



**Renewal Application for Water Licence S03L1-001
Executive Summary & Table of Contents
(Section 1 of 20)**

Submitted to the Sahtu Land and Water Board by Imperial Oil Resources N.W.T. Limited

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Table of Contents for the Renewal Application

Table of Contents

Cover Letter & Schedule 3 Water Licence Application Form

1. Executive Summary
2. Glossary
3. Proposed Amendments
4. Socio-Economic and Environmental Setting
5. Natural Seeps
6. Norman Wells Operations (NWO)
7. Corporate Approach
8. Other Permits & Licences
9. Maps & Figures
10. Community Engagement Plan, Engagement Record
11. Other Studies
12. Aquatic Effects Monitoring Program
13. Surveillance Network Program Inlet & Outlet Summary
14. Surveillance Network Program Surface Water Management Summary
15. Drilling Fluid Management Summary
16. Abandonment & Reclamation
17. Spill Response & Management Summary
18. Management Plans
 - Spill Contingency and Response Plan (SCARP)
 - Fuel Management Plan (included as an Appendix to the SCARP)
 - Environmental Protection Plan
 - Waste Management Plan
19. Traditional Knowledge
20. Bibliography

1.0 Executive Summary

Imperial Oil Resources N.W.T. Limited (IOR) currently holds a Type “A” Water Licence (No. S03L1-001 as amended) from the Sahtu Land and Water Board (SLWB), for its Norman Wells Operations (NWO). The Water Licence is set to expire on August 29, 2014. IOR is applying to the Sahtu Land and Water Board (SLWB) for a ten-year renewal of this Water Licence. The Renewal Application has been prepared in accordance with the relevant SLWB policies and guidelines. It presents an overview of IOR’s current operations as well as a summary of NWO’s environmental performance over the last ten years. The application is composed of twenty separate sections, and is available for download from the SLWB online registry (www.slwb.com).

The operational areas associated with its activities at Norman Wells include: the Central Processing Facility (CPF), the Natural Islands (Goose, Bear & Frenchy’s) and the Artificial Islands (1-Rayuka, 2-Rampart, 3-Dehcho, 4-Ekwe, 5-Itch K’ee & 6-Little Bear). These locations are collectively located within the area described as the Norman Wells Proven Area. In addition to processing petroleum which is shipped south via the Enbridge pipeline, the CPF also generates electricity and natural gas. IOR currently supplies natural gas used by the Town; however, as supplies have been declining, this natural gas service will cease in 2014. Provision of electricity to Northwest Territories Power Corporation (NTPC) that is then used by the Town is expected to continue for the foreseeable future.

As part of these activities, IOR obtains water from the Mackenzie River on an ongoing basis and routinely conducts maintenance activities in and around the banks of the Mackenzie River. Water from the Mackenzie is required for process cooling and reservoir pressure maintenance. Regular maintenance work in and around the banks of the River is required to control erosion, and to protect, replace and repair equipment.

The current water licence allows for the removal of 3,500,000 m³/year of fresh water from the Mackenzie River. Between 2004 and 2012, an average of 2,633,291 m³/year of water was withdrawn from the River. Of this total water withdrawal, an average of 1,128,039 m³/year of water is injected into the reservoir for pressure maintenance and an average of 1,501,598 m³/year of fresh water is returned to the river. As the demand

for water for reservoir injection decreases, the volume returned to the river is expected to increase over the next 10 years.

After being used for cooling, water is discharged into a settling pond where it is regularly tested for oil & grease, phenols, pH, total suspended solids, specific conductivity and total residual chlorine as it is released. Test results are submitted to the SLWB.

In addition to the water withdrawn for use at the CPF, surface water from active areas of IOR's NWO is also controlled and monitored prior to release. Where the potential for surface water impact exists, it is tested for oil & grease, phenols, pH, total suspended solids, total dissolved solids and specific conductivity prior to release. In locations where impacts to surface water are unlikely, field indicators for visible sheen, pH and chloride are checked prior to release. Test results are submitted to the SLWB.

Summaries of NWO's water use and water testing results over the last ten years are included in the Renewal Application.

Hazardous and non-hazardous solid and liquid wastes generated as part of IOR's NWO are handled in accordance with the Norman Wells Waste Management Plan. Some hydrocarbon-impacted soil is treated on-site. Many wastes are transported off-site for disposal at licenced facilities outside the Northwest Territories.

When specific work areas or infrastructure are no longer required by NWO, they are moved administratively into IOR's progressive abandonment and reclamation (A&R) program for decommissioning, dismantling, remediation, reclamation, and, ultimately, site closure.

A summary of the abandonment and reclamation work done to date at NWO is included in the Renewal Application.

As part of this Renewal Application, IOR proposes several minor amendments to the existing licence terms and conditions to provide greater functionality and clarity when enacting the renewed licence.

IOR has submitted the following management plans with this Renewal Application:

- Spill Contingency and Response Plan (SCARP);
- Fuel Handling Plan (FMP) (included as an appendix to the SCARP);
- Environmental Protection Plan (EPP); and
- Waste Management Plan (WMP).

The NWO Emergency Response Plan (ERP) has been previously submitted.

Additionally, NWO Community Engagement Plan for 2013 – 2014 is included as is the Engagement Record for preparation of this renewal application.

Traditional Knowledge Studies were undertaken during the preparation of this Renewal Application with a particular focus on updating the environmental maps that are used during incident response. A copy of the report is also included.