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ONTARIO FIRST NATIONS  
TECHNICAL SERVICES  
CORPORATION

## First Nations Fuel Systems Management in Ontario:

### *The Role of OFNTSC and Recommendations for Improvement*

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## 1. Introduction

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The Ontario First Nations Technical Services Corporation (OFNTSC) provides training and equipment to on-reserve Ontario First Nations to assist in the management of their fuel systems. OFNTSC accomplishes this by certifying fuel handlers through fuel handler training which includes oversight on federally regulated safe fuel handling practices, equipment maintenance, and record-keeping. Currently, OFNTSC is the only service provider that provides bulk fuel system training and oversight for First Nations in Ontario regarding fuel systems management.

On-reserve fuel systems are regulated and managed pursuant to federal legislation that regulates fuel systems management. Under federal legislation, *The Canadian Environmental Act (CEPA)* (1999) sets out the regulatory framework for fuel storage tank systems. This act provides a number of tools for the control and regulation of toxic substances and other pollutants.

OFNTSC has developed a range of training videos and modules for First Nations and is committed to ensuring its approach to fuel systems management aligns with industry best practices. The following report discusses OFNTSC's approach to fuel systems management, outlines best practices, identifies challenges and opportunities, and concludes with recommendations.

## 2. OFNTSC's Approach to Fuel Systems Management

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Established in 1998, the OFNTSC Fuel Systems Management Program exists to train fuel handlers in First Nations across Ontario and assists First Nations in the development of safe fuel handling practices. Initially, the training focused on remote First Nations across northern Ontario where there is a large volume of fuel storage infrastructure equipment vital to their community needs. The fuel program has since expanded into a technical and training service provider for Unaffiliated First Nations, Tribal Councils, and Large First Nations and continues to provide guidance regarding onsite fuel systems and legislative & regulatory responsibilities. The OFNTSC is the only service provider who provides bulk fuel system training and oversight for First Nations in Ontario.

The OFNTSC Fuel Management Program provides certified Fuel Handler Training across Ontario First Nation communities where fuel is an important factor in operating and maintaining critically important community infrastructure. The training that the OFNTSC provides includes oversight on federally regulated safe fuel handling practices, equipment maintenance, and record-keeping. By establishing a strong fuel operations & maintenance workplace with community employees who handle fuel products, OFNTSC assists in ensuring and maintaining healthy environments for Ontario First Nations.

In conjunction with the Fuel Handler course, OFNTSC also offers certified Transportation of Dangerous Goods and WHMIS training and conducts assessments of First Nations-owned fuel-related infrastructure.

The Fuel Systems Management Program operates in accordance with the following strategic priorities:



1. **Compliance** - The Fuel Systems Management Service assists First Nations in ensuring that First Nation based fuel handlers comply with federal legislation including home and commercial fuel tank inspections.
2. **Liaison** - The Fuel Systems Management Service assists First Nations in liaising with private and government agencies in relation to the fuel sector.
3. **Emergency Fuel Spill** - The Fuel Systems Management Service assists First Nations in Response in developing emergency fuel spill response plans.
4. **Equipment Support** - The Fuel Systems Management Service assists First Nations in determining fuel handling system requirements.
5. **Training** - The Fuel Systems Management Service provides First Nations with training in proper fuel management and fuel handling techniques regarding fuel tank storage, emergency fuel spill response, proper fuel management.

OFNTSC's Fuel Systems Management Program is a core service, funding through Indigenous Services Canada Ontario region, however, additional support is sought through the Lands and Economic Development Service Program (LEDSP) to make purchases of fuel safety equipment for First Nations and to provide additional training in the areas of Workplace Hazardous Materials Information System (WHIMIS) and Transportation of Dangerous Goods (TDG).

### 3. Background

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#### 4.1 Federal legislative and regulatory framework

The *Canadian Environmental Protection Act, 1999* (CEPA) is the main federal statute for pollution protection and environmental protection. It provides a number of tools for the control and regulation of toxic substances and other pollutants.<sup>1</sup>

Under CEPA, the *Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations* set out the regulatory framework for fuel storage tank systems. The regulations apply to federal and First Nations on-reserve lands.<sup>2</sup> The regulations apply to both above and underground storage systems for petroleum products (e.g. fuel) and/or allied petroleum products (e.g. ethylene glycol). Whether or not a storage tank system on reserve lands must comply with the regulations depends largely on size and containment and applies to outdoor (above or below ground) storage systems greater than 230

<sup>1</sup> Canadian Environmental Protection Act, 1999, <https://laws-lois.justice.gc.ca/eng/acts/c-15.31/>

<sup>2</sup> Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations, 2009, 2.1 (c) <https://laws-lois.justice.gc.ca/PDF/SOR-2008-197.pdf>



litres.<sup>3</sup> As of June 13, 2010, and pursuant to the regulations, storage systems greater than 2,500 litres on federal or Aboriginal lands must register with and display an Environment Canada identification number.<sup>4</sup>

## 4.2 Provincial legislative and regulatory framework

The Technical Standards and Safety Authority (TSSA) in Ontario promotes and enforces public safety in the province under the *Technical Standards and Safety (TSS) Act*. The TSS Act and regulations under the Act apply to public infrastructures including fuel systems.<sup>5</sup> As a provincial entity, TSSA does not have enforcement authority on First Nations reserve lands.

Under the TSS Act, anyone engaged in activities related to a regulated material or substance must hold the necessary certificate.<sup>6</sup> Activities include but are not limited to design, construction, maintenance, or disposal of equipment.<sup>7</sup> This means that maintenance workers for fuel systems on reserves must hold the appropriate TSSA certificate.

## 4.3 Federal policy direction

In 2016, Canada announced \$4 billion in the federal budget for improving First Nations community infrastructure, of which \$3.4 billion was directed from long-term infrastructure funding the majority of which is designated through the Investing in Canada plan.<sup>8</sup> The 2017 budget also announced an additional \$4 billion over 10 years through the Investing in Canada Plan to “build and improve housing, water treatment systems, health facilities and other community infrastructure in partnership with Indigenous peoples.”<sup>9</sup> These are broad investments in First Nations communities and accessed through various funding streams, including the Capital Facilities and Maintenance Program.

The federal government also endorsed the *United Nations Declaration on the Rights of Indigenous Peoples*, in which the following articles pertain to fuel systems management:

Article 29 (1): Indigenous peoples have the right to the conservation and protection of their environment and the productive capacity of their lands or territories and

<sup>3</sup> <https://www.sac-isc.gc.ca/eng/1100100010579/1533644504503>; the footnote could fully explain the regs. See link with the answers to the FAQs.

<sup>4</sup> Fuel Storage Tank System Priority Ranking Framework (For Proposals Ranked as D1 Under the National Priority Ranking Framework) <https://www.sac-isc.gc.ca/eng/1100100010582/1533644408302#5>

<sup>5</sup> Technical Standards and Safety Act, 2000, S.O. 2000, c. 16, <https://www.tssa.org/en/about-tssa/legislation-and-regulations.aspx>

<sup>6</sup> There are a number of Ontario regulations (see link) which require operators to hold a certificate. We can elaborate the information in the footnote if required: <https://www.ontario.ca/laws/regulation/010215#BK2>

<sup>7</sup> Ibid (TSSA Act). <https://www.ontario.ca/laws/regulation/010215#BK2>

<sup>8</sup> Budget 2016

<sup>9</sup> Investing in the Middle Class (2016), <https://www.budget.gc.ca/2016/docs/plan/budget2016-en.pdf>



resources. States shall establish and implement assistance programmes for Indigenous peoples for such conservation and protection, without discrimination.

Article 29 (2): States shall take effective measures to ensure that no storage or disposal of hazardous materials shall take place in the lands or territories of Indigenous peoples without their free, prior and informed consent.

#### 4.4 *Federal funding mechanisms*

There are two main funding mechanisms related to on-reserve infrastructure: The Capital Facilities Management Programs (CFMP) and the First Nations Infrastructure Fund (FNIF) – both of which are proposal-based programs and administered through ISC.

##### Capital Facilities Management Program (CFMP)

The CFMP is one of the federal government's main pillars for supporting First Nations community infrastructure. The CFMP invest approximately \$1 billion per year in various infrastructure and community facilities. The main objectives of the program are to: increase the life cycle of First Nations physical community assets, reduce health and safety risks, ensure codes and standards are upheld, and that assets are managed efficiently. First Nations can apply for funding through 3 streams: 1) operations and maintenance, 2) minor capital, and 3) major capital. Major capital investments must meet ISC's priority ranking framework which includes the protection or improvement of health and safety assets, major maintenance, and community growth.<sup>10</sup>

CFMP, for example, provides funding for fuel storage system upgrades and replacement of non-compliant systems. The decision to invest in replacement or upgrades is determined through the Fuel Storage Tank System Priority Ranking Framework. ISC uses this framework to ensure funding is allocated to communities highly dependent on fuel in the operations of community infrastructure.<sup>11</sup>

##### First Nations Infrastructure Fund (FNIF)

The FNIF supports general community infrastructure, including energy systems and fuel storage systems. FNIF differs from CFMP in that its overall objective is to improve the quality of life of First Nations communities. FNIF invests in on-reserve projects, projects on Crown Lands, or lands that have been set aside for the benefit of First Nations. Eligible beneficiaries include Indigenous Nations, organizations, and private and public groups. In order to access funding through FNIF, Nations communities are required to list five-year community infrastructure plans and must meet the following requirements:

<sup>10</sup> Capital Facilities Maintenance Program, <https://www.sac-isc.gc.ca/eng/1100100016395/1533641696528>

<sup>11</sup> Fuel Storage Tank System Priority Ranking Framework (For Proposals Ranked as D1 Under the National Priority Ranking Framework, 2010, <https://www.sac-isc.gc.ca/eng/1100100010582/1533644408302#5>



- Be equal or below the maximum amount payable (\$10 million per recipient per year for capital projects involving the retrofitting, construction, replacement, expansion, or purchase and installation of fixed assets or infrastructure);
- Be supported by a Band Council Resolution, Tribal Council Resolution or other documentation indicating support from the governing body of a self-governing First Nation;
- Be consistent with a community plan and/or strategy applicable for the respective infrastructure category;
- Demonstrate how they contribute to the improvement of community health and safety, and to a cleaner and healthier environment;
- Demonstrate principles of sound budgeting (such as is based on well-documented needs, is cost-effective, consulting fees and salaries are reasonable and justifiable, etc.); and
- Be consistent with all applicable federal and provincial regulatory obligations and standards.<sup>12</sup>

## 4. Best Practices in Fuel Systems Management

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One tool that First Nations can implement that can assist in better fuel management would be an Environmental Management Plan (EMP). While there is no legal requirement for First Nations to prepare an EMP, many First Nations recognize the value of planning as an important initial step in environmental governance.<sup>13</sup> Indeed, the experience of many First Nations indicates that plans are valuable tools to setting directions and guiding efforts to achieve environmental management,<sup>14</sup> including the management of fuel systems. An EMP defines a First Nation’s approach to important environmental issues and organizes actions to achieve specific environmental goals.<sup>15</sup> There is no template that dictates how best to develop an EMP as each First Nation’s situation is unique and influenced by different priorities; however, EMPs should reflect this distinctiveness, both in the content of the plans and in the ways that they are prepared.

An EMP can be developed with a specific chapter for “Hazardous Waste & Fuel Management” which identifies goals and objectives and in addition to best management practices in fuel handling and storage, fuel transport, and leak and spill prevention methods. This could include the following best management practices for fuel handling and storage:

- Containers must be appropriate for the type of fuel, meet standards of Underwriters Lab of Canada or Canadian Standards Association, be filled to a safe level, and capped;
- All small containers (less than 230 liters or 50 gallons including jerry cans, pails, and drums) stored at or near homes must be kept a minimum of 25 m from roadways and pedestrians and out of direct sunlight. They are to be protected from potential impact and in a ventilated shed under lock and key;

<sup>12</sup> <https://www.sac-isc.gc.ca/eng/1497275878022/1533645265362>

<sup>13</sup> David Harper, (2016). “A Guide to Preparing Environmental Management Plans for Operations First Nations.” 6.

<sup>14</sup> Ibid, 9.

<sup>15</sup> Ibid, 6.



- Do not fill containers beyond their safe filling level (~90% full);
- Containers must be well maintained and free of rust, severe dents, and leaks;
- Containers must be located a minimum of 30.5 m (100 feet) away from groundwater wells or surface water;
- Containers must be stored at least three metres away from any building or in a building designed for storage;
- Drums and larger containers must be stored upright and dispensed upright using an approved pump;
- Caution and due diligence shall be used to prevent spills, check weekly for spills and leaks;
- Containers must be clearly labeled with contents and hazards, including ‘flammable;’
- Material safety data sheets for all products must be available to all involved in storage, handling, and dispensing of fuels;
- Storage locations must be vented and have appropriate fire extinguishers that are annually inspected with proper tags;
- Dispensing sites must be posted as no smoking and have one extinguisher available for use;
- Operators must conduct regular inspections of fuel tanks to ensure proper requirements are met;
- No fuel must escape during normal transport and handling; and
- A spill kit, appropriate to the type of fuel and volume contained, must be kept easily accessible.<sup>16</sup>

The following are notable best management practices for the transportation of fuel:

- All vehicles transporting fuel must have an appropriate spill kit and the driver must be trained and knowledgeable in its use;
- If a combined fuel load is greater than 2,000 L (440 gallons) a shipping document must be filled out for the cargo, the driver must have proof of “Transport of Dangerous Goods (TDG)” certified training and the load must a TDG placard appropriate for the fuels being transported; and
- All loads must be secured to prevent tipping or fuel loss. Fuel drums being transported by truck must be stacked end on end and transported by vehicles with sides or side boards.<sup>17</sup>

In addition, there are several best practices as drawn from *Best Practices in Fuel Handling and Storage* (2018) and *Fuel Handling Practices, Spill Responses, and Responsibilities for Contractors* (2014). These techniques include:

Technique:	How to implement:
Ensuring that the fuel is sourced from a quality supplier <sup>18</sup>	<ul style="list-style-type: none"> <li>• Do background checks and inspect delivery equipment to ensure the supplier has proper quality checks in place with well-maintained equipment.</li> </ul>

<sup>16</sup> Leq’á:mel First Nation. “Environmental Management Plan.” (2017): 64.

<sup>17</sup> Ibid, 65.

<sup>18</sup> Stephan Nel and Wessel Oosthuizen, (2018). “Best Practices in Fuel Handling and Storage”  
<https://www.grainsa.co.za/best-practices-in-fuel-handling-and-storage>





	<ul style="list-style-type: none"> <li>Request certification documents from fuel supplier to ensure it meets the minimum standards.</li> </ul>
Use proven fuel management technologies <sup>19</sup>	<ul style="list-style-type: none"> <li>Install breather filters with air driers on bulk tanks and fuel carts.</li> <li>Install particle contamination filters combined with water separators on bulk tanks and mobile fuel carts</li> </ul>
Using good housekeeping procedures with fuel management and maintenance of fuel storage equipment <sup>20</sup>	<ul style="list-style-type: none"> <li>Install bulk fuel tank at a slight angle with the drain plug at the lower point and the layout to the pump at a higher point to keep debris and sludge at the bottom of the fuel tank.</li> <li>Clean bulk tanks and mobile fuel carts and drain sludge and water regularly.</li> <li>Regularly inspect tanks and check sludge levels and rust in bulk tank and mobile fuel carts and maintain accordingly.</li> </ul>
Maintaining existing equipment that use fuel, using efficient fueling procedures to ensure equipment and fuel maintenance <sup>21</sup>	<ul style="list-style-type: none"> <li>Ensuring engine-driven equipment fuel tanks are filled up.</li> <li>Ensuring that fuel filters are replaced in accordance with the operator's manuals and fuel standards and drain water separators regularly.</li> </ul>
Usage of special conditioners for fuel and diesel <sup>22</sup>	<ul style="list-style-type: none"> <li>Use special diesel fuel conditioners that act as multi-functional fuel additive products for year-round use to improve diesel fuel quality and maintain peak engine efficiency and performance</li> <li>Specific additives are also available for bulk fuel storage tanks and are especially formulated to improve engine performance conditions identifies as injector sticking, engine misfire, rough idling, excess exhaust smoking, power loss and hard starting conditions in modern high-pressure diesel fuel systems.</li> </ul>
Being prepared for a potential spill <sup>23</sup>	<ul style="list-style-type: none"> <li>Have a spill kit on-hand in case of a fuel or oil spill. Spill kits should contain absorbent pads, socks, and pillows.</li> <li>Be aware of what to do in case of a fuel or oil spill.</li> </ul>

<sup>19</sup> Ibid.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

<sup>23</sup> Penn State Physical Plant, (2014). "Fuel Handling Practices, Spill Response, and Responsibilities for Contractors." [https://ehs.psu.edu/sites/ehs/files/contractor\\_spills\\_emergency\\_procedure\\_rev\\_7-16.docx](https://ehs.psu.edu/sites/ehs/files/contractor_spills_emergency_procedure_rev_7-16.docx)



It has been identified that the biggest challenge OFNTSC faces regarding fuel systems management is community engagement, more specifically having community members and having fuel systems related employees attend meetings and training sessions. Opportunities that OFNTSC can do to alleviate this issue is looking to community engagement best practices. As OFNTSC provides in-community training on managing fuel systems, it is important that community engagement best practices are used to ensure community participation and buy-in. The following best practices in community engagement, drawn from *Gaining Momentum: Sharing 96 Best Practices of First Nations Comprehensive Community Planning (2009)*, could provide the basis for improving community engagement for fuel systems-related training:

1) Understand the community social and political history<sup>24</sup>

Through research, conversations, interviews, surveys, and observing community meetings, it is possible to gain some social and political understanding of the community. However, the extent of the social and political dynamics may not be discovered until after community engagement. As a result, consultants need to ensure transparency and fairness, and that 1) no one person(s) or family is dominating the engagement; and 2) that the process is seen not to favour one person, group, or family; 3) that there is consensus on what the process(es).

2) Build Capacity<sup>25</sup>

Communities need to make sure that consultants leave capacity behind, versus creating more dependency or taking capacity away. Capacity needs to be built into everything that the consultants do in the community. Communities need to ensure that additional time and resources are adequate to support this focus.

3) Get Process buy-in<sup>26</sup>

Building ownership is essential right from the beginning. This can include how Fuel Systems management is introduced to the community, who oversees the process, and the degree to which the community is involved in the process. Building ownership is made possible by 1) asking members how they want to be involved and what planning methods and tools they prefer, 2) engaging members in the process (e.g. workshops, demonstrations, open houses, search conference, video project) 3) profiling fuel systems management (e.g. visual wall posters, referenced at community meetings, during negotiations); and 4) documenting and communicating the results (e.g. website, blog, brochure, newsletter).

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<sup>24</sup> Jeff Cook, (2009). “Gaining Momentum: Sharing 96 Best Practices of First Nations Comprehensive Community Planning.” Page 58

<sup>25</sup> Ibid. Page 42

<sup>26</sup> Ibid. Page 46



#### 4) Create an engagement & communications strategy<sup>27</sup>

Brainstorm and analyze engagement and communications options. People who bring experience to the group can reflect on what planning methods have worked in the past and apply local lessons learned. The planning group could also, for example, conduct a community engagement survey and ask people for their ideas and preferences on involvement, information sharing and learning. Posters and notices can be circulated to solicit feedback and ideas. Once preferences and options have been assessed, the engagement and communications strategies need to be budgeted and organized into a work plan.

## 5. Challenges and Opportunities

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The biggest challenge OFNTSC faces is limited resources. OFNTSC needs more physical presence in First Nations communities to promote the importance of the Fuel System Management Program. There is a great need to educate communities and members about the importance of safe handling of petroleum products in order to protect both the environment and the safety of community members and community infrastructure. The only way to accomplish this is to have more feet on the ground, and thus, sustained and predictable funding to ensure a stronger community presence.

The biggest opportunity with respect to OFNTSC's Fuel Systems Management Program is that it is unique. There is an opportunity to further develop and expand the program which could serve as a best practise that First Nations across Canada can model after and benefit from.

## 6. Conclusion & Recommendations

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Ontario has 134 First Nations communities. The 31 remote northern communities are spread across a vast area which is largely only accessible by air service. It has proven a challenge for OFNTSC's Fuel System Management service to effectively and efficiently provide services to these 31 remote northern communities in addition to the 103 communities that also need Fuel System Management services.

Funding is critically required to expand the Fuel System Management program to provide all Ontario First Nations communities with complete Fuel Management services. It is therefore recommended that funding from ISC specifically for the Fuel Management program be increased to allow for proper staffing levels needed to provide this critical service.

First Nations in Ontario understand that petroleum safety is essential in protecting the environment and ensuring their communities and critical community infrastructure are safe from potential fuel-related disasters. There is a clear role for OFNTSC to continue leading in this regard, however, it is incumbent on ISC that the Fuel System Management program be expanded to meet this critical need.

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<sup>27</sup> Ibid. Page 54



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