Imperial Oil

Cold Lake Update

May 2009

Imperial Oil Resources Cold Lake operations and Nabiye expansion project staff met with Marie Lake landowners on March 11 to review planned changes to the proposed expansion project. This engaging session resulted in a number of discussion items and questions identified for follow-up.

The questions and answers below summarize the items and address the questions MLAWS posed regarding Imperial's current operations and plans for the Nabiye expansion. We hope you find it useful and informative. If you have additional questions or concerns, please feel free to contact Paula McMillan at 780-639-5194 or by e-mail at paula.l.mcmillan@esso.ca.

Water

1. How much fresh water will Nabiye require and where will it come from?

Over the past five years, Imperial's annual average water withdrawals from Cold Lake have been between 9000 and 11,000 m^3/d, approximately 65-80 percent of allowable license limit of 14,000 m^3/d. Nabiye will also use fresh water from Cold Lake under the same license and will not seek fresh water from other lake sources in the area. After start up, Nabiye will require approximately 100 m^3 per day of fresh water for domestic and utility use.

2. How much make-up water will be required to support Nabiye start-up?

During the initial startup period steam will be injected prior to any bitumen and water being produced from the reservoir. Bitumen and water production volumes will grow over the initial months of startup and into the first few years of operation. Once production has started, makeup-water requirements will decrease, and after one year, make-up water will provide approximately 50 percent of the total steam volume for Nabiye. Since some of the water that is injected as steam will remain in the reservoir, makeup water will be required throughout the life of the operation. Makeup water will be supplied to Nabiye from the existing Imperial Cold Lake water infrastructure, according to Imperial's water use hierarchy:

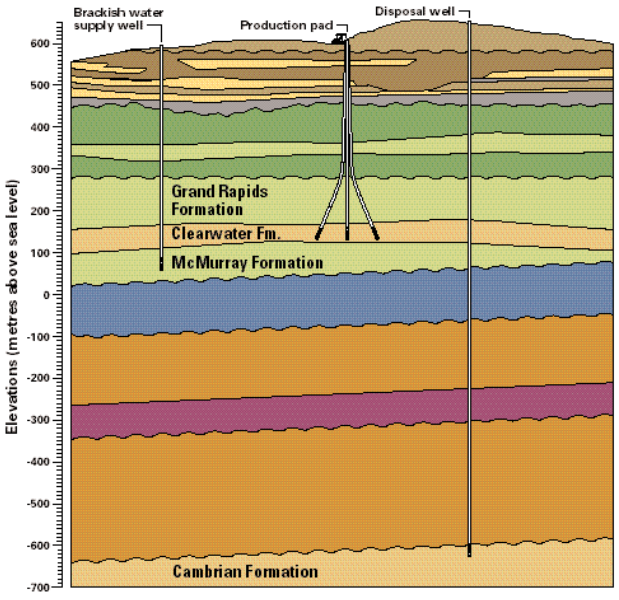
i. Reuse on-site produced and waste waters
ii. Transfer in surplus produced water from other Imperial sites (when available)
iii. Utilize brackish water (up to the system capacity limits)
iv. Utilize fresh water (up to license limits)

Prior to Nabiye startup, Imperial will update the water balance for the Cold Lake operation to determine if expansion of the brackish water system is required.

3. Does contaminated water go back into the water table? What do you do with it?

Water produced in conjunction with the bitumen is recycled and treated on site for re-use in steam generation. Waste water streams, including wash water, are also treated on-site and used in the process. Waste water streams that cannot be treated or used in the process are sent to an approved disposal site.

4. Is the source of brackish water below the fresh water aquifers? Is there a risk of contamination of the fresh water aquifers?



The primary source of brackish water for our operation is the McMurray Formation, located about 550 to 600 meters below surface (also below the bitumen production zone and fresh water aquifers). Use of brackish water does not affect fresh water aquifer levels.

There are hundreds of meters of impermeable rock separating the McMurray Formation brackish water source from fresh groundwater and surface water bodies.

5. What is the facility set-back from Marie Creek? May Lake? Marie Lake?

Set-back limits for Nabiye are in accordance with the Cold Lake Subregional Integrated Resource Plan. Imperial does not develop operating facilities within 300 m of any of these water bodies and does not remove vegetation within 100 m of Marie Creek, and within 300 m of May and Marie Lakes.

Monitoring

6. Is there existing baseline monitoring for groundwater for the Nabiye area?

Imperial's Cold Lake operation (CLO) has one of the most extensive groundwater monitoring networks in Alberta, which we will continue to expand in a scientifically and environmentally sound manner.

As part of this network, Imperial has five well nests supporting the Nabiye development area. Each nest contains between three and five wells entering the various aquifers. These wells are monitored for water levels as well as parameters such as chloride, arsenic, and other trace metals. We plan to expand the number of well nests as the area is developed.

7. Will Imperial be expanding the groundwater monitoring program to include Nabiye?

Imperial is currently planning an expansion to its existing regional groundwater monitoring network at CLO to include more wells in the Nabiye operating area. In addition, there will be a monitoring well located on each pad drilled as part of the development. The expansion to the monitoring network will include additional wells north of Marie Lake. All wells, including those near Marie Lake, will be situated to provide an accurate picture of groundwater beneath the operation.

8. How will Imperial monitor the potential effects of its operations on the water quality and quantity in downstream water bodies – specifically Marie Lake?

Imperial will continue to monitor surface water in Marie Lake and Marie Creek as part of its surface water body monitoring program. Imperial will also continue the existing sediment sampling program for Marie Lake.

In addition, Imperial will monitor surface water levels in areas where roads, pads or other facilities have the potential to block surface water flows.

9. What actions will Imperial take, if any, if monitoring indicates a potential impact to the environment (groundwater, surface water, etc.)? Will stakeholders be notified?

Imperial has, and will continue to, investigate all abnormal results from the monitoring at CLO. Should an abnormal result be confirmed, an investigation is undertaken to determine the possible source of the result and necessary mitigative actions .

Imperial has an ERCB-approved emergency response process that triggers notification of our neighbors in the event that a potential for impact is suspected. Imperial will also be required to contact Alberta Environment (AENV) and the Energy Resources Conservation Board (ERCB) of the incident. Imperial continues to keep these agencies (and neighbors) engaged until the incident is resolved.

Detailed monitoring information is provided to the regulators (AENV and ERCB) annually. Environmental information is included in the Cold Lake Operations Neighbor Report and Open House. Imperial encourages MLAWS and other community stakeholders to contact the company at any time to request information that may be of interest.

10. What agencies ensure IOR is meeting requirements for monitoring?

Monitoring and reporting for all of Imperials' operations and facilities is required by our regulators, including the ERCB, AENV and ASRD.

As well, through regular public forums and communications channels, such as the Neighbor Report, the Cold Lake environmental team shares details of AENV reviews and other monitoring results with the public.

Waste

11. How will the waste product from the water treatment process at Nabiye be handled?

The water treatment process will generate a lime sludge waste, which will be sent to a holding pond located on the plant site. Water will be separated from the lime sludge and recycled in the water reuse process. The solid lime sludge will accumulate and once the pond is full it will be capped and converted to Class II Landfill. New ponds will be constructed as necessary during the project life.

12. What does Imperial do with the liquid waste from the SO_2 removal process and what amount of waste is produced?

The liquid waste from the removal of H_2S from the produced gas is trucked offsite to a government licensed cavern facility for disposal. Average waste generated is approximately 3800m^3/yr. or one truck every two to three days.

13. Does Imperial have pits and/or ponds on their sites?

Imperial has five main types of pits/ponds at Cold Lake Operations:

- Drilling waste sumps are constructed at locations within the development in stable ground and are used to store drilling waste (mostly water and clay materials with small amounts of barite or other non-toxic mud additives) and drilling cement (cement that has been circulated through the well to seal around the hole). Once the sumps are full, they are capped and reclaimed.
- The water treatment system generates a lime sludge waste, which is sent to ponds located on the plant site. Water is separated from the lime sludge and recycled in the process and the solids accumulate. These ponds are either converted to landfills or excavated and the materials transferred to the CLO landfill.
- The plants also have a pond for the neutralization and recycling of liquid streams from the regeneration component of the water treatment process.
- Sewage lagoons are operated at the plant sites to collect domestic sewage. These lagoons are cleaned out and the waste taken for disposal as required.
- Plant runoff ponds are used to collect runoff water from the plant sites. Runoff water from these ponds is recycled into the plant process.

Incident Response

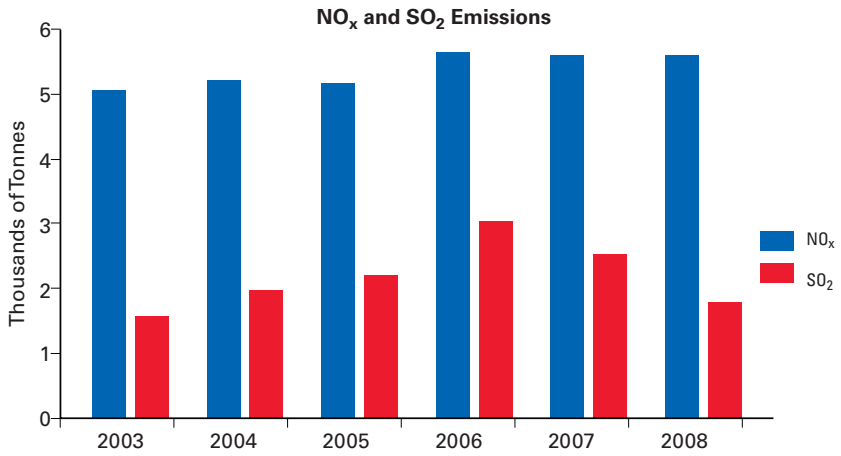
Imperial's policy is to conduct its business in a manner that protects the safety of employees, contractors involved in its operations, customers and the public. We strive to prevent all accidents, injuries and occupational illnesses through the active participation of every employee and contractor, and we are committed to continuous efforts to identify and eliminate or manage safety risks associated with their activities. We also stress to all employees, contractors and others working on our behalf their responsibility and accountability for safe performance on the job, and encourage safe behaviour off the job

We design and maintain facilities, establish management systems, provide training and conduct operations in a manner that safeguards people and property. We respond quickly, effectively and with care to emergencies or accidents resulting from operations, in cooperation with industry organizations and government agencies.

14. How will Imperial respond to protect the environment and groundwater entering Marie Lake in the case of a well failure?

Imperial Oil maintains a comprehensive Emergency Response Plan in accordance with the requirements of the Energy Resources Conservation Board Directive 71, as well as an Incident Response Plan under our AEPEA Approval. Imperial's Incident Response Plan meets the following standards:

- releases are promptly contained so as to limit their impacts;
- affected sites are secured during remedial activities to ensure the safety of people and wildlife;
- land is returned to a state of equivalent land use capability, meaning that the ability of the land to support various land uses after the incident is similar, though not necessarily



identical to, the uses that existed prior to the incident, or it is returned to a condition acceptable to the AENV;

- ground and surface water is remediated so that they are capable of satisfying anticipated needs once CLO has been decommissioned, or is returned to a condition acceptable to the Director of AENV;
- incidents are investigated to determine possible causes, and develop preventative actions; and,
- the incident-specific response plan is developed, in a candid and honest manner, in full consultation, with the appropriate regulatory authorities and through open communication with the public.

15. If a pad has a failure what will Imperial do to ensure the failure does not have an environmental impact? How fast will Imperial be able to respond?

Imperial currently operates pads similar to those planned for Nabiye as part of the existing Cold Lake operations. These pads operate with technology designed to provide early warning of a potential concern. Each pad is also completed with a groundwater- monitoring well to monitor for potential impacts. Once Imperial becomes aware of a potential issue, there is an established process in place for rapid response, including shut-in of the well, or wells, as required and mobilization of a trained incident response team. Two spill response trailers are located on site.

16. What is Imperial doing to prevent a spill (e.g. truck rollover) at the Marie Creek crossing?

The crossing of Marie Creek and any major wetlands will be designed to minimize the potential for a vehicle incident.

In the event of a release, the Imperial incident response team is trained to respond to a release to water and will take immediate action to stop the release, contain the material, and clean up the site. Any potentially affected parties are notified.

Air

17. What is Imperial doing to minimize the SO_2 emissions released into the atmosphere?

Sulphur dioxide (SO_2) emissions associated with the Nabiye plant, as modeled for the Nabiye regulatory application, are well within the ambient air quality guidelines for Alberta. The sulphur removal systems that Imperial has in operation at Mahihkan and Mahkeses sites in 2007 and 2008 respectively, and sulphur removal is planned for Nabiye. The technology selected for sulphur removal at Nabiye was optimized for the type of gas being treated and the process where it is being installed.

Imperial continuously monitors air quality at CLO using active and passive monitoring stations. In the past 10 years, monitoring data indicates that SO_2 concentrations are below the AENV air quality objectives. Further examination of a one-year dataset indicates that more than 99 percent of the hourly monitored air quality values are below one tenth of the Alberta Ambient Air Quality Objectives (AAAQO).

Vegetation monitoring is also completed annually, and Imperial intends to expand the program to include monitoring for effects of air emissions on vegetation.

18. What are the absolute amounts of SO_2 that are emitted today from Imperial's operations, and what will be emitted due to production at Nabiye?

The annual daily average SO_2 for current Cold Lake Operations is 4.6 tonnes per day

(annual average basis) with sulphur removal operational at the Mahihkan and Mahkeses plants. Based on operating experience at Mahkeses, the SO_2 emissions for Nabiye are expected to be about 0.75 tonnes per day (annual average basis). Sulphur dioxide (SO_2) concentrations in the atmosphere will continue to be well within the ambient air quality guidelines for Alberta.

19. Cogeneration will increase emissions in the region because more fuel will be burned to produce electricity in conjunction with the steam required for production, what profit is Imperial making by selling excess electricity from cogeneration to the provincial grid?

Cogeneration is the simultaneous production of electricity and steam from a single fuel source and is significantly more efficient than traditional methods of producing steam and power separately. In order to meet Nabiye's steam requirements, excess electricity will be generated and sold to the Alberta grid for public use. The financial return that Imperial realizes from selling the excess electricity will be dependent on a number of factors including electrical rates and natural gas prices.

20. What will be the impact of cogeneration on the carbon footprint for the province?

Cogeneration at Nabiye is expected to reduce GHG emissions associated with steam and electricity production by approximately 430 tonnes per day (about 11percent) compared to production of equivalent amounts of steam and electricity using stand-alone facilities. This reduction in GHG emissions is a result of the higher efficiency of cogeneration as compared to separate processes.

21. What will the Potential Acidification Impacts from cogeneration be for the area?

Air monitoring and previous studies of Potential Acidification Impacts (PAI) for CLO and the Cold Lake region also do not indicate that this is a concern. Imperial is currently conducting modelling to assess the effect of cogeneration emissions on PAI and will share the results when the work is complete.

22. Will the increase in NO_X emissions associated with cogeneration affect air quality?

The NO_x emissions from Nabiye will be essentially the same as the NO_x emissions from the Mahkeses facility. Imperial is currently conducting modelling to determine the effect of cogeneration emissions on air quality and will share the results when the work is complete. Monitoring data from Imperial's three air quality monitoring stations where NO_2, the primary component of NO_x is measured indicates:

- NO_2 concentrations have been below the AENV air quality objectives for the last 10 years.
- Based on examination of one year's hourly NO_2 measurements, the air quality in the area is well within the AENV air quality objectives (more than 99 percent of the hourly NO_2 monitoring data points are lower than one-tenth of the AENV objectives).

23. How does Imperial measure emissions from Cold Lake Operations?

On a daily basis we calculate the SO_2 emission for the steam generators and flare stacks at each plant based on the composition and volume of produced gas burned. At Mahkeses, the Cogenerators are equipped with Continuous Emissions Monitoring System (CEMS) to measure NO_2 .

Imperial also supports regional air quality monitoring through participation in the LICA Airshed. The LICA Airshed maintains additional air monitoring stations located throughout the Cold Lake Operations area. Monitoring results are reported monthly and annually to AENV.

Vegetation

24. What is Imperial doing to mitigate the impact of Cold Lake Operations on berry crops?

Air monitoring, Environmental Impact Assessment (EIA) predictions, and vegetation monitoring undertaken by Imperial to date do not indicate CLO impacts local berry crops. Imperial is planning additional studies to assess the health of berry crops, specifically blueberries, in the CLO area.

Near-term Nabiye Activities

Q2 2009

- continue stakeholder consultation
- progress environmental studies and amendment applications for cogen, sulphur recovery, field layout
- undertake predisturbance assessment work for access road, plant and field pad locations

Q3 2009

- continue stakeholder consultation
- submit amendment applications to ERCB and AENV
- submit cogen application to AUC
- complete predisturbance assessment work for access road, plant and field pad locations
- submit surface disposition applications to ASRD for road and plant locations

25. Are lichen surveys part of the PDA program, and has Imperial completed any lichen studies?

Mosses and lichens are not a component of the PDA program as this program focuses on soils, topography, groundcover, rare plants and wetlands. Monitoring for mosses and lichens is done as a component of the non-vascular plant surveys within the CLO Vegetation Monitoring program.

If an area of vegetation stress is identified, the source of the stress is investigated and corrective actions, including improving drainage or installing additional erosion control, are undertaken. Currently, Imperial is evaluating the vegetation monitoring protocols, and will adjust if necessary to ensure the effectiveness of the program.

26. How does Imperial manage cut blocks within the development area?

Cut blocks are regulated by Alberta Sustainable Resource Development (ASRD). . Imperial provides ASRD with our proposed developments to assist ASRD with planning tree harvesting activities. Inquiries can be made directly to ASRD for information on planned cut blocks on Imperial's lease.

Operations

27. Will the cogeneration plant create noise disturbance?

Noise levels at the proposed Nabiye cogeneration plant are expected to be similar to the levels at Mahkeses, which comply with the ERCB Directive 38. Imperial will be conducting a noise study as part of the Nabiye amendment application to verify that cumulative noise levels from CLO are below the regulatory limits.

28. Is Imperial concerned about cancer incidence issues related to electrical generation plants?

Imperial is not aware of any studies showing that the type of equipment used for transmission and generation at Nabiye is linked to cancer.

29. What is the depth that Imperial plans to drill?

The bitumen resource at Nabiye is between 420 m and 500 m below surface.

30. Does Imperial have approval to develop under Marie Lake or May Lake? Does Imperial plan on drilling under either of these lakes?

May Lake is outside the approved development area and as such Imperial is not approved to drill under May Lake as part of the Nabiye project.

The approved development area for Nabiye includes a portion of the northern edge of Marie Lake; however, the current development plan does not include developing the resource below the lake. Imperial is committed to ongoing consultation with Marie Lake landowners and other stakeholders as development progresses towards Marie Lake.

31. CNRL's development in the bombing range is an example of a company using a different approach to minimize footprint (e.g. road widths) to meet federal criteria. Will Imperial consider adopting these approaches for minimizing disturbance?

Imperial is currently examining the practices used by other operators for potential application for Nabiye. Imperial uses a minimal disturbance approach and the revised field layout maximizes the amount of bitumen that can be recovered from a single pad location. The proposed layout reduces the overall project footprint by approximately 40 percent. Imperial has also modified the planned infrastructure layouts where possible to maximize use of previously disturbed areas.

32. Imperial has incorporated sulphur removal into the Nabiye plans, but not carbon capture, why not?

Imperial's focus is on the reduction of emissions at the source by implementing more efficient processes such as cogeneration. In addition, Imperial is progressing energy conservation initiatives and alternative bitumen-recovery process research which, if successful, would reduce greenhouse gas emissions intensity for Cold Lake Operations.

While carbon capture and storage has the potential to play a large-scale role in managing greenhouse gas emissions in Canada, commercial application requires technological advances and regulatory developments. Imperial funds a variety of longer-term initiatives to bring about large-scale improvements related to climate change. For example, since 2005, Imperial has been a member of the Integrated $C0_2$ Network (ICO_2N), a consortium of companies that has proposed a carbon capture and storage system for Western Canada. Members of the network are working to advance the technology and regulatory environment required for deployment of CCS in Canada.

33. How long will the Nabiye facility run? Is there a reclamation plan?

    Nabiye is expected to operate for more than 30 years. A conservation and reclamation plan has been developed for Nabiye. It is Imperial's plan to take a progressive approach to reclamation, meaning sites that are no longer needed are reclaimed. At the end of 2008, 67 percent of the disturbed area within the CLO area is undergoing progressive reclamation and 22 percent has been permanently reclaimed.

34. Where will Imperial get natural gas for the Cogen?

    Natural gas for Imperial's existing Cold Lake operation is supplied by Trans Canada Pipelines through their pipeline system. Natural gas for Nabiye will be brought from the existing CLO to the plant along the main access corridor.

Environmental Management

35. How does Imperial manage environmental effects from Cold Lake Operations?

    Imperial complies with all environmental laws and regulations, and applies responsible standards where laws and regulations do not exist by:

- managing our business with the goal of preventing incidents and controlling emissions and wastes to below harmful levels
- designing, operating, and maintaining facilities to high standards
- responding quickly and effectively to incidents resulting from our operations, in cooperation with industry organizations and government agencies.

36. What is Imperial doing to minimize impacts from Nabiye and ongoing operations?

    Imperial will continue to minimize impacts to the surrounding area by designing our facilities to meet all environmental regulations. Imperial has, and will continue, to incorporate feedback from stakeholders and regulators into our facility designs and operation. Examples of this type of initiative include recent reductions in light emissions from the pad facilities and ongoing work with MLAWS to develop and refine blueberry studies.

37. How does Imperial ensure that its operations are environmentally responsible?

    Imperial is committed to operating in an environmentally responsible manner, and has a long track record of responsible operations. Imperial conducts a number of ongoing monitoring programs (including: groundwater, surface water, vegetation, wetlands, drainage, wildlife, and waterfowl), and has a team of environmental professionals dedicated to recognizing and addressing potential environmental concerns.

38. How does Imperial balance managing the environment with making money for shareholders?

    Our customers, shareholders, the public and employees expect Imperial to meet the demand for energy and achieve our financial results in a responsible manner. In today's world, our success as a business enterprise will only be as good as our record of delivering strong environmental performance. We continue to make significant environmental investments in CLO including:

- Sulphur recovery units at Mahihkan and Mahkeses plant, with a similar plant planned for Nabiye
- Cogeneration, which is a significantly more efficient way to produce steam and power
- Flare recovery – we continue to achieve record low flaring levels through new equipment and improved operating practices

- Recycled water to generate steam. Changes to facilities in order to generate steam using recycled water (about 95 percent of the produced water that is recovered with the oil is treated and recycled)
- Using advanced drilling technology that enables clusters of wells to be drilled from a single pad, significantly reducing the amount of land disturbance.