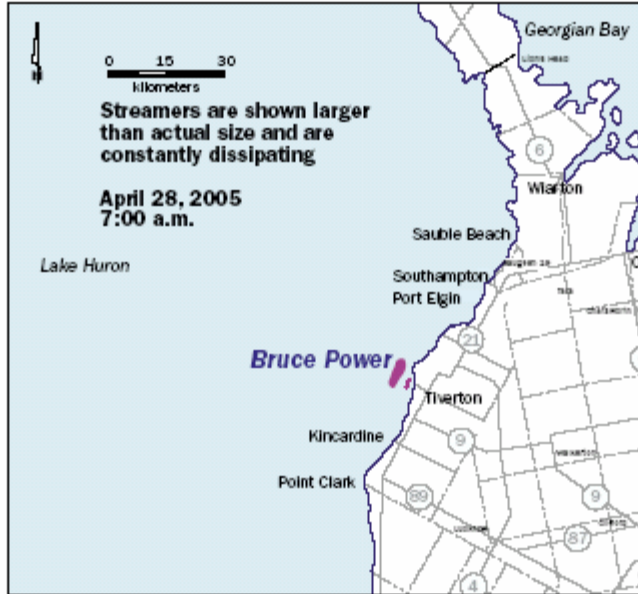
Work to remove small amounts of mineral oil from an on-site duct is now complete. Using a series of absorbent booms, crews have recovered any traces of biodegradable oil that had been safely contained in the Bruce B recirculation duct since the April 15 transformer fire outside the generating station. As a precaution, up to four tug boats with additional booms were stationed off the Bruce Power site to collect any material that bypassed the on-site booms. Next week the tug boats will begin collecting booms and other equipment. The tug boats will be seen along the shoreline between Port Elgin and Kincardine during the post job clean-up.

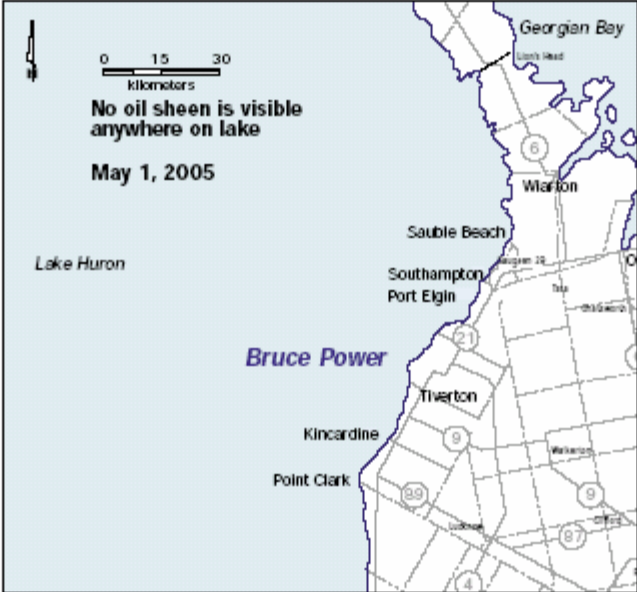














For immediate release

Bruce B Unit 6 taken offline following transformer fire

TIVERTON, ON – April 15, 2005 – Unit 6 at the Bruce B generating station was safely shut down at 7:45 p.m. following a transformer fire outside the generating station.

No one was injured by the fire, which was extinguished quickly by an automatic sprinkler system as per design. As a result of the event, which occurred on the non-nuclear side of the plant, some insulating oil has entered Lake Huron, likely through a storm drain. The insulating oil contains no PCBs or radioactive material and consists primarily of mineral oil. Bruce Power crews plugged the drain and set up a boom in the station's outflow to contain the material, which formed a thin sheen on the surface of the water.

Bruce Power officials have reported the event to the Canadian Nuclear Safety Commission as required and Hydro One maintenance crews have also been called in to replace the transformer. It is not yet known how long Unit 6 will remain offline.

Units 3, 5, 7 and 8 remain at high power while the planned inspection on Unit 4 that began March 12 continues.

About Bruce Power

Bruce Power is a partnership among Cameco Corporation (31.6%), TransCanada Corporation (31.6%), BPC Generation Infrastructure Trust, a trust established by the Ontario Municipal Employees Retirement System (31.6%), the Power Workers' Union (4%) and The Society of Energy Professionals (1.2%).

For further information, please contact:

24-hour Duty Media Officer 519-361-6161



For immediate release

Clean-up of mineral oil well underway following transformer fire

TIVERTON, ON – April 16, 2005 – The majority of mineral oil released following a brief transformer fire outside the Bruce B generating station on Friday has either been recovered or absorbed by the sand and gravel base beneath the transformer.

The mineral oil is bio-degradable and contains no PCBs or radioactive material. Still, crews are removing any traces of oil found in yard drains and have set up absorbing booms in the station's outflow to collect any material that entered Lake Huron.

"These types of events are rare, but the most important period of work occurs in the first 12 to 24 hours," said Duncan Hawthorne, Bruce Power's President and Chief Executive Officer. "The crews who worked overnight have done an excellent job containing the material and the clean-up is well underway."

Bruce Power is investigating the cause of the fire, which was extinguished quickly by an automatic sprinkler system as per design. Immediately following the event, operators safely shut down Unit 6 and Hydro One maintenance crews were called in to begin repairs. It is not yet known how long Unit 6 will remain offline.

Units 3, 5, 7 and 8 remain at high power while the planned inspection on Unit 4 that began March 12 continues.

About Bruce Power

Bruce Power is a partnership among Cameco Corporation (31.6%), TransCanada Corporation (31.6%), BPC Generation Infrastructure Trust, a trust established by the Ontario Municipal Employees Retirement System (31.6%), the Power Workers' Union (4%) and The Society of Energy Professionals (1.2%).

For further information, please contact:

24-hour Duty Media Officer 519-361-6161



For immediate release

Short circuit likely cause of transformer fire outside Bruce B

TIVERTON, ON – April 18, 2005 – A short circuit that elevated temperatures inside a transformer likely caused a brief fire that prompted operators to shut down Unit 6 at the Bruce B generating station on Friday, April 15.

No one was injured by the fire and the majority of the biodegradable mineral oil released from the damaged transformer has either been recovered or absorbed by the sand and gravel beneath the transformer. Over the next several days, that material will be excavated and replaced.

The fire was extinguished by an automatic fire suppression system and Bruce Power's Emergency Response Team responded quickly to contain as much of the mineral oil as possible immediately following the event. However, some material did enter Lake Huron through surface drains and a thin sheen has been visible on the surface of the water near the facility. The mineral oil does break down naturally in sunlight and every effort is being made to remove as much of it as possible using a series of booms.

"Our first order of business has been to contain and recover any mineral oil that was lost and to address any environmental concerns," said Duncan Hawthorne, Bruce Power's President and Chief Executive Officer. "The clean-up work has gone well and we will now conclude our investigation into the event and set out a recovery plan to return the unit to service."

Bruce Power does have a spare transformer and work will begin shortly to replace the damaged one. It is not yet known how long Unit 6 will remain offline.

Units 3, 5, 7 and 8 remain at high power while the planned inspection on Unit 4 that began March 12 continues.

About Bruce Power

Bruce Power is a partnership among Cameco Corporation (31.6%), TransCanada Corporation (31.6%), BPC Generation Infrastructure Trust, a trust established by the Ontario Municipal Employees Retirement System (31.6%), the Power Workers' Union (4%) and The Society of Energy Professionals (1.2%).

For further information, please contact:

24-hour Duty Media Officer 519-361-6161



For immediate release

Bruce B Unit 6 returns to service

TIVERTON, ON – May 14, 2005 – Bruce B Unit 6 returned to service at 6:08 p.m. today following the successful replacement of its main output transformer, which was damaged in an April 15 fire outside the generating station.

Units 3, 4, 5, and 8 remain at high power while the planned inspection of Unit 7 that began on May 7 continues.

About Bruce Power

Bruce Power is a partnership among Cameco Corporation (31.6%), TransCanada Corporation (31.6%), BPC Generation Infrastructure Trust, a trust established by the Ontario Municipal Employees Retirement System (31.6%), the Power Workers' Union (4%) and The Society of Energy Professionals (1.2%).

For further information, please contact:

24-hour Duty Media Officer 519-361-6161