

ITEM	7
MANAGER'S REPORT NO.	73
COUNCIL MEETING	1978 11 06

RE: CORRECTIVE ORDER TO INSTALL A SPRINKLER SYSTEM IN
PAINT SPRAY BOOTHS
(ITEM 9, REPORT NO. 68, 1978 OCTOBER 02)
(ITEM 8, REPORT NO. 72, 1978 OCTOBER 16)

Mr. Donn Dean has written to Council on two occasions with respect to a corrective order which was issued to him by the Fire Prevention Bureau. His letters appeared on the agendas for the October 02 and October 30 meetings of Council (Items 3a and 4c respectively). Council also received a carbon copy of a letter dated 1978 October 16 which Mr. Dean had sent to Mr. Ken Collier, the Acting Fire Marshal. Reports from staff were received on October 02 and October 16. Following are the motions that were passed on each of these two occasions:

October 02

"THAT the Municipal Manager bring forward a report on the questions raised in Council this evening and that no action be taken on the recommendations of the Municipal Manager until such time as said report has been received by Council."

October 16

"THAT this subject matter be referred back to the Director of Fire Services to obtain further answers to the questions raised in Council this evening and to allow the Municipal Solicitor to comment on whether or not a non-conforming aspect is in effect with respect to the Fire By-law."

Attached is a further report from the Director of Fire Services on this matter.

We have contacted the Secretary for the Associate Committee on the 1977 National Fire Code to determine which municipalities require sprinklers to be installed in paint spray booths and rooms as prescribed in the current code. The lack of a reply to date is probably attributable to the recent postal strike and for the amount of time that is required to compile this information.

RECOMMENDATIONS:

1. THAT Council confirm the need for Automatic Sprinkler Systems in paint spray booths and spray rooms, in accordance with the Burnaby Fire Prevention By-law, No. 5096, Section 3.2.8, Spraying and Dipping of Flammable Finishes; and
2. THAT the Director of Fire Services be instructed to issue a new corrective order to Mr. Donn Dean in accordance with the requirements of Burnaby Fire Prevention By-law No. 5096, Section 3.2.8; and
3. THAT a copy of this report be sent to Mr. Don Dean, 6919 Merritt Avenue, Burnaby, B.C. V5J 4R7.

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1978 OCTOBER 30

FIRE DEPARTMENT

TO: MUNICIPAL MANAGER
FROM: DIRECTOR-FIRE SERVICES
SUBJECT: FIRE PREVENTION BUREAU - CORRECTIVE ORDER ISSUED TO
DONN DEAN COLLISION LIMITED, 6919 MERRITT AVENUE

RECOMMENDATION:

1. THAT this Report be received for information purposes.

REPORT

1. Definitions

National Fire Code of Canada 1963 as adopted under the Burnaby Fire Prevention By-Law 1968 August 05.

Spray Booth - means a power ventilated structure provided to enclose or accommodate a spraying operation in order that spray vapour and residue can be controlled and properly exhausted.

Spray Room or Finishing Room - means an area separated from the balance of a plant in which an entire finishing operation is housed.

2. Attached as ATTACHMENT "A" is a list of premises which were inspected by the Fire Prevention Bureau during the last ten (10) days. Attachment "A" defines the particular occupancy, paint spray booth or finishing room or spray room and the type of automatic fire protection installed.

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- Attached as ATTACHMENT "B" is a legal opinion by the Municipal Solicitor on the validity of enforcing the Burnaby Fire Prevention By-law No. 5096 retroactively.
- Paint Shops Including Motor Vehicle Repairs, Fire Loss Statistics - Source-British Columbia Fire Marshal's Office

The following fire losses and injuries occurred in British Columbia during the 1977 calendar year:

Incidents	-	44
Dollar Loss	-	\$2,047,297
Deaths	-	NIL
Injuries	-	5

1978 January 01 to August 31:

Incidents	-	28
Dollar Loss	-	\$1,139,501
Deaths	-	NIL
Injuries	-	2

It should be noted the foregoing fire losses and injuries represents a combination of those activities leading up to the final application of the finishing paint coat.

These activities include the use of cutting and welding equipment for the removal and straightening of car body panels and chassis members.

Enquiries to the Fire Marshal's Office points to their computer data processing procedures not being programmed to differentiate or pinpoint the exact cause of fires in this particular type of occupancy.

- Item 4C, Correspondance and Petitions, Regular Council Meeting #40, October 30, 1978 reflects Mr. Donn Dean's concern that the Associate Committee of the 1963 National Fire Code may not have provided the manufacturers of Paint Spray Booths and members of the Automotive Refinishing Industry with ample opportunity to review and comment on the Fire Protection Standards for paint spray booths and paint spray rooms.

I believe this concern is without substance, in support of which, I refer to my previous submission under Item 8, Managers Report No. 72, Council Meeting 1978 10 16, Aims and Objectives of the Associate Committee on National Fire Codes, last paragraph refers.

I might mention as a former member of the Underwriters Laboratories of Canada, "Fire Council" an organization somewhat similar to those of the Associate and Technical Committees on the N.F.C., I cannot recall during my eight (8) years in office, a proposed standard not being reviewed and commented on by the user industry and related interests before being adopted.

It is also worth noting and repeating the National Fire Code since its introduction in 1963, has been updated and republished in 1975 and 1977, with subsequent amendments in the light of the users and Associate Committee's experience. However, that portion of the N.F.C. requiring the provision of sprinkler systems in paint spray booths or rooms has not been changed or modified during that period, nor in accordance with advice received from the Secretary of the Associate Committee on the 1977 N.F.C., are any contemplated at this date.

I do not believe the safety factors incorporated in a factory-built spray booth require further comment, it being recognized they are an essential requirement in this high-hazard industry. It is, however, questionable that there can be no build up of flammable vapours under any circumstances, as undoubtably the degree of overspray, residue and free vapour is directly governed by the shape and location of the component being sprayed. The foregoing, of course, is of secondary importance when considered in the light that, irrespective as to quantities used, the paints, thinners and solvents are presented in a highly critical and sensitive form, a form which provides for the maximum British Thermal Unit values (BTU) when ignited.

An additional feature which is giving increased concern relates to the use of Polyvinyl Chloride (PVC) and foam compounds in today's vehicles, while it is acknowledged the plastics in use do have a slow flame spread rating, the by-products from these materials including the foams are extremely toxic if allowed to burn in a confined atmosphere such as a spray booth. Needless to say and as verified by the Insurance Crime Prevention Bureau, this has reflected in more generalized damage to vehicles involved in fire with its attendant increase in replacement costs.

6. In Summary:

When paint spray painting is undertaken we have a variety of materials available in a relatively confined area. These materials are capable of producing and sustaining:

- i) high heat production in the form of flame and/or explosion from the vapours, solvents and paints;
- ii) to maintain combustion plastics, foams, and the contents of vehicle's fuel tanks are available;
- iii) *toxic by-products in the form of (CO) Carbon Monoxide, (HCL) Hydrogen Chloride and Nitrous Oxides.

*Source - National Research Council

Polyvinyl Chloride (PVC) HCL - Corrosive, dangerous for even short exposure, 1000 - 2000 p.p.m. (parts per million)

Acrylic Fibres)	Hydrogen Cyanide (HCN) 120 - 150 p.p.m.
Wool)	Carbon Monoxide (CO)
Nylon)	

By comparison wood-paper produces Carbon Monoxide (CO) which is considered dangerous when concentrated at 4000 p.p.m. of air for thirty (30) minutes.

Production of the foregoing by-products would necessitate the use of an automatic fire extinguishing system and/or hose lines deployed by skilled personnel, equipped with protective clothing and self-contained breathing apparatus.

- 7. It is agreed, a sprinkler system will not anticipate a flash-fire. Its main task being that of reducing the subsequent heat radiation within the booth and confining the fire to its point of origin.

In anticipation of the question - why is this necessary within a spray booth, it should be recognized a factory-built spray booth built from the normal eighteen (18) gauge steel has no recognized fire resistant rating in accordance with Underwriters Laboratories of Canada, or the (ASTM) American Society Testing Materials Standards. As such, it cannot be depended on to confine the products of combustion and related toxic by-products.

With reference to water damage from sprinklers, Insurance Underwriters are in full agreement, the ratio sprinkler/fire damage is much more acceptable than hand line/fire damage by reason of the following:

- a) Excluding the remote possibility of accidental discharge, a sprinkler head will not activate unless fire is present.
- b) The discharge from a sprinkler head based on 16 p.s.i. and a 1/2" orifice would be approximately 25 g.p.m.
- c) The discharge from a hand line hose 1 1/2" approximately 60 gpm - 100 gpm
2 1/2" approximately 200gpm - 250 gpm

The question of insurance coverage in the event of a sprinkler activating was discussed at some length with a representative of I.C.B.C., it being his opinion that in the event of fire activating the sprinkler with subsequent water damage, this would be covered by the Insurance Corporation of British Columbia.

Where damage resulted from the accidental discharge of a sprinkler head, then as noted in Mr. Donn Dean's letter, this would probably be contested by I.C.B.C.

As a result of these discussions, I.C.B.C. felt that, indeed, this was an oversight under their Garage Policy Comprehensive Coverage and as such, they intend seeking the necessary legislative changes to eliminate this anomaly in 1979.

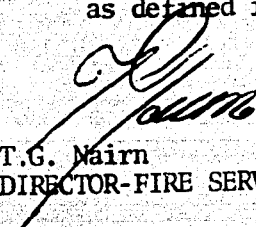
8. To comment on Mr. Donn Dean's statement "the installation of sprinkler systems in new installations being constructed is understandable as it does not add that much to the costs" is ultra vires as far as the Fire Prevention Bureau's authority is concerned. However, it must be recognized the potential for fire is directly related to the equipment in use, flammable and combustible materials at hand and the human factor. Factors which have little or no bearing on the age of the paint spray booth provided it is maintained in a serviceable condition.
9. I have no comment to make on the insurance companies position regarding paint spray booths and paint spray rooms equipped with sprinklers as they are essentially a profit motivated organization. It should, however, be noted the All Canada Insurance Federation, as with the Canadian Underwriters, now the "Insurance Advisory Organization" supported the requirements for sprinkler systems in paint spray booths and paint spray rooms as defined in the 1963 National Fire Code and subsequently adopted by Council, 1968 August 05, as Burnaby Fire Prevention By-law 5096 with amendments.

CONCLUSION

In conclusion, I have been advised by the Chief Fire Warden of Vancouver, Mr. G. Birnie, he has been instructed to bring into effect the 1977 National Fire Code in 1979.

Conversations held with Mr. Birnie reflect the following:

- (i) The need for sprinklers in paint spray booths and paint spray rooms will be implemented in accordance with the Code requirements.
- (ii) The need for sprinklers in paint spray booths and paint spray rooms as defined in the Code will be retroactive.


T.G. Mairn
DIRECTOR-FIRE SERVICES

cc: Municipal Solicitors

ATTACHMENTS:

TGN/jlm

ATTACHMENT "A"

Due to Fire Prevention Week commitments, the Bureau has been unable to complete a physical inspection of all Spraying Operations within the Municipality. However, these will be completed in the near future and the following is a list of major operations that meet the standards required by By-law #5096:

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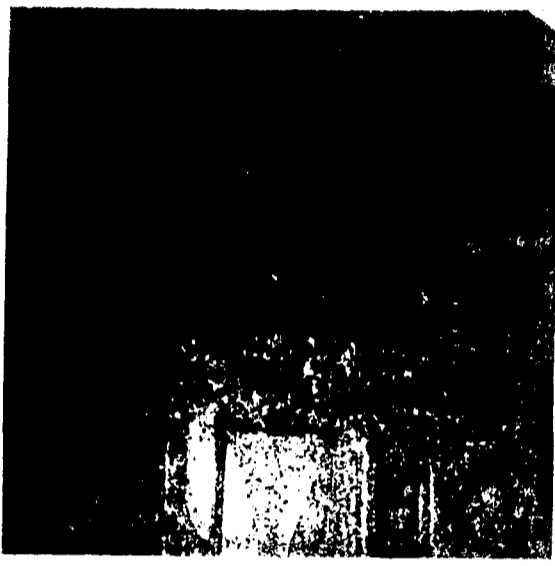
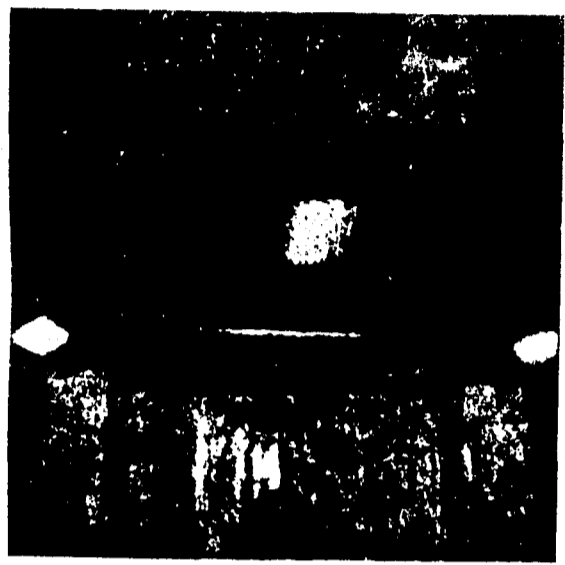
Boundary Auto Refinishing Limited 1125 Boundary Road, (rear) Burnaby, B.C.	14' X 29' Metal Booth
B.C. Collisions Limited 6101 East Hastings Street Burnaby, B.C.	20' X 30' Metal Booth
Burnaby Auto Collision Limited 7480 Edmonds Street Burnaby, B.C.	15' X 25' Concrete Block Room
Capri Auto Body Division of Nomich Holdings Ltd. 1246 & 1250 Boundary Road Burnaby, B.C.	14' X 26' Metal Booth
Eagle Ford Sales Limited 3841 Still Creek Road Burnaby, B.C.	15' X 30' Metal Devilbiss Booth
Galaxie Collision Limited 7498 A Griffiths Street Burnaby, B.C.	18' X 33' Metal Devilbiss Booth 18' X 30' Metal Binks Booth
INOUE, Robert 3995 Hastings Street (rear) Burnaby, B.C.	14' X 24' Metal Booth
Marcus Auto Body Limited 3776 East First Avenue Burnaby, B.C.	15' X 30' Metal Booth
Marrone's Auto Body Limited 6624 E. Hastings Street (rear) Burnaby, B.C.	20' X 30' Concrete Block Room
Mid Van Motors Limited 3910 Charles Street Burnaby, B.C.	14' X 28' Metal Booth
Raimondo Enterprises Limited 2447 Beta Avenue Burnaby, B.C.	18' X 33' Metal Booth
Roger Brothers Auto Body Ltd. 7092 Curragh Avenue Burnaby, B.C.	18' X 30' Metal Devilbiss Booth
Telford Auto Body Limited 6660 Royal Oak Avenue Burnaby, B.C.	21' X 30' Concrete Block Room 15' X 33' Concrete Block Room
TRITHARDT, Cliff 5586 Short Street Burnaby, B.C.	15' X 30' Metal Binks Booth
ZANATTA, Joe - Truck Painting Co. Ltd. 3183 Norland Avenue Burnaby, B.C.	20' X 45' Metal Clad Build
Bellet Truck Repair Limited 3160 E. Norland Avenue Burnaby, B.C.	No Facilities - No spray painting done on premises.
PATTERSON, Jim Industries Limited 5400 ... Burnaby, B.C.	18' X 30' Concrete Block Room

Renault North Road Limited 4441 North Road Burnaby, B.C.	20' X 30' Metal Booth
Volkswagen Pacific Sales & Service Ltd. 4444 Lougheed Highway Burnaby, B.C.	15' X 30' Metal Booth
White Motor Corporation of Canada Ltd. 4180 Dawson Street Burnaby, B.C.	No Facilities - No spray painting done on premises.
Inter-City Motors 4330 Kingsway Burnaby, B.C.	15' X 30' Metal Booth
Freightliner of Canada Limited 4342 Phillips Avenue Burnaby, B.C.	18' X 65' Metal Booth
Dairyland Lougheed Highway Burnaby, B.C.	20' X 35' Concrete Block Room

NOTE:

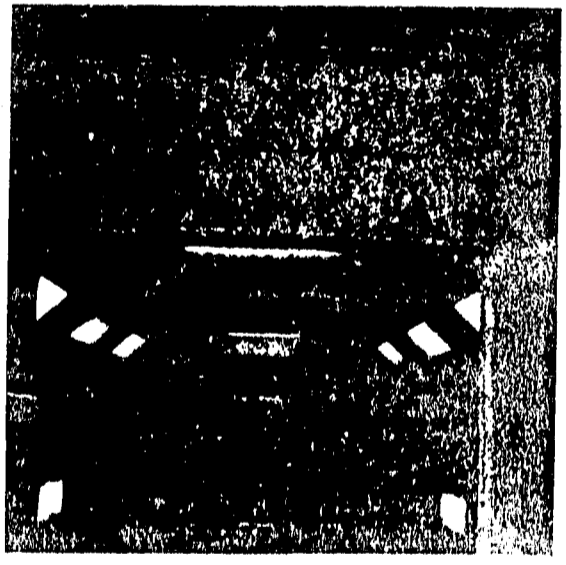
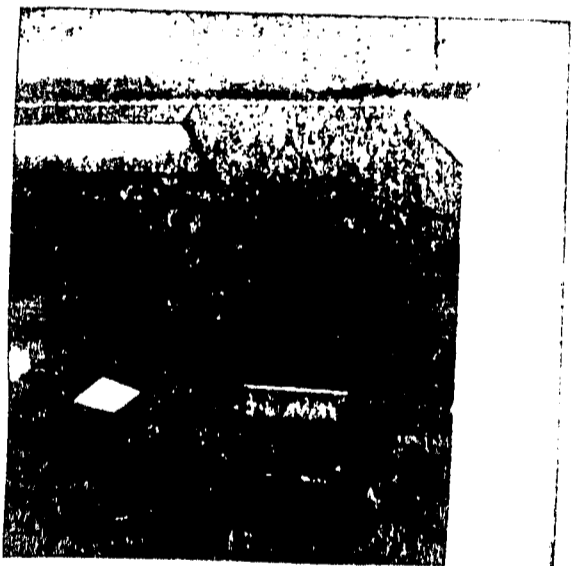
All of the above noted facilities meet the requirements of By-Law 5096 including installation of sprinklers.

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DONN DEAN COLLISION LTD.
6919 MERRITT - 78 10 18

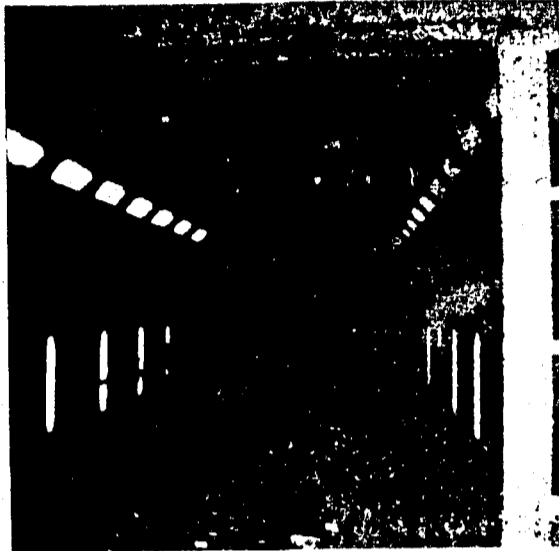
DONN DEAN COLLISION LTD.
6919 MERRITT - 78 10 18



GALAXIE COLLISION LTD.
7498 A GRIFFITHS - 78 10 18

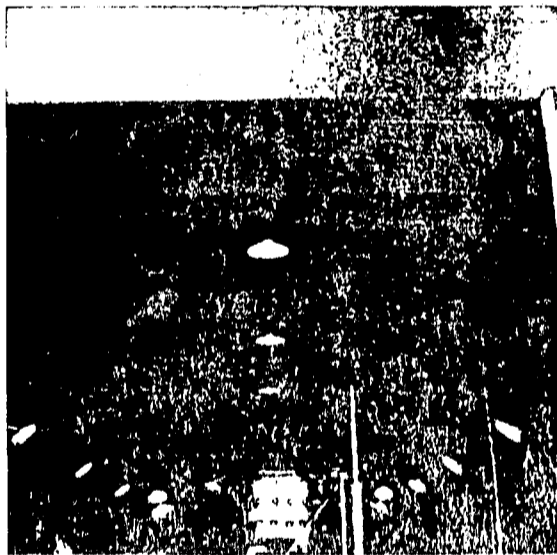
GALAXIE COLLISION LTD.
7498 A GRIFFITHS - 78 10 18

GALAXIE COLLISION LTD. BEARS A SIMILAR RESEMBLANCE TO DONN DEAN COLLISION LTD., AS DO OTHER SPRAY BOOTHS INSPECTED, EACH OF WHICH IS SERIALIZED.



UNIVERSAL TRUCK REBUILD
7269 CURRAGH 78 10 18

UNIVERSAL TRUCK REBUILD
7269 CURRAGH 78 10 18



FREIGHTLINERS OF CANADA LIMITED
4342 PHILLIPS 78 10 18

FREIGHTLINERS OF CANADA LIMITED
4342 PHILLIPS 78 10 18

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INTER-OFFICE COMMUNICATION

TO: Manager	DEPARTMENT:	DATE: 1978 Nov. 01
FROM: Solicitor	DEPARTMENT:	OUR FILE #
SUBJECT: DON DEAN COLLISION Item 8, Manager's Report No. 72, 1978 October 16		YOUR FILE #

I am asked to comment on "whether or not a non-conforming aspect is in effect with respect to the Fire By-Law."

"Non-conforming" in municipal law is usually confined to non-conforming use, i.e. use not in conformity with the provisions of a Zoning By-Law (see section 705 of the Municipal Act). "Non-conforming" in that sense cannot be applied to the appellant's premises. However, the question may be put in another way. Does Fire By-Law section 3.2.8 apply to the appellant's premises if his spray booths and spray rooms were installed and in use according to existing by-law requirements before the enactment of section 3.2.8?

The appellant has pointed out section 1.2.3 of the Fire By-Law:

"All plants, stores, equipment, buildings, structures and installations including all plants, stores, equipment, buildings, structures for the storage, handling or use of flammable or combustible liquids, which are in existence at the time of the passing of this by-law and which are not in compliance with the terms of this by-law may be continued in use provided that they do not, in the opinion of the Chief of the Fire Department, constitute a hazard to life or to adjoining property. Any additions to or installations on or upon any plants, stores, equipment, buildings, structures or installations after the passing of this by-law shall conform to the provisions of this by-law."

This section makes it clear that the appellant's premises (if his assertion that the spray booths and rooms were legally installed and in operation before the enactment of the by-law is correct) are exempt from the by-law provisions, unless in the opinion of the Fire Chief there is a hazard to life or adjoining property. "Fire Chief" is defined and includes any officer, member or inspector of the Fire Department deputized by the Fire Chief to act on his behalf.

Section 719 of the Municipal Act provides that Council may adopt, subject to the Fire Marshall Act, either in whole or part the National Fire Code by reference to any particular issue of the said Code. The Fire By-law adopts the National Fire Code of 1963 and amendments thereto. In this Code, section 1.3.2 provides that if an inspector finds that any provision of the Code has not been complied with or that conditions exist in a building to which the Code applies and which, in his opinion, constitute a fire hazard

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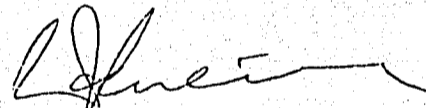
1978 Nov. 01

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or otherwise constitute a hazard to life and property, he may make an order requiring the owner of the building to comply with the Code provisions. If his opinion is not unreasonable, having regard to all the circumstances, there would be no reason to interfere with it. (I do not know why in By-law section 1.2.3. the words "constitute a hazard to life or adjoining property" are used and not the words in section 1.3.2 of the Code, namely "constitute a fire hazard or otherwise constitute a hazard to life or property, or both.").

In my opinion, the Fire By-law incorporating by reference the provisions of the National Fire Code of 1963, unless amended in the by-law, speaks from its enactment and applies to all premises. I do not believe that the appellant has a vested right in maintaining his premises without compliance with the By-law and Code provisions. This is a by-law enacted for the protection of the public, passed in good faith by Council, and should be given a liberal and not a restrictive interpretation. I would answer the question posed in Council's motion, therefore, by stating that the by-law and Code provisions apply to the appellant's premises notwithstanding that the spray booths and rooms may have been legally installed and in use before the enactment of the Fire By-law.

Apart from the By-law, the premises are also subject to the Fire Marshall Act. Section 17 of the Act provides that an inspector may inspect the premises to determine whether combustible or explosive material is so kept or such other inflammable conditions exist in or about the building as to endanger life or property, or if any other fire hazard exists about the premises. The section provides that an order may be made requiring the occupier to remedy the inflammable condition or remove or take proper precautions against the hazard. As in the by-law, there is an appeal from this order to the Fire Marshal and from his decision to a Judge of the County Court.



W.L. Stirling,
MUNICIPAL SOLICITOR

WLS:nc

CC: DIRECTOR OF FIRE SERVICES