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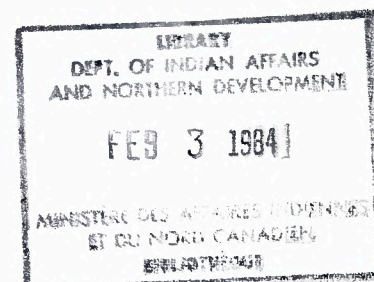
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**FIRE PROTECTION GUIDELINES FOR CHILD
AND ADULT COMMUNITY CARE FACILITIES.**

MAY 1983

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l'incendie dans les établissements de soins
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FIRE PROTECTION GUIDELINES FOR CHILD
AND ADULT COMMUNITY CARE FACILITIES

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FIRE PROTECTION GUIDELINES FOR CHILD
AND ADULT COMMUNITY CARE FACILITIES

1.0 INTRODUCTION

1.1 Purpose

The purpose of this publication is to outline basic building and fire protection standards required by established codes for the design, construction and renovation of buildings used for child and adult care. Also it outlines special provisions for ensuring the protection of the occupants in situations where fire control, protection and resources are inadequate or ineffective.

The standards and special provisions outlined in this publication may be applied to licenced child and adult care buildings classifiable as "assembly", "institutional" or "residential" on Indian reserves.

1.2 Background

The fire fatality record of "institutional class" buildings in Canada has caused considerable concern. Child and adult care facilities may fall into this classification depending on the age, physical or mental condition of the occupants. If so, the fire protection standards for "institutional class" buildings should be applied.

The main standards applied in the approval of licenced child and adult care operations are: The National Building Code (NBC), National Fire Codes (NFC), the National Fire Protection Association Codes (USA) and standards promulgated by accredited Standard Writing Organizations (Canada).

These codes and standards are promulgated essentially as minimum level requirements for application where the firefighting services life safety and fire protection and precautionary measures are regulated and meet recognized standards. In situations where such standards are not met, minimal codes may not be adequate to assure life safety.

2.0 GLOSSARY

- a. "day nursery" means a place that receives, primarily for the purpose of temporary care and custody, for a continuous period not exceeding twenty-four hours, more than five children, not of common parentage, who are under eighteen years of age in the case of a day nursery for retarded children and under ten years of age in all other cases.
- b. "operator" means a person or a partnership or association of persons that has control and management of a day nursery.
- c. "private-home day care" means the temporary care and custody for reward or compensation of not more than five children under ten years of age in a private residence other than the home of a parent or guardian of any such child, for a continuous period not exceeding twenty-four hours.
- d. "regulations" means the regulations made under a provincial act.
- e. "community care facility" means any facility that provides personal care, supervision, social or educational training, physical or mental rehabilitative therapy, with or without charge to three or more persons not related by blood or marriage to the operator of the facility.
- f. "resident" means a person (child or adult) who is residing in a care facility.

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- g. "care" includes personal or supervisory care, nursing or any combination thereof, given to children, aged, infirm or blind persons.
- h. "special care home" means a supervisory care home, nursing home, sheltered care home or other facility used, for profit or not, for the purpose of providing supervisory care to persons not related by blood or marriage to the operator, but for reasons of need, age, infirmity or blindness, and who are unable to fully care for themselves.
- i. "self-contained housing unit" means a housing unit for one or two adults, providing therein living, sleeping, eating, food preparation and sanitary facilities, with or without other essential facilities shared with other housing units.
- j. "fire authority" means the fire commissioner, fire marshal or fire officer having authority under an Act.
- k. "approved fire protection equipment" means equipment tested and approved by an approved agency such as ULC or CSA.

3.0 FIRE PROTECTION AND PREVENTION GENERAL

3.1 Provincial Regulations

Provincial acts and resulting regulations vary from province to province. Where departmental staff are responsible for or involved with the approval procedures for licenced child or adult care operations, they should ensure that:

- a. child or adult care buildings are inspected at least annually for licence approval;

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- b. fire safety regulations of any applicable provincial act are met;
- c. fire protection equipment, devices and systems are in proper operating condition;
- d. the staff of the care facility receive adequate training in fire evacuation, fire prevention and firefighting procedures; and
- e. fire protection deficiencies are reported in writing to the provincial ministry and/or the band council for action and resolution, as a prerequisite of licence approvals.

4.0 DAY NURSERY - BUILDING DESIGN AND CONSTRUCTION

4.1 New construction

4.1.1 Buildings - General

For regulatory purposes day nursery (care) facilities should be classified by occupancy in accordance with provincial regulations/codes or the NBC.

Any building required to be licenced under a provincial act, including a building used for temporary care and custody for reward or compensation, should be classified by "occupancy", "group" and "division" in accordance with the principles of good practice contained in provincial standards, the NBC part 3 - Group A Division 2, Group B Division 2 or Group C and the National Fire Protection Association Standards - Life Safety Code (NFPA No 101).

The plans and specifications for new buildings should be approved for fire protection by the responsible fire officer, where such officers are involved in approving operating licences. For band administered, unlicensed operations, regional fire and safety officers should assist the bands in applying adequate fire protection standards as outlined in part 3 and 6 of the NBC. Adequate

space for play, toilet, washing, dressing, eating and resting facilities should be allowed for in the design. In the case of day nurseries for handicapped children, provincial acts require additional cubic feet allowances in addition to other design considerations.

Where a fire alarm system is required by the codes on the basis of population (occupant load), the requirement should be strictly followed. Where child populations may approach or exceed the numbers specified in the codes, unit type smoke-alarm detectors may be required; however, this is at the discretion of the approval authority.

The child occupant load of provincially licenced buildings should conform to the governing provincial act. In the absence of a governing act or regulation, the occupant load should not exceed the levels specified by the NBC.

4.1.2 Special Provisions

- a. If the building is not more than one storey with a maximum floor area of 232.5m^2 (2500 sq. ft.), the basement* should be separated by a three-quarter hour fire separation. Anything that supports the fire separation should also have a three-quarter hour fire rating, i.e. all walls, partitions, roof and ceiling assemblies.

If the building is more than one storey with a floor area not exceeding 929m^2 (10,000 sq. ft.), or if the building is not more than two storeys with a floor area less than 465m^2 (5,000 sq. ft.), then the basement should be separated by a one hour fire separation from the ground floor. Any other floors require three-quarter hour fire separations. The roof (if combustible) should have a three-quarter hour fire

resistance rating while all walls, partitions and ceiling assemblies should have a minimum three-quarter hour fire resistance rating.

Buildings with an area larger than 929m² (10,000 sq. ft.) and more than two storeys have severe restrictions. They should be noncombustible. The basement should be equipped with sprinklers and all floors should have two hour fire separations. The roof assembly should have a one hour fire separation.

*Note: A basement is not considered a storey if the ceiling of the basement is less than 1.83m (6 ft.) above grade.

- b. All floors and means egress should be constructed with a minimum three-quarter hour fire separation except where a fire rating is not required above crawl spaces (part 3 of the NBC).
- c. In rooms and spaces other than means of egress, the flame spread rating of the interior finishes at ceilings and the upper half of walls should not exceed 25. Means of egress should be regulated in accordance with the most demanding principles of the NBC. The flame spread rating of other interior finishing materials should not be more than 75. Examples of interior finishing materials and their flame spread ratings are shown below.

<u>Material</u>	<u>Flame Spread Rating</u>
Latex paints on gypsum wallboard	9
Vinyl film on gypsum wallboard	21
Fiberboard acoustical tile*	116
Varnish* on plywood	162

- d. Disregard the provisions of part 3 or 9 of the NBC allowing open stairways between the first storey and the storey above or below.

*Note: Mineral tiles and flame retardant varnishes, which have a satisfactory flame rating, are available at increased costs.

- e. At least two means of egress (exits) must be provided from every floor. They should be as remote from each other as possible so that the most distant point on the floor area is within 30.5m (100 ft.) of an exit point. This applies to buildings designated for child care, irrespective of area or occupant load. All exits should be separated from the remainder of the building with construction equal to the approved building fire separation (a three-quarter hour minimum).
- f. Exit doors should open in the direction of egress.
- g. Fuel fired appliances should be enclosed in rooms or spaces having a fire resistance rating of at least one hour. Means of egress from these areas should also have the same fire resistance rating.
- h. Kitchens should be separated by one hour fire resistant construction.
- i. Electrical service and distribution panels should be contained in one hour fire resistant enclosures.
- j. If the building area is greater than 372m² (4,000 sq. ft.), the furnace and hot water heater should be enclosed with a two hour fire separation. A one hour fire separation is satisfactory in smaller buildings. All ducts which penetrate a fire separation or

provide combustion air must be dampered.

- k. Doors or closures for service rooms, storage enclosures, spaces or kitchens which require a fire resistance rating should also be fire rated. Service and storage area doors shall be closed at all times while the other doors should be activated to automatically close by heat or other detection systems as required by the codes.
- l. Emergency lighting should be provided for all exits.
- m. Water closets should be installed as follows:

number of persons	number of water closets
1-10	1
11-24	2
25-49	3
50-74	4

Where there are children under six years of age enrolled in day nursery, separate washrooms for the boys and girls should be provided. A urinal may be substituted for one water closet in the boys washroom where more than one such toilet is required.

Examples of commonly used fire separation materials and their ratings are as follows:

Material	Rating	Remarks
12.7mm (1/2") gypsum wallboard	15 minutes	joints taped and filled, nailheads filled
15.9mm (5/8") gypsum wallboard	30 minutes	joints taped filled, nailheads filled

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wood stud walls	20 minutes	55 x 102mm @ 4572 centres (2" x 4" @ 16")
wood stud walls filled with mineral insulation	35 minutes	
steel stud walls	10 minutes	
152.4mm (6") semi-solid concrete blocks	60 minutes	
203.2mm (8") semi-solid concrete blocks	120 minutes	

4.2 Existing Buildings

The fire protection requirements for existing day nurseries (care) facilities should be determined by inspection of the premises and evaluation of the adequacy and effectiveness of fire protection resources in the community. If a child care center is installed in a church or school, it should be separated from the main building by a two hour fire separation.

Where an existing building fails to meet reasonable standards of fire safety, life safety should be ensured to the maximum by determining needs for:

- a. smoke barrier separation between floors;
- b. fire resistant enclosures for fuel fired appliances;
- c. fire separation of hazardous space;
- d. additional means of egress;
- e. fire alarm and detection devices and systems;

- f. fire extinguishing systems;
- g. emergency lighting for exits;
- h. reduction of flame spread ratings of the interior finishes;
- i. improvements or alterations to the structure of the building; and
- j. improvements, alterations, or the application of standards and regulations to building utilities and services.

For minimum standards refer to 4.1.2.

4.3 Additions to Buildings

Increases in building floor area or height may cause the facility to fall under a different category in the regulating codes. If this should happen, the limitations of the most stringent code should apply.

To abate the high cost of installing fire extinguishing systems which may be a code requirement, the building may be divided by fire walls in accordance with section 3.2 of the NBC. However sprinkler systems may be mandatory in some provinces.

The fire resistance rating of floors required to be fire separations may be increased in accordance with or exceed minimum code requirements.

The construction materials should also meet the minimum requirements of the applicable codes or the provisions in 4.1.2, whichever provides the greater level of safety.

The most exacting standards for egress, access to exits and alternate exits should also be applied.

The effect of increased heights and floor areas on heating, electrical and power supplies, alarm detection systems and water supplies for fire protection should be evaluated and regulated or revised as required to meet the codes (i.e., dampers in ducts through fire separations, etc.).

Where fire protection services and resources are non-existent or ineffective, the fire protection principles outlined in 4.1.2 should be applied.

4.4 Private Home Day Nursery

The regulation of private home day nursery (child care) buildings should be minimal but based on experienced judgement and good practice. Where possible the minimum requirements of the applicable codes or the provisions of 4.1.2 should be followed. Minimum fire safety requirements should include, but not be limited to, the following:

- a. hand fire extinguishers;
- b. smoke detector and alarm devices or systems of an appropriate type;
- c. smoke barriers;
- d. adequate means of egress;
- e. possible reduction of flame spread ratings; and
- f. good housekeeping and fire prevention practices.

4.5 Fire Drill and Emergency Information

The operator of a day nursery is responsible for ensuring that fire drills and emergency plans are prepared for the facility and are approved by the local fire authority. The fire procedure should also include the duties of each staff member.

The staff and children of the day nursery should be instructed in the procedure. The procedure should be posted in a conspicuous place in the facility and a written record kept of fire drills, inspections and fire equipment tests.

Addresses and telephone numbers of regular and substitute staff, the local medical officer of health, a physician, a taxi, an ambulance, a hospital, the fire brigade, police department and other emergency information should be listed and maintained on a card posted in an accessible place in the day nursery.

The above procedure should be drawn up by the fire officer in conjunction with the operator of the facility.

5.0 COMMUNITY CARE FACILITY (SPECIAL CARE HOME)

5.1 New Construction

5.1.1 Buildings - General

Community care facilities are classified by occupancy in accordance with provincial regulations/codes or the NBC. The provincial authority establishes requirements and conditions as deemed necessary which may be obtained by acquiring an office consolidation of the particular regulations.

The plans and specifications for new buildings should be approved for fire protection by the responsible fire officer. The remainder of the construction plans should be approved by the authority having jurisdiction.

If a fire alarm system is required by code based on the occupant load of the facility, this requirement should be strictly followed. Where codes do not exist, the NBC should be used as reference.

5.1.2 Special Provisions

- a. Homes over one storey should be of fire resistant construction. Any home having a basement area should have a non-combustible separation with a two hour fire resistance rating between the basement and the main floor. The basement should be classed as any usable area beneath the main floor. Any home constructed of wood frame, protected with an automatic sprinkler system approved by the appropriate fire authority and having a total floor area exceeding 1486m^2 (16,000 square feet) should be divided by fire walls having a minimum two hour fire resistance rating so that the largest area does not exceed 1486m^2 (16,000 square feet). Any home constructed of wood frame not protected by an approved automatic sprinkler system and having a floor area exceeding 743m^2 (8,000 square feet) should be divided by fire walls having at least a two hour fire resistance rating. All openings in such fire walls should be protected by approved self-closing fire doors having a one and one-half hour fire resistant rating and equipped with single-point latches. Such doors should be maintained in the closed position unless equipped with approved smoke detector operated hold-open devices.

Ceilings, walls and partitions in buildings of combustible construction should have a minimum 45 minute fire resistance rating. Shavings, sawdust or other material with similar flammable characteristics should not be used for insulation or sound-proofing.

- b. Corridors should be at least 1,676mm (5 ft. 6 in.) in width in homes providing supervisory or limited personal care. Corridors in homes providing intensive personal or nursing care should be at least 2,286mm (7 ft. 6 in.) in

width. All corridors should be equipped with handrails mounted approximately 813mm (32 in.) in height above the floor along both sides. The corridor should be well lighted and ceiling heights should be at least 2,438mm (8 ft.) and should not extend more than 45.7m (150 ft.) without barriers against the passage of smoke.

- c. Kitchens should be separated by one hour fire resistant construction.
- d. Central steam, hot water or radiant heating systems should be contained in a room constructed of masonry or reinforced concrete having a two hour fire resistant rating. In one storey buildings where the furnace room ceiling forms the underside of the roof, the ceiling should be of protected combustible construction having a one and one-half hour fire resistance rating. All interior openings to the furnace room should be protected by approved self-closing fire doors with a one and one-half hour fire resistance rating and equipped with single-point latches. No interior entrances to furnace rooms should open onto an interior stair used as an exit. Every furnace room should be provided with a means of egress leading directly to the exterior of the building.

Appropriate and adequate vents should be provided from furnace rooms to the outer air to provide combustion air for the boiler and/or for the dilution and dispersion of combustible gases.

Every chimney serving a low heat appliance should be contained in a masonry or concrete chimney, a smoke stack or factory built chimney. Masonry or concrete chimneys for low heat appliances should be constructed with walls at least 203mm (8 in.) thick and lined throughout with all wood structural members not being less than 51mm (2 in.) from the outside surface. Factory built chimneys

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for low heat appliances should be approved, listed and labelled by a recognized testing laboratory and installed in accordance with the conditions of approval. Smoke stacks for low heat appliances should be installed and constructed in a manner satisfactory to the fire authority. However, chimneys should extend at least 914mm (3 ft.) above the highest point at which they come in contact with the roof and at least 610mm (2 ft.) above the highest point of the roof within 3,048mm (10 ft.).

- e. Electrical service and distribution panels should be contained in one hour fire resistant enclosures.
- f. There should be a minimum of two exits from every floor. They should be placed so that the maximum travel distance is not more than 30.5m (100 ft.) or 45.7m (150 ft.) in an automatic sprinklered building. Exits should be located as remote from each other as possible and lead directly to the exterior of the building with exit to grade level. All exit doors should be equipped with panic hardware. All exits are to be separated from the remainder of the building with construction equal to the fire separation (a three-quarter hour minimum).
- g. Every shaft for light, ventilation, elevators, dumbwaiters, all chutes and every stairway should be completely enclosed by brick, hollow tile or concrete walls. All openings to the shaft should be protected by self-closing fire doors of a type approved by the fire authority.
- h. Emergency lighting should be provided for all exit routes.
- i. An electric or battery operated fire alarm signal system should be provided. It should be capable of attracting the attention of all persons with the approved sending station

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located in the hallways of each floor. At each sending station a small red light should burn continuously. The number, type and location of fire extinguishers, or stand pipes and base should be approved by the fire authority.

- j. If fire extinguishers are required, their class, rating and location should be designated by the fire authority.

5.2 Existing Buildings

Fire protection requirements for existing community care facilities should be established by inspection of the premises and evaluation of the adequacy and effectiveness of fire protection resources in the community. If a community care facility is installed in an existing building, the occupancy of the structure usually changes to Group B, Division 2 (see part 3 NBC). It should be separated from the main building occupancy by a two hour fire separation.

If an existing building fails to meet reasonable standards of fire safety, life safety should be ensured to the maximum by determining needs for:

- a. smoke barrier separations between floors;
- b. fire resistant enclosures for fuel fired appliances;
- c. fire separation of hazardous spaces;
- d. corridor width and additional means of egress;
- e. fire alarm, detection devices and systems;
- f. fire extinguishing systems;
- g. emergency lighting of all corridors and exits;
- h. a reduction of flame spread ratings of the interior finishes; and

- i. improvement or alterations to the building structure or fabric.

For minimum standards refer to 5.1.2.

5.3 Additions to Buildings

Increases in building size or height may cause the facility to fall under a different category under the regulatory codes especially if the present building is not a community care facility. When this occurs, the limitations of the most stringent code should apply.

Construction materials should meet the minimum requirements of the applicable codes or the provisions of 5.1.2, whichever ensures the greater level of safety.

The most exacting standards for egress, access to exits and alternate exits should be applied to the building.

The effect of increased height and floor area on heating, electrical, and power supplies, alarm detection system, mechanical support equipment and water supply for fire protection should be evaluated, regulated or revised to meet the codes. Special care should be taken where fire separations are broken by the various systems.

Where fire protection services and resources are non-existent or ineffective, the fire protection principles outlined in 5.1.2 should be applied.

5.4 Fire Drill and Emergency Information

Every community care facility should have a plan for the protection of all residents in the event of fire, and for the evacuation to areas of refuge and from the building. All employees of the facility should be instructed and informed of their duties under the plan. The plan should be printed and posted in the community care home, and employees should be required to be acquainted with the plan.

The fire alarm system should be tested twice monthly by the operator of the facility and the results of such tests recorded and available for inspection. Stand pipe and hose should be inspected twice yearly.

The above procedure should be drawn up by the fire officer in conjunction with the operator of the facility.

6.0 SELF-CONTAINED HOUSING FOR THE AGED

6.1 New Construction

6.1.1 Buildings - General

Design and construction of housing units for the aged should, unless otherwise specified, comply with the "Residential Standards Canada" prescribed by Canadian Mortgage and Housing Corporation. Where higher standards are required by municipal bylaws or provincial legislation, the higher standards should govern.

The plans and specifications for new buildings should be approved for fire protection by the responsible fire officer while the remainder of the construction plans should be approved by the authority having jurisdiction.

If a fire alarm system is required based on occupant load, then this requirement should be strictly followed. Where codes do not exist, the NBC should be used as reference.

6.1.2 Special Provisions

- a. Housing over one storey should be of fire-resistive construction.
- b. Any housing unit with a basement area should have a non-combustible separation having a two hour fire resistance rating between the basement and the main floor. The basement should be classed as any usable area beneath the main floor.

- c. Any housing project constructed of wood frame, protected with an automatic sprinkler system approved by the fire authority and having a floor area exceeding 1486m^2 ($16,000$ sq. ft.) should be divided by fire walls having a minimum two hour fire resistance rating so that the largest sub-division does not exceed $1,486\text{m}^2$ ($16,000$ sq. ft.). Any project constructed of wood frame, not protected by an approved automatic sprinkler system and having a total floor area exceeding 743m^2 ($8,000$ sq. ft.) should be divided by fire walls having a minimum two hour fire resistance rating so that the largest subdivision does not exceed 743m^2 ($8,000$ sq. ft.). All openings in fire walls should be protected by approved self-closing fire doors having a one and one-half hour fire resistance rating and equipped with single point latches. Fire doors should be maintained in the closed position unless equipped with approved smoke detector operated hold open devices.
- d. Ceilings, walls and partitions in buildings of combustible construction should have a minimum 45 minute fire resistance rating. Shavings, sawdust or other material of flammable characteristics should not be used for insulation or soundproofing.
- e. In semi-detached or row-type projects, a 45 minute fire separation should be provided between units. Any opening in the separation or fire wall should be protected by a self-closing door with a fire resistance rating equal to that of the fire wall. The separation wall should extend to the underside of the roof and penetrate and effectively separate all crawl spaces, attics and other concealed spaces in the building.
- f. Entrance to the main floor should have direct access at grade level. If this cannot be achieved one 152mm (6 in.) riser having a tread of at least 305mm (12 in.) exclusive of its projection is acceptable. Two exits must be provided from each unit.

- g. Kitchens should be separated by one hour fire resistant construction.
- h. The heating plant in housing units that have an area in excess of 371.6m^2 (4,000 sq. ft.) should be separated from the remainder of the building by enclosing with walls, floors and ceilings constructed of masonry or reinforced concrete having a two hour fire resistance rating. In one storey buildings where the enclosure ceiling forms the underside of the roof, the ceiling may be of protected combustible construction having a one and one-half hour fire resistance rating.

All interior openings to enclosures should be protected by approved self-closing fire doors having a one and one-half hour fire resistance rating and equipped with simple point latches. No interior entrances to such enclosures should open into an interior stair used as an exit. Every enclosure used as a boiler or furnace room should be provided with a means of egress leading directly to the exterior of the building and should be used only for this purpose. Appropriate and adequate vents should be provided from enclosures to the outer air to provide combustion air for heating plants and/or for the dilution or dispersion of combustible gases. For flue installation requirements refer to 5.1.2d.

- i. Electrical service and distribution panels should be contained in one hour fire resistant enclosures.
- j. Emergency lighting should be provided for all exits.
- k. An electric or battery operated fire alarm signal system should be provided and capable of attracting the attention of all persons.
- l. If fire extinguishers are required, their class, rating and location should be designated by the fire authority.

6.2 Existing Buildings

Fire protection requirements for existing self-contained housing for the aged should be established by on site inspection and an evaluation of the adequacy and effectiveness of fire protection resources in the community. Occupancy is usually Group B Division 2 (See part 3 NBC) for self-contained housing for the aged.

If the building fails to meet reasonable standards of fire safety, life safety should be ensured to the maximum by determining needs for:

- a. smoke barrier separations between floors;
- b. fire resistant enclosures for fuel fired appliances;
- c. fire separation of hazardous spaces;
- d. fire alarm and detection devices;
- e. fire extinguishing systems;
- f. emergency lighting for all corridors and exits;
- g. a reduction of flame spread ratings of the interior finishes; and
- h. improvement or alteration to the building structure or fabric.

For minimum standards refer to 6.1.2.

6.3 Additions to Buildings

Increases in building size or height may cause the home to fall under a different category in the regulatory code if it is not a self-contained home for the aged. When this happens, the limitation of the most stringent code should apply.

Construction materials used in the addition should meet the minimum requirements of the applicable codes or the provisions of 6.1.2, whichever provides the greater level of safety.

The most exacting standards for egress should be applied to the building. Special care should be taken where fire separations are broken by the various systems.

Where fire protection services and resources are non-existent or ineffective, the fire protection principles outlined in 6.1.2 should apply.

6.4 Fire Drill and Emergency Information

It is difficult to formulate a plan for the protection of all persons living in self-contained housing for the aged. Nonetheless a plan should be prepared and all residents instructed and informed of their duties under the plan. It may be wise to have the plan printed and posted in a conspicuous location so that the residents become acquainted with the plan.

The fire alarm system should be tested twice monthly by a responsible person and the results of such tests recorded and available for inspection by the fire authority.

7.0 RELATED DOCUMENTS - STANDARDS AND CODES

7.1 Building Codes

- a. National Building Code of Canada 1977
- b. Code for Safety to Life from Fire in Buildings and Structures, NFPA-101 (National Fire Protection Association, U.S.A.)
- c. National Fire Code, Canada, 1977.

7.2 Fire Protection Equipment and Systems Codes

- a. NFPA 13 - Installation of Sprinkler Systems
- b. NFPA 14 - Installation of Standpipe and Hose Systems
- c. NFPA 10 - Standard for Portable Fire Extinguishers

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- d. NFPA 11, 12 series, 17 - Foam, Carbon Dioxide, Halon and Dry Chemical Extinguishing Systems, (Local Application Type)
- e. C.S.A. B222.0 - 1974, Installation Code for Local Fire Alarm Systems (Canadian Standards Association)

7.3 Utilities Installations Codes

- a. ACNBC - NRC No. 13984 - Canadian Heating, Ventilating and Air Conditioning Code.
- b. NFPA 96-1976 Installation of Equipment for the Removal of Smoke and Grease Laden Vapours from Commercial Cooking Equipment.
- c. C.S.A. C22.1 - 1975 Canadian Electrical Code.
 - (1) CSA B139-1976 Oil Burning Equipment
 - (2) CGA B149.1-1976 Natural Gas Burning Appliances and Equipment
 - (3) CGA B149.2-1976 Propane Burning Appliances and Equipment
 - (4) CSA B51-1975 Construction and Inspection of Boilers and Pressure Vessels
 - (5) CSA B52-1965 Mechanical Refrigeration
 - (6) CSA C282-1977 Emergency Electrical Power Supply for Buildings
 - (7) CSA 22.2 No. 141-1972 Unit Equipment for Emergency Lighting