GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of
Environment
Pollution Prevention Division

Guidance Document

Title: **Guidelines for Establishment and Operation of Facilities for the Outdoor Storage of Tires**

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Brian Drover, Environmental Biologist

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Approved By: _____

Derrick Maddocks, Director

Tire Storage Facilities
GD-PPD - 018

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PART I (GENERAL)

1.0 INTRODUCTION

This document outlines the environmental policy for the establishment and operation of facilities intended for the storage of tire material. In general, storage of tires should comply with the

- *Fire Protection Guidelines for Outdoor Tire Storage (Office of the Fire Commissioner),*
- *Proposed Guideline for the Outdoor Storage of Used Tires, CCME Working Group on Used Tires, December 1990*
- *National Fire Code of Canada, 1995, Part Three - Indoor and Outdoor Storage*

or the latest editions of these documents. This guidance document is based on these documents. This document covers fire protection only in a general way. The proponent is referred to the *Fire Protection Guidelines for Outdoor Tire Storage* (Fire Protection Guidelines) for details. Variations from this guidance document will be considered provided the variation maintains an equal or greater level of environmental protection. This guidance document is intended to aid officials of the Government Services Centre (GSC) when reviewing tire storage yard applications.

The GSC will classify (see section 7.0, Facility Classification) a tire storage facility as either a tire *pile* or *yard* (see section 5.0, Definitions) based on information received from the applicant. Based on this classification, the GSC may refer to the appropriate sections of this document for guidance. Part II is applicable to both tire piles and tire yards. Part III applies to tire piles and Part IV applies to tire yards.

A Certificate of Approval for the establishment and operation of a waste management system (WMS) shall be required for proposed tire storage yards. Tire storage piles would not normally require a separate Approval if they are already part of an existing WMS (e.g. waste disposal site, scrapyard). Tire storage piles which are not part of existing WMS should require an Approval. See section 16 for details on the approval process for tire yards. See section 15 for details on suggested statements regarding tire piles for new or existing WMSs Approval documents.

2.0 BACKGROUND

The are several risks associated with the outdoor storage of tires. The greatest concern is the possibility of fire. Tire fires may be started by vandals, by a nearby open flame or spark, or by some other means. A tire fire site may often require significant environment cleanup after a fire has been extinguished.

In addition, standing water which is associated with the storage of whole tires may attract pests (rats, insects). This may be more of a concern in warmer climates. Visibility is also an important issue with tire storage.

3.0 APPLICABILITY

This guidance document applies to outdoor tire storage facilities of any size. It is assumed that the majority of used tires will be stored outdoors.

These guidelines do not immediately address site specific issues associated with some existing tire storage sites. These facilities should be inspected on a case by case basis. Tire storage facility owner/operators will be given reasonable time frames (up to one year) to comply with all relevant environmental legislation, and this guidance document where appropriate. Where an existing site has a tire pile which covers an area in excess of 100 m^2 , the owner/operator has a choice of either applying for an Approval as a tire storage yard or reducing the size of the tire pile to 100 m^2 or less within a reasonable period of time (up to one year).

4.0 LEGISLATION

Legislative Authority — *Environmental Protection Act*

Related Legislation

Air Pollution Control Regulations;
Environmental Control Water and Sewage Regulations;
Storage and Handling of Gasoline and Associated Products Regulations;
Fisheries Act;
Transportation of Dangerous Goods Act and Regulations;
Dangerous Goods Transportation Act and Regulations;
Canadian Environmental Protection Act;
Newfoundland Fire Prevention Act and Regulations;
National Fire Code

5.0 DEFINITIONS

Approval — Certificate of Approval under provisions of the *Environmental Protection Act.*

Body of water — Any surface or subterranean source of fresh or salt water. This includes ponds, lakes, streams, marshes and wetlands and water above the bed of the sea that is in the jurisdiction of the province and includes standing or flowing water, whether that source usually contains water or not.

DOE — Newfoundland Department of Environment

GSC — Government Service Centre, Department of Government Services and

	Lands.
Owner/Operator	A person that owns or is responsible for or has the charge, management or control of the operation of a waste management system.
Tire Storage Facility	A tire storage pile or tire storage yard.
Tire Storage Pile	Consolidated collection of tire material only, in any geometrical configuration, which covers an area no greater than 100 m^2. No pile shall have a volume greater than 300 m^3 or be more than 3 m in height.
Tire Storage Yard	A facility which has more than one tire storage pile.
Tire Material	Whole, split, shredded, chipped, or otherwise processed tires.
Waste Disposal Site	A site designated for the final disposal of waste materials and for which a Certificate of Approval under the *Environmental Protection Act* is required.
Waste Management System	Facility, equipment and operations for the management of waste, including the collection, transportation, handling, storage, treatment, utilization, diversion, recycling, reuse, recovery, reduction and disposal of waste.

6.0 TIRE DISPOSAL

6.1 Part III of the *Waste Management Regulations* under the *Environmental Protection Act* has prohibited the disposal of tires at waste disposal sites, which have not been designated as tire collection sites, throughout the province effective April 1, 2002.

7.0 FACILITY CLASSIFICATION

7.1 Tire storage facilities are classified according to the area covered by the tire material. A *tire pile* is defined as stored tire material which covers an area no greater than 100m^2. A tire pile shall never exceed this coverage area, regardless of pile configuration or type of material (whole, shredded, etc). A tire pile shall never exceed 3m in height or 300m^3 in volume. Palletized tire storage is recommended. A *tire yard* is defined as any tire storage facility which contains more than one tire pile. The owner/operator should identify the classification of the proposed facility.

PART II (Requirements which apply to BOTH tire *Piles* and tire *Yards*)

8.0 SITE SELECTION CRITERIA:

The following criteria are recommended procedures. In cases where other legislative agencies/authority require more stringent criteria, the latter will apply.

8.1 To avoid possible land use conflicts, proponents should review area and/or land use plans prior to development of a site plot plan for the establishment of a tire storage yard.

8.2 A minimum distance of 150 metres shall be maintained between the boundary of a tire storage facility and any water body; including wells, springs, wetlands, bogs, fens, streams, brooks, rivers, lakes and ponds.

8.3 Where the proposed tire storage facility is between 150 and 300 metres from a public water supply well, a report written by a recognized consultant firm, licensed to practice in Newfoundland and Labrador, stating the facility is not within the capture zone of the public well shall accompany the application.

8.4 Tire storage facilities shall not be established in a protected water supply area.

8.5 Excluding the site owner/operator residence, a minimum buffer zone of 100 metres to the nearest residential area/adjacent approved residence, should be maintained for all proposed facilities. In cases where the site owner/operator's residence is supplied by a well, the residence may be permitted within the 100 metre buffer zone provided written approval for construction of the well has been obtained from the Water Resources Division of the Department, as per Section 11 of the *Well Drilling Regulations*.

8.6 A proposed site should not be visible from main highways, cottage areas, provincial and federal parks or waters used extensively for recreation purposes.

9.0 SITE CONSTRUCTION CRITERIA

9.1 The site shall be sized to accommodate proposed capacity and in consideration of separation distances and be free of combustible ground cover.

9.2 Finished grade of the site should be generally level and a minimum of 1 metre above the maximum seasonal groundwater elevation. (To be confirmed by the proponent through borehole or testpit investigation by a qualified professional).

9.3 Site preparation should provide adequate means of managing surface water run-off. The site

shall not be subject to ponding of water.

9.4 Naturally vegetated buffers between the site and surrounding property, water bodies, and main thoroughfares should be maintained or enhanced to restrict the visibility of the site.

9.5 Surface water run-off control devices such as filter fabric, sediment traps and/or settling ponds should be in place to receive all drainage from areas disturbed by site preparation and general construction activities. The proponent shall be required to apply a dust suppressant should dust become a problem.

9.6 Any proposed buildings/structures should conform to municipal zoning requirements or other applicable requirements.

10.0 OPERATIONAL REQUIREMENTS FOR TIRE PILES OR YARDS OF ANY SIZE

10.1 It is the responsibility of the yard owner/operator to ensure all staff are alerted to hazards associated with all materials received.

10.2 Tires contaminated with petroleum hydrocarbons shall not be stored.

10.3 Tires which have been partially burned shall not be stored.

10.4 The access road to the site shall be kept free of waste material at all times.

10.5 In the event of a spill or leak of gasoline and/or associated products, the proponent shall immediately notify the GSC via the environmental emergency phone number (772-2083) and take all necessary steps to clean the affected area and restore the environment to the satisfaction of the GSC. A supply of absorbent materials shall be maintained on site to contain and clean up small spills.

10.6 Tires containing contaminants which would cause them to be classified as waste dangerous goods as defined in the *Dangerous Goods Transportation Act and Regulations* shall not be stored on site.

10.7 Unprocessed tire material shall not be mixed with processed tire material or any other type of material.

10.8 Operators should take all necessary steps and obtain appropriate permits to deal with pest problems should they occur.

10.9 Appropriate signage shall be provided at all tire storage sites and on collection vehicles.

11.0 MONITORING

11.1 The GSC or DOE reserves the right to require any proponent to prepare and implement a water monitoring program to ensure groundwater and/or surface water quality will not be adversely impacted. The monitoring program may include the installation of monitoring wells and periodic groundwater and/or surface water quality testing. The DOE requires the use of the latest edition of the Canadian Council of Ministers of the Environment (CCME) report, *Subsurface Assessment Handbook for Contaminated Sites (CCME EPC-NCSRP-48E March 1994)* as a guide to installation, sampling and maintenance of monitoring wells. Monitoring wells are to be installed such that they can be effective if needed to function as recovery wells in the event subsurface impacts occur.

11.2 Any required laboratory analysis shall be conducted by in accordance with the Departmental Policy PPD 2001-01.

11.3 All laboratory results requested be submitted as produced in the original form and format by the laboratory and shall also include any quality control/assurance results.

12.0 REGULATORY INSPECTIONS

12.1 The Department of Government Services and Lands, Government Service Centre, will be responsible for conducting field inspections, compliance monitoring and sampling.

13.0 DECOMMISSIONING

13.1 A decommissioning plan should be provided before a tire storage yard is established. This plan would normally be part of an operations and constructions manual which is submitted before tire yard construction commences. Decommissioning of a tire pile should be included in the decommissioning plan for the associated site (i.e. waste disposal site, scrapyard).

13.2 Written notification should be provided to the GSC of any intended closure of a facility.

13.3 Decommissioning of a tire storage yard should comply with the minimum acceptable decommissioning requirements for an industrial site as per the *CCME National Guidelines for Decommissioning Industrial Sites*.

covers an area no greater than 100 m^2. No pile shall have a volume greater than 300 m^3 or be more than 3 m in height.

Only one pile may exist on site at any one time.

Minimum separation distances shall be accordance with the Fire Protection Guidelines.

PART IV (Requirements which apply to tire *Yards* ONLY)

16.0 APPLICATION PROCESS

16.1 Prior to the establishment of a tire storage yard, the proponent should contact the Department of Environment. All tire storage yard applications should be referred to the Environmental Assessment Division of DOE.

16.2 A waste management system Certificate of Approval is required for the siting, construction and operation of a tire storage yard. An Approval should be in place before construction commences. An application for a WMS Approval is required when developing a **new** tire yard or when altering or modifying **existing** tire yards. Appropriate plans should be provided with the letter of application. Pertinent requirements include:

- Approval should be obtained by the municipal authority;
- Ownership of land or permission from the landowner should be provided;
- Financial securities shall be provided in an amount and manner deemed acceptable to the department;
- Plans and specifications of the work shall be provided to the department;
- A public notification program may be required;
- The proponent shall provide any other information required by the department.

Department of Environment Policy Directive PPD 2000-3, establishes fees for processing of applications and preparation of Approvals. Once an application is received, a preliminary review will be conducted to determine the applicable processing fee.

PART III (Requirements which apply to tire *Piles* ONLY)

14.0 OPERATIONAL REQUIREMENTS FOR TIRE PILES (GREATER THAN 5 m^2)

14.1 A tire pile that covers an area which is less than $5m^2$, is emptied regularly, and is generally maintained in an orderly manner, shall not be subject to the requirements of this or any other section of this guidance document and should not require an Approval. The Department reserves the right to require an Approval if these conditions are not met. Refer to the *Fire Protection Guidelines* (Appendix A) for minimum separation distances.

15.0 APPROVALS

15.1 Tire storage piles would not normally require a separate Approval if they are already part of an existing facility (e.g. waste disposal site, scrapyard). Tire storage piles which are not part of existing WMS may require an Approval.

15.2 Tire piles may be associated with Waste Disposal Sites or some other type of facility (e.g. scrapyards) which may hold a Waste Management System Approval. The implementation of the Used Tire Program means that requested amendments, renewal, or issuing of new Approvals for these types of facilities require added conditions to the Approval document. The following statements are suggested as requirements in the Approval document.

- This statement summarizes the disposal restrictions as stated in section 6.1 and is required for all new, renewed, or amended Approvals for WMSs.

  Used tires may not be disposed of at this site.

- This statement is for an renewal or amendment of existing WMS Approvals which currently have tire storage and which no longer wish to continue storing tires on site.

  All stockpiled tires shall be removed from the site within 1 year. (shorter time period may be appropriate for a scrapyard or facility other than a waste disposal site).

- These statements are for a new, renewed, or amended WMS Approvals which wish to establish or maintain a tire pile on site. These statements summarize the definition of a tire pile and the operational requirements for tire piles in section 14.0.

  A tire pile is a consolidated collection of tires, in any geometrical configuration, which

17.0 BASELINE STUDY

17.1 An environmental baseline study of the proposed tire yard site should be required for any permanent facility prior to construction to establish initial hydrogeological conditions. A minimum of six monitoring wells is recommended; at least one of which and a maximum of two shall be installed hydraulically up gradient of the receiving and treatment pads. **An outline of the study should be presented to the department for approval before implementation**. The study should identify ground water and soil characteristics such as; elevation, flow direction, water quality, conductivity, soil texture, and other characteristics. The Canadian Council of Ministers of the Environment (CCME) report, *Subsurface Assessment Handbook for Contaminated Sites (CCME EPC-NCSRP-48E March 1994)* should be used as a guide in developing and implementing the baseline study. Parameters which should be assessed include but are not necessarily limited to; BTEX, TPH, standard suite of metals, and PAH's. Monitoring wells are to be installed such that they can be effective if needed to function as recovery wells in the event subsurface impacts occur.

18.0 OPERATIONAL REQUIREMENTS FOR TIRE YARDS

18.1 Minimum separation distances as set out in the *Fire Protection Guidelines* shall be maintained. All on site personnel should be instructed to ensure that minimum separation distances are maintained.

18.2 A firmly anchored fence (posts set in concrete) shall be provided around the entire perimeter of the yard to control unauthorized access. The fence shall be at least 1.8 m in height with lockable gates which are at least 3.5 m wide. All gates to the yard shall be locked when the yard is not staffed.

18.3 A sign shall be posted at the facility gate listing the company name, hours of operation and a contact name and number to be called in the event of an emergency situation.

19.0 RECORD KEEPING

19.1 Each load of tires should be documented to record the following;

- Date and time of arrival
- Source name and address
- Quantity
- Client name
- Name of project manager or on site supervisor authorizing the shipment

A report containing the above noted information shall be provided to the Government Service Centre. This would normally be an annual report due on January 31 of each year but may be required more frequently (e.g. quarterly) if necessary (i.e. for a new facility). In addition, the report shall include the total amount of tire material removed from the site and its eventual destination. Any spill, emergency response, or environmental clean-up events should be fully documented. These records shall be maintained for a period of at least two years and be made available to departmental staff upon request.

APPENDIX A

GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

Department of Municipal and Provincial Affairs

Office of the Fire Commissioner

FIRE PROTECTION

GUIDELINES FOR

OUTDOOR TIRE

STORAGE YARDS

Office of the Fire Commissioner

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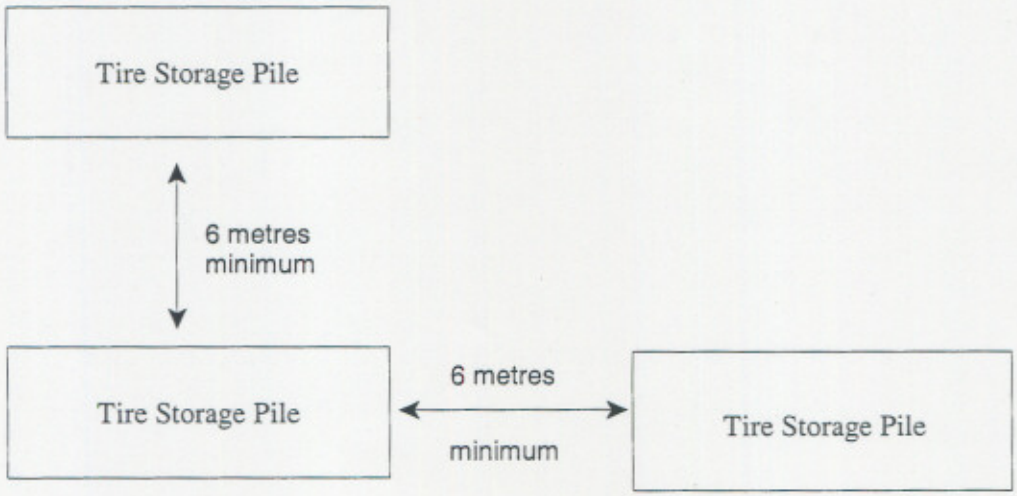
3.5 Pile separations

Storage piles shall be separated by a clear space of at least 6 m from piles of other stored product.

The purpose of this Article is to limit the possibility of a fire spreading from one pile to another.

The 6 metre clearance:

- *allows fire department vehicles and personnel access to all areas of a salvage yard*
- *helps prevent the spread of fire from one burning tire storage pile to another*



3.6 Pile clearance

(1) Storage piles shall be located at least 15 m from property lines.

(2) Storage piles shall be located at least 15 m from buildings.

(3) Despite Sentence (2), the separation of storage piles from buildings may be determined in accordance with Appendix C, "Guidelines for Outdoor Storage of Scrap Tires", of NFPA 231D, "Storage of Rubber Tires", and NFPA-80A, "Protection of Buildings from Exterior Fire Exposures".

(4) Individual storage piles shall be separated from other piles of salvage by a clear space of at least 6 m.

The intent of Article 3.6 is to protect both buildings on the property and adjoining properties from damage due to storage of rubber tires and to prevent the spread of fire from one storage pile to another by requiring:

- *At least 15 metres of clear space between storage piles and property lines;*
- *At least 15 metres of clear space between storage piles and buildings;*
- *At least 6 metres of clear space between all storage piles.*

Under Sentence (3) the clearance between a storage pile and a building may be reduced,
depending upon the construction features of the building. The standards referenced allow lesser clearances to be determined based upon the construction of the walls facing the storage piles.

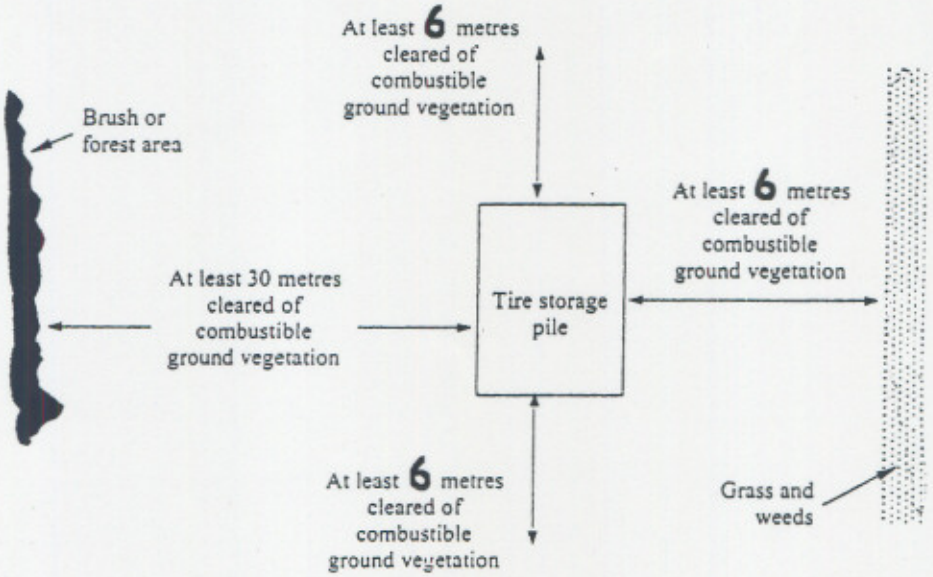
3.7 Clearances from vegetation

(1) Storage yards shall be maintained free of combustible ground vegetation,

(a) over a distance of 6 m from the stored product to grass and weeds, and

(b) over a distance of 30 m from the stored product to brush and forested areas.

The purpose of this Article is to prevent a fire spreading along ground vegetation and involving the stored product.



3.8 Fire breaks

(1) Where the bulk volume of stored product is more than 4800 m^3, fire breaks shall be provided around the perimeter of each group of storage piles in accordance with Sentences (2) and (3).

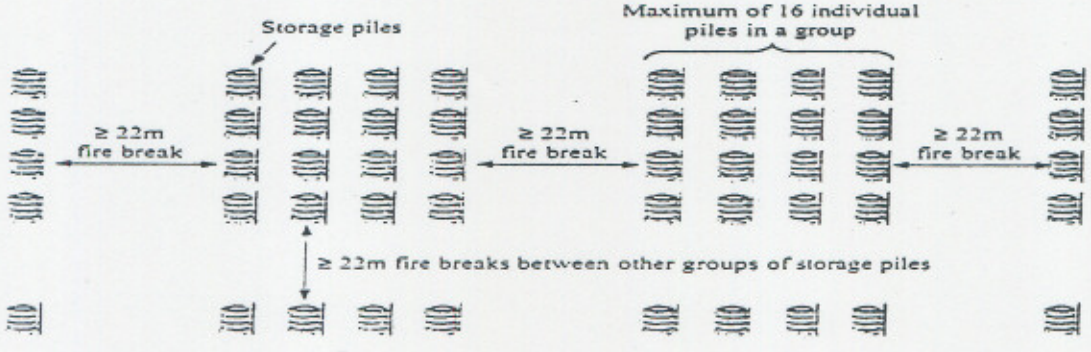
(2) Individual storage piles shall be arranged so that there are not more than 16 individual storage piles per group.

(3) Fire breaks shall be at least 22 m wide.

The individual storage piles described here must conform to the storage pile dimension requirements stated in Articles 3.4 and 3.5.

- *Not more than 3m in height and 100 square metres in area: 3 x 100m^2 = 300m^3.*
- *Be separated from other piles of stored product by at least 6m.*

The intent of Article 3.8 is to limit the concentration of storage piles and ensure that an area, that is free of all other combustibles and at least 22m wide, is provided to allow access for fire department crews and vehicles, and to help prevent the spread of fire to other groups of stored tire piles.



3.9 Alternative measures

Despite Articles 3.5 to 3.8, other pile arrangements that will prevent the spread of fire and that are approved may be used.

This Article permits alternative pile arrangements to Articles 3.4 to 3.8 provided that fire spread is prevented and the arrangements are approved by the Chief Fire Official.

3.10 Fire Department Access

(1) Each tire storage yard shall be provided with fire access routes.

(2) The fire access routes shall:

(a) have a clear width of at least 6 m,

(b) be designed to support the loads imposed by fire fighting equipment,

(c) be surfaced with material designed to permit accessibility under all climatic conditions,

(d) be connected with a public thoroughfare in at least two places that are located as remotely as is possible in the circumstances from each other,

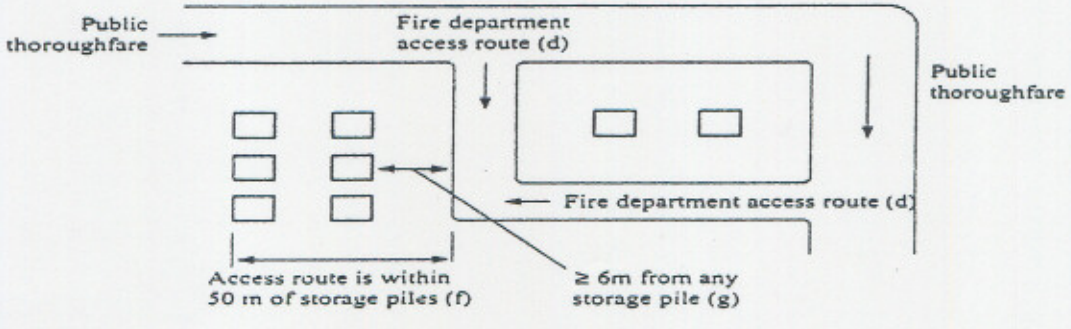
(e) be located within all pile clearances identified in Articles 3.6 (1), (2) or (3) and within all fire breaks required in Article 3..8,

(f) be within 50 m of any point in the storage yard where storage piles are located,

(g) be at least 6 m from any storage pile, and

(h) be maintained accessible and unobstructed at all times.

The intent of (1) and (2) of Article 3.10 is to ensure that firefighters have access for bringing their equipment into the yard, getting to the fire quickly thereby increasing the efficiency of fire fighting efforts.



3.10 Fire Department Access (cont'd)

(3) Despite Article 3.10 (1) and (2), alternate fire access routes may be provided if:

(a) the routes permit fire fighting vehicles and equipment access and permit the use of fire suppression techniques appropriate in the circumstances, and

(b) the routes are approved.

The intent of Article 3.10 (3) is to allow an alternate layout for Fire Department access in the yard.

Alternate fire routes may only be used where approved by the Chief Fire Official. The alternate access routes have to permit access for fire fighting vehicles and necessary equipment. These alternative fire access routes will permit the use of the fire suppression techniques that are appropriate for the respective yard.

3.11 Fencing

(1) Where the bulk volume of stored product is more than 300 m^3, the storage yard shall be surrounded by a firmly anchored fence or other approved method of security that controls unauthorized access to the storage yard.

(2) Where a fence is used, the fence shall be at least 1.8 m high and constructed to discourage entry.

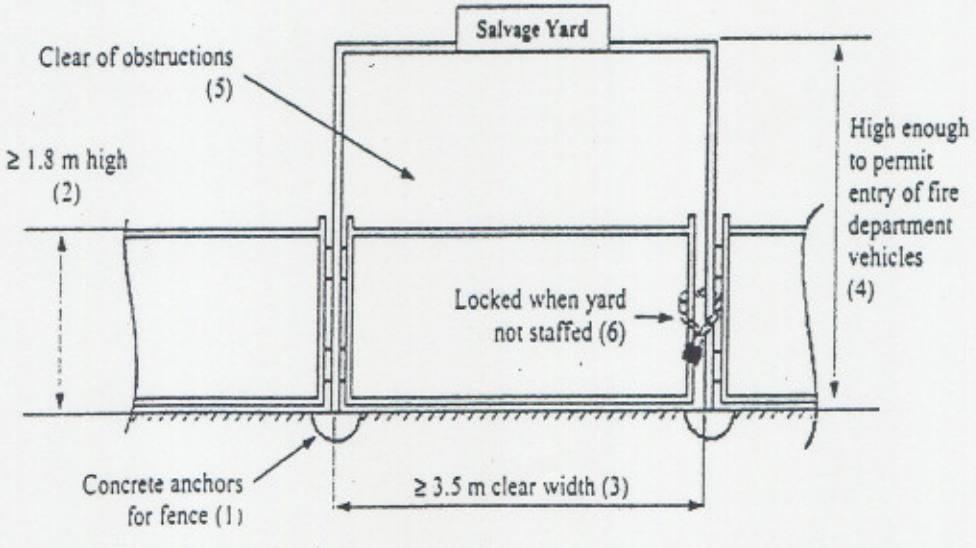
(3) The fence shall have gateways with a clear width of at least 3.5 m.

(4) The gateways shall be high enough to permit the entry of fire department vehicles.

(5) The gateways shall be kept clear of obstructions so that the gates may be opened fully at all times.

(6) The gates shall be locked when the storage yard is not staffed.

The intent of Article 3.11 is to ensure the security of salvage yards, prevent malicious acts (e.g. arson), and to ensure that gateways will allow access by fire department equipment to salvage yards. Fencing, gateways and security precautions must comply with the requirements set out in this article. Alternative security measures are permitted where approved.



3.12 Water supply

(1) A public or private water supply shall be provided such that any part of the storage yard can be reached by using not more than 150 m of hose.

(2) When the quantity of stored product is between 300 m^3 and 1200 m^3, the water supply system shall be capable of supplying 1860 L/min for 3 hours.

(3) Where the quantity of stored product is 1200 m^3 or more, the water supply system shall be capable of supplying 3780 L/min for 3 hours.

The intent of Article 3.12 is to ensure that an adequate public or private water supply is available for fire fighting.

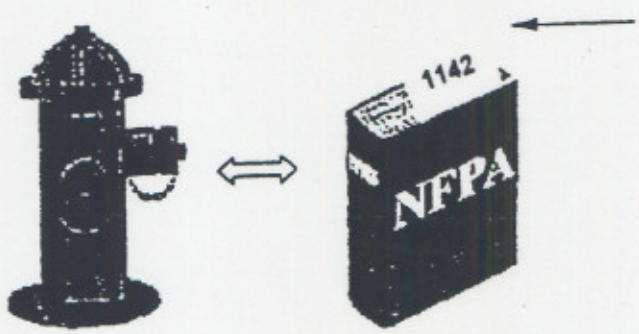
Where private or public fire hydrants are used, they must be situated such that any part of the salvage yard can be reached by using not more than 150 m of hose.

Quantity of stored product	Minimum water supply required
> 300 m^3 and < 1200 m^3	*1860 L/min for 3 hours*
1200 m^3 and more	*3780 L/min for 3 hours*

3.12 Water supply (cont'd)

(4) Where on-site reservoirs or other established water supplies are used as a fire department draft source to meet the requirements of Sentences (1), (2) and (3), they shall be equipped with dry hydrants in accordance with Appendix B of NFPA 1142, "Water Supplies for Suburban and Rural Fire Fighting".

The purpose of this Article is to ensure that on-site water supplies are readily accessible at all times by using dry hydrants that comply with Appendix B of NFPA 1142.



Appendix B
"Water Supplies for Suburban and Rural Fire Fighting"

Dry hydrant

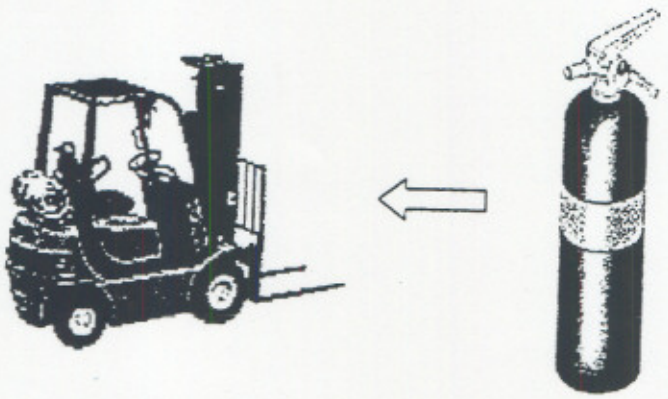
3.14 Fire extinguishers

Fuel-fired vehicles operating in the storage yard shall be equipped with a 2A:10BC or higher rated portable extinguisher conforming to the requirements of Section 6.2 of the National Fire Code.

This requirement specifies that each fuel-fired vehicle operating in the storage yard shall be equipped with a listed 2A:10BC or higher rated portable fire extinguisher mounted in brackets designed to accommodate the effects of jarring or vibration.

Fuel-fired vehicles can be an ignition source. Faulty electrical systems, hot engines or exhaust systems may create enough heat to ignite materials.

Placing a fire extinguisher on the vehicle, provides the operator with immediate access to first aid fire fighting equipment.



4.0 QUESTIONS AND ANSWERS

Q **Is smoking allowed in outdoor tire storage yards?**
A *Smoking is prohibited in storage yards, except in areas where it does not present a fire hazard.*

Q **What is the maximum height allowed for individual storage piles in a tire storage yard?**
A *Individual tire piles may be no more than 3 m in height.*

Q **Are cutting and welding operations allowed in tire storage yards?**
A *Cutting, welding or heating devices shall not be operated in tire storage yards.*

Q **What is the minimum clear space around each individual storage pile?**
A *Each individual storage pile shall be separated by a clear space of at least 6 m.*

Q **What is the minimum individual storage piles shall be from property lines?**
A *Storage piles shall be 15 m from property lines.*

Q **In tire storage yards what is the maximum volume allowed for individual storage piles?**
A *Individual storage piles shall not be more than 300m³.*

Q **What is the minimum required width for fire access routes in tire storage yards?**
A *Fire access routes shall have a clear width of at least 6 m.*

Q **When a fence is required around a tire storage yard what shall be the minimum height required?**
A *When a fence is required it shall be at least 1.8 m high.*

Q **What amount of water is required in a tire storage yard when the quantity of stored product is 1200m³ or more?**
A *The water supply system shall be capable of supplying 3870 L/min for three hours.*

Q **What rating must portable fire extinguishers carried by fuel-fired vehicles operating in outdoor tire storage yards have?**
A *Extinguishers shall be 2A:10BC or higher rating.*

Q **In tire storage yards where the volume of stored product exceeds 4800m³, what is the minimum required width of fire breaks?**
A *Fire breaks shall be at least 22 m wide.*

Q **Can individual storage piles be of different length, width and heights?**
A *Individual storage piles can be of any length or width adding up to 100m², BUT they must not exceed 3 m in height.*

Q **How far must stored product be from brush and forested areas?**
A *Stored product shall be at least 30m from brush and forested areas.*

1.0 PRE-AMBLE

This document provides for property protection by requiring that certain fire protection measures be applied in the case of outdoor tire and storage yards.

The document contains guidelines based upon the 1995 Ontario Fire Code as outlined in Section 2 and is supplemented by an illustrated Commentary in Section 3, which is based upon information from the Office of the Ontario Fire Marshal.

1.1 Contact Information

Headquarters Office - Deer Lake

Office of the Fire Commissioner
2 Wellon Drive
Deer Lake, NF
A8A 2G5
Telephone: . . . . . (709) 635-4153
Facsimile . . . . . (709) 635-4163

Eastern Regional Office - St. Johns

Office of the Fire Commissioner
Bldg. 901, Pleasantville
P.O. Box 8700
St. John's, NF
A1B 4J6
Telephone . . . . . (709) 726-1050
Facsimile . . . . . (709) 729-2524

Central Regional Office - Grand Falls - Windsor . . . . . (709) 292-4414

Office of the Fire Commissioner
Provincial Government Building
3 Cromer Avenue
Grand Falls - Windsor, NF
A2A 1W9
Telephone . . . . . (709) 292-4414
Facsimile . . . . . (709) 292-4415

Local Fire Department

2.0 GUIDELINE

2.1 Vendor sites (ie. repair garages, etc.)

(1) Vendor sites may store tires in a pile with a base area not exceeding 5 m^2 and a height of not more than 2 m.

(2) There are no other requirements for piles limited to this size.

(3) If a vendor site exceeds this storage amount, the requirements as outlined for piles up to 300 m^3 shall apply.

2.2 Single storage pile up to and not exceeding 300 m^3

(1) Pile base shall not exceed 100 m^2.

(2) Pile height shall not exceed 3 m.

(3) There shall be a minimum of 15 m clearance to property lines.

(4) There shall be a minimum of 15 m clearance to buildings or stored products.

(5) There shall be a minimum of 30 m clearance to forested or brush areas.

(6) There shall be a minimum of 6 m clearance to uncontrolled grass or weeds.

(7) There shall be no storage beneath power lines.

(8) There shall be no ignition sources (ie: torches or welding) within 15 m of the pile.

(9) There shall be no smoking within 6 m the pile.

(10) Other storage exceeding the quantity addressed herein shall comply with the Provincial requirements for such.

2.3 Storage where bulk volume exceeds 300m^3 (Stotage Yards)

(1) This Guideline, in its entirety, applies with respect to the outdoor storage of tires or shredded tires where the bulk volume of stored product exceeds 300 m^3.

(2) This Guideline does not apply where the stored tires or shredded tires are covered by a minimum depth of 150 mm of noncombustible material.

2.4 Prohibitions

(1) Open air burning is prohibited in storage yards.

(2) Cutting, welding or heating devices shall not be operated in storage yards.

(3) Smoking is prohibited in storage yards except in areas where it does not present a fire hazard.

(4) Storage piles shall not be located beneath electrical power lines.

2.5 Fire safety planning

(1) Except as provided in Sentences (2) to (4), storage yards shall comply with the requirements of Section 2.8 of the National Fire Code.

(2) The fire safety plan shall include provisions respecting access for water operations within the fire department access routes, if water operations are required in the circumstances of the storage yard.

(3) At least one copy of the fire emergency procedures shall be prominently posted and maintained at the storage yard.

(4) The telephone number of the fire department and location of the nearest telephone shall be posted conspicuously in attended locations.

2.6 Pile dimensions

Individual storage piles shall not be more than 3 m in height and 100 m^2 in area.

2.7 Pile separations

Storage piles shall be separated by a clear space of at least 6 m from piles of other stored product.

2.8 Pile clearance

(1) Storage piles shall be located at least 15 m from property lines.

(2) Storage piles shall be located at least 15 m from buildings.

(3) Despite Sentence (2), the separation of storage piles from buildings may be determined in accordance with Appendix C, "Guidelines for Outdoor Storage of Scrap Tires," of NFPA 231D, "Storage of Rubber Tires," and NFPA-80A, "Protection of Buildings from Exterior Fire Exposures".

(4) Individual storage piles shall be separated from other piles of salvage by a clear space of at least 6 m.

2.9 Clearances from vegetation

(1) Storage yards shall be maintained free of combustible ground vegetation,

(a) over a distance of 6 m from the stored product to grass and weeds, and

(b) over a distance of 30 m from the stored product to brush and forested areas.

2.10 Fire breaks

(1) Where the bulk volume of stored product is more than 4800 m^3, fire breaks shall be provided around the perimeter of each group of storage piles in accordance with Sentences (2) and (3).

(2) Individual storage piles shall be arranged so that there are not more than 16 individual storage piles per group.

(3) Fire breaks shall be at least 22 m wide.

2.11 Alternative measures

Despite Articles 2.6 to 2.10, other pile arrangements that will prevent the spread of fire and that are approved may be used.

2.12 Fire department access

(1) Each tire storage yard shall be provided with fire access routes.

(2) The fire access routes shall:

(a) have a clear width of at least 6 m,

(b) be designed to support the loads imposed by fire fighting equipment,

(c) be surfaced with material designed to permit accessibility under all climatic conditions,

(d) be connected with a public thoroughfare in at least two places that are located as remotely as is possible in the circumstances from each other,

(e) be located within all pile clearances identified in Sentence 2.8 (1), (2) or (3) and within all fire breaks required in Article 2.10,

(f) be within 50 m of any point in the storage yard where storage piles are located,

(g) be at least 6 m from any storage pile, and

(h) be maintained accessible and unobstructed at all times.

(3) Despite Sentences (1) and (2), alternate fire access routes may be provided if:

(a) the routes permit fire fighting vehicles and equipment access and permit the use of fire suppression techniques appropriate in the circumstances, and

(b) the routes are approved.

2.13 Fencing

(1) Where the bulk volume of stored product is more than 300 m^3, the storage yard shall be surrounded by a firmly anchored fence or other approved method of security that controls unauthorized access to the storage yard.

(2) Where a fence is used, the fence shall be at least 1.8 m high and constructed to discourage entry.

(3) The fence shall have gateways with a clear width of at least 3.5 m.

(4) The gateways shall be high enough to permit the entry of fire department vehicles.

(5) The gateways shall be kept clear of obstructions so that the gates may be opened fully at all times.

(6) The gates shall be locked when the storage yard is not staffed.

2.14 Water supply

(1) A public or private water supply shall be provided such that any part of the storage yard can be reached by using not more than 150 m of hose.

(2) When the quantity of stored product is between 300 m^3 and 1200 m^3, the water supply system shall be capable of supplying 1860 L/min for 3 hours.

(3) Where the quantity of stored product is 1200 m^3 or more, the water supply system shall be capable of supplying 3780 L/min for 3 hours.

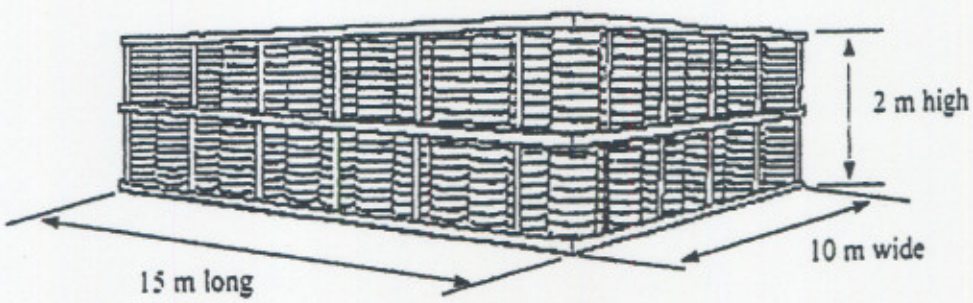
(4) Where on-site reservoirs or other established water supplies are used as a fire department draft source to meet the requirements of Sentences (1), (2) and (3), they shall be equipped with dry hydrants in accordance with Appendix B of NFPA 1142, "Water Supplies for Suburban and Rural Fire Fighting".

2.15 Alternative measures

Despite Article 2.14, other water supply systems or other measures may be used if the systems or measures will provide sufficient fire suppression capability in the circumstances and if the systems or measures are approved.

2.16 Fire extinguishers

Fuel-fired vehicles operating in the storage yard shall be equipped with a 2A:10BC or higher rated portable extinguisher conforming to the requirements of the National Fire Code.



A tire storage pile of these dimensions is 300 m³ (these are sample measurements). Article 3 .1 applies to volumes greater than illustrated.

3.0 COMMENTARY

3.1 Application

(1) This Article applies with respect to the outdoor storage of tires or shredded tires where the bulk volume of stored product exceeds 300 m^3.

(2) This Article does not apply where the stored tires or shredded tires are covered by a minimum depth of 150 mm of noncombustible material.

Article 3.1 outlines requirements for outdoor storage of tires in excess of 300 m^3. As an alternative to complying with Article 3.1., the tires or shredded tires may be covered by a minimum of 150 mm of noncombustible material, such as earth. Rubber tire storage exceeding 300 m^3 in an outdoor area presents a significant fire/environmental hazard and deserves special consideration.

3.2 Prohibitions

(1) Open air burning is prohibited in storage yards.

(2) Cutting, welding or heating devices shall not be operated in storage yards.

(3) Smoking is prohibited in storage yards, except in areas where it does not present a fire hazard.

(4) Storage piles shall not be located beneath electrical power lines.

The intent of Article 3.2 is to eliminate all ignition sources such as welding and cutting from yards where rubber tire storage exceeds 300m³. Smoking is allowed only in approved areas where it does not present a fire hazard. Electrical power lines may be damaged in cases of fire, cutting off emergency fire systems. For this reason storage piles must not be located beneath power lines as described in Sentence (4).

3.3 Fire safety planning

(1) Except as provided in Sentences (2) to (4), storage yards shall comply with the requirements of Section 2.8 of the National Fire Code.

(2) The fire safety plan shall include provisions respecting access for water operations within the **fire department** access routes, if water operations are required in the circumstances of the storage yard.

(3) At least one copy of the fire emergency procedures shall be prominently posted and maintained at the storage yard.

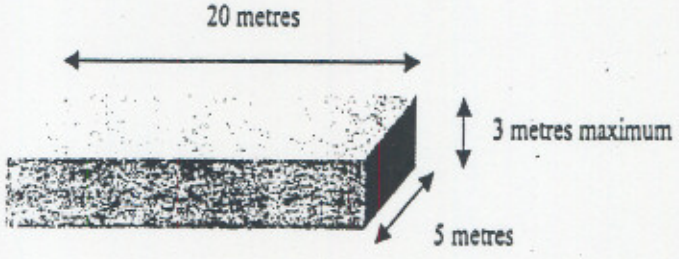
(4) The telephone number of the **fire department** and location of the nearest telephone shall be posted conspicuously in attended locations.

Section 2.8 of the National Fire Code details the requirements for emergency planning and fire safety plans. A fire safety plan must include: procedures for sounding the fire alarm, procedures for notifying the fire department, provisions for fire department access and training requirements for supervisory staff regarding their duties in the event of a fire. The requirements stated in Sentences (2) to (4) of Article 3.3., are specific to salvage operations. They are intended to increase effective response to fire emergencies and ensure that all employees of a salvage yard know and understand what to do in case of fire.

3.4 Pile dimensions

(1) Individual storage piles shall not be more than 3 m in height and 100 m² in area.

Individual storage piles must not exceed the dimensions described in Sentence 3.4 (1). Tire storage piles that are larger make it more difficult to contain and extinguish fires. The intent of this article is to limit the amount of fuel that an individual storage pile contains.



(maximum pile area not to exceed 100 m²)

Illustration of storage pile dimensions (these are sample measurements) that comply with Sentence 3.4 (1).